

## MWP – Young Researcher Abstract 2026

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| <b>Project title:</b> Effects of juvenile stand management on yield and net present value in pure and mixed forests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
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| <p><b>Abstract</b> (approx. 200 words):</p> <p>Nordic landscapes are typically dominated by single-species conifer forests. Such ecosystems are characterized by low biodiversity and provide few ecosystem services. Especially under changing climate, monocultures are vulnerable to disturbances. To increase tree species diversity in commercial forests, using naturally emerging admixtures of broadleaved trees has been suggested as a solution. Controlling naturally emerging seedlings is an important aim of juvenile stand management (JSM).</p> <p>To assess how different JSM regimes affect the yield and net present value (NPV), six different management regimes with varying intensity were simulated using two different decision support systems (DSS): Heureka and Motti. Heureka is widely used in Sweden whereas Motti is used in Finland. Different managements were simulated for fertile spruce-dominated forest with three different birch admixture proportions: 0%, 25% and 40%.</p> <p>Increasing the admixture proportion generally reduced yield and NPV (3% interest rate) in both DSS's. Both DDS's predicted highest harvested yield with fairly unintensive management. Similarly, unintensive management resulted in highest NPV due to the small early costs and similar log yield compared to more intensive alternatives. Results suggest that JSM affects yield and profitability and an increase in birch admixture will reduce the logging revenue. However, the reduced risk of damage might compensate for the reduced profitability.</p> |                                          |
| <b>Key words:</b> Mixed forests, Juvenile stand management, Forest management, Simulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |