Monthly Workshop for Capacity Building of Extension Functionaries

Message for November

Crop	*Operation/ Diseases/pests*	*Message/Impact points*
		Agronomy
Rabi Crops		
Wheat	*Delayed Sowing and Weed Management*	- If not sown in previous month then it should be sown as soon as possible. Delay in sowing leads to poor yield and delayed maturity. - Sowing should be done in rows keeping row to row distance of 23 cm and at a depth of 4-5cm to ensure proper germination. - Seed rate should be increased up to 120 kg/ha. - Weed can be managed by application of Pre-emergence herbicide Pendimethalin @ 0.75-1.0 kg ai /ha within 3-5 days after sowing. - In timely sown crop if pre–emergence herbicide are not applied then weeds can be controlled by application of post emergence herbicide like sulfosulfuron @ 30 g a.i./ha or Isoproturon 1.5 kg a.i /ha + 2,4-D @ 0.5 kg a.i /ha at 30-35 days after sowing.
Brown Sarson	*Thinning and hand weeding*	- Partial thinning along with hand weeding should be done at 25-35 days after sowing of brown sarson.
Rabi Pulses		
Field Pea	*Field preparation / Sowing*	- Sowing of field pea can be done up to ending November. Delay sowing leads to yield reduction. - Recommended varieties: Shalimar Pea-1, Rachna and Prakash, HUDP-15, VL-45 and HFP-715. - For pea cultivation 2-3 ploughings accompanied by planking will be sufficient to obtain desired seed bed. - Apply well decomposed compost or FYM uniformly @ 10-15 t/ha and should be incorporated in the soil at the time of land preparation. Application of vermicompost @ 2.5 t /ha will replace 5 t FYM/ha and 25% NPK from recommended dose of fertilizers. - For pea, urea @ 0.75 kg/kanal, DAP @ 6.5 kg/kanal, and MOP 3.4 kg/kanal should be applied as basal dose at the time of last ploughing and then level the land by planking before seed sowing. - Seed rate of 60 to 65 kg /ha is recommended. In case of bold seeded varieties, seed rate can be increased up to 100 kg/ha. - Make 10% gur/jagary solution and mix *Rhizobium* spp. @ 5-10 gm /kg seed in the solution. - Do not treat seeds with fungicides in case seeds are being inoculated. - Line sowing with the help of seed drill or opening the furrows at 30 cm apart. The seed should be placed 5 to 6 Cm deep in the soil. - Pre-emergence spray of pendimethalin @ 1 kg a.i./ha at 2-3 DAS.

Lentil	*Field preparation / Sowing*	- Sowing should be completed up to first fortnight of November. - Recommended varieties: Shalimar Masoor -1, Shalimar Masoor -2. - For preparation of land, minimum two ploughings are recommended. The soil should be worked with cultivator so that it is well pulverized. - Apply well decomposed compost or FYM uniformly @ 10-15 t/ha and should be incorporated in the soil at the time of land preparation. Application of vermicompost @ 2.5 t /ha will replace 5 t FYM/ha and 25% NPK from recommended dose of fertilizers. - For Lentil, urea @ 0.75 kg/kanal, DAP @ 6.5 kg/kanal, and MOP 2.5 kg/kanal should be applied as basal dose at the time of last ploughing and then level the land by planking before seed sowing. - Seed rate of Lentil 40 kg /ha is recommended - Seed should be treated with *Rhizobium*. Make 10% gur/jagary solution and mix *Rhizobium* species @ 5-10 gm /kg seed in the solution. Seed should be dipped in the solution for 10 minutes followed by drying under the shade. Do not treat seeds with fungicides in case seeds are being inoculated. - Seed should be sown in lines at a spacing of 25 cm apart. - Pre-emergence spray of pendimethalin @ 0.75 kg a.i./ha within 2-3 DAS to control the weeds effectively.
Oat fodder	*Delayed Sowing*	- If not sown in previous month then it should be sown as soon as possible. Delay sowing leads to poor yield. - Sowing of seed should be done rows. - Seed rate should be increased up to 120 kg/ha.

Entomology (Horticulture)

Apple	*San Jose scale & Woolly apple-aphid*	- Remove twigs infested with SJS and WAA during pruning and dispose them away from the orchard. - Apply Chaubatia paste on cut areas. - Apply Carbofuran 3 % CG around the tree trunk by light hoeing at the rate of 80-90 gm per tree in traditional orchards and 30-50 g per tree in high density plantation.
	Mites	- If the population is more than 20 mites per leaf, spray Fenazaquin 10 EC (40ml) per 100 litres of water. (Need based)
	Apple fruit borer	- To maintain good sanitation in the infested orchards, all the dropped fruits of apple or other fruits should be collected and buried deep in the soil. - Burlapping practice should be followed and the overwintering stages should be destroyed along with the burlap.
	Apple fruit fly	- All the dropped fruits of apple should be collected and buried deep in the soil. - Rake the soil beneath the tree canopy to expose fruit fly pupae to sunlight, desiccation thereby reducing adult emergence in next season.
	Apple stem borer	- Heavily infested branches, twigs and completely dried trees should be uprooted, removed from the orchard and burnt. - Clean the holes and plug it with cotton impregnated with chlorpyriphos 20 EC (undiluted) or apply petrol/formalin 4% with

		syringe injector or naphthalene balls @ 1 ball in each hole and seal with mud plaster.
	Apple Blotch Leaf miner	- Survey and Monitoring of the affected orchards - Mass awareness about the pest among the farmers - Proper sanitation in the vicinity of the orchard - Procure disease and pest free planting material - Collection of fallen leaves/ fruits/other debris and their subsequent destruction - Scrapping of loose bark for exposing the pupa from tree trunks followed by its destruction. **<u>Essential Spray (In areas where blotch leaf miner is a problem)</u>** - Quinalphos 25 EC @ 100ml/100 litres of water
Walnut	*Walnut weevil*	- Collection and disposal of fallen fruits to kill immature grubs inside fruit.
Pomegranate	*Fruit borer*	- Collection and disposal of infested fruits, both fallen as well as on tree - Ploughing around the trees to expose overwintering pupae for predation/desiccation.
Vegetables		-
Rabi vegetables (Carrot, Spinach, Kale)	*Overwintering soil insect pests*	- Deep ploughing during day time for predation by birds. During last ploughing apply Carbofuran 3 % CG @ 32.5 Kg/ ha or Chlorpyriphos 10 G@ 25 kg/ha as soil application during last ploughing. - If cabbage aphids are observed removal and destruction of infested leaves are suggested.
Solanaceous vegetables	*Tomato fruit borer* *Brinjal shoot & Fruit borer*	- Sanitation of field by removing left over stubbles. - Collection and destruction of infested fruits and plant debris.
Bulb crops Onion, Garlic.	*Overwintering pests*	- Deep ploughing during day time for predation by birds. During last ploughing apply Carbofuran 3 % CG @ 32.5 Kg/ ha or Chlorpyriphos 10 G@ 25 kg/ha as soil application during last ploughing
Rodent management	*Horticulture*	- **Field Sanitation:** Removal of dropped rotten fruits, debris and grasses from orchards to discourage rodents from availability of food and shelter. - **Reduction in bund:** m Reduce the size of bunds or boundaries around the orchards up to 30 cm to force the rodents to leave the burrows. - **Burrow Fumigation:** Smoking the burrow with cow dung +Maize straw/maize pith + weeds with the help of burrow fumigator. **<u>Chemical control</u> (Rodent bait schedule):** ✓ **Day 1:** Plugging of burrows. ✓ **Day 2:** Identification of live burrows for pre-baiting prior to poison baiting. For pre baiting with plain bait (crushed rice (48 gm) + broken wheat grain (48 gm) + sugar (2.0 gm) and (2.0 ml. mustard oil) and place 10-15gm/ live burrow. ✓ **Day 3:** 2.0% Zinc phosphide* baiting during late evening with

(crushed rice (48 gm) + broken wheat grain (48 gm) + Zinc phosphide 2.0 gm and 2.0 ml. mustard oil, all mixed together) be placed inside the live burrow @ 6-10 g bait/ live burrow).

- ✓ **Day 4:** Collection and burying of dead rodents. Close all burrows at evening hours.
- ✓ **Day 5:** Identification of live burrows.
- ✓ **Day 6:** Fumigate live reopened burrows with Aluminum phosphide pellets @ 2 pellets/burrow or 5-10 g pouch/burrow and cover with wet mud.

For residual rodent population :

Bromadiolone: Bromadiolone (0.25% BC) @ 10- 15 g per burrow to be placed inside the live burrows.

Precautions: Since residual rodent population develops bait shyness after one baiting with Zinc phosphide, a minimum of 50-60 days' gap should be given before it is used again.

Note: If treatment has been carried out in October then do not repeat during November.

Apiculture

- ☞ Protect colonies from wasp attack.
- ☞ Extraction of honey from colonies and keep sufficient feeding in the colonies for winter.
- ☞ Maintain proper hygiene in the colonies.
- ☞ Remove super from colonies.
- ☞ Shift colonies from hilly areas to planes.

Plant Pathology (Agriculture)

Wheat	*Rust/Smut Leaf spot*	- Monitor the crop regularly for the occurrence of disease symptoms. Uproot and destroy any diseased plants immediately to prevent further spread of the disease.
Brown Sarson	*White Rust/Downy Mildew/ Alternaria Blight*	- Regular monitoring of the crop is essential for the early detection of disease symptoms and the implementation of timely management measures. - Upon the initial appearance of Alternaria blight symptoms, Mancozeb 75 WP at 0.3 per cent should be applied as a protective measure.
Rabi Pulses Field Pea	*Pythium seed and seedling rot/ Rhizoctonia blight Fusarium Wilt/ Ascochta Blight/ Powdery Mildew*	- Avoid excessive soil moisture and ensure proper drainage to prevent waterlogging. - Pulse crops should be regularly monitored for the early appearance of disease symptoms to facilitate timely management. - Farmers should avoid the continuous cultivation of pea in the same field and practice crop rotation to minimize disease incidence. - Treat the seedlings with Carbendazim 50WP @ 0.1 per cent if wilted plants appear. - In the case of powdery mildew, avoid excessive application of nitrogenous fertilizers, as it may promote excessive vegetative growth and increase disease susceptibility.
Oat fodder	*Leaf Blight/Loose Smut*	- Monitor the crop regularly for the appearance of disease symptoms. Uproot and destroy diseased plants immediately to

prevent further spread of the disease.

Plant Pathology (Horticulture)

Fruit

Apple/pear	*Foliar fungal disease*	- Collection and destruction of fallen leaves.
	Fruit rots	- The diseases fruits left in and around orchards should be buried in compost pits to avoid over-wintering of pathogens.
	Canker	- Prune cankered and other diseased twigs and ensure their destruction. - Apply Chaubatia or Bordeux paste on pruned areas/ wounds/scarified cankered parts.
	Root rot	- Drench tree basin of affected tree with Carbendazim 50 WP @ 0.1% or Carbendazim 12% + Mancozeb 63% 75WP @ 0.5%. Apply fungicide suspension in 15-20 cm deep holes at a distance of 30 cm throughout the tree basin.
	Collar rot	- Clean the affected collar area and apply Chaubatia or Bordeux paste. - Drench the soil under tree canopy with Metalaxyl MZ 72WP @ 0.5% or Mancozeb 75WP @ 0.6% or Copper oxychloride 50 WP 0.6%.
Almond, peach, plum cherry and apricot	*Foliar fungal and canker diseases*	- Collection and destruction of fallen leaves. - Prune cankered and other diseased twigs and ensure their destruction. - Apply Chaubatia or Bordeux paste on pruned areas/ wounds/scarified cankered parts. - Dormant Spray of copper oxychloride 50 WP @ 0.3%.

Vegetables

Seed crops of tomato, chilli, Capsicum, & brinjal	-	- Select disease-free fruits for seed extraction - Wash extracted seeds thoroughly and sundry followed by proper storage.
Cabbage, cauliflower.	*Black rot/ bacterial disease*	- Pluck the leaves showing initial symptoms of the disease and ensure the destruction.
	Alternaria leaf blight	- Pluck the leaves showing initial symptoms of the disease and ensure the destruction. - If severity is more, spray the crop with hexaconazole 5 EC @ 0.3% or ziram 80 WP @ 0.2% or mancozeb 75 WP @ 0.3%.
Leafy vegetables (kale, knol-khol, spinach etc.)	*Foliar diseases*	- Pluck the leaves showing initial symptoms of the disease. However, in case of severe infection spray the crop with mancozeb 75 WP @ 0.3% or hexaconazole 5 EC @ 0.03%.

Vegetable Science

Garlic — *Sowing* — - Planting of garlic and pran may be continued.

Impact Points:

- ☞ Avoid diseased and damaged cloves.
- ☞ Cloves should be planted deep to avoid frost injury/bird damage.
- ☞ Cloves may be treated with proper fungicides before sowing as prophylactic measure against fungal disease

Spinach — *Sowing*

- o Sowing of spinach and methi may be continued

and Methi	***Impact Points:*** ☞ Apply sufficient quantity of well rotten FYM to make soil loose and porous.	
Cole crops	*Seed Production*	○ In in-situ method, rouge out undesirable plants and allow true to type plants to produce seeds. ○ In transplanting method, select true to type plants and replant them at a spacing of 30x45 cm in kale, 30x45 cm in knol khol, 60x45 cm in cabbage and 45x45 cm in broccoli. ○ Before replanting, apply well rotten FYM@1.5t and DAP and MOP @ 5kg per kanal. ○ Planting must be done in such a way that cabbage head and knob in case of knol khol rests on the soil.
	Impact Points: ☞ To avoid crossing, isolation distance of 1000 m for certified seed must be maintained. ☞ Apical rosette in kale and crown in knolkhol must not get damaged while transplanting. ☞ Outer leaves in cabbage and broccoli must be removed	
Root crops	*Seed Production*	• Select true to type roots. Prepare stecklings by trimming two third of top leaving crown intact and by cutting roots about one fourth from tip. • Before planting apply 1 t FYM, half Urea @ 4.5 kg, full DAP and MOP@ 10kg and 5kg per kanal respectively. • Replant steckling at a distance of 60x30cm on well prepared ridges.
	Impact Points: ☞ To avoid crossing isolation distance of 1000 m should be maintained ☞ Turnip should be isolated from sarson also. ☞ During selection turnip and radish with pithiness and carrots with large core size should be discarded.	
Bulb Crop (Onion)	*Seed Production*	• Plant healthy, true to type and medium sized bulbs at a distance of 60x20cm in well prepared land.
	Impact Points: ☞ Avoid double necked, wide necked, diseased and damaged bulbs. ☞ Plant bulbs on raised beds for effective drainage.	

Fruit Science

Fruit Harvesting

Apple (Late varieties) Lam Ambri, Ambri, Granny Smith, White Dotted Red (Maharaji)	☞ Fruit should be harvested only after ensuring that they have attained characteristic skin, flesh and seed colour (if not harvested yet). ☞ Mature fruits generally tend to hold less tightly to tress and as such detach easily. ☞ Specified days after full bloom is another reliable guide for harvesting fruits. ☞ Random samples should be subjected to starch-iodine test and starch rating should be from 2-2.5 on 1-6 rating scale for prolonged storage. ☞ Fruit firmness test should be done with the help of pressure tester and fruit pressure should range between 15-17 lbs/ sq inch. ☞ Make sure that fruits do not get any wound or bruises while harvesting and handling. It will cause rotting of the fruit. ☞ Only store unblemished fruit to prevent rotting in storage.
Pecan nut	☞ Shuck dehiscence, colour making on shell and clean separation of packing

	tissues from kernel indicates that the nut is ready for picking.
Kiwi	☞ A maturity index of 6.2 % total soluble solids or more has been found very satisfactory for harvesting. ☞ The fruits may be snapped off at base of the fruit leaving the stalk on vine. ☞ Although the fruit is quite hard it should still be handled carefully.
Orchard layout and pit digging	☞ Layout the orchard in square/rectangular/hexagonal system (as deemed proper under existing circumstances). Pits measuring 1x1x1m should be dug and filling up of pits with a mixture of top soil and 20 kg well rotten FYM per pit should be done, while in HDP pits measuring 1.5ft width and 2ft depth are dug for establishment.
Gap filling	☞ Pits of the same dimensions should be prepared for gap filling also.
Orchard sanitation	☞ Removal of suckers and water sprouts. ☞ Cleaning of water channels. ☞ Collect the fallen leaves and burn them so as to eradicate the primary source of inoculums of various diseases. ☞ Ploughing/tractorization of orchard areas for clean cultivation.
Marking of trees	☞ Trees which are less productive, heavily infested, dry trees should be identified and marked with some paint for top working.
Pruning	☞ Arrangements of efficient pruning tools and white led paint should be made. ☞ Start pruning of fruit trees in second fortnight. ☞ Paint on pruned cuts.
Nursery land preparation	☞ Land should be ploughed to depth of 45cm followed by application of well decomposed FYM @ 13 t/ha. ☞ Hardwood cutting of Grapes, Fig and Pomegranate can be taken this month for propagation in the coming season. ☞ Procurement of seeds of stone and nuts fruits for sowing purpose
Planting of Strawberry	☞ Plant strawberry runners for early quality crop in the next season to fetch premium prices.

Food Sciences & Technology

Apple

Sorting & Grading

Remove the damaged, diseased and underutilized fruits from the lot.

Grade the fruits on the basis of colour and size in four grades

A = Extra Large

B = Large

C = Medium

D = Small

Use the undersized mechanically damaged and irregular shaped apple for processing and value addition.

Impact Points:

Graded apples always fetch premium prize as grower gains the confidence of customers and customer gets satisfaction.

Graded apples can be traded in international market also.

Conversion of C grade apples into processed products increase their value by many folds.

Packaging

- Use CF Boxes for packaging of graded apples using fibre trays.
- Do not use wooden boxes and avoid use of paddy straw as cushioning material.
- For long storage of apples in C.A and Cold Stores, use either plastic crates or CF boxes with outer polyethylene lining or laminations.

Impact Points:

Use of CF boxes makes the pack attractive and produce fetches good price.

Use of fiber board boxes is internationally accepted and thus the produce can be marketed in international market as well.

Use of plastic crates or laminated CF Boxes doesn't absorb moisture during long storage and as such maintain the quality and increases shelf life of apples.

Prevents microbial infection also.

Transportation - Use refrigerated transport for dispatch of apples to distant markets if possible.

Impact Points:

Maintains quality and increases shelf life.

Reduces transport losses.

Storage

- Store the apples in on-farm storage structures for a very short period of time.
- For long term storage, store only healthy, firm and disease free apples (A and B grade apples) in the C.A Stores at 0-2^0 C depending upon the variety.

  O_2 = 2%

  CO_2 = 1.5-3.0%

Impact Points:

May help in regulating the market.

Produce fetches good price.

Leads to economic gains.

Whole Walnut

Size Grading

The dried walnuts with a moisture content of 10-12% should be graded into following grades:

Grades	Length (mm)	Width (mm)	Thickness (mm)
Garde-I (very small)	$\leq$ 25	$\leq$ 22	$\leq$ 20
Grade-II (small)	>25- $\leq$ 32	>22 - $\leq$ 29	>20 - $\leq$ 27
Grade-III (large)	>32 - $\leq$ 39	>29 - $\leq$ 36	>27 - $\leq$ 34
Grade-IV (extra large)	>39	>36	>34

- **Note: -** Grading can be done by using sieves already in use or by the power operated walnut developed by AICRP on PHET, Division of FST, SKUAST-K, Shalimar

Impact Points:

Graded walnuts always fetch better return and help during extraction of kernels either mechanically or manually

Packaging of walnuts

- Use plastic woven sacks for bulk packaging.
- Do not use gunny bags.

Impact Points:

Use of gunny bags lead to quality deterioration and microbial infection of walnuts

Extraction of kernels

- Do not wash the walnuts before extraction of kernels.

Impact Points:

Maintains the quality of kernels.

Conditioning of nuts Keep thin shelled nuts immersed in water for 8-10 hours only to get the moisture content of 15-18%.

		· Keep medium shelled nuts for conditioning for 10-12 hours and thick shelled for 18-20 hours ***Impact Points:*** Conditioning helps in extracting the kernels without any mechanical damage or breakage.
	Extraction	· Use only experienced personals. ***Impact Points:*** Minimizes the mechanical damage to the kernels and output is more.
	Drying of kernels	· Use solar tunnel dryers or cabinet dryers for drying of kernels to get final moisture content of 4-4.5%. · Avoid prolonged drying at high temperature (max. temperature of 40± 2^0 C) ***Impact Points:*** Minimum quality deterioration of walnut kernels. Economical and time saving
	Packaging	· Use vacuum packaging for walnut kernels. ***Impact Points:*** Maintains the quality and increases the shelf life.
	Storage	· Storage both walnuts and kernels at a temperature of 8-10^0 C with RH of 68-70% under dark conditions. ***Impact Points:*** Maintains the quality and increases the shelf life.
Quince	*Conversion into value added products*	Quince being rich in pectin and other nutrients can be converted into following value added products: Quince Jam Quince Jelly Quince Preserve Dried Quince rings

Floriculture and Landscape Architecture

Cut flowers	*Proper intercultural operations viz, Rose, Gerbera and carnation*	- Regular weeding, application of proper fertilizer doses, irrigation, right method of harvesting and post-harvest management.
Winter Annuals	*Transplanting*	- Transplanting of winter season seedlings Pansy, Phlox, Antirrhinum can be continued.
Shrubs/Edges	*Intercultural operations*	- Hedges/edges should be trimmed regularly.
Tulip, Hyacinth	*Planting*	- Planting operation can be carried out.
Bulbous crops	*Harvesting & storage*	- Harvesting of Gladiolus should be completed. - Care to be taken for avoiding any injury during harvesting. - Screening of bulbs/corms before storage - Shade drying and treatment with fungicides @0.2% - Gladiolus to be stored in well ventilated moisture free conditions.
Ploy houses	*Management*	- Vents of polyhouse need to be closed so as to ensure proper temperature
	Exotic/	- Shifting cold sensitive pot plants inside. Management of proper

Pot plants/indoor plants	*Indigenous*	light, temperature & irrigation.
Turf grasses	*Seed sowing*	- Sowing of seeds of raising cool season turf lawn grasses like Lolium, Fescue etc. can be continued.

Soil Science

Soil and Orchard Management

- **Soil testing:** Collect representative soil samples from the root zone for pH, organic carbon, available N, P and K, and other relevant nutrients. Use soil and leaf analysis to determine fertilizer requirements.
- **Organic matter management:** Retain suitable organic residues and plan the application of well-decomposed FYM during the recommended dormant-season management period, generally February–March for conventional orchards in the Kashmir region.
- **Soil protection:** Maintain suitable grass cover between tree rows, where appropriate, to reduce soil erosion and nutrient loss during winter precipitation.
- **Orchard sanitation:** Remove fallen, diseased and mummified fruits and manage fallen leaves according to local plant-protection recommendations.
- **Drainage:** Ensure that orchard drains remain functional before winter rains and snowfall. Avoid prolonged waterlogging around tree roots.
- **Mulching:** Apply suitable organic mulch around the root zone to conserve soil moisture and moderate soil-temperature fluctuations. Keep mulch away from direct contact with the trunk.

Fertilizer Dose for Conventional Apple Trees

Urea, DAP and MOP are supposed to be applied after dormancy period, but apply 3 to 4% urea spray after crop harvest when around 50% leaves will turn yellowish. This stored N in buds and twigs ensure early spring spur growth and bloom. In addition to urea farmers can spray 0.5 % zinc sulphate as after dormancy breakdown spray schedules provide least window to apply zinc. In November apply 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 kg well decomposed FYM to 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 years old traditional orchard trees respectively after plant attained age of 10 years the dose of FYM needed to be increased by 10 kg for every year.

Fertilizer Dose for High-Density Apple Trees

Farmers already sprayed urea and zinc after harvesting. In November apply 4 kg well decomposed FYM to 1 years old tree, after plant attained age of one year the dose of FYM needed to be increased by 1 kg for every year.

Advisory Onion Transplanting for November

Soil Preparation and Organic Manure Application

- Select fertile, well-drained soil with good organic matter content.
- Incorporate **well-decomposed FYM @ 15–20 t/ha** before transplanting, preferably during final land preparation.
- Prepare fine, friable raised beds or suitable drainage channels to prevent water stagnation during winter precipitation.
- Avoid transplanting in saturated or poorly drained fields.

Apply N:P_2O_5:K_2O @ 100:50:50 kg/ha; full P & K + ½ N as basal, followed by remaining N in 1or 2 splits. Apply the full dose of FYM, DAP and MOP, along with half the recommended urea, and incorporate them into the prepared soil.

Livestock Production Management

Sheep/Goat

- With gradual decline in grazing/green fodder availability, concentrate supplementation may be required though the changes should be made gradually.
- Consequent upon the decline in night temperatures, ventilation of the sheds should not be compromised.
- Perform routine cleaning/disinfection of animal sheds and ensure supply of clean drinking water.

Cattle

- Grazing should be avoided in orchards which have fallen apples to avoid choking.
- Ensure cleanliness in and around animal sheds to ward off flies and in the event of any injuries to the animals, suitable fly repellent should be used after consultation with a veterinarian.
- Ensure washing of udder of milch animals with a mild disinfectant solution (e.g Potassium permanganate) before and after milking to prevent mastitis.
- With gradual decline in green fodder availability, concentrate feeding may be enhanced though the changes should be gradual.
- Ensure the provision of clean and dry bedding material for the newborn animals especially during the cooler hours.
- Ensure colostrum feeding to newly born calves. In the event of unavailability of colostrum, fostering should be done.
- Artificial colostrum may also be an option which can be prepared by mixing an egg, half litre of fresh warm water, half litre of whole milk, one teaspoonful of castor oil and similar amount of cord liver oil.

General precautionary measures against Lumpy skin disease

- Avoid intermixing of herdsand restrict the entry in farms/sheds.
- Maintain proper sanitary measures like cleaning and disinfection of animal sheds/premises.
- Quarantine the newly purchased animals for 4 weeks
- Since the disease can spread through vector bites, insect breeding places like stagnant water, manure pits need to properly managed.
- Observe the animals for common symptoms of the disease like high fever (41°C or105.8°F), nodules on the skin (~5 cm), mucous membranes, anorexia/off feed, emaciation, drop in milk yield, enlarged lymph nodes, oedema of the skin, salivation, ocular and nasal discharge, conjunctivitis.
- If any or all of the above symptoms are noticed, immediately isolate the animal as the disease may spread to other animals through vector bites like mosquitoes, flies, ticks besides contact with infected material like nodules, saliva, blood, ocular/nasal discharge.
- Call for veterinary assistance for vaccination/treatment.

Forestry

Priority for November: Collection of Priority germplasm for conservation: *seed collection and processing, Rabi crop sowing, gap filling, post-monsoon plantation assessment, weed management, forest protection and documentation.*

The following activities may be undertaken:

1. **Nursery Management**
   - Removal of weeds and unwanted material from nursery beds.
   - Light hoeing and soil loosening around seedlings.
   - Monitoring seedling growth and mortality.
   - Pest and disease surveillance and need-based management.

- Land and Media Preparations for new nursery trails.
- Seed procurements and preparation of nursery schedule for new nursery trails.

2. **Seed Collection & Processing**
   - Identify and collect mature seeds/fruits of suitable indigenous and economically important tree and MAP species.
   - Record collection date, location, mother-tree information and seed characteristics.
   - Clean, process, dry and properly label collected seeds.
   - Conduct seed viability and germination tests before sowing/dormancy test where required.
   - Begin preparation of seeds for storage and future nursery production.
3. **Plantation & Afforestation**
   - Complete remaining monsoon plantation activities wherever suitable soil moisture is available.
   - Replace dead and damaged seedlings in established plantations with poly bag raised seedlings.
   - Maintain basins around newly planted seedlings for moisture conservation.
4. **Forest Protection**
   - Conduct regular inspection of plantations and forest areas.
   - Monitor incidence of insect pests, fungal diseases and other biotic damage.
   - Inspect plantations for grazing, browsing, firewood collection and other disturbances.
   - Maintain fire lines and remove excessive dry biomass where appropriate in preparation for the coming dry season.
5. **Agroforestry & Farm Forestry**
   - Assess survival and growth of trees planted during the monsoon.
   - Undertake gap filling and intercultural operations.
   - Manage tree–crop competition through appropriate pruning.
   - Guide farmers on suitable tree species and agroforestry models.
   - Preparation of Agroforestry models for Rabi crops.
   - Sowing of Rabi crops as per crop schedule in agroforestry modules.
6. **Biodiversity & Conservation**
   - Monitor regeneration of native tree and shrub species.
   - Record Phenological viz., seed maturation and dispersal.
   - Collect and conserve germplasm of priority forest and medicinal plant species.
7. **Monitoring & Documentation**
   - Update nursery stock registers and plantation records.
   - Record survival percentage and growth performance of plantations.
   - Document seed collection, germination, pest/disease incidence, fire incidence and mortality.

Prepare post-monsoon plantation and nursery status reports.

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