FARM OPERATIONS FOR AUGUST

PADDY

- 1. To the rice crop, irrigation should be given two days after the ponded water has infiltrated into the soil but fields should not be allowed to develop cracks. Last dose of nitrogen (30 kg urea/acre) may be applied if already not given. If urea is to be applied with the help of leaf colour chart, apply 25 kg urea/acre only if 6 leaves out of 10 are lighter than shade no 4 of leaf colour chart. In direct seeded rice (DSR) apply second and third dosage of about 43 kg urea/acre each at 6 and 9 weeks of sowing.
- 2. In highly deteriorated soils, zinc deficiency may appear in patches even after the application of recommended dose of zinc sulphate. In such cases apply an additional dose of 10 kg zinc sulphate (21%) or 6.5 kg zinc sulphate (33%) per acre mixed with equal amount of dry soil, on the affected area.
- 3. Iron deficiency may appear in sandy soils. The deficient plants show yellowing of younger leaves which ultimately turn white. To correct this malady, 1.0 % ferrous sulphate solution (one kg ferrous sulphate in 100 litres of water per acre) may be sprayed 2-3 times at weekly intervals. Do not apply ferrous sulphate to soil.
- 4. In early transplanted crop, drying of leaves due to bacterial leaf blight disease may be noticed. Spray with any chemical will not be helpful to control this disease. Do not pond water in the field. Addition of nitrogen will further increase the disease.
- 5. Sheath blight may be noticed during the month of August. The disease can be checked by spraying Ayyan 48WG @ 200g or Avancer Glow 75WG @ 600g or Pulsor/ Iglare 24 SC @ 150 ml or Epic 75 WG @ 26.8g or Galileo Way 18.76 SC @ 400ml or Amistar Top 325 SC @ 200 ml or Nativo 75 WG @ 80 g or 320ml Lusture 37.5 SE or Folicur/Orius 25 EC @ 200 ml or Tilt/Bumper/Pikapika 25 EC or Monceren 250 SC @ 200 ml in 200 litres of water. Keep the bunds clean by removing weeds.
- 6. To check false smut spray the crop with Gallio Way 18.76 SC @ 400ml or Kocide 46 DF @ 500 g in 200 litres of water per acre at boot stage in disease prone areas.
- 7. Rice Stem Borers: The larvae bore into the stems of young plants and result in dead hearts. The fields showing more than 5 per cent dead hearts (ETL) should be sprayed with 20 ml Fame 480 SC (flubendiamide) or 50g Takumi 20WG (flubendiamide) or 60 ml Coragen 18.5 SC (chlorantraniliprole) or 400 g Supremo 50 SP (thiocyclam hydrogen oxalate) or 170 g Mortar 75 SG (cartap hydrochloride) or 80 ml neem based bio-pesticide, Ecotin (azadirachtin 5%) in 100 litres of water per acre. These insecticides may be repeated as and when damage reaches economic threshold level. Prefer Ecotin at pest initiation stage. In basmati rice, when there are more than 2% dead hearts, apply Fame 480 SC @ 20 ml or Takumi 20WG @ 50g or Coragen 18.5 SC (chlorantraniliprole) @ 60 ml or Supremo 50 SP @ 400 g or Mortar 75 SG @ 170g or Ecotin @ 80ml/acre or Achook/Neem Kavach @ 1 litre in 100 litre of water per acre. In addition to these insecticides, Ferterra 0.4 GR (chlorantraniliprole) @ 4 kg or Padan/Caldan/Kritap/ Sanvex/ Nidan/ Marktap/ Miftap/ Katsu 4G (cartap hydrochloride) @ 10 kg/acre or Vibrant 4 GR (thiocyclam hydrogen oxalate) @ 4 kg or Regent/ Mortel/Mipro-G/ Mahaveer GR/ Shinzen 0.3 G (fipronil) @ 6 kg per acre can also be used in standing water in basmati rice. These insecticides also control leaf folder in addition to stem borers.

- 8. Leaf Folder: The larvae of this insect fold the leaves, eat out the green tissues and produce white streaks. Before flowering, the leaf folder damage can be controlled by passing a 20-30 m long coir/jute rope, forwards and then backwards, both ways while touching the crop canopy. While passing the rope, please ensure that water must be standing in the crop. When the leaf damage reaches 10 per cent (ETL), this pest can be controlled by spraying 20 ml Fame 480 SC or 50g Takumi 20WG or 60 ml Coragen 18.5 SC or 400 g Supremo 50 SP or 170 g Mortar 75 SG or 80 ml neem based bio-pesticide, Ecotin (azadirachtin 5%) in 100 litres of water per acre.
- 9. Plant hoppers: The nymphs and adults of planthoppers suck the cell sap particularly from the leaf-sheath from July to October. These can be controlled by spraying the crop with 94 ml Pexalon 10 SC (triflumezopyrim) or 80 g Osheen /Token/Dominant 20 SG (dinotefuran) or 120 g Chess 50 WG (pymetrozine) or 400 ml Orchestra 10 SC (benzpyrimoxan) or 300 ml Imagine 10 SC (flupyrimin) or 800 ml of Ekalux/Quinguard/Quinalmass 25 EC (quinalphos) or 80 ml Ecotin or 4 litre PAU Homemade Neem Extract in 100 litres of water per acre. For better results use knapsack sprayer while directing its spray towards the base of the plants. Prefer Ecotin or PAU Homemade Neem Extract at pest initiation stage.

MAIZE

- 1. Adequate supply of water is essential for proper growth of crop. However, maize is very sensitive to standing water, so excess water may be drained out from the field which would also help to keep stalk rot under control. Damage due to standing water can be minimized by two sprays of 3 per cent urea solution at weekly interval or by applying additional nitrogen @ 12-24 kg (25-50 kg urea) per acre in case of moderate to severe damage after the flooding is over.
- 2. Apply last dose of nitrogen i.e. 37 kg urea per acre to early sown hybrids or high yielding varieties of maize at the appearance of tassels. Apply 25 kg urea per acre to local maize/Pearl Popcorn/ Kesri.
- 3. To control banded leaf and sheath blight of maize, spray 100ml of Amistar Top 325 SC in 200 litres of water as soon as it appear in the field.
- 4. The attack of maize borer can be checked by spraying with 30 ml of Coragen 18.5 SC (chlorantraniliprole) in 60 litres of water per acre with knap-sack sprayer. Bioagent *Trichogramma chilonis* can also be used to control this pest. Use trichocards having 40,000 eggs of *Corcyra cephalonica* parasitized by *T. chilonis*, twice per acre; first release on 10 days old crop and second 7 days after the first release.

COTTON

To keep weeds under check, in between the crop rows at 6-8 weeks after sowing when the crop is about 40-45 cm in height, spray 500 ml per acre Gramoxone 24 SL (paraquat) or 900 ml per acre Sweep Power 13.5 SL (glufosinate ammonium) by dissolving in 100 litres of water as a directed spray. The directed spray can be done by using a protective hood because paraquat and glufosinate are non-selective herbicides and can cause injury to the crop if these fall on the crop leaves. Apply 33 kg urea/acre to varieties, 45 kg/acre to Bt cotton on the appearance of first flower. Use PAU LCC for need based urea application. Apply 4 sprays of 2% potassium nitrate (13:0:45) solution at weekly intervals, starting at flower initiation.

- 1. Spray against whitefly should be done when population reaches 6 adults per leaf in the upper canopy of plants before 10 AM with Sefina 50DC (afidopyropen) @ 400 ml/acre or Osheen 20 SG (dinotefuran) @ 60 g/acre or Polo/Craze/Ruby/Ludo/Shoku 50 WP (diafenthiuron) @ 200 g/acre or Lano/Daita 10 EC (pyriproxyfen) @ 500 ml or Oberon/Voltage 22.9 SC (spiromesifen) @ 200 ml/acre or Ulala 50 WG (flonicamid) @ 80 g/acre or Dantotsu 50 WG (clothianidin) @ 20g or Fosmite/Volthion/Goldmit/E-mite 50 EC (ethion) @ 800 ml/acre or PAU Homemade Neem Extract @ 1200 ml/acre or Nimbicidine/Achook (neem based) @ 1 litre/acre. Initiate spray against jassid when ever some of the fully formed leaves in the upper canopy show yellowing and curling at the margins on 50 percent on the plants. Use Keefun 15 EC (tolfenpyrad) @ 300 ml/acre or Ulala 50 WG (flonicamid) @ 80 g/acre or Actara/Extra Super/Dotara/Thomson 25 WG (thiamethoxam) @ 40 g/acre in 125-150 litres of water.
- 2. Attack of mealy bug can be checked by spraying 150 ml Transform **21.8** SC (sufloxaflor) using 125-150 litres of water per acre. To protect the crop from bollworm and tobacco caterpillar damage, the insecticides given for the control of bollworm and tobacco caterpillar in Table 1 are recommended. These should be sprayed using 125-150 litres of spray material per acre with manually operated knapsack sprayer or 75 litres with the shoulder mounted power sprayer and tractor mounted sprayer when the damage in shed fruiting bodies exceed 5% and thereafter spray as and when need arises.

Brands (insecticides)	Dose/acre	
Pink and Spotted bollworms		
A. Synthetic Pyrethroids		
Danitol/Meothrin 10EC (fenpropathrin)	300ml	
Fastac/Alphagaurd/Merit Alpha 10 EC (alphamethrin)	100 ml	
Bulldock 0.25 SC (β-cyfluthrin)	300 ml	
Ripcord/Bilcyp/Bullet/Ustad/Cypergaurd 10 EC (cypermethrin)	200 ml	
Cymbush/Cyperkill/Hillcyper/Colt/Basathrin/Agrocyper/Cypergaurd 25 EC (Cypermethrin)	80 ml	
Decis/Rukrain/Decicare 2.8 EC (deltamethrin)	160 ml	
Sumicidin/Fenval/Agrofen/Fenlik/Triumph card/SB Fenvalerate Milfen/	100 ml	
Markfenval 20 EC (fenvalerate)		
Pink, Spotted and younger larvae of American bollworm		
A. Spinosyn		
Delegate 11.7 SC (spinetoram)	170 ml	
B. Macrocyclic lactones		
Proclaim 5 SG (emamectin benzoate)	100 g	
C. Carbamates		

Insecticides for the control of bollworms in cotton

Larvin 75 WP (thiodicarb)	250 g
D. Organophosphatic	
Curacron/Carina/Profex/Celcron 50 EC (profenophos)	500 ml
Fosmite/E-mite/Volthion 50 EC (ethion)	800 ml
E. Miscellaneous group	
Fame 480 SC (flubendiamide)	40 ml
Grown up larvae of American bollworm	
A. Naturalyte	
Tracer 48 SC (spinosad)	60 ml
B. Oxadiazine	
Avaunt 15 SC/Avaunt 15 EC (indoxacarb)	200 ml
C. Miscellaneous group	
Sumipleo 10 EC (pyridalyl)	300 ml
Coragen 18.5 SC (chlorantraniliprole)	60 ml
D. Organophosphates	
Orthene/Asataf/Starthene/Markphate 75 SP (acephate)	60ml
Tobacco caterpillar	
A. Insect Growth Regulator	
Rimon 10 EC* (novaluron)	150 ml
B. Miscellaneous group	
Coragen 18.5 SC (chlorantraniliprole)	60 ml

Note:

- a. Regularly monitor the pest population.
- b. For effective insecticide resistance management, do not repeat the insecticide of same group in subsequent sprays.
- c. Do not use mixture of insecticides as these will result in faster development of resistance and resurgence of pests.
- d. Do not use synthetic pyrethroids on cotton for the control of bollworm complex after mid September.
- e. Repeat the spray immediately if it rains within 24 hours after spray.
- f. Cotton is highly sensitive to the 2, 4-D weedicide. Some farmers spray the ester form of 2, 4-D for controlling weeds in maize grown near the cotton fields. Owing to the volatile nature of 2,4-D ester, its vapours cause serious injury to the cotton crop. Hence avoid the application of this herbicide in maize, if cotton is grown in the adjoining fields. The other precautions are:
 - a. After using 2,4-D fill all spraying equipments as well as tubs, buckets, etc. with 0.5 per cent washing soda solution (500 g of washing soda in 100 litres of water) in the evening. Next morning, flush all equipments thoroughly with fresh water.

- b. To avoid the use of contaminated insecticides on cotton, it is advisable to test insecticide at least two weeks in advance on a few plants. If the insecticide is contaminated with 2, 4-D, the tender leaves and shoots could become distorted and lanceolated within 10 days. Reject such an insecticide.
- c. To control fungal foliar leaf spots, the crop should be sprayed with Amistar Top @200 ml/acre in 200 liters of water at 15-20 days interval.

SUGARCANE

- 1. To prevent lodging, prop up the crop at the end of this month by using trash twist method.
- 2. Iron deficiency is observed both in the ration and plant crop on light textured and calcareous soils. Deficiency symptoms first appear on young leaves as yellow stripes between the green veins, later the veins also turn yellow. In severe cases, leaves become white and the plants remain stunted. To correct this deficiency, 1 % ferrous sulphate solution (one kg ferrous sulphate in 100 litres of water per acre) may be sprayed 2-3 times at weekly intervals soon after the symptoms appear.
- 3. Release bio-agent, *Trichogramma chilonis* @ 20,000 per acre from July to October (10-12 releases) at 10 days interval for the management of stalk borer in sugarcane. Use 10 pheromone traps per acre along with the recommended Tricho cards application from July to October. Change the pheromone lures at one-month interval.
- 4. Collect and destroy the infected shoots affected with different borers particularly that of Gurdaspur borer at weekly interval regularly to prevent further infestation of the healthy canes.
- 5. For the management of Sugarcane Pyrilla, use Dursban 20EC (chlorpyriphos) @ 600 ml/acre in 400 litre of water.

FODDER PRODUCTION

- 1. Sow leguminous and non-leguminous crops in mixture to improve the nutritive value of the fodder i.e. maize + cowpea, sorghum + guara.
- 2. Apply 30 kg N (66 kg urea)/ acre to the multicut fodder (napier bajra hybrid and Guinea grass) after every cutting.
- 3. For controlling *itsit/chaupatti* in maize, spray Atrataf 50 WP (atrazine) within 10 days of sowing @ 800 g/acre on medium to heavy textured soils and 500 g/acre in light soils by using 200 litres of water. Do not use atrazine in fodder maize after 15th August sown crop as late application will have residual toxicity effect on the succeeding crops like wheat, berseem etc. Atrazine should not be used where maize fodder is sown in mixture with cowpea.
- 4. Harvest the fodder crops at optimum stage like maize at milk ripe stage, bajra at flagleaf stage, napier bajra or guinea grass at one metre height and sorghum at pre-flowering to flowering stage to obtain maximum nutrients for the milk production.
- 5. Conserve surplus fodders like maize, sorghum, napier bajra, guinea grass as silage to be used in lean periods for cheap milk production.

GENERAL PESTS AND WEEDS

 The weeds in non-cropped areas like on farm, roads, water channels etc. can be controlled by spray of gramoxone 24SH (Paraquat dichloride) @ 250 to 500 ml in 100 litres of water. Alternatively spray roundup/genki SH (glyphosate) @ 700 ml or Excel Mera 71 SG (glyphosate) @ 400g in 100 litres of water.

Parthenium (Congress grass/Carrot grass)

It is a problem weed of waste places, orchards and plantation crops. It makes luxuriant growth during this period. Check this weed through mechanical means such as repeated cuttings and hand weeding but during hand weeding kindly wear gloves as this weed cause severe allergic problems.

VEGETABLES

Cauliflower

Sow 250 g seed of mid season varieties in one marla bed area. Irrigate the nursery beds daily with a watering can daily in the beginning and thrice a week there after. Treat the seed with 3 g Captan per kg of seed before sowing.

Root crops

From the last week of this month, start sowing Asiatic (*Desi*) varieties of radish (Pusa Chetki), carrot (PC 161, Punjab Jamuni, Punjab Roshni and Punjab Black Beauty) and turnip (L-1). Before sowing, add 15 tonnes FYM, 55 kg urea and 75 kg single superphosphate per acre. Apply 50 kg muriate of potash per acre to carrot only. Prepare ridges 45 cm apart and dibble seed in fully moist conditions at 7.5 cm spacing. Apply light irrigation immediately after sowing. Use 4-5 kg seed of radish and carrot and 2-3 kg seed of turnip to sow an acre.

Chilli

- 1. Harvest red ripe fruits once a fortnight to minimize shedding in the fields. Fully developed green fruits may be plucked for use as a *salad* and pickle.
- 2. For control of fruit rot and die back, spray the crop with 250 ml of Folicur or 750 g of Indofil M 45 or Blitox in 250 litres of water per acre at 10 days interval.

Brinjal and Okra

Spray 80ml Coragen 18.5 SC (chlorantraniliprole) or 80g Proclaim 5 SG (emamectin benzoate) or 100 ml Sumicidin 20 EC (fenvalerate) or 200 ml Ripcord 10 EC (cypermethrin) in 100-125 litres of water against fruit and shoot borer of brinjal.

- 1. In brinjal, spider mite attack can be minimized by spraying 300 ml O-mite 57 EC per acre in 150 litres of water.
- 2. The attack of jassid on *bhindi* can be reduced by spraying 80 ml Ecotin 5% or 2 litre PAU Neem extract or 40 ml Confidor 17.8 SL (imidacloprid) or 40g Actara 25 WG (thiamethoxan). For control of spotted bollworms, give 3 sprays at fortnightly intervals with 50 ml Coragen 18.5 SC (chlorantraniliprole) or 200 ml Sumipleo 10 EC (pyridalyl) or 70 g Proclaim 0.5 SG or 100 ml of Sumicidin 20 EC using 100-125 litres of water per acre, as soon as flowering starts.

Onion

During this month start planting *kharif* onion crop both with bulbsets as well as seedlings. Apply 45 kg urea, 125 kg single superphosphate and 35 kg muriate of potash per acre before planting. Transplant seedlings at 15×7.5 cm distance and irrigate the field immediately after transplanting.

HORTICULTURAL OPERATIONS

- 1. Adopt prompt measures to drain out excess rain water from the orchard as the excess rain water when stagnates for several days is harmful to the orchard trees. Root damage due to water stagnation in pear, peach can be managed with immediate draining of excess water from the root zone followed by hoeing at optimum moisture (*wattar*) conditions. Prune the dried and broken branches along with 5-8 cm of the live wood and apply Bordeaux paste on the large cut ends.
- 2. It is very suitable time for planting of evergreen fruit plants like citrus, mango, guava, litchi, loquat, sapota etc.
- 3. Spray the affected citrus trees with 0.47% (4.7g/ liter of water) zinc sulphate without addition of lime to late summer flush to control zinc deficiency. To correct zinc and manganese deficiency, spray the plant with zinc sulphate (470 g) + manganese sulphate (330g) in 100 liters of water. A gap of one week should be kept between the foliar application of Bordeaux mixture and zinc sulphate and manganese sulphate solution.
- 4. The physiological fruit drop in citrus can be checked by spraying 2,4-D sodium salt of Horticultural grade (5g) in 500 liters of water/acre in mid August.
- 5. To control foot rot (*Phytophthora*) of citrus, give one application of Curzate M8 as paint to the infected trunk portion and drench (25 g/10 litres of water/ tree) the soil at the base of the tree in July-August or drench the soil and main limbs of the affected plants with sodium hypochlorite (5%) @ 50 ml in 10 liters of water per tree under their canopies. One week after the spray of sodium hypochlorite, you can apply talc based bio-formulation of *Tricoderma asperellum* @ 100g mixed with 2.5g FYM per plant at foot and basin region of the plant to manage this disease.
- 6. To control Anthracnose and downy mildew diseases of grapes, spray the vines with Bordeaux mixture (2:2:250) in end August using 500 liters of water/acre.
- 7. Fix PAU fruit fly traps @ 16/acre in citrus orchards in the second week of August and recharge the same if required.
- 8. In guava orchards, regularly remove and burry the fruit fly infested guava fruits.
- 9. Harvest the fruits of dragon fruit and market it after proper grading.

ORNAMENTALS

Permanent plants

New plantation of evergreen ornamental trees, shrubs and climbers can be continued in this month.

Pot plants

This is ideal time for the potting and repotting of foliage potted plants, while repotting, the roots of the plants needs to be pruned and the soil mixture is replenished with well rotten organic manure and refilled in pots. Some plants (such as Aglaonema, Snake plant, Aspidestra etc.) can be multiplied through division during the process of repotting.

Lawns

New lawn can be planted through dibbling and/or turfingin this month in a well prepared land. Frequent mowing of the lawn is done depending on its growth for ensuring a smooth carpet like effect. Avoid mowing when soil is wet due to rainfall.

Chrysanthemum

- 1. Rooted cuttings planted in pots in the last month should be trained according to their types viz. standard and spray type.
- 2. The small flowered 'spray' type varieties should be pinched by removing terminal growing shoots.

Roses

Regular weeding of roses should be done and suckers should be periodically removed. Monitor the crop for the attack of red scale.

Trees and shrubs

The ornamental shrubs can be propagated from hardwood and semi-hardwood cuttings during this month. Tree seeds can also be sown over nursery beds ensuring appropriate seed treatment.

Marigold

Punjab Gainda No.1 marigold can be transplanted in prepared field for seed production purpose.

AGRO FORESTRY

Transplanting of most of the tree species like Safeda, Kikar, Subabul, Tahli, Dek, Neem, Sagwan etc. should be done during July-August (rainy season). The pits of $50 \times 50 \times 50$ cm should be filled with 50% top soil and 50% farm yard manure. Plant the seedlings in the centre of the pit after gently removing the polythene bag. Care should be taken that the earth ball and roots do not get damaged. Apply the light irrigation, immediately.

POPLAR

All the *kharif* crops (except paddy) can be grown in poplar during first two years of tree growth. Afterwards *kharif* fodders such as cowpea, maize, sorghum, bajra, guinea grass etc. should be grown. The incidence of defoliators and leaf webber is common in this month. Collect the badly infested leaves having eggs and catterpillers of defoliators and leaf webber and burry in the soil. Keep the fields weed free.

BEE KEEPING

Inspect all the honey bee colonies very quickly to avoid robbing menace. If there is scarcity of food reserves in the colonies and also dearth of bee flora in the fields, provide sugar syrup (sugar and water mixed in ratio of 1:1) to all the colonies in the late evening. Prefer to provide this feed in Division Board Feeder or directly into empty raised combs. For augmenting brood rearing, the colonies should be fed either stored pollen or PAU pollen substitute/supplement. Take all precautionary measures to avoid robbing and appropriate measures to check it if at all it occurs. Protect the colonies from the attack of wax moths, ants, wasps and green bee-eaters. Take appropriate measures to check wax moth infestation of stored combs as well and fumigate stored empty combs with sulphur. Unite weak, queenless and laying worker colonies, if any, with queen-right colonies after the necessary preliminaries. Must keep the colonies on high stands and tilted a little in front to prevent the entry of rain water into the colonies or its accumulation inside the hive. Do not keep colonies in the way of dry water-way/channels or in low lying places. Rather ensure hive placement at upland to ensure adequate ventilation and thereby minimizing the impact of high humidity, besides preventing chances of stagnant rain water entering into the colonies. Must use top cover with galvanized iron sheet on top of it. Remove all the weeds growing underneath and around the colonies. To maintain good aeration ensure that wire gauge of inner cover is clean and is not clogged with propolis.

MUSHROOM CULTIVATION

- 1. For the cultivation of paddy straw mushroom, the paddy straw bundles should be wetted with fresh water, prepared a mushroom bed and spawned during this month.
- 2. After one day of spawning, the spawned beds should be watered daily twice a day.
- 3. The mushrooms will start appearing after 12-14 days of spawn run.
- 4. Harvesting of this mushroom will be continued for one month,
- 5. After the completion of crop cycle, discard the old beds and prepare new beds for next crop.
- 6. The crop and harvesting of milky mushroom will be continued during this month.

DAIRY FARMING

- 1. Use of foggers or sprinklers intermittently. Use fans only.
- 2. If the animal has a wound, protect it from flies so that maggots do not develop into it. Keep the surroundings clean and preferably apply fly repelling ointment on the wound i.e. Topicure spray or Lorexane. To treat maggot wound, contact nearest veterinary hospital.
- 3. This month is hot, humid during which flies, lice and ticks are very common. These suck blood, cause skin irritation and spread diseases. To check these, spray Butox/cleaner/amitraz 2 ml/liter water on animals and use Kohrsolin 10 ml in 1 liter water on the animals during early hours of the day as well as on the sheds and repeat the spray after 10-15 days. Do not spray animals below 6 months of age. Spray especially on corners, crevices etc. of the shed. Take full care that insecticides do not get mixed with feed, fodder and drinking water. Strictly follow the manufacturer's instructions while spraying the insecticide.
- 4. Deworm the animals with broad spectrum anthelmintics like albendazole and levamisole.Use fendendazole in advance pregnancy.
- 5. During this period there is scarcity of green fodder. Use silage or sugar beet pulp alongwith wheat straw. Progressive farmers are already using silage throughout the year. Provide concentrates during cooler hours of the day.
- 6. Frequent feeding should be done by giving 4-5 small meals.
- 7. Provide atleast 30-35 Kg green fodder mixed with 1 to 1½ Kg wheat straw alongwith 50 gm common salt and 50-100 gm sodium bicarbonate according to yield of animal, to avoid acidosis in lactating animals Provide 1 kg concentrate feed for every 2.5 Kg milk produced by cow and 2 Kg milk by buffalo.
- 8. Observe color of urine. If pale yellow, means animal is taking less water. Provide water adlib.if animal consuming less water do top dressing with 50-70 gram common salt.
- 9. Keep checking mucus membranes in mouth, conjunctiva of eye and vaginal mucosa for paleness to ascertain anemia and tick born diseases alongwith rectal temperature. If temperature is above 102°F then take advice of a veterinarian.

POULTRY FARMING

- 1. The ration should contain 15-20 % protein, minerals and vitamins (ascorbic acid) as feed intake in summer is reduced.
- 2. Damp litter and high temperature are good media for the growth of protozoa which cause *Coccidiosis* in the chicken so avoid dampness in the deep litter house by stirring the litter 2-3 times in a week.
- 3. Place the nests inside the sheds, 1-2 weeks prior to the start of egg production.
- 4. Feeding should be done during cooler parts of the day by restricting feed during afternoon hours from 11:00 AM to 3:00 PM to reduce heat stress.
- 5. Keep sufficient cold water available for the birds all the time. Add electrolytes in drinking water 5gm/liter of water per 100 birds or 40-50 gm vitamin C per quintal of feed.
- 6. The temperature of the poultry house should not be more than 26°C. Be careful about the health of the birds. Immediately consult the expert in case of sickness of the birds.
- 7. Do not store the compound feed for more than 15 days to avoid aflatoxins.
- 8. Control the flies in the shed especially in cage house.
- 9. Debeaking and vaccination may be done up to 14-16 weeks of age.
- 10. The price of eggs start rising from this month so there should be minimum disturbance after laying starts.

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