

## Storing Tomatoes

Mature green tomatoes will keep for substantially longer periods in controlled atmosphere (CA) storage than when stored in air, says a Canada Department of Agriculture scientist. A controlled atmosphere storage is a gastight chamber in which the levels of carbon dioxide and oxygen can be maintained at desired levels.

C. L. Lockhart, a specialist in storage diseases of fruits and vegetables at the Canada Agriculture Research Station, Kentville, N.S. says studies at the station have shown that use of CA storage, in which there is provision for humidity control, will lengthen the storage period for the tomatoes by two to three weeks.

Results were best with the tomato varieties Longred and Viscount which, the researcher found, were better suited to controlled atmosphere storage than were the varieties Harrow, Scotia, Quebec, John Baer, or K65, an unnamed seedling.

At Kentville, tomatoes were stored for four to eight weeks in a CA chamber with a temperature of 52 degrees F. and a relative humidity of 90 to 92 per cent. The fruit was then ripened for seven days in air at a temperature of 72 degrees F. and a relative humidity of 90-95 per cent.

In two successive seasons, tomatoes stored in this manner had fewer rots, better flavor and were

firmer than those stored in air, the researcher reports. Controlled atmosphere storage will reduce many fungal rots such as anthracnose, grey mold and Penicillium but will not control Alternaria tenuis rots. A solution to the latter problem has yet to be worked out, explains the researcher.

Although the increased concentration of carbon dioxide in a CA chamber has a tendency to stimulate Fusarium rots, these can be controlled fairly effectively in the stored tomatoes by maintaining the relative humidity at 90 to 92 per cent. Satisfactory control of these rots also has been obtained in experiments at Kentville with the use of ortho-phenyl phenyl acetate wraps. These wraps, however, are not registered for commercial use on tomatoes.

For best results with CA storage, growers should select firm, mature green tomatoes of either Longred or Viscount variety and the fruit should be free of cracks or insect damage.

To avoid chilling and injury that could increase the risk of Alternaria tenuis rot during storage, the tomatoes should be harvested before night temperatures dip below 50 degrees F.

At the Research Station, freshly harvested tomatoes were cooled to 52 degrees F. before being put in a CA chamber which was then sealed and flushed with

nitrogen gas to reduce the oxygen level to three per cent. This level was maintained by pinhole vents in one side of the chamber. Dry lime scrubbers were used to absorb carbon dioxide produced by the tomatoes and maintain the level of the gas at three per cent. A small household dehumidifier served to maintain a relative humidity of 90-92 per cent in the storage chamber.

### COLD WEATHER PLANTS

Why can some plants withstand cruel winters while others die with the first sting of frost. Scientists searching for the answer are trying several approaches. These include selective breeding to increase winterhardness and studies of the proteins of wheat and growth regulators.

### PROTECT CANADA'S FORESTS



## "All Canadian" Guernsey

The continued support of the Guernsey Breed was evident in the Twentieth Annual "All Canadian" Competition. A total of 37 animals were nominated from 17 herds. Top awards went to Ontario and B.C.

The First Place Winners were: Bull Calf Class, Queenholm Champion's Mark owned by Lloyd and Betty Baldson, Queensville, Ont.; Yearling Bull Class, Federau Darimost Don, owned by Leo Federau, Kitchener, Ontario; Yearling Heifer Class, Tannery Hill C. Zenobia, owned by Henry Borden, Tannery Hill Farms, King Ont.; Two Year Old Heifer, Del Eden Jaunty owned by Murray Davies, Del Eden Farms, Delta, B.C.; Five year Old Cow, Renwood Fame's Nema, owned by Henry Borden, Tannery Hill Farms, King, Ont.

Reserve "All Canadian" winners were: Henry Borden, Tannery Hill Farms, King, Ontario, Murray Davies, Del Eden Farms, Delta, B.C. Canadian A.I. Units, Woodstock, Gordon T. Wilson, Campbellcroft, Ontario, and Ken Forster, Copetown, Ontario.

A World Conference of Guernsey breeders will be held in the United Kingdom

in 1972. Arrangements will be made by the English Guernsey Cattle Society. Delegates are expected from the Island of Guernsey, U.S.A., Canada, Australia, South Africa, Kenya and New Zealand.

A Tour of Canada is planned for 1971 by the English Guernsey Cattle Society, in conjunction with the Canadian Guernsey Breeders Association.

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## Prairie Weed Control

This could be a critical year for weed control on the prairies, according to weed specialist J.J. Sexsmith of the Canada Agriculture Research Station at Lethbridge, Alta.

"Undoubtedly, there will be a tendency to spend as little as possible for weed control this coming year," he says.

"I'm concerned that such a policy on the part of

prairie farmers could be a false economy."

There will be a shift of acreage out of wheat and into summerfallow, grassland, and other crops.

"Weed control patterns should shift with the changes in land use," says Mr. Sexsmith.

"For example, in our cereal grains, there will be the temptation to get by with the less expensive

selective herbicides this year, herbicides such as 2, 4-D."

"But farmers should be aware that, while 2, 4-D may be adequate for control of some annual broadleaf

weeds, it won't control resistant species such as wild buckwheat, smartweeds or cow cockle."

"For those weeds, farmers will need something other than 2, 4-D," says Mr. Sexsmith.

"Control for these resistant species will cost more, but over the long run, failure to keep these weeds in check could be even more costly."

"They'll stay around to haunt you in the years ahead, cutting yields and quality."

For weed control in crops other than cereals, Mr. Sexsmith says it's absolutely essential that the best

possible herbicides be used. Farmers who don't use the correct herbicides may experience:

Higher costs for hand labor.

Losses resulting from lower yields.

Greater difficulty in harvesting of crops.

Greater problems in the year Mr. Sexsmith adds that farmers who use herbicides must make certain that they use these

wired killers intelligently and that they apply them at the correct time and in the proper amounts.

"The most effective and safest use of these materials can only be obtained if the instructions and cautions printed on the label are followed carefully."

More detailed information and advice is available from local provincial government extension specialists.

### A Weight Advantage — Beef Cattle

As a cattleman, would you like a 64-pound gift bonus every time one of your cows weans a bull calf? Or an 83-pound bonus if it's a heifer calf?

And, when the calves reach yearling age, would you like a 90-pound gift of beef for bull calves and a 92-pound gift for heifers?

That's the extra beef researches have been obtaining from their cross-breeding program at Ross Ranches Ltd., Manyberries, Alta.

The project is a co-operative one between the ranch and the Canada Agriculture Research Station at Lethbridge.

The crossbreds are a combination of Brown Swiss, Hereford, Holstein, Red Angus and Shorthorn breeds.

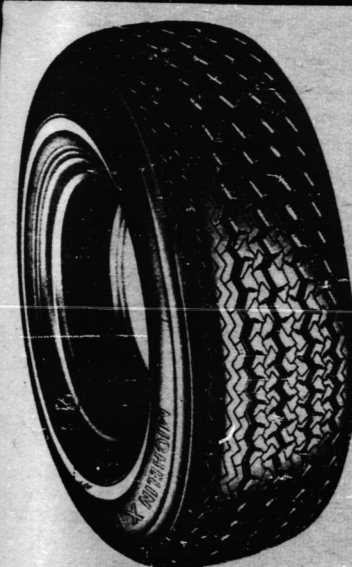
As a measurement of progress, performance of the crossbred cattle is

compared with a herd of Hereford cattle, the most prevalent breed in the Canadian west. Both herds receive identical treatment; both are selected for yearling weight only.

At weaning in 1968, Hereford bulls averaged 406 pounds compared to 470 for the crossbreds. The crossbred heifers averaged 450 pounds, the Hereford heifers 367.

When the 1968 calves were weighed as yearlings, Dr. Laver J. Sumption found that Hereford bulls averaged 737 pounds compared to crossbred bulls averaging 847 pounds. The yearling Hereford heifers averaged 463 pounds; the crossbreds 555 pounds.

At the 1969 weaning, all calves from the Hereford herd averaged 373 pounds compared to a 478-pound average for the crossbred calves — a difference of 105 pounds.



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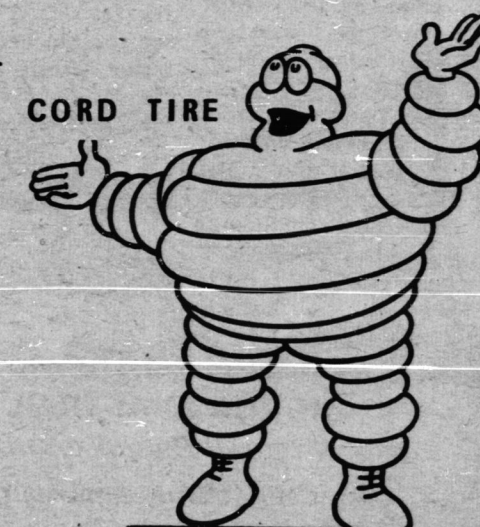
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