KARRI SEED HARVESTING FOR REFORESTATION

by O.W. Loneragan

Methods of harvesting karri nuts are being investigated to increase seed availability and reduce costs of collection when seed is available in greatest quantities. Collection is cheapest during the prime seed years. These occur at irregular intervals of between four and thirteen years. Previous to the present prime crop, 1956 was the last prime year.

Two hundred million seeds are the annual requirements of the Department for seeding karri forests following trade cutting. Foresters during treemarking retain adequate seed trees so that seed supply is no problem during an average seed year. Four years, however, is the length of the floral cycle to produce ripe seed from bud inception. Artificial sowing, therefore, is required to keep forest areas fully stocked in those years when the trees are in bud or blossom and carry too lean a supply or no seed for natural seeding or regeneration.

Two years in three is the average occurrence between seed years when artificial regeneration may be required. Two hundred million seeds per thousand acres of prepared seed bed are the annual requirements in these years simply by broadcasting the seed for reliable establishment at a plant percent of 0.5% or 1,000 seedlings per acre. Seeding per acre requirements in karri forest sites are 50,000 strongly viable seeds on a good site, 100,000 on an average site and 150,000 on a prepared poor quality site. The annual requirements are calculated for seeding rates on the poor sites to achieve overall success in the regeneration of karri. This is 100 times the number of seeds required by planting out seedlings from a nursery. Aerial seeding requirements with new techniques in grading and pelleting the seed will lie somewhere between these extremes.

One ton of two million karri capsules yields 10-15 pounds of pure seed, or a minimum of three million seeds or three seeds per two capsules. Therefore about fifty tons of capsules for full scale artificial operations between seed years during one decade will provide the calculated total requirements by improving the plant percent from 0.5% to 5.0%.

Hand methods of collection have been carried out so far in the summer, and one man collects about 10,000 capsules per hour. The fruiting branches are cut from freshly felled trees and the foliage is trimmed off them. They are dried out either in the bush or put into bags and taken to headquarters. Drying in the sun consists of making a loose heap of the branchlets and capsules on a tent fly for 2 or 3 days, then shaking the capsules and sieving out the seed together with the inert material called chaff.

For the large quantities of seed required, automatic methods of capsule harvesting, curing and extracting seed are necessary. Mr. Max Finch of Manjimup donated an old harvester for testing initially the possibilities of collecting the capsules. The suggestion was made by his son, Steve, when employed on seed collection during the school vacation. Modification and testing of this 60 year old harvester by Workshops showed that bagging of capsules is eighteen times the

work rate of the hand methods. The harvester also collected twice as clean a product, which comprised 73 percent of green capsules compared with 35 percent of the material bagged by hand. Improvements in product purity were sought and achieved by both methods. Stripping by hand provided 90 percent capsules but took a disproportionately longer time to collect than before. The latest improvement through the machine raised the proportion of capsules to 82 percent. Valuable guides from the test have been obtained of the requirements in a modern harvester for collecting karri capsules. Further developments also will be tested to make the best use of the available seed source. These include the provision of drying facilities and automatic extraction methods for collections in the winter time.

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NANNUP GOLF DAY

Elsewhere in this issue is an entry for the Golf Day to be held at Nannup on Sunday, 13th August. The Day is open to all Staff of the Forests Department, their wives and children.

Events will be :- 18 hole stroke for men

9 hole stroke for women

You are expected to provide yourselves with a picnic lunch; Nannup will provide afternoon tea and a barbecue after the game.

Remember, you don't have to be a player to attend!!

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