

ANNUAL REPORT 2018-2019



Sher-e-Kashmir
University of Agricultural Sciences and Technology of Kashmir
Shalimar, Srinagar-190025

ANNUAL REPORT

2018-2019



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University of Agricultural Sciences and Technology of Kashmir
Shalimar, Srinagar - 190 025



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FOREWORD



After the country's independence the major focus of developmental strategies in agriculture was primarily on raising agricultural production to ensure food security. These strategies mostly emphasized on better use of technologies, scientific application of inputs, better price to the produce, enhancement in agricultural investment and supporting R&D institutions. These policy initiatives under various five year plans had better pay off in the form of increase in overall production and made India a food exporting country. During the run up to the Green Revolution and thereafter, the emphasis was always on production and productivity. Enhancing farmers' income was not in focus per se. Our policies were usually farm-centric and not farmer-centric. This is one of the reason why there is farmers' distress despite the fact our country has achieved commendable position in food production. Like other regions, Jammu and Kashmir a northern Himalayan state whose over 70 per cent population live in rural areas, rely directly or indirectly on agriculture are also facing similar situation leaving their traditional occupation and moving to non-agricultural sector for better income and employment.

Realizing the need and pay special attention to the plight of farmers, The Govt. of India set the goal for doubling farmers' income by 2022-23 to promote farmers welfare and bring parity between income of farmers and those working in non-agricultural sector, besides retaining younger generation within farming business to better the future of agriculture.

In order to sustain agriculture sector, and provide better livelihood option to the people of the state, it is essential to generate resource-efficient and cost efficient technologies to increase productivity, decrease cost of cultivation/production and up-scale them to the farm level through effective extension programs and relevant farm policies. Production of safe food (viz. food grains, pulses, vegetables, fruits, dairy products, meat, eggs etc.) and value addition, and branding of the niche products of the state (e.g. pashmina wool, saffron, basmati rice, rajmash, organic dry fruits etc.) are important elements of increasing farm income. Creation of strong farmer-market linkages and general awareness among the farming community about the knowledge, skills and techniques would be essential to enhance farm production and productivity. The J&K state is endowed with varied climates and agroclimatic situations, has greatest potential for improvement in agriculture sector with focus on selective issues based on the niches of the areas rather than taking all issues at a time. Strengthening on-going programs of different developmental departments alongwith site specific issues also need to be identified which can have tangible and immediate impact on the farm economy. Time bound action plans for increasing the production and productivity of good quality & safe produce, and reducing the cost of production through use of cost-effective technologies; linking farming community with assured market, and policy support for creating conducive environment are needed to get targeted results to double the farmers income.

Prof. (Dr.) Nazeer Ahmed
Vice-Chancellor



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UNIVERSITY AUTHORITIES AND OFFICERS

A. SKUAST—KASHMIR [MEMBERS OF UNIVERSITY COUNCIL] 2018-2019

S. No.	Name
1.	Shri N.N. Vohra Hon'ble Governor, Jammu & Kashmir (Chancellor, SKUAST-K)
2.	Ms. Mehbooba Mufti Hon'ble Chief Minister, Jammu & Kashmir (Pro-Chancellor, SKUAST-K)
3.	Mr. Ghulam Nabi Lone Hon'ble Minister for Agriculture, Jammu & Kashmir
4.	Mr. Lal Singh Hon'ble Minister for Social Welfare, Forest, Ecology and Environment, Jammu & Kashmir
5.	Mr. Syed Basharat Ahmed Bukhari Hon'ble Minister for Horticulture, Jammu & Kashmir
6.	Mr. Abdul Gani Kohli Hon'ble Animal/Sheep Husbandry, and Fisheries Jammu & Kashmir
7.	Mr. Javaid Mustafa Mir, Hon'ble Minister for Disaster Management, Relief Rehabilitation & Reconstruction and Floriculture, Jammu & Kashmir
8.	Professor (Dr.) C.D. Mayee, President, South Asia Biotechnology Centre, New Delhi; Chairman, AFC Ltd. Mumbai; Executive Board Member, ABNE (Burkina Faso), ISAAA, (USA); and President, Indian Society for cotton Improvement, Mumbai.
9.	Dr. Nazeer Ahmed Vice-Chancellor, SKUAST-Kashmir
10.	Dr. P.K. Sharma Vice-Chancellor, SKUAST-Jammu
11.	Dr. Narendra Singh Rathore Dy. Director General (Agril.Edu.) ICAR, New Delhi
12.	Mr. Sundeep Kumar Nayak^{IAS} Principal Secretary to Government, Agriculture Production Department, GoJK
13.	Mr. Navin Kumar Choudhary^{IAS} Principal Secretary to Government, Finance Department, GoJK
14.	Mr. Rohit Kansal^{IAS} Principal Secretary to Government, Planning & Development, GoJK
15.	Mr. Mohammad Afzal Bhat^{IAS} Commissioner/Secretary to Govt, Agriculture Production Department, GoJK
16.	Dr. Masudul Haq Wani Registrar Ex-officio Non-member Secretary

B. SKUAST—KASHMIR [MEMBERS OF BOARD OF MANAGEMENT] 2018-2019

S. No.	Name
1.	Dr. Nazeer Ahmed Vice-Chancellor, SKUAST-K
2.	Mr. Navin Kumar Choudhary ^{IAS} Principal Secretary to Government, Finance Department, GoJK
3.	Mr. Rohit Kansal ^{IAS} Principal Secretary to Government, Planning & Development, GoJK
4.	Prof. P.K. Sharma Vice-Chancellor, SKUAST-J
5.	Prof. KML Pathak, Eminent Veterinary Scientist
6.	Dr.N.S. Rathore, DDG (Agri. Edu) ICAR
7.	Mr. Manzoor Ahmad Lone ^{IAS} Commissioner/Secretary to Govt, Agriculture Production Department, GoJK
8.	Prof. R.R. Hanchinal Eminent Agricultural Scientist
9.	Dr. Shakil Ahmad Wani Director Education, SKUAST-K
10.	Dr. F.A. Zaki Dean, Faculty of Horticulture, SKUAST-K
11.	Dr. M.H. Balkhi, Dean, Faculty of Fisheries SKUAST-K
12.	Shri Khuram Shafi Mir Agro-Industrialist
13.	Ms. Zamrooda Bano Progressive Farmer
14.	Dr. Masudul Haq Wani Registrar, SKUAST-K

C. FINANCE COMMITTEE

S. No.	Name
1.	The Vice-Chancellor, SKUAST-K (Ex-officio Chairman)
2.	Financial Advisor
3.	Two Secretaries to Government to be nominated by Government
4.	Director Research / Director Extension / Director Education (one Director by rotation every year to be nominated by the Vice-Chancellor)
5.	One nominee of the Board who should be the non-official member of the Board
6.	Comptroller shall be the Ex-officio Secretary of the Committee

D. PLANNING COMMITTEE

S. No.	Name	
1.	The Vice-Chancellor, SKUAST-K	Chairman
2.	Director Education	Member
3.	Director Research	Member
4.	Director Extension	Member
5.	Registrar	Member
6.	Comptroller	Member
7.	Estates Officer	Member
8.	One nominee of the Board of Management not in the University service	Member
9.	One or two persons to be co-opted by the Vice-Chancellor depending upon the nature of item to be considered in each meeting	Member Secretary
10.	Project Planning & Monitoring Officer	

E. OFFICERS OF THE UNIVERSITY

S. No.	Name and Designation	Phone No.	
		Office	Cell No.
1.	Dr. Nazeer Ahmed Vice-Chancellor	0194-2462159, 2462758	9419000983
2.	Dr. Shakil A. Wani Director Education	0194-2461349	9419023786
3.	Dr. Mushtaq Ahmad Director Extension	0194-2463460	9596187537
4.	Dr. Mohd Saleem Mir I/c Director Research	0194-2461103	9906697666
5.	Dr. Nazeer Ahmed (Vice-Chancellor) I/c Dean, Faculty of Horticulture	0194-2461382	9419018443
6.	Dr. M.H. Balkhi Dean, Faculty of Fisheries	0194-2147300	9419004020
7.	Dr. G.N.Sheikh Dean, Faculty of Vety. Sci. & AH.	0194-2262207	9419088688
8.	Dr. A.H. Hakim I/c Dean, Faculty of Agriculture	0194-262260	9906700721
9.	Dr. T.H. Masoodi Dean, Faculty of Forestry	01954-262212	9797477664
10.	Dr. M.H. Wani Registrar	0194-2461271	9906686011
11.	Prof. Nazir Ahmad Ganaie DP&M	0194-2461493	9797785241
12.	Mr. , Haji Bashir Ahmad ^{KAS} Comptroller	0194-2461272	9596194490
13.	Dr. M.A.A. Siddiqui Students Welfare Officer	0194-2461442	9796320858
14.	University Librarian	0194-2463559	
15.	Er. Syed Iqbal Aga Estates Officer	0194-2461442	9419007602

About the University

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, an autonomous organization established vide SKUAST—Act 1982. As territorial jurisdiction was redefined to Kashmir Division, by amendment of the act in 1999 with the establishment of SKUAST-J for Jammu Division. As such, SKUAST-K caters to two unique agro-ecological regions—the Mid-High Altitude Temperate Zone (Kashmir Valley) and Cold-Arid Region (Ladakh). The challenges faced by the agriculture and allied sectors in these regions are unique which have become more complex under scenario of climate change. However, the unique biodiversity provides excellent opportunities for harnessing benefits not only to meet the domestic requirements and support sustainable state economy, but also to be leaders in certain areas. This warrants specialized approaches by SUAST-K to emerge as a premier institution specialized in Mountain and Hill agriculture.

Mandates

- Imparting education in different branches of study like Agriculture, Horticulture, Veterinary and Animal Sciences, Forestry, Fisheries, Agricultural Engineering, Home Science, Environmental Science, Sericulture, and other allied sciences.
- Undertake strategic and applied research in agriculture and other allied fields with emphasis on temperate and cold arid agriculture.
- Dissemination of such sciences and technologies to the rural and hill farming community through extension services, and
- Such other purposes as the University may form from time to time.

Mission

- University is committed to provide food, nutritional and livelihood security by producing excellent human resource, innovative technologies and their dissemination and to become a leading University in Hill and Mountain Agriculture.

Goal

- To produce human resource in Hill Agriculture and allied disciplines that serve the state/ country and society at large;
- To develop technologies for solving farmer's problems in agriculture and allied sciences as well as disseminate them;
- To improve productivity, profitability and employability.

In a pursuit to accomplish its mandate, the University has grown in its length and breadth with five Faculties, two Colleges, 17 research stations/ centers and 13 KVKs.

CONSTITUENT FACULTIES OF THE UNIVERSITY

FACULTY OF AGRICULTURE

The Faculty of Agriculture has been established in 1960 by Jammu & Kashmir Government as College of Agriculture at Sopore and later shifted to Wadura Campus, District Baramulla, Kashmir, in 1966. The College became constituent Unit of Sher-e-Kashmir University of Agricultural Sciences and Technology in 1982-83 and was rechristened as Faculty of Agriculture and Regional Research Station in 1983-84. The Faculty is spread over an area of 91.80 ha comprising of administrative building, various departments, class rooms, boys and girls hostels and instructional farms.

The primary objective of educational programmes of the Faculty of Agriculture continues to be the Human Resource Development i.e. to generate technical manpower to meet out the growing needs of the State of Jammu and Kashmir in main fields of Agriculture, Horticulture and Forestry. Faculty of Agriculture since its inception (April 1982). Under Sher-e-Kashmir University of Agricultural Sciences and Technology has made significant strides in expanding its infrastructure and institutional facilities for instructional programmes as per requirements of state from time to time. The faculty has generated over a thousand technically competent professionals as farm and forestry graduates. The Faculty has repute for maintaining high standards of education.

Faculty conducts all instructional programmes as per the recommendations of 5th Dean's committee reports of ICAR. Thus the faculty is committed to up-gradation of educational programmes in line with the national agenda for development of agricultural education. The faculty provides specializations in Agricultural Extension & communication; Agronomy; Basic Sciences & Humanities; Economics & Statistics; Entomology; Genetics and Plant Breeding; Plant Pathology; and Soil Science & Agricultural Chemistry.

Temperate Sericulture Research Institute is another constituent Unit of Faculty of Agriculture. It is located at Mirgund over an area of 20 ha. Resident Instruction programme in this Institute started with the Institution of Masters in Sericulture in 1999 and Undergraduate from the year 2006.

B.Sc. (Hons) Sericulture and Post Graduate Programmes in Sericulture with specialization in Mulberry Production, Silkworm production and management, Non-mulberry sericulture, Silkworm Seed Technology, Silk Breeding and Genetics, Silk weaving, dyeing and printing technology, Silkworm pathology and physiology

FACULTY OF HORTICULTURE

Horticulture is important sector of the economy of Jammu and Kashmir State which contributes a Lion's share to the State's GDP. It entails a turnover of about six thousand crores annually comprising of a major production and export sector. This sector of economy has a potential to enhance up to 30,000-40,000 Crore. Faculty of Horticulture contribute to the quality human resource development.

Faculty of Horticulture was created during the year 2007 and started functioning from April, 2014. The UG programme (B.Sc Hons. Horticulture) and post graduate programmes of Horticulture are under the administrative, academic and technical control of the Dean faculty of Horticulture. The faculty serves to the farming community of the state by producing quality human and skilled resources, technologies for enhancing the productivity, livelihood and profitability of the farmers.

The Faculty also offers B. Tech Agricultural Engineering and Masters Programmes in Farm Power Machinery Engineering and Soil and Water Engineering.

FACULTY OF FORESTRY

A comprehensive resident instruction programme for BSc, MSc and PhD Forestry at this faculty with the objective to impart quality professional education for providing competent, practical oriented and skillful human resource base of professional forestry and post graduates is being carried out since 1986-87. The first batch of forestry graduates completed their degree in 1990-91. The faculty regularly strives to attain distinction. The learning process and its standard has been continuously improved and as a reason the faculty has been accredited with "A" grade by ICFRE in 2011 and ICAR in 2010-11. The faculty of forestry

currently stands shifted in 2015 to its allocated campus as Benhama, Ganderbal. The campus is facilitated by a two storied administrative complex catering to class rooms, laboratories and office chambers of teaching and non-teaching staff. During past 10 years, more than 20 students have secured top positions in ICAR JRF Examinations. The students of this Faculty have succeeded in making their careers at top positions in the reputed organizations.

FACULTY OF FISHERIES

Faculty of Fisheries in SKUAST (K) was established in 2005 with 152 newly created staff positions including a substantive position of Dean, at Rangil, Ganderbal (Srinagar), Kashmir and is country's first Faculty (College) with Coldwater/Hill Fisheries. Besides its primary mandate of Teaching, Research & Extension, the college has become a common facility for other hill states of the country like Arunachal Pradesh, Sikkim, Uttaranchal and Himachal Pradesh for Human Resource Development specific to hill/coldwater fisheries. The Academic Council of SKUAST (K) has approved reservation of one seat each in BFSc & MFSc degree programmes for all these States. Nominees from these states are already leveraging the benefit under this provision.

Considering the need for different levels of expertise needed for research, teaching and extension education, Resident Instruction Programmes (BFSc, MFSc & Ph.D) were started in a phased manner to produce technically and scientifically trained human resource especially in Inland(temperate) fisheries in the country with special emphasis on coldwater/hill fisheries.

FACULTY OF VETERINARY SCIENCES

To augment the human resource and undertake the research challenges for sustainable livestock development through technological development and conservation of animal resources, the University in 1984-85 established its Faculty of Veterinary Sciences & Animal Husbandry, which marked the expansion of institutional facilities in the University. Following its establishment in 1984 as a campus college at Nowshera, Srinagar, the Faculty of Veterinary Sciences and Animal Husbandry has registered a tremendous growth in

its structure, infrastructural facilities and activities. The Faculty shifted to its actual campus at Shuhama in 1990. After bifurcation of the University in 1999, the Faculty remained as an organ of SKUAST-Kashmir. Initially established with five Divisions for research, teaching and extension education, the Faculty was reorganized into eighteen Divisions besides Veterinary Clinics, in the year 2000. The Faculty, after 2005 has focused on advanced arenas of teaching and research. There has been a parallel growth in terms of supportive facilities with strengthening of Laboratory and Library facilities, and establishment of Bioinformatics Center, Central Computer Lab., Students facility center, hostels, guest houses, etc. The faculty has gained national reputation under Star College Status sponsored by Department of Biotechnology, MoST, GoI. The institution has achieved national and international reputation in the area of research. Starting from the basic and strategic research, the institution is carrying research activities involving frontier sciences. The Faculty has attained excellent reputation through its alumni, who have found placement in Developments of the State, Educational Institutions at national level, private sector, Kashmir and Indian administrative Services besides their performance in national competitive examinations fetching fellowships including top rank positions ICAR examination for masters.

EDUCATION

ANNUAL INTAKE, ADMISSIONS, ENROLMENTS AND PASSOUTS

Faculty	Admissions/Passouts in Undergraduate Degree Programmes				Admissions/Passouts in Masters Degree Programmes				Admissions/Passouts in PhD Degree Programmes			
	Annual Intake capacity	Students admitted	Enrolled	Pass out	Annual Intake capacity	Students admitted	Enrolled	Pass out	Annual Intake capacity	Students admitted	Enrolled	Passout
Agriculture	148	126	472	74	78	67	127	27	39	16	68	11
Sericulture	35	21	72	15	14	09	25	03	07	02	15	01
Horticulture	169	152	476	56	90	74	153	27	56	16	118	15
Agri. Engg.	48	35	130	27	21	17	04	11	04	03	04	--
Forestry	53	48	145	41	26	18	45	13	13	05	19	02
Fisheries	59	48	134	22	37	18	47	06	10	05	15	01
Veterinary	96	96	425	62	84	44	140	28	41	22	80	21

* BSc Agriculture; BSc Horticulture; BTech Agri. Engineering; BSc Forestry; BFSc; BVSc & AH.

STUDENTS ADMITTED FOR DIFFERENT UNDERGRADUATE COURSES

S. No.	Discipline	OM	Res. Cat.	Self-Finance	ICAR	NRI/NRIs	Hill States	Other States	Foreign National	Total
1.	BSc Agriculture (Hons)	40	39	41	04	01	--	--	01	126
2.	BSc Sericulture (Hons)	11	04	06	--	--	--	--	--	21
3.	BSc Horticulture (Hons)	47	47	48	08	--	--	02	--	152
3.	B.Tech Agri. Engineering	13	08	13	01	--	--	--	--	35
4.	BSc Forestry (Hons)	15	12	18	03	--	--	--	--	48
5	BFSc	16	09	20	02	--	01	--	--	48
6	BVSc & AH	30	30	30	--	03	--	03	--	96

STUDENTS ADMITTED FOR DIFFERENT MASTERS PROGRAMMES

S.No.	Discipline	OM/ Res. Cat	Self-Finance	ICAR	Other states/ NRI- NRIs/ Foreign National	GOJK	Total
1.	MSc Agriculture	42	15	07	03	--	67
2.	MSc Sericulture	07	01	01	--	--	09
3.	MSc Horticulture	39	30	04	01	--	74
4.	M Tech Agri Engineering	11	06	--	--	--	17
5.	MSc Forestry	10	05	02	01	--	18
6.	MFSc	12	05	01	--	--	18
7.	MVSc	30	01	08	--	05	44

STUDENTS ADMITTED FOR DIFFERENT DOCTORAL PROGRAMMES

S. No.	Discipline	OM/ Res. Cat	Self-Finance	In-Service SKUAST-K	ICAR	SRF	Inspire fellowship	Total
1.	Faculty of Agriculture	11	--	--	05	--	--	16
2.	College of Temperate Sericulture	02	--	--	--	--	--	02
3.	Faculty of Horticulture	16	--	--	--	--	--	16
4.	Faculty of Forestry	04	--	--	01	--	--	05
5.	Faculty of Fisheries	04	01	--	--	--	--	05
6.	Faculty of Veterinary Sciences & A.H.	17	04	01	--	--	--	22
7.	College of Agriculture Engineering	02	01	--	--	--	--	03

SEMINAR DELIVERED

Faculty	Masters			PhD		
	Credit	Synopsis	Thesis	Credit	Synopsis	Thesis
Agriculture	35	22	25	26	16	13
Horticulture	74	87	51	39	32	30
Agri. Engineering	23	16	21	07	03	--
Forestry	17		12	12		02
Fisheries	06	04	11	03	05	01
Veterinary Sciences	11	15	11	15	06	10

NEW DEGREE PROGRAMMES INSTITUTED

1. Ph.D. Degree Programmes	
i.	Veterinary Epidemiology & Preventive Medicine
ii.	Veterinary and Animal Husbandry Extension
iii.	Silviculture & Agroforestry
iv.	Natural Resource Management

v.	Forest Biology & Tree Improvement
vi.	Forest Products & Utilization
2. Masters Degree Programmes	
i.	Silviculture & Agroforestry
ii.	Natural Resource Management
iii.	Forest Biology & Tree Improvement
iv.	Forest Products & Utilization
v.	Wild Life Science
3. M. Tech Degree Programmes	
i.	Processing & Food Engineering

CURRICULUM DEVELOPMENT & DELIVERY

S. No.	Name of the University/ College/ Faculty	Title of Practical/ Instructional Manuals developed	Available offline or online, if yes quote web address
1.	Faculty of Veterinary Sciences & Animal Husbandry	✓ Practical Manual Veterinary Microbiology	Offline
2.	Faculty of Agricultural Engineering	✓ Water Harvesting through Polylined Farm Ponds In Temperate and Cold Arid Regions ✓ Protected Cultivation in Temperate and Cold Arid Region. ✓ Water harvesting techniques for increased water efficiency ✓ Practical Manual on Irrigation and water Management ✓ A Food Engineering Lab Manual ✓ Practical Manual on Tractor and Farm Machinery Operation & Maintenance ✓ Practical manual on ergonomics.	Offline
3.	Faculty of Forestry	✓ Maps of natural resources of Kashmir Hiamlayas-A book of GIS maps. ✓ Cultivation of Poplars in Kashmir	Offline

STUDENTS PERFORMANCE

- **Miss Shilpa Singh**, M-Tech student secured second position in National essay competition on “Agricultural Waste to Wealth” with a cash prize of Rs 40,000/- Sponsored by MANAGE, Ministry of Agriculture and Farmers welfare, Rajendarnagar, Hyderabad.
- Two student namely **Ifshan Manzoor** and **Burhan Jeelani** from College of Agricultural Engineering and Technology Qualified GATE examination with scholarship and secured rank of 58 and 136.

- **Dr.NasirRahid** from College of Agricultural Engineering and Technology Qualified CSIR examination and posted as Scientist at CSIR Institute, Govt. of India at Ludhiana
- Student project “Low cost sound generating device to reduce pest induced crop losses” by **Asif Altaf** B-Tech (A.E.) student under the mentorship of Dr. M. Muzammil, Assistant Professor, COAE&T. was sanctioned for grant in aid under new generation IEDC programme of NSTEDB and EDII, Govt of India. Total Amount = 2.5 Lakhs.
- Student project “Household Waste Management for Organic Kitchen Gardening and Clean Environment” Innovation ID: IIGPUS1KE00 by **Er. Mehvish Hameed**, M-Tech student, College of Agricultural Engineering under Mentorship of Dr.Junaid N. Khan was sanctioned for 10.0 Lakh and sponsored by Indian Innovations Growth programme 2.0.
- **Ms. Rafiya Mushtaq**, Ph.D. student, Division of Fruit Science received “Prime Minister’s Fellowship for Doctoral Research” a joint venture of Confederation of Indian Industry and Science and Engineering Research Board.

NUMBER OF STUDENTS QUALIFIED SRF, NET, ARS, etc

S.No.	Name of College/ Faculty	JRF	SRF	NET	ARS	Others	Remarks
1.	Faculty of Agriculture	--	--	06	----	--	---
2.	Faculty of Veterinary Sciences & Animal Husbandry	08	01	06	----	--	---
3.	Faculty of Fisheries,	03	-	-	-	05	DST & ICAR, GoI PG Research Fellowships
4.	Agriculture Engineering	02	02	--	--	02	
5.	Faculty Horticulture	--	--	05	--	01	Prime Ministers Fellowship for Doctoral Research
6.	Faculty of Forestry	01	--	08	--	--	--

STUDY TOURS AND FIELD VISITS

- Educational tour of B.Tech. (IIIrd Year) students of Agricultural Engineering to South India was conducted from 12-25th January 2019. (No of students = 24 and staff=3).
- Educational Tour of B.Tech (IInd Year) Students was Organized to Leh, Ladakh from 26th July to 3rd August. (No of students =20, and staff=3).
- Faculty of Forestry conducted 7 days educational tour of BSc Forestry students (3rd year) to Cold Arid Zone Leh Ladakh from July 22, 2018, wherein students were exposed to cold arid ecological zone within the state. Students visited different sites of ecological importance besides various state and national level institutes viz. HMAARI (SKUAST-K, PCFD, DRDO, LEHO, LAREDA etc. Pangong Lake, Khradungla Pass (18000 ft amsl), Hemis Gonpa, Shanti Stupa etc. (No of students =30, and staff=3)
- An educational tour of students and faculty members of Faculty of Forestry was conducted to Gurez vally from 14th-16th Sep, 2018. The tour was attended by 8 faculty members and about 30 male and female students from UG and PG programmes. The students and faculty members on the occasion visited different places of ecological importance in Gurez. The different places visited included MARES (SKUAST-K) Iz marg, Baktoor, Tarbal, Daawar, Markot, Chorvan and Tulail. High altitude temperate and alpine forests, their vegetation and ecology were demonstrated to the students. Some activities like seed collection and identification of species were also conducted during the visit. Seeds of Juniperus spp, Acer spp. and Aconitum were also collected. Dr. Anwar (Head, MARES) also demonstrated different activities of MARES to faculty members and students at their instructional farm.
- An educational tour of 65 BSc Forestry students (3rd year and 2nd year) to Sindh Forest Division and its Divisional office at Ganderbal was conducted wherein students were exposed to the working of State Forest Department within the purview of course on “Forest Management”. Different control forms maintained by the department were demonstrated to the students by concerned DFO and RO (Dr. Waseem Balkhi). Court procedures with respect to forest offences like timber/NTFP smuggling and forest encroachment were also demonstrated to the students.
- A 21 days All India Educational Tour was conducted for students of 3rd year Horticulture, Agriculture, Forestry, Agri Engineering and Sericulture from January 28, 2019.



Educational tour of BSc Forestry students (Final year) to Cold Arid Zone Ladakh.



Faculty of Forestry students on All India Tour



Students of B-Tech(Agricultural engineering) on educational tour to different institutes of India



Students of 3rd year Horticulture, Agriculture, Forestry, Agri Engineering and Sericulture on 21 days All India Educational Tour

LIBRARY AND INFORMATION SYSTEM

Provision of pinpointed and exhaustive information to right users at right time; stands as the foremost commitment of the SKUAST-K Library System. For this purpose staff of the Library System endeavoured hard to enrich its information base both in print and electronic form. Moreover, new information delivery and communication equipment/gadgets were procured to facilitate the scientists and the students with the required information both on demand and in anticipation to their demand. Access to the electronic sources of information has also been extended on anytime anywhere basis through Remote Login Software called EZ Proxy of OCLC, placed on Cloud. A brief about the core activities carried out during the year **2018-19** are as under:

I. Addition of Information Sources: In view of the availability of electricity and Internet connectivity the situation in Valley of Kashmir is yet suitable for a hybrid type of library, where both print and electronic sources of information are kept available for use of the clientele. It is also evident from information seeking tastes of the library users that SKUAST-K Library System still need to acquire and subscribe both print and electronic sources of information. Accordingly both print and electronic forms of information resources were added to the existing collection and the quantum of information thus acquired by the System during the years under report is given as under:

(a) Print Information Resources

1) Journals in Print Form: The Library System since its inception has been subscribing to a good number of foreign (+50) and Indian (+70) Journals in print form. This way the Library System has developed a rich and voluminous journal back file collection of around 20 thousand volumes. A smart software has indigenously been developed to facilitate the scientists and the students with a search and retrieval mechanism of

research articles available in these print journals. Since the inception of e-journal access through CeRA funding for subscription of print journals has been stopped at national level.

2) Books in Print Form: Textbooks in print form remains as the most sought after information resource for both UG and PG Students, according preference was given to procurement of textbooks of national and international standard. A good number of **books(2,100)** were purchased during 2018-19, against an amount of **Rs. 26.00 Lacs**. The book collection was thus substantially improved with much focus on quality than quantity and the total number of Text and Reference Books has now reached to **60,658**.

Table 1: Faculty wise breakup of books added during 2018-19

S. No	Faculty	Textbooks	Reference	Total
1	Faculty of Agriculture	420	90	510
2	Faculty of Horticulture	625	75	700
3	Faculty of Veterinary Sc. and AH	262	68	330
4	Faculty of Fisheries	115	35	150
5	Faculty of Forestry	175	25	200
	College of Sericulture	195	15	210
	Total	1792	308	2100

3) Theses in Print Form: A total number of **124 Theses** (90 Masters' and 34 Doctoral) were added to the Print Theses Collection the ones submitted by the Students of the University after having successfully completed their degrees during 2018-19. The degree and faculty wise breakup is presented in *Table 2*.

Table 2: Faculty wise breakup of Theses added during 2018-19

S.No	Faculty	Masters'	Doctoral	Total
1	Faculty of Agriculture	47	20	67
2	Faculty of Horticulture	51	25	76
3	Faculty of Veterinary Sc. and AH	25	19	44
4	Faculty of Fisheries	20	2	22
5	Faculty of Forestry	5	3	8
6	College of Sericulture	9	1	10
	Total	157	70	227

4) Gratis Items in Print Form: A good number of gratis items were received and added to the print collection of the library. The items which were received free of any cost under this category include 70 books, 12 journal issues, 10 reports (research, statistical, institutional), 12 magazines. All the gratis items were organised on shelves at appropriate places and the bibliographic detail thereof was uploaded in the respective databases.

(b) Electronic Information Resources

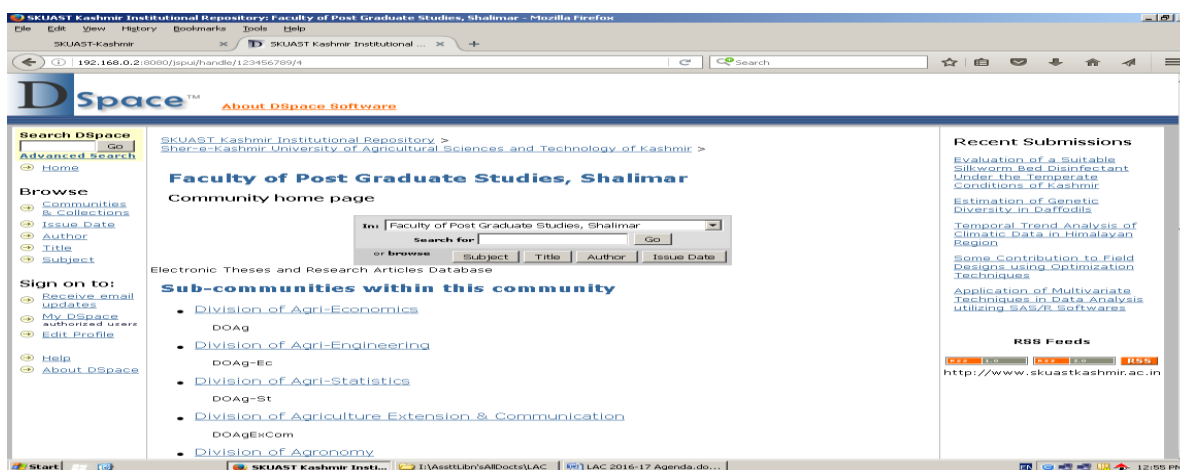
In addition to the above given detail of print information resources, the Scientists and Students were facilitated with plenty offline/online electronic information resources. Efforts were also made to ensure anytime anywhere access to these e-resources. A brief about each e-resource is given as under:

- 1) CeRA:** The Scientists and Students of the University all across the constituent campi continued to avail access to full text of +3500 e-journals relevant to Agriculture and allied disciplines through Consortium of e-Resources in Agriculture (CeRA). CeRA is now available on **J-Gate+** (<http://jgateplus.com/>), the largest Indian electronic gateway to global e-journal literature. Seamless access to bibliographical details & abstracts of millions of journal articles (46,218,379) under copyright of 11,428 Publishers was thus provided to users. Presently it provides access to a massive database of journal literature, indexed from 44,527 e-journals with links to full text at publisher end.
- 2) CABI eBooks:** Access to world's leading e-Book collection in Agriculture & Allied Disciplines i.e. **CAB eBooks** was provided during the year 2016-17 and every possible effort was made to ensure its smooth & convenient full text access to Scientists & Students. This way access to full text of **650+** Refereed eBooks from 2000 to 2010 has been made available to users on perpetual basis. Backup of full text of these e-books on DVDs has been collected from the publisher to facilitate their full-text search and retrieval through offline mode in absence of Internet connectivity.
- 3) EBSCO e-Books:** Perpetual (life-time) access to 120 foreign publications of reputed publishers in the field of Agro-Biological Sciences has been subscribed through M/s. EBSCO Host.
- 4) KrishiKosh:** Full text access to Doctoral Dissertations was first started as **KrishiPrabha** and then migrated to a new platform called **KrishiKosh**. Access to more than 40,000 Theses (Both Masters and Doctoral) has been made available to the Scientists and Students through this national level e-Theses repository under NARES. **KrishiKosh** is being continuously updated by posting the newly added Theses submitted by PhD Scholars of SKUAST-K. **346** PhD Theses (2000 to April 2017) and **100** MSc. Theses have been placed on this portal, while maintaining an embargo period of two years. In total **615** theses produced by State Agricultural Universities and Agricultural Research Institutes of India are available in this online e-Theses collection.



5) **Indexing and Abstracting (I&A) Databases:** The Library System has developed a rich collection of *indexing & abstracting databases* (11 CDROM Databases bibliographical detail and abstracts of journal articles of world famous titles in digital/electronic form) subscribed *from 2003* with *retrospective data from 1972*. About *15.15 million* research articles (bibliographical data along with the abstracts) are available in these databases. Mention worthy among them are *CAB Abstracts* (6.75 million), *AGRIS* (3.20 million), *AGRICOLA* (3.30 million), *VetCD* (0.55 million), *MEDLINE* (1.10 million) and *FSTA* (1.0 million).

6) **Institutional Repository:** The library system has developed an institutional repository on the open source digital library software 'DSpace' of MIT and HP. The information sources have been placed under four categories viz. Theses, Research Paper, Seminar & Symposia Proceedings and Open Access Information Sources. By the end of year 2018-19 the full text of **1200** Theses (including **860** Masters'/ **340** Doctoral), **4182** Research Papers (niche areas of research) and **162** Seminar & Symposia Proceedings has been kept available for the access of authorised/registered members of SKUAS-K Library System through this repository.



7) **India Agri-Stat on CeRA Platform:** [IndiaAgristat.com](http://www.indiaagristat.com/default.aspx) (<http://www.indiaagristat.com/default.aspx>) is owned by Datanet India and has been established to collect, compile, consolidate and deliver the socio-economic statistical information about agriculture in India. This valuable information base has been subscribed by ICAR on consortia basis and has been made available for use of Scientists and the Students of NARES on Anytime Anywhere basis through

CeRA Platform. The database provides a simple search option for retrieval of desired information as well as some readily available customised retrieval options providing an opportunity to retrieve statistical data on different manifestations of Agriculture in India with a click of button. It also facilitates the users to prepare desired graphs and charts with utmost ease and least involvement of effort.



8) **Remote Access to E-Resources:** The e-resources available with SKUAST-K Library System were made accessible remotely on Anytime Anywhere basis through subscription of EZ Proxy Software of OCLC and Hosting of this software on Cloud. This software has enabled the Scientists and Students to use all subscribed & open access e-resources *from one platform providing single stop*

access, who now do not need to remember the individual URLs and wander from window to window in search of information. A good number (25) of Scientists and Students (105) were registered during 2018-19 for availing this remote access facility through authentic username & password. In total the number of users who have availed this remote access facility has risen to 940.



Remote (off campus) access to e-resources of SKUAST-K Library System of anytime anywhere basis

9) **Databases Updation:** Bibliographic detail of newly added **2,100** Books, **157** Theses and **104** gratis items was incorporated to the Books/Theses Database operated through SOUL 2.0 & KOHA Software. The *Electronic Accession Register* was also updated with bibliographic detail of **2,100** Books, **157** Theses.

in PDF using a high end digital scanner and printer for the purpose. These shall be placed shortly on Institutional Repository and Krishkosh database.

10) More than 100 theses available in CDs/DVDs were populated on Disk Management System with full bibliographic detail for easy and fast retrieval. This helps in safe storage and prolonged preservation of this valuable treasure of knowledge.

12) **Data Migration and Updation of Books and Theses Database.** The Books and Theses database previously available on SOUL 2.0 platform was successfully migrated to newly adopted KOHA platform. It involved a lot of pre-migratory technical work and decision making. All professionals of the SKUAST Library System sat head to head together to identify the field tags and work out the mismatches thereof. Subsequently the mismatching in field tags was removed in order to ensure migration of data into proper fields and avoid any loss thereof. After thorough discussions and deep deliberations a suitable framework was

11) **Digitisation Dissertations:** 51 MSc. Theses that were available only in print form were digitized, consolidated, merged and converted to a single file

customized for proper migration of data and user friendly and uniform dataentry operation in future.

Some 12,000 records were migrated after record to record scrutiny and proper field to field cross match. Moreover, 3,000 new entries of books and theses were added to the database.

13) Upgradation of Linux Ubuntu Flavour Server:

Linux Ubuntu Flavour Server used as base for KOHA was upgraded from 12.04 to 16.05 version.

14) Upgradation of DSpace:

DSpace used as base digital library software for our Institutional Repository was also upgraded to its latest version during 2018-19

III. Addition & Upgradation of Library/IT Infrastructure

Side by side to enrichment of the information resources efforts were also made to improve the library infrastructure for ensuring smooth, reliable, efficient and optimum usage of these resources and thus render quality services.



Self check in check out Kiosk: For easy and fast issue/return of book



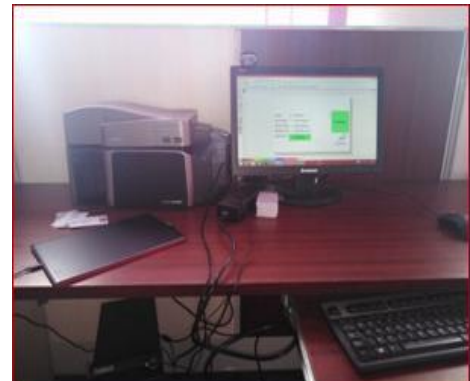
RFID Gate: For avoiding theft of valuable information resources and keeping a record of user foot falls

The detail about the newly added infrastructure during 2018-19 is as under:

1. RFID System was installed and commissioned in the Central Library in the year 2018-19. It comprises of *One Staff Station, One Self Check-in Check-out Kiosk, One Book Drop Box, One Handheld Document Reader, One Radio Frequency Chip Based Smart Card Printer along with Stationery, 34,000 RFID Tags and Anti-Theft Stickers and One Single Isle Security Gate*. The total project cost towards the procurement, installation and implementation of the RFID System tuned to **Rs. 20.00 Lacs**, including the migration of data from SOUL 2.0 to KOHA, integration of the RFI Devices with KOHA, provision of an SMS Pack for registered Users for one Year, configuration of SMPT with KOHA and RFID System.



Book Drop Station: For direct return of books



Card Printer: For printing chip based smart cards for registered users of the library

2. **Electricity Support:** Library system was strengthened with one Online UPS Systems, each of 20 KVA power and two hour backup. It involved an amount of **Rs. 6.60 Lacs**.

3. **Colour Laser Printer:** The Library System hasprocured 1 Colour LaserPrinter for office use against an amount of **Rs. 27,000**.

4. **Subscription of EZ Proxy Software:** The subscription period of EZ Proxy Software was renewed for three years viz. 2018-19, 2019-20 and 2020-21 by spending an amount of **Rs. 2.40 Lacs** on this account.
5. **Cloud Facility:** Cloud services were also subscribed for three year for hosting the EZ Proxy Software and other databases to ensure uninterrupted access to e-resources on Anytime Anywhere basis and this involved an amount of **Rs. 25,000**.
6. **Upgradation of CCTV:** The CCTV Surveillance System was upgraded by way of addition of a new DVR.

IV. Academic Activities:

The courses namely (i) PGS-501: Library and information services & (ii) PGS-502: Technical writing and communication skills were offered to the PG Students in both Summer and Autumn semesters of the period under report. Basic knowledge required for efficient searching and retrieval of information and proficient writing of scientific and technical reports was thus imparted to a total number of **281** students. For convenience of students the courses were offered at five major Faculties of the University viz. FOH Shalimar, FOA Wadura, FVSc Shuhama, FOFy Rangil, and FOF Benihama.

V. Training Programmes: A training programme was also conducted in the year 2018-19 by M/s. Rapid Ratios to train a team of library staff towards successful operation of RFID System, Data migration, Customisation, Tagging, Data capturing, etc. Hands on training to a large number of scientists and students (**2,210**) was given on user to user basis on and when approaching the e-Resource Centres and CDROM Libraries.

During 2018-19 one Assistant Librarian was deputed to attend a Winter School “Advances in Application of ICT in Libraries of NARES to Support Education and Research” w.e.f. 10th to 31st of Sep. 2018 at Professor Jayashankar

Telangana State Agriculture University, Rajendranagar, Hyderabad.

VI. Services Rendered:

The ultimate purpose behind the enrichment of the information resources and behind the establishment of the state-of-the-art library infrastructure is to render smooth, satisfactory and efficient services to library users and thus ensure optimum utilisation of the valuable resources. Library is purely a service centre and as a matter of fact the library professionals invest most of their time in rendering information service to scientists and the students both on demand and in anticipation to their demand. The core services rendered during the year under report are summed up as under:

The number of book under transaction (issue/return) during the year were around **23,100**; assistance towards searching and convenient consultation of books, theses & journals provided to readers over **21,510 instances**; number of reference queries which were addressed & responded during the year was **7,997**; the number of relevant articles/chapters and pieces of information delivered to relevant users under CAS/SDI service through print or electronic means was more than **7,100 pages**; assistance was provided to users in searching and downloading of **+6.5Lac** bibliographic records or full text papers from CDROM Library, and Internet; Full text research articles (**415**) and Biblio + Abstracts (**+1.3 Lacs**) were downloaded and served to users through CAB Abstracts under its online mode; **12** full text research articles were received from different SAUs, DAUs & ICAR Institutes of the country under Document Delivery on Request Service (DDRS) of CeRA & in return **8** research articles were sent to aspirants belonging to SAUs, DAUs & ICAR Institutes participating in this consortia. A large number of scientists and students (**2210**) were registered as regular library members during 2018-19, among whom **130** users were assigned user name and password to access e-resources of the Library System through remote access on anytime anywhere basis.

STUDENTS WELFARE ACTIVITIES

Status of Experiential Learning (EL) Module established in the University

ICAR sponsored Experiential Learning Module					
Name of College along with location	Name of the EL Modules	Grant Received (Rs. Lac)	No. of Students trained under EL	Product being developed under EL	Revolving Fund Generated (Rs. Lac)
College of Agriculture, Wadura, Sopore	Seed Production & Processing Unit	0.95	35	Quality Seed of Lentil and pea produced	1.50
College of Agriculture, Wadura, Sopore	Commercial Agriculture	78.0	107	Planting material of fruit, Strawberry & Field crop	0.24
College of Agriculture, Wadura, Sopore	Commercial Horticulture	75.0	172	Planting material of fruit, Vegetable and ornamental crops	0.99
Division of LPT, FVSc&AH, Shuhama	Experiential Learning Unit on Wool and Pashmina Processing	40.00	14	Wool and pashmina products	0.0072
Division of LPT, FVSc&AH, Shuhama	Experiential Learning Unit on Meat and Poultry Products Processing	30.00	15	Meat and Poultry Products	0.0054
Mountain Livestock Research Institute, Mansbal	Processing of milk and milk products	99.00	74	Milk and milk products	27.00
Division of LPM, FVSc& AH, Shuhama	Establishment of Broiler and Layer Production Centre	50	103	Chicken	26.05
College of Fisheries , Rangil	Ornamental Fisheries unit	49.5	11	Fish	0.33
College of Fisheries , Rangil	Fresh water aqua farming	90	11	-	0.096
College of Forestry Benhama-Watlar, Ganderbal	Production and marketing of quality plant material of forest tree species	55	152	Plant material	8.25
College of Agri Engineering	Green house fabrication unit and modernisation of poly house /green house for temperate and cold arid region of North Western Himalayas	66.51	56	Poly houses	1.25
College of Horticulture Shalimar	Commercial Horticulture (Fruits, Vegetables, Floriculture)	80	28	Seed and planting material	0.13
College of Forestry	Module – 1 Production and marketing of quality plant Material of Forest Spices	55.00	16	Quality plant materials of Cuppressus octorlosa, Cedrusdeodora , Ulmus, Villosa , Cryptomeria Japonica, Thujaorientails	13.6
CTS, Mirgund	Module-I Host Plant Production Module-II Cocoon Crop Production Module-III Silk Product Science Module-IV Natural Resources Management	Nil	10	Plant material and Silkworm Cocoons	
College of Agricultural Engineering Srinagar	Green house fabrication unit and modernization of Poly-house/Greenhouses for Temperate and cold arid regions of North Western Himalayas	57.00	23	Green house structures, Small tools and Implements and Soil conservation measures	0.30
F.V.Sc& A.H	Wool & Pashmina Processing	-	-	-	-

Experiential Learning Programmes:



Students READY programme (Implant attachment) of Faculty of Fisheries at Cochin, Kerala.



Establishing forest nursery by Forestry UG students under EL Program



Pea Seed production Under EL Program



Lentil Seed production Under EL Program



Wheat Seed production Under EL Program



Summer Chickpea cultivation at FoA, Wadura



Tomato raising by EL students in playhouses



Raising vegetable crop by EL students

CAPACITY BUILDING

CAREER COUNSELLING AND PLACEMENT ACTIVITIES

Counseling Programme for Fulbright & Kalam Fellowship

The University conducted a video Conferencing programme regarding the Fulbright & Kalam Fellowships of United States for the students and faculty member seeking admissions in Doctorate and Post-Doctorates programmes respectively. The programme was conducted on May 1, 2018 in collaboration with the United States-India Educational Foundation (Fulbright Commission), New Delhi. A total of 89 students participated in the programme which was chaired by Hon'ble vice Chancellor.



Hon'ble Vice-Chancellor , Dean students Welfare and the students interacting with USIEF New Delhi through video Conferencing mode

Counseling programm for the Maulana Azad National Fellowsip for the Ph.D scholars

Maulana Azad National Fellowship is one of the prestigious fellowships provided by the Government of India, to the minority community students pursuing regular and full time M.Phil and Ph.D courses and equivalent research degree in universities, research institutions and scientific institutions within India. In order to create awareness about MANF, a one day counselling program was organized by SKUAST-K at the faculty of Fisheries.



Counselling program about MANF at the Faculty of Fisheries

Facilitation of students enrolment for national fellowships

SKUAST-K is facilitating students for various national level scholarships for the financial assistance.

- Data of beneficiary students of Maulana Azad National Fellowship has been uploaded on the concerned web portal.
- Data of beneficiary students from Leh and Kargil was compiled and forwarded to Department of Higher Education, Govt. of J&K for Frontier Scholarship

Mock-JRF test

The University is conducting series of Mock test for the ICAR-JRF across all the faculties. Adding to that a mock test was conducted for the students of the Faculty of Horticulture on 17.11.2018 at the Syed Meerak shah Kashani, Students Facilitation Centre. More than 200 students registered their names and participated in the test. Test was conducted on the pattern of the ICAR examination.

Also Mock-JRF Test was conducted for the final year students of BSc fisheries at Faculty of Fisheries.



One-day Workshop on Entrepreneur Development in livestock sector in collaboration with JK-EDI

SKUAST-K conducted a day long workshop on entrepreneurship in livestock sector in collaboration with Jammu and Kashmir entrepreneurship Development institute on 13.3.2019. About seventy BVSc. Internees participated in the workshop.

**Placements (Off campus/On campus)
Number of Students employed in public/ private/ banking sectors-**

Name of companies / agencies which participated	Number
Horticulture Department, Govt. of J& K	1
Animal Husbandry Department, Govt. of J& K	1
Sericulture Development Department, Govt. of J& K	1
Junior Agriculture extension officers	45
Asstt. Agriculture Officers	15
SKUAST-K	
field Supervisors	2
field investigators	10
SDSCOAS Tohana	1
Vety Surgery, Apex College of Veterinary Sciences	2
Vety. Medicine, MRS College of Veterinary Sciences	1
Project Assistants/SRF at IIIM, Srinagar	15
Foggers India Pvt. Ltd	4

START-UP KASHMIR -A First Initiative Towards Empowerment

In order to create employability among our students and encourage their innovative vision, SKUAST-K organized **JIDDAT-2018 A First Initiative Towards Empowerment** on 1st December 2018 at Syed Mirak Shah Kashani Student Facilitation Centre, SKUAST-K

Shalimar under the banner of Start-Up Kashmir. The programme was coordinated by students of HBM and B.Sc. Hort (III) year of Faculty of Horticulture. Honourable Vice-Chancellor inaugurated the programme in presence of Officers of the University. More than 200 students from all the Faculties participated by installing stalls where traditional & local cuisines like Harissa, DoodhKehwa, Kashmiri Anchaar, Walnut Tart, Barbeques, Momos, Chicken roll, Gajar ka halwa, Fried fish, Gulab jamun, Ras malai, Apple halwa etc were put on sale. The Initiative was hailed from all concerned quarters.



Inauguration of JIDDAT by Honourable Vice-Chancellor



Visit of Honourable Vice-Chancellor at various stalls



Students with Food Stall at JIDDAT Food Festival

Industrial Exposure

Five students of Faculty of Horticulture were selected for the paid Internship programme offered by the M/S Foggers India Limited. The internship programme is for the 3 months. Out of five

students three students belongs to college of Agri Engineering and two from the Division of Fruit Sciences.

Participation in National Seminars

The University deputed 2 MVSc students namely Ms Nazish Rizwan and Ms Asma Altaf Malik for participation in 25th Annual Convention of Indian Society of Animal Production and Management and National Conference on Smallholders Livestock Producers in India held at SD Agricultural University SardarKrishi Nagar Gujarat from 11th to 13th April, 2018.

INTERFACE BETWEEN EDUCATIONAL INSTITUTIONS AND THE UNIVERSITY:

From the collaborative learning atmosphere that results from the unique relationships developed outside the classroom, to the deep learning that occurs when students must put into practice “in the real world” what they have theorized about from behind a desk, field experiences are unmatched in their learning potential. Field experiences early in a student’s career can be formative and can inspire students to continue in a field. SKUAST-K regularly organizes such interaction programmes round the year. Lawrence Vidya Bhawan Educational Institute visited the campus on 25th April 2018. The contingent consists of 150 students and 6 teachers. The students were exposed to technologies developed by the University and were also prompted towards Agricultural education. Also, 150 students from the New Convent School, Srinagar were exposed to the new technologies developed by SKUAST in the field of Horticulture on 20.8.2018.



Scientists’ Students interaction at SKUAST-K Shalimar Campus

INETR- UNIVERSITY EXTRA CURRICULAR ACTIVITIES

16th All India Vice-Chancellor T-20 Cricket Tournament

SKUAST-K Employees Cricket team was deputed to play in the 16th All India Vice-Chancellor’s Cricket Tournament at the University Of Kashmir. Tournament began on 29th August 2018. The first match was played between the SKUAST-K and the Nagpur University. SKUAST-K, registered 4 consecutive wins.



North Zone Inter University Cricket Tournament

All India Association of University organizes various sports tournament round the year and in the series of events, North Zone Inter University Cricket Tournament was organized at Mahareshi Dayanand University Rohtak Haryana. Students Cricket team of SKUAST-K participated for the first time in the tournament



Team SKUAST-K at Mahareshi dayanand University Rohtak Haryana

Agri-Unifest at Sardar Krushnagar Dantiwada Agriculture University

Sardar Krushnagar Dantiwada Agriculture University-Gujarat organized Agri-Unifest w.e.f.3-7 February 2019 in cooperation with Indian Council of Agricultural Research, New Delhi. The youth festival provides opportunities to students showcasing their inherent talent in art, music, drama and other cultural activities. SKUAST-K students participated in the grand event alongwith students from other 70 Universities.



Team of Students from SKUAST-K for Agri-Unifest

UNIVERSITY LEVEL EXTRA CURRICULAR ACTIVITIES

SPORTS ACTIVITIES

Vice Chancellor's Sports Festival -2018

Vice- Chancellor's sports festival is organized across all the Faculties of SKUAST-K including Faculty of Horticulture, Shalimar, Faculty of Veterinary Sciences and Animal Husbandry, Faculty of Agriculture, and College of Temperate Sericulture. The festival was kick started at the Shalimar campus on September 7, 2018. The festival was inaugurated by Honourable Vice-Chancellor and was attended by famous cricketer of J&K Manzoor Pandav as a Guest of Honour. The inaugural match was played between the B.Sc. Horticulture (3rd year) and B. Tech. (Agri. Engineering) students. Sports events were also organized at FVSc&AH, Shuhama wherein more than 500 students from Veterinary, Fisheries and Forestry participated. Events were also conducted at FoA, Wadura from September 25, 2018. The event includes cricket, football, volleyball Table Tennis, Badminton and athletics.



Inauguration of sports festival at Shalimar



Honourable Vice-Chancellor doing the toss for the cricket match



Vice-Chancellor’s giving out trophies to winners during Sports Festival at FVSc&AH, Shuhama



Vice-Chancellor’s Sports Festival at COTS Mirgund



Glimpse of Vice-Chancellor’s Sports Festival at COTS Mirgund

ANNUAL DAY –IRTIQA 2018

IRTIQA -- the first ever Annual Day of SKUAST-K was celebrated by the University. More than 2000 participants, across all the Faculties, attended the event.

- Annual Day celebrations were initiated by unfurling of University flag and release of balloons by the Honourable Vice-Chancellor followed by the Police Band provided by J & K Police. Flag hoisting ceremony was attended by the Directors,

Deans, Faculty members, ASWOs and students of all the faculties.

- Among others, eminent civil society members including Zareef Ahmad Zareef, Waheed Jeelani, Shazia Basheer, Raees Mohiddin and Saim Mustafa graced the occasion and made brief performances in their respective fields in order to encourage the young generation
- Students from various States of the country presented a beautiful programme under the banner of “**Unity in Diversity**”.
- Various events aimed at inculcating qualities and attributes like teamwork and leadership among the participants were organized. The events included **Literary & Art** (Speech competition, Rangoli, Painting), **Music and Dance** (Group song, Light vocal, Group dance) and **Theatre**.



Flag hoisting ceremony by the Chief Guest



Honorable Vice- Chancellor appreciating Rangoli



Honourable Vice-Chancellor performing Isband Ritual



Inaugural address by Hon'ble Vice-Chancellor



Dean Students Welfare delivering Welcome at Nund Reshi Convention Centre during IRTIQA



Performance of Dandiya by the girls of FOH

Students of FOA performing skit

LITERARY EVENTS

To promote the art and habit of writing among the students, several competitions of essay writing,

debates and painting were organized by the University.

Elocution Competition

The University organized an Elocution Competition on the theme-“**Fasting & Health- A Scientific Paradigm**” on May 30, 2018 at Syed Meerak Shah Kashani , Students Facilitation Center. 120 students participated in the programme. **Sana Manzoor** of B.Sc. Horticulture secured 1stPosition, **Sameen Shafi** of B.Sc. Horticulture secured 2nd position while **Zukruf Hussain** of B.Sc. 1st year secured 3rd position. Students were felicitated by the trophies and certificates



Director Education, Prof. Shakil A. Wani, felicitating students at Elocution Competition

Student Conference

One day conference on the theme “**Blessings of Holy month of Ramadan in reference to spiritual and medical benefits**” was organized on 7th June 2018 at Faculty of Wadura. Besides faculty members, 220 students participated in the event.



Painting Competition

Inter Faculty Painting Competition on the theme, “CANVAS OF HOPE”. was organized at Shalimar Campus. Honourable Vice-Chancellor, Prof. Nazir Ahmad, inaugurated the event. More than 50 students from the all the faculties participated in the event. Mr. Shahran from the College of Sericulture was declared winner of the competition.



Inter- Faculty Painting Competition



Hon’ble Vice – Chancellor encouraging participants of Painting Competition

PLANTATION DRIVE

A Plantation drive programme was organized in the Faculty of Forestry where large scale plantation of conifer and broad leaved seedlings (2000) was carried out in the campus.



Plantation drive was organized on 9th April 2018 at Faculty of Veterinary Sciences Shuhama. More than 200 students participated in the drive. The drive was kick started by Hon’ble Vice-Chancellor by planting Chinar trees.





Students of college of Temperate Sericulture participated in anti polythene drive at Mansbal

ANTI- POLYTHENE DRIVE

SKUAST-K has been continuously working to save the fragile environment of the valley from the harmful effects of polythene bags. To accomplish the mission of polythene free environment, the University initiated Polythene free Zone campaign. The objective of this campaign is to motivate students, and Faculty of the University to use cloth or jute bags for shopping and to say no to polythene. So far University has organized more than 20 anti-polythene campaigns throughout valley with an aim to sensitize local public about the harms that polythene is inflicting on the fragile environment of Kashmir. During the on-campus campaign, the participants cleared whole of the campus and visited all the Divisions and offices to convey their message.



SWACHH BHARAT ABHIYAN

As part of the Swachh Bharat Abhiyan (SBA) campaign, volunteers, Swachhagrahis, or 'ambassadors of cleanliness', of SKUAST-K have promoted community approaches to sanitation (CAS) at the village level, proper disposal of bio degradable and non-biodegradable waste in identified villages. One day Awareness rally was organized by the swachh Bharat Summer Interns of the Faculty of Horticulture at the adopted village Harwan, More than 50 students participated in the programme. The students carried out Information – Education- Communication activities for increasing the awareness of people about sanitation related issues and this activity triggers a change in sanitation related behavior. IEC activities taken by interns target behavior around open defecation, hygiene practices, solid/liquid waste management among other behavior. The students also organized a sensitization programme orphanage of the adopted village. Students were briefed about the proper disposal of waste, segregation of bio-degradable and non-biodegradable waste in and around their environment. The Faculty of Veterinary Sciences also launched the programme in district Ganderbal covering various villages around Tulmulla. Similar programme was carried out by the Faculty of Agriculture wherein Awareness programme and rally was organized at the wadura by the summer interns of Faculty of Agriculture. More than 40 students were participated in the programme. The locals were briefed about the cleanliness habits and proper disposal of garbage in and around their vicinity.



Awareness Rally at the adopted Theed village by the student internees of Horticulture



Awareness programme about the cleanliness at a local park



Swachh Bharat Summer Interns interacted with the locals of adopted Theed village



Interns performing Nukkad Natak on Swachhata at the tourist place



Swachh Bharat Summer Interns interacted with the locals



Interns performing songs about the cleanliness to sensitize the locals



Sensitization Programme at an orphanage at Harwan village



Cleanliness Drive conducted at the tourist place Pahalgam by the summer interns



IEC Activities organized at the adopted villages by the students of Faculty of Agriculture



IEC Activities organized at the adopted villages- by the students of Faculty of Veterinary Sciences

MEDICAL CAMPS / AWARENESS

Red Cross and First Aid Training Programme

Red Cross first aid training was conducted at Faculty of Veterinary Sciences and Animal Husbandry, Shuhama Alusteng. About 100 NSS volunteers, teachers and supporting staff participated in training. Dr Rajinder Thapa, Senior Consultant Red Cross and his team imparted hands on training to student volunteers to deal in emergency so as to save human lives in event of accidents.



Sensitization and Awareness programme about the Drug abuse

Prolonged nature of the Kashmir conflict and the resultant trauma caused especially to the youth has largely remained unaddressed. Lack of focused post conflict healthcare services and increased proliferation of drugs has exacerbated the problems multi-fold. The drug addiction has been on the rise for last few years and as of date over 2.5 lakh youth form part of addicted or affected population in the Valley. Taking view of the above fact NSS wing of the Shalimar Campus organized one day

sensitization cum awareness programme about the drug abuse. More than 100 students of Faculty of Horticulture participated in the programme.



NSS volunteers interacting with students and sensitizing them about drug abuse

Blood donation Camp

Blood donation camp was organized at Shuhama Campus in collaboration with Government Medical College, Srinagar. More than 150 students and faculty members participated and donated blood in the camp.



CELEBRATION OF IMPORTANT DAYS

Agriculture Education Day

SKUAST-K celebrated Agriculture Education Day by organizing a quiz competition in which more than 100 students of B.Sc. Horticulture participated. The programme highlighted the importance of agricultural education in building sustainable national economy as well as promotion of ecological balance.

National Science Day-2019

- SKUAST-K organized two programmes on National Science Day-2019 on 05th March, 2019 with focal theme “**Communicating Science for All**”. The programmes were *Biological Control: Friend or Foe*; and *Role*

of Plant Pathology in Economic Upliftment of Kashmir. Theme based lectures were delivered by eminent scientists of the Division to the graduate and post-graduate students of the faculty. Lectures were also delivered by the Dean, Faculty of Horticulture. The students were given hand on experience in the Mushroom research and Training Centre and other laboratories of the Division to familiarize them with the working and facilities available in the Division. The programme was catalyzed and supported by J&K State Science, Technology & Innovation Council



- National Science day was also celebrated at Faculty of Fisheries.



World Habitat Day

World habitat day was celebrated at Faculty of Fisheries. Various dignitaries attending the programme included Prof. Nazir Ahmad, Hon’ble Vice Chancellor SKUAST-K, Mr Rashid Naqash, Regional Wild Life Warden Kashmir, Prof. (Dr.) Shakeel A Romshoo, Head, Department of Earth Sciences, and officers of the University. An inter-faculty quiz competition was conducted on the occasion.



Prof. Nazir Ahmad, Vice Chancellor SKUAST-K on the World Habitat Day



Inter-faculty Quiz competition on World Habitat Day



Distribution of prizes on World Habitat Day

STUDENT –ADMINISTRATION LINKAGE

In order to address the issues concerning students of the University, an interactive session between hostel borders, Wardens, Dean Students Welfare and Hon’ble Vice - Chancellor was held in various hostels:



Interaction with the Girls Hostels inmates at Shalimar campus

UPGRADING STUDENT FACILITIES

Girls Hostel at Faculty of Fisheries

In order to provide adequate residential facilities for the female students, foundation stone was laid for Girls hostel at faculty of Fisheries Rangil by

Hon'ble Minister for Animal and Sheep Husbandry in presence of Hon'ble Vice chancellor



Laying of foundation stone of Girls Hostel at Faculty of Fisheries

Establishment of Gymnasium at Shalimar and Wadoora Campus

As a conscious approach towards health and fitness of the students, a gymnasium was established at Shalimar and Wadoora campuses of the University.



Inaguration of Medical Unit at Shalimar Campus

As the number of students increased two to three folds during the past two years a dire need was felt to increase the scope of the existing health facilities by creating enough infrastructural facilities for the

Medical Unit for the students and staff. Accordingly the long pending demand of the staff and students were met and the new Medical Unit was inaugurated by Hon'ble Vice-Chancellor.



Inaguration of Medical Unit at Shalimar Campus

Establishment of Student Facilitation centre

In order to facilitate the day to day activities of the students, a Students facilitation Centre was established under the name , “ Syed Mirak Shah Kashmi Student Facilitation Centre”. The said centre was dedicated to the students by Hon'ble Vice Chancellor.



Establishment of Student Facilitation centre



Newly inaugurated Badminton court in the Faculty of Agriculture

Research

Varieties, Products & Technologies developed

New Crop varieties and hybrids identified for release by UVRC

First Basmati variety (SKUA-494) evolved for Kashmir valley

SKUA-494 is a first aromatic fine-grained rice variety which fits the rice grown ecology of Kashmir. The economics of cultivation worked out for basmati type rice variety SKUA-494 shows that it is more remunerative than medium slender rice variety, Shalimar Rice- 4 and fine grained aromatic variety, Pusa Sugandh 3. The variety marks a net return of Rs. 1.83 lakh/ ha with benefit cost ratio of 3:1 in comparison to Rs. 1.33 lakh and B:C ratio of 2.2:1 estimated for Pusa Sugandh 3.



SKUA-522: A new variety for mid altitudes of Kashmir Valley (1850-1950 m amsl)

- The variety has been developed for mid-altitude regions of the valley and is characterized by early flowering (85-90 DAS), tolerance to cold and blast disease with high grain yielding ability of 65-70 q/ha.



Hon'ble Vice-chancellor on a field visit standing on SKUA-522 plot

Shalimar Maize Hybrid-3

- Derived from a cross between KDM-116 x KDM-125, *Shalimar Maize Hybrid-3* is a high yielding, early maturing yellow normal maize hybrid with inbuilt tolerance to biotic and abiotic stresses and records an average grain yield of 75 q/ha.



Shalimar Maize Hybrid-4

- A single cross hybrid derived from inbreds SMI-31 x SMI-462, is with orange flint grains suitable for high altitudes (>1800 msl) of Kashmir. The hybrid records an average yield of 75 q/ha under irrigated conditions.



Shalimar Maize Composite-8:

- Derived from GM-6 x KDM-111, *Shalimar Maize Composite-8* is an early maturity maize composite, in white background, with distinct yield superiority over existing Composite 8. The variety possesses tolerance to drought stress and marks an average yield of 60 q/ha.



Shalimar Fodder Maize-1

- A composite derived from a population cross GM-6 x C-8. Possess white grains, is early in maturity and records an average green fodder yield potential of 450q/ha with 40 quintals of seed yield per ha. It is moderately resistant to TLB and stem borer with NDF and ADF superiority over African Tall.



Crop varieties selected from Advance Yield Trials

Shalimar Fodder Oats-2

- Evolved through pedigree method of breeding from the cross between Sabzaar x EC-28806. The variety shows resistance to leaf blight and *Sclerotium* root rot and tolerance to aphids. It has a distinct superiority in respect of green forage yield (380-400 q/ha), dry matter yield (81-85 q/ha), leaf stem ratio (0.67), crude protein content (8.9 %) and seed yield potential of 25-27q/ha.



Shalimar Moong-3

- Evolved through pedigree breeding method from a cross between SL-44 x TM-98-3. It is bold seeded, high yielding, cowpea mosaic resistant variety with an additional feature of moisture stress resilience and yield potential of 9.2 q/ha.

Recommendation and Package of Practices for Basmati Variety SKUA-494

Spacing	: 15x15 cm
Fertilizer doze (N:P:K)	: 80:45:30
FYM	: 10 t/ha

Food Technology / Value Addition

Development of apple chips from cv. Red Delicious

- Apple is a highly perishable fruit due to its high moisture content. Storage problems, poor marketing and lack of appropriate technologies therefore, leads to high economic losses. In addition, there has been an increase in the consumer interest in new generation snacks containing low fat and high fiber. Therefore, fruit based snacks, low in fat and high in dietary fiber therefore, would be ideal. Production of crispy apple chips, therefore, would emerge as an alternative to the conventional and less healthy snacks available in the market.

Raw Material: Apple cv. Red Delicious

Treatment combinations:

- 0.75% Ascorbic acid
- 1.75% Citric acid
- 0.8% EDTA
- Sucrose = 40%

Drying temperature: 60°C

Frying temperature: 106°C

Frying time: 5 minutes

Physicochemical characteristics:

- Moisture: 3.31%
- Water activity: 0.26
- Dehydration ratio: 3.97
- Browningindex: 0.25
- Firmness: 423.32 g
- Crispness: 18.81
- Antioxidant activity (%DPPH activity): 33.21
- Color (L*): 68.32

Ascorbic acid: 41.29 mg/100g



Osmo dehydrated strawberry products

- To add the value to low grade strawberry the technology has been developed.

Raw material: Strawberry

Treatment combinations:

- Sucrose:** 60%
- Ascorbic acid:** 1%
- Dip time:** 6 hours
- Drying method:** Cabinet(50±2°C)

Proximate composition:

- Moisture:** 10.30%
- SSC:** 57.90%
- Acidity:** 0.81%
- Anthocyanins:** 2.75 (mg/100g)
- Ascorbic acid:** 12.98 (mg/100g)



Shelf life extension of fruits and vegetables by sanitization agents/sanitizers

- Fresh produce is often eaten raw or after minimal processing, therefore, food pathogen contamination, therefore, would present risk of outbreaks of food borne illnesses. Fruits and vegetables are usually washed with water prior to eating. Clean water containing an appropriate concentration of sanitizers is, therefore, required to minimize the potential transmission of pathogens from water to produce. It is, therefore, imperative to determine the optimum sanitizer so as to kill microbes before they attach or become internalized in the produce.



- **Raw material:** Tomato
- **Ozone concentration:** 200 ppm
- **Time:** 15 minutes
- **CPLW:** 2.4%
- **Rotpercentage:** 10
- **Visualscore:** 4.3
- **Packagingmaterial:** Shrink wrap
- **Storage time =** 12 days

Floriculture

- Enhanced propagation rate in daffodil.
- Bio-intensive nutrient management in tulip.
- Enhanced seed production in China Aster
- *Callistephus chinensis* NEES) cv. Powder Puff.
- Post harvest management in Asiatic liliium.
- Standardized growing media for pot culture of *Fritilaria imperialis*.
- Standardized technology for improvement in growth, flowering and bulb production of Iris (*Iris x hollandica*) cv. Applo.
- Standardized growing media for *Hyacinthus oreantalis* cv. Purple star.
- Standardized micro propagation protocol of oriental liliium hybrid cv. Ravenna.



Lilium



Lilium bulbs

Post-Harvest Machineries Developed

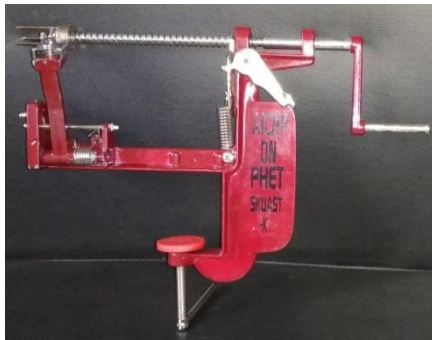
Hand operated apple peeler

- Development of hand operated apple peeler presents a scientific intervention to overcome the drudgery and boredom involved in manual peeling, besides reducing the costs adoption of developed prototype on commercial scale will ease out the apple peeling operations as compare to manual peeling.

Raw material: Apples

Overall dimensions: 300mm×225mm

- **Out put capacity:** 42Kg/hr
- **Unit Cost:**Rs 8000/-
- **Efficiency:** 86.60%



Power operated dehuller-cum-washer for walnuts

- In order to overcome constraints associated with the traditional method of dehulling and washing a power operated walnut dehuller-cum-washer machine was developed and tested. The important implication of the prototype are that, it has been developed from locally available material. A machine of this nature can be useful to walnut growers and walnut processing related industries.



Raw Material: Green Walnuts

Overall dimensions:

Front view: 2150 mm × 1250 mm

Side view: 900 mm × 1250 mm

- **Out put capacity:** 335-345Kg/hr
- **Unit Cost:** Rs 98000/
- **Efficiency:** 90.60%

Low cost lotus rhizome washer

- In Kashmir, lotus rhizome after harvesting are washed manually using knitting needles or broom sticks, which is very time consuming, troublesome and a tedious practice. The inner sides of lotus rhizome washed in this fashion have stained spots and unattractive appearance, which reduces their shelf life as well as commercial value. Based on output capacity, unit cost and efficiency it was found that developed prototype is cheap, economically viable and suitable for washing all sizes of lotus rhizomes.



Raw Material: Lotus rhizome

Overall dimensions: 325mm × 225mm

- **Out put capacity:** 7.15Kg/hr
- **Unit Cost:** Rs 5984
- **Efficiency:** 95.10%

Livestock Products Technology

Development of functional chicken loaves via incorporation of Dandelion (*Taraxacum officinale*)

- Incorporation of 1% Dandelion Leaf Powder and 10% Dandelion Leaf Powder Extract in comminut meat products was found to be technologically viable option to enhance the functional values of the products, and replace chemical additives for improved oxidative

stability and microbial quality and hence prolonged shelf life. and improved acceptability.

- During the aerobic refrigerated ($4\pm 1^\circ\text{C}$) storage of the functional chicken meat loaves in LDPE bags, the products were fairly acceptable up to 21 days without any compromise in the quality of the product.
- Incorporation of DLP and DLE significantly increased DPPH-RSA of the product whereas TBARS value decreased significantly signifying it as an efficient sources of antioxidants. Also, microbial counts (Total Plate Count, coliform count and Yeast and Mould Count) was decreased in functional chicken meat loaves.

Process optimization for the development of functional processed paneer spread

- Functional processed paneer spread developed with 1% trisodium citrate, 15% water and 0.5% quince seed mucilage was comparable with the western counterpart i.e. processed cheese spread in terms of almost all quality characteristics.
- The process was optimized to given levels for optimum emulsification, texture, spread, sensory characteristics and physicochemical characteristics.
- Fortification with quince seed mucilage greatly improved the antioxidant potential in terms of RSA and the functional processed paneer spread can be stored for 21 days at refrigeration temperature.

Development of functional dahi with natural source of antioxidants

- On the basis of properties like physico-chemical, functional, colour and antioxidant activity, pomegranate peel powder (PPP) and pomegranate seed powder (PSP) has been found to be of immense value and can be used as a food ingredient (natural source of antioxidants) in the development of functional dairy products having functional, health benefits and extended shelf life.
- No detrimental effect on the physico-chemical and sensory quality of fortified dahi up to 0.5% level of incorporation with PPP and PSP was observed while higher levels of fortificants (0.75% and 1%) led to a decrease in the physicochemical and sensory quality of the functional dahi.
- PPP and PSP fortification @0.5% significantly increased antioxidant activity of

dahi while maintaining the sensory, colour and textural quality attributes of the product.

- PPP and PSP fortified dahi could be stored for a period of 28 days at $4\pm 1^\circ\text{C}$ without any adverse changes in the physico-chemical, microbiological and sensory quality. Longer shelf life and enhanced antioxidant activity of fortified dahi is suggestive of a good market potential for the developed functional dahi.

Value Addition and Diversification of Pashmina through Development of Pashmina and Pashmina Blended Knitwears

- Pashmina being highly fragile and low in strength cannot be spun on machine alone, hence needs the carrier fibre. The nylon has been found effective as a carrier fibre for machine spinning of pashmina with good quality yarn.
- Pure pashmina cannot be spun on machine as it leads heavy yarn imperfections, hence needs blending to improve the quality of yarn. Blending of pashmina with wool and nylon up to the ratio of 15:45:40 was effectively used for developing pashmina wool blended yarns.
- Knitting was effectively used for the diversification of pashmina using pashmina blended yarns. Knitwears were developed from pashmina and pashmina blended fabrics, both with nylon and without nylon (after nylon dissolution) with desirable quality characteristics. Knitwears developed from the fabrics with nylon were having much desirable quality characteristics. However, on the basis of subjective assessment for consumer acceptance, the fabrics without nylon were more acceptable with good hand properties.
- Based on the overall quality characteristics, the 50:50 pashmina: wool blended fabric/knitwears were having good quality characteristics in terms of functionality and aesthetics than other blends.



Pashmina blended knitwear

Identification of pure saffron using Foldscope based visual markers to avoid fraud and cheating, and to create a poster of these markers for customers/ vendors

Fake saffron samples as well as genuine saffron (Mogra, Laccha) were procured from various sources from within and outside Jammu & Kashmir. For pure saffron, its flowers (day 0 – day 4) were collected directly from saffron fields, their stigmatic portions were separated and dried as per standard procedure. This standardized sample was examined under foldscope and photographed to identify unique and distinct morphological features. Foldscope examination revealed some distinct markers that were unique to pure saffron stigma and were absent from the remaining so-called saffron samples. The upper region of stigma revealed papillose protuberances of the upper epidermis. Texture appeared striated with pit like structures. These distinctive features can be used for distinguishing pure saffron from fictitious ones, and low-cost foldscope can be used by vendors and genuine sellers to easily showcase the authenticity of their saffron to customers.

Conservation and Maintenance of Germplasm

Registration of Varieties

Registration of varieties under PPV & FR A (GoI) during 2018

The following rice varieties were registered with PPV & FR by MRCFC, Khudwani:

- Released varieties: Shalimar Rice-2, Shalimar Rice-3, Shalimar Rice-4 & Shalimar Rice-5
- Farmers varieties: Mushk Budji, Kamad, Red rice variety Lunda (Lalchawal)

Conservation and Maintenance

Zag (Red rice):

- Eighteen genotypes of red rice were evaluated for yield, maturity, and organoleptic qualities. One genotype was identified as superior for yield and quality.

Revival programme of Red rice:

- During kharif 2018 about 12.0 q of quality seed of red rice was distributed and demonstrations were laid in niche areas of village Gomal and adjoining villages in Tehsil

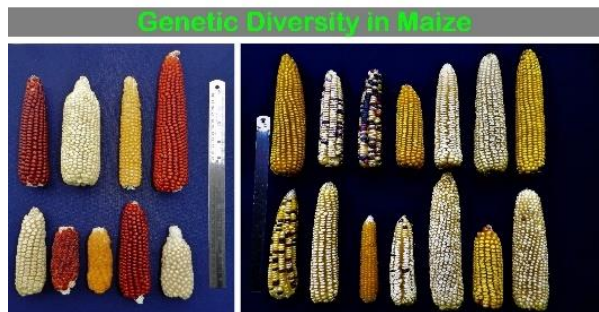
Tangdar, of District Kupwara. The custodian farmers have been identified for Plant Genome Saviour Community Award 2019.

Wheat:

- A germplasm exploration and collection trip was conducted during the month of September 2018 in collaboration with KVK, Zanskar to various parts of Ladakh valley including, Dras, Kargil, Zanskar and Leh. Various farmers’ fields were visited, from where better performing, early maturing and rust resistant local germplasm of wheat (30 lines) and barley (10) lines were collected. The collected material is being evaluated for its performance during *rabi* 2018-19 at MRCFC, Khudwani. Of these collections, 20 lines of wheat and barley were sent to IIWBR, Karnal for evaluation as regards protein, iron, zinc content and other important quality attributes.

Genetic diversity in high altitude maize

- Around 300 maize germplasm lines of temperate origin are maintained at MCRS, Sagam which include inbred lines, populations, pools, local germplasm collections, landraces, elite varieties and genotypes classified under specialty corn. The materials are adapted to temperate high altitude conditions (>2000 msl).



Common bean:

- Eight rajmash land races have been collected from Gurez and Tulail areas. The collections were named as Neelum series.

Buckwheat:

- Buckwheat samples were collected from Kargil and Kishtwar regions for their evaluation at MAR&ES, Gurez. Initial evaluation of different buckwheat collections has led to identification of variability in flowering time and maturity at Gurez. One of the lines flowered within 30 days of sowing and matured within 80 days.

Collection and conservation of Important Genetic Resources of Hilly Regions of Jammu & Kashmir, and Ladakh:

- More than 100 common bean and buckwheat germplasm lines from were collected North-Western Himalaya's during year 2018.
- Ten different awareness programmes were conducted to aware framers about nutritional foods, their impact on health and conservation of landraces.
- **Amaranthus:** The genetic purification of pink flowered amaranthus was attempted with yield of 6 kgs of purified seed of pink flowering amaranth at Gurez.
- **Apricot:** For conservation of Apricot wealth the existing variability was studied and collections were made and now seventy two different genotypes (72) have been collected and maintained in the form of repository at MAR&ES, Farm during the year. The morphological characterization of all 72 types has also been done.
- **Mulberry:** In order to create a reserve of mulberry fruit bearing varieties, College of Temperate Sericulture established new mulberry block with fruit bearing varieties whose enrichment with different accessions will continue in project mode.
- **Betula utilis:** Faculty of Forestry has conducted resource mapping and *ex-situ* conservation of endemic and relict species *Betula utilis*. (Himalayan birch).

Germplasm Evaluation and Characterization

Evaluation of high density apple varieties:

Following varieties are recommended on the basis of maturity, quality and suitability:

- August : Gala RedLum, Mitch Gala, Elstar, Jonagold DC Robijin
- September : Red Velox, Red Chief Camspur, Super Chief Sandidge, Silver Spur, Golden Delicious Reinders and Golden Clone B.
- October :Braeburn, Fuji.
- Under high density plantation, an average productivity of 25-30 MT/Ha have been achieved in the second year of planting (3333 plants per hectare) which is three times more than state average productivity.



Fruiting in high density apple orchard (cv. Mitch Gala) during second year of plantation



Fruiting in high density apple orchard (Cv. Golden Delicious Reinders) during second year of plantation

Evaluation of plum varieties

Among the evaluated plum cultivars, Santa Rosa and Friar were found better with respect to fruit weight and TSS. Following plum varieties are recommended on the basis of maturity:

- Early Varieties: Satsuma, Duarte, Sharp's Early.
- Mid Varieties: Grand Duke, Burbank, Wickson, Santa Rosa, New Plum.
- Late Varieties: Friar, Green Guage, Reine-Claude-De-Bavy.

Evaluation of newly introduced high density apple cultivars (24) against major diseases of apple under natural epiphytotic conditions of Kashmir valley:

- Studies on rootstock impact on disease response of apple cultivars indicated the significant variation in disease response of different rootstock x cultivar combinations. Leaf scab incidence and intensity was highest in cultivars with M9 rootstock and lowest with MM106 rootstock, whereas, fruit scab

incidence and intensity was highest with M9 rootstock and lowest with M7 rootstock. On the other hand M9 rootstock performed best in terms of *Alternaria* leaf blotch incidence and intensity, whereas, M7 rootstock exhibited the highest incidence and intensity of *Alternaria* leaf blotch. The best rootstock × cultivar combination with respect to leaf scab proved to be Vance Delicious with MM106 rootstock and for fruit scab and *Alternaria* leaf blotch Vance Delicious × M7 rootstock.

Gladiolus germplasm evaluation for corm rot associated pathogen(s):

- Thirty five gladiolus genotypes available with the Division of Floriculture and Landscaping were evaluated under field conditions against corm rot disease, of which, five showed moderately susceptible reaction, 28 had susceptible response and two were highly susceptible against corm rot disease and. None of the genotype was found resistant or moderately resistant.

Crop Improvement

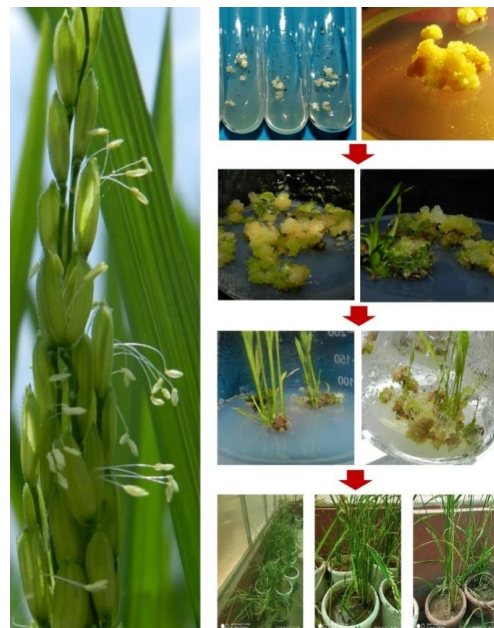
Micro-nutrient status of red rice cultivars

Genotype	Micronutrient content in brown rice (ppm)		Micronutrient content in polished rice (ppm)	
	Iron	Zinc	Iron	Zinc
Mushk Budji	12.1	20.6	0.9	13.4
Kamad	10.8	19.7	0.9	10.6
Uri Zag	13.5	23.4	3.1	20.0
GS 599	16.1	24.5	2.9	18.5
GS 604	11.5	24.0	2.3	18.9
TangdarZag (Lunda)	9.6	26.5	2.1	24.2
Jhelum	10.4	12.9	1.4	9.4



Generation of Doubled Haploid (DH) population for Mapping QTLs for Bakanae resistance in rice:

- First ever DH population (>200 plants) was developed in rice for mapping genes/ QTLs for resistance to bakanae disease caused by *F. fujikuroi*. F₁ pollen derived from variety K-332 (bakanae susceptible) x GS-88 (bakane resistant) was cultured aseptically on pollen culture media for regeneration of haploids those were subsequently raised to yield diploid plant population.

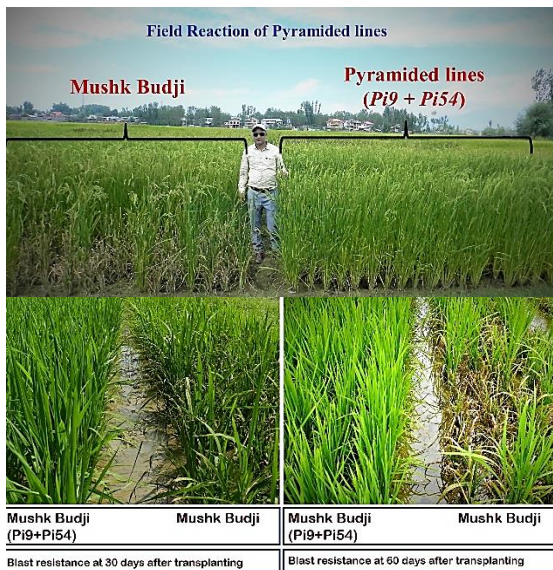




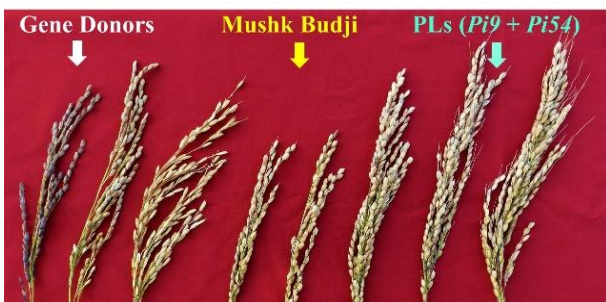
Panicle aspect of representative Doubled haploids

Pyramiding effective blast resistance genes in Mushk Budji

- Highly effective gene combination (*Pi9+Pi54*) which confer broad resistance towards rice balst, was pyramided through step-wise transfer in aromatic landrace, *Mushk Budji*. The pyramided lines showed complete resistance towards leaf blast under open field conditions.



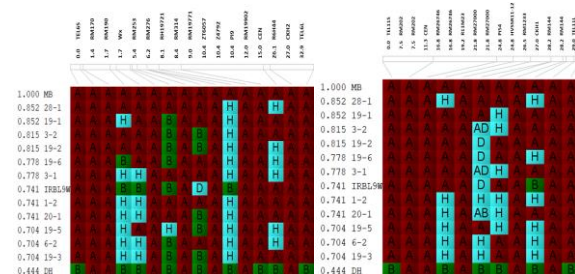
Field reaction of pyramided lines carrying blast resistance genes *Pi9+Pi54*



Recovery of grain and panicle aspect of pyramided lines

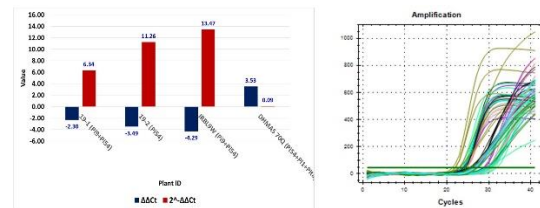
Genome recovery of pyramided lines (*Mushk Budji + Pi9+Pi54*):

- The PLs in BC₂F₃ marked high RPG recovery ranging from 85 to 93% with grain type, cooking quality traits and aroma at par to RP *Mushk Budji*.



Gene expression of pyramided lines (*Mushk Budji + Pi9+Pi54*):

- qRT-PCR based Relative expression (Fold change) of gene *Pi9* in PLs registered upregulation by 7 to 11x against RP.

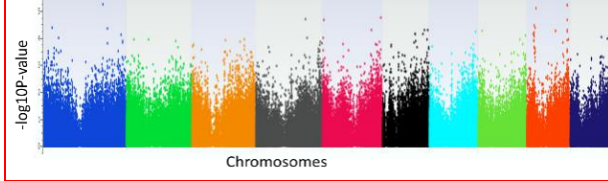


Differential Expression Analysis of Cold Stress Responsive Transcription Factors in Rice (*Oryza sativa* L.) Genotypes of Kashmir

- Expression analysis of two transcription factors (*OsMyb4* and *AP37*) over 5 time points (0 hr, 2hr, 6hr, 24hr under cold stress, and 24hr after stress recovery) helped to validate early response TFs with upregulation of (8-11 fold at 2 hr, 5°C) in susceptible rice varieties, while there was no such change of expression in resistant accessions. The study helped to identify two germplasm accessions with high degree of cold tolerance.



Genome-wide association studies on TLB resistance



Marker	Chromosome	P-Value	Minor Allele Fq	Major Allele Fq
S1_217134410	1	5.79E-06	0.364	0.636
S9_147514642	9	6.56E-06	0.222	0.778
S9_147514644	9	6.56E-06	0.222	0.778
S9_34633731	9	8.29E-06	0.045	0.955
S5_213060884	5	1.89E-05	0.355	0.645
S4_180246054	4	2.14E-05	0.271	0.729

Selection of two early maturity wheat breeding lines and their multi-location testing



Generation Advancement of segregating populations of wheat to F3 generation

➤ Several populations developed using contrasting parents for days to maturity, disease resistance and nutritional traits like seed Zn and seed Fe concentrations were advanced to F2/F3 stage.



Development of microRNA based SSR markers and their use in the study of functional diversity in wheat



Discovery of genes/QTLs for seed nutrients (Zn and Fe) and root traits in Indian Bread wheat varieties released over a period of 100 years/advanced breeding lines



Selection of cold tolerant, *Fusarium wilt* resistant and summer chickpea lines for Kashmir valley and multi-location testing of one promising chickpea line



Nutritional profiling of Common bean:

- Evaluation for Nutritional profile of 96 common bean genotypes confirmed wide range of variability. Best genotypes have recorded an average superiority of 29.86%, 1%, 257, 7%, 246%, 24.8%, 1.79%, 104.5%, 21.7%, 1% for P, S, Mo, B, Ca, Mg, Mn, Cu and K, respectively over Shalimar Rajmash-1.
- **Mutagenesis:** Two Mutant Lines viz; DPB 2018-1 & DPB 2018-2 were developed through EMS (1.0 %) treatment using Punjab Chuara as base population. Yield mutant were evaluated for yield traits during 2017 (M1) and 2018 (M2). Mutant line 1 & 2 recorded an average fruit weight of 82.02g and 57.50 g compared to Punjab Chuara (28.10g) showing an increase of 65.74 and 51.10%, respectively over base population.

Mining of Scab Resistance R-Genes from different cultivars of apple and Introducing Scab resistance in commercially important varieties of Apple grown in Kashmir valley through cisgenesis

- Collected 151 apple cultivars. Also, Scab samples (*V. inaequalis*) from various geographical locations of J&K were collected. Suitable RT-PCR Primers have been designed for scab resistant R genes available in literature.
- Successful standardization of high quality RNA from phenolic and polysaccharide rich apple tissues. **The methodology so developed has been processed for patent filing** and is expected to emerge as an easy commercial kit for isolation of RNA within short time (2.5 hours).

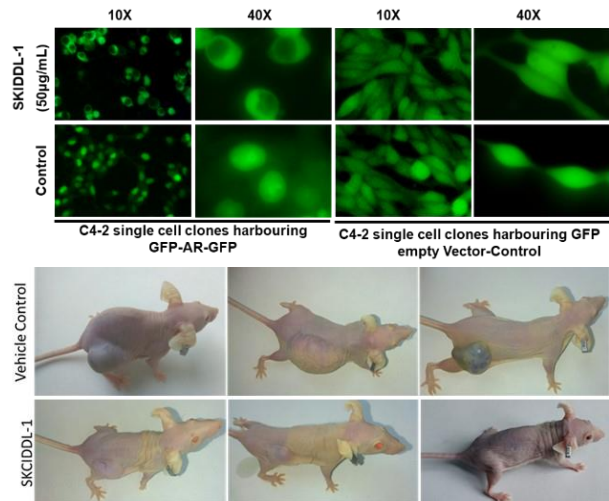
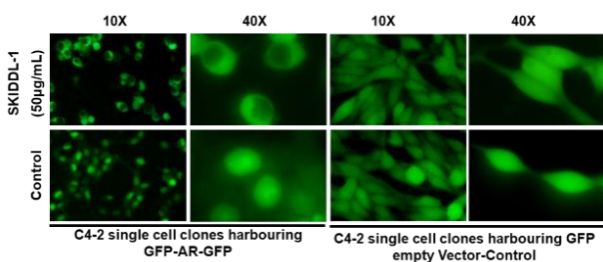
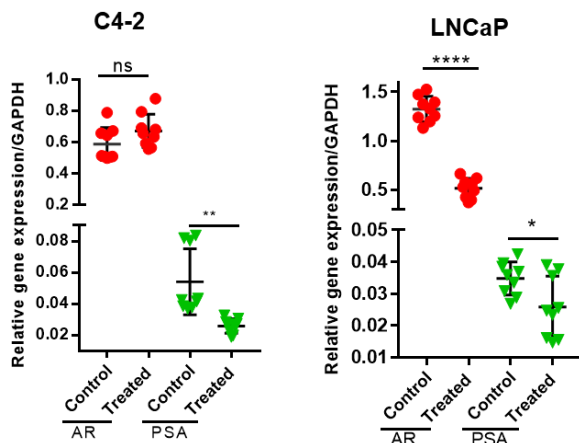
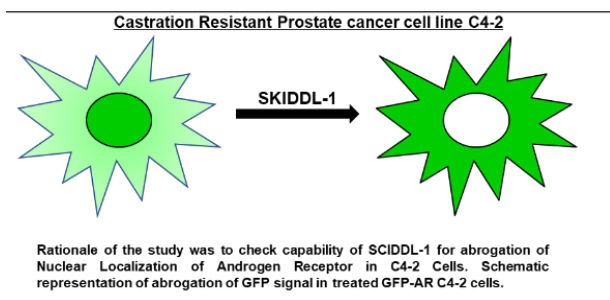
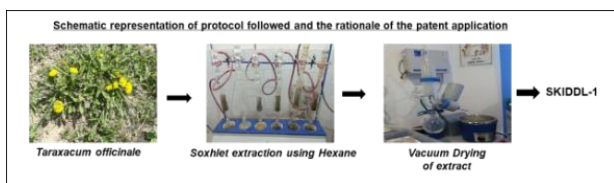
- cDNA along with confirmation using GAPDH has been done so far from 30 important cultivars of apple, screening of R genes using 8 primers for RVi6, RVi12, RVi5, Rvi1, Rvi15, HcrVf1, HcrVf3 and LrpKm has been done which lead identification of new R genes in various apple cultivars apart from which exist in literature.
- Real time (RT) expression of resistant R genes has been done for 30 apple cultivars
- Six important apple cultivars (3 scab resistant and 3 scab susceptible) have been send for whole Transcriptome sequencing and results are expected to provide new candidate scab resistant genes and/ or transcription factors.
- Phenotypic scab scoring for highly susceptible and resistant Apple cultivars using Chevailier scale.
- Isolation and characterization of *V.inaequalis* through culturing has been done.
- Biochemical Analysis of resistant and susceptible apple cultivars was also carried out.

Mining of dual acting Plant based Small Molecule Inhibitors affecting AR nucleocytoplasmic translocation and PI3K signaling pathways in castration-resistant prostate cancer

- Cell culture-based testing of PSMI's capable of abrogating nuclear translocation of GFP-AR. We screened 20,000 PSMI's and found 10 extracts (given in Table-1) that abrogated the nuclear localization of GFP-AR successfully in C4-2 castration resistant prostate cancer cells. However, these compounds did not have any effect on GFP empty vector control which depicts the specificity of these extracts for AR.
- Anti-proliferative testing of the 10 plant extracts that showed positive results in AR nucleocytoplasmic translocation experiment was carried out using CFU (colony forming unit assay). The results suggested Extract #1, #5 and #6 showed significantly higher inhibition in CFU than the rest.
- Wound Healing assay was carried out to determine the effect of these 10 positive extracts on cellular migration using C4-2 cells. The extract from #1& #3 showed profound

inhibition of wound healing in comparison to DMSO control. Extract #5 and #2 also showed inhibition and negative Rm but the change was not significant.

- BrdU Assay was done on C4-2 cells to determine the effect of the best 3 hits on cellular proliferation of recurrent prostate cancer cell line. BrdU assay showed that all the three extracts viz. #1, #5 and #6 showed inhibition in cellular proliferation of C4-2 cells. However, extract #6 showed better results than #1 and #5.
- Extract - #1, #5 and #6 have shown best results among the 10 positive hits that we have obtained so far.



Representative images of Nude mice bearing C4-2 cells treated with SKICDDL-1 and Vehicle Control showing reduction in tumor volume

Crop Production & Management

Management of Horticultural crops

- **Pear cv. Carmen** when sprayed at full bloom and fruit set stagewith 20 ppm Promalin (GA₄₊₇ + BA) resulted in better productivity and quality.
- To develop better colour in **apple cv. Fuji Zehn Aztec** spray of 2.0% potassium nitrate or 1.50% of sulphate of potash at three stages of fruit development viz. fruit set stage(pea nut stage), walnut stage (fruit development stage) and 20 days after walnut stage was found better.
- Among different **apricot cultivars** evaluated for their cold tolerance behaviour, Halman and Shaqanda showed relatively better tolerance to -30 °C.
- The treatments of **strawberry** fruits with 2% calcium lactate and storage at 2°C is recommended for prolonging the storage life significantly.
- In **black carrot**, maximum root yield of 285.79 q/ha was recorded with treatment 50% N + 25% P&K +PSB+KSB+50% Vermi-compost with B:C ratio of 2.74.
- In **onion variety Yellow Globe**, combination of 7.500 kg Zn + 1.500 kg B ha⁻¹ recorded significantly highest total bulb yield (287.29 q ha⁻¹), marketable yield percent (96.34) and

- marketable bulb yield (276.76 q ha⁻¹). with a B:C ratio of 2.81.
- In **onion** variety **Brown Spanish**, bulb size of 40-50 g and spacing 30 x 30 cm is recommended for obtaining maximum seed yield per hectare (1102.22 Kg).
 - In **tomato** male sterile line **Shalimar FMS-1**, the treatment combination viz., MS medium supplemented with calcium D pantothenate 2 mg l⁻¹ + calcium chloride 10 mg l⁻¹ + gibberillic acid 0.4 mg l⁻¹ resulted in microplant regeneration taking 12 days in case of hypocotyl and 17 days when single node cuttings were used as explants.
 - In **tomato** variety **SI**, application of boron and zinc @ 100 ppm each is recommended for achieving maximum fruit yield of 336.85 q/ha.
 - The **tomato** fruits treated with 5.0% calcium chloride for 10 minutes and stored at room temperature (25±2°C) proved superior with respect to better retention of various biochemical, physiological and shelf life parameters.
 - In **coriander**, application of GA₃ @ 45 ppm recorded maximum leaf yield of 56.99 q/ha and seed yield of 18.64 q/ha with respective B:C ratios of 2.69 and 4.76.
 - In **coriander** variety **Shalimar Dhania -1**, 108 kg urea/ha and 2.50 tonnes/ha vermicompost along with 60 kg P₂O₅ and 60 kg K₂O/ha is recommended to obtain maximum leaf (72.28 q/ha) and seed yield (19.00 q/ha).
 - **Siberian Kale Sel-4** with leaf yield of 6.50 Kg per square meter (350.74 g per plant) is recommended for cultivation under protected structures during winter months.
 - In **methi** variety **Shalimar Methi-1**, 98 Kg urea/ha and 2.25 tonnes/ha vermicompost along with 60 kg P₂O₅ and 60 kg K₂O/ha is recommended to obtain maximize leaf (66.34 q/ha) and seed yield (17.45 q/ha).
 - Post harvest application of 24-epibrassinolide (2.5m molar) to **fenugreek seeds** improve morpho-physiological, biochemical and nutritional characteristics.
 - Spacing of 10 cm between lines and 15th November as date of sowing in **spinach Shalimar Green** is recommended to obtain maximum yield of 133.71 q/ha under protected conditions during winter months.
 - Sowing of **spinach Shalimar Green** at second fortnight of October with single cutting resulted in maximum seed yield (28.13 q/ha).
 - In **chilli** variety **Kashmir Long -1**, spray of FeSO₄ @0.2% + calcium nitrate @ 0.2% and boron @ 0.2 % gave maximum seed yield of 9.61 q/ha.
 - Adverse effect of moisture stress in **chilli** during germination can be alleviated by seed priming with melatonin at a concentration of 5.0 ppm for 30 hours followed by osmopriming with PEG80000 (-0.5MPa) for 18 hours.
 - Adverse effects of cold stress in **chilli** can be alleviated by osmopriming of seeds with PEG8000 (-0.5MPa) for 18 hours followed by seed priming with melatonin at a concentration of 5.0 ppm for 30 hours.
 - The melatonin can be used at 60ppm as a foliar spray to increase the yield and quality of **broccoli** head.
 - **Broccoli** packed in shrink wrap retained all the nutrients components than the sample without shrink wrap irrespective of storage condition upto nine days of storage.

Propagation of Horticultural crops

- Chip budding performed in the last week of August resulted in better success (58 %).
- Grape (cv. Sahebi) cuttings when grown in Soil+sand+cocopeat (2:1:1) and treated with IBA @ 3000ppm resulted in higher rooting percentage, number of roots, length of longest root, number of shoots, number of leaves and leaf area.
- Apple rootstock cuttings with apical bud and treated with 2500 ppm IBA was found to be the best for higher rooting percentage, number of primary roots and total root length.
- Two row system of planting in apricot along with black polythene mulch produced more saleable, thicker plants with longer whips, suitable for grafting/budding. The number of plants increased appreciably (upto 114% more) ensuring considerable increase in return per unit area.

Aerobic rice

- A field experiment on yield and water productivity of rice (varieties Shalimar Rice-4 and SKUA-502) as influenced by nitrogen levels and varieties under aerobic conditions was conducted at MRCFC, Khudwani during Kharif 2018. The technique resulted in increased grain yield by 11 and 21% for Shalimar Rice-4 and SKUA-502, respectively, over check Shalimar Rice-1. Water saving of more than 50 % was recorded in aerobic over conventional flooding. Moreover, water productivity of 0.54 to 0.65 kg grain/m³ of water was realized.

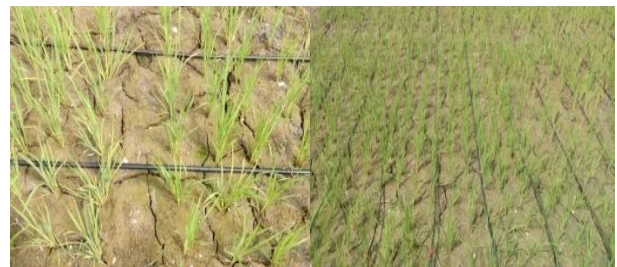


- Long term studies on soil physico-chemical properties and productivity of rice–rapeseed cropping system under integrated nutrient

management practices:- The results showed that the application of treatment (75% NPK+25% N from FYM) to rice crop produced significantly higher yield over the years.

Drip irrigated rice

- An experiment on Drip irrigation was conducted rice and the technology brought about 50.0% improvement of water productivity and 45.3% water saving as compared to flood irrigated rice.



Herbicide evaluation in rice

- Effect of New Herbicide molecule - *Granite 240 SC* on weeds and grain yield of rice was conducted. The results from two year experiment revealed that the application of Granite @ 37.5 ml/acre and 40.0 ml/acre recorded significantly highest grain yield and weed control efficiency as compared to butachlor and weedy check.

Long term studies on soil physico-chemical properties and productivity of rice–rapeseed cropping system

- Long term studies under integrated nutrient management practices were conducted which showed that the application of treatment (75% NPK+25% N from FYM) to rice crop produced significantly higher yield over the years.

Inter-cropping for Maximisation of Fodder yield

- **Maize and Pulse Cropping System:** Cultivation of Forage Maize + Forage Cowpea and Forage Maize + Forage Soybean at 3:1 spaced 30cm

apart, recorded higher green forage yield of 531.2 q/ha as compared to the sole crop of Maize (475.3 q/ha).

- **Oats and Pulse Cropping System:** Under temperate conditions of Kashmir, the intercropping of winter vetch with oats is recommended for higher productivity (430 q/ha green fodder, 95 q/ha dry fodder and 12.5 q/ha crude protein) and remuneration (Net return Rs.66000/- and BC ratio of 2.52).
- **Improved Range Grasses Association:** Planting of Orchard grass slips at 30 x 30 cm + red clover @ 3 kg/ha, sown as broadcast, produced higher green, dry forage and crude protein yields than other range grass associations as well as over sole grass and legumes, respectively. Inclusion of clovers in the system resulted in an improvement in soil nitrogen content.
- **Improved Silvi-pastoral System:** The silvi-pastoral system of Mulberry at 6m x 6m spacing intercropped with tall fescue grass + white clover recorded higher green forage yield (252.9 q/ha from Mulberry and 292.7 q/ha from range grasses). The combination provided to be a viable alternative for year round supply of green fodder in addition to providing grazing land with quality forages under rainfed situations.

Breeder seed of vegetable crops produced

Season	Quantity
Kharief	40.10 kg
Rabi	80.00 kg
Total	120.10 kgs

Information regarding quantity of Quality Seed produced and supplied by SKUAST Kashmir during Kharif 2018-19

Variety	Breeder Seed (q)	Foundati on Seed (q)	TLS (q)
Paddy			
Shalimar Rice-1	14.12	267.99	822.01
Shalimar Rice- 2			
Shalimar Rice -3			
Shalimar Rice -4			
Shalimar Rice -5			

Maize			
Shalimar Maize Composite-4	8.95	-	59.05
Shalimar Maize Composite -3			
Shalimar Maize Composite -7			
KG-2			
Pulses (Kharif)			
Shalimar Moong-1	2.68	-	5.15
Shalimar Rajmash-1			
Shalimar Rajmash -2			
Shalimar Masoor-1			
Shalimar Masoor -2			
Shalimar Masoor -3			
Shalimar Cowpea -1			
Total	25.75	276.99	886.21

Information regarding quantity of Quality Seed produced and supplied by SKUAST Kashmir during Rabi 2019

Variety	Breeder Seed (q)	TLS (q)
Oats		
Sabzar	143.29	143.61
Shalimar fodder Oats-1		
Shalimar fodder Oats--3		
Shalimar fodder Oats--4		
Oilseed		
Gulchin	2.13	6.44
Shalimar Brown Sarson-1		
Shalimar Brown Sarson -2		
Shalimar Brown Sarson -3		
Wheat		
Shalimar Wheat-1	35.0	11.06
Shalimar Wheat-2		
Pulses (Rabi)		
Shalimar Pea-1	2.11	16.7
Shalimar Masoor-1		
Shalimar Masoor -2		
Shalimar Masoor -3		
Total	182.53	177.81

Crop Protection

Pests and Disease Control Through the Use of Chemicals

Disease management in rice:

- Important evaluation nurseries consisting of about 500 and 100 different rice genotypes were screened against leaf blast and brown spot diseases, respectively. More than 70% of the genotypes recorded resistant reaction against the diseases. Similarly the experiment on evaluating different fungicide/combinations, it was observed that Azoxystrobin 18.2 % w/w + Difenconazole 11.4 % w/w SC (Amistar Top 325 SC), Azoxystrobin 11% + Tebuconazole 18.3% w/w SC (Custodia) and Tricyclazole 18 % + mancozeb 62 % WP (Merger) proved efficient in controlling leaf blast in a highly susceptible variety, *Mushk Budji*. These fungicides tested here can serve as alternates to Tricyclozole that has high residual activity.

Chemical control for cabbage butterfly:

- Among Various Insect pests, cabbage butterfly (*Pieris brassicae*) is the most destructive pest of cruciferous crops all across the whole India, and often cause heavy losses in yield. For controlling this menace eco-friendly management trial was conducted at MARES Kargil and preliminary results showed that spraying Dipel 8 SP @ 0.2% at 15 days interval after 22-25 DAT) proved better in controlling the cabbage butterfly as compared to mechanical and chemical control.

Chemical control for Brown-tail Moth:

- Brown-tail Moth (*Euproctis chryorrhoea*) is a voracious eater of vegetation, especially in cold arid region (Kargil). Brown-tail moth has become a menace in hotter apricot belt of batalik. Thiacloprid (Alanto) (@50ml/100lts) was tested and provided significant control over other treatments in terms of percent population reduction (80.99%).

Biological Control of Pests and Disease

Biodiversity of natural enemies of pests of apple, apricot, plum, pear, peach, cherry walnut and almonds:

- A total of thirty one natural enemies including parasitoids and predators associated with insect pests of fruit crops in Kashmir were collected.

Twenty natural enemies were collected from apple alone associated with different insect pests. Among the reported natural enemies, predators and parasitoids constituted 81.0 and 19.0 per cent respectively. Per cent parasitism by *Aphelinus mali* on woolly apple aphid ranged 34.0- 80.0 from July to September' 2018 in unmanaged orchards. *Chilocorus infernalis* was found actively associated with San Jose scale on apple and *Parthenolecanium corni* on plum.

Monitoring of apple Codling moth from various agro-ecological zones of Kashmir to see its spread and its management

- Codling moth, *Cydia pomonella* was not seen in villages like Thasgum, Bimbat, Chokiyal, jasgund, in between Chanigund and Drass of district kargil, during May- September' 2018. No Codling moth was reported from the districts of Anantnag, Budgam, Baramullah, Pulwama, Kupwara, Bandipora, Ganderbal and Srinagar. Average fruit damage in Kargil during 2018 ranged 40.23 to 67.47 per cent as compared to untreated control (84.24 per cent). Treatment involving two sprays of *H. pakistanensis* (NBAIR) during May and July' 2018 resulted an average mortality of 33.22 per cent larval mortality. Treatment which involved release of *T. cacoeciae* @2.5 lakh/ha.(4 releases/ season) + Trunk banding + Pheromone trapping + disposal of infested fruits + spray of *Heterorhabditis pakistanensis* (NBAIR)) was found best as it caused 52.31 per cent reduction in fruit damage over control.

Evaluation of predatory bug, *Blaptostethus pallescens* against European Red mite *Panonychus ulmi* and spider mite *Tetranychus urticae* on apple :

- Average population of European red mite (only the motile stages) *P. ulmi* and two spotted spider mite *Tetranychus urticae* during first fortnight of August was 17.0^{-leaf} and 9.91^{-leaf}. Two releases of anthocorid bugs, *Blaptostethus pallescens* @ 200 and 400/ caused average decline in ERM population to 11.88 and 9.54 mites^{-leaf} and 5.06 and 3.25 mites^{-leaf} of two spotted spider mites^{-leaf}. One chemical spray of Fenazaquin 10 EC @ 0.4 ml/lit. of water showed 2.30 ERM^{-leaf} and 0.93 two spotted spider mites^{-leaf} respectively. Per cent reduction in ERM over control for treatments (@200 bugs), (@400 bugs) and Fenazaquin 10 EC were 29.88, 43.67 and 83.44; and 48.83, 59.99 and 88.45, respectively.

Evaluation of *Steinernemacar pocapsae*, *Heterorhabditis indica* (NBAIR strain) and *H. pakistanensis* is against lepidopteran pest complex

- *H. pakistanensis* showed promising result than *H. indica* and *S. carpocapsae* against 3rd instar larvae of *Pieris brassicae* and *Plutella xylostella* in field condition. Average mortality of larvae of *Pieris brassicae* after 96 hours of treatment was 54.4, 44.0 and 17.6 per cent by *H. pakistanensis*, *H. indica* and *S. carpocapsae*. During similar period of observation, mortality caused to larvae of DBM was 58.4, 41.6 and 21.6 per cent by aforementioned EPN species respectively. Active Juvenile stage (IJS/ plant) after 24 hrs on kale was found maximum in case of *H. pakistanensis* (7000.00) followed by *H. indica* (5333.33) and *S. carpocapsae* (4666.67). Maximum IJS/ cadaver was observed from 5th instar of both *P. brassicae* and *P. xylostella* when infected with *H. pakistanensis*.

Mass trapping and Matting disruption of Codling moth in Laddakh

- Complete control of codling moth by using SPLAT technology with only two applications of pesticides throughout the season in different apple demonstration plots was demonstrated. Efficacy of self made lures in different village of Ladakh region against codling moth was also demonstrated. Male annihilation technique was used as part of mass trapping management for codling moth.

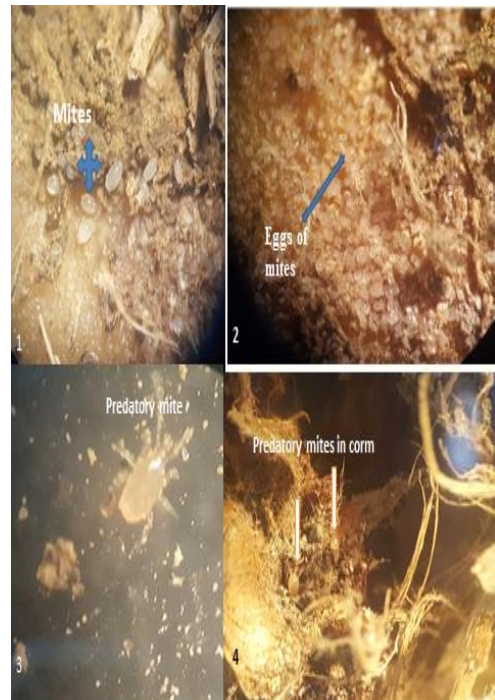
Innovative strategies for the management of white fly in vegetable ecosystem

- Planting of cover crop (coriander) restricted the movement, thus avoiding the multiplication and ultimately reduced the white flies infestation in tomato crops under polyhouse condition. Mulching with black polythene checked the weed development which acts as alternate host for white flies thus reducing potential sources of viral inoculums in tomato. Planting of barrier crop (maize) checked the movement of white flies and reduced their infestation.

Incidence, biology and management of Saffron bulb mite *Rhizoglyphus* sp. (Sarcoptiformes: Acaridae) on saffron corms in Kashmir

- Average infestation of corms with Saffron bulb mite *Rhizoglyphus robini*, ranged 10.76- 23.21 per cent. Minimum infestation of corms was found at Saffron Research Station (10.76 per

cent) and maximum at Chandora (23.21 per cent). Predatory mite *Hypoaspis aculeifer* was actively associated with saffron bulb mite. Anthocorid bug, *Blaptostethus pallescens* showed negative response to the eggs of saffron bulb mite.



Saffron bulb mite

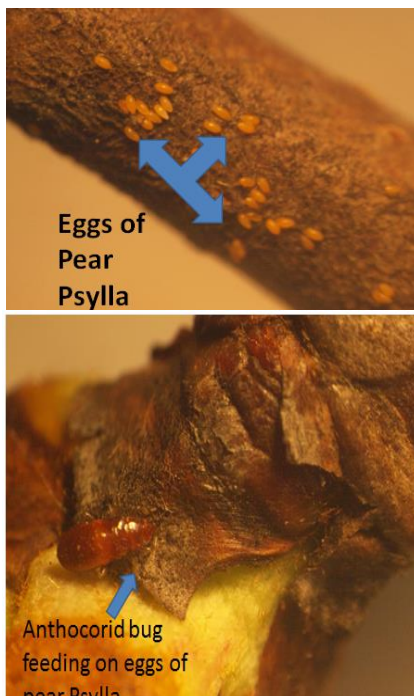
Efficacy of various EPN strains against armyworm, *Mythimna separate* infesting onion

- Frequency of occurrence was recorded 3.84% for EPN whereas for *Rhabditis* sp. it was 15.38%. Local isolate *Steinernema cholashanense* INDK1 (Gene Bank Accession: MH128155) @ 100 IJs caused 42.85, 71.42 and 45.71% mortality of 3rd stage larva of *Mythimna separate* on 48, 72 and 96 hours, respectively. Among the test larva *Corcyra cephalonica* was most susceptible and their mortality was 100% after 48 hours of nematode inoculation followed by *Pieris brassicae* and *Plutella xylostella* where 100% mortality was observed after 96 hours.

Natural enemy complex of Pear psylla, *Psylla pyricola* (Foerster) (Hemiptera: Psyllidae) and efficacy of anthocorid and coccinellid predators against the pest

- Both nymphal instars and adults of anthocorid bug, *Blaptostethus pallescens* showed positive response against the eggs of pear Psylla, *Psylla*

pyricola, but negative response against the nymphs of the prey. One bug in its life time consumed/rendered 95.92 eggs of prey unhatchable. Among natural enemies associated with pear Psylla, three coccinellid beetles viz. *Coccinella septempunctata*, *C. undecimpunctata* and *Harmonia eucharis* and one neuropteran lace wing, *Chrysoperla zastrowi* were recorded. In laboratory condition, rate of prey consumption by adult beetles of *Coccinella septempunctata*, *C. undecimpunctata* and *Harmonia eucharis* was 25.7, 17.6 and 18.5/day, respectively. Conservation of beetles on pear Psylla is highly recommended.



Survey, identification and management of root-knot nematodes infesting some solanaceous crop in Kashmir valley

- Neem seed powder @ 50g/ kg soil resulted in lowest number of galls (9.40) per root followed by Dimethoate 30 EC @ 0.03% and Neemarin @ 0.2% which resulted in 20.60 and 26.20 galls/ root system, respectively. The nematode multiplication in the rhizosphere soil was lowest (64/ 250g soil) in treatment with neem seed powder followed by Dimethoate 30 EC @ 0.03% (81/ 250g soil) used as seedling root dip treatment. Highest multiplication of nematode was recorded in untreated plot (1840/ 250g soil).

Incidence and severity of onion thrips, *Thrips tabaci*

- Thrips remained a consistent pest throughout the growing season at all the locations. It attacked from May to July until crop maturity. Per cent incidence ranged from 6.1- 30.27 in Srinagar and 5.0- 36.52 at Wadura and the severity index was highest in during ending July.

Evaluation of different attractants on foraging behavior of pollinators and seed yield of carrot

- Use of attractants Fruit boost and Citral resulted in significant increase in the frequency of pollinators on flowers. Fruit boost @ 2.0% resulted in significant increase in number of seeds per umbel and seed weight over all the concentrations of Citral as well as check. Per cent germination in plants sprayed with Fruit boost @ 2.0 per cent was significantly higher.

Integrated management of diseases of Button (*Agaricus bisporus*) and Dhingri (*Pleurotus sp*) Mushroom:

- In-vitro and In-vivo evaluation of botanicals and bio-control agents against mushroom mycelium and competitor and parasitic moulds of cultivated mushrooms was undertaken. Mass multiplication of most efficacious bio-control agents and preparation of botanical extracts. Comparative field efficacy of different powdered formulations of bio-control agents and botanicals (dried and powdered) against competitor and parasitic moulds of mushroom on disease management was conducted and successfully accomplished.

Root diseases of apple and pathogen survey

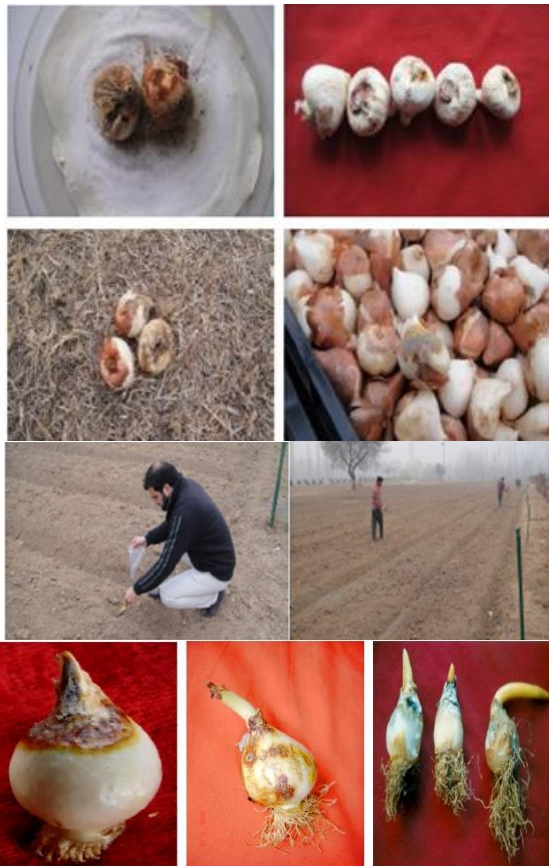
Dematophora necatrix was the most prevalent pathogen associated with root rot disease of apple. Other pathogens associated with the disease were *Fusarium oxysporum*, *Pythium amphanidermatum* and *Fusarium solani*.



Root rot infection at Urechersoo, Pulwama and Kanelwan Anantnag

Management and survey of pathogens in Tulip

A survey was conducted at Nishat, Shalimar and Chashmashahi (Srinagar) to isolate soil borne pathogens affecting tulip bulbs. The isolated pathogens were identified as *Botrytis*, *Fusarium* and *Penicillium*.



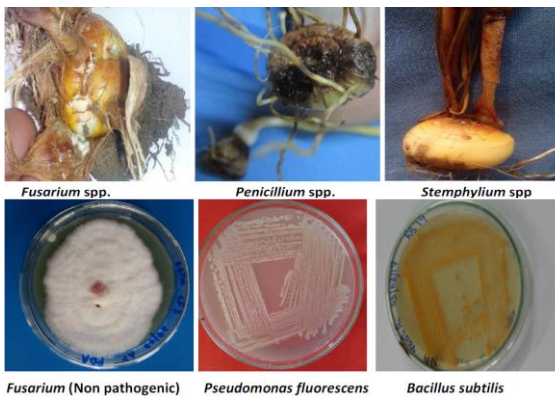
Botrytis rot

Fusarium rot

Penicillium rot

Management and survey of soil borne diseases of saffron

- Three districts were surveyed for the incidence and isolation of pathogens causing corm rot of saffron.
- The corm rot of saffron occurred in all the surveyed districts and the isolated pathogens were identified at *Fusarium*, *Penicillium* and *Stemphylium* species. The highest corm rot incidence was observed at Pampore in Pulwama (41%) and lowest at Chadoora Budgam (32%).



Fusarium spp.

Penicillium spp.

Stemphylium spp.

Fusarium (Non pathogenic)

Pseudomonas fluorescens

Bacillus subtilis

Pesticide Evaluation

- Thirteen pesticides were evaluated during the year.
- Fifteen fungicidal molecules at different location in Kashmir valley, to devise spray schedule for managing the fungal fruit and foliar diseases of apple.



Field trial for fungicide evaluation

Forest Bioresource Development and Management

Agroforestry Management

Tree germplasm evaluation, collection and improvement.

- Eight sources of Elm (*Ulmus villosa*) were collected from different regions of Kashmir valley and planted (Boundary plantation) at Shalimar Campus of the University.
- At the end of 10th growing season maximum (January-2018) the material collected from Pulwama out classed all other material in respect of height (18.80 m) and DBH (28.50 cm).

- Elm source from Pulwama exhibited a greater advantage in the leaf fodder to overall yield 17.2 Kg/tree.

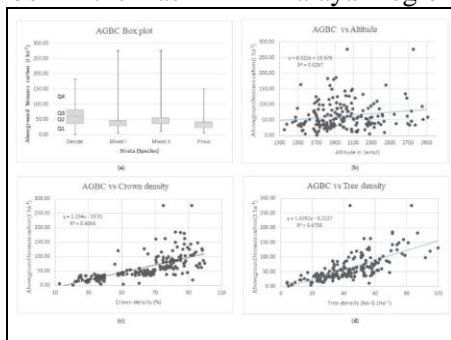
Multiplication of multipurpose tree species.

- Ten (10) thousand of Quality plant material of following tree species has being raised during the year including *Populus deltoides* (Male clone), *Salix alba*, *Albizia julibrissin*, *Prunus armeniaca*, *Aesculus indica*, *Ulmus villosa*.
- Five thousand plants raised were distributed among farmers through different KVKs and others were distributed among the tribal farmers during the year 2017-18.

Production and Conservation

Biomass carbon distribution of major forest types in the northern region of Kashmir Himalayas using field inventory, remote sensing and GIS

- Relation between aboveground forest biomass carbon and other biophysical parameters like strata (species), altitude, crown density, aspect and tree density was assessed.
- Crown characteristics and canopy densities under different strata reflect variability in its photosynthetic ability to fix biomass carbon. Aspect and altitude exhibit a relation with biomass carbon inherently due to associated pattern of precipitation, insolation and temperature. Anthropogenic activities associated with geographical access to the forests have significant effects on biomass carbon in the Kashmir Himalayan region.

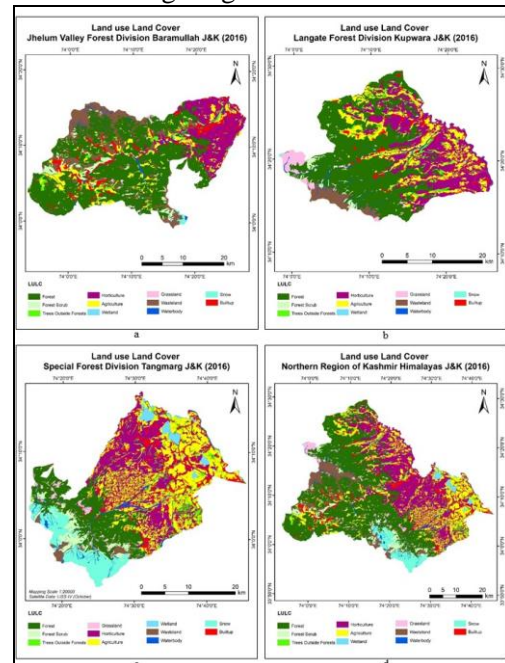


- Box plot for aboveground biomass carbon representing different quartiles (b) Scatter plot showing the correlation between aboveground biomass carbon and altitude (Mean= 1979.495 SE= 23.99263 (c) Scatter diagram showing the correlation between aboveground biomass and crown density (d) Scatter diagram showing the

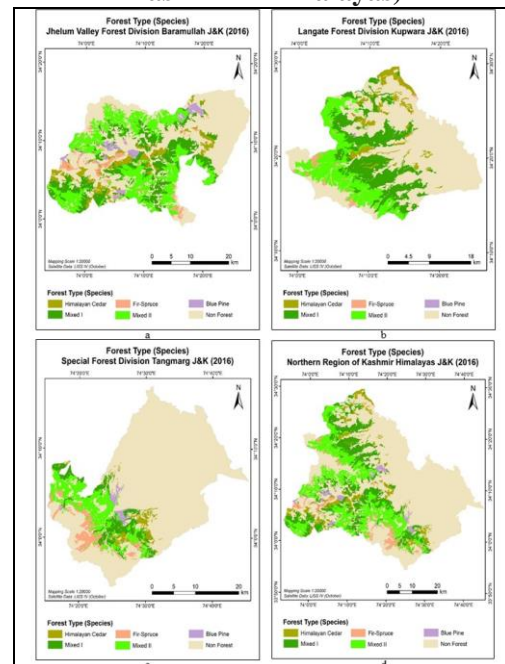
correlation between aboveground biomass carbon and tree density.

LULC, Forest cover and type density mapping

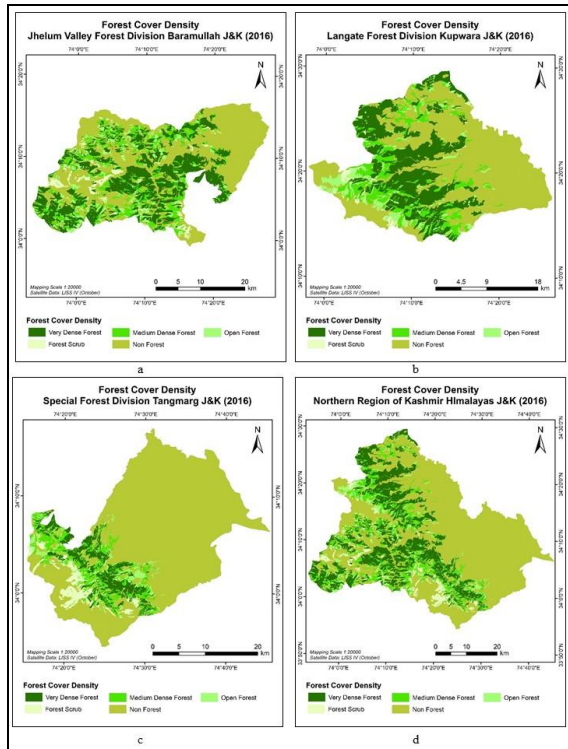
- LULC Foerst Type and Density mapping was carried out for three forest division in the northern region of Kashmir Himalayas (Langate Forest Division Kupwara, JV Forest Division Baramullah and Special Forest Division Tangmarg).



Land use land cover (Northern region of Kashmir Himalayas)



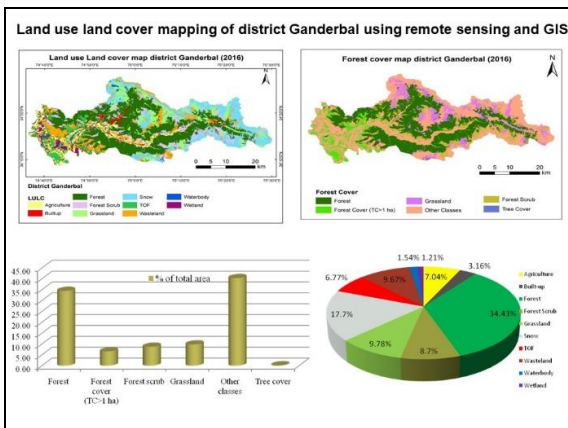
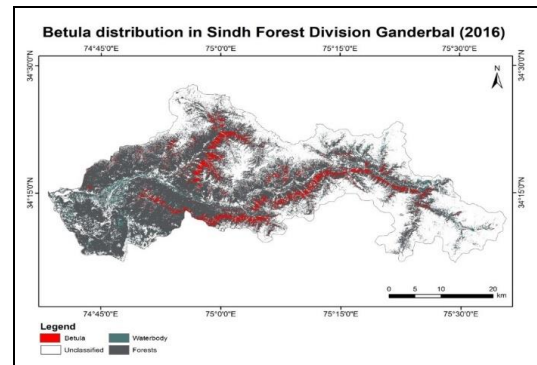
Forest type mapping (Northern region of Kashmir Himalayas)



Forest cover density mapping (Northern region of Kashmir Himalayas)



QPM of *Betula utilis*



LULC and forest cover of district Ganderbal

Vulnerability to disturbances, resource mapping and ex-situ conservation of endemic and relict species *Betula utilis* D. Don (Himalayan birch) in Sindh Forest Division of Kashmir”

➤ Nursery technology of *Betula utilis* has been standardized for mass multiplication of this critically endangered species. The faculty of Forestry has produced more than 10000 quality plants of this species through this technology and distributed to the Forest Department for rehabilitation and restocking of these degraded forests.

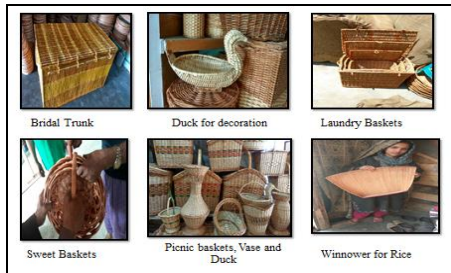
➤ The results reveal that *Betula* containing forests are spread in higher elevations distributed in patches and scattered around in Sindh forest division. *Betula* containing forests are spread over an area of 6746.58 ha (1.97%) of the geographical area of the division which makes its conservation important.

Database on livelihood generation and carbon sequestration through wicker willow in Kashmir

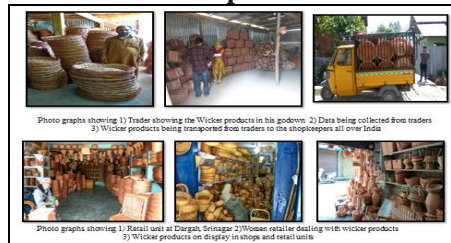
➤ At grower’s level, the wicker willow particularly *Salix triandra* and *Salix purpurea* are cultivated. The year’s harvest is sold to the middleman for processing.

➤ At middle man’s level, the debarked withies are further dried and graded based on length and thickness into 4-5 grades: Diseur (Grade I), Panseur (Grade II), Skeen (Grade III), Sitka (Grade IV), Tapus (Grade V/ waste during the processing); with Diseur fetching highest price and Tapus with least). The processed withies are later purchased by the weavers for annual stock. At weaver’s level, the graded withies are crafted into various products like baskets, boxes, vases, trays and even furniture. Each product takes a particular time to complete and fetches a particular amount of profit.

- At trader's level, the collected products are kept in godown and later sold to retailers in the state, outside state (Delhi, Mumbai, Bangalore, Kerala etc) and even outside the country (UK, UAE etc). At retailer's level, the weaved products are directly sold to the buyers. Most of the retailers in the state are concentrated in Dargah area of Srinagar District.



Wicker products



Trade and retail of wicker products

Improvement of grazing /pasture lands through participatory management approach in temperate conditions of Kashmir valley

- During the year estimation of grass biomass and NPK parameters of soils at selected localities has been assessed in central and south Kashmir.
- Distribution of fodder tree seedlings (12,000 mixed species) and 100 Kg of fodder grass seeds has been distributed among the farmers (120 families) for development of silvipastoral systems in different rural areas.
- Training cum awareness/seed distribution programme in collaboration with LAWDA, Forest Department.



Evaluation of the different grass/fodder species (FOF) SKUAST-K



Field planting of grasses in pasture lands

Establishment of Arboretum of Multipurpose Tree Species (MPT's) at Benhama Ganderbal.

- An arboretum of different multiple purpose tree species have been established at Faculty of Forestry Benhama Ganderbal. Till date about 24 different multipurpose tree species were planted in the arboretum for ex-situ conservation.
- Growth performance in terms of height and diameter is being recorded regularly.

Medicinal and Aromatic plants

- Continued standardized propagation protocol for a). *Inula racemosa*, b). *Atropa accuminata*, c). *Sassurea costus*, d). *Rosemarium officinalis* and e). *Lavender officinalis*
- Conduct of herbal tour every year for Kashmir Tibbia Collage Hospital and Research Center.
- Conducted field survey for students of one year diploma course in Herbal Medicine and Aroma Technology conducted by Design innovation center, Central University of Kashmir.
- Conducted three days farmers training on Good Agriculture and Collection Practice for medicinal and Aromatic plants.
- Conducted 25 days skill development training programme for medicinal plant growers.
- 5 M.sc. and 3 Ph.D. students conducted research trails on standardization agro-techniques of MAP and product development.



Lavender in bloom at Faculty of Forestry, Benhama, Ganderbal



Lavander oil production : 1 liter. during 1st yr and 6.5 lits. during 2nd year

Bamboo evaluation

- Temperate bamboos are under evaluation for both at nursery and field conditions at Faculty of Forestry Benhama Ganderbal.



Field evaluation of Moso bamboo (*Phyllostachys pubescence*)



Nursery raising of *Phyllostachys nigra*

Livestock / Wildlife Germplasm Conservation and Improvement

Conservation and Improvement of Sheep

- Continuing the efforts towards conserving the germplasm diversity, Changluk (Changthangi) sheep breed, indigenous to Ladakh, and Karakul, sheep breed imported more than four decades back and maintained by Sheep Husbandry Department at Kargil, have been added to livestock repository at MRCS&G Shuhama.

- Kashmir Merino, a synthetic breed of sheep developed by crossing Merino with local germplasm, was procured from progressive farmers/breeders of Kashmir valley in order to document its morphometric, physiological and production characteristics for furthering the strategies of germplasm improvement.
- Fec-B gene carrying sheep germplasm maintained at this Centre was further multiplied and 60 lambs were obtained from 28 multiple births with a lambing percentage of 137%.
- Three different crosses (Merino x Fec-B cross, Polled Dorset (PD) x Fec-B cross and South Down (SD) x Fec-B cross) were made and their performance was studied. Birth weight of 2.40, 3.22 and 2.41 kgs for Merino x Fec-B cross, PD x Fec-B cross and SD x Fec-B cross respectively. Weight at weaning for Merino Fec-B cross, PD Fec-B cross and SD Fec-B cross was 6.67, 6.11 and 5.50 kg respectively.



Flock of Changluk sheep at MRCSG



Male Changluk sheep



Karakul Sheep



Merino Sheep at MRCSG



Fec B ewe with triplet



Fec B ewe with triplet

Animal/Poultry Production

Status evaluation of captive management of ungulates at mini zoo Pahalgam

- Outdoor open air enclosures seem to be the norm, providing adequate space and tolerable environment to the animals. Better Body Condition Score in outdoor open enclosures corresponded with the availability of good quality forages and lesser stress level as compared to indoor winter sheds.
- Musk deer spent comparatively much greater time in Standing Alert in indoor winter shed that could reflect a form of heightened vigilance most likely related to the increased stress level placed on this animal, which is usually solitary in nature.
- Musk deer, Hangul and ibex had lesser survival period at zoo as compared to other ungulate species.
- Prevalence of parasitic infection in all species was highest during summer, followed by spring and winter. Himalayan goral showed maximum load of parasitic eggs whereas Spotted deer showed minimum load of parasitic eggs.
- The areas identified for improvement include winter sheds, reserve accommodation for quarantine, treatment and recovery, regular/detailed record maintenance, catch-up and restraint facilities, and on-site veterinary facilities. Standard of nutrition needs to be re-visited.

Strategies for mitigating cold stress in broiler chicken

- Cold stress adversely affects the overall health and immune status of broiler chickens with a negative impact on bird comfort levels and production economics. resulted in increase in feed consumption.
- Various cold stress mitigating practices such as early cold conditioning of chicks, supplementation of vitamin E @ 250 mg/kg of feed and chromium @ 0.2 g/kg of feed reduced but did not eliminate the negative effects of cold stress in broiler chickens. Health parameters including haematobiochemical indices, stress hormone levels, and humoral and cell mediated immune response as well as production parameters were significantly improved, also, mortality due to ascites was reduced.
- The cold conditioning and supplementation improved the performance and economics of broiler chickens but is no complete alternative to Conventional method of heating.

Short term storage optimizes hatchability of chicken eggs

- Very fresh eggs (1 day storage) show poor hatchability and also, a sharp decline in hatchability is noticed after the 7th day of storage. Less than 7 days storage of hatching eggs is recommended for optimum hatchability.

Design fabrication testing of shalimar easy hatch-a low cost chicken incubator

- In order to compensate the compromised broodiness in improved varieties of backyard poultry, a low cost easy to operate incubator was developed for undertaking domestic scale incubation of hatching eggs from backyard.



Animal Nutrition

Nutritional supplementation of periparturient goats for improved performance

- Does given extra concentrate supplementation @ 150 gram/head/day with probiotic (*Saccharomyces cerevisiae* x10¹⁰ CFU) @ 2.5 gram/head/day during periparturient period has been found to improve performance and economic returns. The supplementation resulted in significant (p<0.05) higher weekly body weight before kidding; improvement in BCS on scale of 1 to 5 up to kidding; higher average birth weight and weaning weights, and monthly average daily weight gain during first month. The health parameters including Hb (g/dl), PCV (%), blood cell counts, plasma glucose (mg/dl), protein (g/dl), triglyceride, and cholesterol revealed improved health. Colostrum fat, protein SNF and TS percent was significantly (p<0.05) higher without significantly affecting the milk fat, protein, SNF and TS percent composition Net profit at weaning increased by Rs 125. Broiler

Essential oil in the broiler ration for optimum performance

- Incorporation of essential oils in broiler feed @ 2% significantly improved the performance of birds in terms of body weight gain, feed consumption, and feed conversion ratio. Hence, Essential oil can be incorporated in the broiler ration @ 2% for optimum performance.

Herbal galactagogue for cattle

- Herbal galactagogue (Winter Chocolate) has been prepared for dairy cattle that overcomes drop in milk production in cattle under temperate climate of Kashmir particularly in prolonged winters.



Winter Chocolate being prepared at FVSc & AH

Animal Reproduction

Progesterone based estrous synchronization protocols and insemination techniques in ewes.

- Short term (6 days) intravaginal progesterone therapy is as effective as its long term (14 days) use for induction of estrous. Thus, short term (6 days) intravaginal progesterone treatment can be used as a replacement to traditional long term treatment for induction of estrous during breeding season.
- Intravaginal progesterone sponges for 10 days + eCG regime improved the reproductive performance of anestrus ewes during non-breeding season.
- Application of intra-vaginal progesterone sponges for 9 days followed by PGF2 α at 24 hours before sponge removal yields maximum fertility rate in aged corriedale ewes
- Cervical insemination (following intravaginal progesterone sponges 10 day+eCG protocol) resulted in better pregnancy rate (55.5%) and prolificacy rate (180%) in ewes during breeding season.

Management of delayed ovulating and anovulating repeat breeding cows

- Double Artificial Insemination and hormonal therapies (GnRH and hCG) helps in augmenting the conception rate in repeat breeding (delayed ovulating and anovulating) animals. However, double insemination is the most effective and may be attempted at least once before subjecting to hormonal regimens.

Cryopreservation and in vitro fertility of ram semen using different extenders.

- Addition of 2.5% to 3.5% honey into the standard tris egg yolk extender improved the ram semen quality and it did not deteriorate after exclusion of fructose and antibiotic in the above extender. 3.5% tris egg yolk honey extender (with no added commercial antibiotic) maintained the better fertility of cryopreserved semen.
- Ovixcell was as good as tris egg-yolk extender for use in ram semen extension. However, Tris egg-yolk extender added with 2.5% to 3.5% honey was better than Ovixcell for use as ram semen extender.

ANIMAL HEALTH AND DISEASE DIAGNOSIS

Disease Diagnosis

Diagnostic and prognostic markers, for ovine pregnancy toxemia

- The clinical evaluation of ewes with clinical PT revealed significant change in respiration and heart rate but no change was observed in rectal temperature. Rumen motility was reduced being 1 in four cases and zero in thirteen cases. Significant increase in respiration rate and time since onset of clinical disease was observed in ewes that died of PT. The most consistent clinical signs were anorexia without rumen motility (76.47%), sternal recumbency but able to rise (70.5%) followed by neurological signs (41.17%). Neurological signs (85.71%), recumbency (83.33%) and swollen limbs (75.0%) was strongly associated with negative outcome of disease.
- A significant ($p > 0.05$) change was observed in fructosamine, NEFA, BHBA, triglycerides, GGT, LDH and MDA levels in both clinical and subclinical PT however, cholesterol, albumin, potassium, calcium, AST, CK, SOD and catalase were significant ($p < 0.05$) changed in clinical PT only. Glucose concentrations were significantly decreased in subclinical PT only. The highest area under the curve (AUC) was found for fructosamine being 89.7% and 87.5%, respectively for clinical and subclinical PT with optimum cut off point based on maximum sensitivity (SE) and specificity (SP) being 0.607mmol/l (SE: 89.3% and SP: 72.2%) and 1.005mmol/l (SE: 90.0% and SP: 75.3%) for clinical and subclinical PT, respectively. At cut off limit 0.607mmol/l and 1.005mmol/l the odd ratio were 10.8 and 8, respectively for clinical and subclinical PT. A significant ($p < 0.05$) increase in fructosamine, creatinine, LDH, CK, MDA and significant decrease in potassium levels were observed in ewes that had negative outcome (died of PT) compared to ewes that had positive outcome.

Diagnosis of subclinical endometritis in dairy cattle

- Leucocyte Esterase (LE) strip test using estrual mucus showed acceptable sensitivity and specificity in comparison to endometrial cytology (EC) by cytobrush thereby, and can be used as non-invasive, simple, inexpensive and reliable cow side method for screening Subclinical Endometritis (SCE) in cattle under field conditions. Inclusion of protein and pH strip tests along with LE test does not improve the performance of LE strip test.
- White side test showed less sensitivity and specificity than LE test in comparison to EC and may be replaced by LE test as a field level test for screening SCE in cattle.

Disease Monitoring, Surveillance and Pathogen Characterization

Prevalence of Haemoprotozoa in Domesticated Animals

- On the basis of blood smear examination the incidence of babesiosis in cattle was found to be 11.11% (50/450), in sheep 9.2% (6/65), but none of the blood samples (200) collected from equines was found to be positive. The incidence of theileriosis in cattle was found to be 4.34% (73/1683) but none of blood sample from sheep and goats (70) was found to be positive. However, one case of *Theileria* was suspected in goat but the animal was not available for further sampling. *Trypanosoma evansi* was not detected both in ruminants and equines.

Anthelmintic Resistance in Sheep

- The figure of faecal egg count reduction (FECR) percentage and 95% lower confidence interval of faecal egg count reduction (FECRT) revealed Benzimidazole (BZ) resistance (of all GIN species taken together) on 12/13 (92.31%) farms and only 1/13 (7.70%) farm was diagnosed with suspected resistance. BZ resistance and suspected resistance for genus *Haemonchus* was demonstrated in 10/13 (75.92%) and 3/13 (23.08%) farms respectively, while as for genus *Trichostrongylus* resistance was demonstrated in 7/13 (53.85%) farms and 6/13

(46.15%) farms were suspected for BZ resistance. BZ resistance and suspected resistance for genus *Teladorsagia* was demonstrated in 1/4(25.00%) and 3/4 (75.00%) farms, respectively. BZ resistance (of other GIN species taken together) was demonstrated in 3/10(30.00%) farms and 7/10 (70.00%) farms were diagnosed with suspected resistance. In other GIN species, *Chabertia* spp. had developed BZ resistance on SBF, Dchigam and *Oesophagostomum* spp. had developed BZ resistance on SBF, Daksum. There appears no report of BZ resistance against *Chabertia* in world and as such this happens to be the first report of BZ resistant *Chabertia* in sheep of Kashmir valley.

- On the basis of allele specific PCR (AS-PCR), out of a total of 684 larvae of *Haemonchus contortus* genotyped, 80(11.69%), 319 (46.64%) and 285(41.67%) were homozygous resistant (rr), homozygous susceptible (SS) and heterozygous (rS), respectively. Overall allelic frequency of gene for resistance (r) was less (0.32) than the gene for susceptibility (S) (0.68). In case of *Trichostrongylus colubriformis* 353 larvae were genotyped of which 34 (9.63%), 204 (57.79%) and 115 (32.58%) were homozygous resistant (rr), homozygous susceptible (SS) and heterozygous (rS), respectively. Overall allelic frequency of gene for resistance (r) was less (0.26) than the gene for susceptibility (S) (0.74). A total of 79 larvae of *Teladorsagia circumcincta* were genotyped of which 4 (5.06%), 59(74.68%) and 16(20.25%) were homozygous resistant (rr), homozygous susceptible (SS) and heterozygous (rS), respectively. Overall allelic frequency of gene for resistance (r) was less (0.15) than the gene for susceptibility (S) (0.85).

- The characterization of β -tubulin isotype 1 gene in seven isolates *H. contortus* from different zones (central, south and north Kashmir) and hosts (sheep and goat) revealed that none of the samples was resistant to BZ with respect to 167th codon position. However, two *H. contortus* (L₃) isolate showed heterozygous genotype and one isolate of adult *H. contortus* showed homozygous resistant with respect to 198th codon position. With respect to 200th codon position, two *H. contortus* (L₃) isolates showed heterozygous genotype and one *H.*

contortus (L₃) isolate showed homozygous resistance. However, none of the mutations were found in two *H. contortus* (L₃) isolates. It is for the first time in India that the homozygous nature of BZ resistance due to mutation at 198th codon position on β -tubulin isotype 1 gene was demonstrated in an individual *H. contortus* parasite. Moreover, for the first time, two mutations simultaneously at 198th and 200th codon position in one individual parasite (*H. contortus*) was demonstrated on global level.

(56.3%) followed by pancreas (45.6%) and thyroid (38.00%).

Epidemiological profiling of colibacillosis in broiler chicken

- Area, age, biosecurity, management practices and farm operations like farm surroundings, farm orientation, down time, feed storage procedure, bird strain, drinking water source, water sanitizers etc. had significant ($P \leq 0.05$) effect on mortality and occurrence of colibacillosis. The overall mortality and proportionate mortality due to colibacillosis among broiler chicken was 4.82% and 34.5% respectively. Birds in the 3rd week of age were most susceptible. Mortality was highest in district Srinagar and least in district Budgam. Also, it was higher in smaller farms than larger ones viz 7.39% in flocks with 3000-4000 birds vs 56.14% in flocks with 1000-2000 birds.
- Majority of *E. coli* isolates were resistant to tetracycline (90%), erythromycin (85%), ceftriaxone (65%), cephotaxime (45%). However, most of the isolates were sensitive to chloramphenicol (85%), amikacin (70%), ciprofloxacin (60%), ampicillin (55%), gentamicin and co-trimoxazole (50% each).
- There was a significant ($P \leq 0.05$) correlation between percent feed and water samples positive for *E. coli* and percent mortality due to Colibacillosis indicating both feed and water as the source of *E. coli* infection.

Occurrence of endocrinopathies in small ruminants

- The prevalence of endocrine gland affections in sheep was highest for adrenal gland (55.60%) followed by thyroid (48.5%) and pancrease (41.00%), while as in goats prevalence was highest in adrenal gland

Changing pathological pattern in caprine coccidiosis

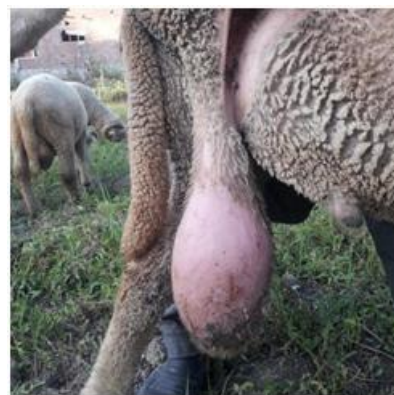
- Investigations on the naturally occurring cases of caprine coccidiosis have revealed presence of various developmental stages of coccidian in the mesenteric Lymph nodes and in the ductal epithelium and interlobular regions of pancreas, thereby suggesting the extension of the parasitic cycle in these regions resulting in damage of these organs.

Prevalence of hepatopathies in sheep

- An abattoir surveillance with screening of a total of 1500 sheep heads revealed gross hepatic lesions in 291 animals. Maximum number of gross liver lesions was recorded in age group of more than 2 years (45.01%). Parasitic affections constituted the major hepatic affections and included Cysticercosis (28.17%), Echinococosis (26.11%), Fascioliasis (7.56%) and Dicrocoeliasis (3.78%).

Prevalence of Ovine brucellosis

- Seroprevalence of ovine brucellosis as determined by RBPT, mRBPT, MAT and I-ELISA was 32.29%, 36.22%, 26.01% and 28.25%, respectively. The animals in the age group of 1-3 years had highest seroprevalence. Seroprevalence was significantly higher in aborting ewes (40.28%).



Unilateral orchitis in ram affected with brucellosis

Serological and antibiotic resistance profiling of *E. coli* and *Salmonella* isolates from reproductive tract of chicken

- The overall prevalence of reproductive tract abnormalities was 11.23% out of which prevalence of Salmonellosis comprised of 3.41% and *Escherichia coli* was 7.04%.
- Most prevalent serotype of *Salmonella* was *Salmonella enteric serovar Enteritidis* (35.48%), followed by *Salmonella enterica serovar Typhimurium* (22.58%) and *Salmonella enteric serovar Gallinarum* (19.35%).
- The most prevalent serotypes of *Escherichia coli* were O118 (18.75%), O22 (17.18%) and O8 (17.18%) followed by O149 (14.06%), O84 (12.50%) and O7 (9.37%).
- The *iss* was detected with the highest prevalence (78.12%), followed by *tsh* (75.00%), *IucC* (62.50%), *papC* (46.87%) and *sitA* (40.62%) in *Escherichia coli*.
- The highest rate of resistance by *Salmonella* spp. was recorded against streptomycin (77.41%), Ampicillin (74.12%), penicillin (70.96%). Low levels of resistance were against ciprofloxacin (29.03%) and sulfadiazine (25.80%).
- The highest rate of resistance by *Escherichia coli* was recorded against penicillin (79.68%), ampicillin (78.12) and tetracycline (76.56%). Low levels of resistance were against ciprofloxacin (20.31%) and enrofloxacin (15.62%).

Zoonoses and Public Health

Prevalence of Coliform Bacteria including Shiga toxinogenic *Escherichia coli* (STEC) in Market Milk and Milk Products:

- The mean coliform counts of raw milk, packaged, milk, paneer, dahi, kulfi and rasmlie were found above permissible limits. The overall prevalence of *E. coli* was found to 24.3% with highest (62.0 %) in raw milk and lowest (10.0%) in dahi. The present study confirmed the presence of coliform organisms including STEC in raw milk and their products indicating a potential hazard

Prevalence of *E. coli* in meat chicken and milk

- The overall prevalence of *E. coli* in meat chicken and milk was found to 23.5%. Multiple antimicrobial resistances were observed among the isolated bacteria. Significant complete (100%) resistance was found towards ampicillin and 100% sensitive observed towards Cefuroxim and Cefepime. A strong correlation between the phenotypic resistance pattern of an isolates and the presence of resistance genes has been observed. *tet* (A), *tet* (B) (23) and *aac(3)-IV* genes were detected in isolated strains.

Prevalence, virulence and antibiotic resistance gene profile of *Staphylococcus aureus* from milk, milk products and environmental samples.

- The prevalence of *Staphylococcus aureus* in raw milk and milk products was 22.5 and 18.33%, respectively, suggesting high zoonotic risk and warranting regular periodic assessment and proper enforcement of food hygiene legislations.
- The highest occurrence of *S. aureus* (34%) was noted in the mastitis milk samples thereby necessitating the need for early detection of sub clinical mastitis and discouraging the use of such milk.
- The virulence genes *hld* and *tsst-1* of *S. aureus* were detected in quite high percentage (98.53 and 16.67%, respectively) of isolates, indicating potential pathogenic strains of *S. aureus* circulating in food chain, thereby increasing the risk of *S. aureus* intoxication.
- The most effective antimicrobial against *S. aureus* were gentamicin (95.83%) and vancomycin (83.33%) whereas high resistance was noted against methicillin (100%), penicillin-G (93.75%) and amoxicillin (93.75%).
- A high occurrence of *tet-M* genes (52.08%) as well as *blaZ* genes (22.92%) among the isolates is a cause of concern because of the development of Multiple Drug Resistant *S. aureus*.
- The detection of MRSA (16.67%) and MDR *S. aureus* strains (10.42%) further worsens the situation. The occurrence of OS-MRSA is the first report of OS-MRSA from milk, milk

products and environmental samples from Jammu and Kashmir State.

Animal Clinical/ Para-clinical Trials

Validation of ultrasonography (USG) as investigative and diagnostic aid in sheep and goat

- Ultrasonography procedures were validated for investigative and diagnostic purposes in goats. Ultrasonography was found non invasive low cost and easy tool to visualize solid abdominal organs in goats of all the ages. The increase in dimensions of the visceral organs viz liver, gall bladder, caudal vena cava, spleen and kidneys, with age were conveniently elucidated. The ultrasonographic findings in male and female goats don't show significant difference. In sheep and goats, the USG guided PAIR/sclerotherapy was successfully performed for managing intra-abdominal cysts and was an effective, minimally invasive, cost effective and safe procedure.

Laparoscopy for minimally invasive surgery in small ruminants:

- Laparoscopy was successfully employed for confirmatory diagnosis as well as retrieval of the intra-abdominal cysts in sheep and goats. The technique was found to be minimally invasive and safe. In addition laparoscope assisted orchietomy of the retained testicles in sheep was performed. This procedure minimizes surgical trauma including abdominal incision and hence recovery.

Bupivacaine and tramadol cocktail for post-operative pain management in dogs:

- Intraperitoneal instillation of Bupivacaine and tramadol cocktail was found to provide additive analgesic effect when compared to single use. The cocktail provided better post-operative pain management in dogs undergoing ovariohysterectomy.

Key-hole ovariohysterectomy in dogs

- Clinical trials were successfully conducted for key hole ovariohysterectomy in dogs. The minimally invasive surgical procedure is more meritorious on account of lesser pain involved, reduce time of healing, and recovery.

Reduced concentration of Lignocaine Hydrochloride in small ruminant:

- Clinical trials were conducted using reduced concentrations (15 ml of 2% and 1%) of lignocaine hydrochloride following pre-medicated with diazepam (0.2/kg, IV) and 0.3mg/kg, IM) for achieving distal paravertebral nerve block in goats subjected to laparoscope-assisted ovum pick-up (LA-OPU) (category I) and sheep and goat undergoing caesarean section for relieving prolonged dystocia (category II). Satisfactory analgesia of the flank developed in animals of both the categories injected 1% or 2% local anaesthetic. Category II animals required significantly ($p < 0.05$) more time (1%, 4.55 ± 0.50 min and 2%, 5.44 ± 0.92 min) than Category I (1%, 2.57 ± 0.61 min and 2%, 2.33 ± 0.95 min) to induce anaesthesia. In Category I animals duration of anaesthesia was 120.71 ± 6.76 (1%) and 123.33 ± 7.03 min. But in Category II animals duration of anaesthesia was significantly ($p < 0.05$) less (1%, 87.22 ± 4.93 min and 2%, 97.77 ± 5.78 min). In the animals injected 2% local anaesthesia, significantly longer ($p < 0.05$) P-R segment, S-T segment and P)-R interval values were recorded 30 minutes after injection. The toxic symptoms related to CNs were perhaps suppressed by the preoperative use of diazepam but alterations in the ECG noticed in Category II animals receiving 2% local anaesthetic indicate that for animals with prolonged dystocia the upper limit of the safe dose may be lesser than the healthy ones.

Ultrasound guided percutaneous self-retaining cystic catheterization in calves:

- Clinical trials were successfully conducted in calves for treatment obstructive urolithiasis using ultrasound guided percutaneous intracystic catheterization. The technique along with litholytic drug (cystone) administration and urinary acidifier (Ammonium chloride) forms an alternative to surgical procedure in clinical cases and the animal can be discharged immediately after the procedure.

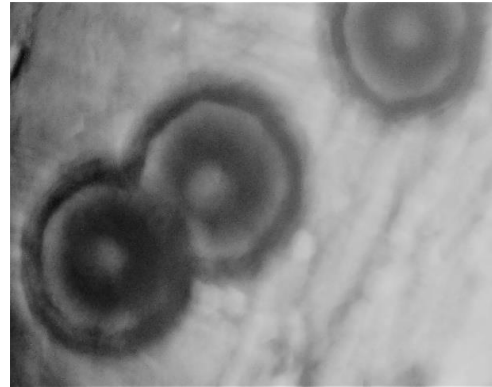
Ultrasound guided nerve block:

- Successful clinical trials were conducted for ultrasound guided nerve blocks in animals. The technique is an emerging aspect of regional anaesthesia which has potential to avoid unwanted injection, overdose, accidental intravenous punctures and local delivery of

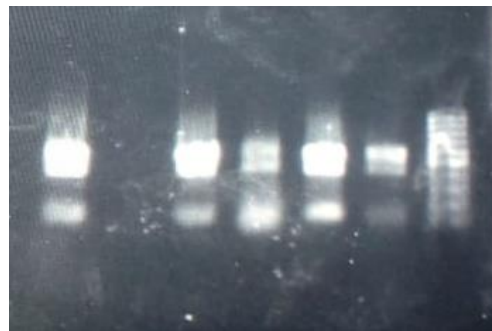
drug under real time visualization. Nerve block under ultrasound guidance is an economical and minimally invasive technique to perform operation.

Prophylactic and Therapeutic Management of Contagious Caprine Pleuropneumonia (CCPP) in Pashmina goats

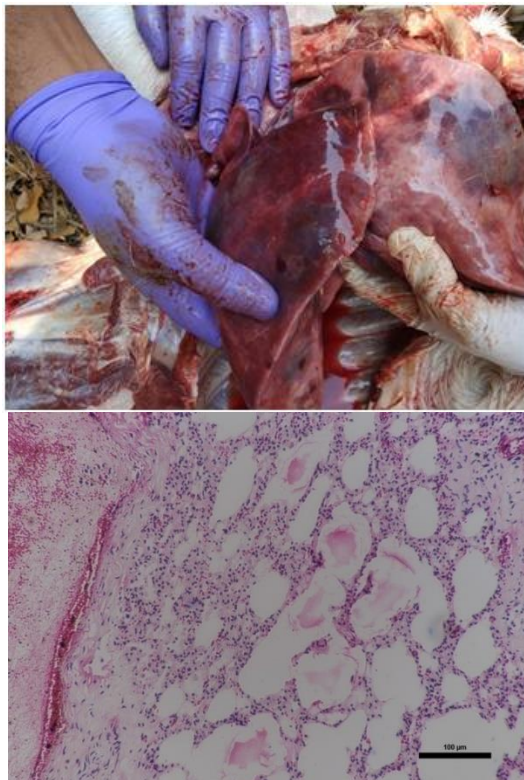
- CCPP was diagnosed for the first time in Pashmina goats by culture, isolation, staining, SAT, cELISA and PCR.
- Tylosin based combination therapy resulted in rapid and favorable recovery. Significant improvement in clinical parameters, oxidative and immune indices of Pashmina goats treated with tylosin plus NAC or vitamin E was also observed. Significant improvement in clinical parameters, recovery rate, oxidative and immune indices of sheep and goats treated with inhalant therapy than parenteral therapy. Mixed infection by mycoplasma, viruses (PPR) or bacteria (Pasteurella/Manhemia) were also noted. Innovation in therapeutic management by combination therapy using antibiotics (oxytetracycline, enrofloxacin, tylosin), anti-inflammatory, analgesic (meloxicam) and anti-allergic (pheneramine maleate) agents.



Culture of Mycoplasma (Fried egg appearance)



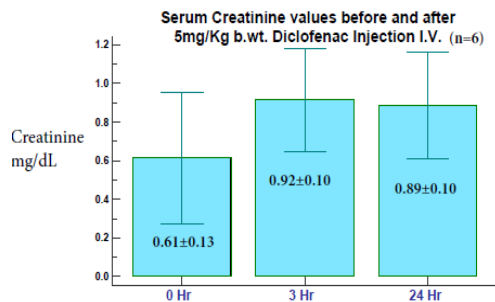
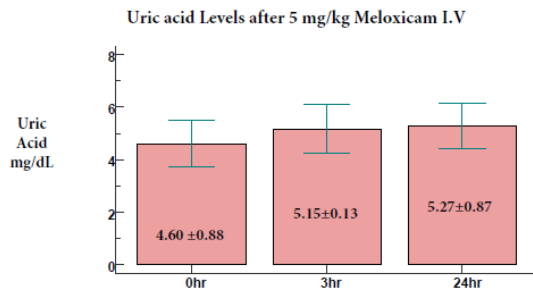
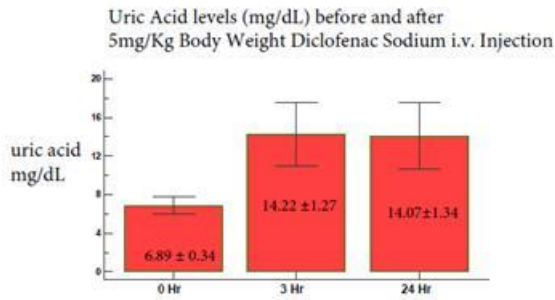
**RFLP based detection of Mccp using Pst1
M is Marker, 1,2,3,4,6 are test samples**



Gross and Histopathological lesion of CCPP

Evaluation of different NSAIDs in affecting uric acid retention in chicken model

- Diclofenac Sodium when administered @ could not raise Serum Uric Acid to any significant level. Diclofenac Sodium in broiler chicken was 100% effective for its analgesic effects @ 0.5-1 mg/Kg body weight and did not cause significant rise in serum uric acid levels upto 2.5 mg/Kg body weight. However, @ 5 mg/kg body weight caused significant rise in Serum uric acid from basal levels of 6.89 ± 0.34 mg/dL to 14.22 ± 1.27 mg/dL at 3 hours- and 14.07 ± 1.34 mg/dL at 24 hours post treatment. Meloxicam @5mg/Kg B.Wt. i.v. did not significantly raise uric acid levels in birds which were 4.60 ± 0.88 , 5.15 ± 0.13 and 5.27 ± 0.87 (mg/dL) at Zero Hr, 3 Hrs and 24 Hrs. In case of Diclofenac the slope of time versus creatinine (mg/dL) 0.006842 ± 0.002785 and slope of time versus uric acid 0.1863 ± 0.06515 regression lines was significantly different from each other indicating thereby different mechanisms operative in raising the uric acid and creatinine. Effective Analgesic dose of Diclofenac for poultry broilers was found to be 1 mg/kg body weight.



Fish Production and Management

Reproductive performance and endocrine profile of *Schizothorax niger*

- Administration of WOVA-FH resulted in a significant increase in the milt volume and was directly proportional to the concentration of hormone.
- Both motility percentage and duration showed a significant rise in groups administered with higher doses of WOVA-FH.
- *Schizothorax niger* performed better when administered with a doses of 0.3 and 0.6 ml/kg body weight in males and females respectively.

Spatio-Temporal Distribution and Ecology of *Rotifera* (an important fish food) in Manasbal Lake, Kashmir

- The uncontrolled anthropogenic intervention has not only deteriorated the water quality of

the lake but accelerated the rate of eutrophication too.

- It is imperative to restore the health of this deteriorating ecosystem based on scientific management guidelines.

Spatial and temporal variation in fish biodiversity, catch composition and CPUE in fishes of River Jhelum

- Downstream the water quality of the river was found deteriorated. Fishes like *S. niger* have ventured into the river system and fishes like *Banagna diplostoma*, *Glyptothorax kashmirensis* and *Botia birdi* which have been reported three decades earlier were not recorded during the present study.
- Entry of untreated effluents, etc. into this lotic fish habitat need to be stopped immediately. Further banning commercial fishing during the breeding season of fishes so that the fishes are allowed to breed at least once during their life period for sustainable fish production and conservation.

Assessment of genetic variation in *Schizothorax esocinus* in Dal and Manasbal Lakes of Kashmir Himalaya

- The study indicated that the populations of *Schizothorax curvifrons* show some degree of variation in the electrophoretic migration of muscle proteins. Polymorphism in muscle protein is clearly demonstrated among this group of fishes from the two sites.
- It also suggested that brooders from both the lakes should be introduced during the breeding programme of this fish in order to have better performing fish populations.

Schizothorax esocinus in river Jhelum

- The morphological and meristic characters of *S. esocinus* in the fish from the three sites, districts of Anantnag, Srinagar and Baramulla were similar, revealing homogeneity in the population.
- The fish was found to be omnivorous in feeding with preference for diatoms and crustaceans. The values of asymptotic length and growth coefficient were estimated at 502

mm and 0.082/month respectively, indicating slow growing nature of the fish.

Induction of triploidy using heat shock treatment in trout of Kashmir Himalaya

- Triploidy was successfully induced in rainbow trout (*Oncorhynchus mykiss*) through the use of thermal (heat) shock at proper condition. Triploid individuals were found in all the temperature shock treatments given.
- The most successful treatment under the conditions of this experiment was heat shock at 30°C initiated 12 min after fertilization for a duration of 10 min.

Nutrient removal by Salvinianatans under the in situ and ex-situ conditions in Dal Lake

- *Salviniaca* can be used as an effective tool in nutrient recovery from eutrophic water bodies of Kashmir, especially Dal Lake, which is facing ecological crisis especially due to high load of nitrogen and phosphorous

Duckweed based fish meal

- Fish meal could not be replaced totally with plant origin feed; however, partial replacement can be done by using duckweed to reduce the cost without affecting growth rate. The study has revealed that 15% duckweed feed would be optimum for the maximum growth of common carp. Further, such aquatic weed based feeds are cheaper as compared to the conventional feeds, supplementation of aquatic weeds in carp diets would also prove economically viable.

Schizothorax plagiostomus resource management

- *Schizothorax plagiostomus* spawns in the month of April, have unimodal pattern of Gonadal Development, therefore any artificial breeding intervention can be taken in the month of April. Fish was found to mature at the age of two years when the fish length was 150 mm. therefore, Fishers should avoid to catch the fishes below the size of 150 mm for the sustainable fish production so that the fish may be allowed to breed at least once in its life.

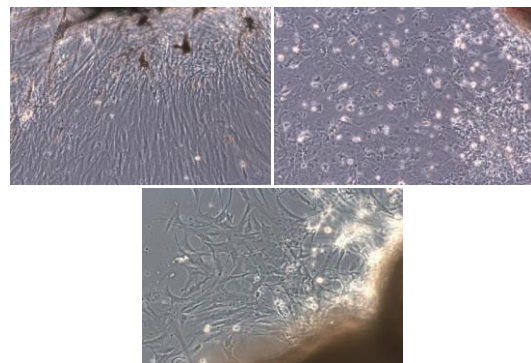
Reproductive biology of female *Salmo truttafario* (brown trout)

- Larger females yield more eggs which are also larger in size. So, such females should

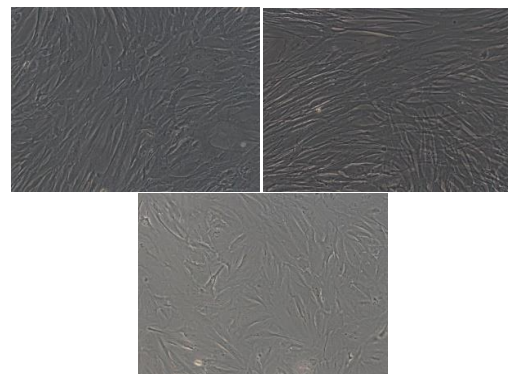
be preferred for collection of eggs during artificial propagation. In the farms, there should be proper segregation of the sexes at least a month before the onset of spawning season (October) to prevent wild spawning and resultant injuries to the fish. Since the fish is a low fecund fish, adequate number of brood fish should to be kept at the farms for artificial propagation. This number should also commensurate to the hatchery capacity. Female *S. truttafario* lesser than 252 mm in total length should not be allowed to be caught as length at capture (L_C) should never be less than length at first maturity (L_M). This would give the fish an opportunity to spawn at least once in its life.

FISH HEALTH AND DISEASE DIAGNOSIS

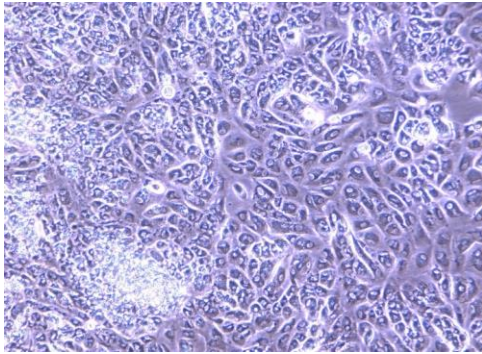
Towards development of cell lines from *Oncorhynchus mykiss* for isolating viruses from cold water fish



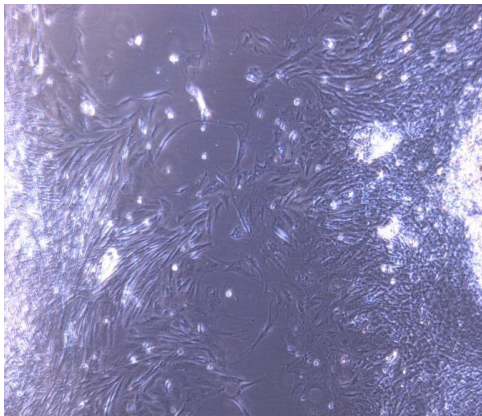
Primary cell culture from different organs of *Oncorhynchus mykiss*. Growing cells with explant of A –eye; B –spleen; C –Kidney (100 X)



Monolayer of cells of eye (A), spleen (B) and kidney (C) of *Oncorhynchus mykiss* (100 X).



Snow trout liver primary cell culture (7th Passage)



Schizothorax niger liver primary cell culture

Patents Filed

- 1 Quick RNA extraction from Apple tissues (*Malus domestica*) by Dr. Khalid Z. Masoodi
- 2 SMART gel (SKUAST-K Matrix Assisted Reporter gel by Dr. Khalid Z. Masoodi
- 3 PAGE-QEDDP (Quick easy DNA detection of Polymorphism) by Dr. Sajad M. Zargar

**EXTERNALLY FUNDED PROJECTS OPERATIONAL
IN SKUAST-K (2018-19) SCHEME-WISE**

S. No	Name of the Project	Principal Investigator	Year of start/ Duration	Total Budget/ (in lacs)
1. Projects sponsored by Government of J&K				
A. Rashtriya Krishi Vikas Yojna (RKVY)				
1.	National Mission on saffron–economic revival of J&K saffron sector	Dr. S A Dar I/C Saffron Res. Station, Pampore	2011-12/ 7 years	540.00 (65.94)
2.	Resource mapping using remote sensing & GIS approach.	Dr. N.A Kirmani Assoc. Professor, Soil Science	2013-14/ 5 years	(2017-18)
3.	Kashmir valley composting mission	Dr. Sumati Narayan Assoc. Professor, Vegetable Science	2013-14/ 5 years	(2017-18) yearly
4.	Farmers participatory crop breeding for strengthening local seed systems.	Dr. Gul Zaffar Professor, DARS, Budgam	2013-14/ 5 years	(2017-18)
5.	Establishment of nut centre to augment requirement of quality planting material	Dr. Gul Zaffar Professor, DARS, Budgam	2014-15/ 4 years	(2017-18) yearly
6.	Refinement and demonstration of technology for revival of Ambri Apple in Kashmir valley	Dr. Z. A. Bhat Assoc. Professor, AARC, Pahnoo	2014-15/ 4 years	(2017-18) yearly
7.	Mineral status of feed/fodder and livestock resources and development of area specific mineral supplement(s) for augmentation of livestock production in Kashmir	Dr. A. M. Ganai Professor, Animal Nutrition	2014-15/ 4 years	(2017-18) yearly
8.	Biofortification of Paddy straw for quality feeding of livestock	Dr. A. M. Ganai Professor, Animal Nutrition	2014-15/ 4 years	(2017-18) yearly
9.	Non-chemical remedial strategies for management of fruit diseases of horticultural crops for better production and quality	Dr. F. A. Mohidin Asstt. Professor Plant Pathology	2016-17/ 3 years	(2017-18) yearly
10.	Enhancing Rural Livelihood through popularization of Sweet corn (<i>Zea mays</i> L.)	Dr. Z. A. Dar Associate Professor DARS Budgam	2016-17/ 3 years	(2017-18) yearly
11.	Economic empowerment of rural women through trainings on modern technologies of vegetable production	Dr. Baseerat Afroza Assoc. Professor Vegetable Science	2017-18/ 3 years	(2017-18)
12.	Agro-climatic zonation on micro-environmental level for climate smart agriculture	Dr. Sameera Qayoom Assoc. Professor Agronomy	2017-18/ 3 years	(2017-18) yearly
B. Mission for Integrated Development of Horticulture (MIDH) GoJK				
13.	Integrated Pack House	HoD Food Science & Technology	2017-18/ Yearly	16.45
C. National Bank for Agriculture and Rural Development (NABARD)				
14.	Performance of earth tube heat exchanger and ground air collector for space heating under cold arid conditions of Ladakh	Dr. Deldan Namgyal Asstt. Professor HMAARI, Leh	2017-18/ Yearly	11.06
15.	Development of earthen pit to check menace of flash flood in Ladakh	Dr. Deldan Namgayal Asstt. Professor HMAARI, Leh	2017-18/ Yearly	10.00

16.	Creation of Seed Hub in Maize by Strengthening of local seed systems for enhancing farmers income	Dr. Z A Dar, Prof. DARS, Budgam	2018-19 2 years	7.00
17.	Propagation of elite backyard birds for enhancing egg production in rural areas	Dr. Azmat Alam, Prof. LPM	2018-19 2 years	8.04
18.	Popularization of Improved Saffron Technologies developed by SKUAST-Kashmir for doubling the farmers income	Dr. Mudasir Hafiz Kha, Asstt. Professor (GPB), SRS,	20118-19 2 years	7.56
Lakes & Waterways Development Authority, Srinagar				
19.	Conservation of Dal Weed into Compost	Dr. Imtiyaz Jehangir Asstt. Prof.	2017-18/ sanctioned	75.93 Funds not released
20.	Monitoring of Pesticide Residues in Dal Lake of Kashmir	Dr. Ashraf Alam Wani Incharge, RCRQA	2017-18/ sanctioned	40.20 Funds not released sanctioned but not released
2. Projects sponsored by Government of India				
A. Indian Council for Agricultural Research (ICAR)				
a) Niche Area of Excellence (NAE)				
21.	Study of <i>Clostridium perfringens</i> and <i>Dichelobactermodosus</i> (Anaerobic Bacteriology)	Dr. Shakil Ahmad Wani Professor Vet. Micr. & Immunology/ Director Education	2015-16/ 5 years	399.008
b) Tribal Sub-Plan (TSP)				
22.	Technological interventions for reducing food, fodder and income security among highland tribal agro-pastoralists of Nyoma block and improve their livelihood	Dr. Maheshwar Singh PC KVK Nyoma	2014-15/ yearly	75.00
23.	Technological interventions for reducing food, fodder and income insecurity among tribal farmers of Zanskar and improve their livelihoods	Dr. Rizwan Rashid PC KVKZanskar	2012-13/ yearly	107.00
24.	Technological interventions for improving food, income and livelihood security of tribal farmers of Nubra	Dr. D. Namgayal Assoc. Professor, PC, KVK Leh	2014-15/ yearly	95.00
25.	Technological interventions for improving tribal farmers food, fodder, income and livelihood security among Tribal farmers of Leh Block and improve their livelihood.	Dr.M.A. Wani AD (R&E) HMAARI, Leh	2014-15/ yearly	71.00
26.	Technological interventions for improving food, income security and livelihoods of kargil farmers.	Dr. Faizan Ahmad Scientist Incharge MARES, Kargil	2016-17/ yearly	94.00
c) National Bureau of Fish Genetic Resources (NBFGR), ICAR				
27.	National surveillance programme for aquatic animal disease	Dr. Feroz A. Shah Associate Professor, Faculty of Fisheries	2014-15/ 4 years Extend Sept 19	78.80
d) National Initiative on Climate Resilient Agriculture (NICRA), ICAR				
28.	Climate Change Impact on erosion Processes, Carbon Sequestration and Crop Productivity under Cold Arid Agro-Ecosystems	Dr. Mushtaq A. Wani Associate Professor Soil Science	2016-17/ 3 years	45.65
29.	Climate change impact on water resources availability in cold arid regions of North-western Himalayas	Dr. Junaid N. Khan Associate Professor Agricultural Engineering	2016-17/ 3 years	62.00

30.	Impact of season long temperature increase on quality and yield of aromatic Rice landrace(Muskibudji) under temperate climatic conditions of Kashmir J&K india	Dr. S. Sheraz Mahdi Asst Prof (Agronomy)	2018-19/ 2years	20.75
31.	Carbon foot printing based on lifecycle assessment in apple crop production under mountain agro-ecological system of kashmir	Dr. Shabir A Bangroo Asst Prof (Soil Science)	2018-19/ 2years	18.75
e) National Agricultural Science Fund (NASF)				
32.	Elucidating the mechanism of Pashmina fibre development: An OMICS approach	Dr. Nazir Ah. Ganai Director Planning & Monitoring/ADR FVS	2015-16/ 3 years	226.67
f) National Institute of Agricultural Economics and Policy Research				
33.	Policy Imperatives for Promoting Value Chains	Dr. S.A Wani Professor Agr. Econ. & Mark.	2017-18/ 3 years	33.62
B. Department of Science & Technology, GoI (DST)				
34.	Differential gene expression analysis in compatible and incompatible interaction of common bean with Colletotricumlindeme-thianum	Dr. Bilal Padder Asstt. Professor, Plant Pathology	2013-14/ 3 years	38.71
35.	Standardization of vermi-compost production to enhance the livelihood opportunities for farmers in the cold desert areas (CODDER)	Dr. Z. A. Baba Asstt. Professor FoA Wadura	2015-16 3 years	19.67882
36.	Use of Dal Lake weed as a source of media for Tulip, Lilium, Hyacinthus and Gladiolus	Dr. Zahoor A. Bhat Asstt. Professor FLA	2017-18/ 3 years	55.00
37.	Biomass carbon distribution of major forest types in the Northern region of Kashmir Himalayas using field inventory sensing and GIS	Dr. Akhlaq Amin Wani Associate Professor Faculty of Forestry	2015-16/ 3 years	43.56
38.	Experimental Agromet Advisory Services (GrameenKrishiMausamSeva, GKMS) Merged in DMT	Dr. Rehana Habib Professor Agronomy	1995-96	Funding on yearly basis
39.	Mass trapping and mating disruption of codling moth in Ladakh to save fruit industry	Dr. Barkat Hussain Assoc. Professor Entomology	2016-17/ 3 years	38.81
40.	Genetic susceptibility to mastitis in cows, reared in temperate regions of Kashmir	Dr. Manzoor ur Rehman Professor, Vety Bioch.	2015-16/ 3 years Extd. Upto 30.9.19	58.33
41.	Engineering for conservation biological control of insect pests in vegetable ecosystem of Kashmir	Dr. Akhter Ali Khan, Associate Professor Entomology	2016-17/ 3 years	41.72
42.	Mining dual acting plant based small molecule inhibitors affecting AR Nucleo-cytoplasmic translocation and P13K signaling pathways in castration-resistant prostate cancer	Dr. Khalid Z. Masoodi Asstt. Professor Biotechnology	2016-17 3 years	48.98
43.	Innovative technological interventions to address basic household needs of the tribal people of Zanskar valley	Dr. Rizwan Rashid PC,KVK Zanskar	2016-17 3 years	13.76
44.	Promoting cultivation of endangered Kala Zeera for enhancing livelihood of tribal farmers in temperate highlands of North India	Dr. B. A. Alie Assoc. Professor SRS, Pampore	2016-17/ 3 years	16.89
45.	Networking projects on Revival of Village Ponds through scientific intervention	Dr. Tahir Ali Professor Soil Science	2017-18/ 3 years	28.82
46.	Improvement of grazing land/pastures through participatory management approach in temperate conditions of Kashmir valley	Dr. J. A. Mugloo Assoc. Professor Faculty of Forestry	2017-18/ 3 years	38.2392

47.	Revival of Traditional beekeeping by Improving the health of honey bees for restoration of degraded agro- ecosystems in Kashmir	Dr. Muneer Ah Sofi Asstt. Professor Div. of Entomology	2018-19 3 years	54.48
48.	Development of Innovative Strategies for Management of whitefly in Vegetable Ecosystem of Kashmir	Dr. A A Khan Assoc. Prof. Div. of Entomology	2018-19 3 years	22.13
49.	Assessment of Anti-cold stress effects of Nano-zinc, Vitamin C and Vitamin E in Poultry birds and its implementation in field conditions in various districts of Kashmir valley	Dr. Showkeen Muzamil Asstt. Prof. Div. of Vety. Biochemistry	2018-19 3 years	29.70
50.	HICAB-Human and Institutional capacity bilding in climate change and Himalayan ecosystem areas for the Indian Himalayan Region	Dr. F. A. Lone, Head, Env. Science	2018-19 3 years	43.46
51.	Technological interventions for socio-economic upliftment of rural dairy farming women – An initiative for development of model village with least mastitis	Dr. Iqbal Itoo Asstt. Prof Div. of Vety. Clinical	2018-19 3 years	29.16
C. Department of Biotechnology, GoI (DBT)				
52.	Marker aided incorporation of major genes conferring resistance to blast disease into genetic background of high altitude temperate rice (<i>Oryza sativa</i> L.)	Dr. Asif Bashir Shikari Associate. Professor, Genetics & Pl. Breeding	2015-16/ 4 years	50.00
53.	Assessment, Characterization and maintenance of Apricot (<i>Prunus armenica</i> L.) germplasm in Kashmir and Ladakh regions of J&K	Dr. Faizan Assoc. Professor, KVK, Kargil	2014-15/ 3 years	16.50
54.	Marker assisted selection for breeding scab resistant and high quality apples (<i>Malus x domestica</i> Borkh)	Dr. Khalid Mushtaq Assoc. Professor Fruit Science	2015-16/ 4 years	42.89
55.	Marker assisted introgression of rice (<i>Oryza sativa</i> L.) with high consumer acceptability	Dr. M. Ashraf Bhat Prof & Head Div. of GPB, FoA	2015-16/ 3 years	36.92
56.	Differential expression analysis of cold stress responsive transaction factors in rice (<i>Oryza sativa</i> L.)	Dr. Amjad Hussaini Asstt. Professor Div. of Plant Biotech.	2016-17/ 3 years	23.12
57.	Distribution of virus free planting material and establishment of virus free bud-wood donors mother plant banks of apple and training demonstration of viral disease management to apple growers in Kashmir.	Dr. M. D. Shah Asstt. Professor Plant Pathology	2015-16/ 3 years	21.80
58.	Mammary gland transcriptional profiling of Kashmiri cattle and its Jersey Cross for milk quality and yield traits	Dr. Syed Mudasir Ah. Assoc. Professor Animal Biotechnology, FVSc.	2015-16/ 3 years	49.09
59.	Bioinformatics infrastructure facility	Syed Mudasir Ahmad Assoc, Prof, Animal Biotechnology	2016-17	Yearly funding
60.	Star College at FOA Wadura	Dr. M. Ashraf Bhat Prof. & Head, GPB Coordinator	2016-17	47.00
61.	Genetic Dissection of Heat Tolerance in Wheat using Multiple Bi-parental RIL Mapping Populations	Dr. R. R. Mir Asstt. Professor GPB, Wadura	2017-18	45.00
62.	Molecular screening, cell culture based isolation & characterization of fin fish and shell fish viruses and establishment of national repository	Dr. Feroz Ahmad Shah Associate Professor Faculty of Fisheries	2017-18/ 3 years	106.00
63.	Training cum demonstration of precision farming intervention for elite tulip and hyacinth bulb production for economic upliftment in rural Kashmir	Dr. Nasir H Masoodi Asstt. Professor FLA	2017-18/ 3 years	-- 15.00

64.	Genome Wide Association Studies in <i>Phaseolus vulgaris</i> - <i>Colletotrichum lindemuthianum</i> pathosystem	Dr. Bilal A Padder Asstt. Professor Plant Pathology	2017-18/ 3 years	55.33
65.	Dissemination and demonstration of pheromone/dispenser technology for the area wide management of codling moth in Ladakh	Dr. Barkat Hussain Assoc. Professor HMAARI, Leh	2018 3 years	24.99
66.	Microscopy (Foldscope) as a basic tool in field Research (Aquatic)	Dr. Irfan Ahmad Assoc. Prof Faculty of Fisheries	2018-19 1 year	8.00
67.	Utilization of Chia Seeds (<i>Salvia Haspancia</i> L.) for the Development of Functional Foods	Dr. Asima Rafiq, SMS, KVK Anantnag		33.00
68.	Standardization of pulsing and holding solution to improve the keeping quality of cut gladiolus spikes, tulip cut scapes, Asiatic hybrid lily	Dr. Zahoor Ah Bhat Div. FLA	2018-19 year	8.00
69.	Identification on pure saffron using foldscope based visual markers to avoid fraud and cheating, and to create a poster of these markers for customers/vendors	Dr. Amjad Hussaini Associate. Professor Div. of Plant Biotech.	2018-19 year	8.00
70.	Use of foldscope in determining the annual growth cycle, PHF:SHF ratio of cashmere fibre in pashmina goat of J & K	Dr. Hina Bhat Asstt. Professor Animal Biotechnology, FVSc.	2018-19 I year	8.00
71.	Development of foldscope based morphological and anatomical markers for sex determination in juvenial poplar plants	Dr. Anup Raj, Assoc. Prof. Faculty of Forestry	2018-19 1 year	8.00
72.	Establishment of small scale production units of Trichoderma in different districts of Kashmir valley for the management of root rot of apple	Dr. F.A. Mohiddin Asstt/ Prof. (Plant Path)	2018-19 3 years	26.31
73.	Pathogenicity gene(s) discovery in collectotrichum lindemuthianum, the causal agent of bean anthracnose	Dr. Bilal A Padder Asstt. Prof. (Plant Path)	2018-19 3 years	10.84
74.	Augmentation of Household Income through Improvement of Production Efficiency of Dairy Cattle and Fodder Production in the Rural Areas of Kashmir Valley	Dr. Pankaj Goswami Professor, Div. Vety. Path	2018-19 3 years	33.30 1 st instt 19.00
75.	Demonstration and popularization of Bio-farming inputs to improve economic conditions of tribal families under Himalayan ecosystem of Jammu & Kashmir	Dr. Tahir Ahmad Sheikh, Asstt. Prof. (Agronomy) FoA, Wadura	Oct. 2018- 19 03 years	18.98
76.	Establishment of Biotech- "KISAN HUB" at SKUAST-Kashmir	Prof F A Zaki, Dean, FoA	Dec 2018- 19 02 years Sanctioned Nov-Dec	190
77.	FIST Programe -2018	Dr. Manzoor ur Rahman Mir, Professor, Div of Vety Biochemistry, FVSc	2018-19 05 years	68.00
78.	Socio Economic Upliftment of Sheep Breeders through technology transfer in Temperate Himalayan Region of J & K	Dr. S. Shahnaz Div. of AGB, FVSC, Shuhama	2018-19 03 years	71.96
79.	Innovative poultry horticulture integrated farming systems for optimum resource utilization and strengthening rural livelihoods	Dr. Azmat Alam Khan, Assoc. Prof Div of LPM, FVSc & AH	Feb. 2019 03 years	30.00
D. Mission for Integrated Development of Horticulture (MIDH, GoI)				
80.	Production and popularization of temperate spice crops for livelihood security	Dr. Nayeema Jabeen Assoc. Professor, Vegetable Science	2014-15/ Till funds released	72.80
81.	Precision Farming Development Centre, HMAARI, Leh	Associate Director (R&E) HMAARI, Leh	Till funds released	18.25 1 st instt. during 2018- 19

E. OTHER FUNDING AGENCIES				
1. Ministry of Earth Sciences, India Meteorological Department				
82.	Forecasting agricultural output using space agro-meteorology and land based observations.	Dr. Sameera Qayoom,, Assoc. Prof. Agronomy	2010-11/ 6 years	12.64
2. National Committee on Plasticulture Applications in Horticulture (NCPAH)				
83.	Precision farming development center at Leh	Dr. Mushtaq A Wani Assoc. Director (R&E), HMAARI, Leh	2009-10/ yearly	62.50
3. National Fisheries Development Board, Govt. of India (NFDB)				
84.	Setting up of Aquatic Animal Health and Environment Management Laboratory in Jammu and Kashmir	Dr. Feroz A. Shah Assoc. Professor, Faculty of Fisheries	2014-15/ 3 years	39.43
4. Ministry of Agriculture & Farmers Welfare, Deptt. of Agriculture, Cooperation & Farmers Welfare, New Delhi (MM-III under NMOOP)				
85.	Setting up of project on solar integrated Micro Irrigation Project at Leh	Dr. T H Masoodi, Dean Faculty of Forestry, Benihama	2018-19/ 3 years	36.5
5. Indian Council of Medical Research				
86.	Population screening and identification of biomarkers for early detection and surveillance of gastric cancer in Kashmiri population	Dr. Manzoor-ur-Rehman Professor Veterinary Bioch.	2016-17	33.30
87.	A study from Kashmir valley on status & prevalence of biochemical deficiency of thiamine in breast fed infants with encephalopathy and in their lactating mothers	Dr. Imtiaz Murtaza Assoc. Professor Basic Science & Humanities	2017-18/ 3 years	39.14
6. Protection of Plant Varieties and Farmers Rights Authority, Ministry of Agriculture, Deptt. of Agriculture and Cooperation, New Delhi				
88.	Collection, Characterization, Utilization and Registration of Farmers Varieties of Maize Land Races of Kashmir Valley. (For all varieties)	Dr. Z. A. Dar Assoc. Professor DARS Budgam	2016-17/ 2 years	18.00
89.	Development of descriptors for saffron (<i>Crocus sativus</i> L.) indigenous to temperate region of J&K	Dr. S. A Dar, I/C SRS Pampore	2017-18/ 2 years	18.00
90.	Characterization and conservation of Kalazeera germplasm for development of descriptors for DUS test guidelines	Dr. M. H. Khan, Asstt. Prof. SRS, Pampore	2018-19 2 years	18.00
7. National Bee Board, Ministry of Agriculture, Deptt. of Agriculture and Cooperation, New Delhi				
91.	Setting up of Integrated Beekeeping Development Centre (IBDC)/Center of Excellence (COE)	Dr. M. A. Parray Incharge RTCPPPM	2016-17	166.70
8. National Medicinal Plants Board, Ministry of AYUSH, New Delhi				
92.	Regional cum Facilitation Fund	Dr. Shiekh Bilal Ahmad Dean, FoA (Nodal Officer)	2017-18	149.00
93.	Drug discovery against prostate cancer from medicinal plants endogenous to Kashmir valley through green fluorescence protein (GFP) labeling of androgen receptor	Dr. Khalid Z. Masoodi, Asstt. Prof. Div of Plant Biotechnology, Shalimar	2018-19	3.00
9. Science & Engineering Research Board (SERB)				
94.	Technological interventions for prophylactic and therapeutic management of contagious caprinepleuropneumonia (CCPP) in pashmina goats”	Dr. M. Iqbal Yattoo Asstt. Professor Vet. Clinical Services Complex	2017-18/ 3 years	35.00
95.	Proteome identification of binding partners interacting with alpha-I-syntropein (SNTAI) protein in human breast cell lines.	Dr. Hina Bhat Asstt. Professor Biotechnology, FVSc.	2016-17 Extended upto 18.2.2020	42.00
96.	Study on waterfowl ecology, migratory patterns and	Dr. Khursheed Ahmad	2016-17	70.50

	disease monitoring in the wetlands of Kashmir valley	I/C Centre for MWS,FoF		
97.	Morphological and Molecular Evaluation of Apple (<i>Malus x domestica</i> Borkh) for Scab Resistance: Towards Breeding Scab Free Apple Cultivars	Mr. Jahangir A. Dar National Post-Doctoral Fellowship Scheme	2017-18/ 2 years	19.20
98.	Ecology of Leopard (<i>Pantherapardus</i>) in Kashmir Himalaya, India: Implications for mitigating human leopard conflict	Mr. Zaffar Rais Mir National Post-Doctoral Fellowship Scheme	2017-18/ 2 years	19.20
99.	Mining of scab resistance R-Genes from different cultivars of apple and introducing of scab resistance in commercially important varieties of apple grown in Kashmir valley through cisgenesis	Prof. Nazeer Ahmad (Hon'ble Vice Chancellor SKUAST-K)	2017-18/ 3 Years	58.00
100.	Generation of a genetically stable live vaccine candidate against Infectious Bursal Disease Virus (IBDV) through mutagen driven lethal mutagenesis	Dr. Nadeem Shabir Asstt. Professor Animal Biotechnology	2017-18/ 3 Years	45.24
101.	Transcriptome profiling of local Kashmiri vs commercial poultry for disease resistance against Salmonellosis	Dr. Syed Mudasir Andrabi Asstt. Prof Div of Animal Biotech	2018-19 3 years	60.19
102.	Cultured Allogenic Mesenchymal Stem Cell Application in Selected Veterinary Clinicl Disorders vis-à-vis Preclinical Studies in Artificially Induced Lab Animal Models	Dr. Mudasir Bashir Gagjoo, Asstt. Prof Div. of Vety Clinical Complex	2018-19	48.10
10. G. B. Pant Institute of Himalayan Environment and Development (GBPIHED) under National Mission on Himalayan Studies				
103.	Vulnerability to disturbances, resource mapping and ex-situ conservation of endemic and relict species <i>Betula Utilis</i> D. Don (Himalayan birch) in Sindh Forest division of Kashmir	Dr. Parveze A. Sofi Associate Professor Faculty of Forestry	3 years/ 2016-17	12.81
104.	Development of Psychrophilic earthworms for biowaste conversion in Gurez & Tulial Valley of Jammu & Kashmir	Dr. Tahir A. Sheikh Asstt. Professor (Agron) FOA, Wadura	3 years/ 2016-17	14.40
105.	Livelihood improvement and empowerment of rural poor through quality bulb production of cut flowers under temperate conditions of Kashmir	Dr. Z. A. Bhat Asstt. Professor AICRP Floriculture	3 years/ 2017-18	44.25
106.	Long term conservation of Hangul – Hangul movement pattern study using GPS – Satellite collaring	Dr. Khurshed Ahmad I/C Centre for Mountain Wildlife Science, FoF	3 years/ 2016-17	37.23
107.	Assessment of Anthropogenic Pressure and its impact on forest and grassland ecosystem of Dachigam (Collaborative project with AMU)	Dr. Khurshed Ahmad I/C Centre for Mountain Wildlife Science, FoF	3 years/ 2016-17	25.00
108.	Impact of climate change on apple production and screening of climate resilient varieties in Kashmir valley	Dr. F. A. Lone Assoc. Professor Env. Sciences	2018-19 3 years	43.466
109.	Livelihood improvement through quality corn production viz-a-viz promotion of saffron (<i>Crocus sativus</i> L.) cultivation in cold arid regions of Ladakh	Dr. M. H. Khan Asstt. Professor SRS Pampore	2018-19 years	37.588
110.	A value chain of saffron in new areas of NW Himalayas by engaging youth and women for strengthening a bio-based green economy	Dr. Amjad Hussaini Asstt. Professor Plant Biotechnology	2018-19 3 years	97.52405
111.	Database on livelihood generation and carbon sequestration through wicker willow in kashmir	Dr K.N Qaiser Professor forestry	2018-19 3years	16.06
112.	Collection characterization conservation & utilization of important genetic resources of hilly regions of J&K and ladakh	Dr S. M. Zargar Asst professor Plant Biotech	2018-19 3years	47.71
113.	Entrepreneurship Development and Livelihood of Shina Tribe through Value Chain Improvement of Non-Timber Forest Resources in Gurez Valley of Kashmir”	Dr M.A. Islam, Associate Professor, Division of Natural Resources Management, FoF	(Dec 18) 2018-19 3 years	16.06

11. National Mission for Food Processing through SIDCO				
114.	Creation of infrastructure facilities for running degree/diploma courses in Food Processing Technology	HoD Post Harvest Technology	2016-17	75.00
12. Unnat Bharat Abhiyan, Indian Institute of Technology New Delhi				
115.	Unnat Bharat Abhiyan project	Dr. Rohitashw Kumar, Professor, CAE&T, Shalimar	2018-19	50,000 1 st instl.
F. Department of Science & Technology				
(i) Young Scientist Fellowship Projects				
116.	Analysis of the mechanistic regulations of SNTAI/p66Shc interaction on cytoskeletal organization and migration in breast carcinoma cells (DST INSPIRE)	Dr. Sahar Saleem Div. of Animal Biotechnology	2017-18/ 3 years	35.00
117.	Bacterial endophyte community dynamics in apple cultivars: its impact on scab prevalence in Kashmir valley	Dr. Shahid A. Padder (Plant Pathology)	2017-18/ 3 years	27.911
118.	Phenotypic and genetic variation of free floating invasive populations of Duckweed (<i>Lemna minor</i>) in Kashmir Himalaya: a phylogeographic comparison	Dr. Gowher A Wani Div of Plant Biotechnology	Feb 2018- 19 02 years	19.20
G. International Collaborative Projects				
i. Centre for Improvement for Maize, Wheat & Tursicum (CIMMYT)				
119.	Development of hybrids having inbuilt tolerance to cold and <i>turcicum</i> leaf blight (material exchange programme)	ADR, DARS, Budgam	2015-16	Funding from AICRP Maize
ii. International Rice Research Institute (IRRI)				
120.	International network on genetic evaluation of rice (Material exchange programme)	ADR, MRCFC Khudwani	2005-06	Funding from AICRP/ Station funds
121.	Stress tolerant rice for Africa and South Asia (STRASA) Phase 3	Prof. Nazeer Ahmed Collaborating Officer/ Dr. Showkat A Waza, Asstt. Prof. Sagam	April 2018	USD 3,000
122.	Mapping the Adoption of improved varieties of Major Crops and management practices in Kashmir	Dr. F. A. Shaheen School of Agrl. Eco & Horti Bus Management	2017-18	19.99
123.	Identification and introgression of QTLs for seedling stage tolerance to cold	ADR, MRCFC Khudwani	2016-17/ 5 years	100.00
iii. Bangor University, UK Innovative UK				
124.	KASP Technology to improve new rice varieties and farmers (Network Project)	Dr. Asif Bashir Shikari Associate Professor, Genetics & Pl. Breeding	2015-16/ yearly	--
iv. Indo-Dutch Collaborative project (SKUAST-K and Verbeek)				
125.	Evaluation of two year apple varieties on M-9-T-337 rootstock under Kashmir conditions	HoD Fruit Science	2016-17/ 3 years	150.00
126.	Simulation and scab modelling software) A Weather data based Scab Disease Advisory System (RIMPro)	HoD Plant Pathology	2015-16/ 3years	

All India Coordinated Research Projects (AICRP)

(a) Coordinated projects				
1.	AICRP on Biological Control of Pests and Weeds	HoD Entomology	1985-86	--
2.	AICRP on Potato	HoD Vegetable Science	1985-86	--
3.	AICRP on Vegetables	HoD Vegetable Science	1985-86	--
4.	National Seed Project BSP/STR	HoD Genetics & Plant Breeding	1985-86	--
5.	AICRP on Post-Harvest Technology	HoD Food Science Technology	2000-01	--
6.	AICRP on Agro-forestry	Dr. S Naseem ul Zafar Geelani Asstt Prof	1985-86	--
7.	AICRP on Maize	Associate Director Research DARS Budgam	1985-86	--
8.	AICRP on Pulses	Associate Director Research DARS, Budgam	1985-86	--
9.	AICRP on Rice	Associate Director Research Khudwani	1985-86	--
10.	AICRP on Forage Crops	Associate Director Research DARS Budgam/ Dr. SaleemKhuroo Asstt. Professor	2010-11	--
11.	AICRP on Floriculture	HoD Floriculture & Landscape Arch.	1987-88	
12.	AICRP on Application of Plastic Engineering & Technology	HoD Agricultural Engineering	2010-11	--
13.	AICRP on Honey Bees & Pollinators	HoD Entomology	2012-17	--
14.	AICRP on Wheat & Barley	Associate Director Research MRCFC, Khudwani	2012-13	19.39
15.	Seed Production in agricultural crops and fisheries	Dr. Bilal Ahmad Faculty of Fisheries	2009-10	23.00
16.	AICRP on Agro Meteorology (AICRPAM)	HoD Agronomy	2014-15	--
(b) Network Centres				
17.	Soil Test Crop Response (STCR) based Fertilizer Recommendations for Rice under Temperate Conditions of Kashmir	Dr. Uzma Bashir Associate Professor,	2010-11	--
18.	AICRP on Goat improvement	Dr. F. D. Sheikh Asstt. Professor AGB, Shuhama	2014	--
19.	Network Project on Poultry Seed Production	Dr. Azmat Alam Assoc. Professor LPM, Shuhama	2014	--
20.	Network project on value chains (NCAP)	Dr. S. A. Wani HoD School of Agri-Economics & HBM	2017-18/ Yearly	25.00
21.	AINP on Pesticide Residues	Dr. Ashraf Alam Wani I/C RCRQA, Shalimar	2014-15	40.00
(c) Voluntary Centres				
22.	AICRP on Weed Control	HoD Agronomy	2013-14	-
23.	Network project on Vertebrate Pest Management	Dr. G. M. Lone Assoc. Professor (Entomology)	2015-16	-
24.	AICRP on Mushroom	Dr. Shaheena J. Kounser Assoc. Prof. (Plant Pathology)	2015-16	-
25.	AICRP on Soyabean	Dr. M N Khan (Prof GPB)	2018-19	-

RAJIV GANDHI CHAIR

The Rajiv Gandhi Chair was established in SKUAST-K by the Human Resource Development Ministry, Government of India vide communication no. D. O. No. F.1-2/2005 (CM) Dt: 15/10/2005, the chair became effective since January, 31st 2006 which is headed by Prof. M. H. Wani. The mandate of the chair is as under;

Mandate

- To coordinate and provide a think tank in the area of the studies drawing expertise and inputs from academics and from experts from other sectors like government and national/international NGO's.
- To provide a forum for inter-University/inter college P.G. and research level dialogues, discussion meetings, summer/winter institutes, involving other Universities/autonomous institutions/P.G. centers.
- To design and execute capacity building programmes for teachers in higher education focused towards the designated discipline of the chair.
- To strengthen the role of Universities/Academics in public policy making.
- To conduct short term courses in the concerned disciplines.
- Institution of Doctoral Programme.

Activities carried out during the year 2018-19

The Rajiv Gandhi Chair carried following activities to meet a range of mandated functions of the chair.

A three Days Banner Programme on “New Dimensions in Agricultural Marketing Focus Crop-Apple” from September 18-20, 2018 in collaboration with National Institute of Agricultural Marketing (NIAM), Jaipur was organised. Sixty nominated participants of diverse educational institutions and agriculture allied sectors who are the genuine stakeholders and are involved in the marketing and trade of horticultural production particularly Apple participated in the event. The program covered the following thematic areas.

Day 1st theme “Focus on important schemes of MoA & FW”

Dr. Ramesh Mittal, Director CSS NIAM chaired this session.

- Prof. Sheikh Bilal Ahmed, Dean Faculty of Agriculture, Wadura, gave lecture on



Agriculture produce Marketing and Livestock Act-2017.

- Prof. Ab. Hamid Hakeem, Professor & Head, Division of Agri-Extension, Faculty of Agriculture, SKUAST-K Wadura deliberated upon the Model Contract Farming Act 2018.
- Prof. H.R. Naik, Head, Division of Food Science and Technology, SKUAST-K, Shalimar gave a comprehensive outlook on AGMARK Grades & Standards, their certification and rules for obtaining such certificates.

Day 2nd was designed to “Focus on other important schemes of MoA & FW”.

- Four lectures were organised to deliberate importance of sponsored schemes by MoA & FW was prioritised, in the session which was chaired by Prof. F.A. Zaki, Dean, Faculty of Horticulture, SKUAST-K.
- Dr. S. H. Baba, Head Division of Social Sciences, Faculty of Fisheries, Prof. Shafiq. A. Wani, former Director Research, SKUAST-Kashmir, Ms. Iram saba, Manager Quality Control, FCI and Dr. Sameera Qyoom, Nodal officer ICAR spoke on; Electronic National Agricultural Marketing (e-NAM), Rashtriya Krishi Vikas Yojna

(RKVY), Warehouse Development Regulatory Act (WDRA) and Pradhan Mantri Fasal Bima Yojna(PMFBY), respectively. The speakers covered diverse areas directed at the theme and got lot of appreciation by the stakeholders. The session was too lively and encouraged, meaningful discussions and developed knowledge base for the participants and organisers.

Day 3rd session-I, focused on the theme “Commodity -Apple”.

- Three specialised lectures in first session chaired by Prof. M. Y. Zargar, Director Research, SKUAST-K on ‘Critical Technologies for enhancing profitability’, ‘Value Chain in Organic Produce’ and ‘Market Linkage through FPO in Organic Marketing’ were delivered by Dr. Farhat A. Shaheen, School of Agricultural Economics & Horti-Business Management, SKUAST-Kashmir, Dr. S. A. Wani, Professor & Head, School of Agricultural Economics & Horti-Business Management, SKUAST-Kashmir and Prof. M. Iqbal Hakeem of the Department of Management studies, University of Kashmir. Since the state of Jammu and Kashmir is an apple state producing 65 per cent of the total apple production in the country as such generated lot of interest among the participants and almost every officer from development departments of the state raised many issues which were genuinely addressed by the speakers.

Day 3rd session-II, plenary session on the theme, “Marketing strategies for Organic produce”.

- The session was chaired by the Hon’ble Vice-Chancellor SKUAST-K. In this session six panelists, Dr. Ramesh Mittal, Director CSS NIAM, Prof. Mushtaq Ahmad, Director Extension, SKUAST-K, Prof. M. Y. Zargar, Director Research, SKUAST-K, Prof. Mohi-ud-Din Sangmi, Director, Directorate of Distance Education, University of Kashmir, Prof. A. A. Sofi, Former Director, Central Institute of Temperate Horticulture, ICAR, Srinagar and Prof. F.A. Zaki, Dean Faculty of Horticulture, SKUAST-Kashmir. Dr. M. H. Wani, Professor, Rajiv Gandhi Chair & Registrar, SKUAST-Kashmir and Dr. S. A. Wani, Professor and Head School of

Agricultural Economics & Horti- Business Management, SKUAST-Kashmir took part in the deliberations. The session was extensive and lasted for 4 hours and was attended by huge number of participants from different state and central Institutes including the Officers, Faculty members and students of the University. A large number of issues confronting the organic farming were raised by the panelists and participants who were followed by providing possible solution specific to the organic farming and its marketing.

The three days programme was actually organised owing to the fact a pent up need was felt for a pro-poor and farmers’ friendly marketing reforms in view of emergence of small holders with small surpluses in an open market economy. State has been lagging behind with respect to number of market aspects that led it to be at 28th rank among 30 states of India. To provide marketing opportunities that ensure better returns to the farmers as such becomes imperative. Following policy recommendations emerged out of the various presentations and discussions during the programme:

- The regulation of agricultural marketing with full adoption of its aspects was recommended. Further activities like constitution of market committees, provision of logistics, transparent price discovery, singly point levy and issuance of single license, etc. was also recommended to be taken up in a phased manner.
- Besides increase in productivity an effective measure is required as response to World Trade Organisation (WTO) negotiations to confirm global standards like Sanitary and Phytosanitary measures (SPS). Need for official specification of grades of agricultural commodities and apple in particular, innovation in packaging, product development and differentiation to grab share in domestic and international markets was felt. Value addition of produce was also seen as a boon to farmers to achieve diverse economies.
- Improvement in marketing efficiency system to ensure better returns to producers is imperative and for this to happen farmers have to act as a business unit. Encouragement of FPOs and their registration with NABARD was identified as step forward towards eradication of chain of functionaries from existing marketing system

and this strategy if adopted could pave way to contract farming.

- Use of financial assistance available under Rashtriya Krishi Vikas Yojna (RKVY), Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RAFTAR) scheme could prove an important measure to build up essential marketing infrastructure. Public-private partnership (PPP) models towards strategic measure were highly advocated.
- Efficient penetration of price signals across different markets is essentially required. Moreover, strengthening of market intelligence would help farmers to choose better market to place their produce at highly demanded and profit oriented market. In this direction institutions have to play a pivotal role in expanding storage facilities and by making available adequate credit at cheap rates with less procedural complexities to the state holders.
- The state should join electronic market in a phased manner and announce official specification of grades of agricultural commodities, setting up of criteria for insurance of single license and immediate procurement of freely available e-NAM software's should be made available to stake holders across all districts.
- The existing research, extension and academic system need refinement to pave way towards efficient use of funds available under RAFTAR, RKVY.
- Electronic warehousing in the state will function as an important tool to connect farmers and consumers and could also help to eliminate intermediaries. The electronic warehouse can benefit the farmers in manual handling costs, reduction in transportation of paper warehouse receipts, reduction in chances of forgery and quick access to information.
- The state should look beyond its specified objectives of Pradhan Mantri Fasal Bima Yojna (PMFBY) so as to ease its procedures and expansion of its coverage, so that the poor farmers can get maximum benefit.

Lectures Delivered

- An invited lecture was delivered by Prof. Rajiv Gandhi Chair, on 'Socio-economic Impact of Agricultural Diversification- A Case study from Jammu and Kashmir' during 10 Days ICAR sponsored short Course on, "Increasing Farmers' Income and Livelihood Security: Role of

Agricultural Diversification and Value Addition". Organised by Division of Agronomy, Faculty of Agriculture- Wadura-SKUAST-K.

- Prof. Rajiv Gandhi Chair delivered a lecture on, "Farmers & Markets- in The Frame of Perfect Association for Productive Gains" in the ICAR sponsored training programme organised by Division of Vegetable Science, SKUAST-K.

Papers presented in National/International events

- Presented a paper on "Ecology and Ecotourism Kashmir Valley" in ESW 3rd International Research Conference on Eco-tourism and Environment, organised by Environment and Social Welfare Society, Khajuraho, Madhya Pradesh in Association with Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Jammu and Kashmir, 29-31 July, 2018.
- Presented a paper in 26th Annual Conference on Agricultural and Sustainable Development Goals held at ICAR National Dairy Research Institute, Karnal w.e.f 15-17 November, 2018.
- Presented a paper in, "6th International Conference on Innovative Trends in Science, Engineering and Management" on "Measuring Disparities in Healthcare & Health Sector in Jammu and Kashmir" held at The Institution of Engineers, India (IEI), Chandigarh, 20th January, 2019.

Research projects completed

- Ecotourism a viable option for Livelihood and Sustenance in Jammu & Kashmir.
- Inter-Sectoral Linkage of Field Crop Based Agro-Ecosystem in Kashmir Valley
- Economics of Migration and its Aftermath in Jammu and Kashmir.

EXTENSION

DIRECTORATE OF EXTENSION

The Directorate of Extension of SKUAST-Kashmir is working for agricultural development in the state of Jammu and Kashmir especially in Kashmir and Ladakh regions through professional extension services including training, farm advisory, on farm testing's, field demonstrations and information services since 1982. Extension services are offered by a team of multidisciplinary scientists who performs their excellence in participatory mode in close coordination with various agencies outside and units within the University. The Directorate provides guidelines and continuously monitor and evaluate the extension programmes to its twelve KVK's which are working under its jurisdiction.

The major activities of Extension Directorate are development of human resources through knowledge enrichment and wisdom, supporting food safety, sustainability of rich resources of the state and income to all rural sections of the population in general and hilly farming community in particular. The Directorate of Extension has a well-developed Plant Disease Clinic located in Agriculture Technology information Centre (ATIC) where diseases/disorders of various crop plants are diagnosed and remedial measures are suggested to the farmers by a team of experts. The farmers can also get need based trainings on various aspects viz. Soil health, Agronomy, Horticulture, Vegetable, Plant Protection, Agricultural Engineering, Seed Production, Mushroom Cultivation, Bee Keeping, Home Science, Post-harvest management of various crops, Fisheries, Animal Husbandry and Sericulture besides the seeds, planting material of new varieties/ crops beside pertinent literature etc.

TRAININGS

Trainings are the perpetual activity of Directorate of Extension in order to update the knowledge KVK scientists and field functionaries of line departments and innovative farmers so that the technology dissemination work can be performed effectively. The following programmes were carried out during the year 2017-18.

1. Two days training programme on "Post Harvest Management & Value Addition of Strawberry" was organized by the Directorate of Extension, SKUAST-Kashmir in collaboration with Division of Food Science and Technology, SKUAST-K, Shalimar during May 22-23, 2018. Twelve Scientists of various KVKs of Kashmir & Ladakh, participated the training programme.
2. Three days training programme on "Disease Diagnosis & Management in Poultry under Field Conditions" was organized by the Directorate of Extension, SKUAST-Kashmir from September 04-06, 2018. Six Scientists (Animal Scientists) from various KVKs of Kashmir & Ladakh and twelve field veterinarians of department of Animal Husbandry of Kashmir region participated in the training programme. The programme was organized at Faculty of Veterinary Sciences & Animal Husbandry, Shuhama.
3. One month Skill Development training programme on "Protected Floriculture" (01 November – 30th November) sponsored by Agriculture Skill Council of India was organized by Directorate of Extension, SKUAST-Kashmir for unemployed youths (20 No.).
4. One month Skill Development training programme on "Small Poultry Farmers" (01 November – 30th November) sponsored by Agriculture Skill Council of India was organized by Directorate of Extension, SKUAST-Kashmir for unemployed youths (20 No.).
5. Two 7-days Training Programmes on "Laboratory Evaluation Techniques of Animal Fibres and their Products for Paravets" sponsored by Department of Sheep Husbandry was organized by Directorate of Extension, SKUAST-Kashmir (08 participants) at FVSc Shuhama on January 8 -14, 2019 and Jan. 15-21, 2019.

6. 10-days Training Programme on “Diagnostic imaging Techniques in Veterinary Practice” (04-13th Feb. 2019) sponsored by Department of Sheep Husbandry was organized by Directorate of Extension, SKUAST-Kashmir for 14 participants.
7. Conference on “Food Processing and Pradhan Mantri Kisan Sampada Yojana” sponsored by ASSOCHAM, New Delhi & Ministry of Food Processing Industries, GOI New Delhi was organized on May 24th, 2018. About 600 participants including Progressive farmers, budding entrepreneurs, Self Help Groups, Food Processing Industries personnel and Scientists participated in the conference.
8. ICAR-Summer School of 21 days duration organized on “Technology Transfer Management for Ensuring Sustainability and Food Security through Promotion of Neglected and Underutilized Livestock and Agricultural Crops” from July 17 to August 06, 2018; 25 participants from nine states (Maharashtra, Gujarat, Madhya Pradesh, Bihar, Uttar Pradesh, Rajasthan, Punjab, Assam and Jammu & Kashmir) attended the programme.
9. Eight days Model training course on Impact Assessment and Evaluation of Extension programmes sponsored by Ministry of Agriculture and Farmers Welfare, GOI New Delhi was held from 25th Sept. to 3rd October 2018 at Directorate of Extension wherein 25 trainees participated from seven different states of the country.
10. One day training programme on Scientific Training and Pruning was organized at Directorate of Extension for 48 field functionaries of KVKs and Line Departments on 15th Sept. 2018.

Trainings conducted by SAMETI-Kashmir

1. The Directorate of SAMETI is a sister unit of Directorate of Extension which also organizes various training programmes for ATMA persons of line departments and KVKs who are working for SREP activities. The following programmes were organized during the year.



ICAR-Summer School of 21 days



Model Training Course



Training on Diseases in Fishes and their management organized under SAMETI

S. No.	Title of Training Programme	No. of participants
01	Three days training programme on Market Led Extension w.e.f. 25-27th April, 2018	24
02	Three days training programme on Estrous Synchronization and Artificial Insemination in Sheep w.e.f. 16-18th May, 2018	24
03	Three days training programme on Constraints and remedies in adoption and popularization of underutilized fruit crops in Kashmir valley w.e.f. 12-14th June, 2018	21
04	Three days training programme on Recent advances in Livestock and Poultry disease diagnosis w.e.f. 26-28th June, 2018	24
05	Three days training programme on Strategies for soil moisture conservation for mitigating soil moisture stress in fruit crops w.e.f. 10-12th July, 2018	26
06	Three days training programme on Efficient water management practices for field and fruit crops w.e.f. 18-20th July, 2018	28
07	Three days training programme on Integrated Disease Management of Temperate Fruits w.e.f. 1st to 3rd August, 2018	32
08	Three days training programme on Diseases in Fishes and their management w.e.f. 8-10th August, 2018	34
09	Three days training programme on Skill development through Apiculture w.e.f. 11-13th September, 2018	20
10	Three days training programme on Value addition of fruits w.e.f. 25-27th September, 2018	28
11	Three days training programme on Laboratory Evaluation Techniques of Animal Fibres and their products for Paravets w.e.f. 8-10th Oct., 2018	25
12	Three days training programme on Laboratory Evaluation Techniques of Animal Fibres and their products for Vets w.e.f. 15-17th Oct., 2018	28
13	Three days training programme on Integrated Nutrient Management for sustainable crop production w.e.f. 3-5th November, 2018	29
14	Three days training programme on Impact of climate change on agriculture and adaptation strategies w.e.f. 8-10th December,	21

	2018	
15	Three days training programme on Nutritional Strategies for Livestock Productivity Augmentation w.e.f. 11-13th December, 2018	22
16	Three days training programme on Training and Pruning in Conventional Orchards at FoA, Wadura w.e.f. 19-21st December, 2018	23
17	Three days training programme on Training and Pruning in Conventional Orchards at KVK Budgam w.e.f. 26-28th Dec., 2018	26
18	Three days training programme on Training and Pruning in Conventional Orchards at KVK Pulwama w.e.f. 27-29th Dec., 2018	14
19	Three days training programme on Value addition in mushroom w.e.f. 9-11th January, 2019	26
20	Three days training programme on Farm Mechanization for enhancing agriculture productivity w.e.f. 12-14th January, 2019	19
21	Three days training programme on Bio-pesticides and soil solarisation w.e.f. 16-18th January, 2019	31
22	Three days training programme on Postmortem examination in disease diagnosis of animals and poultry w.e.f. 22-24th January, 2019	27
23	Three days training programme on Disease Management under protected cultivation w.e.f. 30th Jan-1st Feb., 2019	17
24	Three days training programme on Diagnostic Imaging Techniques in Veterinary Practice w.e.f. 4-6th Feb, 2019	20
25	Two days training programme on Precautions during spraying pesticides w.e.f. 6-7th February, 2019	25
26	Two days training programme on Women Empowerment in Agriculture from 8th to 9th March, 2019	20
27	Two days training programme on Organic Farming from 12th to 13th March, 2019	14
28	Two days training programme on Propagation of Walnut plant material under control conditions w.e.f. 13-14th March, 2019	13
29	Two days training programme on Post Harvest Management and Processing of Horticultural Crops w.e.f. 14-15th March, 2019	10

30	Two days training programme on Integrated weed and pest management in agricultural and horticultural crops w.e.f. 19-20th March, 2019	11
31	Three days training programme on Immunodiagnosis of parasitic infections and detection and prevention of drug-resistant parasites w.e.f. 25-27th March, 2019	15
32	Two days training programme on Maize Production and Protection Techniques w.e.f. 26-27th March, 2019.	30
Total		727

Monthly workshop for Field Functionaries

Monthly workshops for capacity building and updating knowledge of Extension Functionaries were organized at Directorate of Extension on first Tuesday of every month in the year by discussing farmers’ feed-back and providing monthly message for the farmers. During the period twelve such workshops were conducted.



Monthly workshop for Field Functionaries

Scientists Deputed for attending summer/ Winter School/ Short courses/ seminar/ symposium/ workshop etc. from Directorate of Extension for Human Resource Development

S. No.	Summer /Winter School/ Short courses, seminars etc.	No of Institutions	No. of Persons
01.	Summer School/ Winter School	15	18
02.	Short courses (10 days)	08	19
03.	Short courses (10 days)	09	16
04.	Conference/works hop symposium	12	38

Post Graduate Diploma in Agriculture Extension Management (PGDAEM)

- Organized Contact Classes of First Semester (batch 2017-18) for the Extension personnel of Line departments of Kashmir Division. A total of 18 participants attended the contact classes during 26-06-2018 to 30-06-2018.
- Organized Contact Classes for Second Semester (Batch 2017-18) w.e.f. 12th November to 16th November, 2018 (18 participants).



PGDAEM Contact Classes

Basic Horticulture Training

One year certificate course for 107 unemployed youths was conducted at 4 centers i.e. KVK-Kargil, KVK-Leh, KVK/ETC Malangpora and Faculty of Agriculture, Wadura.

FARM ADVISORY

The farm advisory services were carried out to:

- Update the knowledge of officers of development departments and persons involved in transferring messages and latest farming techniques to the farmers in the form of advisories.
- Make direct interaction of farmers with the scientists of SKUAST-K, for finding on-spot solution to the problems.

The service is carried out by the Directorate through the organization of camps and visits. During the year under report following work was carried out under Farm Advisory services of the Directorate.

- Visit of Mobile Diagnostic-Cum-Exhibition Unit to district Pulwama KVK/ETC Malangpora on 05-02-2019; 95 farmers got benefitted.

- Display of transferable technologies by Mobile Diagnostic-cum-Exhibition unit during the Kisan Mela on 9th and 10th March, 2019.

Exhibition-cum-Seed Sale Mela 2019

Two Days Exhibition-cum-Seed Sale Mela 2019 was organized at Shalimar Campus of SKUAST-Kashmir on 9th and 10th March 2019 under the theme “Agriculture Technologies for Prosperity”. It was the fourth exhibition in this series aimed for showcasing the University technologies and research attainments in Agriculture, Horticulture, Veterinary/Animal Husbandry, Fisheries, Forestry, Agricultural Engineering and Sericulture besides display of films and documentaries on success stories through extension services.

The Exhibition was jointly inaugurated by Prof. Nazeer Ahmed, Vice-Chancellor, SKUAST-Kashmir and Prof. A.R. Trag, former Vice-Chancellor of IUST, Awantipora. More than two lakh farmers, students and general public visited the Mela and got benefitted. Private entrepreneurs, SHGs, pesticide and fertilizer dealers, CA store & Agri. machinery dealers also displayed and sold their products. The farmers also interacted with the experts and sought their opinion related to various agricultural issues. Besides, the university campus was abuzz with people from all walks of life thronging into the campus to purchase different types of seed and planting materials especially high-density fruit plants, flower seedlings & seeds, forestry plants, fish, poultry birds, silk, mushroom and agriculture machinery and tools besides other agriculture products.

Joint Disease Diagnostic Team Visits conducted: 23

S. No.	Date	Place visited
1	02 th April 2018	Keller Shopian
2	26 th April, 2018	Kremshore Budgam
3	26 th April, 2018	Pulwama
4	19 th June, 2018	Pazwalpora Shalimar
5	19 th June, 2018	Malshi bagh Ganderbal
6	02 th July, 2018	Bohrihalan Shopian
7	10 th July, 2018	Tailbal Sheikpora, Srinagar
8	12 th July, 2018	District Shopian and Kulgam (20 villages)
9	12 th July, 2018	Bohrihallan Shopian
10	18 th July, 2018	District Budgam
11	26 th September 2018	Ferozpora Tangmarg Baramulha
12	05 th October 2018	Raypora, Akhal Shuhama Srinagar
13	26 th October 2018	Tailbal, Srinagar
14	06 th November, 2018	Shopian (Snowfall affected orchards)
15	07 th November, 2018	Kulgam
16	08 th November, 2018	Anantnag
17	09 th November, 2018	Baramulla
18	10 th November, 2018	Bandipora
19	11 th November, 2018	Budgam/Srinagar
20	02 th January, 2019	Beerwah
21	02 th January, 2019	Tangmarg
22	28 th March, 2019	Chadoora, Nagam, Charari Sharief and Budgam
23	29 th March 2019	Mirgund, Dangerpora, Srinagar

Advisory issued to farmers through print and electronic media: 47

S. No.	Date	Advisory
1.	05 th April, 2018	Advisory for Livestock farmers
2.	19 th April, 2018	Advisory for the poultry Farmers of valley (Broiler & backyard)
3.	23 rd April, 2018	Advisory for Livestock farmers
4.	04 th May, 2018	Advisory for Hail affected orchards/fields (English)
5.	08 th May 2018	Advisory for Hail affected orchards/fields (Urdu)
6.	16 th May, 2018	Advisory for the orchardists of valley
7.	28 th May, 2018	Advisory for the poultry Farmers of valley (English)
8.	29 th May, 2018	Advisory for the poultry Farmers of valley (Urdu)
9.	06 th June, 2018	Advisory for hail affected orchardists of valley (English)
10.	07 th June, 2018	Advisory for hail affected orchardists of valley (Urdu)
11.	14 th June, 2018	Advisory for the livestock Farmers of valley (Foot & Mouth disease)
12.	18 th June, 2018	Advisory for the orchardists of valley (English)
13.	19 th June, 2018	Advisory for the orchardists of valley (Urdu)
14.	06 th July, 2018	Advisory for Farmers
15.	11 th July, 2018	Advisory for apple orchardists of valley (pre mature leaf fall)
16.	16 th Aug., 2018	Advisory for apple orchardists of valley
17.	20 th Aug., 2018	Advisory for the poultry Farmers of valley (English)
18.	20 th Aug., 2018	Advisory for the poultry Farmers of valley (Urdu)
19.	11 th Sept., 2018	Advisory for the orchardists of valley
20.	17 th Sept., 2018	Advisory for the orchardists of valley
21.	18 th Sept., 2018	Advisory for the livestock Farmers of valley
22.	25 th Sept., 2018	Advisory for the poultry Farmers of valley
23.	15 th Oct., 2018	Advisory for the Field crops
24.	20 th Oct., 2018	Advisory for the poultry Farmers of valley
25.	30 th Oct., 2018	Advisory for the livestock Farmers of valley
26.	31 th Oct., 2018	Advisory for apple orchardists of valley
27.	05 th Nov., 2018	Advisory for snowfall affected orchards (English)
28.	06 th Nov., 2018	Advisory for snowfall affected orchards (Urdu)
29.	08 th Nov., 2018	Advisory for snowfall affected orchards (English & Urdu)
30.	09 th Nov., 2018	Advisory for the poultry Farmers of valley
31.	10 th Nov., 2018	Advisory for the livestock Farmers of valley
32.	12 th Nov., 2018	Advisory for the Grading and packing of fruits
33.	13 th Nov., 2018	Advisory for Poplars growing near orchards
34.	22 th Nov., 2018	Winter Advisory for orchardists of valley
35.	07 th Dec., 2018	Advisory for Rodent management
36.	10 th Dec., 2018	Advisory for farmers in view of expected snowfall (English)
37.	11 th Dec., 2018	Advisory for farmers in view of expected snowfall (Urdu)
38.	24 th Dec., 2018	Advisory for the livestock Farmers of valley
39.	26 th Dec., 2018	Advisory for the poultry Farmers of valley
40.	12 th Jan., 2019	Advisory for the livestock Farmers of valley
41.	14 th Jan., 2019	Advisory for the poultry Farmers of valley
42.	18 th Jan., 2019	Advisory for snowfall affected orchards (English)
43.	19 th Jan., 2019	Advisory for snowfall affected orchards (Urdu)

44.	25 th Feb., 2019	Advisory for orchards (HMOs)
45.	28 th Feb., 2019	Advisory for orchards (HMOs)
46.	28 th Feb., 2019	Advisory and Spray schedule -2019 (English & Urdu)
47.	20 th Mar., 2019	Advisory for apple orchardists of valley

Advisory through SMS alerts of J&K Bank to Apple orchardists of Valley: 14

S. No	Date	Advisory
1	23 th April, 2018	Advisory for apple orchardists of valley
2	08 th May, 2018	Advisory for Hail affected orchards/fields
3	18 th May, 2018	Advisory for apple orchardists of valley
4	07 th June, 2018	Advisory for Hail affected orchards/fields
5	19 th June, 2018	Advisory for apple orchardists of valley
6	04 th July 2018	Advisory for apple orchardists of valley
7	16 th July 2018	Advisory for apple orchardists of valley (pre mature leaf fall)
8	20 th August, 2018	Advisory for apple orchardists of valley
9	17 th September, 2018	Advisory for apple orchardists of valley
10	1 th November, 2018	Advisory for apple orchardists of valley
11	06 th November, 2018	Advisory for snowfall affected orchards (English)
12	06 th November, 2018	Advisory for snowfall affected orchards (Urdu)
13	09 th November, 2018	Advisory for snowfall affected orchards(English)
14	09 th November, 2018	Advisory for snowfall affected orchards (Urdu)

Liaison with farmers through electronic media (T.V/Radio talks)

During the above period, 305 T.V talks and 266 Radio talks were delivered by the Scientists on various topics in Agriculture, Sericulture, Animal Sciences and other allied disciplines for the benefit of farming community. In addition, Doordarshan Kendra Srinagar was provided with technical inputs on various crops and livestock production system for telecasting informative programmes for the benefit of farming community.

List of publications Released

- 1) Cultivation of poplar in Kashmir- A policy frame work for future sustainability ((English))
- 2) Crop weather Calendar of major crops in Kashmir Valley ((English))
- 3) Hybrid seed production of important kharief vegetable crops ((English))
- 4) INM chart for vegetable cultivation ((English))
- 5) Fofond koosh aur keday mar Adveyat ke khatrath ko kam karney ke Tarequay ((Urdu))
- 6) Teil K Bagir Muktalif iksaam ka Aachar Tayar Karney K Tariqay(Urdu)

- 7) Post harvest management of cut flowers (English)
- 8) Brucellosis-A threat to livestock Holders (English)
- 9) Cultivation of field pea (English)
- 10) Vegetables-Nutritional & Health benefits (English)
- 11) Scientific cultivation of pea (English)
- 12) Precautions before and after pesticide sprays (English)
- 13) Nutritional needs for healthy growth of child (English)
- 14) Weaning (English)
- 15) Pre and post natal care during pregnancy (English)
- 16) News letter (English)
- 17) Bichdon ki negahdaasht (Urdu)
- 18) Jadeed sciencie Tariqoon say Akroot ki kasht (Urdu)
- 19) White Grab Aur is ka Tadarook (Urdu)
- 20) Nahloon (Honey bees) ki Bimaryon aur Dooshmano ki pahachan aur insedadi tadabeer (Urdu)
- 21) Mineral supplementation in live stock (English)

- 22) Silage making (English)
- 23) Farmers guide for modern dairy unit(English)
- 24) Calf nutrition (English)
- 25) Care and management of Garden roses (English)
- 26) Soya bean ki paidawar ko badanay k liye hidayat (Urdu)
- 27) Boodhay logaun main sehat ki kamzoori aur gizayaat (Urdu)
- 28) Masalay jaat ki ahimyat aur khosoosiyat (Urdu)
- 29) Mashinekari ke fawaid aur traning marakiz ka kirdar (Urdu)
- 30) Importance of feeding in calves (English)
- 31) Management of brown tail moth in fruits (English)
- 32) Package of practices for Zeera cultivation (English)
- 33) Foot & mouth disease in cloven footed animals - treatment and control (English)
- 34) Teat wastes (papillomatosis in dairy cattle - technical bulletin (English)
- 35) Standard method of paneer preparation (English)
- 36) Vermicomposting under cold arid conditions of Leh-Ladakh (English)
- 37) Sehat card silm bariye zameen aik maaruf (Urdu)
- 38) Technical bulletin on cultivation of poplars (English)
- 39) Bio fertilizes in vegetables crops (English)
- 40) Pashminay ki achhi paidawar ke liye chand hidayat (Urdu)
- 41) Pashmina bakrikhana banana ke liye aham jankari (Urdu)
- 42) Kitchen Gardening (English)
- 43) Low cost composting methods under temperate conditions of Kashmir (English)
- 44) Low cost vermicompost production (English)
- 45) Vermiwash - an organic liquid bio fertilizer (English)
- 46) Spray Schedule (2019) (English)
- 47) Spray Schedule (2019) (Urdu)
- 48) Imaging techniques in Animals (English)
- 49) Ready reconker for field crops (Kharief) (English)
- 50) Package of practices vol-1. Crop culture (common crops) (English)
- 51) Energy innovations for Zanskar valley (English)
- 52) Management of common diseases of livestock in Zanskar(English)
- 53) Janvaroon main munkhi (FMO) ki bimari - ahitayati tadabeer ve elaaj (Urdu)
- 54) Murgiyeeon main chand aham bimariyoon ke mutalik chand zaroori hidayat (Urdu)
- 55) Janwaroon main tikari ke mutalik ammomie hidayat (Urdu)
- 56) Deworming in livestock (English)
- 57) Cultivation of Button Mushroom (English)
- 58) Nutritional Anaemia (English)
- 59) Preparation of Apple Jam (English)
- 60) FASAL, An overview (English)
- 61) Mavashiyoon main mukhar alamat, elaaj, ahitiyat aur tadaruk (Urdu)
- 62) Compendium on Maize trading (English)
- 63) Manual on maize cob abnormalities and their management (English)
- 64) The Sun, The Earth, & The weather (English)
- 65) Hydrological cycle (English)
- 66) Silage making (Ladakhi)
- 67) Silage making (English)
- 68) News letter (2017-18) (English)
- 69) Self Help Groups (English)
- 70) Value addition of fruits and vegetables (English)
- 71) Dal weed composting (English)
- 72) Production technology of exotic vegetables in Kashmir (English)
- 73) Saeb main legney wale keday makooday aur in ka tadaruk ((English))
- 74) Health related benefits of organic Apricot (English)

- 75) Milk borne zoonotic diseases- their importance and prevention (English)
- 76) Scientific cultivation of walnuts (English)
- 77) Necrotic leaf blotch - a physiological disorder in apple (English)
- 78) Guidelines for clean milk production (CMP) (English)
- 79) Production technology of Kala Zeera (English)
- 80) Russetting and its possible management (English)
- 81) Concerns of calcium in fruits (English)
- 82) News letter KVK Shopian (English)

Activities of ATIC

- **Farmers groups attended:** 38 number of Farmers' groups from various districts of the valley and outside visited the university and interacted with the scientists, wherein 2385 number of farmers got benefited; individually 5516 farmers as well visited the ATIC for one or the other reason.
- **School Student groups attended:** 60 number of school students groups from various districts visited SKUAST and Directorate of Extension wherein 2983 number of students benefited.

- **Sale of Technology Products: such as**

Technology products such as: vegetable seeds (Kharif/Rabi), Knol-khol, Kale, Radish, Turnip, Tomato, etc., vegetables- peas, beans and potato, saffron, floricultural planting material, milk, bio fertilizers, zero energy warmers, aromatic oils and sweet corn were put on sale at ATIC.

- **Sale of Books/Booklets:**

Package of practices of temperate fruits, package of practices of floricultural crops, package of practices of vegetables, Protection of plant variety and farmers rights booklet and Maanch Tuler (Kashmiri)booklet etc. were sold in large numbers.

- **Number of free literature distributed (Leaflet/ pamphlet/booklet etc.)**

Various Technology Bulletins such as: Saffron cultivation, Paddy and Maize cultivation, Vegetable Calender, Commercial cultivation of Kala zeera, Raising of Paddy Nursery, Paddy cultivation, Oilseed cultivation and Foot and Mouth disease in animals and its management numbering 1453 were distributed, About 1673 Spray schedule in English /Urdu were also distributed.

- **Phone calls received from farmers, 1542 number**



Attending school students group



Attending farmers group



Demonstration on bekeeping technologies to students



Demonstration of training and pruning to the farmers

Training of local youth to produce the *Trichoderma* bio-formulations:

- Local youth from three Districts of South Kashmir were offered trainings to produce the *Trichoderma* bio-formulations. The trainees were guided and helped to establish their own small scale production units at village level.
- It was demonstrated that the *Trichoderma* bio-formulations were found effective in managing root rot of Apple and recovery percentage of root rot affected plants were more 50% at Urchersoo Pulwama.



Awareness program at Vill. Refugee, Gurez on 18th July, 2018



Awareness programmes on Nutritious Foods

Awareness programme impact of nutritious foods on health and importance of conservation of crop germplasm was held during 2018-19.



Awareness program at Vill. Dangan, Gurez on 17th July, 2018



Awareness program at Gurez in collaboration with MARS, Gurez Invited Guest: Director Research, SKUAST-K, Srinagar at MARS, Gurez on 8th Oct, 2018



Awareness program at Takmachik, Leh on 28th Oct., 2018

- One hundred thirty eight Entrepreneurial units developed: Beekeeping, 125 units, Mushroom, 11 units and Fashion designing, 2 units.
- Forty-four Scientists visited farmers units and covered 51 Entrepreneurial units.
- Market linkages developed with the help of organizations like JKEID, MSME, KVIB, KVIC, NBB and J&K Bank.



Awareness program at KVK, Haran, Budgam in collaboration with KVK, Budgam, SKUAST-K on 27th Dec., 2018



Skill development programme on beekeeping



Beekeepers as Trainees

Women Empowerment Activities

- Ten number of Entrepreneurship startup trainings organized for 327 beneficiaries.
- Nineteen Exposure visits of entrepreneurs conducted wherein 616 farmers participated.



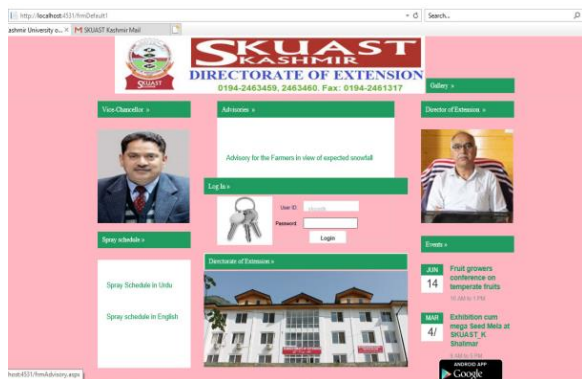
Making compost for Mushroom under the supervision of scientists at Entrepreneurial unit



Entrepreneurship Start-up unit

e-Extension Activities

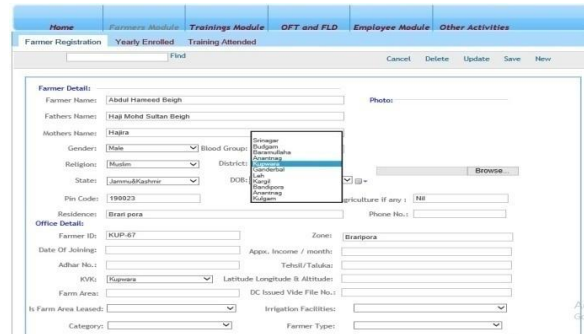
- In order to enhance the out-reach of the University up to the farmers of far-flung areas and providing them solutions related to farming in the form of technologies/ advisories in the shortest possible time through a mobile Application and to monitor the extension activities conducted by the KVKs the Directorate of Extension established a cell on e-Extension.



Front page of Web based application software

- A mobile App on Agro-Advisory has been developed and launched at Google play store in the name of 'Shech'. The same App has also been demonstrated by the Director Extension in the 45th REAC meeting held on 25th Feb. 2019 under the chairmanship of Hon'ble Vice-chancellor. Agro-advisories and weather Advisories are being communicated through this App in the form of text and audio.
- Web based application software has also been developed and demonstrated in the same meeting. The software plays an important role in the compilation of extension activities being carried out at KVKs and other constituent units of the Directorate of

Extension. The software will be useful in preparation of various reports through making queries on activities. This programme will be useful in sending reports to the headquarters in the shortest time and also monitoring of beneficiaries at KVK level.



Web based application software for monitoring of KVKs



'Shech' Agro-advisory app



Presenting applicability of e-Extension

Highlights of Extension Activities Carried Out by 13 KVKs during the Year 2018-19

On-Farm Trials (OFTs):

120 No of technologies were assessed under OFTs on various crops/enterprises at different locations by 13 KVKs during 2017-18.

KVK	Number of OFTs	Area covered	Number of Farmers involved
Anantnag	13	3.20	96
Bandipora	8	1.51	38
Budgam	12	2.05	34
Ganderbal	15	4.18	227
Kargil	9	1.06	65
Kulgam	10	3.10	88
Kupwara	3	0.20	8
Leh	9	0.93	77
Nyoma	6	0.00	39
Pulwama	12	4.10	38
Shopian	8	1.40	8
Srinagar	9	1.74	30
Zanskar	6	0.60	6
Total =	120	24.07	754



Performance of Paddy variety Shalimar Rice-4 at different locations (Mangnipora, Watapora, Potushai, Kema) : KVK Bandipora



Effect of Mineral Block on milk yield (KVK Bandipora)



Assessment of performance of Poultry Breeds(KVK Bandipora)



Feeding management in carps(KVK Bandipora)



OFT on oats at (KVK Nyoma)

Front Line Demonstration (FLDs):

To popularize the assessed technologies, 133 No. of FLDs were laid out on various

crops/enterprises at different locations by 13 KVKs covering 578.1 ha areas and benefiting 5764 farmers during 2018-19.

KVK	No. of FLDs	Area (ha)	No. of Beneficiaries
Anantnag	11	15.8	122
Bandipora	18	142.8	2841
Budgam	16	101.8	588
Ganderbal	15	81.2	336
Kargil	13	10.6	332
Kulgam	6	58.2	314
Kupwara	7	28.6	171
Leh	6	5.3	184
Nyoma	5	2.5	113
Pulwama	11	76.8	374
Shopian	9	6.5	64
Srinagar	12	36.1	202
Zanskar	4	12.1	123
Total	133	578.1	5764



FLD on Brown sarsonSBS-2 (KVK Bandipora)



FLD on Chilli Shalimar long-1 (KVK Bandipora)



Vegetable seedling distribution under FLDs in Tilail and Gurez (KVK Bandipora)



FLD on Canker (KVK Bandipora)



FLDs on Broccoli and Cucumber(KVK Nyoma)



FLD on Shalimar Pea-1(KVK Pulwama)



FLD on Brown Sarson SBS-1(KVK Pulwama)



FLDs on Paddy SR-2 (KVK Srinagar)



FLDs on Maize C-6(KVK Srinagar)

Trainings:

During the year 2018-19, 618 trainings to farmers and farm women on various aspects, 115 vocational training to 3434 rural youth and 58

capacity building trainings to 1192 officers /extension functionaries of various Line Departments were imparted.

KVK	Farmers /Farm women		Rural Youth		Extension Personnel	
	Number of trainings conducted	Number of Trainees attended	Number of Trainings conducted	Number of Trainees attended	Number of Trainings conducted	Number of Trainees attended
Anantnag	76	3172	20	400	0	0
Bandipora	79	2369	11	342	2	16
Budgam	33	1170	1	25	0	0
Ganderbal	81	2047	17	355	5	83
Kargil	25	1094	12	766	15	337
Kulgam	11	1365	0	0	2	40
Kupwara	30	675	0	0	0	0
Leh	59	1307	9	507	4	140
Nyoma	33	1052	2	98	2	66
Pulwama	70	1811	14	204	15	199
Shopian	53	1363	11	302	4	94
Srinagar	52	1457	18	435	9	217
Zanskar	16	506	0	0	0	0
Total	618	19388	115	3434	58	1192



Value addition in Fruits & Vegetables (KVK Bandipora)



Training under ATMA(KVK Bandipora)



Mechanized Walnut Dehuller (KVK Ganderbal)



Training programme on scientific cultivation of Maize under rainfed conditions (KVK Bandipora)



Training on Low tunnel installation (KVK Nyoma)



Skill development programme on Hybrid Seed Production(KVK Ganderbal)



Farmers Training on Diesel Oil Emulsion at village Tailbel on 14-08-2018 (KVK Srinagar)



Trainings imparted to rural youth on vermi-composting at SKUAST-K and Shunglipora(KVK Srinagar)

Skill Development Training Programmes organized at KVKs sponsored by Agriculture Skill Council of India

KVK/Unit	Title of Training (Hrs)	Number of Trainees
Leh	Mushroom Grower (200)	20
Leh	Nursery Grower(200)	20
Budgam	Mushroom Grower(200)	20
Budgam	Vermicompost Producer(200)	20
Kargil	Nursery Grower(200)	20
Kargil	Vermicompost Producer(200)	20
Kulgam	Vermicompost Producer(200)	20
Kulgam	Small Poultry Farmer(240)	20
Leh II	Medicinal Plant Cultivator(200)	20
Leh II	Organic Grower(200)	20
Kupwara	Tractor Operator(200)	20
Kupwara	Bee Keeper(150)	20

Other Extension Activities:

Other than mandated activities following extension activities were also carried out by all the KVKs during 2018-19.

KVK	Field days		Animal/ Plant/ Soil Health camps		Disease Diagnostic visits		Exposure visits		Scientists visit to Farmers' Field		Farmers Visit to KVK	Soil Samples analyzed	Mobile Advisory Servicebeneficiaries
	Number	No. of farmers	Number	No. of farmers	Number	No. of farmers	Number	No. of farmers	Number	No. of farmers			
Anantnag	2	44	14	1650	168	600	3	230	370	490	339	55	4188
Bandipora	22	526	2	81	119	505	11	394	229	1248	1751	141	4485
Budgam	6	137	3	292	24	185	09	282	198	1087	1007	353	5500
Ganderbal	26	410	7	273	15	85	5	121	134	745	298	381	17476
Kargil	03	193	0	0	72	433	0	0	125	830	1575	250	3456
Kulgam	3	173	3	384	23	1605	7	375	59	1180	3472	219	8000
Kupwara	7	67	2	76	194	314	11	487	186	314	246	73	1505
Leh	0	0	5	123	135	398	6	171	143	371	641	95	532
Nyoma	3	110	3	59	19	50	5	76	323	366	654	20	7027
Pulwama	6	242	1	150	5	70	5	171	118	442	519	135	4500
Shopian	0	0	1	75	120	250	7	225	150	750	70	300	3000
Srinagar	2	55	1	48	16	55	19	959	192	1124	808	110	3455
Zanskar	0	0	0	0	7	47	0	0	0	0	65	250	0
Total	80	1957	42	3211	917	4597	88	3491	2227	8947	11445	2382	63124

Other Extension Activities like Field days, Diagnostic visits, Plant and Animal camps etc.



Field Day on Oats Sabzar (KVK Bandipora)



Field Day on PaddySR-4 (KVK Bandipora)



Diagnostic visit in apple orchards (KVK Bandipora)



Exposure visit to FoA, Wadura(KVK Bandipora)



Grape Day at Repora(KVK Ganderbal)



Field Day on Wheat HD 2967(KVK Kargil)



World Veterinary Day, 2018(KVK Ganderbal)



Director Extension visiting Buckwheat trials at Dangan Gurez (KVK Bandipora)



Exposure visit of Farm Women to Horti-Poultry Model(KVK Ganderbal)



Diagnostic Visit to Grape orchards(KVK Ganderbal)



Animal Clinical Camp at Sonmarg(KVK Srinagar)



Animal Clinical Camp at Rakhibra (KVK Anantnag)

Participation in Exhibition cum Seed sale Mela:

All the Krishi Vigyan Kendras participated in Kisan Mela organized by SKUAST-Kashmir, Srinagar on March 09-10, 2019 under the theme “Agricultural Technologies for Prosperity”. KVKs of Kashmir displayed

latest technologies in agriculture, horticulture, animal husbandry and other allied sectors being transferred to farmers of various districts of Kashmir Valley. More than 500 farmers from each district participated in the Mela through respective KVKs.



Visit of Hon'ble Vice Chancellor at KVK Stalls



Exhibition & sale of produce(KVK Kulgam)



A group of farmers in Mela visiting HDP apple



Faculty of Forestry Exhibition Stall



Faculty of Forestry Sale Stall

Scientific Advisory Committee meeting:

To review the Progress for the year 2018-19 and finalize of the Action Plan of the KVKs

for the year 2019-20 Scientific Advisory Committee (SAC) meetings of KVKs were organized as per the following dates:

KVKs	Dated
Bandipora	01.04.2019
Kulgam	03.04.2019
Ganderbal	09.04.2019
Srinagar	11.04.2019
Pulwama	23.04.2019
Kupwara	29.04.2019
Anantnag	30.04.2019
Budgam	02.05.2019
Shopian	14.05.2019

SAC for KVK Leh I&II and Kargil I&II are scheduled in July-August 2019.

Awareness about Protection of Plant Varieties and Farmers Rights Authority (PPV&FRA):

Awareness programmes were organized by most of the KVKs regarding Protection of Plant Varieties and Farmers’ Rights Authority in various villages as well as at Kendras also. Hon’ble Minister/Public representatives of the concerned District, Worthy Vice-Chancellor, SKUAST-Kashmir and Director Extension alongwith Scientists from Directorate of

Extension showed their presence in the programme. Besides, Progressive farmers, Officials of Line Department of Agriculture, Administrative Officers of the District, Scientists of University and KVK also participated. During these training cum awareness programmes Scientists of University and KVKs highlighted the importance of protection of farmers own seed/ varieties in different categories’ of crops and rights of farmers on their own seed.



Seminar on PPV&FRA (KVK Kulgam)



Seminar on PPV&FRA (KVK Leh)



Farmers’ participation and Exhibition on walnut varieties under PPV&FRA (KVK Kupwara)



International Breast Feeding Week:

All the KVKs Celebrated International Breast feeding Week w.e.f. 1st August to 11th of August 2018 at various villages of different districts and at KVK Campi. The SMS (Home Science) conducted various awareness

programmes and distributed other relevant information to Aganwari Supervisors, Rural girls, College students and Pregnant/Lactating mothers. On this occasion, leaflets and pamphlets were distributed among the participants.



Breast Feeding week(KVK Srinagar)



Breast Feeding week to Aganwari workers/Ashabehnsparticipants (KVK Srinagar)



Breast Feeding week(KVK Budgam)



Breast Feeding week(KVK Kargil)

Swatchhta Hi Sewa

As per the directives of ICAR-ATARI, all the Kendras Celebrated Swatchhta Hi Sewa programme w.e.f 15th of September to 2nd of

October 2018 at various places of the district. On this occasion, various awareness programmes were conducted.



KVK Budgam



KVK Srinagar

National Nutrition Week

KVKs also celebrated National Nutrition Week on 05-09-2018 at different villages in which

students, Aaganwari/Supervisors participated in various activities.



KVK Kupwara



KVK Pulwama



KVK Budgam



KVK Shopian

Mahila Kisan Divas

All the Kendras organized of Mahila Kisan Divas on 15-10-2018 at KVK Campi which covered lectures through power point presentation etc. on women

empowerment, balanced nutritional requirements and exhibition of KVK technologies in farming. Debates and drawing competitions were also organized.



KVK Srinagar



KVK Leh

Vigilance Awareness Week:

All the Kendras celebrated Vigilance Awareness Week w.e.f. 29th of October to 3rd of November 2018 at various locations in respective districts. Many interaction programmes were

conducted in the said event, for teachers and students of various schools and for local population of the area. The teachers, students and the citizens of the area pledged to refrain from corruption in any manner.



KVK Srinagar

World Soil Health Day:

December 05, 2019 was celebrated as World Soil Health day by each Krishi Vigyan Kendras at different villages and Kendras. Importance of Soil Health in present scenario and methodology for collection of soil samples were

described to farmers/farm women and rural youth. On spot soil testing through STFR-Kit was demonstrated to make the event effective and successful. Soil Health Cards were also distributed to the beneficiary farmers for judicious use of fertilizers in various crops.



KVK Srinagar organized “World Soil Day”

Kissan Sanman Divas:

Kissan Sanman Divas was organized by all Kendra on 23-12-2018 at KVK Campus in which progressive farmers, students and employees participated. The farmers were made aware of various programmes of KVK in which

scientists from different disciplines interacted with them. The on-spot solutions/answers to questions/queries by them were provided. At the end, fertilizer kits were distributed among the selected progressive farmers.



Celebration of Kissan Sanman Diwas (KVK Srinagar)

Swachhta Pakkwada:

All the Kendras organized Swachhta Pakkwada on 16-31 December 2018 at various locations of the district in which date wise Action Plan activities were conducted. The Pakhwara was organized by all the 13 KVKs under jurisdiction of the university to aware, sensitize and educate the farmers towards

cleanliness of their locality through celebration of Swachhata Pakhwara. The various activities such as demonstration, wall paintings, posters, exhibitions, village –choupal and use of mass media communication etc. were carried out and the details uploaded on university / ICAR website on daily basis.



Swachhta Pakkwada activities(KVK Srinagar)



Swachhata hi Seva Campaign (KVK Bandipora)

Orchard sanitation (KVK Kulgam)

PM Kisan Saman Nidhi:

All the KVKs participated in Mega programme on PM Kisan Saman Nidhi organized by Department of agriculture. An event was

organised by KVK Kulgam on 24 February 2019. Deliberations on the scheme PM Kisan Saman Nidhi were made during programme. An interaction programme was also held at the end.



PM Kisan Saman Nidhi (KVK Kulgam)

IFS Units/model developed:

1. Establishment of Demonstration unit of Integrated Farming System component at KVK farm Lands: The progress made is described as under:

KVK Bandipora
<ul style="list-style-type: none"> • Poultry and Dairy units have been established at KVK farm Land.
KVK Ganderbal
<ul style="list-style-type: none"> • Fruit Plant Nursery: The KVK produces quality planting material of diverse fruit crops such as apple, pear, peach, plum, cherry, etc and more than 10000 grafted plants were sold to progressive farmers. • Dairy, Fisheries and apiculture demo units at KVK are operating smoothly. • Poultry demo unit established in January 2018. Horti-poultry concept established at the KVK has been appreciated by Director General & Secretary ICAR during their visit to the KVK on 11 June 2018. • Demonstration unit of protected cultivation for production of off-season vegetable seedlings has also been established. • Vermi-composting unit to be operational in 2019-20.
KVK Kargil
<ul style="list-style-type: none"> • Horti-pastoral (Apricot with Lucerne) farming system established and working properly. • Vermi-composting unit established and producing vermicompost for farm use. • Scientific Cultivation of different cereals (wheat and barley) & fast growing fodders established and working properly. • Protected cultivation (trench and low cost green house) of vegetables established and producing the vegetables in off-season.
KVK Kulgam
<ul style="list-style-type: none"> • Established Integrated Farming system for the marginal farmers of the district (1 ha) with dairy, agriculture, horticulture and poultry as its components and performing well.
KVK Leh
<ul style="list-style-type: none"> • Established Dairy Unit under Integrated Farming System Model at KVK farm and working smoothly. • Demo unit on protected cultivation of vegetables established.
KVK Pulwama
<ul style="list-style-type: none"> • A horticulture nursery for producing Apple High Density plantation and walnut saplings established and producing quality planting materials. • Demo unit on protected cultivation of vegetable seedlings especially cucurbits, tomatoes, brinjal, broccoli, cauliflower, cabbage etc. established and producing fresh vegetables and seeds. • Two vermi-compost units, two fish ponds and a mushroom and spawn production unit added to the system. • Seed production unit for crops like maize, oats etc. established and producing seeds.

KVK Srinagar	
	<ul style="list-style-type: none"> Established a duckery unit of 11200 sq. feet area where ducks and Kashmiri 'ANZ' along with fish (common carp of big size) are reared under integrated farming system (IFS). Two vermi-composting units, a mushroom demonstration unit, a demo unit on protected cultivation of quality vegetable seedlings and fruit planting material for high density plantation have been established.

Awareness programmes for popularizing IFS at farmers' fields are conducted frequently by the KVKs. By the intervention of KVKs following Progressive farmer(s) adopted IFS model.

KVK	Progressive farmers & address
Bandipora	<ul style="list-style-type: none"> Mr. Nayeem Hussain Bhat Mr. Mehraj-ud-din Lone
Budgam	<ul style="list-style-type: none"> Mr. Ali Mohd Dar (Waterehail) Mr. Ali Mohd Malik (Hapatnar Char-E-Shareif) Mr. Mohammad Ahsan (Sitharan) Mr. Mohammad Tahseen (Bugroo) Mrs. Rubeena Tabassum (Yarikalan Chadoora) Mr. Noor- Din- Rather (Haran) Mr. Abdul Rashid Malik (Haran) Mr. Bashir Ahmad Wani (Roshanabad)
Ganderbal	<ul style="list-style-type: none"> Mr. Gh Mohd Bhat, Watlar, Mr. Toufeq Ahmad, Khanpora, Mrs. Zamrooda, Baba Mohalla Repora, Mr. Gh. Mohd Ganaie, Kruhama and Mr. Gh Mohd Nasir Malla, Lar.
Kargil	<ul style="list-style-type: none"> Mrs. Fatima Suqra W/O Hamza Ali R/O Shilkchay village (apple and apricot orchard, dairy farming, vermi-composting, fodder development, kitchen gardening, food processing unit). Mr. Abdulla Khan S/O Mohd Ali Khan R/O Goma Mingi Kargil (apple and apricot orchard, dairy farming, vermi-composting, fodder development). Mrs. Zhara R/O Trespone village (Dairy farming, vermi-composting, fodder development, vegetable gardening)
Kulgam	<ul style="list-style-type: none"> Mr. Gowhar Ahmad Gani, Bogund, Kulgam:(Fish pond: 0.1 ha, Floriculture: 0.1 ha, Vegetables: 0.07ha, Poly houses: 0.05 ha, Poultry: Average 12000 birds/annum) Mr. Farooq Ahmad Wagay, Kakran, Kulgam(Apple: 1.0 acre, Vegetables: 0.12 acre Rice: K-448(Jehlum) and Mushkebudgi: 0.25 acres, Fodder oats: 0.3 acre, Brown sarson: 0.45 acres, Sheep: 12 improved breeds, Cattle: 2 Cross bred milch cows Backyard poultry 15 birds.) Mr. M. Hafiz Dar R/O Yaripora, Kulgam(Agriculture: 0.5 ha area, Apple: 0.6 ha, Livestock: 7 sheep and 2 cows) Mr. Ab. Salam Ganie R/O Ladgoo, Kulgam(Agriculture: 0.3 ha area, Apple: 1.0 ha, Livestock: 2 milch cows and a heifer, Poultry:10 birds as backyard poultry)
Kupwara	<ul style="list-style-type: none"> Mr. Abdul majeed sheikh (Unsoo). Mr. Muhammad Amin Wani (Braripora) Mr. Muushtaq Beigh (Kulangam) Mr. Ab. Majeed Bhat (Batter Gam) Mr. Manzoor Ahmad Sheikh (Dedekooy Payeen)
Leh	<ul style="list-style-type: none"> Vermicomposting (Vermi bed and worms) as one of the components adopted in IFS model: 80 farmers. IFS on vegetables, orchards, dairy, compost production of seedlings/saplings of

	vegetables and fruits: 3 farmers.
Nyoma	- Ms Deachen Chosdon, Nyoma
Pulwama	- Mr. Muneer Ahmed Shiekh (Murran), Horti-agri based - Mr. Bilal Ahmed Kumar (Murran), Horti-agri based - Mr. Fayaz Ahmed Mayar (Murran), Horti-agri based - Mr. Bilal Ahmed Shiekh (Murran) Horti-agri based - Mr. Mudasar Ahmad (Tral), Horti-agri based - Mr. Bashir Ahmad (Bangund), Horti-agri based - Mr. Syed Jia-u-ddin (Pompore), Horti-agri based
Shopian	- Mrs. Gulshan Akhter (Mool Chitragam) Horti-agri based - Mr. Ali Mohammad Mir (Gagren) Horti-agri based - Mr. Mudasar Ahmad (Mohanpora) Horti-agri based - Mr. Tariq Ahmad Bhat (Barbugh) Horti-agri based
Srinagar	- Mr. Showkat Ahmad Ganie (Rambirgarh) - 2. Mr. Farooq Ahmad Wani (Katti Mohalla Khonmoh)

Entrepreneurship developmental activities:

At Directorate of Extension, women empowerment and entrepreneurship development cell is established to encourage, educate and facilitate the women farmers to establish their

entrepreneurial units. So far 7 units of mushroom and 112 units of honey production have been established. Besides, KVKs are also working in the development of such units and details are given as under.

KVKs	Number of units developed
Anantnag	03 (Vermicomposting & Agri. Engineering)
Bandipora	18 (Cutting & Tailoring, Knitting, Floriculture, Vermi-composting, Poultry, Fisheries & Duckry)
Budgam	04 (Vermicomposting, Floriculture, Fruit Nursery, Poultry)
Ganderbal	07 (Bee-keeping, Poultry, Vermi-composting)
Kargil	04 (Post harvest Value addition, Knitting and Weaving)
Kulgam	02 (soil-testing, IFS)
Kupwara	317 (310 Vermi-compost unit + 5 honey units+1 SHG Warnov of Cutting tailoring+1 SHG embroidery)
Leh	19 (Self HGs engaged in different entrepreneurship comprising of machine knitting, Post-harvest units, smart packaging of apricot oil, Seabuck juice making unit and Mushroom Production units).
Nyoma	03 (Spinning; Knitting)
Pulwama	03 (Dairy, Vermi-composting, Soil testing,)
Shopian	01 (Soil testing)
Srinagar	07 (Vegetables, Apiculture, Vermicomposting, Poultry, Dairy)
Zanskar	12 (Spinning; Knitting and Weaving)

Villages adopted by KVKs on pilot basis at different location in the concerned district for dissemination of welfare schemes of Central and State government

District	Village(s) Adopted
Anantnag	Bragam, Kreri, Nowpora, Dialgam, Mehmoodabad, Qammer, Thamankote, Rakhbrah, Nowpora, Sadura, Kanalwan, Samithen, Saller, Madhama, Bijbhera, Kheribal Mattan, Gopalpora Mattan, Kuller, Khiram, Sirhama.
Bandipora	Sheikhpora, Dangithal, Jurnial, Buglinder, Hussangam, G-G sheikh of Tulail Block Tarbal, Bajran, Jalandora, Iz marg, Chuntiwari, Koragbal of Gurez Block Markoot, Mastan, Dawer of Gurez Block Hakbara, Asham, Markundal of Sumbal Block Chekeganestan, Najan, Ganestan of Sumbal block Pothushai, Mangnipora, Watapora, Qazipora of Bandipora Block Kota satri, Bela Satri, Gujjer pati, Sumlar, Serrender of Arin Block Sonarwani, Ajar, Pethkoot, Dharmahama, Khayar of Bandipora Block
Budgam	Razwan, Mirpur, Beerwah, Roshanabad, Khag, Hamchipora, Sebdan, Hapatnar.
Ganderbal	Yarmuqam, Gutlibagh, Repora, Tulumula, Wakura, Zazuna, Anderwa, Rangil, Warpo, Nunar, Dub.
Kargil	Trespone, GMPore, Saliskote, Minji, Chanigund, Wakha, Mulback Barchay, Karkichoo, Gargardo, Jazgund, Lalong, Goshan, Matayan, Kharbu, Dandathang, Trespone, GM Pora, Saliskote, Minji, Akachamal, Apati, Pashkum, Shagole, Wakha, Garkon, Dargo, Sanjak
Kulgam	Ladgoo, Gudar, Manzgam, K.B. Pora, Dangarpora, Kakran, Pombay, Yaripora
Kupwara	Kandi, Sogamderishpora, Udipora, Kultoora, Kralgund, Shehlal, Bakihakar, Unisoo, Chowgul, Haril, Kandi, Sogam, Kulangam, Hyhama, Bandaymohalla, Laddaewan, Kralgund, Braripora and Chowgul, Sheikhpora, Kralgund, Kulangam, Kukroosa, Manzgam, Kababmarg, Tulwari, Gonapora, Bategam, Krohmoohora, Khaipora, Handwara, Tumpora, Reshwar, Braripora, Chotipora, Kulangam, Nutnoosa, Unisoo, Sunderpora, Kandi, Kulangam, Chogal, Nutnoosa, Braripora, Handwara, Wadipora, Babagund, Tulwari, Batpora, Hangah, Khaipora, Wajahama, Khanbal, Dudipora, Chotibal, Magam, Haran, Kachri, Ganapora, Yaroo, Langate, Bakhihakar, Kargam, Gundkahroo, Lalbugh, Rajpora, Satkotoch, Turch, Tarathpora, Wilgam, Younsoo, Kandi, Drughmulla, Khangund, Hangah, Handwara
Leh	Khalsi, Saboo, Skurbuchan, Turtuk
Nyoma	Nyoma, Mudh, Nidder, Tukla, Likkse, Tsaga, Khatpo, Chushul, Kungyam, Hemiya, Chushul, Merak, Kesar
Pulwama	Wakhawan, Bangund, Koil, Ranzipora
Shopian	Aglar, Chanchmarg, Shallidar, Merheng, Merheng, Keegham, Shalidar, Heff, Chanchmarg, Balapora, Kanipora,
Srinagar	Gulzarpora, Darbagh, Faqirgajri, Dardkhover, Rambirgardh, Takanwari, Maloora, Guzarbal
Zanskar	Padam, Ubarak, Shila, Aalpi, Ufti, Barsoo, Sankoo, Lankrasha, Umba, Kachan

All these villages were adopted by KVKs for launching awareness about welfare schemes of Central and State Government i.e. *Sankalp Se Siddhi, Swachhata Abhiyan under Swachh Bharat Mission, Nutritional Week, Tribal Area Sub Plan (TSP), Agricultural Technology Management Agency (ATMA), Pradhan Mantri Fasal Beema Yojna (PMFBY), National Food Security Mission (NFSM), Horticulture Mission, Saffron Mission, National Mission for Sustainable Agriculture (NIMSA), Protection of Plant Varieties and Farmers Right Act (PPV&FRA), Breast Feeding week, World Honey Bee Day, World Soil Health Day, Mahila Kisan Diwas, Kisan Sanman Diwas*, etc. Besides, all these KVKs are involved in dissemination of improved technologies in the above villages through front line demonstrations to enable the farmers double their income by 2022.

Extension & Other Activities at Faculty Level

Brainstorming session on “Poplar Cultivation in Kashmir: A Boon or Menace”

Faculty of Forestry, SKUAST-K, Benhama, Ganderbal in collaboration with Directorate of Extension, SKUAST-K, Shalimar, organized Brainstorming session on “Poplar Cultivation in Kashmir: A Boon or Menace, on 22nd December, 2018, at SKUAST-K, Shalimar, Sriangar. The session was attended by Chief Guest, Justice (Retd.) Bashir Ahmad Kirmani, Hon’ble Vice Chancellor, SKUAST-K, Prof. Nazeer Ahmad, all Directors/ Deans of SKUAST-K, Scientists, Faculty of Forestry and Directorate of Extension and Research. Other participants were Mr. Tawheed Deva, Conservator, South Circle, Mr. Irfan Ali Shah, Conservator, Srinagar Circle, Officers from Administration, eminent Lawyers, NGO’s, Civil Society members, entrepreneurs, representatives from forest based industries, farmers, press and media.

- Four (4) presentations were made by invited speakers as;
- On the occasion, two publications from Faculty of Forestry entitled, “*Technical bulletin on Cultivation of Poplar*” by Dr. Ashfaq A. Mir and “*Present scenario of Trees Outside Forests (TOF) in district Ganderbal of J&K*” by Dr. Akhlaq Amin Wani were

released by Chief Guest and Hon’ble Vice Chancellor.

3-day Training-cum-awareness programme on “Lavender Cultivation: prospectus in Kashmir”

Faculty of Forestry, Benhama, Ganderbal in collaboration with KVK-Bandipora organized 3-day Training-cum-awareness programme on “Lavender Cultivation: prospectus in Kashmir”, from 26 to 28-09-2018. 35 farmers attended the programme. The activities included. Lecture/ Interaction, Group discussion, Field Demonstration and Distribution of extension literatures



Plantation drive in collaboration with Marriott International (Four Points by Sheraton Srinagar) under Corporate Social Responsibility

Marriott International (Four Points by Sheraton Srinagar) organises plantation program at Benhama Ganderbal in collaboration with Faculty of Forestry SKUAST Kashmir. Marriott International under its Corporate Social Responsibility (CSR) program collaborated with Faculty of Forestry SKUAST Kashmir and undertook this program in which hundreds of Cedrus deodara (Deodar) seedlings were planted at a degraded site in the Faculty campus. Both the collaborating partners desired to have a long term association under such programs.





Plantation drive in collaboration with Marriott International

3-day Farmer’s Training programme on “Good Agricultural and Collection Practices for Medicinal and Aromatic Crops (GACP)”

Faculty of Forestry in collaboration with ICAR-Directorate of Medicinal and Aromatic Plants Research, Anand Gujarat organized 3-day Farmer’s Training programme on “Good Agricultural and Collection Practices for Medicinal and Aromatic Crops (GACP)” from 22 to 24, November, 2018. The programme was attended by 50 farmers and Non Timber Forest Produce (NTFP) collectors.



Training programme on “Good Agricultural and Collection Practices for Medicinal and Aromatic Crops (GACP)”

One-day Farmers’ Awareness-cum-distribution camp under Tribal Sub Plan

Faculty of Forestry, SKUAST-K organized One-day Farmers’ Awareness-cum-distribution camp under Tribal Sub Plan, on December 31st, 2018. 150 farmers attended the camp. The activities included

- The team distributed around 23 complete agricultural tool kit among 150 farmers.
- Lectures were delivered on the roles of agroforestry systems in livelihood promotion, livestock production and environmental amelioration.
- Interaction-cum-group discussion session.



Awareness-cum-distribution camp under Tribal Sub Plan

Grass Seed Distribution Programme

Faculty of Forestry, SKUAST-K, in collaboration with J&K LAWDA under DST sponsored project “Improvement of grazing / pasture land through participatory management approach under temperate condition of Kashmir valley” organized seed distribution programme on 31st December, 2018. Scientist from Faculty of Forestry, Officers

from LAWDA department attended the programme. The activities included:

- Awareness creation among the farmers about the importance of grasslands, their role in soil conservation and watershed management.
- The team distributed different types of grasses among farmers.
- 100 farmers were participated and fodder seeds were distributed among the farmers.
- Distribution of seedlings among the farmers.



Farmers during field visit

25-days Skill Development/ Training Programme for “Medicinal Plants Grower”

DASD sponsored 25 days Skill Development Training Programme for “Medicinal Plants Grower” was conducted in the Faculty of Forestry from January 28th to February 21st, 2019. Twenty five (25) selected candidates were trained by the Scientist from Faculty of Forestry for different aspects of medicinal plants cultivation as under:

- Identify & Select Proper Nursery Site for Production of Quality Medicinal Plant Material
- Manage Medicinal Plants Nursery

- Undertake Cultivation Practices for Medicinal Plants
- Post-Harvest Management of Medicinal Plants
- Basics of Medicinal Plants Marketing & Related Activities
- Health & Safety at Work Place

Establishment of Mushroom Units

Division of Plant Pathology established 3-mushroom units of 50-100 trays in three districts viz. Srinagar, Budagm and Baramullah under the technical guidance of Mushroom Research and Training Centre.



Mohd. Amin, R/o Harwan Sgr. (100 Bags)



Tajamul Ahmad R/o Sopore (100 Bags)



Abdul Manan, R/o Budgam (100 bags)

Training on “Scientific training and pruning of high density apple orchards”

Division of Fruit Science imparted training on “Scientific training and pruning of high density apple orchards” to the orchardists of Kashmir valley



Training on “Scientific training and pruning to the officials of Department of Horticulture, J&K

Division of Fruit Science imparted training on “Scientific training and pruning to the officials of Department of Horticulture, J&K



Three-days training programme on “Mushroom Cultivation Technology”

Division of Plant Pathology organized three-days training programme on “Mushroom Cultivation Technology” for Tribal farmers (under Tribal Sub Plan AICRP) in collaboration with DMR, Solan at NagbalYousmarg, Budgam.



Training programme on “Plant Quarantine: National Regulations and Procedures”

Division of Plant Pathology organized 3-days training programme on “Plant Quarantine: National Regulations and Procedures” in collaboration with NIPHM, Hyderabad at SKUAST-K, Shalimar.



Training programme on growth and flowering analysis

Division of Floriculture and Landscape Architecture conducted on day training programme on growth and flowering analysis under DBT sponsored project “ Training cum practical demonstration of precision farming intervention for elite tulip and hyacinth bulb production for economic upliftment in rural Kashmir” at Kupwara, Budgam and Ganderbal.

Training programmes on Scientific Bee Keeping

- Division of Entomology conducted two training programmes of seven days duration for bee keepers/ farmers/ unemployed youth and students of aspirational District Baramulla and Kupwara under IBDC Project w.e.f. 16 – 22 July, 2018 and 23-29 July, 2018 under the Mission Krishi Kalyan Abhyan, 01 June- 31 July, 2018 sponsored by Nationals Bee Board.
- Division of Entomology conducted two training programmes of seven days duration on scientific bee keeping in collaboration with Arya Gramoudhyoj Sansthan. U.P. for bee keepers/students /farmers/ unemployeed youth w.e.f. 15 – 21 July, 2018 and 22 – 28 July, 2018 under the mission Krishi Kalyan Abhyan, 01 June- 31 July, 2018 sponsored by Nationals Bee Board.
- Division of Entomology conducted five training programmes on Bee Keeping and Skill Development for beekeepers of Chaterhama in collaboration of KVIB, Govt. of J&K from 3-7 October, 2018.
- Division of Entomology conducted three days training programme for bee keepers of District Ramban under Apiculture Convergence project, Ramban w.e.f. 26– 28 September, 2018.
- Division of Entomology conducted two days state level seminar on Awareness, motivation and Technology transfer of scientific bee keeping in J& K in collaboration with Arya Gramoudhyoj Sansthan on 12 to 13 September, 2018 sponsored by National Bee Board.
- Conducted 4 No of 7 day training programmes on scientific bee keeping in collaboration with Arya Gramoudhyoj Sansthan, U.P. w.e.f. 28th August to 10th of September, 2018 for beekeepers/students/ unemployed youth, tribal men and women sponsored by National Bee Board.

Seminars/ workshop/ field day/ summer school organized by Faculty of Horticulture

- Division of Environmental Sciences organized one day seminar on “Beat Plastic Pollution on World Environment Day”



- School of Agricultural Economics & Horti-Business Management organized National Seminar on “Development of Hill Agriculture: Policy and Institutional Imperatives”



- Division of Environmental Sciences organized one day workshop on “Impact of Climate Change on Agriculture”



- Division of Vegetable Science conducted 21-days summer school on “Recent Developments in Organic Vegetable Production System under Changing Climatic Scenario” sponsored by ICAR, New Delhi.



- Division of Environmental Sciences organized national seminar on “Climate Change and its impact on Himalayan ecology and food security”



- Division of Fruit Science organized Apple Field Day inaugurated by His Excellency Sh. N.N. Vohra, Governor of Jammu & Kashmir

Scientists’ Farmers Interactions by Faculty of Fisheries

- During the year 2018-2019, the NSPAAD team of the Faculty of Fisheries conducted 48 farmer scientist meetings across Jammu Kashmir and Ladakh in which more than 123 fish farmers were given know how about management of fish diseases.
- On field awareness programmes, farmer-scientist interaction programmes are being regularly conducted by the experts of Faculty of Fisheries.

Fish disease surveillance

- Under Fish disease surveillance programme, active and passive fish disease surveillance is being regularly conducted by the team of fish health experts. So far 300 fish farmers have been registered under active surveillance programme with the AAHM division.



NSPAAD team of the Faculty of Fisheries at Private Fish Farm, Ladakh

Workshop / Trainings by Faculty of Fisheries

- One Day workshop was organized by Division of AAHM, Faculty of Fisheries on “Recent advances in cell culture techniques and characterization of cell line” on September, 5 -2018 in which almost 125 candidates participated
- Training Programme on Entrepreneurship Development In Cold Water Fisheries for the Unemployed youth was conducted at Faculty of fisheries from March 26th to 28th, 2019.



Training Programme on Entrepreneurship Development In Cold Water Fisheries

Publication of package of practices

- Faculty of Fisheries, Division of Aquaculture published a package and practices: Fisheries – Carp Fish Culture (Vol. 1) through Directorate of Extension, SKUAST – K.

Android fish health App

- An Android Fish Health App has been launched by Division of Aquatic Animal Health Management, FoFy for better and quick reach out to the stake holders





Prof. Nazir Ahmad, Hon'ble Vice Chancellor SKUAST-K launching Android fish health App

Clinical and diagnostic services by Veterinary Clinics

- **Gynaecological** -Estrual Mucous: a) White side test: 65 samples, b) Fern Pattern: 43 samples, c) Spinbarkiet value: 56 samples, d) pH Test: 61 samples, e) Leukocyte esterase test: 19.
- **Medicine:** a) Rothera's test for ketosis (98), b) Urinalysis by dipstick test (35), c) Microscopic examination of urine (52), d) CMT (294), e) White side field test for mastitis (76), f) Mastitis test using Dramski Mastitis Detector (31), g) Haematology (326). h) Antibiotic sensitivity test (47), i) CSF examination (13), j) Blood smear examination for haemoprotozoan infection (75), k) Grams staining for bacterial infection (18), l) Skin scrapping for ectoparasites (09), m) Microscopic examination of rumen microflora (101), n) Estimation of rumen pH (123), o) Faecal/dung sample examined (143), p) Blood glucose (12).
- **Diagnosis by modern imaging techniques:**
 - a) Radiography = 192
 - b) Ultrasonography (USG) = 249
- **OPD Cases :**
 - a) Medicinal =1920

- b) Surgical =764
- c) Gynae & Obst. = 1144
- **Animal in-health facility**
 - a) Cows Artificially Inseminated (AI): 446
 - b) Birth from AI recorded: 152
 - c) Pet routine health check-ups & vaccination:56
 - d) Pregnancy Testing Cows:331
 - e) USG Pregnancy testing in sheep & goats:45
- **Consultancy to Farmers (face to face, SMS, telephonically): 303**

Visits by outsiders to the Veterinary Clinical Complex:

1. Visit of PG students and faculty of Unani Institute, Hazratbal (PG students= 15 Faculty= 03)
2. Visit of farmers for Distt. Ganderbal undergoing tgraining at SHD, Ganderbal (Farmers =30 & field vets =3 PG students= 15 Faculty= 03)
3. Visit of students of Boys High School Khalmulla as part of science out- reach programme activity under star college
4. Visit of students of Girls High School Khalmulla as part of science out- reach programme activity under star college
5. Visit of Commissioner Animal Husbandry J&K Government to Division of Veterinary Clinical Complex
6. Visit of 21 days training programme ICAR sponsored by LPM participant Division of Veterinary Clinical Complex
7. visit of expers team from CPCSEA department of Forests, Environments ad climate change, Govt of India, New Delhi, to Div. of VCC

STATUTORY MEETINGS

Research & Extension Advisory Committee (REAC) Meeting for Kashmir and Ladakh Zone held:

The 43rd Research and Extension Advisory Committee meeting (Kharif-2018) was held on April 11th, 2018 in the Meeting Hall of the Vice-Chancellor's Secretariat under the chairmanship of Prof. Nazeer Ahmed, Hon'ble Vice-Chancellor, SKUASTKashmir. The meeting was attended by the Director Agriculture-Kashmir, Directors and Deans, Head of Divisions of Faculties, Programme Coordinators of KVKs and I/c Research Stations /Centres of the University besides Heads of District sectoral officers of the concerned Line Departments. Welcoming the dignitaries and the participants, Director Extension Prof. Mushtaq Ahmad highlighted the significance of the REAC statutory meeting and informed that the same is being conducted for identifying the suitable varieties/ breeds / genotypes for testing them under minikit(s) and also to review the performance of the minikits approved and conducted for the purpose during Kharif-2017. The Hon'ble Vice-Chancellor Prof. Nazeer Ahmed in his presidential address informed that the assembly provides a great opportunity for scientists and officers of the Development Departments and the technologies/varieties / research products being developed by the research system are discussed for their dissemination and further popularization through main extension system for the ultimate benefit of farmers, and also the feedback so received forms the basis for designing and development of need based, farmer-friendly and market-driven technologies.

The house rated the performances of Maize genotype 'KDM DT-1 /KDMH-103, Maize hybrid 'KDMH-100 / H-100, Maize hybrid 'SMI-31 x SMI-462, Mung bean genotype 'SKUA-M-365 as satisfactory and recommended them for consideration of University Varietal Release Committee (UVRC). The genotypes Shalimar Fodder Maize-1 (KDFM-1), Mazie DMRH-1417, Rice genotype SKUA-494 (basmati type), Rice genotype SKUA-485, Saffron composite population SD-01, two Rajmash genotypes WB 341 (Pole type) and WB 1634 (Semi Poletype) were recommended for mini-kit testing.

The 44th Research and Extension Advisory Committee (REAC) meeting (Rabi 2018) was held on 11th Oct 2018 at SKUAST-Kashmir, Shalimar under the Chairmanship of

Hon'ble Vice-Chancellor, Prof. Nazer Ahmed. The meeting was attended by Directors and Deans of the University, Directors or representatives of the Development line Departments, Heads of the Divisions of the University, Chief and District officers of the line Departments, Programme Coordinators of the KVKs and other Scientists and officers of the University. The Chairman in his inaugural address emphasized on bringing out the package of practices in Urdu language to benefit each and every farmer for facilitating agricultural growth and profitability. Feed-backs were sought from line departments and KVKs and deliberated in light of the research out-comes and accordingly future research programmes planned. Based on the results of the minikit trials on Kala Zeera genotype SKAU-KZ-103, the entry was recommended to be proposed for release to University variety release committee. Two genotypes of Gobhi Sarson- KGS-32 & KGS-35 and one genotype of wheat – SKAU-W-3 were also recommended for putting under minikit trials in all the districts of Kashmir.



Extension Council Meeting

The 29th Extension Council Meeting (ECM) for the year 2018-19 was held on April 16th, 2018 in the meeting hall of the Vice-Chancellor's Secretariat under the chairmanship

of Prof. Nazeer Ahmed, Hon'ble Vice Chancellor, SKUAST-Kashmir. The meeting was attended by Director Extension SKUAST-Jammu (Expert Member), Director CITH, Director Agriculture Kashmir, Chief Conservator Forests-Kashmir, Deans of Subject Matter Faculties of Agriculture, Horticulture, Veterinary Sciences, Fisheries and Forestry, besides all Heads of Divisions, Associate Directors of Research (MRCFC-Khudwani, DARS-Budgam) and Associate Directors of Extension (Agriculture and Animal Science), Programme Coordinators of KVKs, I/C Stations Centers, representative officers of line departments from Kashmir, two nominated progressive farmers and scientists of Directorate of Extension. The Divisions of all the subject matter faculties presented their transferable technologies which after thread-bare discussion were allotted for dissemination to farmers through various KVKs and developmental line departments.



Faculty Development (2018-19)

Trainings/Workshops/Seminars Attended By Faculty Members

S.N o.	Subject of the Programme	Venue & Date	Name of the Officer/Scientist/Official
1.	13th Session of J&K Science Congress on "Emerging Technologies and Human Society: Applications and Constraints"	University of Kashmir, April 2 to 4, 2018	1. Dr. Farooz Ahmad Bhat, Division of FRM, FoFy Rangil 2. Dr. Tasaduq Hussain Shah, Division of FRM, FoFy Rangil
2.	Impact Evaluation of Agricultural Technologies	SKICC-Srinagar w.e.f. April 02 to 06, 2018	1. Dr. A. H. Hakeem, Professor & Head, Division of Agri. Ext. & Com. FoA, Wadura 2. Dr. Farhat Shaheen, Assistant Professor, School of Agril. Economics & Horti-Business Management, Shalimar
3.	"AICRP-Maize Annual Workshop"	CSKHPKV, HAREC, Bajauraw.e.f. April 07 to 09, 2018	1. Dr. R. Kotru, Associate Professor, Dryland (Karewa) Agriculture Research Station, Budgam 2. Dr. Zahoor Ahmad Dar, Associate Professor, Dryland (Karewa) Agriculture Research Station, Budgam 3. Dr. Ajaz Ahmad Lone, Assistant Professor, Dryland (Karewa) Agriculture Research Station, Budgam 4. Dr. M.A. Ahanger, Assistant Professor, MCRS, Sagam 5. Dr. Asif Bashir Shikari, Associate Professor, MCRS, Sagam
4.	National Conference on "Smallholders Livestock Producers in India: Opportunities and Challenges"	SardarkrushingarDanti wada Agricultural University, Sardarkrushingar, Gujarat w.e.f. April 11 to 13, 2018	1. Dr. M.T. Bandy, Professor, Division of Livestock Production Management, FVSc. & AH, Shuhama 2. Dr. AzmatAlam Khan, Associate Professor, Division of Livestock Production Management, FVSc. & AH, Shuhama
5.	Training programme on "Microwave Remote Sensing and Application"	National Remote Sensing Centre, Balangar Hyderabad w.e.f. April 16 to 27, 2018	1. Dr. Akhlaq Amin Wani, Assistant Professor, Faculty of Fisheries, Ganderbal
6.	"North India Regional Research Conference"	Himalayan Forest Research Institute, Shimla	1. Dr. T.H. Masoodi, Dean, Faculty of Forestry 2. Dr. Naveed Qaisar, Professor, Faculty of Forestry

7.	Capacity Building and Awareness Training Programme on “Ecotourism and Village Wildlife Tourism for Tribal Youth of Jammu & Kashmir-An initiative”	Uttarakhand w.e.f. April 23 to 29, 2018	<ol style="list-style-type: none"> 1. Dr. Javed A. Mugloo, Associate Professor, Faculty of Forestry 2. Dr. Khursheed Ahmad, Assistant Professor, Division of Wildlife Science, Faculty of Forestry, 3. Er. M.R. Qadri, AEE (R&E), Shalimar
8.	National Level Workshop on “Establishment Standard Benchmarks for State Level Training Institute”	Land Management Institute, Bhopal w.e.f. April 24 to 25, 2018	1. Dr. F.U. Khan, Division of FLA, Shalimar
9.	National Workshop on “Hands-on-Training in Isolated Heart, Isolated Tissue & Hemodynamic Research Techniques in Rodents”	Aligarh Muslim University, Aligarh w.e.f. May 02 to 03, 2018	<ol style="list-style-type: none"> 1. Dr. Abdul Shakoor, Associate Professor, Div. of Veterinary Pharmacology & Toxicology, FVSc. & AH, Shuhama 2. Dr. Azad Ahmad, Associate Professor, Div. of Veterinary Pharmacology & Toxicology, FVSc. & AH, Shuhama
10.	“XX Annual ICRPO-Mushroom Workshop”	MP University of Agriculture and Technology, Udaipur w.e.f. May 04 to 04, 2018	1. Dr. Shaheen Kousar, Associate Professor, Division of Plant Pathology
11.	Training programme on “Pest Surveillance”	National Institute of Plant Health Management, Hyderabad w.e.f. May 07 to 11, 2018	1. Dr. Sajad Mohi-ud-Din, Assistant Professor, Division of Entomology,
12.	Third International Symposium on Aquaculture and Fisheries Education	ICAR-Central Institute of Fisheries Education, Mumbai w.e.f. May 16 to 18, 2018	1. Dr. M.H. Balkhi, Dean, Faculty of Fisheries
13.	27 th Annual Workshop of Biocontrol	KAU, Thrissur, Kerala w.e.f. May 17 to 18, 2018	1. Dr. Jamal Ahmad, Associate Professor, Division of Entomology
14.	Training programme on “Quarantine Nematodes of Economic Importance”	National Institute of Plant Health Management, Hyderabad w.e.f. May 21 to 23, 2018	1. Dr. G.M. Lone, Associate Professor, Division of Entomology
15.	National workshop on “Recent Advances in Statistical Methods and Application in Forestry and Environmental Sciences	ICFRE, Dehradun w.e.f. May 23 to 25, 2018	1. Dr. Showkat Maqbool, Assistant Professor, Div. of Agricultural Economics & Statistics, FoA, Wadura
16.	Training programme on “Breeding Strategies and Seed Production Techniques of Temperate and Exotic Vegetable under Changing Climatic Conditions”	ICAR-Indian Agricultural Research Institute, Regional Station, Kartrain Kullu, Himachal Pradesh w.e.f. June 01 to 21, 2018	1. Dr. Anil Kumar, Assistant Professor, HMAARI, Leh

17.	International Conference on “Innovative Theories and Practices for Sustainable Development in Changing world Scenario:An Inter-Disciplinary Perspective”	Kuala Lumpur, Malaysia w.e.f. June 07 to 11, 2018	<ol style="list-style-type: none"> 1. Dr. Nazeer Ahmad Bhat, Associate Professor, MRCFC, Khudwani 2. Dr. S. Sheraz Mahdi, Assistant Professor, MRCFC, Khudwani
18.	Training programme on “Hydrological Modelling Using SWAT”	National Institute of Hydrology, Roorkeew.e.f. June 11 to 22, 2018	<ol style="list-style-type: none"> 1. Dr. Mushtaq Ahmad Wani, Associate Professor, Division of Soil Science, FoA, Wadrua
19.	Third International Conference on “Himalayan Ecology”	Chandigarh w.e.f. June 15 to 16, 2018	<ol style="list-style-type: none"> 1. Dr. M.H. Wani, Registrar, SKUAST-K, Shalimar
20.	Training programme on “Watershed Concept, Planning and Management”	ICAR-IISWC, Dehradun w.e.f. June 18 to 27, 2018	<ol style="list-style-type: none"> 1. Dr. Mohammad Iqbal Bhat, Subject Matter Specialist, KVK, Budgam
21.	Training programme on “Production and Post Production Interventions to Increase Returns from Livestock Enterprises-A Step Towards Doubling Farmers’ Income”	FVSc. & AH, Shuhama, SKUAST-K, w.e.f. June 19 to 09, 2018	<ol style="list-style-type: none"> 1. Dr. Rameez Ali, Assistant Professor, MLRI, Manasbal 2. Dr. Firdous Ahmad Dar, Assistant Professor, Div. of Vety. Anatomy & Histology, FVSc. & AH, Shuhama 3. Dr. ArjumaKhatun, Assistant Professor, Division of Animal Reproduction, Gynecology and Obstetrics, FVSc. & AH, Shuhama 4. Dr. Nuzhzat Hassan, Subject Matter Specialist, KVK, Kargil
22.	One day workshop on “Use of e-CHARAK and Voluntary Certification Scheme for Medicinal Plants Produce as a Platform for Promotion of forward-backard linkage in MAP”	Chandigarh, on June 28, 2018	<ol style="list-style-type: none"> 1. Dr. Sheikh Bilal, Dean, Faculty of Agriculture, Wadura
23.	Training programme on “Food Safety and Quality Management of Food-Products with reference to HACCP, Value Addition & Quality Standard”	Centre of Food Science & Technology, Institute of Agri. Sciences, Banaras Hindu University, Varanasi w.e.f. July 03 to 23, 2018	<ol style="list-style-type: none"> 1. Dr. Syed Akram Hussain, Associate Professor-cum-Senior Scientist, Division of Veterinary Public Health, FVSc. & AH, Shuhama
24.	Short training course on “Physiological Approaches for Reducing Post-harvest in Fruits and Vegetables”	SKUAST-K, Shalimar w.e.f. July 09 to 18, 2018	<ol style="list-style-type: none"> 1. Khurshid Ahmad Zargar, Programme Assistant, KVK, Budgam 2. Dr. Bilal Ahmad Pandit, SMS, KVK Shopian 3. Dr. Rayees Ahmad Wani, SMS, KVK Srinagar 4. Dr. Muneer Ahmad Sofi, Assistant Professor, Division of Entomology
25.	Training programme on “Pesticide Application	National Institute of Plant Health	<ol style="list-style-type: none"> 1. Dr. MunazahYaqoob, Assistant Professor-cum-Junior Scientist, Division of

	Techniques and Safety Measures”	Management, Rajendranagar, Hyderabad w.e.f. 16.07.2018 to 20.07.2018	Entomology, Faculty of Agriculture, Wadura
26.	Short Course on “Pest Surveillance”	NIPHM-Hyderabad, w.e.f. July 16 to 20, 2018	1. Dr. Barkat Hussain, Associate Professor-cum-Senior Scientist/PI DST-coder project, High Mountain Arid Agriculture Research Institute, Leh-Ladakh
27.	Summer School Training Programme on “Technology Transfer Management for Ensuring Sustainability and Food Security through Promotion of Neglected and Underutilized Livestock and Agriculture Crops”,	Directorate of Extension, SKUAST-K, Shalimar w.e.f. July 17 to August 06, 2018	1. Dr. Malik Raies UI Islam, Subject Matter Specialist (Animal Science), KVK Malangpora 2. Mrs. Saima Paul, SMS, KVK Srinagar 3. Dr. Mehraj-U-Din Shah, Assistant Professor-cum-Junior Scientist, Division of Plant Pathology, Shalimar 4. Dr. Nisar Ahmad Ganai, Assistant Professor-cum-Junior Scientist, Temperate Sericulture Research Institute, Mirgund 5. Dr. Rizwan Khurshid, Assistant Professor-cum-Junior Scientist, Division of Entomology,
28.	International Conference on Plant Genetics & Genomics Next Gen Crops for Sustainable Agriculture,	Chandigarh w.e.f. July 19-20, 2018	1. Dr. Mohammad Ashraf Bhat, Prof. & Head, Plant Breeding 2. Dr. Reyazul Rouf Mir, Assistant Professor-cum-Junior Scientist Plant Breeding & Genetics
29.	Training programme on “Determination of Heavy Metals and Pesticide Residues in Agri-produce”	SKUAST-K, Shalimar w.e.f. July 20, 2018 to July 29, 2018	1. Dr. Ishfaq Abidi, Assistant Professor/ Assistant Director Research, Directorate of Research, Shalimar 2. Mohammad Iqbal Bhat, Assistant Professor-cum-Junior Scientist, Directorate of Extension, Shalimar 3. Dr. Baby Summuna, Assistant Professor-cum-Junior Scientist, Division of Plant Pathology, FoA, Wadura 4. Dr. Aamir Hassan, Assistant Professor-cum-Junior Scientist, Division of Soil Science & Agricultural Chemistry, FoA, Wadura 5. Dr. Parveez Ahmad Sheikh, Subject Matter Specialist (Plant Pathology), KVK Kulgam 6. Dr. Adil Mehraj Khan, Assistant Professor-cum-Junior Scientist, Division of Veterinary Pharmacology & Toxicology, FVSc. & AH, Shuham 7. Dr. Imtiyaz Jahangir Khan, Assistant Professor-cum-Junior Scientist (Environmental Science), Division of Basic Sciences & Humanities, Faculty of Agriculture
30.	ICAR Summer School on “Recent Development in Organic Vegetable	Division of Vegetable Science, Faculty of Horticulture, SKUAST-	1. Dr. Majeed-UI-Hassan Chesti, Assistant Professor-cum-Junior Scientist, Directorate of Extension, Shalimar

	Production System under Changing Climatic Scenario”	K, Shalimar w.e.f. July 24-August 13, 2018	<ol style="list-style-type: none"> 2. Dr. Tahir Saleem, 1Subject Matter Specialist (Vegetable Science),KVK, Bandipora 3. Dr. Shafeeq A. Hakeem, Assistant Professor-cum-Junior Scientist, DARS, Budgam 4. Dr. Seerat-ul-Nisa, Assistant Professor-cum-Junior Scientist, DARS, Budgam 5. Dr. Abdul Rouf, Assistant Professor-cum-Junior Scientist, Division of Food Science & Technology, Shalimar 6. Dr. Ravinder Kumar Sharma, Assistant Professor-cum-Junior Scientist, Temperate Sericulture Research Institute, Mirgund
31.	Summer School Training Programme on “Innovations in Livestock Sector for Doubling Farmers Income: Strategies and Opportunities in Meat Value Chain ”	National Research Centre on Meat, Hyderabad w.e.f. July 25 to August 14, 2018	<ol style="list-style-type: none"> 1. Dr. Asif Hassan Sofi, Assistant Professor-cum-Junior Scientist, Division of Livestock Products Technology, FVSc. & AH, Shuhama
32.	03 day workshop on “Intellectual Property Rights”	Jammu & Kashmir entrepreneurship Development Institute (JKEDI) Campus Pamporew.e.f. July 30 to August 01, 2018	<ol style="list-style-type: none"> 1. Dr. Junaid Khan,Head, College of Agriculture Engineering, Shalimar 2. Dr. IshfaqAbidi, Assistant Professor/ Assistant Director Research, Directorate of Research, Shalimar
33.	Training programme on “Advance Remote Sensing, GIS and Spatial Modeling in Land Resource Mapping and Management”	National Bureau of Soil Survey, ICAR, Nagpur w.e.f. 01 to 10 August, 2018,	<ol style="list-style-type: none"> 1. Dr. A.R. Malik,Assistant Professor-cum-Junior Scientist, Faculty of Forestry, BenihamaGanderbal
34.	National Seminar on “Horizons in Zoological Studies”	University of Kashmir, Hazratbal, Srinagar w.e.f. August 04 to 06, 2018.	<ol style="list-style-type: none"> 1. Dr. Farooz Ahmad Bhat, Associate Professor-cum-Senior Scientist, Division of Fisheries Resource Management, Faculty of Fisheries, RangilGanderbal 2. Dr. Amatul Muhee, Associate Professor-cum-Senior Scientist, Division of Clinical Veterinary Medicine, FVSc. & AH, Shuhama 3. Dr. Tasaduq H. Shah, Associate Professor-cum-Senior Scientist, 4. Dr.Andan Abubakr, Associate Professor-cum-Senior Scientist, Division of Aquatic Environmental Management, FoFy, Rangil Ganderbal 5. Dr. Oyas Asmi, Division of FNB, FoFy, Rangil Ganderbal 6. Dr. S. H. Baba, Division of Social Sciences, FoFy 7. Dr. Rizwana Malik, Division of Social Sciences, FoFy

35.	National Seminar on “Animal Science Congress:Horizons in Zoological Studies”,	University of Kashmir, Srinagar w.e.f. August 04 2018 to August 06, 2018	<ol style="list-style-type: none"> 1. Dr. Tarique Hassan Askary, Assistant Professor-cum-Junior Scientist, Division of Entomology 2. Dr. K.A. Sahaf, Professor-cum-Chief Scientist/Incharge Head, Temperate Sericulture Research Institute, Mirgund 3. Prof. M.H. Balkhi,Dean, Faculty of Fisheries 4. Dr. Gohar Bilal Wani, Associate Professor-cum-Senior Scientist, Aquaculture Engineering, Division of Fisheries Engineering, Faculty of Fisheries 5. Dr. Oyas Ahmad Asimi, Associate Professor-cum-Senior Scientist/I/c Head, Division of Fish Nutrition and Biochemistry, Faculty of Fisheries
36.	6 th Annual workshop on NICRA Project,	NICRA, New Delhi; 7-8 Aug 2018	<ol style="list-style-type: none"> 1. Dr. J N Khan, Professor & Head, COAE&T
37.	“13 th International Rotavirus Symposium”,	Minsk, Belarus w.e.f. August 29 to 31, 2018	<ol style="list-style-type: none"> 1. Dr. Irfan Ahmad Khan, Associate Professor-cum-Senior Scientist, Division of Fish Genetics & Biotechnology, Faculty of Fisheries, RangilGanderbal
38.	10 days short course on “Increasing Farmers Income and Livelihood Security:Role of Agricultural Diversification and Value Addition”	Division of Agronomy, Faculty of Agriculture, SKUAST-K, Waduraw.e.f. September 03 to 12, 2018,	<ol style="list-style-type: none"> 1. Dr. F.A. Bahar, Associate Professor-cum-Senior Scientist, High Mountain Arid Agriculture Research Institute, Leh-Ladakh 2. Dr. NowsheenNazir,Assistant Professor-cum-Junior Scientist, Division of Fruit Science, Shalimar
39.	Short course on “Recent Advances in Development of Bio-formulations”	College of Horticulture, Yalachahalli, Mysuruw.e.f. September 03 to 12, 2018	<ol style="list-style-type: none"> 1. Dr. Khurshid Ahmad Bhat,Assistant Professor-cum-Junior Scientist, Division of Plant Pathology, FoA, Wadura 2. Dr. Malik Asif Aziz, Assistant Professor-cum-Junior Scientist, Division of Basic Sciences & Humanities, FoA, Wadura 3. Dr. Tarique Hassain Askary, Assistant Professor-cum-Junior Scientist, Division of Entomology,
40.	CAFT Training Programme on “Extension Led Nutritional Security”	Division of Agricultural Extension, ICAR-Indian Agricultural Research Institute, New Delhi w.e.f. September 04 to 24, 2018	<ol style="list-style-type: none"> 1. Dr. Umar Iqbal, Assistant Professor-cum-Junior Scientist, Division of Fruit Science, Shalimar 2. Dr. Shijaat Hussain Bhat, Assistant Professor-cum-Junior Scientist, Division of Extension & Communication, Faculty of Agriculture, Wadura
41.	Workshop on “Mechanization of Processing and Value Addition for Agricultural and Horticultural Produce”	National Agriculture Science Complex, DPS Todapur, New Delhi on September 05, 2018.	<ol style="list-style-type: none"> 1. Er. Rohitashw Kumar, Associate Professor/Principal Investigator, AICRP on PET, College of Agricultural Engineering & Technology, Shalimar 2. Dr. Syed Zameer Hussain, Associate Professor/ Principal Investigator, Division of Food Science & Technology, Shalimar
42.	Training programme on “Proteomics and its	Department of Biochemistry, College	<ol style="list-style-type: none"> 1. Dr. Reyaz-ul-Rouf Mir, Assistant Professor-cum-Junior Scientist, Division of Genetics

	Applications in Agriculture”	of Basic Sciences and Humanities, Punjab Agriculture University, Ludhiana w.e.f. September 05 to 14, 2018	and Plant Breeding, FoA, Wadura
43.	Winter School on “Advances in Application of ICT in Libraries of NARES to Support Education and Research”	Professor JayashankarTelangana State Agricultural University, Rajendranagar, Hyderabad w.e.f. September 10 to 31, 2018.	1. Dr. Nazir Ahmad Bhat, Assistant Librarian, Central Library, Shalimar
44.	Refresher training course on “Enhancing Core and Advanced Competency Skills in Veterinary Imaging and Anesthesia”	Department of Surgery and Radiology, GADVASU w.e.from September 11 to October 01, 2018	1. Dr. Mehraj-U-Din Dar, Assistant Professor-cum-Junior Scientist, Division of Veterinary Surgery & Radiology, FVSc. & AH, Shuhama 2. Dr. Syed AshaqHussain Shah, Assistant Professor-cum-Junior Scientist, Division of Clinical Veterinary Medicine, Ethics and Jurisprudence, FVSc. & AH, Shuhama
45.	Workshop on “Genomic Selection and its Implementation in India; The Way Forward”	ICAR-IVRI, Izatnagar on 17.09.2018.	1. Dr. N.A. Ganai, Director Planning and Monitoring
46.	Short course training on “Innovation in Weed Management in Context of Changing Agrarian Needs”	Division of Agronomy, Faculty of Agriculture, SKUAST-K, Waduraw.e.f. September 18 to 27, 2018	1. Dr. F.A. Bahar, Associate Professor-cum-Senior Scientist, High Mountain Arid Agriculture Research Institute, Leh-Ladakh
47.	Model Training Course on “Strengthening Value Chain in Wheat and Barley for Doubling Farmers Income”	Indian Institute of Wheat and Barley Research, Karnalw.e.f. September 18 to 25, 2018	1. Dr. Shabir Hussain Wani, Assistant Professor-cum-Junior Scientist (PBG), MRCFC, Khudwani
48.	10 days training course on “Isolation & Purification of Outer Membrane Proteins from Anaerobes and Determination of their Immunoreactivity for Protection”	Division of Veterinary Microbiology & Immunology, FVSc. & AH, Shuhamaw.e.f. 18 to 27 September, 2018	1. Dr. K.H. Bulbul, Assistant Professor-cum-Junior Scientist, Division of Parasitology, FVSc. & AH, Shuhama
49.	Winter School on “Solar Photovoltaic and Thermal Applications for Energy-water-food Security in Agriculture”	ICAR-Central Arid Zone Research Institute, Jodhpur, Rajasthan w.e.from September 19 to October 09, 2018	1. Dr. Deldan Namgial, Assistant Professor-cum-Junior Scientist, HMAARI, Leh
50.	Winter School Training Programme on “Extension and	Department of Agricultural Extension and Communication,	1. Dr. QuadriJaveed Ahmad Peer, Assistant Professor-cum-Junior Scientist, Division of Agriculture Extension, FoA, Wadura

	Communication Approaches for Sustainable Agriculture”	RVSKVV College of Agriculture, Gwalior w.e.f. September 19 to October 09, 2018	
51.	ICAR-sponsored Winter School on “Current and Emerging Trends for Conservation and Sustainable Utilization for Forest Genetic Resources”	ASPEE College of Horticulture and Forestry, Navsari Agriculture University, Gujarat w.e.from September 24 to October 14, 2018	1. Dr. Ashfaq Ahmad Mir, Assistant Professor-cum-Junior Scientist, Faculty of Forestry, Benhama, Ganderbal
52.	05 days training programme on “Feed Management Practices in Coldwater Aquaculture”	ICAR-Directorate of Cold Water Fisheries Research AnusandhanBhawan, Bhimtalw.e.f. September 25 to 29, 2018	1. Dean, Faculty of Fisheries, Rangil Ganderbal
53.	Winter School on “Practicability Scope and Future Prospects of Ethno-botanicals in Minimizing Antibiotic Resistance”	ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly w.e.from September 26 to October 16, 2018,	1. Dr. Shahzada Mudasir Rashid, Assistant Professor-cum-Junior Scientist, Division of Biochemistry, FVSc. & A.H. Shuhama
54.	Workshop on “Research Based Pedagogical Tools”	IISER, Pune from September 28, 2018 to October 1, 2018	1. Dr. Tariq Hussain, Division of Post Harvest Technology (Fisheries)
55.	National Seminar on “Development of Hill Agriculture: Policy and Institutional Imperatives”	School of Agr. Econ. & Horti-business Management, SKUAST-K, October 01, 2018	1. Dr. S. H. Baba, Division of Social Sciences, FoFy, Rangil
56.	International conference Global water Security for Agriculture and Natural Resources	American Society of Agricultural and Biological Engineers (ASABE) and Indian Society of Agricultural Engineers (ISAE); 3-6 October, 2018	1. Dr. Junaid N. Khan, Professor and Head COAE&T 2. Dr. Rohitashw Kumar, Professor-cum-Junior Scientist, COAE&T
57.	“XXIX Workshop of AICRP-Spices”	Dr. Y.S. Parmar University of Horticulture & Forestry, Solan, Himachal Pradesh w.e.f. October 04 to 06, 2018:	1. Dr. B.A. Allie, Associate Professor-cum-Senior Scientist (Agronomy) 2. Dr. Mudasir Hafiz Khan, Assistant Professor-cum-Junior Scientist (Plant Breeding)
58.	Workshop on “Designing Curricular for Master’s and Doctoral Degree Programme in the Discipline of Veterinary Extension Education”	IVRI Izatnagar, Uttar Pradesh on 08.09.2018	1. Dr. Abdul Hai, Professor & Head, Division of Veterinary Animal Husbandry Extension, FVSc. & AH, Shuhama
59.	Training programme on “Current-Reproduction	GADVASU, Ludhiana, Punjab w.e.f. October	1. Dr. Khursheed Ahmad Sofi, Assistant Professor-cum-Junior Scientist, Division of

	Techniques visa-a-vis Fertility Augmentation in Farm Animals”	09 to 29, 2018	Veterinary Clinical Complex, FVSc. & AH, Shuhama 2. Dr. Zubair Ahmad Akhoo, Assistant Professor-cum-Junior Scientist, Division of Vety. Medicine, Ethics & Jurisprudence, Shuhama
60.	CAFT training programme on “Natural Resources Management- A Step Towards Doubling Farmer Income”	Department of Soil Science, Punjab Agricultural University, Ludhiana, Punjab w.e.f. October 10-30, 2018	1. Dr. VaishnuDutt, Assistant Professor-cum-Junior Scientist, Faculty of Forestry, BenhamaGanderbal
61.	CAFT training programme on “Recent Advance in Cell based Technologies for Animal Disease Diagnostics and Therapeutic”	Division of Veterinary and Animal Sciences and Animal Sciences, Hisar, Haryana, w.e.f. October 11 to 31, 2018	1. Dr. NadeemShabir, Assistant Professor-cum-Junior Scientist, Division of Animal Biotechnology, FVSc. & AH, Shuhama
62.	5 th International Rice Congress on “Transformative Science for Food and Nutrition Security”	Marina Bay Sands Expo and Convention Centre, Singapore w.e.f. October 15-17, 2018	1. Dr. Asif Bashir Shikari, Associate Professor-cum-Senior Scientist, Mountain Research Centre for Field Crops, Khudwani 2. Dr. G.A. Parray, Associate Director Research, MRCFC, Khudwani
63.	training programme on “Good Agricultural and Collection Practices of Medicinal Plants”	Aromatic Plants Research, Boriavi, AnandGujratw.e.f. October 22-26, 2018	1. Dr. Amarjeet Singh, Assistant Professor-cum-Junior Scientist, Faculty of Forestry, BenhamaGanderbal
64.	Training programme on “Method Validation in Pesticide Residue Analysis and Measurement of Uncertainty”	NIPHM, Hyderabad w.e.f. October 22 to 26, 2018	1. Dr. Khursheed Ahmad Sofi, Assistant Professor-cum-Junior Scientist 2. Dr. Alamgir Ahmad Dar, Technical Assistant 3. Ms. Ishrat, Technical Assistant
65.	ICAR Sponsored Short Course on “Phenomics, the Next Generation Phenotyping (NGP), for Trait Dissection and Crop Improvement”	Department of Plant Physiology, CAAR, New Delhi w.e.f. October 22-31, 2018	1. Dr. Showkat Ahmad Waza, Assistant Professor-cum-Junior Scientist, MRCFC, Khudwani
66.	International Conference on “Worldwide Research Initiative for Agriculture, Science and Technology (WRIAST-2018)”	University of Kashmir, Srinagar w,e,f, October 24 to 26, 2018.	1. Dr. Raihana Habib Kanth, Professor-cum-Chief Scientist/Head, Division of Agronomy, FoA, Wadura
67.	National Symposium on “Doubling Famers’ Income through Agronomic Interventions under Changing Scenario”	Rajasthan College of Agriculture, MaharanaPratap University & Technology, Udaipur, Rajasthan w.e.f. October 24 to 26, 2018	1. Dr. S. Sheraz Mehdi, Assistant Professor-cum-Junior Scientist (Agronomy), Mountain Research Centre for Field Crops, Khudwani
68.	attending National Seminar on “Climate Change and its Impact on	Division of Environmental Sciences, Faculty of	1. Dr. Junaid N. Khan, Head/Principal Investigator, College of Agriculture Engineering & Technology, Shalimar

	Himalayan Ecology and Food Security”	Horticulture, Shalimar w.e.f. October 25-26, 2018	
69.	10 days training programme on “Genomic and Proteomic Approaches for Elucidation of Environmental Pollutants-induced Health Hazards and Quality Assurance for Food of Animal Origin”	U.P. Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Anusandhan Sansthan, Mathura w.e.f. October 25 to November 03, 2018,	<ol style="list-style-type: none"> 1. Dr. Azad Ahmad Ahanger, Professor & Head, Division of Veterinary Pharmacology & Toxicology, FVSc. & AH, Shuhama 2. Dr. Sheikh Bilal Ahmad, Associate Professor-cum-Senior Scientist, Division of Veterinary Biochemistry, FVSc. & AH, Shuhama
70.	National Seminar on “Climate Change and its Impact on Himalayan Ecology and Food Security”	Division of Environmental Sciences, Faculty of Horticulture, Shalimar w.e.f. October 25-26, 2018	<ol style="list-style-type: none"> 1. Dr. Sajad Mohi-ud-Din, Assistant Professor-cum-Junior Scientist, Division of Entomology, Shalimar 2. Dr. Junaid N. Khan, Head/Principal Investigator, College of Agriculture Engineering & Technology, Shalimar
71.	“Indian Phytopathological Society Symposium”	AMU, Aligarh w.e.f. October 29 to 30, 2018	<ol style="list-style-type: none"> 1. Dr. Bilal A. Padder, Division of Plant Pathology, Shalimar
72.	International Conference on “Rural Livelihood Improvement by Enhancing Farmers’ Income through Sustainable Innovative Agri and Allied Enterprises”	Birla Institute of Technology, Patna Bihar w,e,f, October 30 to November 01, 2018.	<ol style="list-style-type: none"> 2. Dr. Ahmad Abdullah Saad, Assistant Professor-cum-Junior Scientist (Agronomy), Faculty of Agriculture, Wadura 3. Dr. Lal Singh, Associate Professor, FoA, Wadura 4. Dr. Parmeet Singh, Programme Coordinator, KVK shopian
73.	National Symposium on “Bridging Biochemical Interventions and Environmental Remediation’s for One Health Improvement ”	Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana w.e.f. Nov. 02 to 03, 2018.	<ol style="list-style-type: none"> 1. Dr. Manzoor-ur-Rehman Mir, Professor & Head,/Principal Investigator, Division of Veterinary Biochemistry, FVSc. & AH, Shuhama
74.	Training programme on “Advance Techno Management Programmes for Scientists”	Academic Staff College of India, Hyderabad w.e.f. 12.11.2018 to 07.12.2018	<ol style="list-style-type: none"> 1. Dr. Amjad M. Husaini, Assistant Professor-cum-Junior Scientist/P.I, NMHS Project, Division of Plant Biotechnology, Shalimar
75.	CAFT training programme on “Recent Approaches in Diagnostic Pathology and Oncology”	Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab w.e.f. November 12 to December 02, 2018	<ol style="list-style-type: none"> 1. Dr. Shafayat Ahmad Beigh, Assistant Professor-cum-Junior Scientist, Division of Clinical Veterinary Medicine, FVSc. & AH, Shuhama
76.	Winter School on “Advances in the Management of Agriculturally Important Insects”	PAU, Ludhiana w.e.f. November 13 to December 03, 2018	<ol style="list-style-type: none"> 1. Dr. Shahnawaz Ahmad Dar, Assistant Professor-cum-Junior, Scientist (Entomology), High Mountain Arid Agriculture Research Institute, Leh-Ladakh 2. Dr. Tahmina Mushtaq, Assistant Professor-cum-Junior Scientist, Mountain Agriculture Research & Extension Station, Kargil

77.	ICAR Winter School on “Application of Advanced Anatomical Techniques in Disease Diagnosis and Animal Health”	College of Veterinary Science & Animal Husbandry, U.P. Pt. DeenDayalUpadhyaya PashuChikitsaVigyanVishwavidyalayaEvum Go AnusnadhanSansthan, Mathura w.e.f. November 14 to December 04, 2018	1. Dr. Masuood Ahmad John, Assistant Professor-cum-Junior Scientist, Division of Veterinary Anatomy and Histology, FVSc. & A.H, Shuhama
78.	Winter School on “New Vistas in Seed Production, Processing, Seed Enhancement and Marketing”	Seed Centre, Tamil Nadu Agriculture University, Coimbatore w.e.f. November 14 to December 04, 2018	1. Dr. Gowher Nabi Parrey, Assistant Professor-cum-Junior Scientist (Forestry), KVK, Pulwama
79.	9 th National Extension Education Congress - 2018”	College of Agricultural and Post-harvest Engineering Technology, Ranipool, Sikkim (CAU Imphal Manipur) w.e.f. November 15-17, 2018	1. Dr. Abdul Hai, Head, Division of Veterinary & Animal Husbandry Extension, FVSc. & AH, Shuhama
80.	Winter School on “Innovative Approaches for Improvement of Perennial Horticulture Crops”	IARI New Delhi w.e.f. November 16 to December 06, 2018	1. Dr. Rifat Bhat, Assistant Professor-cum-Junior Scientist, Division of Fruit Science, Shalimar
81.	Winter School on “Innovative Approaches for Improvement of Perennial Horticultural Crops”	ICAR-Indian Agricultural Research Institute, New Delhi w.e.f. November 16 to December 06, 2018	1. 1.Dr. A.R. Malik, Assistant Professor-cum-Junior Scientist, Ambri Apple Research Centre, Pahnoo, Shopian
82.	XI Biennial Conference on “Reorienting Animal Nutrition Research in the Perspective of Farmers Welfare”	Patna-Bihar w.e.f. November 19-21, 2018	1. Dr. Abdul Majeed Ganai, Professor-cum-Chief Scientist 2. Dr. Yasir Afzal Beigh, Assistant Professor-cum-Junior Scientist 3.
83.	National Seminar on “Smart Technologies to Boost Farm Profitability and Socio-Economic Status of Rural India”	SKUAST-Jammu w.e.f. November 19-20, 2018	1. Dr. IshtiyahqAhad, Subject Matter Specialist, KVK, Srinagar 2. Dr. Lyaqat Ali, Subject Matter Specialist, KVK, Budgam
84.	National Symposium on “Advances in Diagnostic Imaging and Surgery Techniques in Farm and Companion Animals ”	Department of Veterinary Surgery & Radiology, College of Veterinary Sciences & A.H. Navsari Agricultural University, Navsari w.e.f. November 22-24, 2018.	1. Dr. M.R. Fazili, Professor & Head, Division of Veterinary Clinical Services Complex, FVSc. & A.H, Shuhama
85.	Symposium on “Technological Innovation in Muscle	West Bengal University of Animal and Fishery Science, Kolkata w.e.f.	1. Dr. Sarfaraz Ahmad Wani, Professor-cum-Chief Scientist/Controller of Examination

	Food Processing for Nutritional Security, Quality and Safety”	November 22 to 24, 2018	
86.	National Symposium on “Augmentation of Animal Productivity under Changing Socio-Economic Scenario”	ICAR-National Dairy Research Institute, Karnal, Haryana w.e.f. November 27 to 28, 2018	<ol style="list-style-type: none"> 1. Dr. Owais Arif, Assistant Professor-cum-Junior Scientist, Division of Veterinary Physiology, FVSc. & AH, Shuhama 2. Dr. Zahoor Ahmad Pampori, Professor & Head, Division of Veterinary Physiology, FVSc. & AH, Shuhama 3. Dr. Nazir Ahmad Mir, Subject Matter Specialist(Animal Science), KVK Leh
87.	Short Course on “Development of Agri-Entrepreneurship in NEH Region: A way for Doubling the Farmer’s Income ”	ICAR-Research Complex for NEH-Region, Nagaland Centre, Medziphema, Dimapur, Nagaland w.e.f. November 27 to December 06, 2018	<ol style="list-style-type: none"> 1. Dr. Khursheed Ahmad Dar, Associate Professor-cum-Senior Scientist, Mountain Livestock Research Institute, Manasbal
88.	Training programme on “Assessment of Vulnerability and Adaptation to Climate Change in Agriculture”	ICAR-Central Research Institute for Dryland Agriculture, Hyderabad w.e.f. November 28 to December 07, 2018:	<ol style="list-style-type: none"> 1. Dr. P.A. Sofi, Associate Professor-cum-Senior Scientist, 2. Dr. G.M. Bhat, Associate Professor-cum-Senior Scientist,
89.	CAFT Training Programme on “Frontier Technologies for Future Profitable and Sustainable Agriculture”	Tamil Nadu Agriculture University, Coimbatore w.e.f. November 28 to December 18, 2018	<ol style="list-style-type: none"> 1. Dr. Syed Sheraz Mehdi, Assistant Professor-cum-Junior Scientist, Mountain Research Centre for Field Crops, Khudwani
90.	Winter School on “Processing Value Addition and Waste Utilization of Medicinal Plants with Advance Techniques”	ICAR-Directorate of Medicinal and Aromatic Plants Research, Boriavi, Anand, Gujarat w.e.f. 30.11.2018 to 20.12.2018	<ol style="list-style-type: none"> 1. Dr. Kunzes Angmo, Subject Matter Specialist, KVK, NyomaLadakh
91.	XIV th Annual workshop AICRP on Plastic culture Engg & tech	PAU, Ludhiana, December 18-19, 2018	<ol style="list-style-type: none"> 1. Dr. Rohitashw Kumar, Professor-cum-Chief Scientist, COAE&T. 2. Er. R. M. Shukla, Assistant professor-cum-Junior Scientist, COAE&T
92.	Winter School on “Significance of Bioactive Ingredients and Supplements in Health Foods”	MaharanaPratap University of Agriculture & Technology, Udaipur, Rajasthan w.e.f. January 01 to 21, 2019	<ol style="list-style-type: none"> 1. Dr. Anwar Hussain, Subject Matter Specialist, KVK, Nyoma, Ladakh
93.	IASc-INSA-NASI Summer Research Fellowship-2018	Central University of Kerala Eight weeks (56 days-including Sundays and General Holidays) w.e.f. 1 st January, 2019	<ol style="list-style-type: none"> 1. Dr. Sajad Hussain Mir, Assistant Professor-cum-Junior Scientist (Entomology), Faculty of Agriculture, Wadura

94.	Training programme on “An Update of Molecular and Advanced Approaches for Diagnosis of Parasitic Diseases in Animal”	ICAR-National Institute of Veterinary Epidemiology and Disease Informatics, Bengaluru, Karnataka w.e.f. January 02 to 11, 2019	1. Dr. Z.H. Munshi, Professor & Head, Division of Veterinary Public Health, FVSc. & AH, Shuhama
95.	Short Course on “An Update of Molecular and Advanced Approaches for Diagnosis of Parasitic Disease in Animals”	ICAR-NIVEDI, Yalahanka, Bengaluru, Karnataka w.e.f. January 02 to 11, 2019	1. Dr. Idrees Mehraj Allaie, Assistant Professor-cum-Junior Scientist, Division of Veterinary Parasitology, FVSc. & AH, Shuhama
96.	Winter School on “Recent Advances in Micro-Irrigation and Fertigation Systems for Improved input Use Efficiency of Open and Covered Cultivation through Engineering Interventions”	ICAR-Central Institute of Agricultural Engineering, Bhopal w.e.f. January 03-23, 2019	1. Dr. Rohitashw Kumar, Professor-cum-Chief Scientist, College of Agriculture Engineering & Technology, Shalimar 2. Dr. Lal Singh, Associate Professor, Division of Agronomy, FoA, Wadura 3. Dr. Nazir Ahmad Ganai, Assistant Professor, Division of Horticulture, FoA, Wadura
97.	Training programme on “Rapid Biosensors and Micro Techniques for Monitoring Contaminants and Adulterants in Dairy Foods”	NDRI, Karnal w.e.f. 04.01.2019 to 24.01.2019	1. Dr. Mudasar Ali Rather, Assistant Professor-cum-Junior Scientist, Division of Veterinary Public Health, FVSc. & AH, Shuhama
98.	Winter School on “Role of Precision Farming in Urban and Peri-urban Horticulture in the Era of Urbanization”	Department of Horticulture, SKN Agriculture University, Jabner, Jaipur, Rajasthan, w.e.f. January 04 to 24, 2019	1. Dr. Hanuman Lal Verma, Subject Matter Specialist (Agri. Extension), KVK-Nyoma, Leh
99.	Winter School on “Extension Approaches for Integrating Technological Option and Institutional Arrangements for Doubling Farmers’ Income”	Division of Agricultural Extension, ICAR-Indian Agricultural Research Institute, New Delhi w.e.f. January 04 to 24, 2019,	1. Dr. Ambreen Nabi, Assistant Professor-cum-Junior Scientist (Vegetable Science), KVK Budgam 2. Dr. Rekhi Singh, Programme Coordinator, KVK, Srinagar 3. Dr. Rukhsar Ahmad Dar, SMS, KVK, Pulwama 4. Dr. Jahangeer Ahmad Baba, Assistant Professor, KVK, Pulwama 5. Dr. Sushil Kumar, Assistant Professor, Directorate of Extension, Shalimar
100.	Winter School on “Role of Precision Farming in Urban and Peri-urban Horticulture in the Era of Urbanization”	Department of Horticulture, S.K.N. College of Agriculture, Rajasthan w.e.f. 04.01.2019 to 24.01.2019	1. Dr. Mohammad Mudasar, Assistant Professor-cum-Junior Scientist, Division of Vegetable Science, Shalimar
101.	Winter School on “Tactical Response Farming for Climate Resilience”	Department of Agronomy, College of Agricultural G.B. Pant University of	1. Dr. Ejaz Ahmad Dar, Subject Matter Specialist (Agronomy), KVK Kargil

		Agriculture and Technology, Pantnagar w.e.f. 08.01.2019 to 28.01.2019,	
102.	Winter School on “Recent Advances in Statistical Techniques for Data Analysis in Agriculture”	IASRI, New Delhi w.e.f. January 10 to 30, 2019,	<ol style="list-style-type: none"> 1. Dr. Yogesh Pandey, Assistant Professor-cum-Junior Scientist, College of Agricultural Engineering & Technology, Shalimar 2. Dr. Angrej Ali, Assistant Professor, FoA, Wadura 3. Dr. Ajaz Ahmad Lone, Associate Professor, HMARI, Leh
103.	National Conference on “Ornamental Horticulture to Uplift Rural Economy”	RCA, MPUAT, Udaipur, Rajasthan w.e.f. January 11-13, 2019.	<ol style="list-style-type: none"> 1. Dr. Z.A. Bhat, Assistant Professor-cum-Junior Scientist, Division of Floriculture and Landscape Architecture, Shalimar
104.	International Conference on “Advances and innovations in biotechnology for sustainable development”	M.P. January 19 – 21, 2019	<ol style="list-style-type: none"> 1. Dr. Anayitullah Chesti, Division of Aquaculture
105.	Training programme on “Management of Technology and Innovation”	Institute of Public Enterprise, Hyderabad w.e.f. 21 st -25 th January, 2019:	<ol style="list-style-type: none"> 1. Dr. P.A. Sofi, Associate Professor-cum-Senior Scientist, Dryland (Karewa) Agriculture Research Station, Budgam 2. Dr. Shabir Ahmad Hamdani, Assistant Professor-cum-Junior Scientist, Division of Veterinary & A.H. Extension, FVSc. & A.H. Shuhama
106.	Training programme on “Genomics Assisted Crop Breeding Techniques”	Panjab Agriculture University, Ludhiana w.e.f. 22.01.2019 to 11.02.2019	<ol style="list-style-type: none"> 1. Dr. Ajaz Ahmad Malik, Assistant Professor-cum-Junior Scientist, Division of Vegetable Science, Shalimar 2. Dr. Rizwan Rashid, Programme Coordinator, KVK, Zanaskar
107.	8 th International Conference on “Water Resources and Arid Environments (ICWRAE 8)	King Saud University, Riyadh-Saudi Arabia w.e.f. January 22-24, 2019	<ol style="list-style-type: none"> 1. Dr. S.A. Wani, Professor & Head, School of Agricultural Economics & Horti-Business Management, Shalimar
108.	National Conference on “Innovations in Animal Production for Sustainability and Doubling Farmers Income & XXVI th Annual Convention of the Indian Society of Animal Production and Management”	College of Veterinary & Animal Sciences, Kerala Veterinary and Animal Sciences University, Mannuthy, Thrissur, Kerala w.e.f. January 23 to 25, 2019	<ol style="list-style-type: none"> 1. Dr. Mohammad Tufail Banday, Professor & Head, Division of Livestock Production Management, FVSc. & AH, Shuhama
109.	53 rd Annual convention ISAE and International Symposium on	Indian Society of Agricultural Engineers (ISAE) at Banaras Hindu	<ol style="list-style-type: none"> 1. Dr. Jagvir Dixit, Professor-cum-Chief Scientist, COAE&T 2. Dr. Rohitashw Kumar, Professor-cum-Chief Scientist, COAE&T

	Engineering Technologies for Precision and Climate Smart Agriculture	University, Varanasi; 28-30 Jan, 2019	
110.	Short Course Training Programme on “Crop Diversification for Resilience in Agriculture and Doubling Farmers’ Income”	Indian Agriculture Research Institute, New Delhi w.e.f. January 25 to February 03, 2019	<ol style="list-style-type: none"> 1. Dr. Parvez Ahmad Sofi, Associate Professor-cum-Senior Scientist, Faculty of Forestry, Benhama, Ganderbal 2. Dr. M.N. Khan, Professor, DARS, Budgam 3. Dr. Sabiya Bashir, Assistant Professor, DARS 4. Dr. Seerat-un-Nisa, Assistant Professor, DARS 5. Dr. Zahoor Ahmad Bhat, Associate Professor, AARC, Shopian
111.	National Conference on “Advanced Research Methodologies in Soil Sciences”	Department of Agricultural Statistics, University of Agricultural Sciences, Dharwad, Karnataka w.e.f. January 28 to 30, 2019	<ol style="list-style-type: none"> 1. Dr.S.A. Wani, Professor & Head, Division of Agricultural Statistics, Shalimar
112.	28 th National Congress of Veterinary Parasitology and National Symposium on “Novel Technologies and Strategies for Sustainable Control of Parasitic Diseases of Livestock, Poultry and Public Health Significance”	College of Veterinary Science, Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh w.e.f. January 28 to 30, 2019	<ol style="list-style-type: none"> 1. Dr. Rafiq A. Shahardar, Professor & Head, Division of Veterinary Parasitology, FVSc. & AH, Shuhama
113.	4 th International Conference on “Bionergy, Environment and Sustainable Technologies (BEST-2019)”	Arunai Engineering College, Tiruvannamalai, Tamil Nadu w.e.f. January 28 to 30, 2019	<ol style="list-style-type: none"> 1. Dr. F.A. Lone, Professor-cum-Chief Scientist/Head, Division of Environmental Sciences, Shalimar
114.	National Conference on “Challenges and Opportunities in Statistics and Informatics for Futuristic Humanosphere Especially in Agriculture”	S.V. Agricultural College, Tirupati, ANGRAU, Andhra Pradesh w.e.f. January 29-31, 2019,	<ol style="list-style-type: none"> 1. Dr. BhagyashreeDhekale, Assistant Professor-cum-Junior Scientist, Division of Agricultural Statistics, Shalimar
115.	Winter School on ‘Farmer Empowerment through Entrepreneurial Ventures’	Punjab Agricultural University w.e.f. February 01 to 21, 2019	<ol style="list-style-type: none"> 1. Dr.Sandeep Kumar, Assistant Professor-cum-Junior Scientist, Division of Soil Science, Shalimar
116.	Winter School on “Farmer Empowerment through Entrepreneurial Ventures”	Punjab Agriculture University, Ludhiana w.e.f. February 01 to 21, 2019,	<ol style="list-style-type: none"> 1. Dr. Syed ShafatKubrevi, Assistant Professor-cum-Junior Scientist, Division of Agriculture, Extension & communication, Faculty of Agriculture, Wadura
117.	10 days short course on “Advances in Applied	College of Veterinary Sciences, & Animal	<ol style="list-style-type: none"> 1. Dr. Abdul Razzaque Choudhury, Division of Vety. Anatomy & Histology, FVSc. &

	Anatomy and its Clinical Application in Veterinary Practice,	Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram w.e.f. February 04-13, 2019	AH, Shuhama
118.	Winter School on “Abiotic Stress:Advances, Impact and Prospects”	Department of Crop Physiology, Assam Agricultural University, Jorhatw.e.f. 06.02.2019 to 26.02.2019	1. Dr. DisketDolkar, Subject Matter Specialist, KVK, Kargil-Ladakh 2. Dr. SonamSpaldon, SMS, KVK, Nyoma, Ladakh
119.	Winter School on “Dynamics of Entrepreneurial Development for Empowering Rural Youth in Agriculture”	Department of Extension Education, College of Agricultural Bhubaneswar, Orissa University of Agriculture Bhubaneswar, Orrisaw.e.f. February 07 to 27, 2019	1. Dr. Purshotam Singh, Associate Professor-cum-Senior Scientist (Agronomy) 2. Dr. Sanjay Kumar Raina, Assistant Professor-cum-Junior Scientist (Soil Science)
120.	Training programme on “Modern Concepts in Plant Disease Management for Enhancing Quality and Productivity”	Pantnagar-Utrakhandw.e.f. February 08-28, 2019	1. Dr. Waseem Ali Dar, Assistant Professor-cum-Junior Scientist, Mountain Agriculture Research and Extension Station, Gurez
121.	five (05) days refresher training course on ‘Sampling of Fruits, Vegetables and other items for Pesticide Residue Analysis and Calibration of Laboratory Equipments for PRA”	NIPHM-Hyderabad w.e.f. February 11-15, 2019	1. Dr. Khurshed Ahmad Sofi, Assistant Professor-cum-Junior Scientist, 2. Dr. Alamgir Ahmad Dar, Technical Assistant 3. Ms. Ishrat, Technical Assistant
122.	05 days training programme on “Rodent Pest Management”	National Institute of Plant Health Management, Hyderabad w.e.f. February 11 to 14, 2019,	1. Dr. IshtiyahAhad, Subject Matter Specialist (Plant Protection), KVK Srinagar
123.	08 days training programme on “Integrated Soil Nutrient and Rhizosphere Management”	National Institute of Plant Health Management, Rajinderanagar, Hyderabad w.e.f. 12.02.2019 to 19.02.2019	1. Dr. D. Namgyal, Programme Coordinator, KVK, LehLadakh 2. Dr. Mohd. Mehdi Akhoun, PC, KVK, Kargil
124.	Short Course training programme on “New Techniques for Reducing Post-Harvest Losses in Grapes”	National Research Centre for Grapes (NRCGRAPES), Pune w.e.f. February 19-28, 2019	1. Dr. AasimaRafiq, Subject Matter Specialist, KVK Anantnag
125.	02 days Germplasm-cum-Training Programme”	Winter Nursery Centre, Hyderabad w.e.f. March 01-02, 2019.	1. Dr. Zahoor Ahmad Dar, Professor-cum-Chief Scientist, AICRP Maize, DARS Budgam

126.	two (02) days training programme on “Next Generation (Genomic Technologies & Bioinformatics)”	Chandigarh w.e.f. March 01-02, 2019	1. Dr. Sajad Ahmad Gangoo, Professor & Head, Division of Forest Products & Utilization, Faculty of Forestry, BenehamaGanderbal
127.	07 days short course on “Protected Cultivation of Vegetable Crops”	C.S. Azad University of Agriculture & Technology, Kanpur on 17.03.2019	1. Dr. Ajaz Ahmad Malik, Assistant Professor-cum-Junior Scientist, Division of Vegetable Science, Shalimar
128.	10 days training course on “On Farm Production of Bio-control Agent and Microbial Bio-Pesticides“	National Institute of Plant Health Management, Rajendrangan, Hyderabad w.e.f. March 18-27, 2019	1. Dr. Sajad Mohiuddin, Assistant Professor-cum-Junior Scientist, Division of Entomology, Shalimar 2. Dr. Bilal A. Padder, Assistant Prof. Division of Plant Pathology, Shalimar

HONOURS AND AWARDS

S.No.	Award	Awarding/ Presenting Agency	Awardees
1.	INSA Best Teacher-2018	Indian National Science Academy	Prof. Nazir A. Ganai
2.	Best Oral Presentation award	SKUAST-K	Khan J. N., Namgial D, Jillani A and Ali R
3.	Best paper award	Assam Agricultural University Jorhat.	Rohitashw Kumar and J N Khan
4.	Best Teacher Award (Agri Engineering)	SKUAST-K	Muzammil A. Bhat
5.	Dr. Anna Mitra Saha Award (Journal award)	Indian Society for Agricultural Economics	Prof. Shabir A. Wani
6.	Fellow ATDS-2018	Agricultural Technology Development Society	Dr. Amit Kumar
7.	Rajbhasa Gaurav Award for Original Book Writing in Hindi (second prize)	Ministry of Home Affairs, Department of Official Language, Govt. of India, New Delhi	Dr. P. K. Singh
8.	Young Scientist Award	RASSA, New Delhi	Dr. P.K. Singh
9.	Best Teacher Award (Horticulture)	SKUAST-K	Dr. Aijaz Ahmad Malik
10.	Best Poster Presentation Award	SKUAST-K	Dr. Sajad Mohiudin
11.	Best Oral Presentation Award	SKUAST-K	Dr. Imtiyaz Murtaza
12.	RACE-2019 Bangkok Award for Young Scientist	IARDO, Bangkok	Dr. Khalid Z. Masoodi
13.	Best Journal Paper Award	Society of Endocrinology, Glasgow, United Kingdom	Dr. Khalid Z. Masoodi
14.	Fellowship of Society of Life Sciences	Society of Life Sciences, at Satna, M.P.	Dr. Anayit-ullah Chesti,
15.	Fellowship of "Academy of Environmental Biology"	Academy of Environmental Biology	Dr. Gohar Bilal
16.	Best oral presentation award	University of Kashmir	Syed Nadima, F A Bhat;; Oyas Asmi and B. A. Bhat
17.	Best poster presentation award	University of Kashmir	Asifa Wali; T. H. Shah; F. A Bhat; M. H, Balkhi and B. A. Bhat

UNIVERSITY DEVELOPMENT

The SKUAST-Kashmir being a residential institution with the mandate of teaching, research and extension education needs appropriate infrastructure development by way of constructing Administrative/Laboratory Blocks, Hostels, Roads etc. Moreover, the University is multi campus and infrastructure is scattered from Shalimar(Srinagar) to Wadura (Baramullah) and

Rangil (Ganderbal) to Khudwani(Anantnag). The Government of Jammu and Kashmir is providing Grant-in-Aid by way of Advance drawals on yearly basis under Annual Plan/Capex budget so that spill-over/new projects of the University could be completed as per the targets fixed by Govt. of Jammu and Kashmir.

Table-I : Budget Allocation under Capex:

S.No.	Financial Year	No. of works under execution	Amount (Rs. in Lacs)	Remarks
01	2018-19	28	985.00	There was 100% utilization of funds released by the GoJK under Capex Budget during the year 2017-18 & 2018-19

Table-II : List of works being executed during 2018-19 under Capex Budget of SKUAST-Kashmir:

S.No	Name of work	Estimated cost (Rs. in Lacs)	Project Initiation year
A) New works during 2018-19			
1.	Development of Playing field at main campus Shalimar	50.00	2018
2.	Construction of main gate/road at main campus, Shalimar	60.00	2018
3.	Completion of Girls Hostel at FoA, Wadura	100.00	2018
4.	Solar/Green Energy Harvesting (all campuses)	180.00	2018
5.	Construction of Post-mortem Complex at FVSc & AH, Shuhama	149.00	2018



Inauguration of Fish Hospital at FoFy

Examinations / UET during 2018-19

Following University Examination Tests (UETs) for various professional degree courses including Written Tests for various Non-Teaching posts were conducted during the year (2018-19) by Controller of Examination (Examination Centre).

Name of Examination	Date
University Entrance Test (UET)	
UET – UG – 2018	10 – 06 – 2018
UET – PG – 2018	25/ 26 July, 2018
UET – Ph.D. – 2019	13 – 02 – 2019
Practical & Written Test for Recruitment of various Non-Teaching Posts:	
Written Test for Lab. Technician	19 – 07 – 2018
Sr. Library Assistant	28 – 10 – 2018
Practical Test for Drivers	1 st to 4 th of November, 2018
Written Test for Driver / Tractor Driver post	18 – 11 – 2018
Stenographer (Type/Short-hand Test)	3 rd , 4 th , 5 th , 7 th & 10 th Dec, 2018
Assistant Registrar	13 – 01 - 2019
Assistant Comptroller	13 – 01 - 2019
Stenographer (Written Test)	20 – 01 - 2019
Accounts Assistant	24 – 03 – 2019
Besides, External Examinations for various Semesters (Spring / Autumn) of following Under-graduate Programmes were also conducted during the period under report. Agriculture; Horticulture; Forestry, Fisheries, Sericulture and Agri. Engineering	
June – July, 2018	2 nd and 4 th Semester
December, 2018 – February, 2019	1 st , 3 rd and 5 th Semester

Appointments during 2018-2019

DIRECT APPOINTMENTS BY SELECTION FROM APRIL 2018 TO MARCH, 2019

A. Teaching

S.No.	Position	Discipline	Name	U.O No. and date
1.	Assistant Professor/Jr. Scientist	Forestry	• Dr.Megna Rashid Bakshi • Dr.Peerzada Ishtiyak Ahmad	638(Est.)of 2018 Dated: 09-08-2018
2.	Assistant Professor/Jr. Scientist	Microbiology	Dr. Shahid Ahmad Padder	167 (Est.) of 2019 Dated: 16-02-2019
3.	Assistant Professor/Jr. Scientist	Forestry	Dr. Sabeena Nabi Dr. Nazir Ahmad Pala Dr. Amir Farooq Bhat Dr. Tahir Mushtaq Dr. Mohamad Maqbool Rather Dr. Shah Murtaza Mushtaq	168 (Est.) of 2019 Dated: 16-02-2019
4.	Assistant Professor/Jr.Scientist	Agronomy	Dr.Tauseef Ahmad Bhat	180 (Est.) of 2019 Dated: 19-02-2019
5.	Assistant Professor/Jr.Scientist	Entomology	Dr.Mudasir Gani	207 (Est.) of 2019 Dated: 23-02-2019
6.	Subject Matter Specialist	Entomology	Dr. Showket Ahmad Dar	208 (Est.) of 2019 Dated: 23-02-2019
7.	Assistant Professor/Jr.Scientist	Plant Pathology	Dr. Asha Nabi	209 (Est.) of 2019 Dated: 23-02-2019
8.	Assistant Professor/Jr. Scientist	Biochemistry	Dr. Shabir Ahmad Ganai Dr. Saima Masood Dr. Khalid Hussain Bhat	221 (Est.) of 2019 Dated: 27-02-2019
9.	Associate Professor/ Sr.Scientist	Plant Pathology	Dr.Mehraj-ud-Din Shah Dr. Bilal ahmad Padder Dr. Farahanaz Rasool Dr. F.A. Mohiddin	569(Est.)of 2018 Dated: 15-07-2018
10.	Professor/Chief Scientist	Vety. Micro. & Immunology	Dr. Mohd Altaf Bhat	576(Est.)of 2018 Dated: 15-07-2018
		Animal Nutrition	Dr. Abdul Majee Ganai	
		Veterinary Clinical Service	Dr. Jalal-ud-Din Parrah	
		LPM	Dr.Hilal Musadiq Khan	
		Vety.Physiology	Dr. Zahoor Ahmad Pampori	
11.	Associate Director Research	Animal Science	Dr.Azmat Alam Khan	578(Est.)of 2018 Dated: 15-07-2018
12.	Associate Director Extension	Animal Science	Dr.Masood Saleem Mir	579(Est.)of 2018 Dated: 15-07-2018
13.	Associate Director Research	Agriculture	Dr.Mushtaq Ahmad Wani	580(Est.)of 2018 Dated: 15-07-2018
14.	Senior Scientist & Head (KVKs)	-	Dr.Sajad Mohiuddin Mir	731(Est.) of 2019 Dated: 01-01-2019

B. Non-Teaching (2018-2019)

S. No.	Position	Name of appointee	U.O No. and Date
1.	Driver (08) candidates (BY SELECTION)	1. Mohd Arif Khan (OM) 2. Mohmad Imran (OM) 3. Rafi Akram (OM) 4. Ab.Qayoom Bhat (OM) 5. Ammer Yousf Khanday (OM) 6. Hilal Ahmad Mir (RBA) 7. Javaid Iqbal (ST) 8. Manoj Kumar (SC)	U.O.No. 56 of 2019 Dated 16-01-2019
2.	Sr.Library Assistant	1. Showkat Ahmad Wani (OM) 2. Abid Hussain Mir (RBA)	No. 67 (Est.) of 2019 Dated 16-01-2019
3.	Security Guard	1. Ab. Rashid Rather (OM) 2.Mr. Shavakat Ahmad Beag (RBA)	No. 232 (Est.) of 2019 Dated 01-03-2019

Statutory meetings during 2018-2019

66th meeting of Board of Management

24 Sep, 2018

33rd meeting of University Council

09 Apr, 2018



Superannuation during 2018-19

S. No.	Name of the employee	Designation	Place of posting	Date of retirement
1.	Dr. V. K. Ambardar	Associate Professor	Division of Plant Pathology, Shalimar	31.03.2018
2.	Dr. F. A. Peer	Associate Professor	Faculty of Agriculture, Wadura	31.03.2018
3.	Dr. Hafiza Ahsan	Professor/Chief Scientist	Division of Post Harvest Technology, Shalimar	31.03.2018
4.	Dr. Sheikh Noor-ul-Din	Associate Professor	TSRI, Mirgund	31.05.2018
5.	Dr. Rajinder Kotru	Associate Professor	Division of Agronomy, FOA Wadura	30.06.2018
6.	Mrs. Jeeta Mujoo	Assistant Professor	TSRI, Mirgund	31.10.2018
7.	Dr. Rajinder Bhan	Assistant Professor	AARC, Balapora, Shopian	31.12.2018
8.	Dr. Ravi Kumar Nehru	Associate Professor	Division of Entomology, Shalimar	31.12.2018
9.	Dr. Vijay Kumar Koul	Assistant Professor	Division of Food Science and Technology, Shalimar.	31.12.2018
10.	Dr. Mohammad Ashraf Dar	Associate Professor	Division of Soil Science, Shalimar	31.01.2019
11.	Dr. Gulam Ahmad Parray	Associate Director Research	MRCFC, Khudwani	31.01.2019
13.	Dr. G.M. Mir	Professor/Chief Scientist	TSRI, Mirgund	28.02.2019
14.	Dr. Shabir Hussain Khan	Associate Professor	Division of Vegetable Science, Shalimar	28.02.2019
15.	Dr. Mohd. Yousuf Zargar	Director Research	Directorate of Research, Shalimar	28.02.2019
16.	Dr. Shafiq Ahmad Wani	Professor/Chief Scientist	Division of Agri. Statistics, Shalimar	31.03.2019
17.	Dr. Wali Mohd Wani	Professor/Chief Scientist	Division of Fruit Science Shalimar	31.03.2019
18.	Dr. Mohammad Maqbool Darzi	Professor/Chief Scientist	Division of Vety. Pathology, FVSc & AH, Shuhama	31.03.2019
19.	Mr. Fayaz Ahmad Kukloo	Assistant Professor	TSRI, Mirgund	31.03.2019

a) Non-teaching category

S.No.	Name of Employee	Designation	Place of Posting	Date of Birth	Date of Superannuation
APRIL, 2018					
1.	Mr. Ab. Ahad Ganai	Gardener/Farm Attendant	MRCS&G Shuhama	03.04.1958	30.04.2018
2.	Mr. Zahoor Ahmad Shah	Works Supervisor	Estates Wing, Shalimar	04.04.1958	30.04.2018
3.	Mr. Showkat Ahmad Khan	FCLA (SS)	Section of PBG, Shalimar	04.04.1958	30.04.2018
4.	Mr. Hakeem Shafkat Hussain	Assistant Registrar	Registrar's Office, Shalimar	04.04.1958	30.04.2018
5.	Ms. Najm-u-Sehr	Head Assistant	Directorate of Education, Shalimar	04.04.1958	30.04.2018

6.	Mr. Gh. Qadir Dar	Tr. Driver	DARS, Budgam	04.04.1958	30.04.2018
7.	Shabir Ahmad Mughal	Sharing Assistant	Division of Livestock Production Technology, FVSc.&AH, Shuhama	11.04.1958	30.04.2018
8.	Ms. Razia Akhtar	Head Assistant	Faculty of Fisheries, Rangil, Ganderbal	15.04.1958	30.04.2018
9.	Mr. Gh. Mohammad Sofi	Helper	Division of Agricultural Engineering, Shalimar	15.04.1958	30.04.2018
10.	Mr. Abdul Ahad Mir	OCC	Temperate Sericulture Research Institute, Mirgund	20.04.1958	30.04.2018
MAY, 2018					
11.	Mr. Gh. Hassan Sheikh	Lab. Attendant	Faculty of Agriculture, Wadura	02.05.1958	31.05.2018
12.	Ms. Pritam Kour	Head Assistant	Faculty of Fisheries, Rangil, Ganderbal	02.05.1958	31.05.2018
13.	Mr. Abdul Hamid Mir	Sr. Stenographer	Estates Wing, Shalimar	08.05.1958	31.05.2018
14.	Mr. Nisar Hussain	Farm Attendant	Temperate Sericulture Research Institute, Mirgund	30.05.1958	31.05.2018
JUNE, 2018					
15.	Mr. Gh. Rasool Rather	FCLA	Division of Fruit Science, Shalimar	15.06.1958	30.06.2018
16.	Mr. Mohammad Yousuf Shah	Farm Attendant (RDPL)	MRC&G, Shuhama	15.06.1958	30.06.2018
17.	Mr. Gh. Hassan Mir	Tractor Driver	MLRI, Manasbal	01.07.1958	30.06.2018
JULY, 2018					
18.	Ms. Farida Bano	ACT (SS)	Directorate of Education, Shalimar	06.07.1958	31.07.2018
19.	Ms. Asmat Ara	Assistant Registrar	FoA/RRS, Wadura	07.07.1958	31.07.2018
20.	Ms. Firdousa Pandit	ACT	Directorate of Extension, Shalimar	10.07.1958	31.07.2018
21.	Mr. Gh. Nabi Dar	LSA	Division of Clinical Services Complex, FVSc. & AH, Shuhama	12.07.1958	31.07.2018
22.	Mr. Bashir Ahmad Beigh	Photographer	SKUAST Offset Press, Shalimar	14.07.1958	31.07.2018
23.	Mr. Fida Mohammad Rather	FCLA	Division of Veterinary Medicine, Ethics & Jurisprudence, FVSc. & AH, Shuhama	22.07.1958	31.07.2018
24.	Mr. Ab. Rehman Mattoo	OCC	MRCFC, Khudwani	01.08.1958	31.07.2018
AUGUST, 2018					
25.	Ms. Shameema Bano	Sr. Library Assistant	Central Library, Shalimar	06.08.1958	31.08.2018

26.	Mr. Mohammad Ismail Teli (Deleted)	PP&MO	PP&MO's Office, Shalimar	08.08.1958	31.08.2018
27.	Mr. Ab. Salam Rather	Driver	FVSc. & AH	24.08.1958	31.08.2018
28.	Nazir Ahmad Wani	FCLA	Division of Entomology, Shalimar	25.08.1958	31.08.2018
SEPTEMBER, 2018					
29.	Mr. Atta Kumar Kaw	FCLA	Ambri Apple Research Centre, Pahnoo	20.09.1958	30.09.2018
30.	Mr. Gh. Mohammad Indrabi	FCLA	KVK/ETC, Malangpora	25.09.1958	30.09.2018
31.	Mr. Ab. Gaffar Wagay	Gardener	DARS, Budgam	01.10.1958	30.09.2018
OCTOBER, 2018					
32.	Mr. Nazir Ahmad Rather	Foreman	Division of Agricultural Engineering, Shalimar	03.10.1958	31.10.2018
33.	Mr. Mohammad Maqbool Peer	Runner	Faculty of Agriculture, Wadura	14.10.1958	31.10.2018
34.	Mr. Mohammad Maqbool Bhat	FCLA	Division of ARGO, FVSc. & AH, Shuhama	15.10.1958	31.10.2018
35.	Mr. Ali Mohammad Matoo	ACT	Div. of PHT, Shalimar	19.10.1958	31.10.2018
36.	Mr. Shamas-ud-din Dar	Lab. Attendant	Division of Plant Pathology, Shalimar	20.10.1958	31.10.2018
37.	Ms. Indira Dooda	ACT(SS) (Migrant)	Division of Agronomy	26.10.1958	31.10.2018
NOVEMBER, 2018					
38.	Mr. Bashir Ahmad Rather	Head Assistant	Registrar's Office, Shalimar	11.11.1958	30.11.2018
39.	Mr. Ab. Gani Khan	Animal Attendant	MRCS&G, Shuhama	25.11.1958	21.11.2018
40.	Mr. Mohammad Abdullah Mir	Driver	Temperate Sericulture Research Institute, Mirgund	01.12.1958	30.11.2018
41.	Mr. Gh. Nabi Mir	Tractor Driver	MLRI, Manasbal	01.12.1958	30.11.2018
DECEMBER, 2018					
42.	Mr. Ab. Majid Mir	OCC	KVK/ETC Malangpora	17.12.1958	31.12.2018
43.	Mr. Mubashir Rashid Qadri	A.E.E. (R/A)	Estates Wing, Shalimar	17.12.1958	31.12.2018
44.	Mr. Mohammad Ashraf Lone	Head Assistant	KVK Kulgam	25.12.1958	31.12.2018
45.	Mr. Syed Mohammad Yehya	Mechanic	Estates Wing, Shalimar	01.01.1959	31.12.2018
46.	Mr. Ab. Rasheed Ganie	Driver	KVK Pombay Kulgam	01.01.1959	31.12.2018
47.	Mr. Ab. Rashid Ganai (Duplicate)	Driver	KVK Pumbay	01.01.1959	30.12.2018

48.	Mr. Bashir Ahmad Wani	Lab. Attendant	Division of Animal Nutrition, FVSc. & AH, Shuhama	01.01.1959	31.12.2018
JANUARY, 2019					
49.	Ms. Mehbooba Bano	Counter Assistant	Faculty of Fisheries, Rangil, Ganderbal	10.01.1959	31.01.2019
50.	Mr. Bashir Ahmad Mir	Assistant Registrar	Faculty of Fisheries, Rangil, Ganderbal	16.01.1959	31.01.2019
51.	Mr. Showkat Ahmad Mir	Head Assistant	Registrar's Office, Shalimar	01.02.1959	31.01.2019
FEBRUARY, 2019					
52.	Mr. Gh. Nabi Dar	OCC	MRCFC Khudwani	03.02.1959	28.02.2019
53.	Mr. Bashir Ahmad Bhat	Assistant Comptroller	FVSc. & AH	08.02.1959	28.02.2019
54.	Mr. Gh. Mohi-ud-din Bhat	Gardener	Faculty of Agriculture, Wadura	10.02.1959	28.02.2019
55.	Mr. Ab. Majid Dar	Gardener	Faculty of Agriculture & RRS, Wadura	15.02.1959	28.02.2019
56.	Mr. Mohammad Shafi Bhat	FCLA	Division of Plant Pathology, Shalimar	19.02.1959	28.02.2019
57.	Mr. Atik Ullah War	Lab. Attendant	Faculty of Agriculture, Wadura	19.02.1959	28.02.2019
58.	Mr. Bashir Ahmad War	Mechanic	Faculty of Agriculture, Wadura	25.02.1959	28.02.2019
59.	Mr. Gh. Mohammad Parray	Cook	Faculty of Agriculture, Wadura	01.03.1959	28.02.2019
60.	Mr. Satish Kumar Tiku	ACT(SS) (Migrant)	Registrar's Office, Shalimar	01.03.1959	28.02.2019
MARCH, 2019					
61.	Mr. Ab. Majeed Mir	Gardener	MLRI Manasbal	05.03.1959	31.03.2019
62.	Mr. Mohammad Shafi Bhat	OCC/Lab. Attendant	Division of Veterinary Pathology, FVSc. & AH, Shuhama	05.03.1959	31.03.2019
63.	Mr. Shafat Ahmad Sheikh	Accountant (SS)	Comptroller's Office, Shalimar	18.03.1959	31.03.2019
64.	Mr. Mohammad Ramzan Mir	Gardener	Division of Fruit Science, Shalimar	18.03.1959	31.03.2019
65.	Mr. Gh. Rasool Ganie	OCC	Faculty of Agriculture, Wadura	25.03.1959	31.03.2019
66.	Mr. Gh. Hassan Bhat	OCC	Faculty of Agriculture, Wadura	27.03.1959	31.03.2019
67.	Mr. M Hussain Malik	OCC	MRCFC Khudwani	01.04.1959	31.03.2019
68.	Mr. Bashir Ahmad Akhoun	FCLA	Faculty of Agriculture, Wadura	01.04.1959	31.03.2019
69.	Mr. Nasir Hussain Sankar	Head Assistant	Directorate of Research, Shalimar	01.04.1959	31.03.2019
70.	Mohammad Abdullah	OCC	Faculty of Agriculture & RRS, Wadura		31.03.2019

LIST OF PUBLICATIONS (NAAS >6)

1. Ahmad, M., Banday, F.A., Bhat, M.Y., Sharma, M.K., Dar, M.A., Khalil, A. and Nazir, N. (2018). Performance of exotic strawberry varieties under temperate conditions of north-western Himalayas. *Indian J. Hort.*, 75(4): 698-702. (NR. 6.15)
2. Amin, T., Naik, H.R., Hussain, S. Z., Mir, M.A. and Jabeen, A. (2018). *In vitro* digestion, physico-chemical and morphological properties of low glycemic index rice flour prepared through enzymatic hydrolysis. *International Journal of Food Properties*, 21(1):2632-2645.
3. Amin, T., Naik, H.R., Hussain, S. Z., Jabeen, A. and Thakur, M. (2018). *In-vitro* antioxidant and antibacterial activities of pumpkin, quince, muskmelon and bottle gourd seeds. *Journal of Food Measurement and Characterization*: 12(1):182-190.
4. Ankit Magotra, I. D. Gupta, Archana Verma, Rani Alex, Vineeth M R & Tavsief Ahmad (2018). Candidate SNP of CACNA2D1 Gene Associated with Clinical Mastitis and Production Traits in Sahiwal (*Bostaurus indicus*) and Karan Fries (*Bostaurustaurus* × *Bostaurus indicus*), *Animal Biotechnology*. (NR: 7).
5. Aroosa, K. Sharma, M.K., Nazir, N. and Sundouri, A.S. (2018). Effect of bud load and fertilizer application on growth, yield and quality of Sahebi grape. *Indian J. Hort.*, 75(3) : 399-404 (NR. 6.15)
6. Asifa Wali, Shah, T. H., Balkhi, M. H., Bhat, B.A., Bhat, F. A., Qadri, S. and Ishrat, M. (2018). Morphometry and length-weight relationship of rainbow trout *Oncorhynchus mykiss* Walbaum, 1792 (Salmoniformes: Salmonidae) from Kashmir. *Journal of Entomology and Zoology Studies*. 7(1): 1653-1656. (NAAS:6.09)
7. Athar, H., Fazili, M.R, Mir, A.Q., Gugjoo, M.B., Ahmad, R.A. and Khan, H. M. (2018). Ultrasonography: An affordable diagnostic tool for precisely locating coenurosis cyst in sheep and goat *Small Ruminant Research* 169:19-23 *Small Ruminant Research* 169:19-23.
8. Beigh, Y. A, Ganai, A.M., Ahmad, H. A., Khan, M. H., and Mir, M. S. (2018). Chemical composition and nutritional evaluation of Elm (*Ulmus wallichiana*) as browse for Bakerwal goats (*Capra hircus*). *Agroforestry Systems*. DOI:10.1007/s10457-018-0314-7 (N:R 7.20)
9. Beigh, Y.A., Ganai, A.M., Mir, M. S., Ahmad, I., Amin, U. and Mehraj, F. (2018). Haemato-biochemical characteristics of lambs on dietary feed additives (Exogenous fibrolytic enzymes, *Artemisia absinthium* L.) supplementation. *Comparative Clinical Pathology* 27(6): 1473-1485 (NR: 6.00)
10. Bhat, G.R., Dhaliwal, G.S., Ghuman, S.P. and Honparkhe, M. (2018). Pre-ovulatory follicle size at induced estrus and post-ovulatory luteal profiles, and pregnancy rate in Murrah buffalo (*Bubalus bubalis*) using estradiol-17 β + CIDR protocol *Indian Journal of Animal Sciences*. 88(8):921-3.
11. Bhat, N.N., Farooq, M., Padder, B.A., Shah, M. D., Dar, M. S., Dar, Nabi, A., Banoo, A., Rasool, R.S. and Surma, S. (2018). Microsatellite mining in the genus *Colletotrichum*. *Gene* 13: 84-93 DOI:10.1016/j.genrep.2018.09.001 (NR. 8.47)
12. Bhat, S.S., Ali, R. and Khanday, F.A., (2018). Syntrophins entangled in cytoskeletal meshwork: Helping to hold it all together. *Cell Proliferation*. 2018. DOI: 10.1111/cpr.12562

13. Bhutia, K.D., Suresh, C.P., Pala, N.A., Shukla, G. and Chakravarty, S. (2018). Nutraceutical potential of some wild edible fruits of Sikkim, Himalaya, India. *Studies on Ethno-Medicine*, 12: 106-112. (NAAS= 6.0).
14. Dar, G.H., Beig, M. A., Shah, M.D., Ahanger, F.A. and Asha Nabi. (2018). *Myrothecium verrucaria* causing needle blight disease on Blue pine (*Pinus wallichiana*): molecular characterization and host range. *European Journal of Plant Pathology* 150: 427–437. (DOI 10.1007/s10658-017-1291-9) (NR. 7.47)
15. Dar, M. A., Raashid A., Urwat, U., Syed, M.A., Dar, P.A., Kushoo, Z. A., Dar, A.D, Peerzada T. M., Bhat. S. A., Umar Amin, Nadeem Shabir, Bhat, H. F., Shah, R. A. Ganai, N. A. and Heidari, M. (2018) . Expression kinetics of natural resistance associated macrophage protein (NRAMP) genes in *Salmonella Typhimurium*-infected chicken. *BMC Veterinary Research* 14:180.
16. Dar, M.H., Zaidi, N.W., Waza, S.A., Verulkar, S.B., Ahmed, T., Singh, P.K., Bardhan Roy S.K., Chaudhary B, Yadav R, Islam MM, Iftekharuddaula KM, Roy JK, Kathiresan RM, Singh BM, Singh US and Ismail AM (2018). No yield penalty under favorable conditions paving the way for successful adoption of flood tolerant rice. *Scientific Reports* 8: 9245
17. Gharemirshamlu, F.R., Afsar, M., Mokhdomi, T.A., Amin, A., Bukhari, S., Krishnan, A., Kumar, C.V., Bamdad, K., Patel, T.N., Qadri, R.A., Chikan, N.A. and Shabir, N. (2018). D224V and S128Y mutation in FSHRED influence thumb movement differentially: An intricate insight gained by short-term molecular dynamics simulation. *J Cell Biochem.* 2018 Nov 2. doi: 10.1002/jcb.28044.
18. Gugjoo, M.B., Amarpal, Chandra V., Wani, M.Y., Dhama K., Sharma G.T. (2018). Mesenchymal stem cell Research in Veterinary Medicine. *Current Stem Cell Res. Therapy.* 13(8):645-657.
19. Gugjoo, M.B., Amarpal, Fazili, M.R., Shah, R.A. and Sharma, G.T. (2018). Mesenchymal stem cell research in sheep: Current status and future prospects. 2018. *Small Ruminant Res.* 169:45-56.
20. Gugoo, M. B., Amarpal, Makhdoomi, D.M. and Sharma, G.T. (2018). Ultrasonography: An affordable diagnostic tool for precisely location Coenurosis cyst in sheep and goat. *Small Ruminant.* 169:19-23:6.95.
21. Haseein, D., Pampori, Z. A., Sheikh, A. A. and Arif, Q. (2018). Milk production and hormone profile as affected by *Phenugreek* supplementation in lactating goats of Kashmir. *Biological Rythem Research.* DOI. Org./10.1080/09291016.2019.1608732. (NR: 6.69).
22. Husaini A.M., Kyoko, M., Chandrasekar, B., Kelly, S., Kaschani, F., Palmero, D., Jiang, J., Kaiser, M., Ahrazem, O., Overkleeft, H.S., and Hoorn, RAL vander. (2018). Multiplex fluorescent activity-based protein profiling identifies active α -glycosidases and other hydrolases in plants. *Plant Physiology* 177: 24-37(NR. 12.46)
23. Husaini, A.M. and Sohail, M. (2018). Time to redefine organic agriculture: Can't GM Crops be certified as organics. *Frontiers in Plant Science* 9 : 1-5(NR. 10.30)
24. Husaini, A.M., Sakina, A. and Cambay, S. (2018). Host-pathogen interaction in *Fusarium oxysporium* infections: where do we stand. *Molecular Plant-Microbe Interactions* 31(9) : 889-898 (NR. 10.33)
25. Hussain, S. Z., Ammatullah, B., Kanojia, V., Reshi, M., Naseer, B. and Naik, H.R. (2018). Design and development of technology for walnut cracking. *Journal of Food Science and Technology*, 55 (12):4973-4983.

26. Imtiyaz Murtaza, Showka, B.S., Shah Ubaid-ullah, Omi Laila, Sumyra Majid, Dar, N. A., Mukhtar Ahmad and Sharma, G. (2018). A Comparative Study on biodegradation of chlorpyrifos by Wild *E.coli* and *Pseudomonas fluorescens* bacterial isolates inhabiting different ecosystems of Kashmir valley. *Curr. Sci.* 115(3) (NR. 6.84)
27. Iram Farooq, F.A. Bhat, M.H. Balkhi, T.H. Shah, B.A. Bhat, S. Qadri, S. Talia, S. Aalia and P.A. Ganie. (2018). Reproductive and breeding biology of *Schizothorax labiatus*, a snow trout found in River Jhelum, Kashmir. *Journal of Environmental Biology.* 40:291-294. (NAAS:6.73)
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FINANCIAL DETAILS (2018-19)

STATE SECTOR		
Name of sector	Unit of appropriation	Allocation(in lakhs)
Plan	Works including Land Acquisition Machinery/equipments	985.00
	Raw Material	
	Others	
	Total	
Non-Plan	Salaries	22860.00
	Pensionary benefits	
	Other charges	
	Total	
Revenue Utilization (University Share)	Other Charges	1070.08
Development & Strengthening Grants from ICAR		
S.No.	Name of Project/Scheme	Allocation (in lakhs)
1.	ICAR projects NAIP, Dev. Of SAUs, AICRP, KVK Total	4734.28*
Other projects		
S.No.	Name of Project/Scheme	Allocation (in lakhs)
1.	Adhoc projects, DST, DBT, IMC Earth Science, MOA, CUDRA Etc.	966.39
ICAR Sponsored Scheme (long term)		
S.No.	Name of scheme	Allocation (in lakhs)
1.	Coordinated Projects (AICRP)	1016.63*
2.	Krishi Vigyan Kendras	1801.84*

*Amount already reflected in University Development & Strengthening from ICAR

Status of the cases filed before Hon'ble High Court of J&K Srinagar during the year 2018-19

S. No.	Writ Petition	Title	Status
1.	SWP 152/2018	Gh. Nabi Wani Vs SKUAST-K & Ors	Pending adjudication
2.	OWP /2018	Ab. Rahim & Ors Vs State of J&K and Anr	Pending adjudication
3.	SWP 719 /2018	Dr.Nawaz Ashraf Vs SKUAST-K	Pending adjudication
4.	SWP 1071/2018	Irfan Ahmad Bhat & Ors Vs SKUAST & Ors	Dismissed
5.	SWP 1016/ 2018	Mohammad Maqbool Dar & Anr Vs SKUAST-K & Ors	Pending adjudication
6.	LPA 65/2018	Irfan Ahmad Bhat & Ors Vs SKUAST & Ors	Pending final hearing
7.	SWP1199/2018	Dr Noore Alam Tufani Vs State & Ors	Pending adjudication
8.	SWP 1187/2018	Mohd Iqbal Rather Vs SKUAST	Disposed of
9.	SWP No. 1282/2018	Ghulam Mohammad Yattoo Vs SKUAST-K & Ors	Pending adjudication
10.	SWP 1636/2018	Dr. Sahar Saleem Vs SKUAST & Ors	Pending adjudication
11.	SWP /2018	Asmat Rashid Vs SKUAST & Ors	Pending adjudication
12.	SWP /2018	Dr. Ishrat Naveed Vs SKUAST_K	Pending adjudication
13.	SWP 1454/18	Jadish Kumar & Ors Vs SKUAST-J & Ors	Pending adjudication
14.	LPA SW No 118/2018	Irfan Ahmad Bhat & Ors Vs SKUAST-K & Ors	Final hearing stage
15.	OWP 1538/2018	Gul & Company Vs State & others	Dismissed as withdrawn
16.	SWP	Ghulam Nabi Bhat Vs SKUAST-K& Ors	Pending adjudication
17.	OWP	Mubasir Dayam & Ans Vs SKUAST-K	Pending adjudication
18.	Swp 2937/2018	Bashir Ahmad Dar & Ors Vs State & Others	Pending adjudication
19.	SWP 2960 /2018	Shazia Ali Vs SKUAST-K & Others	Pending adjudication
20.	SWP3032 /2018	Sheikh Sirajudin & Anr Vs SKUAST-K	Pending adjudication
21.	SWP 2934/2018	Dr Sajad Ahmad Bhat & Ors Vs State of J&K & Others	Pending adjudication

Court cases of SKUAST-K decided during the year 2018-19

S. No.	Writ Petition	Title	Status
1	SWP 1257/2014	Mohammad Maqbool Dar & Anr. Vs SKUAST	Dismissed
2	SWP 1257/2014	Mohammad Maqbool Dar & Anr. Vs SKUAST	Restored
3	SWP 434/2016 clubbed with SWP 2556/2015	Tanveer Ahmad Dar Vs. State & Others (D.E.O)	Disposed Off
4	OWP No. 1352/ 2017	Roomasa Ali Vs. SKUAST & Ors.	Dismissed
5	OWP 1911/2017	M/S M.D. Biocoals Pvt. Ltd. Vs Union of India & Others	Disposed Off
6	SWP 1558/ 2017	Tanveer Ahmad Khan Vs SKUAST-K & Others	Dismissed
7	SWP 721/ 2017	Irfan Ahmad Bhat Vs SKUAST-K & Others	Dismissed
8	SWP 51/2015	Mohammad Yaseen Bhat Vs. SKUAST & Others	Dismissed
9	SWP 730/ 2013	Altaf Hussain Sofi Vs State & Others	Disposed Off
10	OWP 706/ 2011	Mohammad Yousuf Matta Vs SKUAST-K Others	Disposed Off
11.	SWP 1291/ 2015	Ab. Rashid Mir and Ors Vs. SKUAST & Others	Withdrawn
12.	SWP 2316/2015	Mohammad Sadiq Bhat Vs State & Others	Withdrawn

Annual Return of RTI cases for the year 2018-19

Name of Admn. Depts. & HoDs under their control	No. of RTI applications received by each Admn. Deptt. & HoDs	No. of applications rejected pursuant to different sections of the Act	Amount of application fee/additional fee (charges of providing copies collected) received from information seekers		No. of 1 st appeals received by 1 st appellate authority		No. of 2 nd appeals, if any, referred to State Information Commission by First Appellate Authority	No. of 1 st Appeals, if any, referred to S.I.C. by FAA
			Application fee/addl. Fee	Copy charges	Received	Disposed off		
Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir	76	07	Rs. 900/-	Rs. 7400/-	11	11	---	---



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