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## Orange Cauliflower Developed at Cornell's Experiment Station is High in Vitamin A

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**GENEVA, NY:** Cornell University crucifer breeder Michael Dickson has transformed cauliflower from broccoli's pale cousin into a new orange variety that started appearing in supermarkets and farmers' markets last fall, and is available in garden catalogs this spring.

"White cauliflower lacks the dark green pigments that give broccoli the nutritional advantage that health-conscious people are interested in," says Dickson, who led the bean and crucifer breeding programs at the New York State Agricultural Experiment Station in Geneva, NY, from 1964 to 1995, and is now a professor emeritus. "This is an alternative. I'm delighted to hear that it is finally going on the market."

The florets of the new cauliflower look like those of its white cousin, but are orange. More importantly, the vitamin content of orange cauliflower is higher because it contains 320 micrograms of beta-carotene per 100 grams, or approximately 25 times more vitamin A than white cauliflower.

It has been a 30-year journey from the farm to the fork for the orange cauliflower, which was first found in the Bradford Marsh in Canada in 1970. The mutant was smaller and less tasty than a white cauliflower, but the orange color was alluring. An extension agent sent it to the University of British Columbia for tissue culture, and, from there, to the National Vegetable Research Center in England. Researchers who were familiar with Dickson's work forwarded it to him in 1981.

Using conventional breeding techniques, Dickson crossbred the orange cauliflower and selected successive generations until he had a larger, more market friendly variety. The trick was crossing the orange cauliflower with the right white cauliflower. "If we used one that was too white, the end result was too pale," says Dickson.

It took eight years for Dickson to develop the right germplasm. While he was working on the horticultural aspects, food chemists at the Experiment Station were evaluating the nutritional value of the new vegetable. In 1988, food scientist Cy Lee published his findings: orange cauliflower had 54 retinol equivalents (RE) per 100 grams of vitamin A. As a comparison, green peas are at 64 RE, lima beans are 30 RE, sweet corn is 28 RE, and cabbage is 13 RE.

### Further Development by Seed Companies

Dickson released the germplasm to seed companies in 1989. Companies such as Stokes worked to further improve the germplasm, and released it as a numbered variety to commercial growers like Rick and Laura Pedersen of Pedersen Farms in Seneca Castle, NY. They grew the orange cauliflower last summer and sold it to Wegmans. "It has a narrow harvest window, but it was fairly well received," says Rick. He plans to plant three acres of the colorful vegetable this July, and will harvest it from September to November.

Pictures are linked to hi-res scans



Suggested caption: Rick Pedersen grew orange cauliflower on the Pedersen Farm in Seneca Castle, NY, last fall. Consumer interest was good, he said. People like the color and the flavor.

The vegetable is available to commercial growers and home gardeners. Johnny's Selected Seeds markets an orange cauliflower called "Citrus," and is limiting orders to 5000 seeds for 2004. "I sell most of it to producers in NY, NY and Long Island who grow it for upscale restaurants and farmers' markets," said seed representative Di Cody, at the Empire Fruit & Vegetable Expo in February. "Growers like the color it brings to fall harvest markets because it looks good with pumpkins. Restaurateurs like the color and interest it brings to vegetable trays." Seminis expects to have their variety named and ready for commercial sales by mid-summer.

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Related Web Sites:

Pedersen Farms: <http://www.pedersenfarms.com/>

Johnny's Selected Seeds: <http://www.johnnyseeds.com>

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