

Development of seed and seed multiplication chain in PPP mode Project No- 01



Holistic Agriculture Development Program, U.T. of J&K





- **Strengthening of Seed Multiplication Chain**
- Capacity building of Agripreneurs, Agri-Officers, Scientists etc.

Interventions

- **Involvement of sakeholders in PPP Mode**
- Creation of efficient seed market chain, community seed banks at block levels & protected cultivation
- **R&D** and Human Resource Development

Significant Achievements



Up scaling Breeder seed production : **35.63 Tons**

Season	Crop	Varieties
Rabi 2023-24	Wheat	Jammu Wheat 672, Jammu Wheat
(April, 2024)		584, DBW 296, WB 02, DBW 173, DBW
		187
		DBW 222, DBW 173, VL 907
		Total : 30.0 (MT)
Kharif 2024	Paddy	Giza-14, K-448
(Oct/Nov, 2024)		K-39, K-343, Basmati-370, JB-123
	Lobia	Super 60
	Moong	JAU-0936
	Okra	Jammu Okra-05
		Total: 5.63 (MT)
		Grand Total :35.63 (MT)



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Objectives





Seeking of GI Tag for Niche crops

Interventions

Production of quality planting material by introduction of registered nursery management system

 Diversification & area expansion of niche crops by targeting non-traditional
 areas of J&K in over 11,100 ha

Value addition & brand promotion for marketing and a compact value chain of niche crops

Significant Achievements



Ninety-five germplasm collections of niche crops from Jammu province under evaluation ✤ Hill Garlic 20 Rajmash 40 Pecan nut 13 * Kalazeera 02 Anardana 20

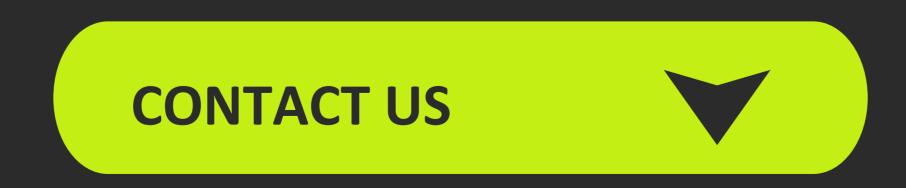


Seeking of GI Tag for Hill Garlic filed to GI authority, GOI





Eighteen training programmes conducted on Good **Agriculture Practices of niche crops** (Participants benefitted: 525)













Promotion of Vegetable and Exotic Vegetable under Open and Hi-tech Protected Cultivation



Holistic Agriculture Development Program, U.T. of J&K



Evaluation of Region specific varieties/ hybrids of vegetables both under open and protected structures



2

Standardization of technologies for year round production of vegetables

Interventions

Horizontal and Vertical Expansion to improve production and productivity.

Promotion of Exotic and High Value Crops.

V Year-round cultivation of vegetables using hi-tech farming methods.

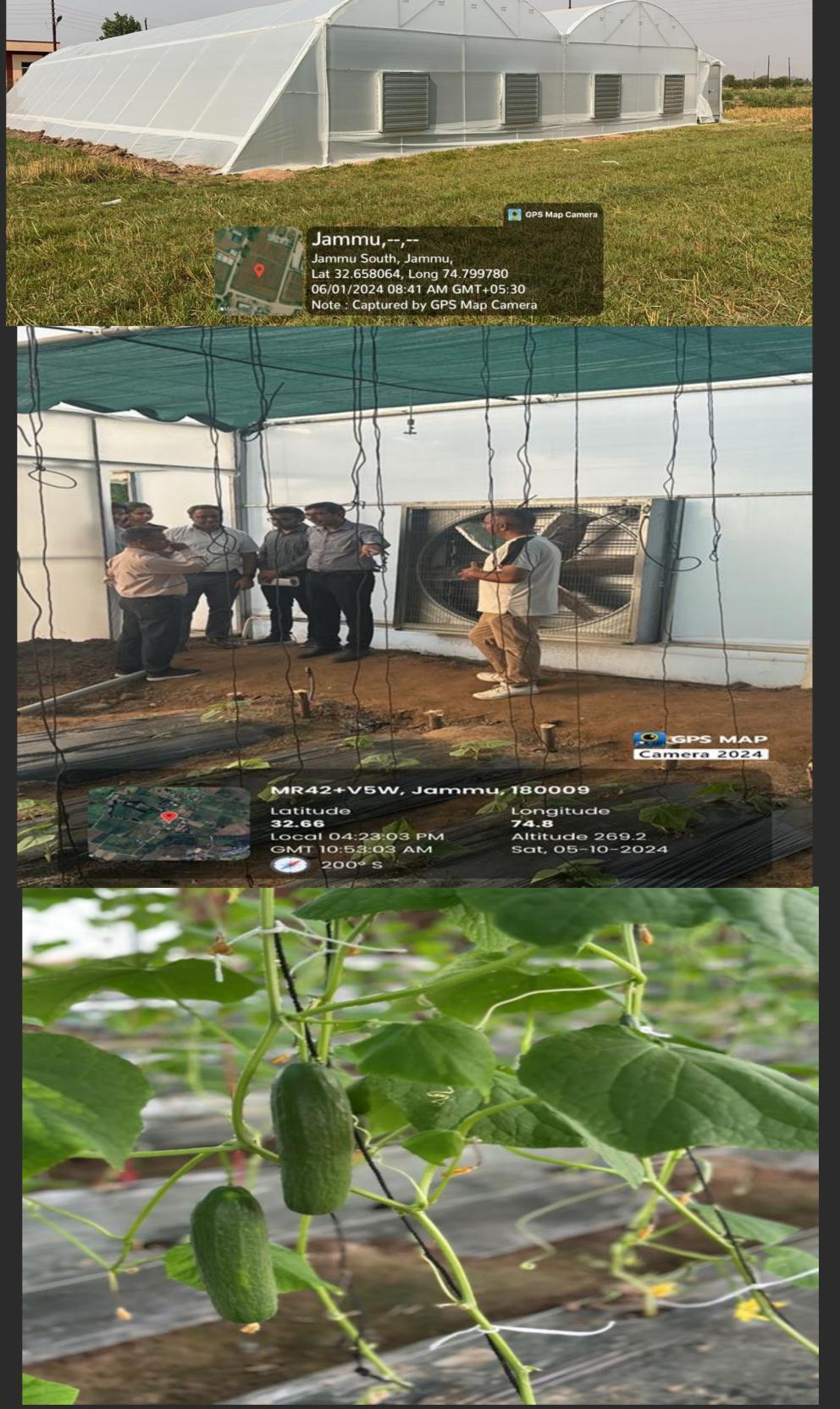
Significant Achievements



Open field evaluation of exotic vegetables viz. Broccoli, Lettuce, Chinese cabbage, Snow peas and Cherry tomato conducted in the demonstrated plots.

The seed of exotic vegetables i.e., Broccoli (Jammu Broccoli-07) and Cherry tomato (SJCT-01) produced for demonstration and multiplication purpose.

Establishment of polyhouse structure for



controlled environment production system and cultivation of vegetable crops.

Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu Main Campus, Chatha 180009, Jammu

CONTACT US











Objectives

Measuring the current branding/packaging practices in the horti-agriculture marketing

- systems of Jammu and Kashmir.
- - Identification of niche commodities and areas/clusters of produce for branding and promotion of agri./horticultural commodities for greater marketing efficiencies. Formulation of an area-specific niche brand through Farmer Producers Organizations (FPOs) for increasing linkages & efficiencies.

Interventions

Market reforms like open auctions and unified licensing in all mandis of J&K. Institutional building & capacity development through niche marketing FPOs. Branding & market intelligence to promote timely decision making and brand loyalty.

Significant Achievements



Commodities identified in consultation with Department of Agriculture. Questionnaire prepared for identification of branding of niche



crops.

Two days' training on branding and packaging in agribusiness conducted for 70 number of beneficiaries and staff members of concerned projects

Two days' training on enhancing agribusiness success through strategic branding and packaging organized for 30 number of participants

Two day's training program organized for rural business service 3 hubs (rbshs) for 29 number of trainees



entitled training empowering Second rural agrientrepreneurships: building successful rural business service hubs was organized for 20 number of stakeholders















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Identification & Conservation of Elite Genotypes of Medicinal and Aromatic Plants Standardization of agro-techniques & harvesting protocols of elite genotype



Interventions

Cultivation and conservation of MAP & creation of MAP germplasm banks.

Branding and marketing with product diversification, certification, and establishing market linkages and digital marketing.

R&D and **HRD** through establishment of "Centre of Excellence on Herbal **Technology" for focused R&D.**

Significant Achievements

Germplasm banks of Saussurea costus, Lavendula augustifolia, Cymbopogon flexuosus and Tagetus minuta established.

Phytochemical characterisation of 2 lemongrass cultivars achieved.

Geranial, Neral, Citral, the dominant compounds recorded in Krishna, CKP-25 and Kalam lemongrass varieties. Geraniol



and Geranyl acetate, the major compounds in CN-5 and CK-10 varieties.











Promotion of Beekeeping Project No-06









Disease Diagnostic and Quarantine centre

- **Bee Breeding Centre for Climate Smart Bees**
- **Quality Nucleus Stock Development Center**

Interventions

Strengthening & distribution of bee colonies through cluster/SHGS/FPOS. Production of nucleus stock and bee breeders. Setting up of GI labs.

Significant Achievements

The disease diagnostic and quarantine laboratory established.

Δ

Varroa destructor; predatory wasps Vespa velutina, V. orientalis, V. cincta, V. basali and V. mandarinia.; greater wax moth; Nosema; sac brood are the main problems in apiaries.

The prevalence of viral diseases viz., Israeli acute paralysis virus (IAPV), Kashmir bee virus (KBV), sac brood virus (SBV) and Thai sac brood virus (TSBV) infecting A. mellifera identified through **RT-PCR** technique in Jammu region.



The primer pairs of different viruses produced the clear and distinct bands of approximately 110, 122 and 119 bp for IAPV, KBV and SBV, respectively.



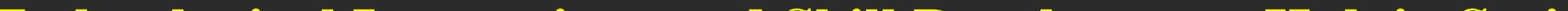














Technological Innovations and Skill Development Hub in Sericulture.



Value addition and Product diversification in Sericulture.



Interventions

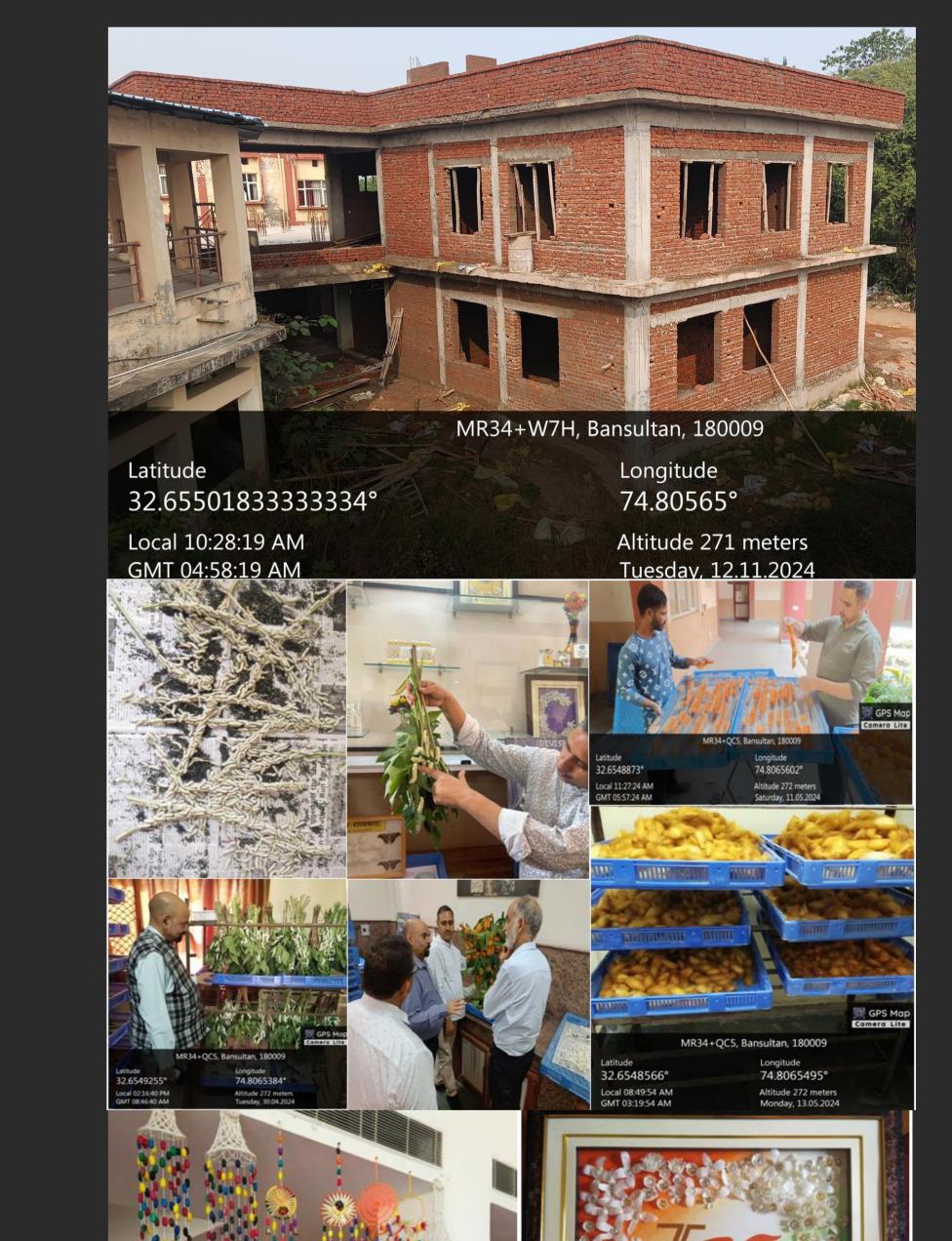


Expansion of area under mulberry plantation.



- **Enhancing the capacity of silkworm seed production.**
- Well-equipped and well managed chawki rearing centres (CRCs).

Significant Achievements





Establishment of centre for holistic development of sericulture completed.



Strengthening of laboratory.

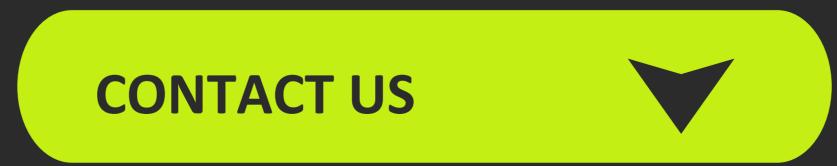


Introduction and evaluation of different genotypes of Eri silkworm to diversify the sericulture in Jammu region.

4 Skilling, Value addition and product development in Sericulture, for rural youth and

farm women to take sericulture as non farm source of income.













Promotion of Millets & Nutri-Cereals in UT of Jammu & Kashmir Project No- 08

Holistic Agriculture Development Program, U.T. of J&K





- Standardization of the cultivation technologies for enhancing productivity and profitability of minor millets.
- - Collection & purification of indigenous landraces of minor millets.
 - Storage and preservation of novel genetic resources of local landraces.
 - Evaluation and standardization of production technologies of local and exotic landraces
 - Capacity Building.
 - Interventions
 - **Employing best cultivation technologies with improved varieties**
 - **Over the set of the s**
 - Value addition & branding as smart food

Significant Achievements

1 Five accessions of Proso millet registered with NBPGR, New Delhi.

2 Eight trials (finger, kodo, little, barnyard ,foxtail, amranthus) based on the different R& D aspects of
3 millets conducted.

Fifteen demonstration conducted; 5 in Jammu, 2 in
Kathua and 3 in Rajouri, 3 in Kishtwar, 2 in
Baherwah.



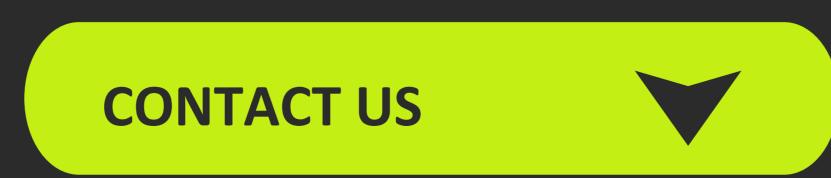
www.skuast.org

5 Establishment of Millets Cafeteria (4) at Jammu,

Kathua, Rajouri and Bhaderwah.

Five trainings programmes conducted at Rajouri,

Kathua, Jammu, Bhaderwah.











Farm Mechanization and Automation



Holistic Agriculture Development Program, U.T. of J&K





Mechanization and Automation of Agriculture operations at University Research Farms

- Establishment of Custom Hiring Centre at KVK(s)
- Research and Development: Prototype Development Centre

Interventions

Custom hiring centers & farm machinery banks
 Mechanization & automation of agricultural farms
 Human Resource Development

Significant Achievements

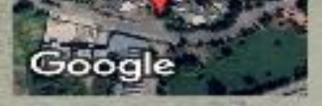


Reversible Plough

Tractor



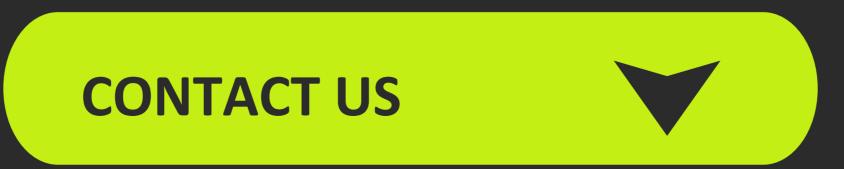




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Straw Reaper











Objectives



- Standardization of locally available substrates & conditions for their optimal growth
- Introduction & promotion of new mushrooms & their strains \checkmark
 - Value added products development



Skill development of mushroom growers

Interventions



- Introduction of high yielding strains & promotion of medicinal Mushrooms
- **Skill development of mushroom growers**



Aggregation, PHM, value addition & market linkage

Significant Achievements

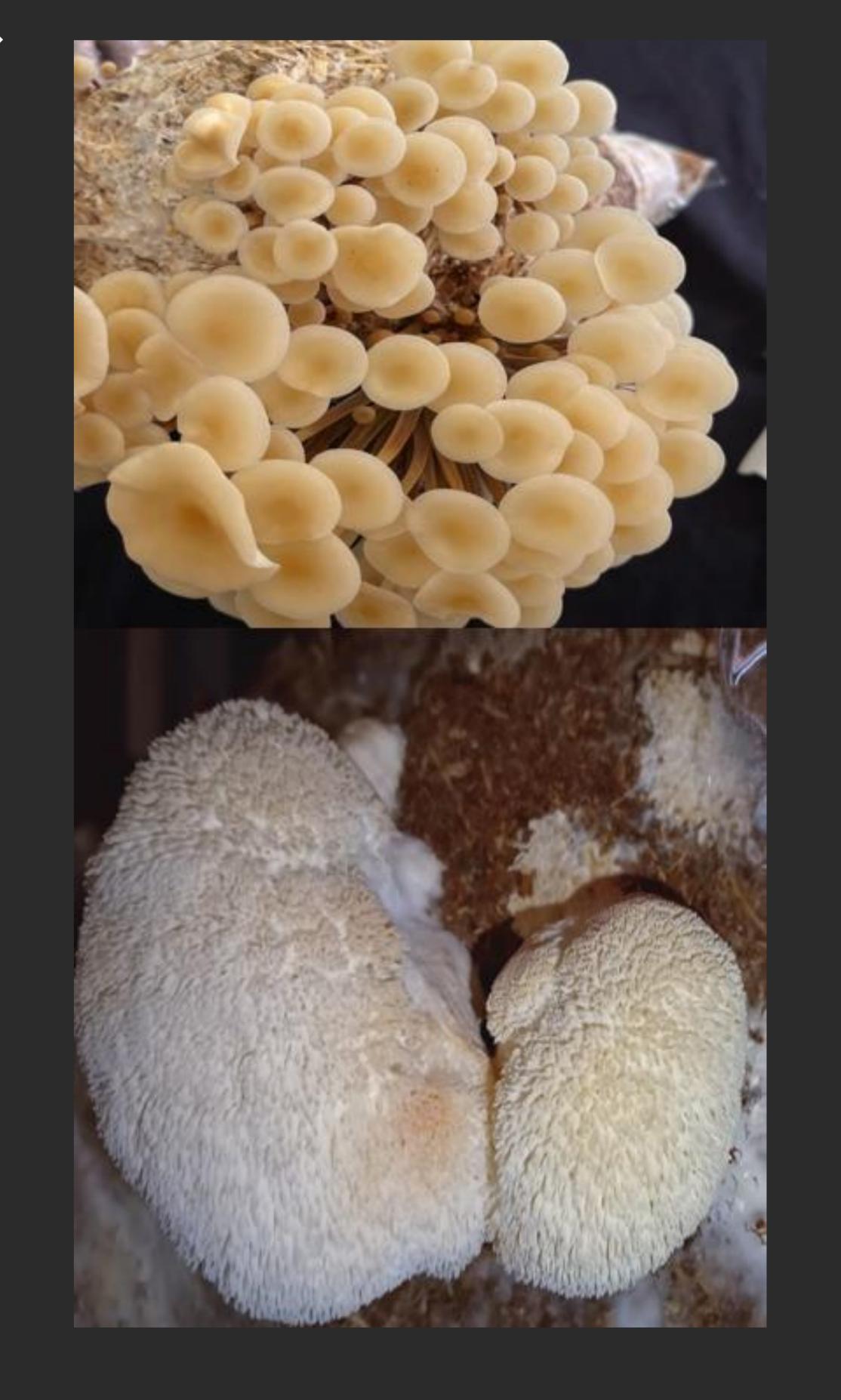
Optimal conditions for mycelial and spawn growth of Flammulina and Hericium mushroom standardized





Seven training/ awareness programmes on mushroom cultivation organized

















Promotion of Oilseeds Project No-11



Holistic Agriculture Development Program, U.T. of J&K



Development of R&M varieties & identification of suitable high yielding varieties of Sunflower, Sesame, Soyabean and Rapeseed & Mustard for Jammu region.



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Provide breeder seed of Rapeseed & Mustard varieties as per indent of Department of Agriculture, Jammu.



Popularization of newly developed technologies for the benefit of farmers of Jammu region through FLD, lectures in trainings.

Interventions

Covering additional 70,000 ha area under oilseed crops through crop diversification.

Increase cropping intensity and seed replacement rate.

Capacity building and entrepreneurship development.

Significant Achievements



Entry JT-17-1 (Toria) submitted to ICAR (DRMR) for evaluation in all India Coordinated trials.



Varieties evaluated 1.Four Hybrid of Sunflower 2. Four varieties of soyabean 3. Five varieties of Sesamum



3



24 acres 2023-24 & 200 acres mustard FLD distributed during 2024-25.













Adoption and Promotion of Integrated Farming System & ILS in UT of J&K Project No-13



Holistic Agriculture Development Program, U.T. of J&K

Objectives

To replicate the Model developed by the SKUAST-J after being scaled down and customized at different agro-ecosystem of the UT.





To not only double the farmer income but also addresses the sustainability, livelihood and nutritional security.



To promote farm waste recycling.

Interventions

- **Farmer assessment & human resources development**
- **Orientation & capacity building**
- **Implementing IFS interventions**



Significant Achievements

Components of IFS Model

One ha IFS Model comprising of various farm enterprises i.e. Crop + Horticulture (intercropped with high value low volume vegetable crops) + Animal unit+ Fisheries cum Poultry + Biogas+ Mushroom + Farm waste recycling unit has already been developed with Albizia, Grewia, Luceneae, Aonla & Poplar planted as boundary plantation.

Économics of IFS Model



During the year 2023-24, live model of IFS, SKUAST-J provides round the year production with Net profit of Rs. 3.66 lac/year/ha which is quite comparable to existing farming system which workout to be 0.90 to 1.0 lac/ha/year. Sustainability

Overall view of Crop/Horticulture component of IFS Model





It is evident from the study of IFS that there is having a potential not to doubling farmer income as compared to existing farming system but also showing a reduction in GHG's emission (-17907 CO2 e-kg), from IFS model which leads toward sustainability issue in agriculture.



Areal view of different components of IFS Model













To develop a Floriculture Entrepreneurship Model which is economical and commercially viable

Production of quality planting material of ornamental plants



Interventions

Up-gradation/capacity building of existing nurseries including post-covid revival of sick/closed units.

Area expansion by clusterization in nurseries, protected cultivations of cut-flowers

and aromatic & ornamental crops.

Capacity building & aggregation.

Significant Achievements

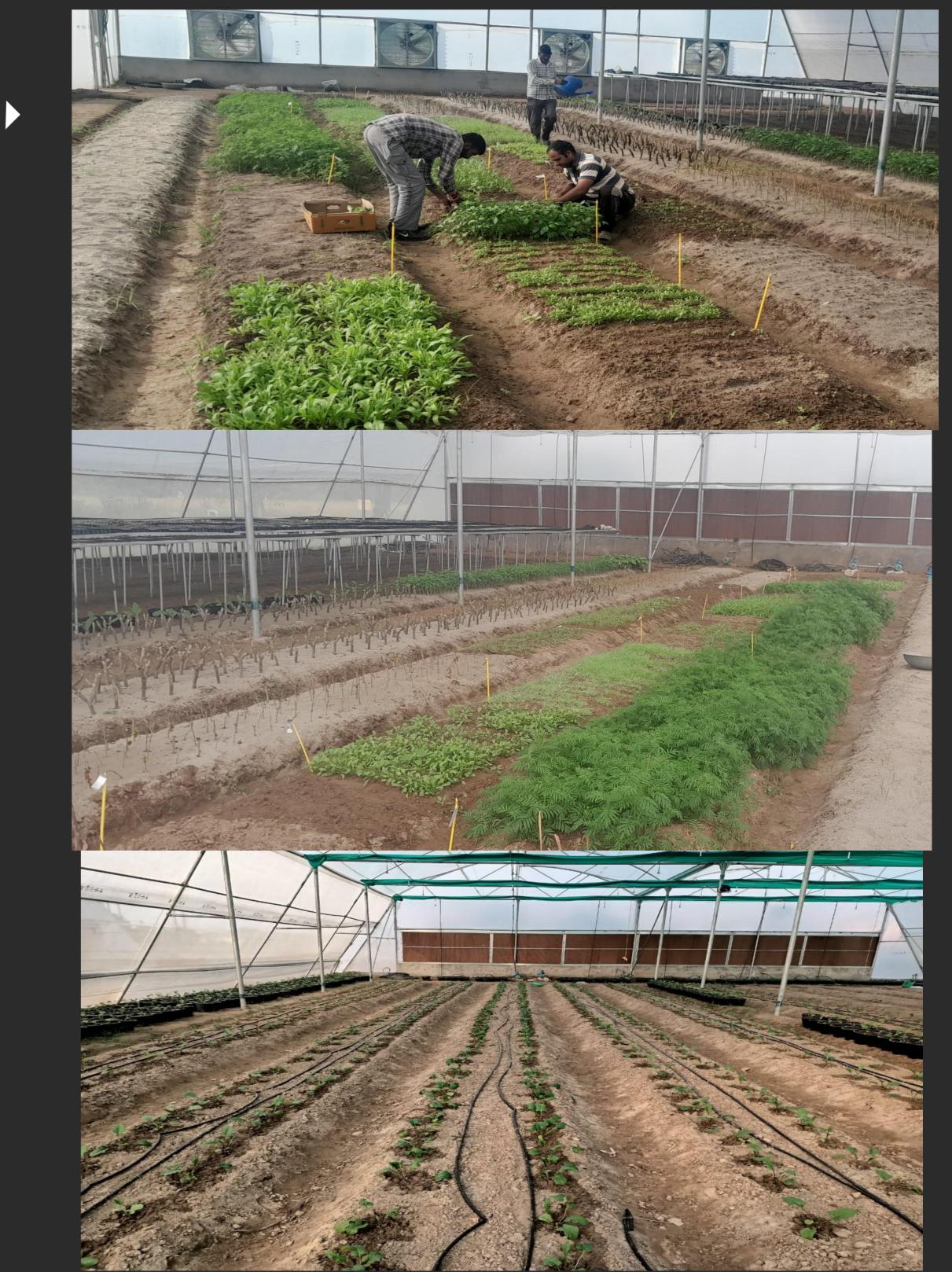
Two hi-tech polyhouses for model floriculture farm as well as ornamental plant nursery established.



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Production of quality planting material of high value ornamental plant.

Collection of seed/ quality planting material of elite ornamentals.

















To promote production of quality seed of climate resilient crops for improving productivity.

 \sim To increase minor fruit production & productivity of old senile orchards for supplementary income.

Area expansion under Dragon fruit cultivation through standardization of protocols and value chain development.

Interventions

Minimizing soil degradation through agroforestry-based approaches

Promoting IFS/ILS which encourages system-based productivity

Improving access to institutional credit

Comprehensive insurance provision

Significant Achievements

Produced 104.25 qtls of quality seed of climate resilient crops/varieties.

2 03 No's of demonstration blocks of dragon fruit. established.



Laboratories for product development and value addition established.



Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu Main Campus, Chatha 180009, Jammu

@SKUASTJammu

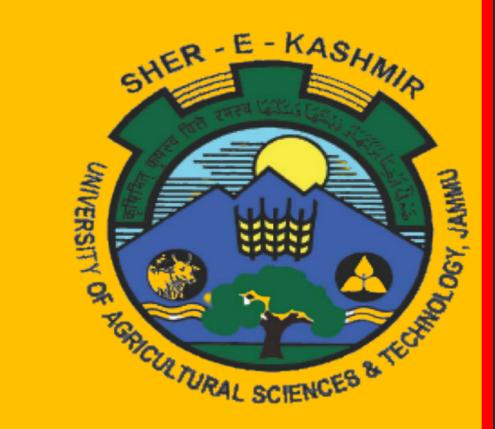






Alternate Agriculture System for Sustainability

Project No-16



Holistic Agriculture Development Program, U.T. of J&K



Stimulate ecological resources and processes for safe and sustainable production

Interventions



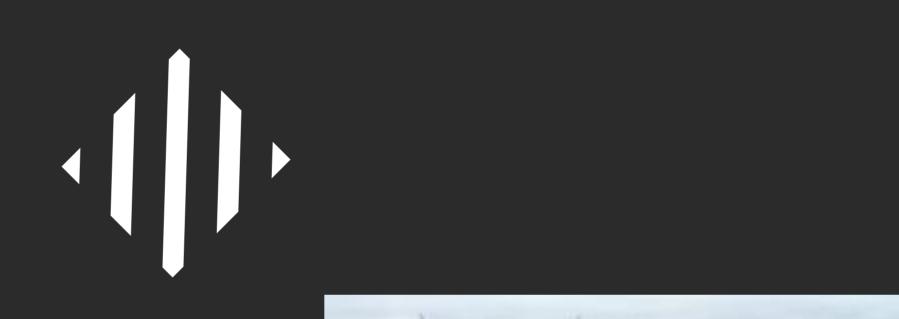
- **Bio- input production & recycling of resources.**
- **Facilitation in certification & marketing of organic produce.**



Training & capacity building to develop skills and know-how of organic farming.

Significant Achievements

1 80 On-Farm Research Trials laid on paddy, pulses and vegetables on farmer's field at Samba and Research Farm, CONF, Chatha Jammu



Conducted 12 farmer's trainings on organic and natural farming cultivation in Samba and Jammu, wherein 500 farmers were made aware about organic production of cereals, fruit crops and pulses



















A R&D capacity building towards smart agriculture



State of art sensor based hi-tech protected cultivation



Sensor based pilot study on protected cultivation of vegetables

Interventions

- R&D for capacity building towards smart agriculture
- **State of art sensor based high tech protected cultivation**



Sensor based pilot study on high density apple cultivation

🔳 GPS Map Camera

Significant Achievements

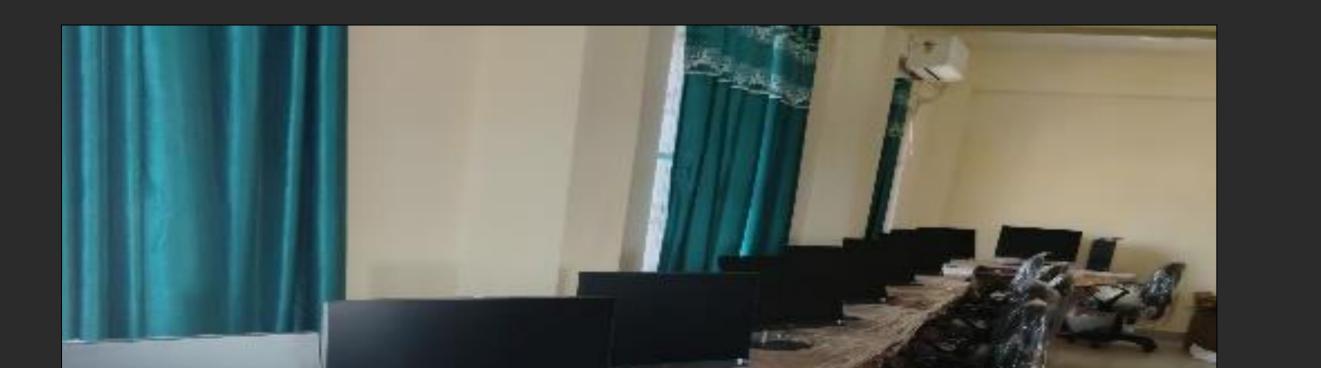
Drone with spraying unit



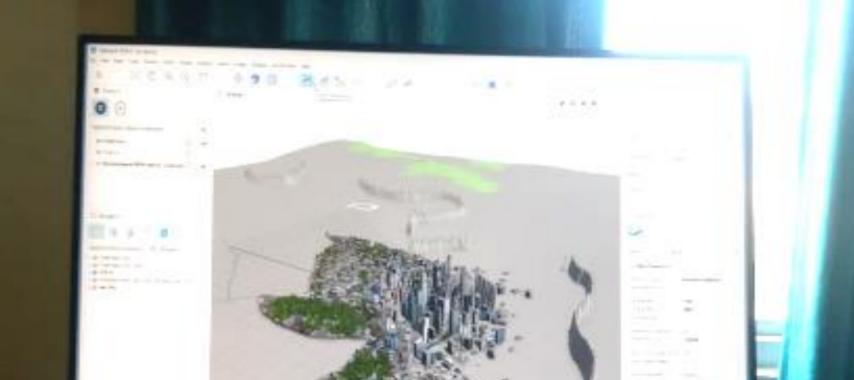
Lab work station with ESRI GIS toolkit

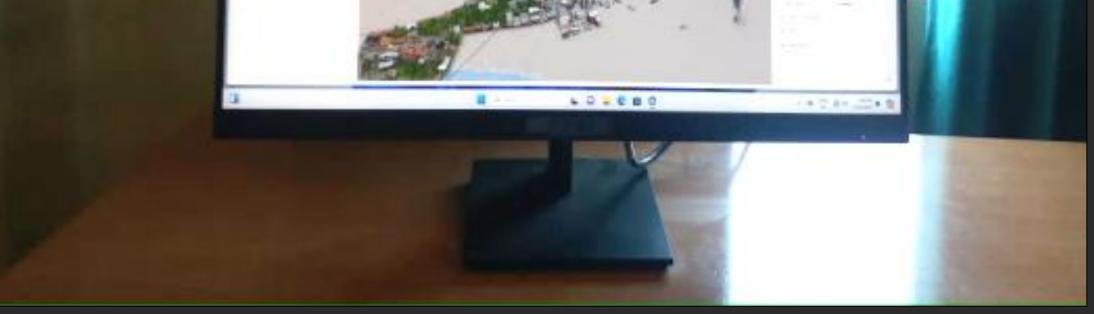


Remote Sensing, GIS & AI lab setup











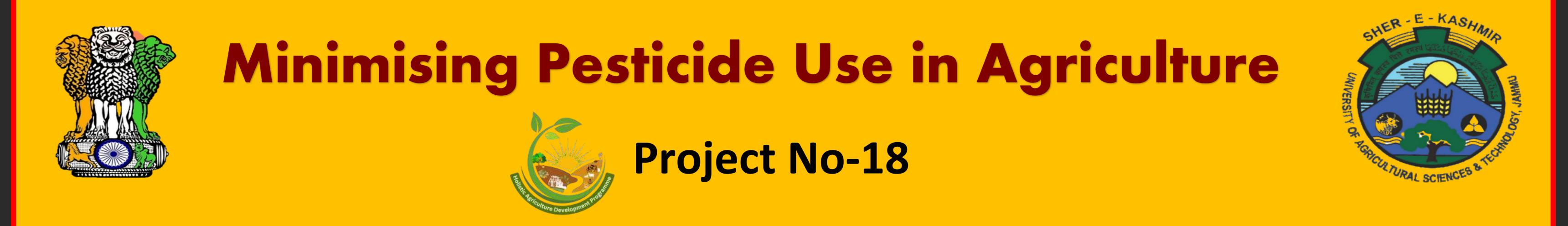
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Objectives



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Strengthening of Bio-control labs

Capacity building of stakeholders and Development of Agri-entrepreneurs

Interventions

- **Development of cluster-based model orchards.**
- **Identification of disease resistant varieties of crops.**
- **Popularizing & adoption of advanced spraying technologies & bio-pesticides.**
- **Estimating pre-harvest interval for developing safe food.**

Significant Achievements

Quality control laboratory strengthened through procurement of equipments and other infrastructural facilities.

2 Technology for mass production of biopesticides viz. NPV and Bt standardized.

Mass production of botanical pesticides viz. Neem, pongamia and other local plants sinjtiatereal training programme on production technology of botanical

pesticides conducted for farmers.



Production Technology Manual 5 on botanical pesticides and safe use of pesticides published.











Objectives

Crop – Land Suitability - Based on Land Evaluation





Site-specific soil health management and yield zonation



Robust Land use policy- On Agriculture and Urbanization

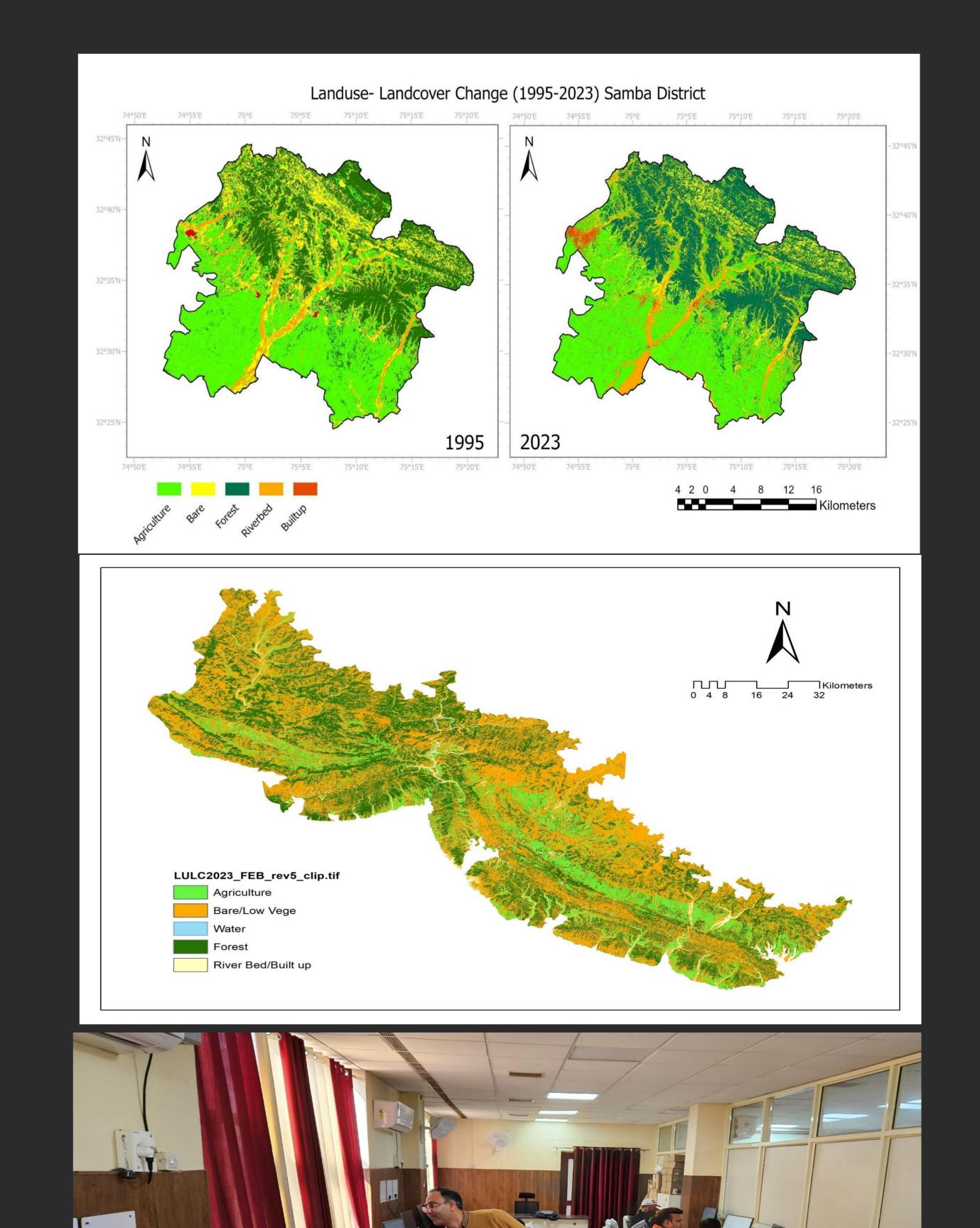
Interventions

Evaluation of crop – land suitability

Capturing soil profile data

Site-specific soil health assessment

Human resources development



Significant Achievements

Setting up of Geospatial & Pedometrics Lab, with Workstation facility and Mapping Software.

Machine Learning Application 2 in Development of Soil Maps for Samba District.



Land-use Land Cover Change in Samba District over nearly three decades indicating minor decline in Agricultural land.



Land-Use Land cover Change in the Outer Himalayas over the last two decades indicating substantial decline in Agricultural land.





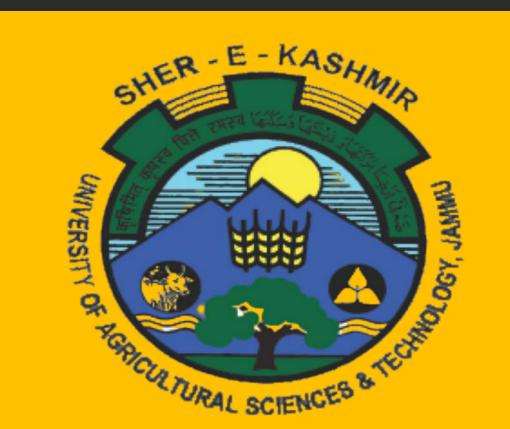






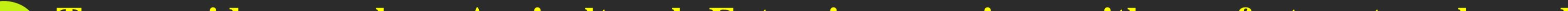


Innovative Extension Approaches for Revitalizing Agriculture in J&K Project No-20



Holistic Agriculture Development Program, U.T. of J&K





To provide seamless Agricultural Extension services with perfect outreach and dynamic contact across the value chain and real time resource person-client interaction

Holistic planning and execution of Production to Profitable agriculture with area and commodity specific Extension Approach based on Agri knowledge system (JK Agristack platform)

To develop capacities in agricultural extension and skill development for entrepreneurship development and employment generation

Interventions

Block level Agri-Extension Advisory Committee

V KVK as convergence hub at District level **Community Radio Station**

- **Production Studio**

3

Significant Achievements

35 Awareness cum popularization programs organized during the year 2023-24 & four thousand farmers benefitted.

02 no's. of trainings halls viz. Manthan Hall & HADP Training Hall refurbished.



06 nos. Hi-Tech Green Houses (Plant Protected **Cultivation Structures) at KVK Jammu, KVK** Samba, KVK Kishtwar, KVK Doda, KVK Reasi and KVK Kathua are under establishment.

CONTACT US









Objectives



Developing Mother Orchards for collection of best suited Cultivars.

- **Production of quality planting material for promotion of high density plantations.**
- Protected cultivation for quality and disease free material.



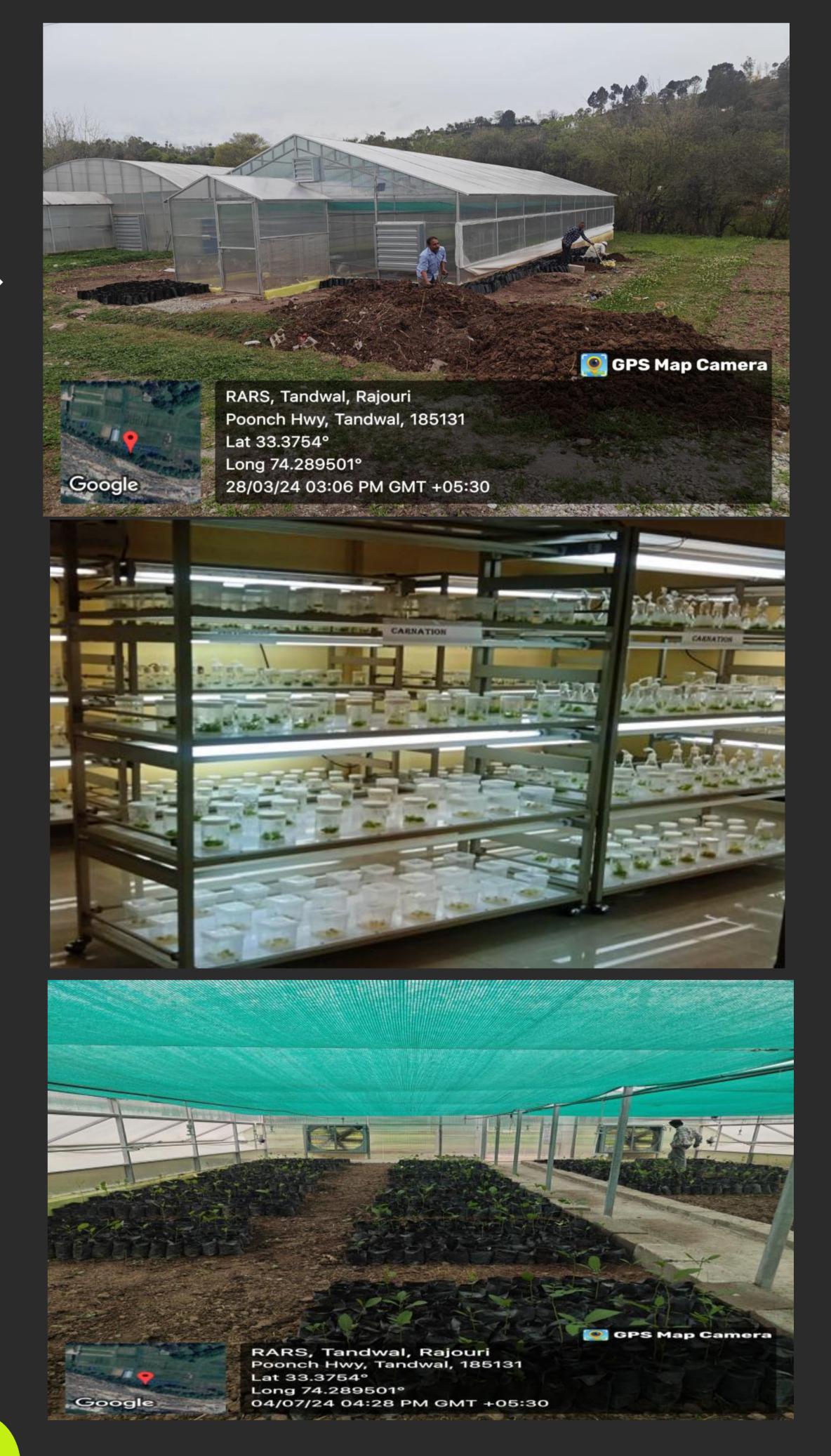
Mechanization and automation of existing nurseries.



Research and development in Horticulture.

Interventions

- **Production of elite planting material**
- Mechanization, automation & protected cultivation
- **Rejuvenation of orchards**





Capacity building

Significant Achievements



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3

Developed 01 Hectare Mother Orchard of **Citrus species at SKUAST-Jammu.**

500 nos. plants of more than 12 cultivars planted for bud wood bank.

02 nos. hi -tech poly houses constructed at **RARS Rajouri and KVK Poonch for Nut crops** propagation.

Propagated more than 3500 walnut and peanut

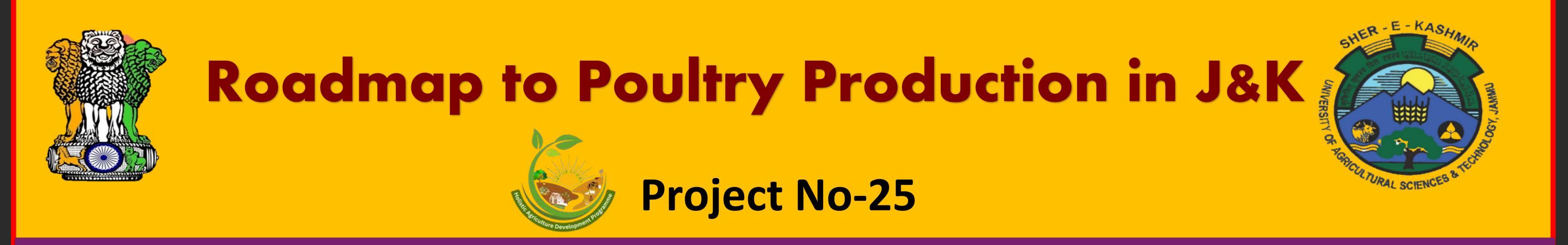
plants. **Protocols** standardization for mass multiplication of strawberry and apple rootstocks under progress.

















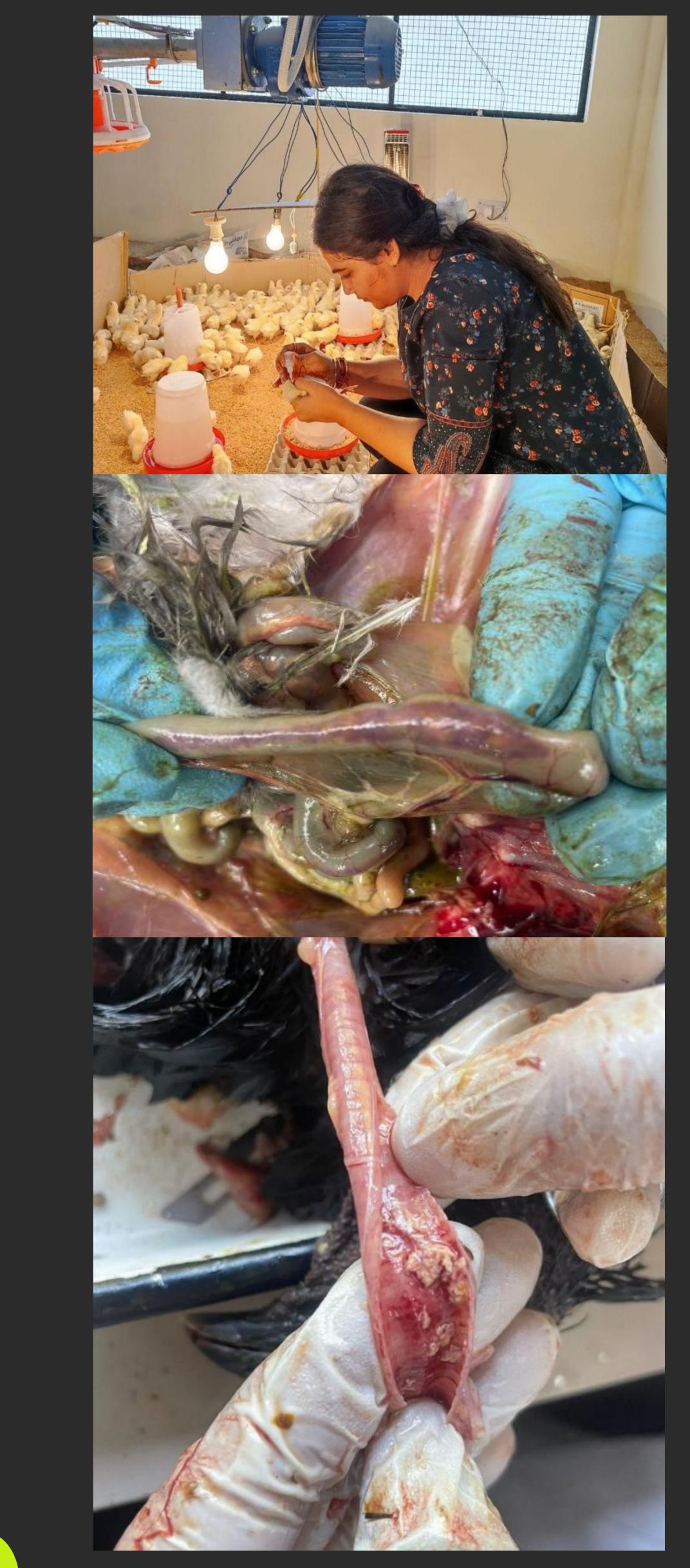
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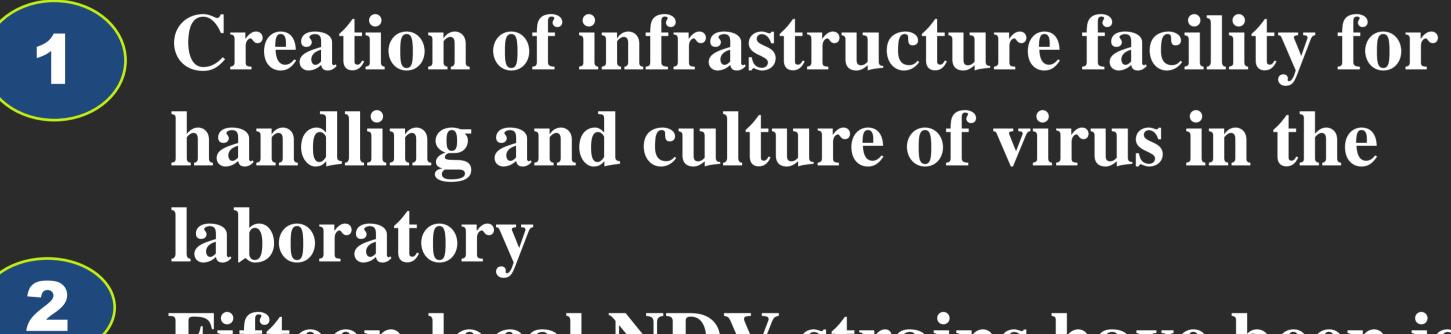
Low-cost feeding formulations using locally available non-conventional feed ingredients

Interventions

- **Broiler day-old chick production.**
- Commercial feed manufacturing.
- **Egg** production through commercial &
 - backyard/free-range farms.



Significant Achievements



Fifteen local NDV strains have been isolated through culturing of the viruses in laboratory

Genotyping and pathotyping of local strains conducted

4 Use of two unconventional feed resource for low cost feed formulation

Two trials in broilers conducted by using different levels of brewery wastes and biscuit bakery waste













Seed production of Indigenous fish species for ranching and rehabilitation of natural water bodies and diversification of candidate aquaculture species

the

Latitude

Local 10:39:50 AM

Development of Low-cost feed



Value addition and Product Development

Disease diagnosis and prophylaxis

Interventions

Import of genetically improved variety of fish seed



upgradation Establishment hatcheries/fish rearing units **Establishment of new hatchery units in clusters** mode



Production & post-harvest management

Significant Achievements

Infrastructure for Aquaculture research and seed production established.

Fish nutrition and molecular genetics lab. upgraded.



Altitude 692 meters





Fish value addition and product development 3 lab. under establishment.

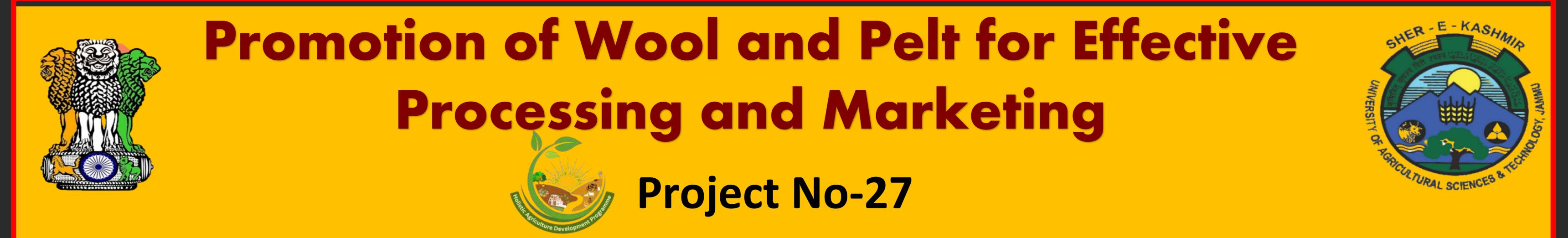
R&D on sustainable packaging under progress.

















Identification and revival of Indigenous wool-based niche products

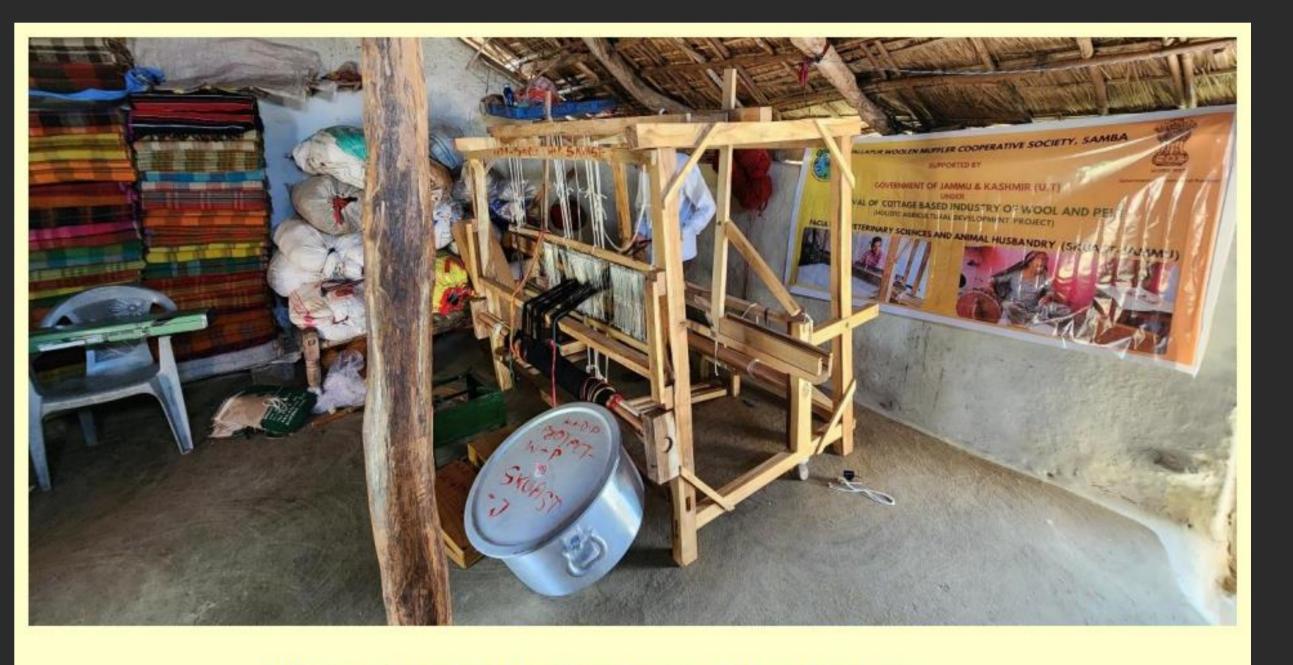
Development of value added woolen products



Interventions

- **Collectivization and integration of wool**
 - **Creation of common facilitation centers**
- **Revival of wool board**





Significant Achievements



Revival of 04 wool based ITK Products: Duggar basket, Basholi stole, Woolen muffler and Tweet coat



Establishment of 5 cooperatives with skill impartment of 250 artisans

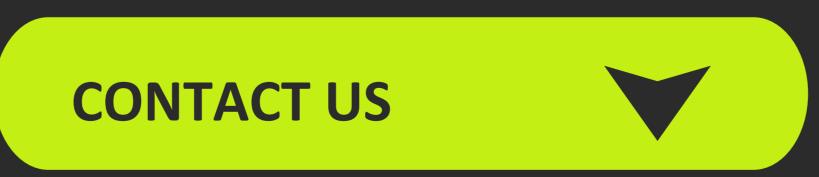
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Development of 4 wool blended yarns and 2 wool blended fabric **Jallapur Woolen Muffler Cooperative Society**



Characterization of wool of local sheep breeds

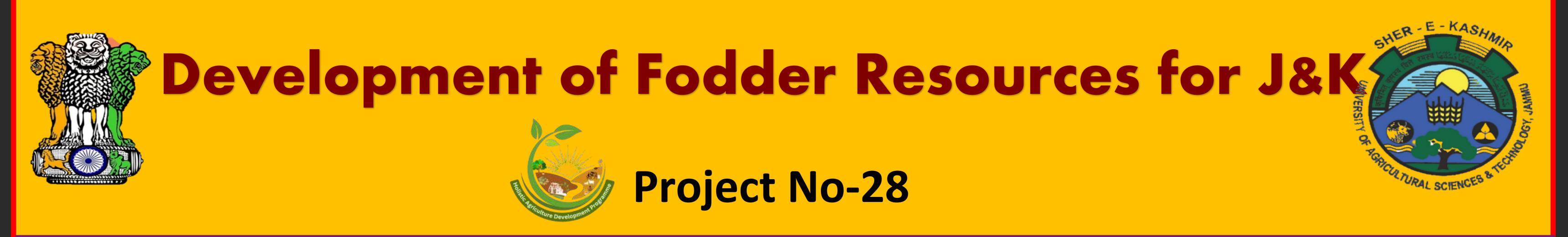
Training Programme-Jallapur, Samba











Objectives

Innovative approaches for green fodder production and mass multiplication under Hi-



Tech agriculture



- Genetic improvement of fodder crops for yield and quality
- **Rejuvenation and Promotion of Horti-Silvi-Pastoral systems and grasslands**

Interventions

- Feed & fodder production, processing, and value addition incentives
- **Innovation in green fodder production**
- **Genetic improvement of fodder crops**
 - Horti-silivi-pastoral systems & grasslands





Significant Achievements

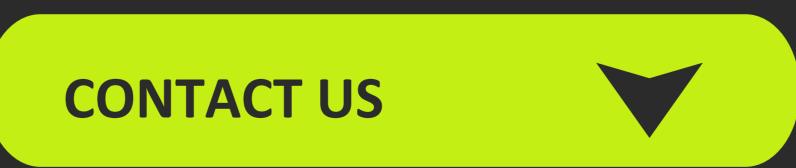


Establishment of hydroponic unit for fodder production at Chatha



Establishment of regional feed and fodder analysis laboratory with improved sample analysis facilities

Genetic improvement activities for fodder maize under progress at MBRSS, Poonch

















Post-graduate student monthly scholarship @ Rs. 5000/-

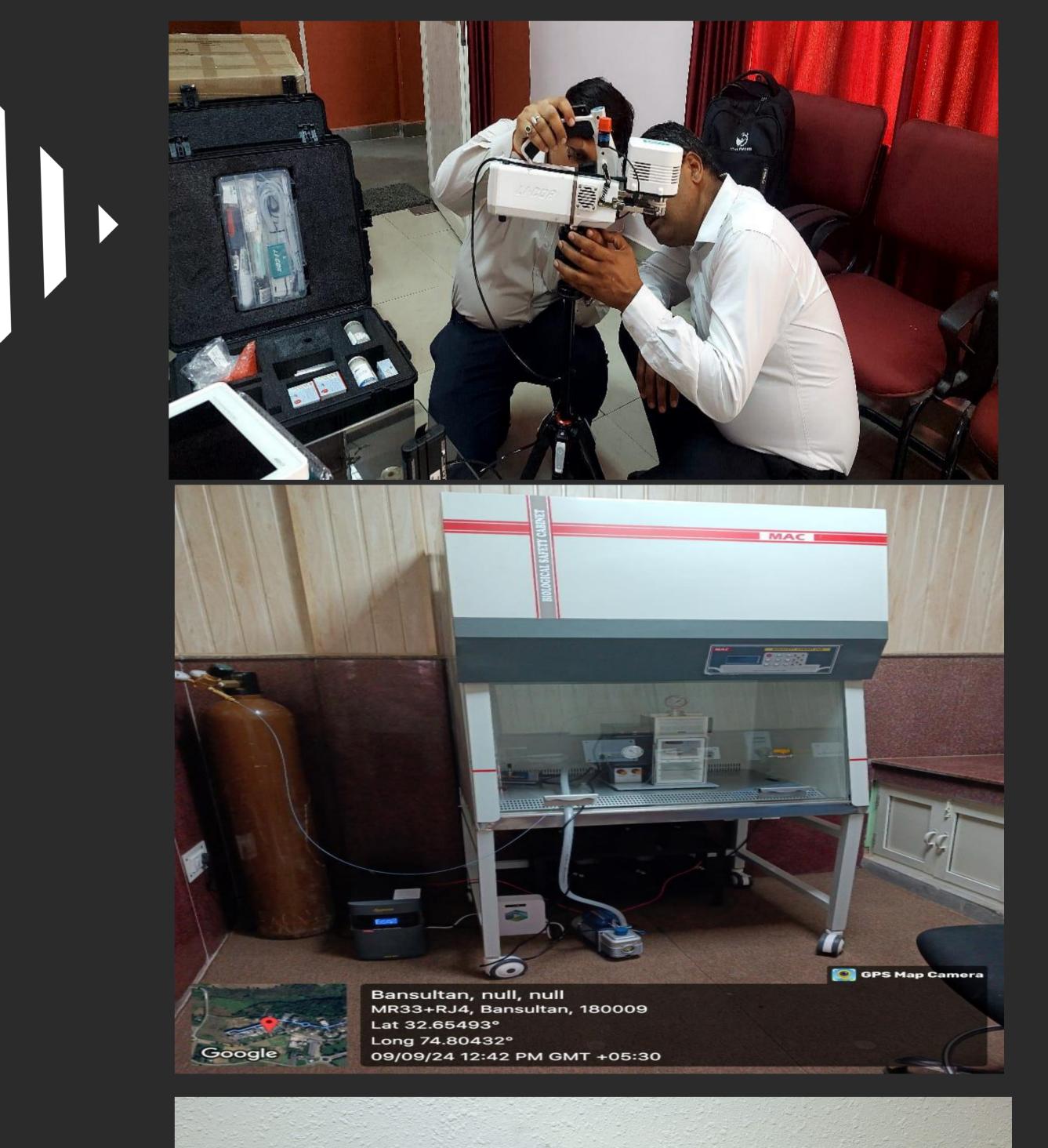
Interventions



Extension of Scholarships to Masters & PhD Students

Significant Achievements

Provided Scholarship Support to PG and PhD Students @ Rs 5000/- per month



2

Purchase of hi-end equipments to strengthen teaching, research & infrastructure development.

➢ Gene Gun/Biolistic Gun/Particle Delivery system

Nanopore Next Gene Sequencer

Real-Time PCR integrated system

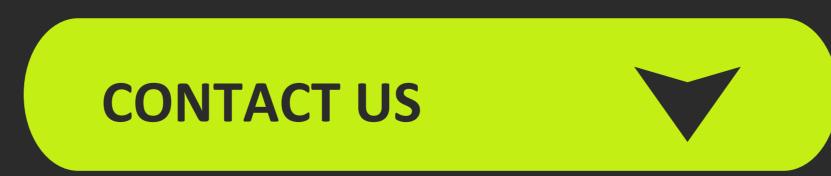
>Automatic Hot Embedding System & Cold plate

Fully Automatic Histo-Kinette/ Tissue Processor

Fully-Motorized Rotary Microtome

>Water purification system (Flexible for Type I and II

water)















Duration: Five years Budget: 5013 crores

VISION & MISSION



Transform J&K's Agricultural Economy as Integrative of Bio-Economy:

Transform subsistence agriculture into sustainable commercial Agri-economy.

Emphasis on ecosystem services and, restoration & sustainable utilization of biodiversity to efficiently use bio-resources for food, feed & industry.



Create agri-business ecosystems with inbuilt functional value chain

Promote inbuilt risk management through diversification and resilient & smart agricultural practices.

Adopt farmer- and community-centric approach for holistic development of agriculture. Support human resources development for technology backup to sustain and accelerate agricultural transformation.

Major outputs expected from HADP

 Seed Replacement: 33% replacement rate with 2.596 lakh QTLS quality seeds; production boost by 15%-45%.
 Niche Crop Production: Expand 11,000 Ha for niche

crops; 5,182 nurseries, 44 seed villages, GI tagging, value chains, and spice/rice mills.

Vegetable Self-Reliance: Increase production from 19.90 to 25.87 lakh MT; 1,100 hi-tech greenhouses, 3,548 polyhouses. Integrated Farming: Support for 85,000 families; increase income per hectare by 100%.

Flower Cultivation: Expand flower land to 587 Ha; 54 new nurseries, 330 production units.

◆ Fruit Economy: 50% increase in fruit economy to ₹15,000 crore; 11 million plantations.

◆Product Clusters: 7 clusters with 5 mega clusters (milk, walnut, etc.), generating ₹1,450 crore/year.

- Post-Harvest Network: 67,000 MT CA storage; market intelligence support for rural hubs and mandis.
- ★Medicinal & Aromatic Plants: 5,000 kanals for MAPs; 6 germplasm banks; output goal of ₹750 crores over 15 years.
- Honey Production: Triple output, adding 1.43 lakh bee colonies, 20 CHCs, 2 apitherapy centers.
- Silk Production: Cocoon production boost from 700 MT to 1,350 MT; 10 lakh mulberry plantations.
- Millet & Nutri-Cereals: 14,000 Ha for climate-resilient millets; double productivity with 60 processing units.
- Farm Mechanization: Farm power from 1.74 Kw/ha to 2.5 Kw/ha; 283 Custom Hiring Centres.
- Mushroom Production: Quadruple production; 26 compost units, 72 cropping rooms, and 300 mushroom

- *Milk Production: 75% output increase; 500 village milk units, 50 chillers; boost per animal productivity.
- Mutton Self-Sufficiency: Genetic improvement of sheep breeds; 300% wool/pelt returns increase.
- **Poultry Self-Sufficiency:** 300 feed units, 125 hatcheries; stop ₹1,273 crore capital outflow.
- Fish Production: Double trout and carp production; new hatcheries, fish feed mills, storage units.
- *Fodder Production: Reduce fodder deficit by 80%; generate 20 lakh MT from orchards and grasslands.
- Kissan Khidmat Centres (KKCs): 2,000 KKCs for local planning, linking with technical resources.
- Irrigation Systems: 789 borewells, 16,000 Ha with modern irrigation.
- **Vermicompost Units:** 4,875 units for farmers, plus 200 large

sheds.

*Oilseed Expansion: Doubling production; 100 extraction units, area up from 1.4 to 2.1 lakh Ha.

commercial units producing bio-compost worth ₹800 crore annually.









