

Ethanol revolution expected to give rise to new chemicals



Midwest Value-added

By LON TONNESON

WE see the ethanol industry unleashing a whole biorefinery industrial revolution," said Corinne Young in an interview with *Purchasing* magazine. She is director of government affairs at BioEnergy International, Lowell, Mass. She envisions a stream of textiles, auto parts, perfumes, cosmetics and other products all made from chemicals that originate in biomass. *Source: Soyatech*

Soy for menopause

Here's another potential new use for

soybeans: treating hot flashes in older women. In a recent study in Brazil, isoflavones from soybeans reduced hot flashes in menopausal women by about 62%. *Source: Biosolutions*

Kosher label No. 1

When it comes to value-added, think kosher. It was the most common label found on food products in 2007, according to Mintel's Global New Products Database, which monitors worldwide product innovation in the consumer packaged goods markets. Last year, 3,984 new kosher food products and 728 new kosher beverages were launched, the company reported recently. "All natural" was



the second most frequent claim made on food products launched in the U.S. last year, appearing on 2,023 products. It ranked fourth for beverages, used on 405 items. *Source: Biosolutions*

Sugarcane corn

A sugarcane corn for the Midwest might be the outcome of some research going on in Illinois. A scientist there is growing tropical maize, which stores sugar in its 14- to 15-foot-tall stalks rather than pumping it into cobs, ears and kernels.

Corn plants turn the sugar into starch, which refineries turn back into sugar to make ethanol. Farmers could manage tropical maize like corn and even use the same planting and harvesting equipment. However, tropical maize might produce more ethanol than corn and require less fertilizer. *Source: Ethanol Producer*

Coconut competition

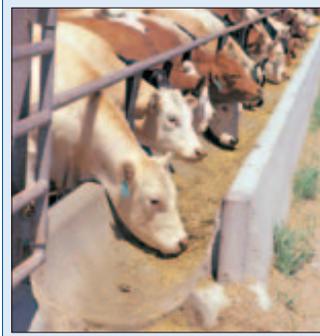
Soybeans, sunflowers and other U.S. oil crops will soon have more competition in the value-added oil market. The Asian Coconut Industry Investment Fund recently announced a \$30 million research and development project to look into new uses for coconut oil. The project will study coconut oil as a seed stock for biodiesel, biolubricants and biochemicals. *Source: Soyatech*

Not just dead pines

Entrepreneurs in the Rocky Mountains are adding value to pine trees that were killed by bark beetles. They're turning the cheap downed timber into everything from fuel pellets to designer finishing lumber called "blue pine" after the light blue stains made by the beetles. One company is planning to make

Better-for-you beef

RAIN-FED beef that's better for you? That's what Canadian researchers are researching. They are experimenting with feedlot rations that increase the level of conjugated linoleic acid in the meat. CLA is a fatty acid that may help prevent diseases such as cancer, heart disease, diabetes and kidney disease. It forms naturally in beef when linoleic acid from digested plant material is converted in the rumen. Pasture-fed animals tend to have the highest CLA concentrations. Cattle fed grain rations supplemented with ingredients such as sunflower seeds have also shown elevated levels. See www.cla-network.com.



log homes from the beetle-killed lodgepoles. In Colorado, where more than 650,000 acres of lodgepole pine trees are infected, most log homes are built from imported timber. *Source: The Los Angeles Times*

Batteries from plants

The United Soybean Board and the Nebraska Soybean Board are working with St. Louis University to learn whether rechargeable cell phone and computer batteries could be made from soybeans. Most rechargeable batteries contain toxic heavy metals. Biobatteries wouldn't. *Source: United Soybean Board*

Soysilk brand continues to expand

OUR growth continues to be explosive," says Jonelle Raffino, president of South West Trading Co., Tempe, Ariz. The firm makes luxury yarns from soy, bamboo and other natural fibers. The Soysilk brand fiber is made from the residue of soybeans from tofu manufacturing. One new product is a super-soft stuffed animal. "Once again, in 2007, we were blessed with continued excitement about our yarn and plush products allowing us to grow and add new products. We are confident that consumers will continue to seek out and enjoy earth-friendly Soysilk brand products," says Raffino. See www.soysilk.com.



SOYBEAN SOFT: Goatee, one of the Soysilk Pals from South West Trading Co., is made from a soybean byproduct. The toy line won Creative Child 2007 Toy of the Year.

Why some producers always get good stands



Focus on Forages

By DAN UNDERSANDER

SOME farmers always get good alfalfa stands and some are less successful. While there is no foolproof system for growing any crop, there are a few principles that are key to successful alfalfa establishment. As long as we pay attention to the basic principles, we have several options for seeding that will be listed at the end of this article.

Reasons stands fail

The first and largest reason for alfalfa stand failure in the Midwest is low soil pH. We have known for 100 years that alfalfa needs a soil pH of at least 6.8 for optimum growth but still apply only about half the recommended lime. Alfalfa can be established at lower soil pH (down to about pH 6.0) but

the alfalfa will be weak, weedy and low-yielding.

Another common reason for stand failure is seeding the alfalfa too late in the spring. The recommended seeding date is generally around the middle of April. Delaying seeding into May increases the risk of the crop being exposed to hot, dry weather, which can dry out the soil surface and result in poor stands. Further, warm-weather weeds, such as crabgrass and foxtail, become more of a problem.

The second most common reason for stand failure is poor seed-to-soil contact. Seed must be placed in the ground and the soil firmed around seed to allow transfer of water from soil to the seed for germination. The need for firm soil is especially critical for alfalfa because the seed is planted so shallow (1/4 to 1/2 inch deep). If you see better establishment in the wheel tracks or headlands than across the field, better soil packing would have increased the stand.

The key to good seed-to-soil contact is to use a drill with properly adjusted

press wheels or to broadcast and use a corrugated cultipacker (Brillion seeders have two cultipackers). Following the seeder with a drag (spike tooth harrow) loosens soil and is not recommended.

Seeding a cover crop at a high seeding rate, which then outcompetes the alfalfa seedlings for water, nutrients and sunlight, is another common reason for stand failure. Seeding oats, barley or wheat at more than 1 bushel per acre or Italian ryegrass at more than 4 pounds per acre increases the yield of the small grain for grain or forage or ryegrass, but at the expense of the alfalfa. In addition to increased chance of a poor stand, alfalfa stressed under a heavy seeding rate of a cover crop will not yield as well in future years.

Weed control

One establishment option to consider is seeding alfalfa with the oats as usual and then spraying the oats when the crop is 4 to 6 inches tall with Poast Plus, Select or Raptor (or Roundup on Roundup Ready alfalfa when it becomes

available). This system provides the erosion and early weed control benefits of the cover crop while still giving the alfalfa yield of a direct seeding. Oats need not be premium varieties and should be seeded at the 1-bushel-per-acre rate.

The final common reason for stand failure is uncontrolled weed competition during the first 60 days after planting. During this establishment period, weeds (especially broadleaf weeds) can cause significant stand thinning. Weeds germinating after 60 days are likely filling holes in the field and will not cause stand thinning (though these weeds in the seeding year may be an indication of reduced alfalfa growth due to some nutrient deficiency or disease).

Small seeded crops are more difficult to get good stands with than large seeded crops. But careful attention to the details described above can result in good seeding success most years.

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