

FOREST GENETICS PROBLEMS NEEDING STUDY
IN MICHIGAN - MINOR PRODUCTS (MAPLE SYRUP)

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The first work on improving maple at Michigan State College started when an anonymous donor, interested in bird's-eye maple, gave funds for research to determine the cause of bird's eye in sugar maple. Professor Hewitson of the Horticultural Department and I conducted this research. Scions and cutting wood from sugar maple trees with identified "bird's eye" were secured from trees on the campus at East Lansing and from the Lake States Forest Experiment Station branch at Dukes, in the Upper Peninsula of Michigan. The cuttings and grafts which were made the first year were a complete failure.

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In the second season of this project, sugar maple seedlings were potted and forced in the greenhouse, and an equal number were lined-out in nursery rows. Bud grafting, using buds from sugar maple carrying the "bird's eye" were made on the lined-out and greenhouse-grown root stocks. Many of the bud grafts were successful, but war activity, together with exhaustion of the funds, stopped further progress.

The production of maple syrup and sugar is an important crop from our farm woodlots in Michigan, Wisconsin, and Minnesota, as well as in the New England States. The gross value of the 1952 crop for Michigan was approximately one-half million dollars. Michigan, Ohio, and New York have demonstrated that a sugar bush owner may earn \$0.60 to \$3.50 per hour in his sugar bush, depending upon the sap season.

There has been no outstanding labor-saving device or mechanical equipment developed during the past period of rapid increase in labor costs which will balance the lag in the increased selling price of maple syrup. For example, it was long a common practice to pay a laborer for his day's work in the sugar bush with one gallon of syrup. Maple syrup is selling for \$5.50 to \$6.00 per gallon, and operators cannot hire labor for \$6.00 per day to work in the sugar bush. Therefore, a logical way to meet these labor costs is to boil only sap of high sugar content.

The sugar content of sap from maple trees usually varies from 1.5 to 4.0 percent by weight, although it has run as high as 7 percent in a tree found in New Hampshire. Sugar maple wood, of course, is in continuous demand by the furniture industry. For these reasons there is great need for the selection and breeding of new strains of sugar maple trees which will produce high quality lumber rapidly and at the same time produce sap of a high sugar content. Such a hybrid or selection will do more to encourage the maintenance and improvement of the maple farm woodlot than nearly any other forestry program we can offer the farmer.