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Development of an endemic sandalwood species for indigenous led forestry on Cape York Peninsula

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Acknowledge the indigenous leader's past, present and future of this land.

Aboriginal and Torres Strait Islanders are advised that the following presentation contains images of people who have died.

Sandalwood a species with a long history in the CYP

Traditional uses by indigenous peoples....

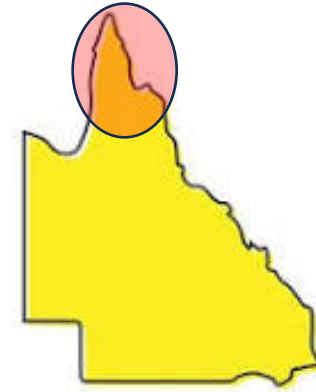
- Logs thrown on fire = mosquito deterrent.
- Bark and leaves chewed for stomach upsets.
- Fruit is edible (bush tucker).



Sandalwood a species with a long history in the CYP

Industrial uses of CYP sandalwood

- 1865 - 1937 large industry based on **wild** sandalwood harvest for export to the 'East'...collapsed due to over exploitation of resource/ban
 - Species has not recovered!



Hensel Album, Cape York Collection, Hibberd Library, Weipa

What is sandalwood used for?

Source:
[facebook.com/photo/?fbid=1633186260556036&set=pcb.3404337726528911](https://www.facebook.com/photo/?fbid=1633186260556036&set=pcb.3404337726528911)



Source: <https://www.gettyimages.com.au/>

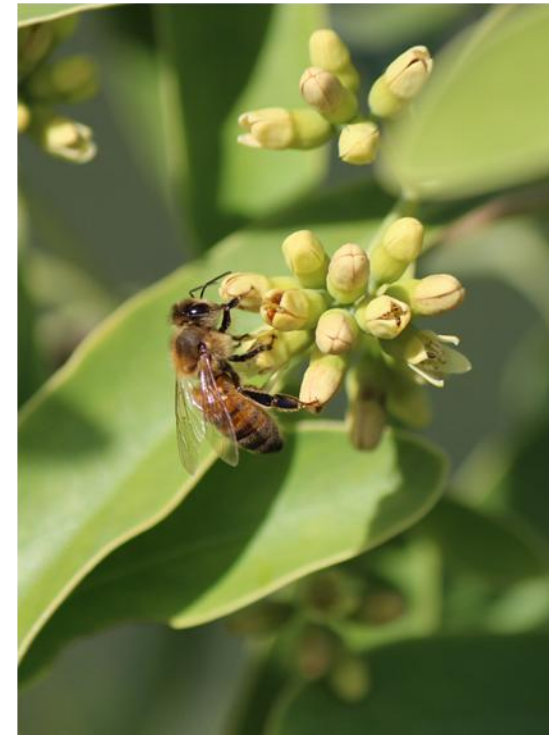


- FREE – no strings attached
- PRIOR – time and timing
- INFORMED – all the information, in the right way
- CONSENT – yes, no or maybe with conditions

Discussions held with traditional owners to get informed consent



Cape York sandalwood: conservation and capacity building



Little regeneration occurring: isolated trees and small flowers = inbred stands?

Molecular studies

Clonality

- Over 85% at Somerset
- Seisia relatively low
- Juveniles highly clonal

Subpopulation	<i>N</i>	<i>G</i>	<i>G/N</i>	<i>N_{Ra}</i>	% Clones	<i>P_{sex}</i>	<i>P_{sexNgen}</i>
<i>Adult subpopulation</i>							
Bamaga	25	2	0.080	6	24.00	<0.0001	<0.0001
Injinoo	19	2	0.105	12	63.16	<0.0001	<0.0001
Muttee Heads	12	1	0.083	7	58.33	<0.0001	<0.0001
Seisia	25	2	0.080	4	16.00	<0.0001	<0.0001
Somerset	15	3	0.200	13	86.67	<0.0001	<0.0001
mean	19.20	2.00	0.104	8.40	49.63		
<i>Juvenile subpopulation</i>							
Bamaga juveniles	19	4	0.211	12	63.16	<0.0001	<0.0001
Injinoo juveniles	20	3	0.150	13	65.00	<0.0001	<0.0001
Seisia juveniles	21	4	0.190	7	33.33	<0.0001	<0.0001
mean	20	3.67	0.184	10.67	53.83		

Grafting the wild trees after receiving informed consent



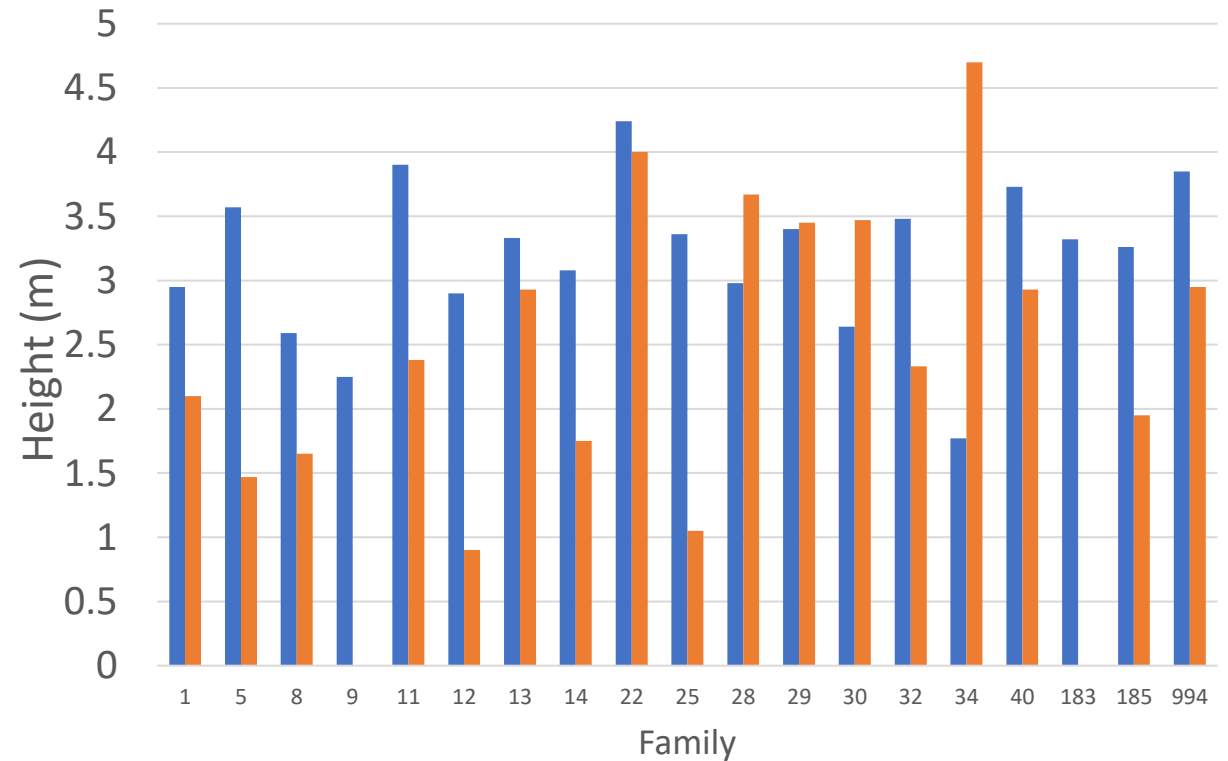
Scion material collected from wild trees



Progeny trials established in the Northern Peninsula Area



Six year mean height of sandalwood trees
experiments **26A** and **26B**



Opportunities for traditional owners and other indigenous people on the CYP

- Enrichment plantings to improve the sandalwood genetic diversity and maintain the species genetic base
- Niche plantation development
 - (Seed to products)
 - Nurseries
 - Seed sales
 - Plantation management
 - Products (wood, oil, ecotourism, carving, ...)



Risks and impediments to CYP sandalwood development

Major risks: Fire and cattle

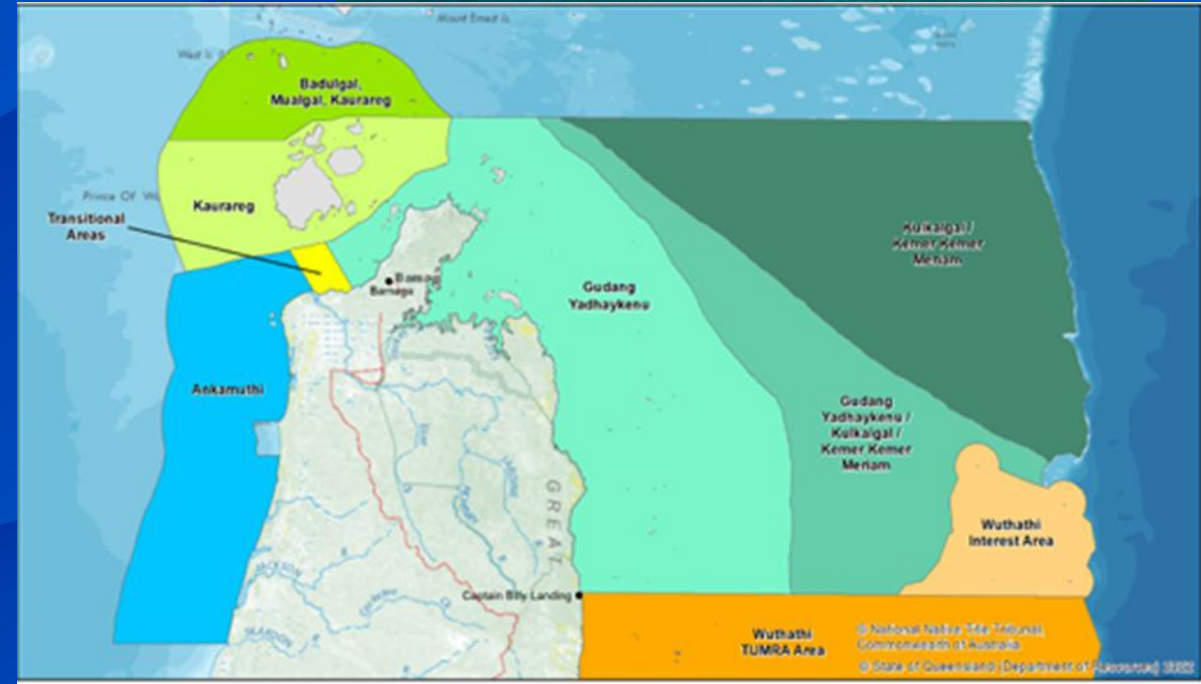


Major hurdles:

- Large scale plantings needed
 - Communal land
 - External investors.... trust needed in new partnerships
- Trials too small and young
- Lack of knowledge about the growth, wood properties and oil production
- Engagement....land hand back caused a temporary refocus within community.....

Northern Cape York has been returned to its rightful owners

Joseph Guenzler - October 11, 2022



What next with CYP sandalwood?

- Work with the traditional owners to develop next stage....larger plantings / enrichment plantings (conservation and business focus)
- Monitor the existing plantings for growth and wood quality



Acknowledgements

- Funding from ACIAR projects FST/2008/010 / FST/2014/069, FST/2018/178, DPI and UniSC.
- The traditional owners of the northern CYP particularly members of the Apudthuma Land Trust and the and the Ipima Ikaya Aboriginal Corporation RNTBC especially the Gudang-Yadhaykenu Group Meun Lifu Uncle Shorty, and Alex Wymarra.
- Staff and students at the Northern Peninsula Area College especially Harrison Atu.
- Staff of the NPARC, MyPathways and Trility Water.
- People who have assisted with previous components of the sandalwood studies in the CYP

Thank you

