



AT A GLANCE

CSR&TI, CSB, PAMPORE

SEPTEMBER, 2016



CSR&TI, CENTRAL SILK BOARD, PAMPORE

VISION

- To emerge as a premier sericulture research institute of excellence in North West India

MISSION

- Committed to promote professionalism in sericulture research, training and extension activities leading to enhancing production, productivity, and quality of Bivoltine silk.
- To generate eco-friendly, pro-poor and women friendly technologies for transforming sericulture as a viable enterprise.
- Contribute to the national agenda of inclusive development of rural population especially women and rural poor by enhancing their income generation capability.

MANDATE

- To develop region/location specific Sericultural technologies suitable to the agro-climatic conditions of North India.
- To conduct basic and applied research in various disciplines leading to the development of appropriate technologies
- To conduct on-farm research through farmers participatory programmes
- To serve as test centre for all mulberry and silkworm genetic-material, practices and equipments.
- To conduct Human Resources Development and Training Programmes on various aspects of sericulture.
- To co-ordinate with the State Government, Voluntary Organizations, Universities and other National Institutes for technology transfer.

Introduction

Central Silk Board, Government of India in the year 1958, established a Central Silkworm Seed Station at Pampore Kashmir J&K for maintaining exotic as well as indigenous univoltine / bivoltine races of silkworm. In the year 1980-81, the Seed Station was upgraded as Regional Sericultural Research Station. Owing to the increasing demand of Research and Development support to the Sericulture Industry in the J&K State in particular and North Indian states in general, the Regional Sericultural Research Station was further upgraded as Central Sericultural Research & Training Institute in March, 1991. However, due to the disturbances in the valley, the Institute was functioning at Jammu (as a camp office), for few years. In 1994, the research activities however, were revived at the main Institute, Pampore (Kashmir) and the work was also initiated on a number of projects relevant to temperate sericulture, so as to cater to the technological needs of the Dept. of Sericulture, J&K in general and the farming community of the region in particular. This was in addition to the works already initiated for sub-tropical areas. With the primary aim to boost and revitalize the declining silk industry of J&K and to provide research and development support to other sericulture practicing states of North India viz, Uttarakhand, Uttar Pradesh, Himachal Pradesh, Punjab and Haryana; besides attending to the technological needs appropriate to temperate/sub-tropical areas of these states, new research projects were framed and executed.

North Indian sericulture is broadly identified into temperate and sub-tropical sericultural zones. Temperate areas are bestowed with salubrious climate, ideally suited for bivoltine sericulture. Besides, spring season of sub-tropical area is also ideally conducive for bivoltine silkworm rearing. Land availability, climate and socio-economic conditions of the region favor bivoltine sericulture development in North India. The existing mulberry trees, scattered all over the region, are the only source of bivoltine silkworm rearing in the region.

Sericulture industry in North India, unlike south, has a typical problem of being subsidiary occupation due to its competition with cash rich agricultural crops and the prevailing climatic conditions; as such activity is confined to economically backward class of farmers. Silkworm rearers are scattered, in different pockets, all over the states. Taking into account the present rearing performance an average silkworm seed intake capacity is 0.75DFLs per farmer, with an average cocoon productivity of 37.00 kg per 100 DFLs.

In spite of constraints faced by the Institute in terms of manpower and infrastructure, but greater sharing of responsibilities and team work has made use to tide out the difficulties. The concerted efforts of the scientific and technical staff of the Institute and nested units have been able to give proper R&D support to the silk industry and again put in on the path of recovery and faster growth.

STATUS OF SERICULTURE IN NORTH WEST INDIA - 2015-2016:

PARTICULARS	UNIT	J&K	HP	UK	UP
SERICULTURE VILLAGES	No	1032	1672	525	1017
NO. OF REARERS	No	30894	7896	5773	16963
SEED INTAKE (DFLs)	Lakhs	30.0	6.12	5.37	38.38
COCOON PRODUCTION	MT	1032.00	242.10	220.35	1733.39
AVERAGE YIELD (Kg/100 DFLs)	Kg	37.00	39.56	42.54	45.16
RAW SILK PRODUCTION	MT	150	31.57	30.00	197.54
SEED INTAKE PER FARMER (DFLs)	No	75-90	78	94	75-200

RESEARCH INTERVENTION:

During the year 2015-16, this Institute has been strengthened with 9 new Scientists of various disciplines and 12 new research project proposals were submitted, out of which 8 project were approved allotted code by Central Office, Bangalore. At present 15 central office coded projects, including 5 collaborative projects and four Institute coded projects are being taken up at Pampore besides Institute Village Linkage Programme in five North Western States.

GENEPOOL:

80 mulberry genotypes were maintained at Pampore and 82 at P4Basic Seed Farm, Manasbal as temperate germplasm. 82 accessions were maintained at Sahaspur as sub-tropical germplasm & 18 varieties are under evaluation at RSRS, Jammu.

165 silkworm accessions at Pampore as temperate germplasm and 54 at Sahaspur as sub-tropical germplasm were maintained

EXTENSION UNDER THE INSTITUTE:

The technologies developed through R&D initiatives are being transferred to the field with a well developed extension mechanism. At present three RSRSs and 18 extension units located at 7 North Western states covering 24 districts are functioning under control of institute.

NATIONAL SEMINAR:

A National Seminar on Sericultural Development in Temperate Region - Problems & Prospects was organized by CSR&TI, CSB, Pampore on 21st and 22nd March, 2016 at Srinagar with an objective to provide common platform to discuss issues related to Recent trends / developments in the field of Sericulture with special emphasis on temperate sericulture. The Seminar was first of its kind in temperate region and about 100 research papers were presented and discussed in the event. The programme went on well and appreciated by the Industry.

EXTENSION COMMUNICATION PROGRAMMES:

During the year 2015-16, 279 Group Discussions, 138 Awareness Programmes, 52 Film Shows, 65 Farmers Field Days, 14 Vichar Goshtis and four Krishi Melas were organized across North West India.

IGNOU:

During the year 2015-16 a total of 24 students (Jan – June 2015: 06; July-December 2015: 14 Students & Jan – June 2016: 04) were enrolled under IGNOU study centre RSRS, Jammu for certificate course in sericulture (CIS++).

TRAINING INITIATIVES:

Two months Job Skill Training Programme, for 19 M.Sc. Sericulture students of Jammu University, conducted at RSRS, Jammu during 2015-16.

1211 Sericultural farmers, students and in-service CSB-DOS Officials were trained in routine training programmes under CSR&TI, Pampore and its attached units. Similarly, 897 farmers and Officials of CSB/DOS were also trained on various aspects of sericulture viz., farmers skill training and orientation programmes.

FARMERS FIELD SCHOOLS:

Various latest technologies on sericulture are being disseminated to the farmers across North West India through 07 Farmers Field Schools.

IT INITIATIVES:

- Under IT initiatives this institute has installed leased line and launched its own website by domain name www.csrtipam.res.in.
- Video conferencing room is being equipped with the requisite infrastructure facilities and will be brought into use very soon.
- The existing library in the Institute is being strengthened and efforts are being made for digitisation of the library.

REVENUE GENERATION:

- During the year 2015-16, an amount of Rs. **12,58,274/-** was generated as revenue from Training fee, sale of cocoons, sale of mulberry cuttings, sale of pruned wood, sale of intercrops, etc.

CLUSTER DEVELOPMENT CENTERS UNDER BIVOLTINE PRODUCTION PROGRAMME (XII PLAN):

Govt. of India under its XII Five Year Plan (2012-13 to 2016-17) has given emphasis on generation of employment particularly to the economically weaker sections of the rural areas through promotion of import substitute bivoltine silk through implementation of catalytic Development Programme (CDP), The main focus on mulberry sector would be to enhance the bivoltine silk (3A grade and above) production from the current production level of 1685 MT to 5000 MT with an ambitious increase of 197% (Plan to Plan). To achieve this challenging task, the XII Plan proposes for a strategic shift in the promotion of bivoltine sericulture in the areas of research, extension, seed production, cocoon production practices, marketing, credit facilitation, policy options and increased participation of stakeholders in decision making areas.

Out of 179 clusters projected to be established in India during the year 2013-14, 49 clusters have already been function in North West India under control of this Institute till 2015-16. Out of the 25 clusters identified in J&K, 19 clusters were proposed for closure and only 6 clusters would be functional during 2016-17 onwards. Hence the revised total clusters would be 30 only and the details are as follows.

STATE& NO. OF CLUSTERS	UNDER CONTROL OF	NAME OF THE CLUSTER
KASHMIR DIVISION:3	SREC, BANDIPORA	LOLAB (KUPWARA)
	SREC, TRAL	DACHNIPORA (ANANTNAG)
	P4BSF, MANASBAL	SONAWARI (BANDIPORA)
JAMMU DIVISION:3	REC, NOWSHERA	NOWSHERA
	REC, TIKRI	RAMKOTA (UDHAMPUR)
	REC, BARNOTI	DANGARA (KATHUA)
UTTARAKHAND: 07	RSRS, SAHASPUR	MALDEVATA
		HARIDWAR (LALWALA)
	REC, HALDWANI	THARI-GINTI-GAON
		KOPA-CHANKPUR
		PAURI
		TIPARPUR
	CDC, KALSI	KALSI
UTTAR PRADESH: 08	REC, GORAKHPUR	KAPTANJANG (BASTI)
		DUDAHI (KUSHINAGAR)
		MAROURI (PILBHIT)
	REC, GONDA	GAUSHPUR (SARRASWATI)
		MAHADEVA (BAHRAICHI)
		PARASPUR (GONDA)
		GORAKHPUR (GORAKHPUR)
	REC, LUCKNOW	LUCKNOW (LUCKNOW)
HIMACHAL PRADESH: 08	RSRS, GHUMARWIN	GHUMARWIN
	REC, GHUMARWIN	SARKAGHAT
		SANDHAL
	REC, NADAUN	NADAUN

		BHADHWAR (PALAMPUR)
		NAGROTA (DEHRA)
	CDC, KALSI	DHOULAKUA
	REC, UNA	TAKARALA
PUNJAB: 01	REC, SUJANPUR	BHATWAN
Total: 30		

INSTITUTE VILLAGE LINKAGE PROGRAMME:

As per the directions of the Central Office, 5 Institute Village Linkage Programmes covering 500 farmers have been initiated during the year 2014-15, one each in five north western states viz. Punjab, Himachal Pradesh, Uttarakhand, Uttar Pradesh and Jammu & Kashmir.

- During the year 2015-16 improved varieties of mulberry saplings were supplied to the farmers @100 saplings per farmer besides Chlorine dioxide (5 l/farmer) and Vijetha (4 Kg/farmer).
- During the year 2016-17, chemical fertilizers viz, Urea, MOP and DAP were supplied for maintenance of the mulberry saplings.
- 60 Rearing trays and 80 plastic mountages per each farmer were supplied during the current year.
- Digital thermometers were procured and will be supplied to the farmers during the current year.
- Commercial chawki rearing with 5000 DFLs is being taken up at the main Institute for supply among the IVLP farmers in Kashmir valley. The chawki worms will be supplied to the farmers after 2nd moult.
- Five electronic balances were purchased for the use under IVLP.
- Procurement of power sprayers, rearing stands, nets and farm implements is under progress.

TECHNOLOGIES DEVELOPED:

1) PPR-1: MULBERRY VARIETY FOR TEMPERATE REGION:

PPR-1 a promising mulberry was released by Prof. A. R. Trag, Vice Chancellor, Islamic University of Science and Technology, Awantipora during the National Seminar on Sericultural development in Temperate Region - Problems & Prospects held on 21st and 22nd March, 2016 at Srinagar.

Salient feature of the new variety is:

- High rooting ability (>90% rooting through stem cuttings)
- Early sprouting after winter dormancy (50-55% by the end of March as against 0-1% in Goshoerami).
- Moderately tolerant to frost damage (5-10% as against 15-20% in Goshoerami).

- 10-15% gain in leaf yield over leading genotype Goshorami.
- Potential leaf yield- 26-30 MT/ha/yr (Dwarf type plantation under 6'x3' spacing) and 15-18 MT/ha/yr (Tree type plantation under 9'x8' spacing).
- Leaf shape-Large, entire cordate, growth nature-erect and branching nature-straight.
- High nutritive value (80.38 % moisture, 84.68% Moisture Retention Capacity, total soluble protein 57.19 mg/g dwt. and total soluble carbohydrate 397.22 mg/g dwt.).

2) GREEN MANURING FOR MULBERRY PLANTATION:

Salient feature of the technology is:

- Curtailment of chemical inputs (up to 25% of N. P. K) is achieved without affecting the growth and productivity of mulberry.
- The soil organic carbon content is significantly higher (0.77%) which is pre-requisite for soil health sustenance.
- Improves the soil microbial load and micronutrient (Fe^{++}) content.
- Increases soil water holding capacity and retains moisture.
- Farmer can fetch an additional income of Rs. 8932 /ha/yr by rearing additional DFLs.
- C:B ratio: 1:1.80

3) MULBERRY VARIETIES RECOMMENDED:

Salient Features of the technology:

- The Mulberry varieties recommended for temperate region are Goshorami, Ichinose, KNG, Tr-10 with Leaf yield ranging from 22 to 26 MT/ ha/yr (Under rainfed conditions).
- The Mulberry varieties recommended for Subtropical region are Tr-10, S146, S1635 and Vishala with Leaf yield ranging from 14 to 19 MT/ ha/yr (Under rainfed conditions).

4) PRUNING TECHNOLOGY DEVELOPED:

BUSH PLANTATION - Pruning under temperate conditions:

Salient Features of the technology:

- For conducting two rearings, one in spring and one in autumn, top clipping in the month of March and bottom pruning in last week of May to first week of June is recommended.

BUSH PLANTATION - Pruning under sub-tropical conditions



Salient Features of the technology:

- Bottom pruning at crown level: during middle of July (45 days before onset of autumn rearing) and middle pruning at 120 cm above crown level during third to fourth week of December.

i) TREE PLANTATION

Salient Features of the technology:

- Under temperate Sericultural zone, for tree type of plantation the leaf harvesting by resorting to shoot / branch pruning is suggested during spring rearing. Whereas, individual leaf plucking and partial thinning of shoots, could be taken up for harvesting second crop.
- During Spring Rearing (March-April), shoot-let harvesting until IV age and thereafter-complete shoot harvesting is advocated. However, it is further suggested that complete harvesting of foliage/shoots should not be resorted to, but instead some shoot/shootlets bearing leaf left behind.
- Under sub-tropical sericulture zone the following pruning / harvesting schedule after two years of plantation is recommended for production of two to three healthy crops.
- During monsoon (July-Aug.) / autumn Rearing (September-October), only about 0.75-1.0m of the apical portion of the branches is recommended to be harvested and utilized for rearing as such or after chopping, depending upon the stage of the feeding worms.

5) IDEAL SPACING OPTIMIZED:

Salient Features of the technology:

- 3' x 3' recommended for bush
- 3' x 6' recommended for dwarf
- 8' x 9' recommended for tree

6) TECHNOLOGY FOR MULBERRY TREE CULTIVATION FOR TEMPERATE REGION

Salient Features of the technology:

PLANTING SEASON	Spring (March)
PLANTING MATERIAL	Healthy saplings, 180 cm in height and with 5 cm girth at base
MULBERRY VARIETY	Goshoerami, KNG, Tr-10
SPACING	2.4 m x 2.7m
PLANTING SYSTEM	
Pit Size	40-60 cm ³
Planting medium per pit	a) 2-3 kg well decomposed FYM/ Farm compost

- The technology has been adopted by farmers across the valley.



Goshherami



TR-10



KNG

7) IDEAL INTERCROPS IDENTIFIED:

Advantages over alternative technology:

- *Lavendulaofficinalis*, an aromatic plant, as an intercrop with tree type of mulberry can harvest an additional income.



Salient features:

- It can provide an additional income of Rs. 20-25 thousands to the farmer per hectare/yr when grown as an intercrop with tree type of mulberry plants.
- As an intercrop it has no allelopathic effect on quality on quality and quantity of mulberry foliage.

8) MULBERRY NURSERY RAISING TECHNOLOGY DEVELOPED:

Salient Features of the technology:

- Mulberry nursery raising technology has been developed for temperate and sub-tropical conditions of North India.



9) NEW GRAFTING TECHNIQUE FOR MULBERRY PROPAGATION:

Salient Features of the technology:

- Raising of saplings of poor rooting genotypes of mulberry by a new grafting technique has been developed. This employs hard wood stem cuttings of good rooting genotypes, as stock. The above technique helps in reducing the overall time period for raising of plants in temperate climatic conditions of Kashmir valley from 4-5 years to 2-3 years. The technology of quick raising of poor rooting mulberry genotypes was demonstrated to DOS officials, farmers and other agencies. The success rate has been found to be about 80% in Goshherami, under temperate condition.



10) APPLICATION OF BIOFERTILIZER AT NURSERY LEVEL:**Salient Features of the technology:**

- Nitrofert inoculum to be made by adding water (1:1 ratio) so as to make a thick paste.
- Basal ends of mulberry cuttings to be dipped in the slurry upto a depth of 10 cm for 30 minutes.
- 250 grams of Nitrofertbiofertilizer is required for 1000 cuttings.
- Inoculated saplings to be uprooted with intact root system from nursery and transplanted in the field.

11) INTEGRATED MANAGEMENT OF MULBERRY PEST AND DISEASES DEVELOPED:**Salient Features of the technology:**

- *Glyphodes pyloalis* has been identified as a severe pest of mulberry in temperate region and *Mimastra cyanura* in sub-tropics of the state. The management practices of both these pests has been worked out by the Institute and recommendations made accordingly. The major diseases affecting mulberry foliage during summer and autumn months are leaf spot and powdery mildew. Both these diseases can be effectively checked by the use of 0.05% - 0.1% concentration of Carbendazim. One to two sprays, depending upon the severity of the disease, can be used and the silkworm rearing can be resorted to 4-5 days after last spray.
- A complete IPDM module has been developed by the institute for control of mulberry pests and diseases.

12) SILKWORM HYBRIDS RECOMMENDED:**a) Hybrids Evolved during 1980's**

- YS3 x SF19, SH6 x KA, Pam 101 X NB4D2, Pam111 X SF19, SH 6 X NB4D2

b) Hybrids Evolved during 1990's

- CP1B X JP1B, CP1B X J-Plain, CS6 X PAM 101, Dun 6 X Dun21, RSJ3 X RSJ1, RSJ14 X RSJ11

c) Hybrids evolved recently and authorized by National Race Authorisation Committee:

- Dun 6 X Dun22, Dun 16 X Dun17

d) Hybrids Recommended for Authorization by Provincial Race Authorisation Committee Phase I:

- CS6 X PAM 101, Dun 6 X Dun21, RSJ3 X RSJ1

e) Hybrids in pipeline (Recommended for authorization by Provincial race authorization Committee Phase II)

- PAM 117 X PAM 114 (For Spring), CSR2 X PAM 117 (For Spring), RSJ 15 X NB4D2 (For Autumn)

13) SILKWORM REARING TECHNOLOGY DEVELOPED:

Low Cost Rearing Houses Suitable for the Northern Region:

- On recommendations of the working body for construction of low cost rearing houses, the Institute took steps to design the model of rearing houses for various states/regions of North India on the basis of their agro-climate and availability of local building material. So far the rearing houses have been constructed at Pampore (Kashmir); Kathua, (Jammu); Sujapur, (Punjab); Pinjore, (Haryana); H. P, Uttarakhand and U. P. These houses are serving as the models of rearing houses on large scale which has proved fruitful for increasing the rearing space and subsequently have an impact on quality cocoon production.

14) SILKWORM DISEASE MANAGEMENT:

- Under North Indian conditions, Grasserie has been found most prevalent silkworm disease and its prevalence is about 25 to 32 % at farmer's level. The crop loss estimation due to this disease has been recorded in the range of 11 - 14 Kg per 100 DFLs. The institute has developed an integrated disease management package to minimize the crop loss caused due to this disease and other diseases as well.

15) AUTUMN SPECIFIC HYBRIDS

- Under "Identification of autumn specific silkworm breeds / hybrids suitable for Sub Tropical Zones of North and North West India" (AIB -3503), three single hybrids viz., APS9 X CSR51 (O X D); APS5 X CSR51 (O X D) and CSR51 X BBE 198 (D X O) were identified. Three oval X oval (viz., CSR46 X APS9, APS9 X BBE 198 and APS5 X APS9) hybrids and one Dumbbell X Dumbbell hybrid (SK6 X SK7) were developed. Three double hybrids are envisaged (D X O1, D X O2 and D X O3).

16) SILKWORM IMPROVEMENT:

- Under the project "Evolution of BmNPV tolerant bivoltine breeds of silkworm *Bombyx mori* L." nine new silkworm breeds have been evolved viz., Line-1, Line-4, Line-7, DR-9 (Oval) Line-6, Line-12, Line-16, Line-18 and DR-8 (Dumb bell). The selected lines exhibited mortality range between 8.0% to 10.7% under inoculation and cocoon weight ranges between 1.701g to 1.724g and shell ratio from 20.26 to 20.89%.

ON GOING RESEARCH PROJECTS / PROGRAMMES:

S. NO	CODE	APPROVED BUDGET (Rs - Lakhs)	PERIOD	SCIENTISTS INVOLVED	TITLE
1	AIE - 3056	--	Continuous	Babulal, Shakeel A., Shivkumar	Maintenance of silkworm germplasm
2	AIE - 3202	--	Continuous	Chauhan S., Babulal, Shakeel A.	Maintenance of silkworm Breeders' stock.
3	AIB - 3510	21.46	2014-2018	Babulal, Shivkumar	Improvement of silkworm <i>Bombyx mori L</i> for sustainable bivoltine cocoon crop in North West India.
4	PIB - 3212	--	Continuous	V.B.Srivastava	Maintenance and characterization of mulberry genepool
5	AIB - 2016	--	Continuous	Pankaj Tewary P.M. Tripathi	Maintenance and evaluation of silkworm germplasm.
6	PRP- 3572	6.30	March, 2016 to Feb, 2018	Mudasir Gani, Chauhan S.	Management of Root rot diseases of mulberry in Kashmir.
7	AIB- 3570	29.50	Jan, 2016 to Dec, 2019	Shiv Kumar, Bharath Kumar	Evolution of autumn specific bivoltine breeds suitable for Temperate region of the Kashmir valley
8	AIB- 3569	11.98	Mar,2016 to Feb,2019	Shakeel Ahmad, Shiv Kumar, Bharath Kumar., M. Aslam, S. Murli	Evaluation and identification of superior BmNPV tolerant bivoltine hybrids of silkworm <i>Bombyx mori L</i> .
9	ARP- 3573	4.515	March- 2016 to Feb,2018	S. Chouhan, M. Gani	Severity, Extent of crop loss and management of Grasserie of <i>Bombyx mori L</i> through advocated bed disinfectants in Kashmir
10	PIB- 3579	24.00	June, 2016- June, 2018	Pawan Shukla Aftab Ahmad	Identification of cold tolerant genes for improvement of mulberry genotypes

COLLABOTRATIVE PROJECTS:

S. NO	CODE	APPROVED BUDGET (Rs - Lakhs)	PERIOD	SCIENTISTS INVOLVED	TITLE
11	PIB-3571	39.90	March-2016 to Feb,2019	Gulab Khan, Aftab A. Shabnam, Azra Nahaida Kamili	Evolution of superior mulberry varieties suitable for temperate region through somatic hybridization – (In collaboration with University of Kashmir)
12	MOE-3574	9.35	March-2016 to Feb, 2018	M. K. Tayal, Anil Dhar, S.K. Kher, O.P. Gadgala, Mir Nisar, R.K. Dhingra, A.K. Kant	Yield gap analysis of cocoon productivity under conditions of North West India. (In collaboration with SKUAST-Jammu)
13	PIB-3586	35.0	Sept. 2016 to Aug. 2021	S. S. Chauhan, Pawan Saini, Aftab A. Shabnam, K. Jhansi Lakshmi and K. Vijayan	Development of superior mulberry varieties through controlled hybridization for North-West Indian states (In collaboration With CSGRC, Hosur & CO, Bangaluru)
14	AIT-3558	Total Project Budget for CSB 90.0 Lakh (7.18 Lakh 1st installment for Pampore.	2015-2017	N. Bharath Kumar Babulal	To conduct multi locational field trials on transgenic BmNPV resistant silkworm strains to establish their efficacy and generate data for their regulatory approval. (In collaboration With APSSRDI, Hindupur)
15	AIB-3578	0.30 lakh	June 2016 – September 2019	Babulal and Shiv Kumar	Evaluation of exotic bivoltine silkworm breeds to identify promising parental genetic resources. Project of Hosur (In collaboration With CSGRC, Hosur & other CSR&TIs)

CENTRAL SILK BOARD APPROVED SCHEMES / PROGRAMMES / PILOT STUDIES:

S. NO	CODE	APPROVED BUDGET (RS)	PERIOD	SCIENTISTS INVOLVED	TITLE
16	--	190.80 Lakhs	2014-2017	Gulzar K., Nazeer A.S (till 04-06-2016), Anil Dhar, M. Aslam, Kimothi & Dhingra R K	Institute Village Linkage Programme (IVLP)

OTHER APPROVED PROJECTS / PROGRAMMES OF THE INSTITUTE:

S. NO	CODE	PERIOD	SCIENTISTS INVOLVED	TITLE
17	SS Pam -01	2012-Cont.	M. A. Ravindra and Aftab A. Shabnam	Nutrient analysis of soils & mulberry under temperate conditions.
18	AIE Pam-17	2014-Cont.	M. K. Tayal, S. Murli	Evaluation & Characterization of silkworm germplasm under sub-tropical conditions of Jammu & Kashmir.
19	SS Pam-19	2014-Cont.	R C Kimothi Srivasthava KR Mourya	Soil test based fertilizer recommendation in mulberry cultivation at CDC / CRC & REC level functioning in Uttarakhand & UP state.
20	PIB-Pam 1	1999-Cont.	Aftab A. Shabnam, S.S. Chauhan and Sh. Rajeev Lochan	Acquisition, Conservation, Characterization and Utilization of mulberry germplasm under temperate conditions