

## FFT Genetic Resource Management Program 2020-2021 SWTIA Approved Projects

### SWTIA 2020-1

Project	Collection of DNA and phenotypic trait data to enable development of a genomics-assist
Approved Funding:	\$12,000
Description:	The proposed project will measure growth and wood quality traits and conduct DNA sequencing for black spruce in the Lake Nipigon West (LNW) breeding program. This base data is critical to enable development of genomics-assisted breeding programs for black spruce in northwestern Ontario.

### SWTIA 2020-2

Project	Measure Wabigoon second-generation elite progeny tests
Approved Funding:	\$10,000
Description:	This project is proposing to measure the Wabigoon breeding zone, second-generation black spruce elite progeny tests to provide information to guide future selection. A silviculture contractor will be contracted to measure total height in the second-generation control-pollinated, elite progeny tests.

### SWTIA 2020-3

Project	Measure a jack pine progeny test using Lidar
Approved Funding:	\$5,000
Description:	This project is proposing to measure the Lake Nipigon West (LNW) jack pine breeding zone, second-generation open-pollinated progeny test at Carson Creek using Lidar (light detection and ranging) imaging. The project will be conducted with the Faculty of Natural Resources Management (NRM) at Lakehead University (LU) and will use Lidar imaging, along with other imaging and geographic information, to identify and measure height of test trees to generate data for use in future analyses to guide selection.

### SWTIA 2020-4

Project	Grafting for the LNE black spruce second-generation clonal orchard
Approved Funding:	\$35,000
Description:	This project is proposing to produce grafted stock from elite selections to establish in the LNE black spruce second-generation clonal seed orchard located near Longlac, Ontario. The proposed activities will include 1) growing root stock, 2) storing root stock, 3) collecting scions (branch tips) from elite selections in the progeny tests, and 4) graft scions on to root stock in a greenhouse and grow.

**SWTIA 2020-5**

Project	Rogue the LNE jack pine seedling seed orchard
Approved Funding:	\$38,000
Description:	This project is proposing to complete rogueing in the Lake Nipigon East (LNE) breeding zone, first-generation Appendix Lake jack pine seedling seed orchard to retain trees ranked in the top 25% based on family and individual breeding values. The proposed rogueing of the Appendix Lake orchard will complete the orchard rogueing that was initiated in 2018 and will enable the orchard to produce genetically-improved seed for use in tree planting operations on Crown land in the Lake Nipigon and Kenogami forests within the LNE breeding zone.