

Amalgamated produces 20 percent of the nation's beet sugar

SUGAR from Page 1

chairman of Snake River Sugar Cooperative, which controls Idaho-based Amalgamated Sugar. "I think it would be wrong to characterize Hershey's decision as well-reasoned."

Cerminara said his company now offers chocolate kisses and candy bars made with non-GMO cane sugar in the U.S., as well as a small selection of organic, artisan chocolate products.

But Cerminara emphasized his company's products have always been safe and high-quality, even when they were made with sugar from GMO beets.

"The international scientific community, including the U.S. American Medical Association, the World Health Organization, Health Canada, the National Academy of Science and the Food and Agricultural Organization of the United Nations have all examined the health and environmental safety of plant biotechnology," Cerminara said. "These organizations have concluded that these technologies are safe for human consumption."

The future of sugar

In 2003, when his company was first investigating the potential benefits of biotechnology, Grant was accepted for an Eisenhower Fellowship, a program honoring former President Dwight Eisenhower by promoting global dialogue.

For his project, Grant headed to Europe to investigate why residents of the continent held such negative attitudes about biotechnology.

Grant concluded Europe had "an authority vacuum" in food regulation, and the public was more apt to trust activists who sought to "stir things up" than regulators.

By contrast, the U.S. beet sugar industry rapidly adopted GMO technology, which offered improved weed control with less labor and the use of fewer chemicals.

"We really needed some new tools to control weeds in beets," Grant said. "Otherwise, I was going to get out of the business because what we had at the time was completely ineffective."

Amalgamated processes sugar from 183,000 acres of beets in Idaho, Oregon and Washington, producing 20 percent of the nation's beet sugar and 12 percent of the total U.S. domestic sugar supply.

In 2006, Amalgamated planted test plots of GMO sugar beets. The following season, the company made its first commercial planting,



Sugar beets are scooped at a beet piling area in Rupert, Idaho.



Hershey's chocolate kisses are manufactured. The company recently moved away from using sugar produced with biotechnology.

under a government permit. Now, all of Amalgamated's sugar beet acres are GMO.

Grant said his company sources cane sugar from the global market to meet the needs of customers requiring non-GMO certified sugar. But he's confident most U.S. consumers believe in the safety of GMO technology, and vows Amalgamated will never return to conventional sugar beet production.

"This company will go out of business before they go back to conventional," Grant said.

Minnesota-based American Crystal Sugar — which raises 400,000 acres of sugar beets and produces 11 million tons of refined sugar per year — won't raise any sugar for the conventional market in the next year or two, CEO David Berg said.

Berg said a single grower within the company sometimes still plants conventional beet seed because he's had "competitive results," but his beets are mixed in with the piles of GMO beets. Though Berg believes GMO beets are proven safe and the opposition is emotionally driven, he won't rule out the possibility

of producing some non-GMO sugar a few years from now. He said his staff is spending more time on analyzing the non-GMO market than a couple of years ago, but converting acres back to conventional production remains a remote possibility.

"It's something we have to assess," Berg said. "The market will dictate what we do."

GMO-free, organic sugar

Jack Roney, an economist with the American Sugar Alliance, estimates less than 2 percent of the U.S. sugar supply is organic.

The country's total organic sugar consumption is roughly 140,000 tons per year, the bulk of which is imported cane sugar. A single company, Florida Crystals, accounts for all of the domestic organic sugar production, raising 9,000 tons per year of organic cane, Roney said.

Florida Crystals officials could not be reached for comment, but their website advertises that they remain "America's first and only producer of certified organic sugars," and that their products are "not just sweet, but

they're also sweet to the environment."

Roney said Florida Crystals hasn't increased its acreage — despite a hefty organic premium and a strong organic sugar growth trend — because of high production costs.

"I'm not hearing about any big efforts by American producers to go into organic," Roney said. "In developing countries, it's kind of easier to do organic because they can't afford herbicides or pesticides."

There's no GMO sugar cane on the market, though cane faces strong disease pressure, adding to the challenge of raising it organically.

According to the Organic Trade Association's 2015 Organic Industry Survey, organic sweetener sales reached \$200 million in 2014, and annual growth has been steady at 15 percent. OTA spokeswoman Maggie McNeil said beets haven't been certified as organic, partly due to a "chemically intensive" refining process.

She said that as refined sugar has come under increasing scrutiny there's been growth in organic sweetener options such as honey and agave.

The major sweetener verified by the Non-GMO Project is cane sugar, said Executive Director Megan Westgate.

"We do not yet have a beet sugar that is Non-GMO Project verified," Westgate said.

In the past year, she said the non-GMO category of candy, chocolate, desserts and sweeteners has increased from 153 brands and 780 project-verified products to 238 brands and 1,402 products in 2015. The snack foods and bars category, which also requires a variety of sweeten-

ers, grew from 2,080 products to 3,103 products during the same period, she said.

"Consumer demand for transparency is at an all-time high and shows no sign of diminishing," Westgate said. "With this shift in demand to non-GMO sweeteners, it will become increasingly more important for supply to meet demand."

Thom King, founder and CEO of Portland-based Stevia Ingredients, believes his company's specialization in natural, low-calorie sweeteners makes it ideally suited for the future.

"We experience triple-digit growth year over year," King said.

His company fills 60 percent of the U.S. market for stevia, a sweetener considered safe for people with diabetes derived from a plant native to South America. Coca-Cola now makes a low-calorie soda with a blend of cane sugar and stevia, he said. He also produces sweetener from an Asian melon called monk fruit.

King believes his products provide a more healthful alternative to sugar, but he sees no benefit to choosing GMO-free cane sugar over beet sugar.

"If you're using GMO to increase crop yield to feed the world and the net effect is finished goods that have no trace of GMO, I'm not sure anyone could support that being a bad idea," King said.

Environmental claims

In the case of sugar, Grant argues consumers who seek organic and GMO-free products are doing the environment a disservice.

On behalf of Amalgamated, Grant signed a report compiled by the American Sugarbeet Growers Associa-

tion documenting 25 reasons GMO sugar beets are ecologically superior to conventional beets — including that they require fewer and safer herbicides and less fuel to grow.

The report was offered as public comment to the National Academy of Sciences, which will soon take a position on GMO crops.

Grant further reasons that consumers can fight global warming by avoiding organic sugar. Grant said most organic sugar consumed in the U.S. comes from cane-producing countries where rain forests are often cleared for crop land.

"Does it make sense to slash and burn the rain forests in Brazil to bring organic sugar here and put American beet farmers out of business, in spite of the fact that they're producing in an environmentally sustainable manner?" Grant asked.

He also believes there's too little accountability to be confident foreign suppliers in "markets where you can buy a paper trail" are meeting U.S. organic standards.

A few years ago, the major beet companies conducted a demonstration, testing finished GMO beet sugar from several plants against cane sugar to prove there's no chemical difference. The samples were indistinguishable on the molecular level. Grant said only at the atomic level can the products be differentiated — by a single carbon isotope distinguishing a grass, sugar cane, from a root, sugar beet.

Grant said current sugar prices are "reasonably profitable," and in the long term, he sees the market share only growing for GMO beet sugar.

Beet growers, who used to produce less sugar per acre than cane farmers, have seen their trend-line yield gains double since the advent of GMO sugar, while cane yields have been declining.

"You take that out 10 years and beet sugar in the U.S. will be by dramatic margins the most cost-effective sugar produced anywhere in the world," Grant said.

Despite the growing niche for organic and GMO-free sugar, Grant said Amalgamated has a market for all of the sugar it can produce and has invested \$155 million in the past four years to remove production bottlenecks and boost its output. With sugar prices up, he anticipates the sugar beet industry's next step will be to build new processing capacity. "We believe in the end science will prevail," Grant said. "We are just on the edge of what this technology can really bring."

Extreme drought conditions are almost gone in Idaho, snowpack levels way above normal

DROUGHT from Page 1

The snowpack can use all the help it can get considering that much of the winter is expected to be dominated by El Nino, whose southern storms usually bring higher-than-normal temperatures and snow levels.

The federal Climate Prediction Center envisions cooler-than-normal temperatures and below-average precipitation throughout much of the West over the next two weeks, with El Nino's high rainfall amounts in the southern United States taking hold in early 2016.

Whatever happens between now and New Year's

Day, snow levels are sure to be better than they were on Dec. 30, 2014, when the Department of Water Resources' first manual snow survey near Echo Summit found a snow-water equivalent of 4 inches, or 33 percent of average.

In Oregon, the percentage of the state in extreme drought dropped to 46 percent from 59 percent. The percentage of the state in some level of drought declined to 88 percent from 90 percent.

There is significant snow in the Cascades, the Blue Mountains, the Wallows and the Siskiyou.

In contrast to last year,

2015 is ending with healthy snowpacks across Oregon — in some cases, snowpacks are more than double the average level.

The statewide snowpack is at 175 percent of average, but the Harney, Malheur and Owyhee basins in southeast Oregon all have levels above 220 percent of average.

There are currently no basins in Oregon with below average snowpacks. The Hood, Sandy and Lower Deschutes basin in northwest Oregon has the lowest snowpack level, but it still clocks in at a respectable 107 percent of average.

Rain also has been more than adequate across with

state, with precipitation levels ranging from 129 percent of average to 160 percent of average.

To compare, the statewide snowpack level was 60 percent of average at this point in 2014 and would fall even further in the ensuing months and into spring.

Back then, southeast Oregon basins were the only ones above average but they also severely diminished over time.

Extreme drought conditions are almost gone in Idaho, dropping to 1 percent from 8 percent the week before, according to the drought monitor. Extreme conditions in Idaho peaked at 29 percent

of the state in August and September.

Snowpack levels in Idaho are way above normal in many basins and well ahead of where they were this time last year.

Snowpack in the Bruneau basin in southwestern Idaho was 224 percent of normal on Dec. 23, according to Natural Resources Conservation Service Snotel sites. Snowpack levels in the Northern Panhandle region were at 102 percent of normal and they were at 99 percent of normal in the Spokane River basin.

In West and southwest Idaho, snowpack in the Weiser basin was 193 percent of normal, and it was 168 and 167

percent of normal in the Payette and Boise basins, respectively. In East Idaho, snowpack levels in the Snake River basin above Palisades were at 106 percent of normal.

Water managers said it's a good start to the season but the snow needs to continue falling because most reservoirs ended the 2015 season with less carryover water than they did in 2014.

"We're very thankful for this precipitation and just hope it hangs on," said Payette River System Watermaster Ron Shurtleff.

Reporters Don Jenkins, Tim Headren, Sean Ellis and Mateusz Perkowski contributed to this report.

Biotech proponents have opposed disclosure requirements because of fears of vandalism

GMO from Page 1

The plaintiffs also agreed to stop seeking \$4.2 million in compensation for the removal of their alfalfa crops, which are "Roundup Ready" varieties resistant to glyphosate herbicides.

Other growers of genetically engineered alfalfa can "opt in" to the settlement by submitting sworn documents identifying where their crops are grown, either with satellite data or other geographic information, within 30 days of the deal's approval.

The information will be submitted to attorneys representing biotech critics who intervened in the case and the data would be covered by an "attorneys eyes only" protective order.

Biotech proponents have opposed disclosure requirements, such as a bill proposed during the 2015 legislative session in Oregon, because of fears of vandalism.

In 2013, two fields of genetically engineered sugar beets were destroyed in

Jackson County, which the Federal Bureau of Investigation called a crime of "economic sabotage."

Ron Bjork, president of the Jackson County Farm Bureau, said some farmers may forgo submitting the sworn document and simply phase out their biotech alfalfa fields within the allotted time.

"I don't know if they will give it to them or not. It's up to every farmer to make their own decision," he said.

Bjork noted that Jackson

County doesn't have dedicated agricultural experts or a laboratory to test whether crops are genetically modified organisms.

Before county authorities could even try to verify that a GMO crop is being grown, they'd likely first have to get a complaint and then obtain a search warrant, he said.

"The question is who is going to go out and enforce it," Bjork said.

Devin Huseby, an attorney for Jackson County, said no decisions have been made

about the enforcement about the county's ordinance.

"It would be total speculation whether people are going to come forward or not," Huseby said.

The ordinance is now in effect and biotech growers who don't submit field information are "flagrantly violating the law," said George Kimbrell, attorney for the Center For Food Safety, a non-profit that intervened in the case to support the ban.

Kimbrell said the most important aspect of the settle-

ment is that the "right to farm" ruling won't be challenged, rather than whether farmers will follow the disclosure requirement.

"People don't follow the law sometimes, but that's at their own risk," he said.

Shannon Armstrong, attorney for the plaintiffs, said the deal sought to protect farmers' privacy as much as possible.

"We're just thrilled other farmers of Roundup Ready alfalfa will be able to opt in to this settlement agreement," she said.