PROGRESSIVE
DAIRYMAN

Serving Dairymen Nationwide | July 21, 2013 | Vol. 27 No. 11

Beats the alternative

Arizona dairy hopes to swap silage for beets PG. 47

Plus

Commodity variation is real

Your purchased feeds may have more nutrient value than you're giving them credit for. Could it save you money? PG. 54

How to measure shrink

Consider hiring an intern or high school student to be your silage yield project manager this year. Give them these instructions. PG. 58

Heroes in a half shell

Read what you can learn about successful marketing from some of Wall Street's most successful traders – Richard Dennis' 'Turtles.' PG. 31

Dairying along the cutting edge

Read highlights from the first-ever U.S. Precision Dairy Conference. PG. 38

www.progressivedairy.com

Dairy hopes to swap silage for beets

Progressive Dairyman **Editor Walt Cooley**

Paul Rovey hopes his first-ever crop of sugar beets soon replaces tons of corn silage in his dairy's ration. Rovey showcased his plans to harvest and fresh-feed 100 acres of beets at a field day in June.

"The reason I'm doing it is because I see it's a huge opportunity for us to reduce our feed costs," Rovey says. "We may not see a lot more milk, but it's all going to be more efficiently produced milk."

The first sugar beets harvested at the recent field day cost the dairy about $25 per wet ton to produce. They yielded 49 tons per acre. On a dry matter basis, that will likely equate to 8 to 12 tons of feed per acre with a dry matter value of about $100 per ton. That's fairly impressive since the field was planted two months later than recommended and yields were lower than their potential.

"This field is going to provide similar yield results as beets grown in California," says Craig Talley, animal nutrition technology lead for Betaseed. "So what the Roveys are really doing is raising their own beet pulp, with the sugar."

Betaseed is launching a new line of sugar beets, like the ones Rovey is growing, known as Feed Beets. These beets have been bred to emphasize high dry matter yields with a sugar content between 13.5 and 15 percent.

Talley approached Rovey last fall with a proposal to plant a few acres of beets. Rovey agreed to a test plot. So the first beet seeds to be planted in Arizona in more than 25 years went in a six-acre parcel just after Thanksgiving.

"We were pretty skeptical about growing beets," says Rovey's son, Eric, who manages the dairy's farm ground. "We thought there must be a reason why people stopped growing them."

Eric says the beets turned out to be "easy to grow." The Roveys planted another 100 acres just before Christmas. Rovey says the second planting was with a bit more faith, not knowing exactly how the dairy would harvest and feed all those beets. Not accounting for labor, fuel or rent, the Roveys invested about $9,000 into the trial.

The purpose of the field day was to showcase the options Betaseed has developed for Rovey to get his beets out of the field and into his ration. Much of the machinery on display was leased to the dairy at little or no cost. This is because beet-handling equipment companies are eager to see new customers beyond those who are growing sugar beets for the U.S. sugar market.

Arizona dairyman Paul Rovey holds a sugar beet harvested from a fall-planted field. Rovey says he hopes to be able to one day be feeding as many as 10 pounds of dry matter beets per cow per day. Photo by Walt Cooley.

Equipment provided by Amity Technology, a sugar beet-handling-equipment company, topped the beets and dug them from the ground. Rovey says eventually he'd like to see if he can feed the tops of the beets too, which sugar beet farmers just till back into the soil.

Once that day's freshly harvested load of sugar beets arrived on the dairy, Rovey displayed two different ways he plans to test processing them.

The "Cadillac" of beet processing is an all-in-one beet washer, de-stoner and chipper. One such piece of equipment Rovey is using is Cross Agricultural Engineering's Elephant, or

Continued on page 48

Dairy hopes to swap silage for beets, cont'd from page 47

TOP LEFT: Paul Rovey plans to fresh-feed beets by harvesting them every four days and chipping them daily. **TOP RIGHT:** Dairy nutritionist Mark Holt of Matrix Nutrition (center) offers attendees a taste of freshly chipped beets that will be fed to cows on Rovey's dairy in Glendale, Arizona.

Photos by Walt Cooley.

"Beatzilla" as the farm has nicknamed it. It traveled more than 2,000 miles from its previous home in Michigan and will reside on Rovey's farm for at least the rest of the growing season. It is the only portable unit that exists in the U.S. The upside is that it produces freshly chipped beats with minimal wear and tear on the farm's other feeding equipment. The downside is that it would be one more piece of equipment to buy or lease in order to feed fresh beets.

The other chipping option, which Rovey calls "doing it on the cheap," is to use a side-shooting manure spreader to chunk the whole beets that are dug straight out of the field. The downside to this method is the dirty beets put more wear on Rovey's Knight Slinger from Kuhn and carry more ash into the ration.

"I'm going to grow enough sugar beets to feed the maximum amount of sugar beets I can feed," Rovey says. "We don't know what that number will be. Our guess is it will be 10 dry matter pounds per cow, per day. If that is true, we would need to be growing about 300 acres, depending on yield."

Rovey's nutritionist, Niles Jennett, believes sugar beets can perform just as well as the silage it will replace, if not better.

"The standard deviation of the sugar in sugar beets is 2 to 3 percent. The starch deviations in corn silage can be up to 12 percent in our area," Jennett says. "It's really about believing that sugar can do as well as a starch. We can probably use sugar as a carbon source more often than we have in the past. We've always looked at corn being a necessity when it's the carbon in the starch that's the necessity, not the corn itself."

Besides being more consistent to feed and ensile, the crop is more efficient to grow. Rovey estimates his dairy can grow corn silage for about $34 per wet ton on 6 acre-feet of water per acre. Purchased corn silage in Rovey's area costs about $40 per wet ton. The $25-per-wet-ton beets the Roveys grew used about 3.5 acre-feet of water per acre.

"When all the costs are laid in, I think this is the cheapest feed you could feed," Rovey says. "Why not feed the cheapest feed?"

How the dairy will store the beets remains the biggest unknown. For now, in-ground is the best option. Rovey plans to harvest whole beets every four days and chip them fresh every day.

With his first fresh batches, Rovey plans to experiment by mixing the beets into small batches of bagged haylage and corn silage. If those experiments are successful, it would give Rovey a Plan B in case fresh feeding doesn't work out as well as he hopes it will.

The first feeding of the beets at the field day was mixed with dry alfalfa hay and fed as a top-dressing to a milking pen at mid-day.

"Cows were coming out of the shade to eat those beets, and sorting through good alfalfa for them, too," says nutritionist Mark Holt of Matrix Nutrition in Chandler, Arizona. Holt will be encouraging other Arizona dairymen to pay attention to Rovey's results.

As president of United Dairymen of Arizona, Rovey says he hopes his individual success can translate into tools for other co-op members.

"Hopefully, we can learn enough that we can help other dairymen in Arizona gain other efficiencies and help the viability of the Arizona dairy industry," Rovey says. "One way or another, I want to be feeding the maximum amount of sugar beets I can per cow per day, 365 days per year, whether that's fresh or ensiled." **PD**

/MORE *Watch how Rovey Dairy plans to harvest, clean and feed sugar beets to its cows at www.progressivedairy.com/more*