STRATIFICATION OF YOUNG PINE PLANTATIONS BY HEIGHT CLASSES

by

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Until 1965, site quality assessments were carried out in softwood plantations and the subsequent maps used as an aid in planning a works programme. Unfortunately their useage did not justify their cost of production and use of Working Plan's strata maps has not proved successful. With a definite need for some form of quality stratification in large plantations a simple method of height stratification has been devised in the Wanneroo Division with the resulting maps aiding in:

i) deciding which areas are ready for pruning and non merchantable thinning. (i.e. about 16 feet)

ii) programming the above operations for the following two or three years.

METHOD OF STRATIFICATION

With the majority of the Wanneroo Division plantations being flat and very gently undulating, 4 x 4 vehicular access is unimpaired and consequently all five to six year old plantings can be readily toured. For our height stratification the plantings were assessed along extraction tracks at 4 chain intervals. With extraction tracks at a 1 chain interval and cross tracks every two to ten chains the intensity of the assessment can be varied to give greater or less precision. Our initial interval of 10 chain appeared to be too wide while the 2 chain interval was too close, giving the same results as a 4 chain interval.

To measure heights, a 20 foot height pole (2 x 10' sections) was affixed to the front bumper of a Willy's 1 ton utility, using a 4' support post similar to that used on the aerial burning marker vehicles to support their aerials. This height pole was painted the different colours coinciding with the height class colours used on the final map which are:

20' and over - green
16' - 20' - blue
12' - 16' - red
12' and less - yellow

Recent aerial photographs provide an ideal means of recording the height classes as each extraction track and cross track is readily visible. The height classes are recorded continuously along each assessment line using coloured chinagraph pencils to coincide with the height class colour code. The height class boundaries are then drawn in and transferred to an F.D. 10 chain plan.

The recorder found that standing on the tray of the utility and resting on the cabin roof was the most convenient way to observe the tree height and his standing position minimised any error due to parallax. A counter was used to count the cross tracks and the photographs were filled in at each height class change or as required.

RATE OF ASSESSMENT

The rate of assessment is determined by the assessment line interval and with a four chain interval, our two man crew (recorder and driver) mapped approximately 500 acres per day (6 hours of assessment). The assessment vehicle could comfortably cruise along the extraction tracks at about 5 m.p.h. and the recorder had little trouble maintaining his balance while leaning on the cabin (and wearing a safety belt).

CONCLUSION

This assessment provided an accurate and low cost method of stratifying young Pinus stands and it is assumed that the height classes obtained will remain as such for many years and can thus be used to programme high pruning and subsequent thinnings in the ensuing 10 years as well as the more immediate low pruning and non merchantable thinning.