

AQUILARIA UPDATE AUSTRALIA

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WESCORP
AGARWOOD



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Growers Manual:

The draft has been completed as it is available to those growers that have signed the Grower Agreement with Wescorp Agarwood. Please remember this is a ***confidential document*** only available to our Growers. It cannot be copied or reproduced. This manual will be updated continually with Grower input and discoveries.



Fig 1: Trunk Basal Diameter



Fig 2: Tree with appropriate form

Plus tree selection within the *Aquilaria* estate in north Queensland

By Dr Tony Page

The average age of the planted estate in north Queensland is currently around 3-years. The variation in growth rate between trees has allowed for selection of the best performing trees, for inclusion into the breeding programme. Work was carried out in late-2012 to identify a population of highly productive agarwood trees from the existing estate. The trees were selected on their basal stem diameter (Figure 1), tree stability, form and branching (Figure 2). A total of 500 trees across the estate were identified as having superior characters in one or more of these traits. A more rigorous selection intensity was applied to these 500 trees to identify the elite group which will be propagated clonally. A total of 50 'Elite Plus Trees' were identified and have a Mean Annual Increment (MAI) of 3.4cm, which is significantly greater than the 1.7cm MAI for the rest of the estate. The aim of the breeding programme is to provide genetically superior planting material for future plantations in Australia.

Flowering and natural pollination of *Aquilaria crassna* in north Queensland

By Anna Sosnin



Aquilaria crassna flowers



Aquilaria crassna fruit & seeds



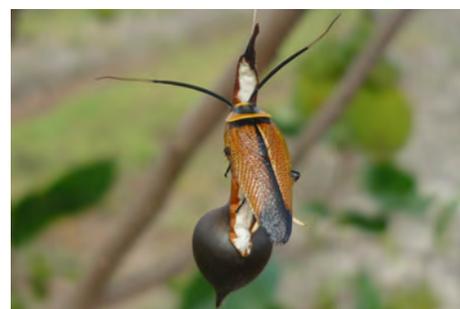
Primary Pollinator: *Nyctemera amicus*



Primary Pollinator: *Ceryx sphenodes*



Pollinator: Calliphoridae Fly



Consuming aril: *Ellipsidion australe*

Seed Collection:

This wet season we were able to collect our first Australian *Aquilaria* seeds from AABabinda and AABoulders. Due to very dry spell in December with consistent dry winds, many of the trees aborted the seeds. Some of this effect could be attributed to the age of the trees, but the weather definitely increased the drop. The seeds were only collected from quality trees and we expect to have about 10,000 seedlings available from January 2014. The germination was very good and they will all be in the "super" pot and about 12 months old at time of planting. This new regime will reduce the spraying costs in the first year as they will be 1 metre high at planting, which is similar to the plantings in Asia.

The season of late-2012 was the first significant flowering event within the *A. crassna* estate in north Queensland. Systematic recording of the timing of flowering and fruit development and casual observation of pollinators was undertaken during this time. The timing of flowering varied between trees, but generally commenced from late September to early November. Trees flowered en-masse on current seasons growth with the life of a flower between 3-4 days. From flower opening to seed set took an average of 70 days. The main pollinators observed were two species of moth (*Nyctemera amicus* and *Ceryx sphenodes*) and even a Calliphoridae fly. Seed shed varied between trees commencing in early December and concluding by late January 2013. Seeds were released from the fruit and hung by their arils (tails) on delicate threads, before being shed. Interestingly an australe cockroach (*Ellipsidion australe*) was found feeding on the apparently energy rich aril.



CAKits

Even though the trees are too young, we started to inoculate some 3 year old trees for trials in September 2012. Within 7 weeks resin was forming and showed a light Agarwood aroma when shavings were burnt. One of our buyers from Asia commented that the aroma was similar to Hainan and very close to the Vietnam aroma. A couple of the trees have now had a boost kit applied (which is not recommended due to their age and size) and we hope to cut one down in September 2013 for our laboratory to scientifically analyse for compounds. This will give us an idea if we are going to have a unique aroma for Australia, which is what we are expecting.

The results so far confirm that we can grow Agarwood in Australia.

Maternity Leave

Fleur Coakley is expecting her third child at the end of June and will be on maternity leave till her new baby is settled. Fleur will be keeping in touch with the progress of Wescorp Agarwood throughout this time.

New Appointment to Wescorp:

Jay Coakley



Jay Coakley has joined Wescorp as Group Sales Manager. Jay is Tim Coakley's nephew and has a bachelor in business, majoring in finance and economics with a minor in international business. Jay has had two years' experience with one of the largest stockbroking firms in Australia and is very interested in getting into selling *real* products that Wescorp can provide through its growing range of aromatic products.

Jay has served his apprentice time in the Canning Vale factory. He has already taken over the sales for New Mountain Merchants here and from July he will take over the sales of sandalwood.

Jay is very excited about the progress of Wescorp Agarwood plantations and is very keen to be involved as we progress to harvest.

DNA Library

Wescorp are very happy with the development of the Aquilaria DNA library. Research is well underway and we have already seen some great results. Soon we will be able to confirm the different regions in Asia that the Aquilaria seeds originated from.

The DNA Library will also make all of the Wescorp Agarwood products traceable in the future and reduce theft and illegal trade from Australia.