Piggery septic system

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ONE of the problems of intensive houses for pigs is the disposal of the dung and urine. If proper arrangements are not made to remove this, it soon accumulates in an offensive pile at one end of the piggery, making an excellent breeding ground for flies.

A septic system connected to the five round farrowing pens at Denmark Research Station has solved this problem on the station. Similar systems could be successful on many farms.

The septic tank and leach drain described here were installed in June, 1964, and have proved an efficient and hygienic disposal unit.

Construction was carried out by farm labour.

Materials

One 72 in. diam. Hume tank complete with baffles.
Two 6 in. long earthenware square junction.
One 6 in. “P” trap.
Two 2 ft. lengths 6 in. earthenware pipes. (Number depends on distance of tank to shed).
Min. 60 ft. leach drain.
2,000-9 in. x 4½ in. x 3 in. wire cut bricks.
30-2 ft. 9 in. x 2 in. x 2 ft. rebated concrete slabs with 666 A.R.C. fabric; one 2 ft. x 2 ft. x 2 in. concrete slab.
½ ton cement.
Cost of materials was about £100.

Notes on Construction of Leach Drain

1. Bottom course of bricks is set on cement to obtain level, then all except the top three courses are placed in position without cement. Top three courses are laid in cement mortar.

2. Brickwork is laid throughout with a one-inch space between perpendicular ends.

3. Four and a half inch (4½ in.) intermediate brick spreader walls are spaced at no greater interval than 6 ft. throughout the length of the drain. Bricks laid as in the outer walls and interlaced into the walls.

4. Drain is covered by 2 ft. 9 in. x 2 ft. x 2 in. rebated concrete slabs reinforced with 666 ARC fabric, and joined by weak cement mortar.

Operation

A tank of this size should be able to handle up to 100 lb. of solids per day, and would be suitable for dealing with all the dung, urine and washing down water from 35 bacon pigs.

The quantity of solids passing through the Denmark tank has varied from 5 lb. to 60 lb. per day, and the volume of water from 20 to 400 gallons. Over the 15 months of operation, the accumulated sludge in the tank has been 1 in. and the blanket thickness has varied from 2 to 5 inches.

The water table in the leach drain has varied from zero to within 9 in. of the top of the drain, but at no stage has it failed to cope with the daily washing of the pens.

Points to Remember

• Litter or bedding, if used, cannot be allowed to enter the septic tank.

• A reasonably high water pressure is required to allow speedy cleaning out of pens.

• Disinfectants, when used, must not enter the septic tank.

Before installing a septic system, consult your local health authority. The Health Act stipulates that all such systems must be approved, and you will also be able to obtain expert advice on the type of system to suit your conditions.
SEPTIC TANK

Earthenware pipe connected to "P" trap fitted into end of open drain from shed. Min Fall 1 in 40

4" concrete base

LONGITUDINAL SECTION - SEPTIC TANK

LEACH DRAIN

20'0" Min. 30'0" comb. system

2'0"x 2'0"x 2" concrete slab

PLAN

4½" Intermediate brick spreader walls spaced not more than 6'0" centres. Bottom course and top three courses laid in cement mortar. Remaining brickwork to be laid with 1" open joints (to all types of leach drains)

2'9"x 2'0"x 2" rebated concrete slabs reinf. with 606 ARC fabric. Slabs to have weak cement mortar to all joints.

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