



Quintis – Plantation Update
June 2018

WE ARE THE WORLD'S ONLY TRUSTED GUARDIAN OF THIS
PRECIOUS SUPER-INGREDIENT, SANDALWOOD ALBUM.

1.1 PLANTATION ACTIVITIES

Our plantation management team comprises around 80 permanent and full-time employees. They are located in all our key plantation locations, which are principally in Kununurra (Western Australia), Dalbeg (Queensland) and Douglas Daly, Katherine and Mataranka (Northern Territory). The team, which comprises professional foresters, harvesting experts, agronomists, horticulturalists, researchers and agricultural and nursery personnel, report into a General Manager and Deputy General Manager who are based in Darwin.

The forestry team is highly experienced as we have almost 20 forestry staff with more than 5 years employment history of working on our unique sandalwood plantations. This team is supplemented by expert contractors who assist with select activities, such as the pruning and hedging of the trees.

The 2017-18 wet season is complete and forestry activities on the plantations are now at peak levels.

This report provides an update of recent plantation operations.

1.2 OPERATIONS

1.2.1 WEED CONTROL

Weeds are kept under control in the tractor access rows by the spraying of herbicide and by mechanical slashing. Careful applications of herbicide may be made within the tree rows, particularly when the weed species are difficult to control by other methods.



Farm 5 at Roper Plains, NT (Institutional investor, 2017 planting): After completion of slashing which reduces the weed load, improving access to the sandalwood trees, reducing fire risk and competition for water and nutrients.



Packsaddle Road plantation, Kununurra, WA (MIS, 2003 planting): The results of weed spraying (foreground) one week after application.



Packsaddle Road plantation, Kununurra, WA (MIS): Boom spraying to maintain firebreaks.



Early Storms plantation, Douglas Daly, NT (Quintis owned, 2017 planting): Post wet season clearing of weeds. The plantations are often inaccessible during the wet season, during which the weed growth can be dramatic, meaning a significant work load for the forestry team once the rain ceases.



*Douglas Daly, NT: Spear grass and weed load on a plantation that is **not** managed by Quintis.*



Douglas Daly, NT:

*Left: plantation **not** being managed by Quintis. Right: a plantation directly opposite managed by Quintis.*

1.2.2 IRRIGATION

Plantations are irrigated during the dry season to maximise tree health and growth. Water is provided by flooding the furrows between the tree rows or directly to the rows of trees by trickle irrigation.



Block D29, Dalbeg, QLD (Sophisticated investor, 2016 planting): Flood irrigation.



PSR 8A in Kununurra, WA (MIS, 2006 planting). Flood irrigation.

1.2.3 FIRE BREAKS

After the end of the wet season, vigorous weed growth dries out and can become a fire hazard. This is mitigated by slashing and mulching as soon as the soil is dry enough to support a tractor. Where a plantation adjoins native bush, the fire risk is further minimized by constructing wide fire-breaks, free of flammable material, and by the burning-off of grass adjacent to and outside the fire break.



Roper Plains, NT (Institutional investor and Quintis owned): Firebreaks and fuel reduction burning has taken place significantly reducing the fire risk.



Drovers plantation in Kununurra, WA (MIS, 2013 planting): Firebreaks fully maintained.



Taylors Park, NT (Sophisticated and institutional investors): Slasher creating firebreaks.

1.2.4 HEDGING AND PRUNING

Pruning Indian Sandalwood trees

Under plantation conditions, the bulk of the valuable heartwood and oil of the Indian Sandalwood tree is in the lower section of the bole (trunk). To maximise growth of the most valuable part of the tree, trees are strategically pruned. This is a manual exercise which requires skilled and trained operators – for example, a flawed pruning technique can compromise the health of a tree as they can be more vulnerable to disease.



Farm 12 Taylors Park, Katherine, NT (institutional investor owned, 2014 planting): Before and after pruning.



Rogers 2, Kununurra, WA (MIS, 2008 planting): Sandalwood trees post pruning.

Hedging the host species

A sandalwood plantation is typically established with three other species of trees which “host” the semi-parasitic sandalwood through to maturity. Some of the short-term host species have very vigorous growth rates – this is required to provide shade for the sandalwood when they are small and vulnerable but, if not managed properly, this growth can compromise the health of the sandalwood. It therefore becomes necessary to prevent competition with the Indian Sandalwood trees by pruning branches of the hosts. Further, the more vigorous long-term hosts may occasionally need side and top pruning to prevent them from suppressing the Indian Sandalwood trees. These operations are conducted by both manual activities and also mango-hedging machines.



*Taylor’s Park plantation, Katherine, NT (Institutional investor, 2013 planting):
Plantation Manager Brett Lacey with sided *Dalbergia lanceolaria* in the background. These trees will be topped to 4m.
They had been c8m tall which created excessive shade and competition for the Sandalwood.*



*HCJB Plantation, Kununurra WA (MIS, 2010 planting):
Hedging being carried out*



QLD plantations: Topping and hedging of the host trees.

1.2.5 PEST CONTROL

We maintain control over insect problems by undertaking regular inspections of our plantations specifically to check populations of pests. Our sandalwood trees are vulnerable to various pests, including termites and fig leaf beetles (which can defoliate the trees), and disease, such as phytophthora, and our Agronomy department seeks to manage these risks with both pre-emptive and reactive techniques.



Katherine, NT: Hyposydra Looper (at least 10)



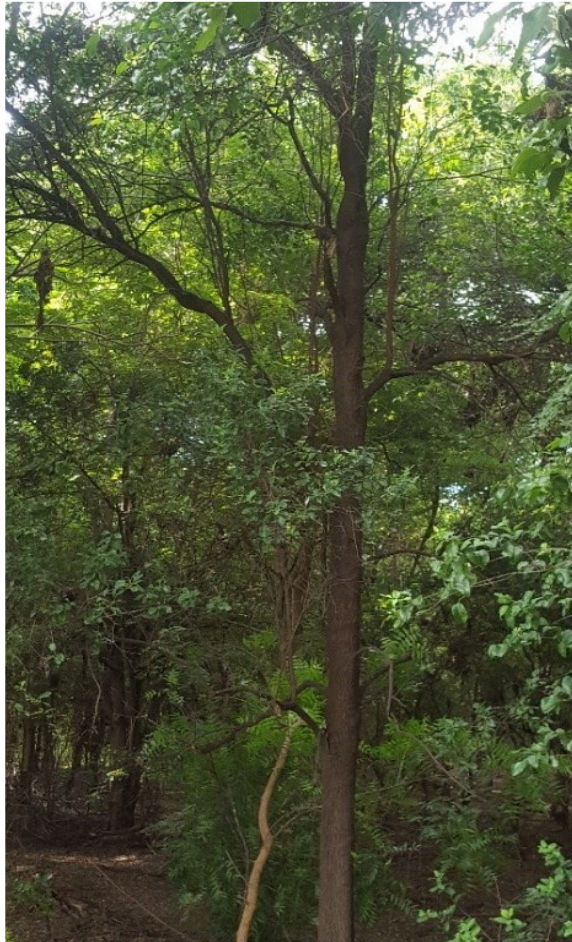
Douglas Daly, NT: Fig leaf beetle larvae



Katherine, NT: We engage a contractor to provide aerial spray to the plantations using a jet ranger to deal with fig leaf beetle outbreaks

2.1 OUR OBJECTIVE

Packsaddle Plantation, WA Kununurra:
Very tall (approx. 5m) Sandalwood trees (MIS, 2003 planting)



2.2 GENERAL



Primary Processing Centre, Kununurra, WA: Forestry and Harvest team training



*NT (MIS planted 2016 & 2017, SIO planted 2014 to 2017, institutional plantation owners and Quintis owned):
The pruning team – we use specialist contractors who we bring in from New Zealand. “We nearly had an exodus from the camp when an olive python turned up in the bathroom late last night. Kiwi’s don’t do snakes”*