Turning ethanol production into a family business

By Charlene Scott

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GARDEN CITY -- Production of the fuel additive ethanol is a family business at Reeve Agri Energy plant outside Garden City, an operation "that serves as an example of what can be done in rural America," Lee Reeve, general manager, said proudly.

Reeve, a fifth-generation Kansas cattleman, has reason to be proud. His facility not only produces ethanol from grains, but it also efficiently uses byproducts from the plant in several other areas of the operation.

For example, the distiller grains (the part of the grain left after ethanol production) feed 33,000 head of Reeve cattle on a feedyard next to the plant. Then water from the distillation process is used for the Reeve fish farm - and finally, the warm water from the fish tanks goes to fertilize the farm's alfalfa crops.

It's an endless 24-hour cycle that's repeated day after day.

The ethanol plant was built in 1981 by M.P. (Jack) Reeve, Lee's dad, who began developing the ranch land for irrigation in the mid-'60s and introduced high-moisture corn to the area in 1966.

"We are one of about 62 ethanol plants in the United States," Lee said. "And more plants are under construction, mainly clustered in the corn belt."

"At Reeve, we've expanded our production of ethanol from 2.3 million gallons per year to 11 million gallons per year now."

The plant, located off the old U.S. Highway 83 several miles from Garden City, ships its ethanol both by truck and rail to the Rocky Mountain states, beyond to Arizona and Nevada and on into the Northwest.

"Most ethanol for the east is produced in Illinois and Iowa," Lee explained, "so we go west and have a freight advantage."

Like most ethanol producers, Lee has lobbied for his product in Washington, D.C., and doesn't mind saying that "since 1980, more than a trillion miles have been driven on ethanol-blended fuels."

But although he calls ethanol "the fuel of the future" because it's clean-burning and doesn't have any downside, he doesn't think the gasoline extender will
ever replace gasoline in the United States.

"We can produce a lot more ethanol than we're producing, but ethanol is only between 1 and 2 percent of the fuel consumed right now," he said. "The United States uses more than 100 billion gallons of gas a year. There's no way we could produce that much ethanol. There's not that much spare grain in the entire country."

Lee doesn't see the ethanol and gasoline markets as an "either/or" situation.

"We could not supply all the market," he said. "There's room for everybody in this. There's room for the oil companies; there's room for the wind people, the coal people, and the conservation people who say we need more fuel-efficient vehicles. All of these people are right.

"We have to do a hundred things to solve the fuel problem," he continued. "We are importing more oil every day. All we're trying to do is produce more fuel at home. That's a radical idea."

The United States requires a blend of 90 percent gasoline and 10 percent ethanol.

Some countries like Brazil, which creates its ethanol from sugar cane, have opted for a higher blend of 25 percent ethanol.

During World War II, Germany ran much of its war effort on alcohol because it didn't have access to oil.

"Some vehicles run on pure ethanol, and we have autos that run on 85 percent ethanol, 15 percent gas," Lee said. "Flex fuel vehicles are being produced to run that way, or with straight gas if you want. Henry Ford believed so strongly in ethanol fuel, he designed the Ford automobile to run on it."

At the pump, gasoline blended with ethanol is referred to as "unleaded plus" or "super unleaded." The pump is labeled "ethanol enhanced" or "contains 10 percent ethanol."

"Those signs are subtle; most people never notice them," Lee said, admitting that he and his family "pull into the stations that have ethanol, although we don't drive 40 miles out of our way to find it."

Out in the Reeve feedlot, cattle munch on ethanol byproducts, which can be fed wet, thus saving even more energy.

And over at the brood pond, white tilapia -- a tropical fish that appears in ancient Egyptian tomb drawings -- frolic in the warm water from the ethanol plant.

"These are the 'Jesus fed the multitudes' fish," Lee said with a grin, and his helper, Joe Burnside added that the fish are native to North Africa and found in the River Nile and the Sea of Galilee.

"Our tilapia are spawned in the brood pond and moved to one of eight growout tanks," Burnside said. "We raise between 50,000 and 100,000 pounds of fish a year.

"We are starved for fresh fish in southwest Kansas, so we never have a
problem getting rid of our fish (they are sold by the pound on Saturdays from 9 a.m. to noon at the plant).

"The fish were brought into the Reeve operation in 1987 to make better use of our water," Burnside added. "Water is a rare commodity in southwest Kansas. We have become stewards of water here. We use it for cooling in the alcohol plant; we use it for the fish farm, and then we send it into a pond for irrigation."

Lee's great-grandfather, Herman Reeve, farmed northwest of Garden City and started irrigating soon after the turn of the century. Herman's dad moved to Garden City from Indiana in 1882.

Lee graduated from Kansas State University in 1971, as did his father in 1943 and his grandfather in 1918.

What began as a farming venture evolved into ethanol production, which Lee believes can be a boon to farmers.

"Instead of paying farmers not to produce, wouldn't it be better to take a product and turn it into something that helps the environment?" he asked. "We are a relatively small industry nationwide, but we are making a big difference."

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