

Crop Management

Irrigation station tackles unique research

By GARY HODGSON

WHY would an agriculture research facility located in the largest corn-producing county in the nation be developing a 15-foot corn variety with little or no ear? The answer can be found at the Irrigation Research Foundation in Yuma County, Colo. This variety is one of more than 300 individual tests being conducted in 2009 at the 145-acre facility north of Yuma.

The giant corn, called Sugar Corn, is a joint venture of Target Growth Inc. and the Colorado

Key Points

- Irrigation Research Foundation is an independent facility.
- Sustainability of the Ogallala Aquifer is key goal of center.
- Board members are voted on by the entire community.

Corn Growers Association to find a renewable energy source for ethanol production from cellulose.

Charles Corey, IRF executive director, says, "Using seed from Argentina, we want to learn to grow and harvest this sugar-

CROP CHECKING: IRF Executive Director Charles Corey checks progress on one of more than 300 individual tests conducted on nine crops.

cane-like variety here in our region. One of the problems, he explains, is "to slow down its growth so root development can keep up with the tremendous stalk production. Lodging is a big concern."

This unusual test is not surprising at this unique facility. Corey proudly points out, "We believe the foundation is the nation's only nonprofit, co-op-funded operation not affiliated with any university, government agency or outside source. We are celebrating our 15th anniversary this year."

Community-run operation

"We" is a word that everyone associated with the operation uses, from the seven-member board to office manager Robin Vincent to Dale Ebersole, farm operations manager.

"This is truly a community-run operation," Ebersole points out. "When we hold our annual meeting to elect board members, anyone from the area can walk in and vote. It is not unusual for there to be six or more



PHOTOS BY SUE HODGSON

candidates interested in filling a single board position."

The reason the community is so supportive of the farm's activities can be found in the IRF mission statement: "The Irrigation Research Foundation is committed to the conservation of the quality and quantity of the Ogallala Aquifer, its food production and enhancement of the socioeconomic welfare of the region."

Corey points to a farm map in the meeting room where local farmers join board members for informal coffee sessions nearly every morning. "We conduct tests on sugar corn, field corn, wheat, alfalfa, soybeans, grain sorghum, sunflowers, sugar-

beets and onions. This goes on under five center pivots, one linear sprinkler and an underground drip system," he says.

Ground zero for the facility is a single 750-gallon-per-minute well that waters the entire operation, minus a few dryland test plots. It is connected to a frequency drive panel programmed to deliver the right amount of electricity to run the pump only fast enough to deliver the required flow.

A report on research findings is available for \$15 at IRF, 40161 Highway 59, Yuma, CO 80759. You also can call 970-848-3043 or go to www.irf-info.com.

Hodgson writes from Brush, Colo.

They said it

"The foundation was started to help the sustainability of the Ogallala Aquifer; 70% of Colorado's irrigated corn is watered from it. With the proof that we can produce high-yielding crops with as little as 15 inches of irrigation, we can help sustain the life of the aquifer."



Byron Weathers,
IRF board member,
president of the Colorado Corn
Growers Association,
Yuma, Colo.



"Our company has adjusted equipment lines based on research results of the foundation.

A manufacture's prototype tested here is now a popular strip-till machine. Today, we hardly ever sell primary tillage equipment to irrigated operations, based on findings at IRF."

Dave Witte,
IRF board vice chairman
Yuma, Colo.

Feed less hay with early grass production

By LEE FARREN

CATTLE and sheep producers in western Oregon and Washington are extending their grazing season by shifting grass production forward in the spring.

They record temperatures and use a simple mathematical formula to apply nitrogen fertilizer just as the plants begin to grow. The result is pasture that's ready for livestock two to four weeks earlier than with a calendar-based fertilizer application.

Called T-sum 200 in research performed in Europe and British Columbia, the method works best in areas with cool, wet winters. The "T" stands for air temperature, while "200" expresses the accumulated growing degree days, or GDD, in degrees Celsius for grass growth to begin. The comparable number in degrees Fahrenheit is 360 GDD.

Beginning on Jan. 1, mean daily air temperatures are added up in a running total to give a cumulative number. Here's how it works with degrees Fahrenheit. Add the day's

high and low temperatures and divide by 2 to get the mean average. Subtract the T-sum base temperature of 32. Any negative numbers are recorded as zero. When the running total reaches about 360 GDD, apply nitrogen.

When to apply nitrogen

Temperatures in western Oregon and Washington can reach T-sum 200 from late January to early February, and in central Oregon from mid-February to the end of March.

"Sometimes people think it's too early, too cold, but that's still the best time to apply nitrogen," says Mylen Bohle, an Extension agronomist at Oregon State University's Central Oregon Agricultural Research Center in Madras. "You may not see a green leaf out there, but if you go out and dig down into the crowns, you'll see tiny green

leaves just starting to form. The root growth is preceding the top growth."

Bohle's research shows that T-sum can be effective in drier, colder areas like central Oregon, and in hay fields as well as pasture. Most of Bohle's work was done with irrigated orchard grass. The T-sum target for grass hay fields is around 720 GDD Fahrenheit.

Bohle notes that T-sum timing shifts some of the spring production earlier but does not increase the total amount of forage produced during the year. The technique also works only for the spring nitrogen application. Additional nitrogen is needed after cutting or grazing.

OSU scientists recommend using the T-sum method on pastures that get a rest between grazings, are free of standing water and can support grazing in wet early-spring conditions. Tall fescue, orchardgrass and perennial ryegrass all respond well to early nitrogen. "The idea is that you can stop feeding hay a little earlier, or feed less hay, and get the livestock out there on grass," Bohle says.

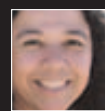
Find more information at



PHOTO BY BOB BOST, OSU EXTENSION AND EXPERIMENT STATION COMMUNICATIONS

They said it

"What people are surprised and happiest about when they use T-sum 200 timing is that they can stop feeding hay earlier. They get a relief from the time and cost of feeding hay."



Shelby Filley, livestock and forage specialist,
Oregon State University
Extension Service,
Douglas County, Ore.



"I know of at least 100 people who have tried T-sum timing in the mid-Willamette

Valley in the past few years. They are able to generate some earlier feed by targeting drier, upland pastures. It's especially effective with sheep, which are smaller and do less damage on a wet pasture."

Gene Pirelli, animal scientist,
Oregon State University
Extension Service,
Polk County, Ore.

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extension.oregonstate.edu/catalog/pdf/em/em8852-e.pdf

Farren writes from Ukiah, Ore.