TimberNav

TimberNav is an application for the optimization of log class boundaries, sawing patterns and product outcomes. TimberNav uses statistical methods and linear programming to forecast and keep track of log classes, settings and product outcomes. TimberNav can also optimize the value of the sawmill’s produced lumber by determining appropriate sawing patterns and/or log class limits, and by optimizing settings according to customer requirements.

What do you get out of TimberNav
Product outcomes for different time horizons
-- Select the timber distribution, e.g., monthly or annual amount of log batches. You can work with any number of distributions and you can quickly switch between different time horizons.
• Calculate the impact on the product outcome depending on changes in:
  -- Log classes
  -- Sawing patterns and the distributions of different sawing patterns in log classes
  -- Product pricing
By testing and changing, you can predict what volumes and values will result under varying circumstances.

Value optimization of product outcomes
TimberNav can also optimize the value of sawmill product outcomes.
By adding the desired minimum and maximum volumes for different products, the program can optimize the total product value based on the given conditions. This may, in a first step, be done by letting TimberNav select the best combination of sawing patterns for your log classes.
If you want to go further, you can let TimberNav change the diameter boundaries of log classes to see if this leads to additional value improvement. By using TimberNav’s optimization function you can optimize both the log classes and the product outcome of your sawmill.

How it works
TimberNav is a standalone desktop application that uses the sawmill’s own data about logs, sawing patterns, timber distributions and product volumes to create forecasts and optimize production settings.

Raw data on an appropriate number of logs, 4000 to 8000, is collected using the 3D scanner at the log sorting station or at the saw intake. Based on this data, sawing simulations are done over the whole batch of collected logs using a number of different sawing patterns for each log. You can use your own sawing simulation software if you have one or ask us to do the sawing simulations for you. All data is stored in a database and used for the production optimization. Finally, by applying linear optimization, the combination of log classes and sawing patterns yielding the highest value of sawn goods and meeting all production demands is found.

TimberNav is developed in cooperation between WoodCenter North, a research organisation including many of the major sawmill companies in Sweden.

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