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Abstract

Using OAF1 estimates to rank areas for supplemental planting

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Supplemental planting (planting trees into areas of low stocking within young stands)—also known as fill-planting, blanking, or beeting—is a common silviculture practice. This extension note describes a method to rank areas for supplemental planting based on the yield gain expected from the treatment. The method uses a modified Type 1 Operational Adjustment Factor (OAF1) survey and yield estimates from the stand growth model called TIPSY (Table Interpolation Program for Stand Yields). OAF1 is a TIPSY input parameter that reduces predicted yield to account for small stocking gaps in the stand and other yield-reducing factors. The procedures for the survey method and subsequent runs of the TIPSY computer model are briefly described. The method is evaluated by comparing it to a review of the supplemental planting literature and to results obtained from the stand growth model TASS (Tree and Stand Simulator), as well as by testing it in the field.

The literature on supplemental planting indicates that the survival and growth of fill-planted trees increases as gap size increases, the size of pre-existing trees decreases, and the height growth rate of fill-planted trees increases. Limited comparisons to TASS suggest that when large differences in predicted gain separate the alternatives (e.g., differences = 10 m3/ha), both TASS and the new ranking method order the alternative fill-planting opportunities similarly. However, when the differences in predicted gain among alternatives are small (e.g., < 10 m3/ha), the rankings differ. In addition, when the predicted gain is less than or equal to 20 m3/ha, the new ranking method overestimates the yield gain from supplemental planting.

The method was field tested in 1998 and 1999 when Lignum Ltd. implemented the procedure to help rank areas for supplemental planting on cutovers naturally regenerated to lodgepole pine near Williams Lake, B.C. A field review of the method担 performance concluded that it made a useful contribution to the problem of ranking areas for supplemental planting. However, this method does not provide all of the information required to make a good prescription for supplemental planting. To achieve success with supplemental planting, silviculture prescription writers must select optimal stands and sites for treatment and utilize appropriate species, stock types, and planting procedures.

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