D R. T O M O R R O W

FRANK OGDEN

LESSONS FROM THE FUTURE

TOMATOES TEMPT BIOTECHNOLOGY

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Around the world scientists are working to produce tastier tomatoes with a longer shelf-life.

An earlier column ("Japan's Super Tomato", BC Grocer Sept/87) described the outstanding Japanese process of growing 15,000 tomatoes -- in six months, on one plant grown from one tomato seed. Inside and in the shade! The seed wasn't even genetically altered!

Through the latter part of the Industrial Age we observed the decline of the 'tastiness factor' tomato consumers knew and loved to buy. Today's relatively tasteless, juiceless and pulpy tomatoes are about to join the "sunset" crowd. Already in sight: flavorful new tomatoes from the past, with additional admirable qualities built-in.

A team of scientists at Cornell University in Ithaca, New York, have done considerable work on the tomato. While researching a relatively unknown Brazilian tomato known as Alcobaca, they found it contains three times as many desired biochemicals as an ordinary tomato, thereby allowing it to remain firm and fresh much longer.

The Brazilian attribute will enable supermarkets to stock ripe tomatoes for 10 to 12 days, extending the current shelf-life of four or five days. The Alcobaca must mature to ripeness fully on the vine, and vine-ripened tomatoes are always tastier. Almost all market tomatoes are currently picked while still green, otherwise they would perish before reaching the grocery shelf. Farms aren't next door anymore. Grocery stores, growers and shippers have been forced by commercial considerations to take this route.

Tasty, long-life tomatoes will soon be back on supermarket shelves.

Martha Mutschler, associate professor of plant breeding at Cornell, told BC Grocer they are also researching other "hidden" chemicals that may work along with the ingredient known as 1,4 butanediamine, found in the Alcobaca tomato. What are Prof. Mutschler and colleague and plant physologist Peter Davis hoping to develop from this work? The "shelf-life gene". Who knows where this will end?

We have written about the anti-freeze gene and the glow-light gene that can make plants glow in the dark. Now the shelf-life gene. Every living thing has a shelf-life. Today's developments are extending that shelf-life. Food deterioration may become a thing of the past. At least in those short-life terms that cost us so much money in food products, but which until now have spoiled before we had a chance to snap them up from the produce shelf.

This may not be thinking the impossible. Right now the U.S. National Institutes of Health and the Energy Department are combining with Canada and other countries to decipher the entire human genome or genetic blueprint. Similar work in a plant genome program would tell us how some plants handle pests, drought or high heat. When we find out the plant that does it best and has the ideal gene for that problem, that gene hopefully can be transferred to other plants giving them the desired feature. The net result will be superior plants and superior food.

More information: Martha Mutschler, Plant Breeding Professor, Cornell University, Ithaca, New York 14853.
Phone: 607/255-1660.