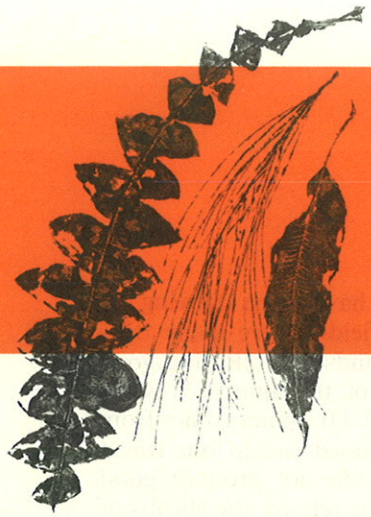

INFORMATION SHEET 30

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HONEY PRODUCTION

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The first honey bees were introduced into Western Australia in 1846. They had previously been established in New South Wales in 1822 by importations from England. By 1873 there was one large bee farm at Guildford, a few miles up the Swan River from Perth, and by 1881 there was a surplus of honey for export, 16 cases of Swan River honey being sold in London. Commercial beekeeping began to develop in the last decade of the nineteenth century. The Smith brothers, from their base at Bakers Hill, began migratory beekeeping with horse-drawn vehicles in 1896, with the jarrah forest and the wandoo woodland at hand. The Cook cousins, who had obtained experience of beekeeping earlier in New South Wales, helped the Smiths and later developed their own apiary at Toodyay in the Avon Valley. Today the Cook family are still leading beekeepers in the State.

Honey production begins when bees visit flowers, collecting nectar in their honey stomach and pollen in the pollen baskets on their hind legs. Pollen and honey are used for feeding young larvae and adult bees. When there is an abundance of blossum the bees collect a surplus of honey which is stored in the combs above the brood nest. It is this surplus honey that the beekeeper removes from the hive. When a field bee or nectar gatherer returns to the hive with a load of nectar she performs a dance to indicate the source of nectar so that other bees are directed to the blossum. After performing her dance she then transfers the nectar load with her tongue to the house bees who store the "unripe"

BEE HIVES IN THE KARRI FOREST

honey in the cells. Here moisture is lost by evaporation. The overall reduction of moisture from 70 per cent to 20 per cent or less plus the addition of enzymes converts the nectar to honey. When the honey is ripe the bees cap the cell with a thin layer of wax.

The average productive hive contains some 50000 bees of which approximately 25000 are actively engaged in collecting honey and pollen. It takes 300 bees 3 weeks to gather 1 lb. of honey. When the combs are full of ripe honey the beekeeper removes them from the hive. The honey is extracted by first cutting off the thin wax cap which seals the ripe honey in the cell. The uncapped frame of honey comb is then placed in the honey extractor which employs centrifugal force to spin the honey out of the cells until the frame is empty. The comb is then placed back in the hive for the bees to use again. The extracted honey collects on the walls of the extractor drum where it is gently heated to aid the straining process in the honey reservoir. From the honey reservoir the warm honey is pumped into 200 litre drums ready for market.

Commercial beekeepers produce honey over a wide area of the State moving their hives from honey flow to honey flow. He migrates his hives from as far north as Geraldton for the winter and spring honey flows on the coastal wildflowers and banksia woodlands, to the jarrah, marri, wandoo and karri forests of the South West. In more recent years beekeepers have been moving to honey flows in the Goldfields where many trees and mallees flower in abundance following good rain. The major portion of the annual Western Australian honey crop of 2500 tonnes comes from the eucalypt species contained within our forest areas. As some eucalypts do not produce good quality pollen, bees have to rely on the shrubs of the understory to provide this. Without pollen bees cannot build up and maintain hive strength, which ultimately reduces honey production.

There are some 800 beekeepers in Western Australia, of whom 700 own less than 100 hives. The commercial apiarists, of whom there are about 100, each have more than 100 hives of bees. In general, the most successful have more than 400 hives. A beekeeper with 400-500 hives would produce an average of 135 kg per hive in one year. The Australian honey production record is held by a Western Australian beekeeper who produced an average of 357 kg of honey from each of 400 hives in one year. This indicates the value of our wild flowers and forests to the beekeepers. Honey production in some areas offers such valuable returns that it appears imperative that certain virgin land should be left principally for beekeeping. In return for man's tender care of the bees, the bees themselves provide a wonderful service to mankind. Pollination of plant life provides man with a continuing cycle of fertility and growth. The honeybees contribution in this field is something of a phenomenon.