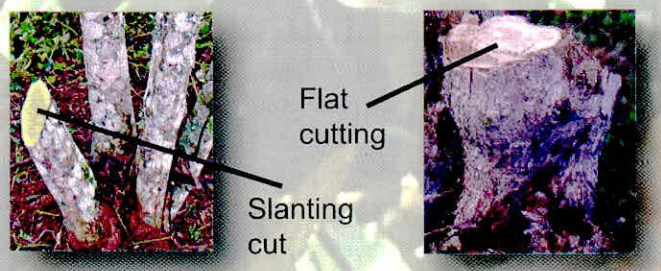
It is therefore recommended that fertiliser at the rate of 75g per tree per season for young coffee and 250g per tree per season for coffee trees that are more than two years old. Organic manure at the rate of 20kg per tree can remain effective for 2 years without further addition of the manure.

Pruning and stumping:

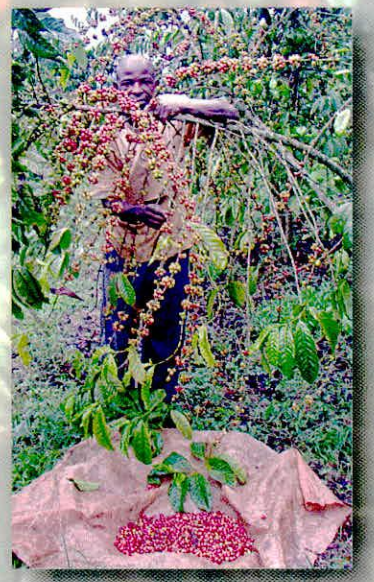
Pruning is an essential component of coffee farming. It is necessary to remove excess or unwanted branches, dry branches, rejuvenate the tree and to maintain desirable canopy for ease of picking and pest/disease control. When pruning;-

- Use clean tools (pruning saws, secateur) as disease can be passed onto healthy plants through contaminated tools. Passing them through flame or use of alcohol or Jik if available can clean the tools.
- Tools should be cleaned after pruning each tree before starting another tree.
- Ensure that you start pruning healthy vigorous looking trees first. When these are finished, then you can start on infected or suspicious looking trees.
- Remember in all cases to clean the tools before you move to the next tree.
- When stumping, make sure that you make slanting cuts, which will not allow rain water to stay on the wounds and encourage disease to develop.



- Protect all pruning wounds with coffee oxycloride paste (150g copper oxychloride in 1 litre of water, or 75g in 500ml of water) immediately after pruning.





Harvesting:

It is recommended that coffee should not be picked from CWD infected trees. The disease would have arrested the expansion and proper maturation of these beans. Such beans would reduce quality of coffee and likely to increase materials with the disease in the husks.

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Coffee Wilt Disease

Field Management Guide



NARO
INTERNATIONAL COFFEE ORGANIZATION
www.cabi.org

Field Management of Robusta coffee to contain CWD

A healthy crop is more productive. Growth is vigorous, yields are generally higher and the plant is better able to resist or compensate for pest/disease attack.

General growth requirements for robusta coffee

Robusta coffee thrives at altitudes 1000-1500m above sea level where temperatures vary 18-27oC, sometimes higher. A well distributed mean annual rainfall of 1200-1500mm for at least 9 months of the year is desirable. Deep well drained loamy soil supports good growth of the crop.

Land preparation:
Prepare the field in advance. Remove forest tree stumps and roots to minimise fungal diseases such as *Armillaria mellea,* if the planting is to be done in forested area. Trees should be killed by ring-barking 12 months in advance. Get rid of perennial weeds such as *Digitaria scalarum.*

Avoid old coffee fields with known histroy of coffee wilt disease, where possible and at least 50-100m away from existing coffee. If the only available land is infected with CWD, cultivate annual crops for at least 2 years before replanting with robusta coffee. This is to allow time for the pathogen remaining in soil to decline in the absence of coffee.



Planting:
Source of planting materials is critical when considering establishment of new coffee. Obtain your planting materials (seeds, potted seedlings or clones) from sources you trust where proper nursery practices to eliminate the wilt pathogen in soil are practised. Avoid volunteer seedlings obtained from forest wild coffee. The could be infected with CWD but not yet showing symptoms. Once introduced on your farm unknowingly as seedlings it will be very difficult to eradicate the disease.

Use recommended spacing (3m x 3m) and correct hole size (60cm x 60cm). It is valuable to add some manure in each hole as this will help in quick establishment of the seedlings.

Planting should be done as soon as possible at the beginning of the rains to ensure seedlings/clones are well established before the dry period begins.

Mulching:
Mulching enhances soil fertility and aids in weed control by smothering weeds. Mulching materials can be crop residues like bean, groundnut and maize straws. It should be placed 30cm from the stem of coffee and should not be allowed to touch the stems, to avoid collar rot caused by *Fusarium spp.*

Mulching conserves moisture, improves soil fertility, increases crop vigour and yields. Although mulch does not prevent CWD, its effect on surviving plants in boosting crop yield and vigour is significant.

Use of coffee husks, as mulch in coffee fields is not recommended as these have been shown to carry CWD infection.



Weed management:
Weeds are undesirable as they compete with coffee for water and nutrients leading to reduced growth, low yields as well as poor quality beans. There are a number of weed control options, which include clean weeding by hoeing, use of herbicides, slashing and a combination of them. Weed control mechanically by slashing or hoeing when not done carefully, has the effect of inflicting wounds on the coffee stems around the collar region or roots. These gaping wounds provide entry for the pathogen. When these methos of weed control (slashing and hoeing) are used these should be done with care to avoid wounding of trees. The best option is use of herbicides such as Roundup or Touch downat the rates of 3 litres/ha or 250mls/15 litres. Do not apply herbicides on any plant/coffee parts.

Soil fertility Management:
Maintaining good soil fertility by use of organic manures or fertilisers enhances crop vigour, yield and quality of the beans (good bean size). In addition, the crop can better stand pest and disease attack than in coffee under low soil fertility.

Trials on soil fertility reveal that although improved soil fertility does not prevent CWD attack, at least it can delay on set of the disease. Yield per tree is considerably incresed.