

Weed Seed Oil Being Used To Control Other Weeds

Pennycress is an annual weed that's sometimes grown as a cover crop. The oil from its seeds has shown potential for use as an herbicide or even an insecticide.

What's more, it's also a potential biofuel source and can grow in and remove high levels of sodium in the soil.

"We extract the oil and apply it to various broadleaf and grass weed species in the greenhouse," says Steve Reaume, manager, Research Operations, Lambton College. "It worked best on crabgrass and lambsquarters. Applied pre emerge, it reduced germination about 80 percent compared to control plots."

Reaume says pennycress oil breaks down quickly and leaves no toxins in the soil.

"Pennycress for seed production is 60 to 65 days from planting to harvest," says Reaume. "However, it only has to grow for a month as a cover crop to reduce sodium levels by 10 to 20 percent. Then it can be harvested for animal feed or treated like any other biomass. The leaves and stems will have a higher sodium level, but still less than marine biomass does."

The challenge, according to Reaume, is getting the seed to germinate. The seed needs abrasion or freezing to open up the protective coating to absorb water. If not frozen at some

point, it still has to go through a frost cycle. However, once it germinates, it can grow under almost any conditions.

Reaume is an advisor to an Ontario group planning a pennycress crushing facility. John Poel is a soil and crop consultant and one of the farmers experimenting with the crop. It was his seed that Reaume crushed for his experiments.

"We seeded some in the fall, but it didn't grow until spring," says Poel. "We weren't able to harvest it before planting dry beans, so we worked it in. The dry beans did really well."

Poel has planted a few acres in the spring and harvested in early fall. "It is beautiful stuff to harvest, very light and fluffy," he says.

Poel sees the potential for a winter oil seed/cover crop. "We want to keep living root systems growing in the soil, and it would be great to make use of combines in the spring, as well as in the fall. It would also use leftover nitrogen when seeded down following corn."

A variety of groups around the U.S and Canada are working with the oil seed plant. The University of Minnesota has several varieties in development but not yet ready for release. Western Illinois University established the Pennycress Resource



Researchers are extracting the oil from pennycress, an annual weed, and testing its potential as a herbicide on broadleaf and grass weed species.

Network and works closely with St. Louis based CoverCress, Inc. It has modified native pennycress to develop an improved version.

CoverCress' claims include oil and high protein feed that fit markets similar to canola. They are promoting it as a cover crop that can be planted at corn harvest and harvested in time for full season soybean planting.

Contact: FARM SHOW Followup, Pennycress Resource Network (ph 309 298-1251; WB-Phippen@wiu.edu; www.wiu.edu/pennycress/index.php); or CoverCress Inc., 1100 Corporate Square Dr., Suite 135, St Louis, Mo. 63132 (ph 314 378-7556; info@covercress.com; www.covercress.com).



Cattle have access to all 4 sides of the Quad Feeder, allowing multiple animals to use feeder at the same time.

High Capacity "Quad Feeder"

"It's the largest and most portable stand-alone feeder on the market today. Cattle have access to all 4 sides, allowing multiple animals to use the feeder at the same time," says Travis Graves, AmeriAg, LLC, about the company's new Quad Feeder.

The molded poly feeder has a double-walled patent pending design that keeps even big bulls from tipping it over. It weighs about 180 lbs. and can support a herd of up to 165 cattle.

The unit comes in 3 pieces - the base, hopper and lid. The base is equipped with built-in "access pans" located at a height that allows easy use by all sizes and types of livestock, including calves, sheep and goats. A pair of pallet fork slots are built into the base. The hopper, which sets inside the base, comes with 4 spring-loaded doors that can be easily adjusted to control the flow of feed. An optional divider can be placed inside the hopper, allowing up to 4 different kinds of mineral, feed or supplement to be fed.

"The lid has an overhanging design, with gutters over each of the access pans to keep rain from getting into the feed," says Graves. "The lid also protects minerals from destabilizing due to ultraviolet rays. Trailer coupling pins (provided) are used to secure the lid to the base."

The Quad Feeder's doors can be adjusted to shut the flow of feed off completely, making it easy to move the feeder even when it's full.

"The underside of the feeder is molded to fit an old semi truck tire," says Graves. "You



Underside of feeder is molded to fit an old semi truck tire. A tractor or ATV can drag feeder from pasture to pasture.

drill a hole through the lower portion of the tread side of the tire, and insert a provided 12-in. eye bolt to the inside of the tire. Then set the base down over the tire so the eye bolt sticks out from one of the fork slots in the base. A chain or rope can then be attached to the eye bolt, allowing you to use an ATV, UTV, pickup or tractor to drag the feeder from pasture to pasture. You can also move the Quad by sliding loader tractor forks into the slots."

Fly bullets or insecticide strips can be installed on each side of the feeder by drilling holes in the upper arch of the lid. "It allows for true hand-free and stress-free fly control, as the cattle treat and retreat themselves while consuming mineral," says Graves.

Contact: FARM SHOW Followup, AmeriAg, LLC, 4824 Friendship Rock Creek Rd., Burlington, N.C. 27215 (ph 877 551-4916; info@ameriag.com; www.ameriag.com).



Bucket scoop has a slotted floor. After you scoop up the top couple inches of packed litter, you shake the bucket so only manure remains in the bucket for removal.

"Bucket Scoop", Tiller Save Bedding In Poultry Barns

Howard Popp, Rice, Minn., recently contacted FARM SHOW about 2 skid steer-mounted attachments he built to save poultry producers time and money when handling manure.

"Used in combination, these attachments are a very cost-effective and efficient way to remove the top layer of caked manure in a poultry barn, while keeping the dry layer of bedding underneath it in place," says Popp. "This 2-attachment system is far less wasteful than hauling out all the bedding with the manure, as most producers do now."

The first attachment is a 5-ft. deep bucket, or "scoop", without a floor. Instead it has a series of 4-in. high thin steel rails, curved slightly upward, set on 3-in. spacings. As the operator drives forward, the rails skim off the top 2 in. or so of caked manure, leaving the bedding underneath in place. The bucket rides on a pair of depth gauge skids that keep it from going too deep.

"The curved rails keep the manure from bunching up underneath as the operator drives forward. Once the bucket is full, the operator tilts the bucket back and shakes it to release litter. Caked manure stays in the bucket," says Popp.

The second attachment is a Litter Tiller that operates off the skid loader's hydraulics, tilling and leveling the bedding while also releasing moisture and ammonia.

"It's important to reduce ammonia levels,



Litter Tiller tills and levels bedding while also releasing moisture and ammonia.

because ammonia can cause blindness in newly hatched baby chicks that will be coming into the barn for the next flock to be raised," says Popp. "The tilling and leveling action also allows chicks to move about easily to find water and feed."

The bucket scoop is available in widths from 4 to 10 ft. and sells for \$2,700 to \$3,800. The Litter Tiller is available in 8 and 10-ft. widths and sells for \$5,000 to \$5,200.

Popp also makes smaller bucket scoops and Litter Tillers for garden tractors.

You can watch the Bucket Scoop in action on Facebook by typing in: HC Popp Welding.

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