

Measuring nectar from eucalypts

July 31 2007

The effect of logging on canopy nectar production in tall forest trees has for the first time been investigated by NSW DPI researchers, with funding from the Honeybee Program of the Rural Industries Research and Development Corporation and Forests NSW.

State forests provide the major honey resource for the beekeeping industry in NSW.

While Forests NSW has a number of management practices in place to retain nectar-producing trees during logging operations, there has been no information on how much nectar is produced by retained trees or young trees regrowing after logging.

Indeed, beekeepers have expressed concern about the effects of logging on nectar production, especially the perception that young trees do not produce as much nectar as mature trees.

The two eucalypt species chosen for research, Spotted Gum *Corymbia maculata* and Grey Ironbark *Eucalyptus paniculata*, are of prime importance to nectarfeeding wildlife, the timber industry and beekeepers.

Using cranes and cherry-pickers, flowers in forest canopies over 30 metres high on the NSW south coast were accessed. Nectar in flowers bagged overnight was measured to determine how much nectar they produce.

Both large and small trees were measured in forest with different logging histories: recently logged, regrowth and mature (more than 50 years since logging).

After measuring thousands of flowers, the study concluded that nectar production in Spotted Gum on a per flower basis was not affected by logging history nor tree size.

When the amount of nectar produced by whole forest stands is estimated on the basis of individual flower measurements and counts of flowers and trees, the study found that mature forest produced almost 10 times as much sugar per hectare as recently logged forest.

However, because current logging practices result in a mosaic landscape, where some areas are logged and others are left untouched, the impact is far less.

An estimate of nectar production at a 'compartment' scale found a recently logged compartment produced half the amount of nectar as a compartment of mature forest.

Most importantly, nectar was not a limited resource in 2005, when the research was undertaken, as extensive flowering was recorded across the south coast.

The study surveyed local beekeepers with questionnaires and found that honey yields in 2005 were extremely high: a typical 1000 hectares of spotted gum forest flowering from April-August yielded five tonnes of honey.

Honey productivity was found to be comparable across the three different logging histories: recently logged, regrowth and mature. But not every year is as good as 2005, with flowers measured in 2003 providing

a strong contrast.

Few trees were in flower and nectarivores, especially birds and honeybees, left virtually no nectar behind by mid-morning.

Beekeepers reported that hive bees were not producing honey under these conditions.

Results for grey ironbark showed similarities to spotted gum with regard to the impact of logging, but the species differed markedly in other aspects of nectar production.

The results of this study will help promote sustainability by raising the awareness of forestry organisations about the importance of the nectar resource for native fauna and honeybees and that of beekeepers about current forest management.

Source: New South Wales Department of Primary Industries

Citation: Measuring nectar from eucalypts (2007, July 31) retrieved 6 May 2024 from <https://phys.org/news/2007-07-nectar-eucalypts.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.