

FSTY-405 — Lab 1

Growth model use

Name:

TADAM is a relatively simple whole-stand growth model (<http://forestgrowth.unbc.ca/tadam>). We shall use the Interior-spruce version, TADAM-s. The objective of this lab is to see the operation of a dynamic model, review growth definitions, and practice finding your way around unfamiliar software.

Answer the questions and complete the required info. Return for marking.

1. Site index is a measure of site productivity. Use a value $14 + x.y$, where xy are the last two digits of your student number. E.g., 240025325 \rightarrow 16.5.

Site index:.....

2. Start the program. Note that the state variables (defining the current state of the stand) are top height (HT), trees per hectare (TPH), and basal area per hectare (BA).

Begin with a 25-years-old stand which has 1200 TPH and 3 m²/ha BA. Let the program calculate the estimated height (leave the “time gain” at 0).

Help for each dialog window is available by clicking on the ⓘ at the top-right corner. General help is under *Info* in the *menu*, shown by clicking on the program name or on the bottom-left round icon.

3. The projected state at age 55 is:

HT =.....

TPH =.....

BA =.....

Calculate (by hand) the total volume periodic annual increment:

PAI =.....(m³/ha-yr), and the total-volume mean annual increment (at age 55):

MAI =.....(m³/ha-yr).

4. Remove (thin) half of the trees (let the program estimate the basal area removed). What merchantable volume was obtained? What happens to the dbh? Why?

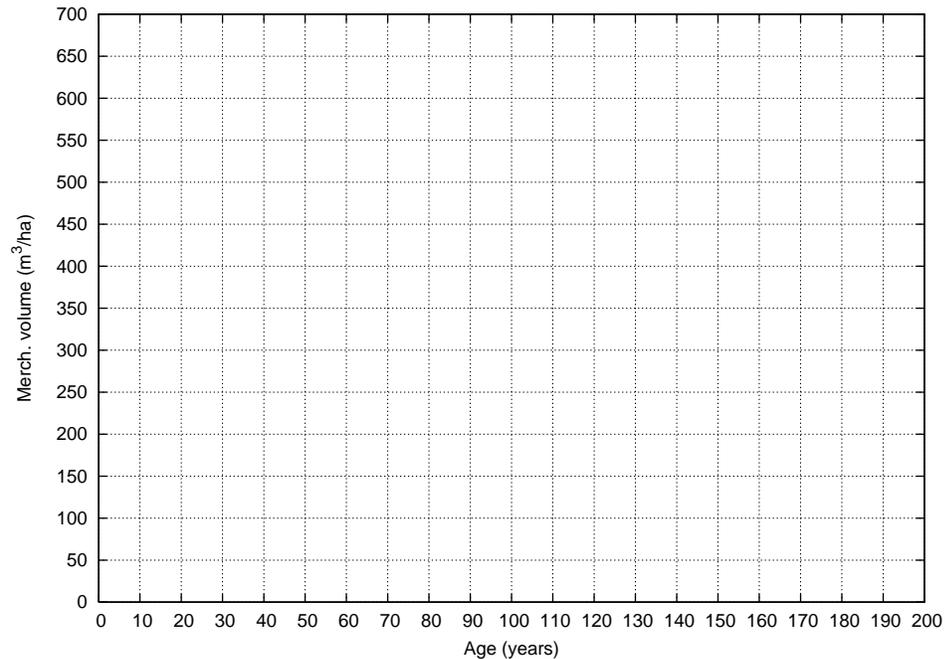
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- Continue the projection with steps of 3 m of height, until HT reaches or exceeds 25 m. Final age, height, and average spacing? (see “Show details” in the menus)

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- Set the limit dbh for merchantable volume to 17.5 cm (menu **Info** → **Preferences**)

Generate a yield table for an unthinned stand planted at 1200 sph. with intervals of 20 years (start age = HT = BA = 0). Graph merchantable volume *vs* age:



- For the initial conditions of point 6, find the maximum merchantable volume MAI (limit dbh 17.5 cm), and the age at which it occurs (± 10 yrs):

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Same, starting with 2500 TPH:

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Is this as you expected?