

SUSTAINABLE PRODUCTION TECHNOLOGY FOR ARABICA

In Hassan region 95% of the holdings belongs to small grower sector and majority of them are not able to take up intensive cultivation measures, due to economic constraints and lack of entrepreneurial ability. Hence, the following package of practices for sustained coffee production system with average yields is suggested.

Plant material

- In case of new planting or replanting, selections such as S.795, Sln.6 and Sln.9 could be planted.

Consolidation of holdings

- The vacancies in the field should be filled with the same variety with in a block.
- Unproductive or off type plants should be rejuvenated by top working. Once the field is fully covered with out any vacancies, such fields have the advantage of less weed growth, better yield opportunity efficient land use and less soil conservation work.

Soil Management

- Cover digging of soil should be done during the first year and scuffing during later 2 or 3 years. Later on, the soil should not be disturbed. In steep slopy areas, no soil cultivation is encouraged.
- In slopy areas, contour planting and opening of trenches/ cradle pits would help in prevention of soil erosion.

Bush Management

- Two rounds of regular handling and desuckering should be taken up during June/ July and September months. Light pruning may be practiced once in 2-3 years.

Shade

- A medium intensity mixed canopy shade with a tree population of 120-140 trees/ha may be maintained.
- Shade regulation and lifting is essential every year instead of once in 2-3 years to avoid injury to coffee bushes.
- At high elevations, remove the lower canopy of temporary shade in order to reduce the recurring cost of shade lopping.
- Recycle the shade loppings judiciously back into the field for mulching purpose, which helps maintaining the optimum soil temperature and organic matter status.

Weed Control

- Cultural methods like cover digging, scuffing, cover cropping with cowpea, horse gram etc. in the early years suppress the weed growth.
- In established fields, the weeds can be controlled by slash weeding before flowering and recycled for soil enrichment.

Nutrition

- Apply lime or fertilizers based on soil testing at least once in 2-3 years.
- Recommended dose of fertilisers should be applied in two splits during post-blossom/ pre-monsoon and post-monsoon periods.
- Fertilizers may be applied by broadcasting followed by mulching.

Pest Management

White Stem Borer

- Maintain optimum shade and build up shade in open patches.
- Regular tracing and burning of infested plants especially during March and September months.
- If the borer infestation has not reached the roots, such plants can be rejuvenated by collar pruning.
- Stem scrubbing (removal of loose scaly bark) may be practiced to reduce borer attack.
- Spray Lindane (1300 ml/barrel) during April and October on the main stem and thick primary branches using Backpack sprayer fitted with jet nozzle.

Coffee Berry Borer

Coffee berry borer incidence has been noticed in certain areas in 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 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

- The affected plants should be uprooted and site exposed for one summer. Plant grafted plants (arabica on robusta) in the affected patches.

Disease management

Leaf Rust

- Maintain optimum shade.
- Two rounds of 0.5% Bordeaux spray should be given as pre-monsoon and post-monsoon applications.

Black Rot

- In Black rot endemic areas, mono shade of Silver Oak should be avoided as it aggravates the disease incidence. It is therefore desirable to maintain mixed shade of conventional trees at wider spacing.
- Thinning of shade, opening of cradle pits, cleaning of bushes by removing fallen shade tree leaves etc. should receive attention, prior to monsoon.
- Two rounds of handling and centering of bushes (pre-monsoon and mid-monsoon)
- Pre-monsoon spraying with 1% Bordeaux mixture in place of 0.5% Bordeaux usually done against leaf rust.
- When disease is noticed, clean the bushes by removing affected leaves, branches etc. and spray with 0.03% Bavistin (120 g/ barrel) during the break in monsoon.

Root Diseases

- Isolation of affected bushes including one row of surrounding bushes by trenching.
- Uprooting of affected bushes and application of agricultural lime @ 2 kg per pit and mix thoroughly with soil. Fallow the affected spots for 6 months.
- Drenching the base of surrounding bushes with 0.4% Bavistin solution (8 g/l) @ 3L/plant, during pre-monsoon period.
- Application of FYM @ 10 kg along with *Trichoderma* to the surrounding bushes.

Inter cropping/ mixed cropping

- Cultivation of intercrops like vegetables, ginger, yams, banana etc. in the initial 2-3 years could be adopted.
- Planting of pepper as an intercrop in coffee blocks, areca nut and cardamom in the valleys and coconut, vanilla 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.

- Use mats while harvesting to minimise gleanings.
- Wherever possible, adopt wet method of processing to improve the quality.
- While drying, cover the parchment with polythene sheets during night hours for preventing re-wetting.
- In the absence of pucca drying yard, use polythene sheets for drying coffee. In any case, do not dry coffee on mud or cow dung smeared surfaces.