

Action Plan for the year *2019-20*

Presented by:

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Thrust area and Prioritized problems in different sectors.

Sector	Major Crop/ Enterprise/n atural Resource	Thrust area	Identified Problem
Horticulture	Apple/walnut	Improvement in yield and quality of apple and walnut.	<ul style="list-style-type: none"> a) Poor fruit set, yield and quality of apple b) Lack of quality planting material c) Nutrient deficiency, poor canopy management and heavy disease incidence d) Nutrient management in chards were fields remains covered with snow till late.
Agriculture	Paddy, maize, Brown sarson, fodder oat and Pulses	Enhance seed replacement rate in major cereals, Pulses, oilseeds and fodder crops.	<ul style="list-style-type: none"> a) Low seed replacement rate b) Faulty nutrient application c) Disease incidence in rice. d) Lack of suitable rice variety for mid altitudes e) Shortage of fodder f) Low yield of brown sarson
Vegetables	Chilli, Knolkhol, Kale, cucurbits etc.	Increasing vegetable production and revival of niche crops	<ul style="list-style-type: none"> a) Chilli Wilt b) Downy mildew of cucurbits c) Lack of vegetables in winter
Live stock	Dairy , Sheep husbandry and poultry	Up gradation of existing breeds Commercial dairy and poultry farming	<ul style="list-style-type: none"> a) Low yield due to local breeds, b) skin infestation (with ticks, lice and fungi) in cattle c) unawareness about disease and nutrient management
Apiculture	Bee-Keeping	Popularization of Apiculture for income generation and role in fruit industry	Lack of awareness and management
Pisiculture	Fish farming	Rearing and breeding management with respect to carp culture	Unawareness about improved methods of fish farming

<p>Entrepreneurship Development</p>	<p>Agribusiness</p>	<p>Introduction of income generation programmes for Self-employment of youths in mushroom, cultivation and processing, fish farming, value addition of fruits and vegetables and rearing of honey bees and vermicomposting, nursery raising and training and pruning</p>	<p>Unawareness about self employment and income generation programmes in agriculture and allied areas</p>
	<p>Rural craft</p>	<p>Women empowerment through income generating skill oriented programmes in Cutting and tailoring, knitting, value addition of fruits and vegetables.</p>	<p>Social backwardness in women</p>
<p>Natural Resource Conservation</p>	<p>Soil and Water</p>	<p>Soil and water conservation.</p>	<p>Soil erosion and moisture deficit.</p>

Proposed intervention based on Prioritized problem

AGRONOMY

On- farm testing

Crop	Prioritized problem	Title of OFT	Technology options	Source of Technology/Collaboration	No. of trials	Parameters to be studied
Rice	Fodder Shortage	Varietal Assessment of Oats	T1=SKO-20 T2=SKO-90 T3= SKO-96	MRCFC SKUAST-Kashmir	05	Yield and economics
	Yield stagnation	Assessment of yield and crop duration paddy varieties in mid belts of district Kulgam	T1=Farmers practice (Jhelum) T2= SKAU-408	SKUAST-Kashmir	40	Yield and economics

Frontline Demonstrations

Crop/ enterprise	Prioritized problem	Technology to be demonstrated	Source of Technology/ Collaboration	Name of critical input	No. of Demo	Parameters to be studied
Paddy	Poor seed quality	Farmers Own seed Production	SKUAST-K	Seed and technique	10	Yield and Economics
Paddy	Yield stagnation	SKAU-408 in lower belts of district Kulgam	SKUAST-K	Seed	30	Yield and Economics
Maize	Old variety (C-15)	New variety (Shalimar maize Composite-3)	DARS SKUAST-Kashmir	Seed	60	Yield
Cowpea/ soybean/ Moong/Pea	Faulty intercropping in apple	Intercropping in newly established apple orchards with legumes	DARS SKUAST-Kashmir	Seed	10	Yield And economics
Brown sarson	Old varieties	Shalimar Brown sarson-3	SKUAST-Kashmir	Seed	25	Yield and economics.
Oats	Old varieties	SKO-20/90	SKUAST-Kashmir	Seed	50	Fodder yield

Training /Awareness/Method demos for Farmers/ Farm Women

Thematic area	Crop / Enterprise	Prioritized problem	Training Course Title	Month	No. of trainings	No. of days for each training	Nature of training
Crop Production	Rice	1.Poor seed quality, 2.Cold injury to paddy nursery, 3.Nutrient imbalance	1. Improved Practices for quality seed production/Farmers own seed production 2. Modified Protected nursery in rice 3.Nutrient and water Management in rice	April-July	03	07	Off- campus
	Maize	1.Poor seed replacement rate 2.Poor seed quality 3. Water stress, 4.Potassium Deficiency	1. Practices for increasing maize yield under irrigated conditions 2. Moisture conservation practices and agronomic practices for maize under rain fed conditions. 3.Symptoms and correction of plant nutrient deficiency	April-July	03	10	Off- campus
	Oilseeds	1.Old varieties 2.Sulphur deficiency 3.Poor drainage	1.Non monitory inputs for improving yield of oilseed 2.Importance of S nutrition in oilseeds	October	02	3	On- campus
	Oilseeds, pulses, fodder crops	Mono-cropping	1.Productivity and profitability of different cropping systems under Kulgam conditions 2.Importance of legumes in sustainable Agriculture 3. Package of practice for pulses and fodder crops. 4.Seed production in oats	May-Oct	03	3	-do-

Trainings for Extension Functionaries

Crop / Enterprise	Training Course Title	No. of Courses	No. of days	Month	Nature of programme
Cereals, Pulses, oilseeds, fodder crops	Technological interventions for improving yield of field crops(Kharief) in district Kulgam.	1	3	April-June	On- campus
Cereals, Pulses, oilseeds, fodder crops	Technological interventions for improving yield of field crops(rabi) in district Kulgam.	1	3	September-Oct	On- campus

Other Extension activities		
1	Field Day	6
2	Group discussions	5
3	Kisan Ghosthi	7
4	Kisan Mela	1
5	Exhibition	4
6	Method Demonstrations(Seed treatment, Spray preparations ,BGA, Soil Sampling, Machinery, Protected nursery etc)	20
7	Exposure visits	3
8	Technology week,	1

Important campaigns in collaboration with Line Department

- Soil health management.
- Popularization of pulses for inclusion in the existing cropping systems.

HORTICULTURE

On- farm testing

Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology/ Collaboration	No. of trials	Parameters to be studied
Apple	Poor quality	Management of russetting in apple	T1- Fungicidal spray (Propiconazole) T2- application of Wettable sulphur 3g/lit + boric acid 1 g/lit +kaoline 2.5 g/lit	Division of fruit Science SKUAST- Kashmir	03	Incidence of russetting

Frontline Demonstrations

Crop/ enterprise	Prioritized problem	Technology to be demonstrated	Source of Technology/ Collaboration	Name of critical input	No. of Demo	Parameters to be studied
Apple	Poor fruit color	Effect of potassium sulphate (15g/lit) on color improvement in apple Cv. Red Delicious	Division of Fruit Science SKUAST – Kashmir	Potassium sulphate (15g/lit)	03	color

Trainings

Training for Rural Youth/Farmers/ Farm Women

Thematic area	Crop / Enterprise	Major problem	Training Course Title	Month	Collaboration	No. of Courses	No. of days	Nature of training
Horticulture	Temperate Fruits	Lack of quality planting material & Un-employment	Nursery raising techniques for raising quality planting material	Feb-Mar	Deptt. Of Horticulture	1	10	On-campus
		Poor productivity and quality	Canopy Management in temperate fruits	Nov-Dec	Deptt. Of Horticulture	1	10	On-campus
	Apple	Lack of Knowledge about orchard layout	Planning and layout for establishment of apple orchards for both traditional and HDP	March	Deptt. Of Horticulture	05	05	Off-campus
	Apple	Poor fruit set	Pollination management in temperate fruit crops	April	Deptt. Of Horticulture	10	10	Off-campus
	Apple	Climate Change	Management of apple under extreme weather conditions.	April-July	Deptt. Of Horticulture	02	02	On-Campus

Trainings for Extension Functionaries

Crop / Enterprise	Training Course Title	No. of Courses	No. of days	Month	Nature of programme
Fruits	Improved practice in fruit crops from nursery to harvesting	1	3	Mar – Oct	On- campus
Apple	Scientific training and pruning of apple	1	15	Nov – Dec	Off- campus
Apple	Package and practices in Hig Density Plantation	1	03	Sep-Oct	On-campus
Vegetables	Production of vegetable and vegetable seedling during off-season under protected conditions	1	03	Nov – Dec	On-campus
Floriculture	Employment generation potential of Floriculture in Kulgam and technical issue.	1	03	Feb-Mar	On-campus
Sericulture	Cultivation of mulberry with special reference to propagation	1	02	Feb-Mar	On-Campus

Campaigns

Thematic area	Crop / Enterprise	Prioritized problem	Training Course Title	No. of Demonstrations	No. of days for each training
Apple	Poor fruit quality	Scientific training and pruning of apple in both young and old orchards	November- Dec	15	Off- campus
Apple	Poor fruit set	Pollination management in temperate fruit crops	April	10	Off-Campus

Soil Science

OFTs

Crop/ Enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology/ Collaboration	Parameters to be studied
Paddy	Poor Nitrogen Management	Nitrogen management in paddy through LCC in plains	T1: Blanket Recommendation T2: Soil Test Based Nitrogen Management T3: LCC based Nitrogen Management	SKUAST-K	Yield Parameters & Yield Economics
FYM	Application of un-decomposed/ partially decomposed FYM	Bio mediated composting	T1: Farmers Practice T2: Mixture of agricultural waste, Kitchen waste and litter waste + Preparation of Pit (4' x 6' x 8') + Use of effective microbes @ 200 ml m ⁻²	Division of fruit Science SKUAST-Kashmir	Rate of and percentage of decomposition

Frontline Demonstrations during 2019-20

Crop/ enterprise	Prioritized problem	Technology to be demonstrated	Source of Technology/ Collaboration	Name of critical input	No. of Demo	Parameters to be studied
Pulses	Deteriorating Soil health	Biofertilizer	SKUAST-Kashmir	Rhizobium	10	Yield and economics
Rice and Maize	Zinc deficiency	Soil test based Zinc application	SKUAST-Kashmir	Zinc sulphate	10 demonstration on each crop	Yield and economics

Training for Farmers/ Farm Women during 2019-20

Thematic area	Crop / Enterprise	Major problem	Training Course Title	No. of days	Expected No. of participants
Soil Health and Fertility	Apple	Indiscriminate use of fertilizers.	<ul style="list-style-type: none"> • Soil and leaf sampling techniques for fertilizer scheduling. 	10	500
	Apple	Micronutrient nutrient deficiency.	<ul style="list-style-type: none"> • Deficiency symptoms and micronutrients management in fruit crops 	3	60
	Cereals oilseeds, pulses and fruit crops	Poor soil health	<ul style="list-style-type: none"> • Importance, preparation and use of organic and bio inputs 	3	60
	Cereals oilseeds, pulses and fruit crops	Nutrient imbalance	<ul style="list-style-type: none"> • Integrated Nutrient management in field crops. • 4R principle of fertilizer application • Environmental impact of indiscriminate fertilizer use 	1 05 02	100 150 100

Training for Rural Youth during 2019-20

Thematic area	Crop / Enterprise	Major problem	Training Course Title	No. of Courses	Expected No. of participants
Soil Health and Fertility	Vermi-compost	Deteriorating soil health and Unemployment	Production of organic inputs on scientific lines for livelihood and soil health	01	20
	Apple	Deteriorating soil health	Training rural youth in soil fertility assessment through STRF	02	20

Trainings for Extension Personnel during 2019-20

Thematic area	Training Course Title**	No. of Courses	Duration	Expected No. of participants
Soil health	4R principle of nutrient management in agricultural crops	02	1 day	10
	Advances in nutrient management in temperate fruit crops	02	1 day	10

Other Extension Activities

- *Campaign on soil health management with a target of covering 100 villages*
- *500 soil samples for testing and soil health cards*

PLANT PROTECTION

On- farm testing

Crop	Prioritized problem	Title of OFT	Technology options	Source of Technology/ Collaboration	No. of trails	Parameters to be studied
Cucumber	Downy Mildew	Management of Downy Mildew	T1 = Farmers Practice T2= Chemical spray like Ist Spray = Mancozeb 75 WP @ 0.3% 2 nd spray = Metalaxyl 72 WP@0.25% 3 rd Spray = Cymoxanil @0.2%	SKUAST-Kashmir	03	Disease Incidence

Front Line Demonstration

Crop	Prioritized problem	Technology to be demonstrated	Source of Technology/ Collaboration	Name of critical input	No. of Demos	Parameters to be studied
Apple	Canker	Demonstration on Canker Management	SKUAST-Kashmir	Fungicide paste 1:2:9 (Carbendazim 50 WP+ Copper oxychloride 50 WP+ Linseed oil)	5	Per cent wound healing
Apple	Insect pest and disease problem	Demonstration of spray schedule	SKUAST-Kashmir	Technology	10	Disease status

Trainings for Farmers/Farm women

Prioritized problem	Training Course content	No. Of trainings	No. Of days for each training	Month
Lack of knowledge	Important diseases of apple and their management	06	01	March-August
Root rot and collar rot of apple	IDM of root rot and collar rot of apple	04	01	April-December
Lack of knowledge about disease management	IDM of paddy diseases	05	01	March onwards
Climate Change	Management of apple diseases under extreme weather conditions	02	01	April - September
Lack of knowledge about disease management in vegetable	Integrated disease management of cucurbitaceae vegetable crops	02	02	April-September
Lack of knowledge about bee keeping	Rearing of honey bees for honey production and pollination	01	03	April

Awareness programmes

Awareness programme	No. of programmes	Duration/ prog.(days)
Safe handling and judicious use of pesticides	10	01
Save Agriculture land, Save water, Save environment for sustainable production and healthy life (at school level & 10+2)	04	01

Trainings for Extension personals

Title	Training Course content	No. of Courses	No. Of days
Integrated disease and pest management	Various diseases and pests infesting crops. Management of diseases and pests.	02	02
Integrated disease management of paddy diseases	Integrated disease management of paddy diseases	02	01

Pesticides and their harmful effects.	Role of pesticides in agriculture. Harmful effects of pesticides on non-target organisms.	01	01
Problems associated with sericulture	Causes of diseases in silkworm Management of diseases in silkworm	01	01

Trainings for Rural Youth

Thematic area	Enterprise	Prioritized problem	Training Title	No. Of trainings	No. Of days
Mushroom	Mushroom production	Lack of knowledge and skill for production of button mushroom as an enterprise	Entrepreneurship opportunities in commercial mushroom production	01	10

Campaign

- Pesticide spray schedule of SKUAST-Kashmir for apple insect pest and disease management
- Impact of HMOs as dormant sprays on Sanjose scale and European Red Mite of apple
- Rodent Management

Animal Science

On- farm testing

Prioritized problem	Title of OFT	Technology options	Source of Technology	No. of cases	Parameters to be studied
Subclinical Mastitis in dairy cows	Assessing the performance of Potassium Permanganate as preventive measures for subclinical Mastitis in milking cows	T1= washing with water (FP) T2=washing of udder and teats with 3% Potassium Permanganate (premilking and postmilking teat dipping with 3% Potassium Permanganate solution)	NDRI	20	<ul style="list-style-type: none"> • Detection of incidence of subclinical mastitis Based on MASTRIP/CMT • Economics • Mastitis screening & udder health package development
Anestrous Infertility problem and Low milk high production cost	Assessment of nutritional management practices for improvement of productive and reproductive performance in dairy cow	T1= feeding of onion, Methi, and Guar (FP) T1= Deworming +mineral mixture 50g/cow /day T3= Deworming with recommended dose of fenbendazole before one month of calving. Mineral mixture will be fed after 15 days of calving for 2 months	NDRI	20	<ul style="list-style-type: none"> • Number of cows comes in heat • Calving interval (days) • Service period (days) • Post-partum estrus interval (Days) • Average milk yield litres /Cow/day
Low milk yield Poor body condition score	Assessment of Production Performance in dairy cow During Winter season From (December , Jan, Feb.) by supplementation Feeding of Winter chocolate to lactating cows 400g/cow /day	TO= feeding of traditional ration and Guar (FP) T1= supplementation Feeding of Winter chocolate to lactating cows 400g/cow /day Starting with half chocolate/cow /day for first six days	SKUA ST-K	20	<ul style="list-style-type: none"> • Milk yield (liters)/ cow/ day • Body condition score

Frontline Demonstrations

Enterprise	Prioritized problem	Technology to be demonstrated	Performance / parameter
Poultry	<p>Low income to farmers , Lack of employment opportunity Lack of knowledge on newly released high yielding variety Low body weight, poor egg production poor hatchability and increase mortality</p>	<p>Performance of Vanaraja birds under backyard system.</p>	<ul style="list-style-type: none"> • Average body weight in g/month • Age of first egg (days) • Total eggs up to 40 weeks of age • First egg weight at 40 week of age (g)
Sheep/goat	Ecto and endo parasite infestation	<p>Oral administration of recommend dose of (Albendazole750mg+ivermectin25mg/30ml) Prevention and control of parasitic diseases of small ruminants by de-worming</p>	<ul style="list-style-type: none"> • Body weight in kg/month • Mortality rate of kids • Birth wt of kid • General body condition /lamb • Survivality % • Per cent control of Ectoparasites

Training /Awareness/Method demos for Farmers/ Farm Women

Thematic area	Prioritized problem	Training Course Title	Month	No. of trainings	No. of days for each training	Nature of training
Livestock production and management	Training programmes	Body measurements in large animals for determine the right dosage of medicines		2	4	
		Diagnosis of mastitis with CMT Test under field conditions		4	2	
		Milking methods		4	3	
		Clean and hygienic milk production		3	2	
		least cost balanced feed formulation		3	2	
		Urea molasses mineral block preparation		3	2	
		Duck rearing as an alternative supplement income generating source to rural woman		2	2	
Breeding management	Repeat breeding Anestrous Infertility problem and Low milk high production cost	Heat detection methods and Best time for insemination in dairy animal	January	01	7	Off campus
		Understanding of Goat and Sheep breeding cycle for optimization of their performance	January- feb	01	7	On campus
		Management for improvement of breeding practices in livestock	March – April	01	4	Off campus
Livestock Management	Common livestock diseases in District Kulgam like mastitis, milk fever, repeat breeding, FMD, Foot rot Heard health	Signs, treatment and preventive measures of the mentioned diseases and conditions	March – April	01	7	Off- campus
		Vaccination, importance, Sops, schedules and cost benefit	April- may	01	10	Off- campus

	problems	parasites and their impact on animal health and production/ Deworming schedule, Deworming Techniques	April-July	01	10	Off- campus
	Unbalanced feeding	balanced feeding in livestock with special reference to vitamins and mineral.	April-July	01	8	Off- campus
	Unemployment in rural youth	Promotion of scientific dairy , sheep and poultry farming for income generation	October	01	10	On- campus
	Contamination of Milk	Hygienic and Clean milk production	December	01	7	Off-Campus
Poultry	Low income to farmers, lack of employment opportunity, lack of knowledge on newly released high yielding variety, low body weight, poor egg production	Back yard poultry production and management for subsidiary income	April-July	01	10	On campus

Trainings for Extension Functionaries

Livestock	Training Course Title	No. of Courses	No. of days	Month	Nature of programme
Cattle, Sheep, Goat, Poultry	How to avoid Inbreeding depression in sheep. Importance of Breeding, Common breeding practices, disadvantages and challenges	1	4	January	On- campus
	Judicious use of therapeutic agents with reference to antibiotics in the treatment of food animals	1	4	April	On campus

Other Extension Activities		
1	Animal health camps	5
2	Diagnostic visits need based	Need based
3	Group discussions	7
	Field days	5
4	Kisan Ghosthi	5
5	Kisan Mela	1
6	Method Demonstrations	10
7	Exposure visits	1
8	Technology week	1
9	Celebration of special days i.e World Veterinary day (29 th April), World Zoonosis day (6 th July), World Rabies Day (28 th September).	3