

ECONOMIC ASPECTS OF BIODIVERSITY

SANDALWOOD - A TREE CROP FOR THE FUTURE

MICHAEL CUSACK has a passion for sandalwood. When he needed to replace the fence around his *Land For Wildlife* site at Moodiarup, it was suggested that he plant a buffer between the bush and farmland to prevent fertiliser and pasture seeds contaminating the edges of the bush. Michael saw this as a great opportunity to create a woodlot for the future using local timber species.

Soil types vary in the 33 m wide by 950 m long buffer from gravelly soils in upland areas to heavier loams on lower slopes. The average rainfall is 550 mm per year.

Knowing good weed control was crucial, Michael sprayed the site with simazine and Roundup® in the spring of 1998 to prevent seed set. The following year after the break of season he ripped the site with a bulldozer and sprayed again. The riplines were 4 m apart.

Michael then planted jam wattle seedlings (*Acacia acuminata*) 4 metres apart along the riplines to act as a host for the hemiparasitic sandalwood trees.

When the jam trees were one year old, four sandalwood seeds were sown 50 cm away from each jam tree (two each side of the tree) and within the ripline. The untreated seeds were planted in April and started germinating with the first rains in the warm soil.

To improve the buffering aspect of the woodlot, Michael cultivated in between the riplines and direct seeded understorey species with seed collected from the adjacent bush. Even in the dry year of 2000, prickly Moses (*Acacia pulchella*), jam (*Acacia acuminata*), one-sided bottlebrush (*Calothamnus quadrifidus*), honey bush (*Hakea lissocarpha*) and harsh hakea (*Hakea prostrata*) have germinated.

Weed control is good on the gravelly soils, although still a problem in heavier soils.

Michael is concerned that the jam trees at one year old may be killed by the sandalwood seedlings. Not all the sandalwood seeds have germinated, those that have not germinated in 2001 will be resown.

Michael believes he did things the hard way. "Good weed control is crucial. I would have been better cleaning up the area for two years in a row, then direct seeding the whole site with a mixture of understorey species including the all important jam trees. When the jam trees were two years old, I would plant the sandalwood seeds next to the strongest hosts.

"If you want to plant sandalwood seeds you have got to start four years ahead. Two years for weed control, two years to let the host plants become established and then plant your seed."

Already Michael is learning from his work and there are still more questions to be answered. Will there be enough sandalwood trees to make a profitable venture? Are there enough hosts to enable the sandalwood to reach



Sandalwood hosted on to a jam tree. Understorey seed collected from the adjacent bush has been direct seeded between the rows of the 'production trees'.

maturity? Will the jam trees reach maturity and provide timber or will they be killed by the sandalwood? Will the woody vegetation out-compete the weeds and provide a good buffer?

Michael's passion for sandalwood may provide us with some of the answers.

Avril Baxter

BUSH DETECTIVE

Who's poo?

And what's the large thing contained in it?

As you can see from the fruits, this photo was taken in jarrah forest. The scat is full of seeds. Who made it, and what is the big lump?



Ans: An emu. The large lump is a zamia seed - minus its digestible outer coating. Amazing that anything, even an emu, could swallow a zamia nut whole!