POLLEN DRIFT STUDY AT MUNDARING WEIR

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A seed orchard consisting of elite trees is one of the most important factors by which the future pine plantations can give an increase in the timber quality and yield.

To select suitable locations present several difficulties when dealing with Pinus radiata:-

Rainfall should exceed 30" per annum

Soil should be a well drained basic loam

The site should be at least 20 to 30 acres in size and within easy distance of H.Q. to facilitate administration.

Finally the orchard should be in an area free from cross pollination from established plantations.

Selected possible locations at Mundaring Weir were tested during the month of August, when at the peak flowering of Pinus radiata.

The traps consisting of a guard to keep out rain, but permit a free flow of air, were placed 2'6" above ground level in clearings.

Pollen was caught on an aluminium slide with 5 x $\frac{3}{8}$" holes giving a receptive area to pollen of approximately .55 inches. Slides were covered on both sides with protective cellulose adhesive, to protect the entry of dust particles during transport from and to the site. On arrival at the site one layer of adhesive was removed and the slide left in the trap for a period of one week. At the end of the week the slide was covered with a layer of cellulose adhesive and a new slide was placed in position. These tests were repeated four times, after which the slides were sent to the Research Branch for a count of pollen grains attached to the adhesive.

Results are given below:

Trap No. 1 - 40 chains on S.S.E. side of pines
Trap No. 2 - 120 chains on S.E. side of pines
Trap No. 3 - 40 chains on E.S.E. side of pines

Date When		No. of Pollen grains			Prevailing Wind
Exposed	Covered	No. 1	No. 2	No. 3	
7/ 8/63	13/ 8/63	1,325	327	99	North Westerly
13/ 8/63	22/ 8/63	111	46	83	Westerly
22/ 8/63	29/ 8/63	15	Nil	5	West-South-West
29/ 8/63	4/ 9/63	92	14	19	South Westerly

It is apparent that an increase in pollen grains during the last week of the test are caused by the flowering of the Lieira strain of Pinus pinaster.