

INTENSIVE CULTIVATION PACKAGE FOR ARABICA

Arabica coffee is predominantly grown in all the zones of Hassan region as the conditions are suitable for its cultivation. However, the productivity is below the national average and hence there is a scope to increase the productivity of plantations especially in the medium and large holdings by adopting intensive cultivation.

Planting material

- Only S.795, Sln.6 and Sln.9 are suggested for this region. Cauvery should be planted in areas at high elevations with medium to high rainfall.

Consolidation of holdings

- ❖ In already existing plantations, vacancy filling (with same varieties in a block) should be taken up to build up the plant population to the desirable level. By maintaining optimum plant density the recurring problems of weed growth and soil erosion are minimised and the land use efficiency is improved.
- ❖ Replanting of old uneconomical blocks in a phased manner.

Soil management

- Contour planting / terracing in moderate to steep slopes are suggested for prevention of soil erosion. Trenches / cradle pits in sloping terrains should be taken up during Aug/ Oct. and renovation of the same before monsoon.
- In high rainfall areas with water logging problems, drainage channels of appropriate depth and width should be provided.
- Cover digging should be done during first year of planting. However, it should be avoided in slopy terrain.
- No soil cultivation is suggested in established plantations.

Bush management

- Regular light pruning has to be practiced after harvest.
- Do not prune the plants affected with die back when there is no moisture in the soil.
- Proper centering and handling should be done during pre-monsoon & post-monsoon period to maintain a good frame work and to avoid self shading problems.

Shade management

- Use mixed canopy of shade trees with a tree density of 100-120 trees per ha.
- A two-tier canopy consisting of temporary (dadap) and mixed permanent shade trees shall be maintained in the initial years of establishment.
- At higher altitudes, phase out the temporary shade trees once the coffee is established well.

Weed Control

- In large estates, an integrated weed control involving pre-monsoon weedicide spray, mid-monsoon slash weeding and post-monsoon weedicide spray is suggested.
- While using weedicides, use contact weedicide (Gramoxone @ 500 ml/barrel) or systemic weedicide (Round Up/ Glycel @ 600 ml/barrel) in a rotation in combination with urea (2kg/ barrel).

Nutrition

- Apply organic manures (compost / FYM) @ 5 tonnes/ha once in 2 years.
- Apply lime only after testing the soil. Use agricultural lime analysing 80% calcium carbonate. November is the best period

for lime application. Application of dolomite lime once in a while in rotation is beneficial.

- Apply fertilizers at recommended levels based only on soil test values and yield levels.
- In high rainfall areas fertilizers should be given in 3 to 4 splits during pre-blossom, post-blossom /pre-monsoon, mid-monsoon and post-monsoon periods.
- Water-soluble form of phosphorus may be given during pre-blossom application. During the mid-monsoon, application of phosphate and potash may be avoided.
- If a high crop is set in, apply 20-25 kg/ac additional nitrogen during break in monsoon.
- In medium to low rainfall areas, fertilizers may be applied in two rounds during post-blossom/pre-monsoon and post-monsoon.
- Application of calcium sulphate @ 50 kg/acre during the post-monsoon period improves soil and nutritional status of the field as well as provides much needed sulphur nutrition.
- In high yielding plots, nutrients such as Urea (2 kg), MOP (500 g), zinc sulphate (0.5 kg) and Planofix or Hormonal (50 ml) per barrel of Bordeaux may be given during Pre-monsoon application.

Use of growth regulators

- In areas where fruit drop is a problem, spray Planofix @ 50 ml/ barrel (3 barrels / acre) in two rounds once 15 days after the blossom and second before pre-monsoon. The second spray may be combined with Bordeaux mixture spray.
- Alternatively, application of Biozyme granules @ 10 g/plant along with fertilizers during post-blossom and again during pre-monsoon period is suggested to minimise fruit drop.

Pest Management

White stem borer

- Maintain optimum shade and build up shade in open patches.
- Regular borer tracing, uprooting and destruction of infested stems.
- If the tunnelling has not gone into the root, collar prune such plant and allow sucker
- Bark scrubbing using coir glove or gunny pieces may be done.
- Spray lindane 20 EC (1300 ml/ barrel) during April-May and Oct-Nov. An additional round of spray may become necessary during Nov-Dec. in case of higher incidence and weak N-E monsoon.

Berry Borer

Coffee berry borer incidence has been noticed in certain areas of Sakleshpur zone. The following measures should be taken up to control the same.

- Timely and clean harvest.
- Collection of gleanings and leftover/ off-season berries. Use harvest mats to minimise gleanings.
- Spot application of endosulfan 35 EC (340ml in 200 lit.of water) or chlorpyrifos 20EC (600 ml in 200 litres of water) during when most of the beetles are waiting at the navel region.
- Proper bush management to make the control measures (sprays) more effective.

In other areas, which are free from the incidence of berry borer, the following measures shall be taken to prevent the spread of this pest.

- Do not procure seeds from berry borer affected areas.
- Do not transport berry borer affected coffee into these zones.
- Use only new gunny bags for packing the harvested crop.

Nematodes

- In nursery, jungle soil should be thoroughly dried while preparing nursery mixture.
- In the case of nematode infestation, the affected plants should be uprooted and the site exposed for summer. Plant grafted plants (arabica on robusta) in the affected patches.

Disease management

Leaf Rust

- Maintain optimum shade.
- For varieties Sln. 6 and Sln.9 spray with 0.5% Bordeaux mixture during pre-monsoon and post-monsoon periods. Use Bordeaux mixture of pH 9-10 for maximum benefit.
- For Cauvery and S.795, pre-monsoon spray with 0.5% Bordeaux mixture and post-monsoon spray with Bayleton 25WP @ 0.02% (160 g/ barrel) are suggested. While spraying Bayleton, use suitable wetting agent.

Black Rot

- Maintain optimum shade
- Practice proper centering and handling of bushes
- Maintain proper drainage
- In endemic patches, spray 1% Bordeaux mixture during pre-monsoon in place of normally recommended 0.5% Bordeaux spray against leaf rust.

- If disease is noticed, remove all the affected leaves, branches etc. and burn and spray with 0.03% Bavistin 50 WP (120 g/ barrel) during the break in the monsoon.

Root Diseases

- Isolate the affected patch by trenching
- Uproot the affected plants and apply 2 kg of agricultural lime to the pit.
- Fallow the affected spot for 6 months
- Drench the base of surrounding healthy bushes with 0.4% Bavistin solution (8g / lit)
- Apply 10 kg of FYM or compost along with *Trichoderma* to the surrounding plants.

Mixed cropping

- Pepper can be grown as a mixed crop in coffee blocks.
- Planting of areca nut and cardamom in valleys and coconut in the borders could also be taken up.

Estate level processing

Apart from the usual recommendations on preparation of arabica parchment at estate level, the following points require careful attention to improve the quality of coffee.

- The machinery and the pulping yard should be kept clean and tidy well before the commencement of pulping season.
- Use harvest mats while harvesting to minimise gleanings.
- Wherever possible, adopt natural fermentation followed by manual washing to improve the quality.
- Soak the washed coffee under fresh water for at least 12 hours, to further improve quality.

- Sort out unpulped fruits, stinkers and other extraneous matter from parchment before drying.
- Dry the fresh parchment on raised wire mesh trays (75 cm from the ground level) for initial 1-2 days. Subsequently, dry it on pucca yards to the desired moisture level.
- While drying, cover the parchment with polythene sheets during night hours for preventing re-wetting.

