



Monthly Workshop for Capacity Building of Extension functionaries

Message for the Month January

Agronomy

Crop	Operation/ Diseases/pests	Message/Impact points
Rabi Crops		
Wheat	Establishment/ growth	- Ensure proper drainage by cleaning the channels and fields to avoid water stagnation during winter.
Brown Sarson	Establishment/ growth	-
Rabi Pulses		
Field Pea	Establishment/ growth	-
Lentil	Establishment/ growth	-
Oat fodder	Establishment/ growth	-

Entomology (Horticulture)

Apple	San Jose scale & Woolly apple aphid	- Removal and destruction of infested twigs of SJS & WAA from the field .Make sure there is application of Chaubatia paste on pruned twigs.
Pomegranate	Fruit borer	- Collect and dispose off fallen fruits and pruned material from field. Proper sanitation should be ensured.

Regarding other insect pests due to lower temperature there are no chances of insect pest infestation.

Rodent management	Horticulture	<p>If weather is dry, follow the below mentioned practices :</p> <ul style="list-style-type: none"> - Field sanitation : Removal of dropped rotten fruits, debris and grasses from orchards to discourage rodents from availability of food and shelter - Reduction in bund size: Reduce the size of bunds or boundaries around the orchards up to 30cm 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 <p>Chemical control (Rodent bait schedule) :</p> <ul style="list-style-type: none"> - Day 1: Plugging of rodent 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
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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.

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.

- Since rodents are a serious constraint in horticulture their effective control is only possible, if farmers worked together as a community.

Note: If treatment has been carried out during December then do not repeat during January.

Apiculture

- Give winter package to colonies if not given in November without disturbing bee cluster on sunny day.
- Narrow the entrance of the hive.
- Provide feeding as sugar candies (12 sq.cm) on top bars near the cluster, if short of store food
- Remove the Snow from the top of the hives.
- Keep the colonies on stand to avoid moisture by rain /snow.
- Do not disturb the cluster of bees in the hive.

Plant Pathology

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| A Fruits | <i>Water-logging</i> | - Provide proper drainage in orchards to drain off surface water. |
| All temperate fruits | <i>Foliar fungal disease</i> | - Collection and destruction of fallen leaves. |
| | <i>Fruit rots</i> | - Bury mummified and diseased fruits left in and around orchards in compost pits to avoid over-wintering of pathogens. |
| | <i>Cankers</i> | - Prune the cankered twigs as well as dry branches & destroy them.
- Scrap the affected bark of trunks and limbs, and apply Bordeaux paint (copper sulphate, hydrated lime, linseed oil in the ratio of 1:2:8) or Chaubatia paste (copper carbonate, lead oxide and linseed oil in the ratio of 4:4:5) on pruned/scarified area/ wound. |

Impact Points:

- ☞ Ensure orchard sanitation.
- ☞ Ensure proper drainage
- ☞ Destroy fallen leaves

B Vegetables

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| Turnip, radish, carrot, cabbage, cauliflower and knol-khol | <i>Water-logging</i> | - Provide proper drainage in orchards to drain off surface water. |
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Floriculture and Landscape Architecture

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| Shrubs/ Edges | <i>Intercultural operations</i> | - Snow to be removed from Hedges/edges to prevent damage. |
| Bulbous crops | <i>Storage of Lilium/ Gladiolus</i> | - Lilium to be stored in Coca peat to avoid moisture loss.
- Gladiolus to be stored in well ventilated moisture free conditions. |
| Ploy houses | <i>Management</i> | - Vents of polyhouse need to be closed so as to ensure proper temperature. |

Pot plants/indoor plants	Exotic /Indigenous	<ul style="list-style-type: none"> - Proper sanitation to be maintained in polyhouses with crops like gerbera, rose etc - Indooring of pot plants and management of light, irrigation and pests.
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Vegetable Science

Potato tubers, seed of Solanaceous and cucurbitaceous crops	Arrangement of input	- An early arrangements of seed of recommended varieties must be made from reliable sources
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Impact Points:

- ☞ For early nursery raising under protected structures cladding material, timber, polypacks and growing media must be arranged in time

Potato tubers during storage	Care of potato during storage	- Periodical checking of tubers in storage kept for the purpose of sowing in coming season.
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Impact Points:

- ☞ Discard sprouted and rotten bulbs and tubers in storage.
- ☞ Check for any fungal and bacterial growth at regular intervals in the stored material.

Cole crops/ root crops	Care of Seed crop	- In case of high frost conditions, mulching of the knobs of knol khol, heads of cabbage/root crops may be carried out
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Impact Points:

- ☞ Maintain optimum moisture during high frost conditions, as drying may lead to splitting of knobs and heads which makes crop prone to various infections.

Fruit Science

Training of young fruit trees	- Adopt Modified Leader system for pome, stone and nut fruits and Kniffin, Head or Bower system in grapes, however, T or Pergola system is practised in Kiwifruit. - In HDP of apple adopt Tall spindle system is usually practiced.
Pruning of bearing fruit trees	- Remove diseased, dried or narrow angled branches along with water sprouts and prefer thinning out over lapping branches. Never remove more than ¼ of current, season's growth. Apply white lead paint to the pruned cuts. - Pruning should be avoided during freezing temperatures.
Nursery	- Staking of budded or grafted nursery plants to avoid snow damage. - Maintain drainage in the nursery.
Grafting Bearing trees	- Bench grafting of nursery stock can be started from last week of the month. - In case of heavy snow fall, go for shaking of fruit trees/limbs and remove snow from crotches of plants. - Maintain drainage in orchards also
Sowing of nuts	- If due to some reasons, nuts have not been subjected to stratification, go for direct sowing if field conditions permit. - In case of heavy snowfall go for dibbling nuts in rows in the already proposed fields by a bamboo stick of 5 cm girth.
Other Measures/ Operations	- Cut down, and remove the stumps of old or worn out fruit trees that are not worth renovating. - Maintain orchard sanitation. Remove fallen leaves and bury them if not done earlier - Place mulches over strawberry plants that were planted last summer, or bring potted ones into the greenhouse or conservatory. The extra warmth will give an earlier crop.

Food Sciences & Technology

Vegetables	Mixed vegetable pickle	<p>- Use surplus vegetables that are produced in bulk particularly for those vegetable belts where glut in the market may generate post harvest losses due to rotting and decay for the preparation of mixed vegetable pickle for fetching better returns.</p> <p>Impact Points:</p> <ul style="list-style-type: none">✓ Processing and value addition of vegetables for extending shelf life and efficient utilization of surplus produce which otherwise may go waste on account of rot and decay.✓ Value added products fetch better returns
Potato	Post harvest sweetening due to low temperature storage	<p>.Reconditioning of potato should be followed that can be accomplished by storing the potatoes at a temperature of 15⁰C for effective conversion of total sugars in to starch for at least 21 days</p> <p>Impact Points:</p> <ul style="list-style-type: none">✓ Higher starch content and low total sugar content improves the texture of sliced potatoes✓ It also prevents after cooking discolouration particularly after frying✓ Improves taste and consumers acceptability✓ Prevents sticking of potatoes during frying <p>Discolouration of Potatoes (Solanin formation) - Store harvested potatoes that are produced in bulk under dark conditions. In Nylon bags to prevent increased solanine synthesis. Mechanical injury. To the tubers should also be avoided which may also hasten solanine formation.</p> <p>Impact Points:</p> <ul style="list-style-type: none">✓ Higher starch content and low total sugar content improves the texture of sliced potatoes✓ It also prevents after cooking discolouration particularly after frying✓ Improves taste and consumers acceptability✓ Prevents sticking of potatoes during frying
Garlic	Post harvest sprout inhibition	<p>Garlic bulbs/ cloves should be treated with hot water at 60⁰C for at least 2.5 to 3 minutes, dried and then stored in air tight plastic container at temperatures below 10⁰ C (3-4⁰C preferably) for effective sprout inhibition.</p> <p>Impact Points:</p> <ul style="list-style-type: none">✓ Prevents shrinkage and weight loss of cloves✓ Prevents discolouration✓ Improves consumers acceptability✓ Fetches better market returns✓ Prevents nutrient losses

Livestock Production Management

Small ruminants (Sheep/ goat)	<ul style="list-style-type: none">- Dry fodder (Sorghum/oats) should be provided @ 1kg/animal and pelleted feed @ 500-700 gm/adult and 400 gm/weaner.- Don't graze animals outside during earlier hours due to frost.- Root crops (Turnips/carrots) @ 500g/pregnant ewe.- Sanitation and cleanness in and around the livestock sheds should be maintained.- Multicomponent Clostridial vaccination (MCC) to pregnant ewes before one month of expected date of lambing should be ensured for protection against Lamb dysentery, Struck, Pulpy kidney disease, Black disease and Braxy.- Broad spectrum anthelmintic (pregnancy safe) dosing to pregnant ewes should be
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- ensured before 7-15 days of expected date of lambing as advised by veterinarian.
- Routine recording of body weight during last three days of every month.
 - While ensuring heating arrangement for the newborn animals, ventilation should not be compromised.

Cow

Concentrate can be:

Category	Concentrates	Greens
Cow (15litre milk/day)	6 Kg	Adlib* . (50kg)
Pregnant cow	6 kg +0.5 kg	do

**If quality green fodder is available, 7-8 kg can replace 1 kg of concentrate*

❖ Homemade Concentrate

Feed ingredient	Parts
Wheat bran	20
Rice bran	15
Mustard oil cake	22
Maize	35
Molasses/Gur	5
Salts (mixture of iodized salt)	1
Mineral salts	2

Note: All the farming community must follow SOPs of Covid 19 as prescribed by Government during their routine activities.

S/d
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No. Au/De/MW/ 2021/441-80

Dated: 30-12-2021

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