



Monthly Workshop for Extension Functionaries

Message for the month of June

<i>Crop</i>	<i>Operation/ Diseases/pests</i>	<i>Message/Impact points</i>
<u>Agronomy</u>		
Paddy	<i>Varieties</i>	<p>For lower belts of valley</p> <ul style="list-style-type: none"> • Shalimar Rice-1, Shalimar Rice-2, Shalimar Rice-3. Shalimar Rice-4 <p>For higher belts of the valley</p> <ul style="list-style-type: none"> • Kohsaar, K-332, Shalimar Rice-5
	<i>Transplanting</i>	<ul style="list-style-type: none"> - Transplant 30-days old, healthy seedlings (about 20 cm tall) grown in traditional nursery or 25 days old grown under protected nursery conditions. - Transplant 2-3 seedlings per hill at a spacing of 15x15 cm. For better tillering shallow transplanting should be adopted. - Gap filling should be carried out within week's time. - For late transplanting, under unavoidable circumstances and under waterlogged conditions, number of seedlings per hill should be increased 4 to 6. - Transplanting should be completed by June 21. <p>Care in transplanting</p> <ul style="list-style-type: none"> - Avoid aged (> 35 days) seedlings. - Avoid deep transplanting and wider spacing (row to row and plant to plant) as both reduce yield. - Avoid root damage to seedlings during uprooting. - Avoid wilting of seedlings after uprooting by keeping them in water till they are transplanted. - 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.
	<i>Nutrient management</i>	<ul style="list-style-type: none"> - For varieties planted in lower belts, urea @ 4 kg/kanal, DAP @ 6.5 kg/kanal, MOP 2.5 kg/kanal and zinc sulphate @ 0.75 - 1.00 kg/kanal should be applied as basal dose before transplanting of paddy. - 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.
	<i>Weed management</i>	<ul style="list-style-type: none"> - Maintenance of 3-5 cm water level in rice fields to reduces weed growth. - Butachlor @ 1.5 kg a.i. per ha is recommended. The chemical should be applied within 2-4 days after transplanting. OR

		<ul style="list-style-type: none"> - Pyrazosulfuron ethyl+pertilachlor ; (30 g +450g a.i/ha) ; trade name Eros @ 0.5 kg /kanal should be applied 3-5 days after transplanting. OR - Bensulfuron methyl+pretilachlor, (30 g +450g a.i/ha); trade name Erase @ 0.5 kg /kanal should be applied 3-5 days after transplanting. - To minimize the seepage and deep percolation of water, proper puddling before transplanting of seedlings is a must.
Maize	Water management Varieties	<p>Lower belts</p> <ul style="list-style-type: none"> • Composite-6 (C-6), Composite-8 (C-8), Shalimar Maize Composite-4, Shalimar Maize Hybrid -2, Shalimar Maize Composite-7, Shalimar Pop Corn-1 <p>Higher belts</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> - 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	<p>For irrigated maize (per hectare)</p> <ul style="list-style-type: none"> - For hybrids, N = 150 kg, P₂O₅ = 75 kg, K₂O = 40kg and ZnSO₄ = 20 kg + seed inoculation with Azotobactor @ 5-10 g/kg seed (if available). - For composites N = 120 kg, P₂O₅ = 60 kg, K₂O = 30 kg and ZnSO₄ = 20 kg + seed inoculation with Azotobactor @ 5-10 g/kg seed (if available). <p>For rainfed maize (per hectare)</p> <ul style="list-style-type: none"> - For hybrids : N = 90 kg, P₂O₅ = 45 kg, K₂O = 20 kg and ZnSO₄ = 10 kg - For composites : N = 75 kg, P₂O₅ = 40 kg, K₂O = 20 kg and ZnSO₄ = 10 kg
	Weed management	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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 Picking	<ul style="list-style-type: none"> - 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	Sowing and Management	<ul style="list-style-type: none"> - All practices similar to that of main crop. - Use sweet corn varieties.
Kharif pulses	Sowing	<ul style="list-style-type: none"> - 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

Entomology(Agriculture)

Crucifers	Diamond back moth (<i>Plutella xylostella</i>)	- Dimethoate 30 EC @ 1ml/lit. of water when 2-3 larvae per plant if plant population is close to 100 plants per m ²
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	<i>Cabbage butterfly (Pieris brassicae)</i>	- Hand picking of egg patches and larvae. - Chlorpyrifos 20EC @1ml/lit. of water
Paddy (nursery)	<i>Snails & Slugs</i>	- 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	<i>Maize stalk borer Cut worm</i>	- Imidacloprid 17.8 SL @ 0.3ml/litr of water. - Drenching with chlorpyrifos 20 EC @ 1ml/lit of water - Flooding to expose larvae to birds (except in chilli).
All crops	<i>Army worm</i>	- Quinalphos 25EC @ 1ml/lit of water

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.

Entomology (Horticulture)

Apple	<i>San Jose scale/ Woolly apple aphid</i>	- Essential spray for the management of SJS/WAA be carried : - Dimethoate 30 EC @ 100 ml/ 100 l water OR - Quinalphos 25EC @ 100 ml/100 litres of water OR - Chlorpyrifos 20EC @ 100 ml/100 litres of water.
	<i>Apple Aphid Hairy caterpillar</i>	- Apply Dimethoate 30 EC @ 100 ml/ 100 l water. - Burlapping may be adopted followed by mechanical killing of caterpillars. - Collection, removal and destruction of egg masses. - If foliage damage is noticed, spray Chlorpyrifos 20 EC @ 100 ml/100 lit. of water
	<i>Stem borer/</i>	If adults are observed in the orchard, then spray trees with any one of the insecticide: - - Chlorpyrifos 20EC @ 100 ml/100 litres of water. - OR-Quinalphos 25EC @ 100 ml/100 litres of water.
	<i>Pin hole borer/shot hole borer</i>	- The holes may be plastered with mixture of Chlorpyrifos 1.5% WP and soil in the ratio of 1:1 - If adults are observed in the orchard, then spray trees with Dimethoate 30 EC @ 100 ml/100 litres of water.
	<i>June Beetle / Bark Beetle</i>	If beetles are observed in the orchard, then spray trees with any one of the insecticides: - Chlorpyrifos 20EC @ 100 ml/100 l water. OR - Quinalphos 25EC @ 100 ml/100 litres of water.
	<i>European Red Mite/ Two spotted mite</i>	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. - Summer spray oil @ 750ml/ 100 l.
	<i>Apple Blotch Leaf miner</i>	- Survey monitoring and mass awareness of the pest should be done. - Installation of traps (Pheromone traps @ 8-10 traps/ ha or sticky traps@10m apart for monitoring of moth emergence) - Thiacloprid 21.7% SC @ 60ml/100litres of water at 15 day interval. OR - Chlorantraniliprole 18.5% SC @ 1ml/litre of water at 15 days interval.

- **OR**-Thiamethoxam 25%WG@50gm/100litres of water at 15 days interval.
 - **OR**-Spray Imidacloprid 17.8SL@30ml/100litres of water at 15 day interval
 - **OR**-Spray Lambda cyhalothrin 5%EC @50ml/100litres of water at 15 day interval
 - **OR**-Spray Flubendiamide 39.35%SC@ 40ml/100litres of water at 15 day interval.
 - **Change lures and liners for the already installed traps(after every 30 days).**
- Fruit borer**
- Survey monitoring and mass awareness of the pest should be done.
 - Monitor adult population through pheromone traps@20 traps/ha
- For first fortnight of June:
- If adults are noticed then spray Quinalphos 25EC @100ml/100 litres of water
 - OR-Cypermethrin 10% EC @ 30ml/ 100 litres of water
- For second fortnight of June:
- Chlorpyriphos 50%EC+Cypermethrin5%EC@125ml/100litres of water
 - Chlorantraniliprole 18.5% SC @ 100ml/100litres of water
 - **Change lures and liners for the already installed traps(after every 30 days)**
- Pomegranate *Fruit borer*
- Remove the fallen leaves and destroy them.
 - Spray Dimethoate 30 EC @ 100 ml/ 100 litres of water OR
 - Chlorpyriphos 20EC @ 100 ml/100 litres of water.
 - Repeat it after 20 days interval if infestation is high.
- Plum *Aphid*
- In case aphid population is high, spray Dimethoate 30EC @ 100 ml/100 litres of water.
- **Note: In case of heavy rains (within 12 hours of spray) the spray is to be repeated immediately.**
- Vegetables**
- Vegetable *Cutworm, white grub etc.*
- Flood irrigation be given in the field so that the cutworm larvae come above the ground to be predated
 - Pit fall traps (10/ha)
 - Keeping heaps of grass to provide shelter for cut worm followed by mechanical destruction.
 - Drench the field with Chlorpyriphos 20 EC @ 300 ml/100 litres. of water during evening hours.
 - Install light traps for trapping of adult moths.
- Cole Crops *Diamond Back Moth/ Cabbage butterfly Cabbage aphids*
- Collect the egg masses, larvae and ensure their destruction if needed spray the foliage with:
- Chlorpyriphos 20EC @ 100 ml/100 litres of water. OR
 - Dimethoate 30 EC @ 100 ml/100 litres of water. OR
 - Quinalphos 25EC @ 100 ml/100 litres of water.
- Rodent management *Horticulture*
- If weather is dry, follow the below mentioned practices :**
- 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/pre-baiting (pre-baiting with plain bait (mix broken rice and wheat flour 100 g with vegetable oil 2 g and placed @10-15 g pre-bait/ burrow should be done prior to poison baiting).
- ✓ **Day 3:** 2.0% Zinc phosphide baiting (zinc phosphide is mixed with vegetable oil and any carrier such as crushed wheat and broken rice grains at 2 g: 2 g: 96g by weight to be placed inside the live burrow @ 6-10 g bait/ 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.

For residual rodent population :

0.005% Bromadiolone bait (10-15 g per burrow) to be placed inside the live burrows.

- Apiculture
- ✓ Weekly inspection of colonies. Extraction of honey from strong colonies.
 - ✓ Change of old queen if its health is not good .Raise new Queen, if needed.
 - ✓ Improve the ventilation of colonies by widening the entrance of hive
 - ✓ Protect the colonies from wasps by installing wasp traps by manual flapping.
 - ✓ Check absconding of bees by providing store frames to bee colonies and also maintain proper hygiene of bee colonies.
 - ✓ Provide clean running water channel in the apiary.
 - ✓ Regulate the microclimate by using wet gunny bags over the colonies and sprinkle water around the colonies in the apiary during morning hours.
 - ✓ Inspection of bee colony for pest and disease. Apply formic acid @5.0 ml/ day in small vials for 14 days.

Plant Pathology

Apple	<i>Scab and other foliar diseases</i>	<p>Spray at Fruit Development-II stage</p> <p>- Spray Difenaconazole 25 EC (@0.03%) or Flusilazole 40EC (@0.02%) or Trifloxystrobin 25% + Tebuconazole 50% 75WG (@0.04%) or Fluxapyroxad 250g/l + Pyraclostrobin 250g/l 500 SC (@0.02%)</p> <p>Spray at Fruit development-III stage</p> <p>- Mancozeb 75 WP (0.3%) or Zineb 75WP (0.3%) or Ziram 80WP (0.2%) or Ziram 27 SC (0.6%) or Chlorothalonil 75 WP (0.15%).</p>
	<i>Root rot</i>	<p>- 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</p>

		cm throughout the tree basin.
	<i>Collar rot</i>	- Clean the affected collar area and apply Chaubatia 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, plum, cherry and apricot	<i>Foliar fungal disease</i>	- Spray Carbendazim 50WP (0.05%) or Thiophanate Methyl 70WP (0.05%) or Captan 70% + Hexaconazole 5% 75WP (0.05%).
Pear	<i>Febrea leaf and fruit spot</i>	- Spray Thiophanate Methyl 70WP (0.05%) or Carbendazim 50WP (0.05%) or Mancozeb 75WP (0.3%) or chlorothalonil 75 WP (0.25%).
Grapes	<i>Anthracoese</i>	- 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 5% 75WP (0.05%).
	<i>Powdery mildew</i>	- Spray with Hexaconazole 5 EC (0.05%) or Flusilazole 40EC (0.02%) immediately after disease appearance.
	<i>Downy mildew</i>	- 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		
Tomato, chilli, brinjal & capsicum	<i>Post-emergence damping off/ seedling blight</i>	- 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.
	<i>Wilt/root rot</i>	- 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.
Onion (seed Crop)	<i>Downy mildew</i>	- Spray with Metalaxyl MZ 72 WP (0.25%)
	<i>Stemphylium blight</i>	- Spray with Mancozeb 75 WP (0.3%) or Hexaconazole 5EC (0.05%).
Cucurbits	<i>Downy mildew</i>	- Spray with Metalaxyl MZ 72 WP (0.25%) or Mancozeb 75WP (0.3%).
	<i>Powdery mildew,</i>	- Spray with Hexaconazole 5 EC (0.05%) or Dinocap 48 EC (0.05%) or Flusilazole 40 EC (0.02%)
	<i>Anthracoese,</i>	
	<i>Alternaria leaf spot</i>	
Potato	<i>Early blight</i>	- Spray with Mancozeb 75 WP (0.3%) or Hexaconazole 5 EC (0.05%)
	<i>Late blight</i>	- Spray with Mancozeb 75 WP (0.3%) or Metalaxyl MZ 72 WP (0.25%)

Vegetable Science

Solanaceous crops *Transplantation* - Complete transplantation immediately where ever not done.
 - Irrigate transplanted seedlings immediately for better crop establishment.

Impact Points

- ☞ Avoid weak and lanky seedlings.
- ☞ Flood irrigation should be avoided at the time of transplantation.
- ☞ Transplanting should be done preferably in late afternoon.

Potato *Harvesting* - To improve the keeping quality in potato withheld the irrigation at least two weeks before dehaulming.
 - 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.
- ☞ Cure the harvested tubers immediately to remove excess moisture from the skin and to improve the keeping quality.
- ☞ Curing should be done in shady areas (sheds), as exposure to sun causes greening in potato.

Cole crops Solanaceous, crops, cucurbits *Top dose of fertilizers* - 2nd dose of urea is to be provided to the crops transplanted in April/ May.

Crop	Top dose of urea/kanal
Kale	4.75 kg
Cabbage	8.0 kg
Cauliflower	5.5 kg
Solanaceous crops	6.5 kg each
Bottle Gourd, cucumber, Squash	3.75 kg
Sponge/Ridge Gourd	2.75 kg
Bitter Gourd	3.25 kg

Bhindi *Sowing of seed* Sowing can be continued till 1st week of June (Pusa Sawni, Perkins Long Green)

Beans *Sowing of seed* 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.

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.

Floriculture and landscape Architecture

Spring flowering Annuals/ bulbous crops	<i>Weeding/ top dressing and intercultural operation</i>	<ul style="list-style-type: none"> - Weeding/top dressing of Spring flowering annuals like Pansy, California poppy, Candy tuft, Verbena, Sweet pea, Sweet Foliar etc. - Tulip, Hyacinth, oxalis, freesia, fritillaria, Dutch Iris etc - Foliar application of micronutrients/growth retardants after flowering is over which will enhance propagation ratio.
Cut flowers Gerbera Carnation, Lilium, Gladiolus	<i>Planting/ Inter cultural operations</i>	<ul style="list-style-type: none"> - Planting of plants/bulbs/corms. - Regular weeding, application of proper fertilizer doses, irrigation, right method of harvesting and post-harvest management should be ensured.
Turf grasses	<i>Raising</i>	<ul style="list-style-type: none"> - Raising through different methods like seeds, dibbling, turfing etc
Shrubs Edges	<i>Intercultural operations</i>	<ul style="list-style-type: none"> - Pruning of shrubs which have completed flowering phase. - Hedges/edges should be trimmed regularly.
summer annuals	<i>Nursery raising</i>	<ul style="list-style-type: none"> - Nursery raising of marigold, zinnia salvia etc.

Food Science and Technology

In the month of June, cherry harvesting is 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 0-2⁰ 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 0-2⁰ 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.

Since the harvesting of early varieties of strawberry is almost over, the second crop which will be of small size and with inferior taste should be preferred to be used for value addition, particularly for preparation of strawberry jam. If possible, the strawberry fields should be covered by hailstorms nets to prevent mechanical and bird damage to standing crop.

Livestock Production Management

Sheep

- PPR vaccination to lambs/kids after 15-21 days of sheep/goat pox vaccination. Repeated after 3 years interval.
- Weaning of lambs attaining 90 days age (except weak lambs).
- Migration to high land pasture, after 1st wk.
- Preparation of temporary tarpaulin sheet roofing with chain link fencing paddock at HLP to protect livestock from snow, rainfall and wild predators.
- Recording of monthly livestock body wt at HLP.
- Cleaning and disinfection of paddock at HLP at regular intervals.

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.
- Avoid too much of rice during marriage season to prevent acidosis

Ration Table

❖ Animal	Concentrates	greens
Cow (15 l/day)	6 Kg	Adlib.*
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 part,	1
Mineral mix.	2

- Horses should be checked for lameness. Halters must be kept ready. Horses should be given access to free grazing and concentrate may be given to compensate HLP work load.

Fisheries (Aquaculture Management)

Pre-stocking Management in Carp Culture

Liming: Use of quick lime (CaO) 400 kg/ha is recommended for slightly alkaline soil. Initial dose @ 100 kg/ha may be applied one week earlier to stocking the pond and the rest in equal monthly installments. Quick lime need be dissolved in water, allowed to cool down and broadcast uniformly over the pond surface during morning hours.

Manuring: A combination of organic manures and inorganic fertilizers is considered more effective than either of these alone. The fertilization schedule is prepared on the basis of fertility status of soil which is ascertained by chemical analysis. Based on soil fertility status, fertilization schedule to be followed is given in Table below. Initial manuring with organic manure @ 20% of the total requirement is done 15 days prior to stocking. If Mahua oil cake is applied earlier as piscicide, the initial manuring may be dispensed with. The remaining 80% of the organic manure may be applied in split up 11 equal monthly doses during the rearing period. The total quantity of inorganic fertilizers is applied in 11 equal monthly instalments during the culture period. While organic manures may be dumped in water at corners/sides, inorganic fertilizers may be mixed together and broadcast all over the pond. The organic manure and inorganic fertilizers are alternately applied with a gap of about a fortnight.

Nutrient	Low productive	Medium productive	High productive
Organic carbon (%)	0.5-1.5	1.5	> 2.5
Available nitrogen (mg/100 g soil)	25-50	50-75	> 75
Available phosphorus (mg/100 g soil)	< 3	3-6	> 6
Recommended schedule of fertilization application			
Raw cowdung (tonnes/ha/yr)	20	15	10
Nitrogen (kg/ha/yr)	150 N (322 urea)	100 N (218 urea)	50 N (104 urea)
Phosphorus (kg/ha/yr)	75 P (470 SSP)	50 P (310 SSP)	25 P (235 SSP)

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