



SAMAC
Macadamias South Africa NPC

RESEARCH AND DEVELOPMENT
NEWSLETTER



Dear SAMAC member,

The end of the current production season will soon be approaching, and growers are starting to shift their attention to preparing for the next season. In this newsletter we will focus on the “why” and the “how” of most important activity which should take place in the next few months: pruning.

Pruning

Pruning is advised for several reasons:

- Firstly, when we established an orchard, we decided on a specific spacing. Once the orchard reaches maturity, we must maintain that spacing.
- Keeping tree height down prevents overcrowding and ineffective pest control in orchards.
 - In over-crowded orchards, trees compete for sunlight, and the tree uses all its energy to grow vertically to compete for the available sunlight instead of setting nuts.
 - Pests such as stink bugs hide predominantly in the top third of the tree, and spray rigs can only spray effectively in trees up to 6 m. If trees are higher than 6m, or too dense, you won't get sufficient spray penetration, leading to pest problems and resistance.
- To improve light penetration and air flow in the orchard. Macadamia growers effectively farm with sunlight. If branches do not get sufficient sunlight, they stop growing and die off. Similarly, as with the pest control, you also don't want to get to the point where all your bearing wood is in the top half or third of the tree.
- Regular pruning serves to rejuvenate mature orchards. The aim is to keep bearing branches young and to introduce new bearing wood continuously. Most flowers are produced on wood that is two years old.

In orchards where trees use their reserves to grow vegetatively (vertically) instead of reproductively (flowers and nuts), where pest control is ineffective, and where new bearing wood is not continuously produced, yields are affected. **If yields are affected, you are losing money.**

What are we aiming for?

Tree height should not exceed 80% of row width, as productivity and yield declines after that. The ideal is a pyramid or Christmas tree-shaped tree, with one central leader and lateral side branches that do not compete with the central leader as flowers and nuts are also mostly carried on horizontal side branches. This shape ensures that the whole tree has access to sunlight, and that bearing wood (and flowers and nuts) is found from the top to the bottom of the tree (branches lower on the tree not shaded out by branches in the top of the tree). When looking down the row, a V-shape should open up in the sky.

When should we prune?

Maintenance pruning usually takes place after harvesting during May through July. Avoid pruning during flowering. The desired shape is maintained in subsequent seasons by removing regrowth. Regrowth is usually broken off during December or early January when the shoots are still soft. Regrowth is broken off instead of cut, as cutting will initiate growth on that point again. 3 to 4 lateral or side branches are left, and all water shoots going upwards removed.

**SAMAC Best Practice Video
-Pruning a mature orchard-**

Botryosphaeria dieback

Botryosphaeria dieback has become more prevalent in macadamia orchards over the last number of years. The fungi responsible for dieback occur as endophytes in macadamia trees (present in macadamias without causing disease), but when trees are stressed, these fungi are “switched on” and become pathogens causing disease. Ensure that pruning equipment is sanitized between trees to limit the spread of Botryosphaeria fungi in orchards. When growers remove infected branches through pruning, they often paint the stumps with white paint or a fungicidal agent such as copper to protect the exposed cut site from infection. This can also be considered during routine pruning especially in orchards with high incidences of dieback.

**Project Update Video
-Botryosphaeria dieback-**