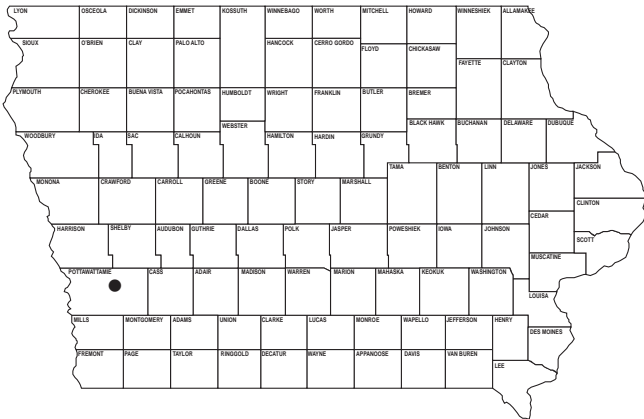


Feedlot Runoff Control

Demonstration Site: Swine Lot



Location

Pottawattamie County

Operator

Russ Brandes
37333 Mahogany Road
Hancock, IA 51536
Phone: (712) 741-5566

Please call for a viewing appointment.

Russ Brandes farms and raises hogs and cattle in southwest Iowa near Hancock. In addition to some open lots, he has a concrete swine finishing unit on his father, Wayne's, place just east of his own.

Directions

Go south of I-80 exit 34 on County M-16 (380th Street), 8 miles; or go west of Hancock on G-30 (Mahogany Road), 5 miles. At that intersection, go west on the gravel road. The farmstead is at the top of the hill on the south side of the road.

Lot Description

This finishing unit is a fairly typical shed-plus-lot arrangement. The shed is 32 feet by 64 feet, divided into four pens, with the feeders under the roof. The concrete lots outside each are 32 feet by 16 feet with concrete pen dividers. Each unit holds up to 60 head for a total of 240 animals.



Russ Brandes' swine finishing unit in hilly southwest Iowa has concrete solids settling and a terrace below to hold runoff liquid.

Operator's Comments

"The back end of the shed area has a 20-by-16 area for sleeping with a 12-by-16 area for the feeder. There is a 6-inch step down between the two areas, which is too much to be able to get a skid loader in easily. I think a 3- to 4-inch step down would be better. The other change I would make is the concrete apron — it slopes back toward the building and I believe I would slope it away from the building to allow the liquid to flow away from the solids."

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Runoff Control System

The waste system for this unit starts with the pens sloped 1/2 inch per foot to the south. There is a 3-inch lip at the bottom of each pen. A 16-foot-wide concrete apron runs west to east across the bottom of the pens. The apron settles solids and provides vehicle access and a loadout area. The settling system is somewhat unique since the end of the apron is not closed. The apron slopes east 1/10 inch per foot toward an underground pipe outlet at the end of the apron. The soil on the east end is graded to prevent runoff. The apron also slopes south to north at 1/4 inch per foot to hold runoff and solids up against the lip.

Runoff is piped underground to a level terrace just below the lot. The outlet is made so that boards with gaps between them can be used as a porous dam ahead of the pipe. Runoff is held in the terrace, making this a zero-runoff unit.



The settling apron slopes 1/10 inch per foot toward the front of this photo. The soil on the near end is graded to prevent runoff. The pipe outlet for liquids is on the far right.



This outlet pipe carries away runoff liquids. Boards can be placed in the slots to create a porous dam.

Written by Jeffery Lorimor, ISU Extension waste management specialist.

File: Engineering 1-1



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... and justice for all

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Here is the terrace just below the lot, looking east. Brandes has recently removed solids from the near end. No surface runoff leaves here.