

Farm Operations for April

WHEAT

Last irrigation to wheat sown after December 5th, should be given up to 10th of April. Avoid irrigation on windy/stormy day.

SUGARCANE

1. Fields infested with *dila*, post-emergence application of 800 g per acre 2, 4-D sodium salt 80 WP in 200 litres of water is recommended. Do not sow moong/mash as inter crop, if sugarcane has been sprayed with herbicide.
2. Irrigate the crop at 7-12 days interval for better growth of the crop. Apply 65 kg urea to ratoon crop.
3. Apply paddy straw or rice husk or sugarcane trash @ 20-25 q/acre between the rows of sugarcane to reduce soil temperature and moisture loss.
4. The incidence of black bug in this crop can be checked by spraying 350 ml of Dursban/Lethal/Massban/Goldban 20 EC in 400 litres of water per acre with manually operated sprayer. Direct the spray material into the leaf whorl.
5. Mite feeds on lower side of leaves under fine web. The leaves turn red and later appear to be burnt. Baru (*Sorghum halepense*) is the alternative host plant of mite. So, destroy the weeds, growing near the sugarcane fields.
6. Do not ratoon the crop if it is severely affected with red rot or wilt.

COTTON

1. Start sowing of recommended varieties/hybrids of cotton including Bt cotton or *desi* cotton during this month. Sow seeds in polythene bags to fill gaps in cotton. Give deep ploughings in paddy fields, where puddling was done continuously for longer periods as the hard layer developed due to puddling adversely affects the deep penetration of roots. Apply heavy pre-sowing irrigation with good quality water for better germination and crop stand.
2. To reduce the attack of leaf curl disease, avoid growing American cotton in citrus orchards and adjoining *bhindi* crop. Avoid growing *bhindi*, *moong*, *castor* and *arhar* in the cotton crop and as border rows in order to reduce the incidence of American and spotted bollworm; jassid and whitefly. But, control such insect pests on these crops grown in the vicinity of cotton fields properly in order to check their migration to the cotton crop.
3. In wilt infested fields, prefer to sow LD 949 and LD 1019 varieties of *desi* cotton.
4. At the time of sowing, smear the cotton seed with Gaucho 70 WS (imidacloprid) @ 5 g or Cruiser 30 FS (thiomethoxan) @ 7 g/kg seed for preventing damage by cotton *jassid*.
5. Sow both American cotton and *desi* cotton varieties in rows at 67.5 cm apart with plant to plant distance of 60 cm for American Cotton and 45 cm in case of Desi Cotton but for Bt cotton hybrids it should be 75 cm.
6. Drill 75 kg single superphosphate or 27 kg DAP per acre at the time of sowing. If cotton succeeds wheat, which received recommended dose of phosphorus, omit its application to cotton. In coarse textured soils, half dose of nitrogen (33 kg urea/acre to varieties and 45 kg urea/acre to hybrids and Bt cotton) may be applied at the time of sowing. Use PAU-LCC for need based urea application. Apply 20 kg muriate of potash in soils low in available potassium. Also apply 10 kg zinc sulphate heptahydrate or 6.5 kg zinc sulphate monohydrate to cotton in zinc deficient soils.

7. For controlling weeds, spray Stomp 30 EC (pendimethalin) @ 1.0 litre/acre as pre-emergence application in 200 litres of water. At the time of spray, there should be sufficient moisture in the soil. For controlling *itsit* which emerges with first irrigation, Stomp @ 1.0 liter per acre can also be applied after first irrigation.

SUNFLOWER

1. Since the weather is quite hot during this month, apply irrigations at 8-10 days interval. The crop should not be under stress at flowering, soft dough and hard dough stages.

SUMMER PULSES

Try to complete the sowing of *sathi moong* and *sathi mash* during the first week of this month.

SUMMER GROUNDNUT

Groundnut variety SG 99 / M 522 can be sown during the end of this month under irrigated conditions. Treat the kernels before sowing with 2ml Neonix 20 FS or 1.5g Seedex 2 DS or 5g Thiram (75%) or 3 g of Indofil M-45 (75%) per kg kernels. Neonix treated seed also give protection from attack of White grub and termite.

TURMERIC

1. Start planting turmeric from the end of this month.
2. Planting of turmeric should be done in rows 30 cm apart by keeping plant to plant distance of 20 cm. Six to eight quintal of rhizomes are sufficient for sowing one acre.
3. Apply 10-12 tonnes of well-rotten Farm Yard Manure before planting and 60kg single super phosphate per acre at planting. Also apply consortium biofertilizer @ 4kg/acre at planting. Apply 16 kg muirate of potash in soils low in available potassium.
4. Spread uniformly 36 q/acre paddy straw over the entire field for weed control.

FODDERS

1. For early *kharif* fodders, sowing of *bajra*, maize, cowpea etc. may be carried out after harvesting *rabi* crops. Cowpea is a very quick growing leguminous fodder which can be sown as a mixture with maize or *bajra*.
2. Take last cutting of berseem which is to be kept for seed during this month. Berseem crop for seed production should be frequently irrigated. *Kashni* and other weeds should be rogued out.
3. Stop irrigation to lucerne after full blossom to arrest vegetative growth for better seed production.
4. Grow perennial fodders on some area. For this purpose, guinea grass and napier *bajra* can be sown in April.

RECLAIMING SALINE AND ALKALI SOILS

For reclamation of kallar soils, follow the steps given below:

1. Get the salt-affected soil tested from PAU or nearest soil testing laboratory. For this, take four samples upto 1 metre depth from 0-15 cm, 15-30 cm, 30-60 cm and below 60 cm.
2. Prepare strong bunds around the field.
3. After levelling and ploughing the field, apply heavy irrigation with good quality tubewell water or canal water so that excess salts leach down.
4. When the field comes into field capacity (*watter*), if recommended, apply gypsum according to soil test report.

STORE GRAIN INSECT PESTS

1. Store new grains in clean godowns or receptacles. Plug all cracks, crevices and holes in the godown thoroughly. Disinfest empty godowns or receptacles by spraying 0.05% Malathion emulsion (100 ml Malathion 50 EC in 10 litres of water) on the floors, walls

and ceilings or fumigate the godowns using 25 tablets of aluminum phosphide/100 cubic metres of empty space before storing grains. Exposure period is 7 days.

VEGETABLES

Tomato

Irrigate the tomato crop once a week to encourage maximum fruit setting and development of fruits. Varieties viz. Punjab Ratta, Punjab Chhuhara, PNR-7 and Punjab Upma as well as hybrid TH-1 and PTH-2 start ripening during this month. Harvest the red turning and red ripe fruits regularly to catch distant and local markets, respectively. While harvesting the fruits, every precaution should be taken to minimize injury and disturbance to the natural canopy of the plants.

Brinjal, Capsicum, Chilli and Cucurbits

These vegetable crops sown under low –tunnel or poly net house conditions start giving fruits. Harvest fruits twice a week in the afternoon except bottle gourd where harvesting should be done in the morning. All the crops are pollinated by insects and human movement at flower opening and pollination time disturbs pollinators and cause serious setback to fruit-setting and yield. Irrigate these crops once a week.

Onion

Take care of *kharif* onion nursery sown in March and irrigate regularly after 5-7 days intervals.

Seed Production

Harvest seed crops of pea, carrot, radish and turnip. In order to avoid shattering of seeds of carrot, turnip, pea and radish in the field, start harvesting even when a few topmost pods per branch are yellowish green. Shift immediately to the thrashing floor. After complete drying, thrash, grade and pack the seeds. In carrot, harvest seeds from primary and secondary umbels only.

Chilli

Transplant seedlings of chilli in the afternoon keeping ridges at 75 cm and plants at 45-60 cm distance and apply light irrigation immediately. Apply 20 kg muriate of potash, 175 kg single superphosphate and 35 kg urea per acre. After a week, replant into the gaps and irrigate immediately.

Garlic

Stop irrigation in the first week but apply light irrigation prior to harvesting to facilitate the operation and uproot in the last week. Cure in the field for 5 to 7 days. Tie the produce in bundles of a kg each, shift in a cool and ventilated place. Sort out bulbs with dried cloves during storage.

VEGETABLE PESTS

1. Fruit borer attack in tomato crop can be checked by spraying 30 ml of Fame 480 SL or 60 ml Coragen 18.5 or 200 ml Indoxacarb 14.5 SC in 100 litres of water per acre. Observe waiting period of 3 days after the spray of Fame and one day after the spray of Coragen.
2. To protect the tomato crop from early blight spray the crop with Indofil M-45 @ 600 g/acre in 200 litres of water.

HORTICULTURAL OPERATIONS

1. The temperature rises rapidly and relative humidity gets low during this month. The growers are advised to adopt the measures to save their valuable fruit trees particularly newly planted from drought and sun injury. Therefore, apply light and frequent irrigations during this month to young plants. Apply irrigation at 3-4 days interval to peach varieties Partap, Shan-e-Punjab and Florida Prince as the fruits are developing during this period.
2. The fruit trees loaded with fruits such as Shan-e-Punjab and of plum like Kala Amritsari and Sutlej Purple normally need fruit thinning in early days of the month to minimize the danger of limb-breakage and to improve the marketable size and quality of the fruits.
3. Apply second dose of inorganic fertilizers to the fruit trees of citrus, pear, litchi, plum, grapes, mango, litchi etc.
4. The stock sprouts emerging from the newly planted young fruit plants below the bud union should be removed/pinched off regularly.
5. In young orchards summer moong can be sown as an intercrop upto first week of this month.
6. The zinc deficiency in citrus can be managed with spray of 0.3 zinc sulphate (3g/litre of water) solution, without addition of lime, to spring flush.
7. For crop regulation to get better fruiting in winter seasons guava crop, spray urea @ 10% or 600 mg/litre NAA during April-May when maximum flowers have opened. Pruning of terminal portion of shoots (20-30 cm) in last week of April can also be done to avoid rainy season crop. Also withhold irrigation during this period.
8. Spray 200 ml Crocodile/Confidor 17.8 SL or 160 g Actara/Dotara 25 WG or 6.25 litre Mak H.M.O. per acre in 500 litres of water on citrus crop to control citrus psylla and aphids.
9. Mulching of pear orchards with paddy straw @ 5.5 ton per acre can be done in this month. In addition to weed suppression, fruit yield and quality also improved with paddy straw mulching.

ORNAMENTALS

Annuals

1. Summer annuals like Cosmos, Gaillardia, Gomphrena, Kochia, Zinnia etc. can be transplanted in the prepared beds or pots preferably in the evening followed by light irrigation.
2. Ripened seeds collected from the winter flowering annuals are shade dried, stored and labeled in airtight containers. .

Permanent plants

Need-based periodic irrigation is required for the permanent landscape plants as the temperature is expected to rise. Division of canna rhizomes can be made for propagation.

Chrysanthemum

Periodic pinching of chrysanthemum suckers planted in beds will ensure more bushiness and lateral branches. Regular weeding and irrigation is done to keep the soil moist.

Roses

Flowering of the rose will almost be over in this month. Continue removing faded, dried flowers and root-stock suckers. Ensure required soil moisture with timely irrigation.

Lawns

Irrigate the lawns through sprinklers for retaining vigor and lush green carpet. Periodically remove the deep rooted weeds manually with hand hoe. Avoid walking on lawn immediately after irrigation.

Pot plants

The pots must be periodically irrigated to ensure sufficient moisture. Groom the foliage plants by removing dead and dried leaves. Foliage plants sensitive to hot sun rays should be shifted under partial shady locations.

Bulbous plants

The Gladioli corms should be harvested, cleaned and dried in shade for 2-3 days before storing in crates or gunny bags in cold storage at 4°C. The summer flowering bulbs of Caladiums, Football Lilly and Tuberose, if not planted during March, should be planted early during this month.

Marigold : The healthy seedlings of summer marigold 'Punjab Gaiinda No.1', if not planted earlier during February-March can be transplanted in the field during evening hours, followed by light irrigation.

AGROFORESTRY

Poplar

1. As the temperature has started rising, thus irrigate the poplar plantations at 7-10 days interval instead of fortnightly.
2. Turmeric and sugarcane can be sown in poplar having less than three years of age. In the plantations of more than three years age, fodder crops should be raised.
3. The attack of Poplar leaf defoliator and leaf webber starts in this month. Control the insects by collecting and destroying infested leaves.

Eucalyptus

Keep on irrigating the *Eucalyptus* plantations at 15 days intervals during April.

BEE KEEPING

Bee strength of honey bee colonies during April is about at peak. Manage colonies to prevent and check swarming. Colonies should be provided enough space in the form of raised empty combs or frames with comb foundations and super chambers to provide space for brood rearing and honey storage. First fortnight of the month is still suitable for queen bee rearing. If drone brood rearing is continued, the stock multiplication can be undertaken either by selectively dividing the colonies or through mass rearing the queen bees. The progressive beekeepers should prefer the latter method for its well known advantages. Older queen bees may also be replaced, if not replaced as yet during the season, with the new ones raised preferably from the selected good stock following mass queen bee rearing technique. Dust sulphur powder on the top bars of bee combs @ 1.0 g per comb against brood mite (*Tropilaelaps clareae*). Alternatively, fumigation with formic acid (85%) @ 5 ml daily for two weeks may be applied. The latter treatment will also take care of *Varroa* mite. In the case of infestation by *Varroa*, destruction of sealed drone brood comb part, *Varroa* trapping in drone brood and then its destruction and use of sticky papers with *Varroa* bottom board, can also be integrated. On suspicion of the brood diseases, immediately consult expert and suggested control measures should be undertaken; non-chemical methods should be preferred. Do not use antibiotics. Proper spacing among the colonies and extraction of honey only from the supers separated from brood chamber with queen excluder help in preventing spread of *Varroa* and brood diseases among the colonies in an apiary. If *Eucalyptus* is in bloom around the apiary and colonies have surplus sealed honey, it should be extracted. Take all precautions, during and after honey extraction, for preventing robbing in the apiary. Afterwards, commercial beekeepers may migrate their apiaries to sunflower growing areas. For enhancing apiary income, progressive beekeepers can adopt apicultural diversification through production/ collection of other hive products, viz. pollen, propolis, royal jelly and bee venom. Shift the colonies to thick shade.

MUSHROOM FARMING

1. Make arrangements for procuring wheat and paddy straw for the cultivation of button and dhingri mushroom for the next season (September-March). Store the procured straws in a dried and shady place.
2. Book summer mushroom varieties spawn for the cultivation of paddy straw and milky mushrooms.
3. Start preparing paddy straw bundles for the cultivation of paddy straw mushroom. From mid-April onwards for its cultivation, wet the prepared paddy straw bundles, prepare the mushroom beds as per recommended technology and add spawn to the prepared beds.
4. Spray water on the spawned beds twice daily. Mushrooms start appearing after 10-12th days of spawning and mushroom harvesting continues for three weeks.

For cultivation of milky mushroom, use boiled wheat straw (2kg/bag) as per recommended technology. After completion of spawn run, bags will be ready for casing and mushrooms start appearing after case run (18-20 days)

DAIRY FARMING

1. Summer season is approaching, therefore efforts should be made to protect the animals from summer heat and stress. Keep fresh water available all the time. Provide fans to the animals for better air circulation in the farm.
2. As feed intake is reduced due to effect of high temperature. Hence, protein level in the concentrate mixture need to be increased which can be done by increasing oilseed cakes by 5-7 per cent.
3. Watch the animals for heat symptoms and get the animal inseminated between 12 to 18 hours after the onset of heat.
4. Take adequate steps for calf management and feed colostrum within 1-2 hours of the birth without waiting for expulsion of the placenta.
5. To prevent tick infestation, spray the sheds/barn and animals regularly with Butox liquid @ 2 ml per litre of water and repeat after 10 days.
6. Keep the shed and animal clean.
7. Make sure that all the animals are vaccinated against FMD, if still not, then get them vaccinated immediately, keep their record and repeat after six months.
8. Do not feed excess wheat/ cereals to dairy animals. This can be fatal.

POULTRY FARMING

1. It is the best time to replace the stock. Cull the unprofitable birds to provide sufficient space to young chicks. Brooding in these days can be carried out easily.
2. Reduce the thickness of litter and change the wet litter.
3. Provide cool and fresh water to birds. Provide sufficient number of waterers to avoid excess movement of birds.
4. Vaccination schedule must be followed strictly.
5. Vaccinate the chicks of 6-8 weeks of age with *Ranikhet* disease vaccine and fowl pox vaccine at 8-10 weeks of age.
6. Start deworming the pullets at 3 months of age and then regularly at one month interval.
7. White wash the poultry shed from outside especially roof. This will help to reflect the sun rays.
8. Provide artificial lights during early morning so that birds can consume feed in cool hours.
9. In order to compensate decrease in feed intake, level of energy nutrients need to be increased which can be achieved adding maize.
10. Provide electrolytes, Vit. C @ 5gm/liter per 100 birds per day.

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