

Computers used to improve potato breeding

Agriculture Canada scientists are using computers in a continuing program to produce improved potato varieties.

"Because of the vast amounts of information we collect in our potato breeding program, we need a fast system for analyzing and retrieving data," explained Don Young, program leader for the potato breeding program at Agriculture Canada's Fredericton, New Brunswick research station.

This led Dr. Young to turn to the computer for assistance. Since 1968, he, along with his colleagues at the station and at Agriculture Canada's Engineering and Statistical Research Institute in Ottawa, have developed a comprehensive computer program.

The program provides a printout on any potato strain, or line, in the form of a fieldbook. Included in the information are 83 different characteristics, ranging from yields, top vigour, maturity, and the ease of mechanical digging, to the specific qualities of the potato when it comes to processing.

Information on the disease resistance

of different strains is also included. This covers late blight, common scab, blackleg, wilt, leaf roll and other viruses.

Another part of the federal program is an inventory that keeps track of all types of seed currently in stock at the station. "This permits the breeder to confirm that the seed of the particular parent he wishes to use is available," said Dr. Young.

Forty traits possible

With the computer, it is possible to design a potato breeding program more effectively. A researcher can list up to 40 desirable qualities he wishes in his parent strains.

"When you realize it takes up to 15 years to develop a new variety after the original cross has been made, it is evident that keeping manual records is impossible," said Dr. Young.

Also, the scientists have more than 60,000 seedling lines to choose from. "With the computer, we can develop better varieties for the potato industry in less time," said Dr. Young.

Lending productivity a hand

Several Ottawa companies have banded together to form a consortium that will help increase Canadian productivity

The CAD/CAM Centre, as the consortium is called, is intended to boost productivity in Canadian businesses — from architects to clothing manufacturers — on the idea of boosting productivity through computer-aided design (CAD) and manufacturing (CAM).

The centre will be involved in consulting services, training and research and sales of Canadian-made computer equipment. The centre is the idea of scientist Woodie Carroll, president and founder of CAD/CAM Graphics Systems.

Along with Carroll's firm, which specializes in computer-aided design services, four other small Ottawa companies have already joined the consortium: Phoenix Automation, CAD-TECH, Poyton Vector and Innovation Technologies. Together they employ about 100 people, many of whom will be involved in the centre's work. The firms will all continue to operate separately but will share joint ownership of the CAD/CAM Centre.

Playground for disabled children

An Ottawa school for disabled children has had a playground built, geared to the special needs of these children.

The playground was built by mentally and physically disabled adults for the John Butler School, which teaches communications and self-sufficiency to 32 severely mentally and handicapped children. It is the brainchild of Joe Silverman of the Young Adult Training Centre in Ottawa and Larry Arpaia, supervisor of the school.

The playground has gentle slopes for scooters, hills for rolling — a skill which develops flexibility — steps at different heights so children can practise co-ordination and swinging hammocks.

There is also a wide slide that allows space for a teacher to accompany a child, sandboxes high enough for children who are in wheel chairs or who are propped up against standing boards, and a mixture of sand, grass, wood and asphalt textures for children who are blind or deaf. The playground is also open to any child in the neighbourhood.

The 1,000 pieces of the playground were each measured, cut, sanded and varnished by about ten adults indoors during

the winter. "I had to teach them how to work together: how to read the diagrams and model, how to measure, how to use the power tools, how to sand and file, and how to assemble the pieces," said Mr. Silverman.

"The structure is proof that handicapped people can build playgrounds. If given the opportunity, they can build additions to homes, cottages, whole houses and then, perhaps, even cities," said Mr. Arpaia.



The playground at the John Butler School was built by disabled adults.