Monthly Workshop for Extension functionaries of Developmental Line Departments and Subject Matter Specialist of KVKs.

Message for June 2019

<table>
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<tr>
<th>Crop</th>
<th>Operation/ Diseases/pests</th>
<th>Message/Impact points</th>
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<tr>
<td>Paddy</td>
<td>Varieties</td>
<td>For lower belts of valley</td>
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<tr>
<td></td>
<td></td>
<td>• Jhelum</td>
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<tr>
<td></td>
<td></td>
<td>• Shalimar Rice -1</td>
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<td>• Shalimar Rice-2</td>
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<td>• Shalimar Rice-3</td>
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<td>• Shalimar Rice-4</td>
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<td></td>
<td>Transplanting</td>
<td>For higher belts of the valley</td>
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<td>• Kohsaar</td>
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<td>• K-332</td>
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<td></td>
<td></td>
<td>• Shalimar Rice-5</td>
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<td></td>
<td></td>
<td>• Transplant 30-days old, healthy seedlings (about 20 cm tall) grown in traditional nursery or 25 days old grown under protected nursery conditions.</td>
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<td>• Transplant 2-3 seedlings per hill at a spacing of 15x15 cm. For better tillering shallow transplanting should be adopted.</td>
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<td>• Gap filling should be carried out within week’s time.</td>
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<td>• For late transplanting, under unavoidable circumstances and under waterlogged conditions, number of seedlings per hill should be increased 4 to 6.</td>
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<td>• Transplanting should be completed by June 21.</td>
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<td>Care in transplanting</td>
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<td></td>
<td>• Avoid aged (&gt; 35 days) seedlings.</td>
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<td></td>
<td>• Avoid deep transplanting and wider spacing (row to row and plant to plant) as both reduce yield.</td>
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<td>• Avoid root damage to seedlings during uprooting.</td>
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<td></td>
<td>• Avoid wilting of seedlings after uprooting by keeping them in water till they are transplanted.</td>
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<tr>
<td></td>
<td></td>
<td>• Early transplanting (last week of May) is recommended for lower belts of Kashmir and for higher belt transplanting can be done up to 2nd week of June.</td>
</tr>
<tr>
<td></td>
<td>Nutrient management</td>
<td>• For varieties planted in lower belts, urea @ 4 kg/kanal, DAP @ 6.5 kg/kanal, and MOP 2.5 kg/kanal should be applied as basal dose before transplanting of paddy.</td>
</tr>
</tbody>
</table>
For varieties planted in higher belts, urea @ 1.8 kg/kanal, DAP @ 6.5 kg/kanal, MOP 2.5 kg/kanal and zinc sulphate @ 0.5-0.75 kg/kanal should be applied as basal dose before transplanting of paddy.

For varieties planted in water logged areas, urea @ 2.35 kg/kanal, DAP @ 6.5 kg/kanal, MOP 2.5 kg/kanal and zinc sulphate @ 0.5-0.75 kg/kanal should be applied as basal dose before transplanting of seedlings.

**Weed management**

- Maintenance of 5 cm water level in rice fields reduces weed growth by smothering effect.
- Butachlor @ 1.5 kg a.i. per ha is recommended. The chemical should be applied within 2-4 days after transplanting. **OR**
- Pyrazosulfuron ethyl+pretichlor ; (30 g +450g a.i/ha) ; (trade name Eros) @ 0.5 kg /kanal should be applied 3-5 days after transplanting. **OR**
- Bensulfuron methyl+pretichlor, 30 g +450g a.i/ha); (trade name Erase) @ 500g /kanal should be applied 3-5 days after transplanting.

**Water management**

- To minimize the seepage and deep percolation of water, proper puddling before transplanting of seedlings is a must.

**Maize Varieties**

- **Lower belts**
  - Composite-6 (C-6)
  - Composite-8 (C-8)
  - Shalimar Maize Composite-4
  - Shalimar Maize Hybrid -2
  - Shalimar Maize Composite-7
  - Shalimar Pop Corn-1

- **Higher belts**
  - Composite-15 (C-15)
  - Shalimar KG Maize -1
  - Shalimar KG Maize -2
  - Shalimar Maize Composite-3
  - Shalimar Maize Hybrid-1
  - Shalimar Maize Composite -5
  - Shalimar Maize Composite-6

**Late Sowing/Hoeing**

- Sowing with treated seeds should be done wherever not done so far.
- Weeding, hoeing and earthing should be done wherever maize is at knee high stage.

**Nutrient management**

- For hybrids, $N = 150$ kg, $P_2O_5 = 75$ kg, $K_2O = 40$kg and ZnSO$_4 = 20$ kg + seed inoculation with Azotobactor @ 5-10 g/kg seed (if available).
- For composites $N = 120$ kg, $P_2O_5 = 60$ kg, $K_2O = 30$ kg and ZnSO$_4 = 20$ kg + seed inoculation with Azotobactor @ 5-10 g/kg seed (if available).

**For irrigated maize (per hectare)**

- For hybrids : $N = 90$ kg, $P_2O_5 = 45$ kg, $K_2O = 20$ kg and ZnSO$_4 = 10$ kg

**For rainfed maize (per hectare)**

- For hybrids : $N = 75$ kg, $P_2O_5 = 40$ kg, $K_2O = 20$ kg and ZnSO$_4 = 10$ kg

**Weed management**

- Application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i/ha in 600 litre water within two three days after sowing, followed by one hoeing 50 DAS.

**Water management**

- Most of the maize area is rainfed. If possible give at least three irrigations at the most critical periods i.e. at knee high, silking and grain filling stages.
**Baby corn**  
*Sowing and Management*  
- All practices similar to that of main crop.
- Use baby corn varieties for good yield.
- If sowing has been done in April, baby corn can be picked in June, 3-4 days after silk emergence.

**Sweet corn**  
*Picking*
- If sowing has been done in April, baby corn can be picked in June, 3-4 days after silk emergence.

**Kharif pulses**  
*Sowing*
- Sowing of moong/ beans/urd etc. should be done.
- Seed should be treated with Rhizobium, PSB before sowing.
- Apply urea @ 0.75 kg/kanal, DAP @ 6.5 kg/kanal, MOP 2.5 kg/kanal as basal.
- Ensure proper moisture at the time of sowing.
- First weeding should be done wherever crop is 25-30 days old

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**Entomology (Agriculture)**

**Crucifers**  
| Diamond back moth (Plutella xylostella) | Dimethoate 30 EC @ 1ml/lit. of water when 2-3 larvae per plant if plant population is close to 100 plants per m² |
| Cabbage butterfly (Pieris brassicae) | Hand picking of egg patches and larvae.  
Chlorpyriphos 20EC @1ml/lit. of water |

**Paddy (nursery)**  
| Snails & Slugs | Install screens with 5mm mesh at water inlets to minimise the entry of snails and facilitate hand collection.  
Herding ducks in the paddy fields can act as biological control  
Draining the fields to expose snails to sun |

**Maize**  
| Maize stalk borer  
Cut worm | Imidacloprid 17.8 SL @ 0.3ml/litr of water.  
Drenching with chlorpyriphos 20 EC @ 1ml/lit of water  
Flooding to expose larvae to birds |

**Impact Points:**
- Spray should be carried out during early morning or late evening hours to avoid any mortality of pollinators.
- **Spray should be need based.**

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**Entomology (Horticulture)**

**Apple**  
(Fruit Dev. II & III stage)  
| San Jose scale/Woolly apple aphid | Essential spray for the management of SJS/WAA be carried :  
Dimethoate 30 EC @ 100 ml/ 100 l water |
| Hairy caterpillar | Burlapping may be adopted followed by mechanical killing of caterpillars  
Hand collection, removal and destruction of egg masses  
If foliage damage is noticed, spray Chlorpyriphos 20 EC @ 100 ml/100 lit. of water |

**European Red Mite**  
| Essential spray for the management of ERM be carried :  
Hexythiazox 5.45 EC @ 40 ml/ 100 l water OR  
Fenazaquin 10 EC @ 40 ml/ 100 l water OR  
Spiromesifen 22.9 SC @ 40 ml/ 100 l water OR  
Summer spray oil @ 750ml/ 100 l. |
| June/Bark | If beetles are observed in the orchard, then spray trees with any one |
**Beetle**
- Chlorpyrphos 20EC @ 100 ml/100 l water.

**Pomegranate Fruit borer**
- Spray Chlorpyrphos 20EC @ 100 ml/100 l water. OR
- Dimethoate 30 EC @ 100 ml/100 l water.

**Vegetables**
- Flood irrigation be given in the field so that the cutworm larvae come above the ground to be predated
- Pit fall method
- Keeping heaps of grass to provide shelter for cut worm followed by mechanical destruction
- Use Carbofuran 3% CG @ 32.0 kg./ha.

**Cole Crops**
- Foliar spray of Chlorpyrphos 20EC @ 100 ml/100 l water.
- Spray Dichlorvos 76EC @ 0.7 ml./ lit. (In case of severe infestation of cabbage aphids use Dimethoate 30 EC @ 100 ml/100 l water).

**Rodent management**

**Field sanitation**: Removal of left over 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

**Chemical control (Rodent bait schedule)**:
- **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 10-15 gm/ 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.

**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.

**Apiculture**
- Extraction of honey from strong colonies.
- Change of old queen if its health is not good.
- Inspection of *Varroa* mite. Apply formic acid @5.0 ml/ day in small vials for 14 days
- Protect the colonies from wasps
- Check absconding by providing ventilation
- Provision of clean water near apiary should be ensured.

### Plant Pathology

**a) Apple**  
*Scab and other foliar diseases*  
- **Spray at Fruit Development-II stage**  
  - Spray Flusilazole 40EC (0.02%) or Metiram 55% + Pyraclostrobin 5% 60 WG (0.1%) or Myclobutanil 10 WP (0.05%)  
- **Spray at Fruit development-III stage**  
  - Mancozeb 75 WP (0.3%) or Ziram 27 SC (0.6%) or Zineb 75WP (0.3%) or Ziram 80WP (0.2%) or Chlorothalonil 75 WP (0.15%)  

**In case rainy weather hampers Fruit Development-II stage**  
- Spray Difenacazon 25 EC (0.03%) or Trifloxystrobin 25% + Tebuconazole 50% 75WG (0.04%)  

**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 paste.  

**b) Almond, plum, cherry and apricot**  
*Foliar fungal disease*  
- Spray Carbendazim 50WP (0.05%) or Thiophanate Methyl 70 WP (0.05%) or Captan 70% + Hexaconazole 50% 75WP (0.05%).  

**c) Pear**  
*Febrea leaf and fruit spot*  
- Spray Thiophanate Methyl 70WP (0.05%) or Carbendazim 50WP (0.05%) or Mancozeb 75WP (0.3%) or chlorothalonil 75 WP (0.25%).  

**d) Grapes**  
*Anthracnose*  
- Spray with Thiophanate Methyl 70 WP (0.05%) or Carbendazim 50WP (0.05%) or Carbendazim 12% + Mancozeb 63% 75WP (0.25%) or Captan 70% + Hexaconazole 50% 75WP (0.05%).  

*Powdery mildew*  
- Spray with Hexaconazole 5 EC (0.05%) or Flusilazole 40EC (0.02%) immediately after disease appearance.  

*Downy mildew*  
- Spray with Metalaxyl MZ-72 WP (0.25%)  

**Impact Points:**  
- Improve orchard sanitation  
- Ensure proper aeration and drainage in orchards.  
- Maintain a gap of 3-4 days between insecticide and fungicide spray  
- Do not conduct sprayings during high temperature. Conduct spray during evening or morning hours.  

### Vegetables

**a) Tomato, chili, brinjal & capsicum**  
*Post-emergence damping off/seedling blight*  
- Drench the nursery beds with Carbendazim 12% + Mancozeb 63% 75WP (0.5%).  
- Give light but frequent irrigation in the morning hours.  
- Avoid heavy irrigation / flooding.  

*Wilt/root rot*  
- Use sufficient quantity of well decomposed FYM before transplanting preferably inoculated with Trichoderma or other effective bioagents  
- Ensure restricted irrigation.
- Transplant on raised beds.
- Dip seedling in Carbendazim 50 WP (0.1%) for 30 minutes before transplanting
- Adopt proper crop rotation

b) Onion 
(Seed Crop) 

- Downy mildew 
  - Spray with Metalaxyl MZ 72 WP (0.25%)
- Stemphylium blight 
  - Spray with Mancozeb 75 WP (0.3%) or Hexaconazole 5 EC (0.05%)

C) Cucurbits

- Downy mildew 
  - Spray with Metalaxyl MZ 72 WP (0.25%) or Mancozeb 75 WP (0.3%)
- Powdery mildew, 
  - Spray with Hexaconazole 5 EC (0.05%) or Dinocap 48 EC (0.05%) or Flusilazole 40 EC (0.02%)
- Stemphylium blight 
  - Spray with Mancozeb 75 WP (0.3%)
- Alternaria leaf spot
  - Spray with Hexaconazole 5 EC (0.05%)
- Anthracnose
  - Spray with Dinocap 48 EC (0.05%)

d) Potato

- Early blight 
  - Spray with Mancozeb 75 WP (0.3%) or Hexaconazole 5 EC (0.05%)
- Late blight 
  - Spray with Mancozeb 75 WP (0.3%) or Metalaxyl MZ 72 WP (0.25%)

**Vegetable Science**

<table>
<thead>
<tr>
<th>Cole crops / Solanaceous crops</th>
<th>Transplantation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>- Complete transplantation immediately where ever not done.</td>
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<tr>
<td></td>
<td>- Irrigate transplanted seedlings immediately for better crop establishment.</td>
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</tbody>
</table>

**Impact Points**
- Avoid weak and lanky seedlings.
- Flood irrigation should be avoided.
- Transplanting should be done preferably in afternoon.

**Potato Harvesting**
- To improve the keeping quality in potato withheld the irrigation atleast two weeks before dehauling.
- Dehaulm the crop when the aerial parts turn yellow.
- Harvest the crop after 10-15 days of haulm cutting.

**Impact Points**:
- Cut haulms should not be left as such in field.
- Stopping the irrigation hastens and enhances skin set.
- Always harvest the potato in dry weather.
- Avoid bruising to tubers during harvesting otherwise tubers become susceptible to rot diseases.
- Do not harvest immature potatoes as they have thin skin that rub off easily during harvesting/handling.
- Dry the harvested tubers immediately to remove access moisture from the skin and to improve the keeping quality.
- Dry should be done in shady areas (sheds), as exposure to sun causes greenining in potato.

**Top dose of fertilizers**
- 2\textsuperscript{nd} dose of urea is to be provided to the crops transplanted in April/ May.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Top dose of urea/kanal</th>
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<tbody>
<tr>
<td>Kale</td>
<td>4.75 kg</td>
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<tr>
<td>Cabbage</td>
<td>8.0 kg</td>
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<tr>
<td>Cauliflower</td>
<td>5.5 kg</td>
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</tbody>
</table>
Solonaceous crops
- Bottle Gourd, cucumber, Squash
- Sponge/Ridge Gourd
- Bitter Gourd
- Bhindi, Beans

Bhindi, Beans | Sowing of seed |
---|---|
- Sowing can be continued till 1st week of June (Pusa Sawni, Perkins Long Green)
- Sowing of beans may be continued.

Bush Type: Master, contender, F. yellow, Shalimar French bean.
Pole-type: Wonder, painted lady.

Impact Points:
- Presoaking of seeds in hot water (50°C) for 30 minutes enhances germination in Bhindi.
- Germination in Bhindi can also be improved by keeping the pre-soaked seeds in fresh cow dung overnight.

Cucurbits | Pollination |
---|---|
- To ensure proper fruit set in crops like cucumber and bottle gourd, hand pollination may be done where movement of pollinators is not sufficient.
- Pollination of cucumber must be done in morning hours and in bottle gourd in evening hours.

Impact Points:
- For large land holdings bee hives must be kept in the field to facilitate pollination.
- To improve the movement of pollinators in the field, some flowering plants may be planted in the vicinity.
- For commercial cultivation 2 hives/acre are recommended for improving the pollination.

Bulbous Crops | Irrigation |
---|---|
Garlic, Onion Pran | With held irrigation for increasing shelf life of produce twenty days prior to harvest.

Impact Points:
- Moist bulbs have low keeping quality and are liable to rotting.

Root and Cole crops (Seed crop) | Irrigation |
---|---|
- With held irrigation 15-20 days prior to harvest crop when 75% mature.

Impact Points:
- Harvest the crop when 75% of pods mature (turn straw yellow in colour). Mature pods are liable to shattering and causes heavy seed loses.

Fruit Science

- Harvesting of stone Fruits
  - Cherry Double, Misri
  - Peach Saharanpuri
  - Plum Sharps early, Mariposa, Formosa
  - Apricot Charmagaz, Kaisha, New Castle, Frogmore early, Gilgati sweet
- Fruits are to be harvested after ensuring that it has attained desirable characteristics - size, colour, texture and flavour. Fruits must be harvested carefully to avoid bruising.
- Use of hail nets in cherries

- Mulching of Fruit
  - Mulching of fruit trees with grass or polyethylene must be done to conserve soil moisture.
Trees

White washing

White washing in stone fruits to avoid sunburn and gummosis with the following formulations:
- Hydrated lime = 5 kg
- Copper Sulphate = 310 gram
- Water = 100 litre

Stalking of Fruit Trees

- Fruit trees which bear profusely require support of limbs to avoid limb breakage.

Thinning of Grapes

- Thin out bunches of grapes on dessert grape vines to encourage decent-sized fruit. You should aim for one bunch per foot of rod (i.e., 10 bunches on a 10ft rod).
- Fruit trees which bear profusely require support of limbs to avoid limb breakage.

Apples

- Thinning of apples if required
- Thinning can help improve the size and quality of the crop, and will also be helpful to overcome alternate bearing.

Nursery operations

- Deshooting of nursery stock.
- Irrigation of beds after hoeing and weeding.
- Conserve moisture especially under dry conditions.
- Softwood cuttings from new growth of many plants will root if propagated in a moist shady spot.
- Broadcast urea@2-3 kgs per kanal for stone fruit nursery in which budding is to be carried during this season.

Floriculture and landscape Architecture

Bulbous crops

- Bulb lifting - Lifting of Tulip, Hyacinth, oxalis, freesia, fritillaria, Dutch Iris bulbs and storage

Cut flowers

- Planting/Inter-cultural operations - Planting of plants/bulbs/corms.
- Regular weeding, application of proper fertilizer doses, irrigation, right method of harvesting and post-harvest management should be ensured.

Gerbera

Carnation, Lilium, Gladiolus

Shrubs

- Intercultural operations - Pruning of shrubs which have completed flowering phase.
- Hedges/edges should be trimmed regularly.

Edges

summer annuals

- Nursery raising - Transplanting

Food Science and Technology

In the month of June, cherry harvesting will be at its peak. Since cherry is highly perishable crop with maximum shelf life of 2-3 days (ambient conditions) depending upon the variety, as such needs special care during post harvest handling.

Harvesting

All the three commercial varieties viz. Makhmali, Double and Misri are being harvested in the month of June. The following majors should be taken into consideration:

- Harvest the crop at ripe stage of maturity with full colour development.
- Harvest the crop during early hours by trained harvesting crew.
- Plastic crates with soft cushion instead of vicker baskets should be used to avoid mechanical damage to the crop.
Keep the harvested crop in shade to remove the field heat.
Do not heap or cover to the harvested cherries with polythene sheets or tarpaulin. 
Sort the cherries so as to segregate bird damaged, bruised, under coloured and undersized ones from the harvested lot.
Pack the graded cherries in cardboard boxes of ½ to 1 kg capacity for domestic market and in 2-5 kgs for dispatch to distinct markets. The packaging should be perfectly perforated so as to allow exchange of gases.
While loading the packed cherries in load carriers do not make heavy stacks, which otherwise lead to bruising and mechanical damages. 
Dispatch the packed cherries immediately to nearby mandies without any delay.
Prefer refrigeration transport of cherries to distinct markets and maintain temperature between 0-2°C.
Double cherry should be harvested at greenish yellow colour stage if to be used for canning purpose.
Since availability/supply of double cherry for canning outnumbers the working capacity of the factories, the leftover stock (uncanned) should be stored under very low temperature preferably either in zero energy cool chambers or in cold stores at a temperature of 0-2°C.
Always avoid topping of the boxes as it deceives the consumer and producer normally gets less return.
Culled, mechanically damaged and undersized cherries should not be used as fresh but should be utilized for value addition by converting into jams, squashes, candies and nectars.

Livestock Production Management

Sheep
- Ensure vaccination against sheep/goat pox to adult ovine/caprine flock and lambs/kids after 15-21 days of FMD vaccination.
- Weaning of lambs/kids may be done after 90 days age (except weak lambs/kids).
- Feeding of Creep mixture (CP >20%) should be ensured to lambs/kids
- Lam/kid growth rate should be regularly monitored by recording their body weight at regular intervals.
- Ensure atleast 6-8 hrs of daily grazing to animals. If good grazing facilities are available, no concentrate supplementation is required.
- While grazing, animals should be monitored continuously for development of bloat due to excess consumption of certain excess green fodders (e.g clovers) and in case of any such eventuality, veterinary assistance should be sought.
- If deworming has not been done recently, ensure that the whole flock is dewormed with a suitable anthelmintic at specified dosages.

Cattle
- Maintain cleanliness in and around farms and ensure availability of clean water.
- Ensure that the sheds receive enough sunlight during the day to prevent dampness and to complement the cleaning process.
- Ensure 6-8 hrs of daily grazing to animals if community pastures are available. In the absence of such facilities, green fodder and concentrate should be fed as per the body weight and Stage of
production.

**Ration Table**

<table>
<thead>
<tr>
<th>Animal</th>
<th>Concentrates</th>
<th>greens</th>
</tr>
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<tbody>
<tr>
<td>Cow (15l)</td>
<td>6 Kg</td>
<td>Adlib</td>
</tr>
<tr>
<td>Pregnant cow</td>
<td>6 kg +0.5 kg</td>
<td>do</td>
</tr>
</tbody>
</table>

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

**Homemade Concentrate**

<table>
<thead>
<tr>
<th>Feed ingredient</th>
<th>Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat bran</td>
<td>20</td>
</tr>
<tr>
<td>Rice bran</td>
<td>15</td>
</tr>
<tr>
<td>Mustard oil cake</td>
<td>22</td>
</tr>
<tr>
<td>Maize</td>
<td>35</td>
</tr>
<tr>
<td>Molasses/Gur</td>
<td>5</td>
</tr>
<tr>
<td>Salts (mixture of iodized salt 1 part,)</td>
<td>1</td>
</tr>
<tr>
<td>Mineral mix.</td>
<td>2</td>
</tr>
</tbody>
</table>

Horses should be given access to free grazing. Pregnant mares should be fed (1.5-2 Kg) concentrate + free grazing

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**Veterinary Parasitology**

**Deworming and prophylaxis schedule for cattle and poultry**

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Dosing schedule</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deworming against fasciolosis in cattle in endemic areas</td>
<td>Early summer/Mid-summer (15&lt;sup&gt;th&lt;/sup&gt; June to 14&lt;sup&gt;th&lt;/sup&gt; July)</td>
<td>Very important in marshy and low lying areas where cattle are fed mainly on paddy hay during winter but can be followed in all parts of Kashmir valley, if needed.</td>
</tr>
<tr>
<td>Preventive medication against poultry coccidiosis</td>
<td>Prolonged or continuous use of coccidiostatic compounds in feed &amp; water</td>
<td>All commercial poultry farms but their use should be discontinued at a suitable period before marketing of birds depending on drug</td>
</tr>
</tbody>
</table>

**Managing parasitism in farm animals and poultry in Kashmir valley- a field centric perspective**

<table>
<thead>
<tr>
<th>Animal</th>
<th>Disease</th>
<th>Parasitological techniques</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Fasciolosis</td>
<td>Faecal examination - Sedimentation</td>
<td>- Triclabendazole (Fasinex bolus ) @12 mg/Kg BW - Oxyclozanide (Hexanide Bolus, Tolzan-F Susp; Zanil Liq) @ 10-15 mg/ Kg BW</td>
</tr>
</tbody>
</table>

**Broiler**

<table>
<thead>
<tr>
<th>Disease</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Coccidosis</td>
<td>Faecal examination - Floatation Clinical signs Huddling, Bloody/ watery whitish diarrhoea, dehydration, mortality etc.</td>
<td>Managemental control - Litter management</td>
</tr>
</tbody>
</table>

**Use of chemicals:**

- Preventive medication (Through feed) – Coxidol 500g/ ton of feed
- Therapeutic medication (Through water) Amprolium powder @ 30g/ 25 L of water, 30g/ 50 L water, 60g/ 25 L water in usual,
<table>
<thead>
<tr>
<th>Postmortem</th>
<th>mild and severe outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Caecal core,</td>
<td><strong>Shuttle programme:</strong> Use of ionophores followed by</td>
</tr>
<tr>
<td>- haemorrhagic</td>
<td>non-ionophores in starter, growers and finisher</td>
</tr>
<tr>
<td>- enteritis,</td>
<td>within a crop.</td>
</tr>
<tr>
<td>- Chocolate colour dropings,</td>
<td>- Coban: Stenorol: Clinacox</td>
</tr>
<tr>
<td>- Ballooning of intestine,</td>
<td>- Coxistac: Avatec</td>
</tr>
<tr>
<td>- Ladder like appearance on intestine</td>
<td>- Coxistac: Stenorol</td>
</tr>
<tr>
<td></td>
<td>- Coxistac: Clinacox</td>
</tr>
</tbody>
</table>

- Rotational programme: Regular change of drug after every two crops (it may be winter or summer programme)
  - 1st rotation (May-August) - ionophore i.e. Coxistac
  - 2nd rotation (September-December) - non-ionophore i.e. Clinacox
  - 3rd rotation (January-April) - Ionophore and Non ionophore i.e. Coban: Stenorol

S/d
Dr. S.K. Raina
Assistant Professor (Soil Science)

No. Au/De/MW/ 2019/164-204
Dated: 30-05-2019

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