

They're Looking At Flour Corn As High Value Crop

By Mick Lane,
Contributing Editor

Along with a handful of other Minnesota growers, Kathy Connell, Sebeka, Minn., has been looking into the possibilities of producing and marketing flour corn made from multi-colored "Indian" corn, the kind that's usually only used for ornamentation.

Not all ornamental corn is flour corn. Some of it is flint corn. The difference between flint and flour is the type of starch stored in the kernel. The starch in flint corn is mostly a hard translucent, colored starch. In flour corn, the starch is soft and white, although the seed coat may be any color. Dent corn, the type grown by most U.S. farmers, contains both types of starch.

Connell says flour corn can be easily ground into flour that is as fine as wheat flour. "It can be used in just about any way that wheat flour can be used, except that the yeast we use to make raised breads from wheat won't work in corn," she says.

Connell and several other growers are working to determine whether the flour corn will make a good alternative crop. This research project has been funded through a Minnesota Department of Agriculture "Energy and Sustainable Agriculture Program" Producer Grant.

Lynda Converse, Project Director, says the organization is gathering information on flour corn grown in rotation with buckwheat, edible beans and sometimes potatoes. She says they've learned that flour corn is more difficult to produce and yields less than commercial yellow dent corn.

Connell points out that corn flour tastes a little different from wheat flour, but in cakes,

cookies, quick breads and biscuits, it's hard to tell the difference. "It's a great flour for people with wheat allergies," she adds.

Most of the growers participating in the flour corn project are doing so on a very small scale. They've found that it requires more management than commercial dent corn and the variety they're growing doesn't lend itself well to machine harvest.

Connell says native Americans from across the country all had different varieties of flour corn. For example, the Mandan Sioux in North Dakota produced a variety that's available from several seed companies as Mandan Bride. The Iroquois Indians of the Northeast developed a white flour corn variety that is now known as Iroquois or Iroquois White. A group of growers has also been working in the Northeast to promote flour corn using Iroquois white.

Painted Mountain, the multi-colored variety being used in the new Minnesota growers' project, was developed by a Montana rancher. It was chosen because of its short maturity date.

Most flour corn varieties produce slender ears with eight or 10 rows of kernels. Ear length varies from 6 to 10 in. Cobs are usually thin and fragile. Ear placement varies from just above the first node to high on the plant, depending on the variety. Plants range from around 4 ft. in height to more than 8 ft. Most tend to produce a lot of tillers. Mandan Bride, for example, grows less than 5 ft. tall and produces so many tillers the plants look more like bushes.

Connell is making selections from Painted



Flour corn can be made from several varieties of multi-colored "Indian" corn.

Mountain in hopes of developing a strain with more white grain and for higher ear placement. She's calling her new variety "White Mountain".

Flour corn yields appear to be quite low compared with commercial yellow dent or even sweet or popcorn. Yields range from 15 to 30 bu. per acre, depending on region and relative maturity of the variety, but there's no good yield data available. The white Iroquois corn is closer to 100 days in maturity and some have reported yields of closer to 50 bu. from improved strains.

Connell believes motivated growers might be able to develop profitable local markets for corn flour, particularly if higher yielding varieties can be made available. For now,

though, there appears to be more money in selling seed and ornamental corn.

In season, ornamental corn can sell for \$1 an ear or more. Putting ornamental ears into decorative table arrangements or door hangings increases the value.

FARM SHOW tracked down a number of sources for different varieties of flour corn seed. Connell and Converse also have seed for sale.

Contact: FARM SHOW Followup, Lynda Converse, 34640 267th Avenue, Browerville, Minn. 56438 (ph 320 594-2456; E-mail: converse@rea-alp.com); or Kathy Connell, 18298 270th St., Sebeka, Minn. 56477 (ph 218 837-5332; E-mail: skatcon@wcta.net).

Where To Buy Flour Corn Seed

Following is a list of companies that sell flour corn seed.

Aurora Biodynamic Farm
Phone: 250-428-4404
Website: www.kootenay.com/~aurora/
E-mail: aurora@kootenay.com
Canadian address:
3492 Phillips Rd.
Creston, British Columbia V0B 1G2

Baker Creek Heirloom Seeds
2278 Baker Creek Rd.
Mansfield, Mo. 65704
Phone: 417 924-8917
Website: www.rareseeds.com
E-mail: seeds@rareseeds.com

Bountiful Gardens
18001 Shafer Ranch Road
Willits, Calif. 95490
Phone: 707 459-6410
Fax: 707 459-1925
Website: www.bountifulgardens.org//
E-mail: bountiful@zapcom.net

W. Altee Burpee & Co.
300 Park Ave
Warminster, Penn. 18974
Phone: 800-888-1447
Fax: 800-487-5530
Website: www.burpee.com
E-mail: burpee@surfnetnetwork.net

Drysdale Seed Company
P.O. Box 1166
Arnold, Mo. 63010
Phone: 636 282-0262
Fax: 314 282-0262
Website: www.keepsmilin.com/dryseed.html
E-mail: seeds@keepsmilin.com

Eden Organic Nursery Services
P.O. Box 4604
Hallandale, Florida 33008

Phone: 954 455-0229
Fax: 954 458-5976
Website: www.eonseed.com
E-mail: info@eonseed.com

Eternal Seed
Box 1301, Station B
Ottawa, Ontario, Canada K1P 5R4
Phone: 819 827-2795
E-mail: edecas@travel-net.com
Fox Hollow Herb & Heirloom Seed Co.
204 Arch
Kittanning, Penn. 16201
Phone: 724 548-7333
E-mail: seeds@alltel.com

Mellinger's Inc.
2310 W. South Range Rd.
North Lima, Ohio 44452-9731
Phone: 330 549-9861
Fax: 330 549-3716
Website: www.mellingers.com
E-mail: melgarden@aol.com

Pinetree Garden Seeds
616A Lewiston Rd.
New Gloucester, Maine 04260
Phone: 207-926-3400
Website: www.superseeds.com
E-mail: superseeds@worldnet.att.net

Seeds of Change
P.O. Box 15700
Santa Fe, New Mexico 87506-5700
Phone: 888 762-7333
Website: www.seedsofchange.com
E-mail: gardener@seedsofchange.com

R.H. Shumway, Seedsman
P.O. Box 1
Graniteville, S.C. 29829-0001
Phone: 803 663-9771



Ken Java made this half-scale replica of a Russell steam engine built in 1910. It's shown here hooked up to a rare International Harvester one-horse mower.

Half-Scale Steam Engine

"It looks just like the real thing and even belches smoke out the exhaust stack, so a lot of people think it works. However, it's built just for show," says Ken Java, Frederic, Wis., about his homemade half-scale steam engine.

It's an exact scale replica of a Russell steam engine originally manufactured in 1910. Java's model is all hand-machined and fabricated as needed in his shop.

The tractor is 6 ft. long and 3 ft. wide. The rear wheels are 2 ft. in diameter and 8 in. wide and are off an old hay wagon. He cut pieces of angle iron and welded them onto the wheels to look like cleats. The front wheels are off an old hay loader. He used the crank and screw system off an old building awning for the tractor's steering system.

He used a piece of large storm sewer pipe for the tractor's boiler. The door on front of the boiler is off a furnace. He used sheet metal to make the firebox and corrugated tin to make the canopy.

A 12-volt deep-cycle car battery powers an electric motor that turns a series of wheels and gears that turn the flywheel, which rotates and drives a piston inside the boiler.

"It's a real crowd pleaser at area shows I've taken it to," says Java. "Many people think it's a real steam engine. I put pieces of old V belts, or even old bicycle tires, into the boiler and start them on fire so smoke comes out the exhaust stack."

"When I'm not at shows I use it as a lawn ornament on my farm, where it's hooked up to a rare 1904 International Harvester ground-driven mower equipped with a 4-ft. sicklebar. It was designed to be pulled by only one horse. A neighbor gave the mower to me 40 years ago. I later learned that another neighbor was the original owner. So it has been in this neighborhood for 98 years."

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