

Food Pack International 68 attracted exhibitors from all parts of the world, each vying for a portion of the British consumer's weekly food budget. The Canadian exhibit also showed how research in Canada was discovering new crops, helping farmers grow new and better foods, and assisting industry in developing better processing methods.

The Canadian exhibit, a 1,200-foot square education centre, constructed by the Canada Department of Agriculture's Research Branch, featured the story of rapeseed, Western Canada's "Cinderella" crop.

Another product, so new it is still nameless, is a combination of applesauce and other fruits, dehydrated and packaged as flakes, which can be used in various ways to make desserts and dessert toppings.

Consumers lined up to drink free samples of "Opalescent" apple juice, to taste frozen apples baked in the micro-wave oven, and to try "Golden Delicious" applesauce.

SOUND DETECTS WOOD FLAWS

A method for locating defects in wood through the use of high-frequency sound waves has been investigated by the National Research Council of Canada. The work was conducted by Dr. David Makow of the Photogrammetric Research Section of NRC's Division of Applied Physics following an inquiry by MacMillan Bloedel Limited of Vancouver, British Columbia, the giant Canadian pulp, paper and lumber complex.

Defects in wood such as knots, rot, shakes, or pitch, impair its strength and lower its value as building lumber. In many cases, and especially with thick lumber, it is difficult to detect defects of this kind by visual inspection.

Dr. Makow studied the use of pulsed "ultrasound" as a possible method for the detection of defects. The method was successful under controlled laboratory conditions. Considerable interest in Dr. Makow's findings has been expressed by the industry in view of possible applications.

One important application would be a method permitting detection of defects in virgin timber as it was moved into the sawmill. If defects could be pinpointed rapidly, it should be possible to orient logs for the most economical cutting.

TYPE OF EQUIPMENT

The equipment used for the experiments in the laboratory consisted of a small tank of water, an ultrasonic transducer, a transmitter and receiver and

an oscilloscope used in previous projects. Samples of wood supplied by the lumber company, which measured about eight inches by five inches by one-and-a-half inches, were placed on the foam-padded bottom of the tank.

Pulses from the ultrasonic transducer at a carrier frequency of one million Hertz (cycles a second) were transmitted through the water into various parts of the wood sample. Echoes reflected from interfaces inside the wood having dissimilar density and compressibility were returned to the transducer, amplified in the receiver and appeared on the oscilloscope as a trace.

The various defects found in wood differ considerably in their shape, composition and origin. During the tests, echo patterns on the oscilloscope pinpointed the presence of knots, rot, pitch and shakes. Shakes are cracks usually along the grain of the wood. Pinholes, which are small defects caused by insect larvae, were not detected at a frequency of one million cycles a second. It may be possible however, to detect them at higher frequencies.

WHEAT REVIEW

Canadian wheat supplies for the crop year 1968-69 are expected to reach a record 1,317,200,000 bushels, assuming that they realize the August forecast of production. This would exceed the 1967-68 total of 1,169,700,000 bushels by 13 per cent and the previous peak of 1,247,500,000 bushels established in 1966-67. Supplies indicated for the current crop year reflect larger carry-over stocks (from 576,800,000 bushels in 1967 to 667,500,000 in 1968), combined with a 10 per cent increase in production, from 592,900,000 a year ago to 649,600,000. Though the area seeded to wheat was lower this year, the average yield from each acre increased from 19.7 bushels in 1967 to 22.1 in 1968.

Total shipments of wheat and flour from the United States, Canada, Argentina and Australia amounted to some 1,391,300,000 bushels during the 1967-68 crop year (August-July), some 14 per cent less than the 1966-67 level of 1,613,200,000 but 7 per cent above the ten-year (1956-57 - 1965-66) average of 1,301,300,000. From August 1967 to July 1968 each of the four major exporters, with the exception of the United States, shared in the decrease.

At the end of the crop year in Canada, total supplies of wheat remaining in the United States, Canada, Argentina and Australia, for export and carry-over at the end of their respective crop years, amounted to 2,702,500,000 bushels, compared to 2,019,800,000 at the same time a year ago.