

Breeding Cycle of Jack Pine

Test sites, or "family tests" were established in the mid 1980s. The trees were allowed to grow naturally and were measured periodically for total height. This data was then analyzed and the fastest growing trees were chosen to be a part of the breeding program.



A naturally occurring hormone is injected into the trees to encourage the trees to produce more seed bearing "female" flowers. This is done in mid-July at the time when the following years buds are forming.

Each Jack Pine tree produces male and female flowers. The male, or pollen flowers, are located on branch tips of the lower branches of the trees. The female, or seed flowers, are located in the upper branches on younger and more vigorous shoots.



Trees at some tests sites are too tall to be accessed with orchard ladders. These are carefully tied over in order to gain access to the flowers. The trees are "released" as soon as the breeding work is over and there are no ill effects to the trees.

Pollination bags are placed over the female flowers in order to isolate them from dispersing pollen. This will insure that only the pollen selected for each tree will pollinate the flowers. A coil is inserted into the bag to keep it inflated while on the tree. Each tree may have up to 10 bags.



Pollen flowers are picked just prior to ripening. The flowers are collected into paper bags and sent to the Lab for processing.

The selected pollen is then dispersed into the pollination or isolation bag. Care is taken to ensure that pollen reaches all of the flowers inside the bag. Methods of delivery include a brush and vial set, atomizers, and syringes.



Jack pine cones take 2 years to reach maturity. In the spring of the first year, that cones are the size of grapes and will grow during the second summer to resemble the easily recognizable mature cone. Each cone has the potential to produce up to 80 seeds, however, the average yield per cone is approximately 27 seeds. The cones are ready to be picked in September of the second year.

Northeast Seed Management Association
P.O. Box 730
Englehart, ON
Canada P0J 1H0

