



Designer Sorghum

Chromatin Matches The Type of Sorghum To Its End Use

Chromatin Inc. is developing “designer” hybrid sorghum varieties, customizing the crop to expand its use as an energy crop for biofuels, renewable chemicals, and biomass power generation.

Daphne Preuss, president and chief executive officer of Chicago, IL-based Chromatin (312-235-3610), said the company looked at many crops for energy production, but is concentrating its efforts on sorghum.

“Sorghum is what we are pursuing as our main focus,” she said.

Founded in 2000, Chromatin is a privately-held, venture capital-backed

biotechnology company with headquarters and laboratory facilities in Chicago. It has recently expanded its molecular biology laboratories in Champaign, IL, where it also has greenhouse operations. Its seed production is near Lubbock, TX.

Triple Threat Crop

Sorghum, Preuss said, is a triple threat crop:

- Grain sorghum is used as a starch-based feedstock to make ethanol.
- Forage sorghum can be used as a biomass feedstock.

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**- Daphne Preuss, CEO,
Chromatin Inc.**

- Sweet sorghum can be pressed and its juice used much like sugar cane to produce ethanol.

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To make the match between the type of sorghum grown and its end use, Chromatin Inc. is looking for partners who want to use sorghum as a feedstock for biofuel production, renewable power generation, or biochemical uses.

“We are going to identify where the crops can be grown, partner with the end users, and then develop (sorghum plants) that fit their business,” she said.

Talks with possible partners are underway, Preuss said. She declined to say with whom.

“For fuel, we’re looking at the sweeter sorghums because you can use it much like you would use sugar cane,” she said.

What’s left of the sorghum after the sugar is extracted can be used as a cel-

lulosic feedstock or processed through a thermochemical process to make synthetic gas, she explained.

“We can create a lot of value that otherwise would be lost,” Preuss said. “We know how to pick the sorghum for the particular process.”

Dave Jessen, Chromatin’s chief technology officer, said Chromatin uses a proprietary gene-stacking technology that can be used to simultaneously and precisely reshape any plant.

The company has acquired a lot of genetic material so it can meet differing requirements for diverse uses, he said.

“We can improve the sorghum as we work with end users to increase the sorghum’s efficiency through the breeding process,” Jessen stated. “We can tailor the sorghum for the end user over time.”

Chromatin’s dual-purpose Sweet-Fuel™ sorghum hybrids deliver sugar for chemical and fuel processing and high-energy biomass for thermochemical conversions, he said.

Jerry Perkins, editor



Chromatin’s biomass sorghum in upper panel, grain sorghum in lower left, and hybrid sorghum seed production fields, lower right, are being grown in Texas.