

## “Bee Nurseries” Bring Back Pollinators

When father-daughter team Dan and Amelia Chiles became aware of the lack of native pollinators on their family farm, which includes orchards and gardens as well as native trees and plants, they decided to take action. To attract pollinators like mason bees and leaf cutter bees, they designed and built a bee nursery called the Beestra. What started as a project just for their own farm grew into a full fledged business with an online store and nationwide shipping.

The Beestra is shaped a bit like a bird house, with tubes in a variety of sizes to attract a variety of pollinators, and it features an eye catching floral design on the outside. The screen on front keeps larger predators like birds and squirrels from eating the bees and bee larvae.

The Beestra has an overhanging roof to divert rainfall away from the pods, and also has adequate ventilation to prevent excess humidity. Dan and Amelia work with a local manufacturer to get their materials, and then assemble the nurseries in their on-farm workshop for shipping.

“We designed this nursery to be as simple to assemble as possible. It takes less than 5 min. and just requires a screwdriver,” Amelia says. Each nursery comes with detailed photographic instructions and costs \$19.95, plus shipping and handling.

“Customer feedback has been mostly positive. People enjoy the look of the Beestra and how easy it is to set up. Most people have success attracting bees but sometimes customers don’t get any,” Amelia says. “We encourage people to think of their nursery as an experiment to see how healthy their ecosystem is. If they have trouble attracting



**Beestra bee nursery contains tubes that attract a variety of pollinators.**

bees, most likely, there is a key component lacking in their ecosystem. This may be a sign that they need to plant more flowers, reduce the use of pesticides, or look into other sources of pollution nearby. The nurseries can’t attract any bees if they’re not there in the first place.”

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## Fly-Killing Hanging Bait Holder

“It’s safe to use, doesn’t make a mess, and keeps bait out of the reach of livestock, pets and other animals,” says Chris Bill about his company’s new hanging bait holder for killing flies.

Developed by Meller Poultry Equipment, Jarvis, Ontario, the patent pending bait holder consists of a 1-ft. long, 1-in. dia. mesh tube made from plastic-coated, metal door screen. You fill the tube with a commercial granular poison bait. Flies are drawn to the smell of the bait and feed on it through the mesh openings, then drop dead and fall to the floor.

The bait holder can be hung in any dry location and controls flies for up to 120 sq. ft., says the company.

“It’s an idea that’s almost too simple to believe, but it works fantastic at killing flies. A big advantage is that it keeps the bait dry and out of the reach of animals and kids,” says Bill. “Once the bait holder has been out for about a month you can freshen up the bait by rubbing the tube back and forth between the palms of your hands to bring fresh bait to the outside.”

Bill says they’ve been making the bait holders for two years and have sold them mostly by word of mouth while they wait for the patent to come through. They don’t sell the bait because Canada requires a pesticide license to do that.

The company is in the business of making and selling poultry equipment, and uses a machine they already had to put the bait holder together.

“The plastic coating on the metal screen allows us to vulcanize the bottom end of the tube and close it shut,” says Bill. “We cut big pieces of screen into small strips and wrap



**Mesh tube made from metal door screen attracts flies with bait. Flies feed on the bait through the mesh openings, then drop dead and fall to the floor.**

them around a 1-in. dia. pipe. Then we use the machine to vulcanize the tube. A wire or strap can be inserted through the top end to hang it from a wall or ceiling.”

Meller sells the bait holders for 96 cents apiece (Canadian) with a minimum order of 100. The price drops to 92 cents apiece for orders of more than 100.

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## Amazing New Clover Varieties

Four new cold-tolerant clovers from Grassland Oregon (GO Seed) fix more nitrogen while out-yielding older varieties. They can be used as green manure, forage crops, or intensive grazing. Cold tolerance makes them a great choice for overwintering cover crops.

With more than 300 species of clover in the world and very few commercialized, the company had a lot to pick from.

“We started developing new clover varieties in the mid to late 2000’s when fertilizer prices spiked through the roof,” says Jerry Hall, co-founder, GO Seed. “We found the primary clovers being marketed went back to a USDA study in the late 1800’s. The first year we planted 28 species in a couple thousand small plots. We knew they would deliver nitrogen, so we started exploring for other traits.”

Those traits included cover crop compatibility, regrowth, and cold tolerance. The company also screened for more unique traits such as soybean cyst nematodes (SCN). Hall explains that some century-old varieties of red clover are excellent hosts for SCN.

“We were able to identify varieties that were non-host or poor hosts to SCN,” says Hall. “With cover crops, you have to rule out doing any harm, and you don’t want to be a green-bridge that exacerbates nematode problems.”

Initially, the company concentrated on annual clovers for green manure. Late maturing was a key desirable feature. It translates into more cuttings and less chance for unwanted reseeding. The latter is especially important in row cover crops.

“There were a ton of annual clovers that had not been commercialized, waiting to be looked at,” says Hall. “It was low hanging fruit. When cover crops took off, we looked

pretty smart, as we were already 10 years into our breeding program.”

GO Seed currently has 3 multi-tasking annual clovers, and a stress handling perennial white clover. FIXation Balansa grows up to 3 ft. high with stems as long as 14 ft. It can create as much as 300 lbs. of N per acre with a compacted soil-busting deep tap root and potential forage yield of up to 96,000 lbs. per acre.

Frosty Berseem is late maturing compared to most other annual clovers and is favored by pollinators over red clover. With a plant structure (high leaf-to-stem ratio) similar to alfalfa, it makes high quality hay, has excellent disease resistance and can produce more than 4 tons of hay from a spring planting. Ideal as a cover crop, it can fix more than 150 lbs. of N per acre, pull up high value nutrients from deep in the soil, and provide a net return in nutrients alone of more than \$75 per acre.

Kentucky Pride crimson clover flowers up to 2 weeks later than other crimson clovers, handles cold temperatures, and out-produces competitors. It has been shown to create as much as 100 lbs. of N, has longer roots and produces 4 times the biomass of Dixie, a leading competitor, according to Hall.

AberLasting is a unique, new perennial clover that is a cross of white and Kura clovers. White clover is the most widely used forage legume for grazing, known for N fixing, fast growth, digestibility and high protein. However, it doesn’t stand up well to environmental stress.

Kura, a Caucasian clover, is similar nutritionally to white clover, but handles extreme stress conditions better. AberLasting establishes faster than Kura, maintains leaf water content 50 percent longer than conventional white clover, and can survive



**Nitrogen fixing nodules on FIXation Balansa clover create up to 300 lbs. of nitrogen per acre (left). Kentucky Pride crimson clover outproduces competitors.**



**Cold tolerance is one of Frosty Berseem’s beneficial traits (left). AberLasting perennial clover (right) is shown next to red clover that was planted last August.**



temperatures down to negative 22°F. Under heavy grazing, AberLasting recovers faster and maintains ground cover better than conventional varieties.

“FIXation and Kentucky Pride can survive down to Zone 5 on the USDA cold hardiness scale,” says Hall. “Frosty Berseem can survive Zone 7 and even most of Zone 6, if snow cover is there to insulate the plants. AberLasting is a fairly new product and we are still learning about it. However, we had producers plant it last year in Canada, and it handled the winter. One site had some cold damage, but it is recovering just fine.”

Grassland Oregon is continuing to develop clovers and other species. The company is even looking at a turf grass mix that includes clover.

“We have a mix with clover, wildflowers and a novel wild fescue that stops growing at 4 in. in height,” says Hall. “It should reduce mowing frequency. We are also looking at species that have superior potential for carbon sequestration.”

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