Ag researcher Win Phippen has learned how to row crop milkweed and now is working on equipment to harvest, dry and process the pods.

He's Growing Milkweed In A Big Way

Milkweed is becoming a serious crop, thanks to Win Phippen, associate professor at Western Illinois University. The ag researcher has learned how to row crop milkweed and now is working on equipment to harvest, dry and process the pods which contain white floss that currently brings $10/lb.

"Maximum field size is five acres, and the best sites have trees nearby," says Phippen. "Milkweed needs bees for pollination. If there aren't enough bees, yield goes down."

Unlike some alternative crops, plenty of uses for milkweed already exist. A Nebraska company, Natural Fibers Corp., has developed multiple markets for milkweed products, such as mixing floss with goose down for pillows and comforters. They even freeze-dry and grind leaves to sell to Monarch butterfly breeders at $60/lb. USDA researchers have found the seed meal kills nematodes and fall armyworms. The oil is rich in Vitamin E and has potential for use as a moisturizer. In addition, the floss is very absorbent.

"Milkweed floss outperforms everything at absorbing oils, and it can be used in insulation, ceiling tiles and other products," says Phippen. "The problem is there isn't the quantity available that large companies need."

His primary research is aimed at mechanizing milkweed production. For the past five years, he has refined production techniques. He has identified 30-in. rows as optimum and recommends planting in fine-tilled soil. Handling the small, flat seed is tricky. He suggests using gravity drop seeders and advises wiping the tubes with anti-cling clothes drier products to eliminate static electricity.

"We use a Deere planter with sunflower cups or a gravity drop box like a Gandy Box," says Phippen. "We seed at 10 lbs./acre. If late fall seeding, we try for 1/4-in. spacing, and early spring we try for 1/8-in. seeding."

Phippen prefers late fall seeding because cold winter weather primes the seed. This lets it germinate in early spring and emerge before competitive weeds do. Seed planted in the spring needs to be overwintered in a refrigerator. Ironically, a big problem with growing milkweed is weed control. Phippen uses pre emerge herbicides or cultivation.

A perennial, milkweed production varies with plant age. Over time the crop thins out until dominant plants stand about two feet apart. Phippen suggests following a five-year rotation. A long term plot produced no pods the first year, about 700 lbs. of floss per acre the second year, 900 lbs. the third year, 700 lbs. the fourth, 500 lbs. the fifth year and 400 lbs. the sixth year. Phippen points out that even 400 lbs. at $10/lb. would gross $4,000 per acre.

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Now Phippen is working on pickers, dryers and processing. Part of the problem is that most pods ripen over a two-week period in August. While a snap bean picker harvested 90 percent of pods in plot research, it also picked up leaves, previous years' corn trash and other material that had to be removed. If it was set to blow light trash out, light pods went as well. Phippen's best results to date have been with a four row Uni-Harvester corn picker with a 30-in., 4-row Deere header. While it only harvested 70 percent of the available pods due, it picked up less trash. The researcher is now modifying the header for 10-in. row spacing, which he hopes will knock over fewer stems for a higher yield.

Another problem is drying the pods. Phippen is evaluating different systems. As the pod mass begins to dry, it has to be stirred constantly. Once dried, the pods have to be handled carefully so the floss isn't lost.

While funding is limited, Phippen and other researchers are positive about milkweed's potential. He notes that his plots produce hundreds of monarch larvae that area schools pick. Demand for butterflies could make larvae a second crop in milkweed fields.

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Corn Scrubber Keeps Corn Stoves Working

Like many people alarmed at high heating bills, Phil Miller purchased a corn burning stove four years ago.

"It worked well," the Browerville, Minn., man says, "except that it kept going out." The fine corn screenings in the corn he bought at the local elevator were the culprit.

Miller decided to build a corn screener. After experimenting with various angles and different size screens, he came up with what he calls the Corn Scrubber.

Built of pine with two sizes of metal screen inside, it is lightweight and portable. It's about 4 ft. long and 1 ft. wide and about 4 ft. tall. Miller keeps his in the garage.

The process is simple. Take a 5-gal. bucket of dirty corn and pour it in the top opening. Clean corn falls into a bucket at the bottom. In between, a waste basket or other large container catches the fine screenings.

In just a couple minutes the corn is clean and ready to pour into the corn burner. "It's inexpensive, simple, and it works," he says.

Because of its simple design, the Corn Scrubber is maintenance-free. During the summer, when it's not needed, the Corn Scrubber folds up for easy storage and even has a handle for carrying.

In 2004 Miller made Corn Scrubbers and sold a few through area businesses. This past winter, sales have increased greatly.

Miller and his partner, Gary Stracek, Browerville, Minn., make the units in their home shops. Corn Scrubbers retail for about $130. Dealerships are available.

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Dirty corn is poured into top opening. Clean corn falls into bucket at bottom. Middle container catches screenings that fall through.