

## A ROBUST MULTIOBJECTIVE FOREST MANAGEMENT MODEL WITH UNCERTAIN WEIGHTS

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### **Abstract**

Defining weights in a multi objective optimization framework is a difficult task, especially when many actors are involved in the decision-making process. We show a robust version of a multi objective forest management problem in which the weights are not known with certainty, but are defined as a continuous range of possible values. We tested the model in a multi period problem with two objectives, in which the objective weights were simulated, and show that robust decisions produced more stable outcomes through the planning horizon than deterministic ones when weights may change over time.

**Keywords:** forest planning, multi objective, weights

**Area OA:** otras aplicaciones en PO

**Title: Optimal lumber production planning under uncertainty**

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**Abstract:**

Lumber production planning is critical to make a sawmill profitable. Uncertainties in the recovery factor of the raw material typically affect the amount of product obtained and translate into higher costs when minimum demand constraints have to be met. We present a robust linear optimization model that considers uncertainty in the recovery factor, and compare it with a traditional deterministic model.

**Keywords:** sawmill production, uncertainty, robust linear model