

Iowa CONSERVATION Showcase

Sioux County Feedlot Owner ‘Pumping It Up’

Instead of tearing out pens and downsizing his 4,500-head cattle operation to make room for a new waste storage lagoon, Kevin Van Wyhe installed a pump system to move water from two sediment basins to a large lagoon at the top of the hill above the feedlot.

Van Wyhe, owner of Valley View Feed Lots Inc. in Hawarden, Iowa, actually had two lagoons constructed on either side of his 80-acre open feedlot, one on the east side and one on the west side. He had no problem fitting in a typical gravity flow lagoon on the east side, but had no room for a drainage area on the west below the feedlot.

Van Wyhe installed two variable speed pumps in the west feedlot basins. He says if water is dribbling in slowly, they will pump slowly; if the water is coming in fast, they will pump faster. “This system here will pump 1,300 gallons per minute when it’s at full capacity,” said Van Wyhe, pointing to one of the pumps. “If it



Kevin Van Wyhe

rains six inches, the sediment basin will hold the water back and be able to pump it out in 36 hours.”

He built the waste storage lagoons to protect streams and cropland from manure runoff, and to irrigate his crops. “We use the pond water to irrigate crops, so eventually it is moved to the top of the hill anyway,” said Van Wyhe. “The pumps are expensive, though. One of the pumps cost



Van Wyhe began working at Valley View Feed Lots Inc. in 1978. There were 1,800-head of cattle then. He now runs the business and there are 4,500-head.

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\$20,000, so if I could have, I would have installed both lagoons as gravity flow. That would have cut the cost.”

**Environmental Quality
Incentives Program (EQIP)**

To help shave the total costs of the project, Van Wyhe received cost-share funds through the USDA’s Environmental Quality Incentives Program (EQIP), a voluntary program administered by the Natural Resources Conservation Service (NRCS) that offers financial and technical assistance to install or implement structural and management practices on eligible agricultural land. Van Wyhe received \$50,000 through EQIP for the gravity flow lagoon on his east feedlot, and \$30 cost-share through EQIP for each head of cattle on the west side.

He eliminated an estimated 20 acres of cropland to install the two lagoons. “Before we installed the lagoons we had settling basins to hold manure, and then the water would just go around it,” he said. On the east side, liquid now filters into an intake pipe on each of the two basins that sit above the lagoon. Liquid is then outlet into the lagoon. On the west side, pump systems sit in each sediment basin and supply liquid to the lagoon at the top of the hill.



Van Wyhe (left) and Sioux County District Conservationist Greg Marek stand in the newly constructed lagoon on the west side of Valley View Feed Lots Inc. The pump system was not complete, so no water was in the lagoon yet.

The lagoon on the west side of the feedlot holds up to 19.2 million gallons of water per year, while the east side lagoon holds up to 16 million gallons. “I made them bigger than I had to. I wanted them big enough so if it’s wet I won’t have to manually pump water out of there,” said Van Wyhe. “I only want to pump water when I need it for irrigation.”

Comprehensive Nutrient Management Plan (CNMP)

Since Van Wyhe signed an EQIP contract for a waste storage facility, he was required to develop and implement a Comprehensive Nutrient Management Plan (CNMP) to address the management and treatment of nutrients on his property and protect soil and water resources.

The nutrient management portion of the CNMP helps Van Wyhe manage the amount, form, placement and timing of plant nutrient applications. Soil tests must be completed every three to four years to determine P and K levels, and yield goals are used to determine N levels. The timing of manure and commercial fertilizer applications minimizes the loss of fertilizer through leaching and runoff.

Van Wyhe farms about 950 acres. “We need that many acres to get rid of the manure,” he said. “We have the cropland all mapped out, so we know how much manure to apply and where to apply it each year.”

“CNMPs serve as a guide for the producer to best utilize nutrients for crop production,” says Steve Brinkman, a nutrient management specialist for NRCS in Iowa.

Brinkman says a manure analysis is currently only encouraged prior to land application. However, that is going to change. “The revised NRCS 590 Nutrient Management Standard will require manure analysis prior to land application,” says Brinkman. That change is expected to take effect early in 2007.

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*Jason Johnson, Iowa NRCS
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