

Ancient Wheat Varieties Making A Comeback

Modern researchers and enterprising growers in Europe and the U.S. are bringing back a wheat species that can be traced back 10,500 years. Einkorn offers a unique niche market opportunity for small farm owners.

"It's very sustainable, requires few inputs and fits well into our rotations. Consumers see real health benefits, and it has extraordinary flavor," says Elizabeth Dyck, researcher with Organic Growers' Research and Information-Sharing Network (OGRIN) based in Bainbridge, N.Y.

She has been working with growers in New York and Pennsylvania and coordinating with Midwest researchers on heritage wheat (spelt and emmer) since 2008. She started working with einkorn in 2011.

"Keeping some of these tough varieties viable is really a good idea," she says. "For example, modern wheat out yields emmer wheat in good growing conditions, but in a drought, emmer will still produce."

You can plant seed in poor soil with fewer fertilizer inputs and less worry about diseases. But processing the kernels is challenging since the hulls don't come off the kernels when combined. They

must go through special dehulling equipment.

That has been the biggest disadvantage of growing the ancient wheat species, says Steve Zwinger, agronomist and research specialist at North Dakota State University's Carrington Research Extension Center. European growers have developed equipment for small-scale operations, but it's very expensive.

Emmer wheat has been grown in North Dakota for livestock feed (because the hulls don't need to be removed) as far back as 1900, when Russian and German farmers brought seed to the U.S.

"Einkorn bread has a wonderful flavor," Dyck says. Plus, it's high in protein, lutein and carotenoids, which are known to reduce blood pressure and aging diseases.

She and Zwinger agree that consumers need to be cautious about claims about nutritional attributes. One potentially dangerous claim is that people with celiac disease can eat it. There is gluten in einkorn, and it hasn't been proven to be safe for people with the disease, they emphasize.

Artisan bread makers, chefs and promoters of local foods are enthusiastic about the old grains. While einkorn makes great breads and crackers, emmer is more suitable for pasta. Dyck adds that the grains can also be cooked



Researchers and growers in Europe and the U.S. are bringing back ancient wheat species including einkorn and emmer.

whole and eaten like rice.

In working with organic growers, Dyck and Zwinger are researching seed lines, plant populations, planting dates, fertility needs, ways to reduce lodging and other issues. Zwinger points out that one advantage of the tougher hull is that it protects seeds to make them last longer for germination.

Emmer wheat seed can be found for about 50 cents/lb. Although the price looks good and interest among buyers and processors is increasing, Zwinger cautions farmers to have an outlet before growing the crop. There's less einkorn seed, so it's only sold in small amounts and is expensive – \$4/lb. on one website, for example.

"There's a huge market, but there's a definite need for education, promotion and product development," Zwinger says.

The researchers invite people interested in learning more about growing or using einkorn or the other ancient wheats to contact them.

Contact: FARM SHOW Followup, Elizabeth Dyck, Organic Growers' Research and Information-Sharing Network, 1124 Co. Rd. 38, Bainbridge, N.Y. 13733 (ph 607 895-6913; www.ogrin.org) or Steve Zwinger, Carrington Research Extension Center, P.O. Box 219, Carrington, N. Dak. 58421 (ph 701 652-2951; www.ag.ndsu.edu/CarringtonREC).

Liquid Absorbing Products Made From Cornstalks

"We've spent the past five years developing this product, and after a lot of refinements and mechanical alterations, we've finally got it right," says Matthew Coy of Clean Plus, Inc. (CPI), about the company's absorbent products made from cornstalks.

CPI worked with researchers at the University of Minnesota-Duluth's Natural Resources Research Institute (NRR) to produce their Drip Trap granules. They can absorb 6 times more than traditional clay and chemical absorbents, but they weigh only 1/6th as much. That's a huge benefit for shipping, warehousing and even for the end users.

Coy explains that cornstalks make the ideal absorbent because their cell structure contains lignin, a naturally-occurring glue substance that attracts hydrocarbons, the main ingredient in oily spills. Drip Trap granules quickly soak up those spills like a sponge, absorbing nearly 1 gal. of liquid if the granules are scattered an inch thick over one square foot.

"We're very pleased with how well the product works," Coy says, "but the development took far longer than we anticipated. We started out thinking that the stover could be ground, and then pelletized into small particles and that would be it. Unfortunately the pelletizing process crushed the cell wall and destroyed the lignin, which left the pellets with the same absorbent quality of clay."

Coy says that CPI and NRR research eventually designed a mechanical alteration process that incorporates two proprietary ingredients and a process called pan disc agglomeration. That process injects raw stover and the ingredients into an angled, spinning disc, where they're sized, adhere to each other and eventually form small, super-



Drip Trap granules, made from cornstalks, are more absorbent than clay-based products at 1/6 the weight.



absorbent granules.

"This is a very exciting product, not just for our company, but for the industry as a whole," Coy says. "It's better than products already out there, it's lighter and easier to handle, and we're making it from cornstalks, which is easily sourced."

Drip Trap is also available in absorbent mats, pillows, and socks at prices comparable to other products on the market.

Contact: FARM SHOW Followup, Matthew Coy, Clean Plus, Inc., 138 East Main St., West Concord, Minn. 55985 (ph 507 527-2233; www.cpidivisions.com).

Bubble Tower Adds "Clean Fun" To Any Event

Bubbles aren't just for kids. Bill Coleman proves that every time he takes his BubbleYou@Bubble Tower to a fair, town celebration or themed event. The 14-ft. tall bubble machine inspires happy, impromptu fun popping bubbles or catching clusters – whether you are 2 or 92.

It's such a simple activity that it usually turns out to be more popular than organizers expect. "I was honestly a bit surprised by just how popular it was," wrote one organizer for the Sweetwater County Fair in Rock Springs, Wyo.

Based in Denver, Colo., Coleman's four bubble towers have become the fastest growing part of his entertainment business since he built his first tower in 2004 for a bubble festival in Manitou Springs, Colo.

Self-powered by a solar panel, the tower goes through 5 to 10 gal. of water a day making everything from ping-pong ball clusters the size of bushel baskets to basketball size bubbles. At night, the bubbles twinkle in front of the tower's LED lights.

Organizers or sponsors pay a fee for the tower (\$225/hour with a 3-hour minimum, or at discounted day or weekly rates) so that it's a free activity for attendees. The tower makes a great promotion tool, Coleman adds, when sponsors provide a banner for the tower.

Most of his team's travels are within 1,000 miles of Denver, but they will go anywhere. For example, one team traveled as far as Anchorage, Alaska, when event organizers agreed to transport the tower and other equipment.

In addition to the tower, Coleman has a gaggle of other entertainment ideas – including 10-ft. tall dancing Christmas trees, oversized penguins in tuxedos, giant puppets and Coleman's signature, Stretch, the 9-ft. Clown (featured in FARM SHOW's Vol. 32, No.2).

At 59, Coleman, a former drywall tapper and window washer, admits he started his second



Self-powered by a solar panel, the 14-ft. tall Bubble Tower can make bubbles as big as a basketball.

childhood about 15 years ago. Stretch got him started walking tall in parades, and the bubble towers continue the outdoor entertainment fun.

"If you want to have fun, give us a call or check out our website," he says.

Contact: FARM SHOW Followup, Bill "Stretch" Coleman, 930 S. Decatur St., Denver, Colo. 80219 (ph 303 922-4655; www.bubbletower.com; www.stiltwalker.com).