

Pork PRRS
by
Kenneth H. Kephart
Penn State Extension Specialist



PORCINE REPRODUCTIVE AND RESPIRATORY SYNDROME (PRRS)

PRRS has been in the U.S. for the past eight years. In that time, it has not generated any sentimental value.

Reproductive failures from PRRS cost \$100 to \$510 per sow. The respiratory problems associated with PRRS in the growing pig reportedly cost an additional \$7.50 to \$15 per pig marketed, although many would consider these estimates too low.

The following article is based on numerous published reports as well as observations of several veterinarians — Dr. Robert Graybill, Dr. Jerome Harness, Dr. Larry Hutchinson, and Dr. Timothy Trayer.

Nature Of PRRS
The PRRS virus was identified

in Lelystad, Netherlands in 1991, some four years after the disease was first characterized. A short time later, it was also isolated in the U.S. and Germany.

The virus affecting hogs in Europe is essentially the same virus as that found in this country. However, there are different strains, and based on recent studies at Iowa State University, there may be a five-fold difference in virulence among various strains.

Clinical Signs

What the disease looks like will depend upon the disease organisms already present on the farm.

In the reproductive form, PRRS results in 1-4 months of reproductive failure. Sows often go off feed, run a fever (104-106 degrees F), and abort (usually late in pregnancy) or deliver pigs at 105 to 112 days.

Death rates in sows following

infection can be high in some herds, according to Dr. Harness. The virus can cross the placenta and infect fetuses, causing an increase in stillborns and mummified pigs. The mummies will be delivered full size early in the course of the disease, and become smaller in the weeks to follow. Once all breeding groups have farrowed, reproductive performance may improve, but it often doesn't because of virus recirculation.

In the respiratory form, the dust- and bacteria-eating macrophages in the lung are destroyed. Because of this, growing pigs often suffer from other diseases.

The most common secondary invaders include Pasteurella, Streptococcus, Haemophilus parasuis, hemolytic E. coli, Mycoplasma, Salmonella choleraesuis, Bordetella and Actinobacillus. This stage of the disease often follows the reproductive "storm," but it can also occur without reproductive problems.

Newborn pigs infected with PRRS are weak at birth, become lethargic, take on a rough hair coat, and may suffer from bacterial septicemia and diarrhea. Mortality and cull rates are high, especially in farrow-to-finish enterprises.

Pigs in the finishing phase have mild to moderate respiratory disease, depending on the presence of other respiratory problems.

Transmission

The PRRS virus is extremely infectious. Jeff Zimmerman, a

DVM researching PRRS at Iowa State University, suggests that the dose level may approach one virus particle.

Scientists are still uncertain how the virus spreads from pig to pig or farm to farm. Zimmerman reports that fecal shedding is the main way PRRS is spread. He considers nose to nose contact and aerosol transmission secondary (attempts to make the virus spread just 20 feet through the air have failed). However, Dr. Robert Graybill, DVM from Lancaster, Pa., believes the aerosol route is a major factor.

A field study in Germany suggests that airborne transmission is significant up to 1.24 miles. Clearly, the PRRS virus is persistent in the upper respiratory tract, and at least two studies have demonstrated difficulty in isolating virus from manure.

The virus also can be shed in semen for as long as 43 days after infection. A study in Britain indicated PRRS was likely spread to non-infected farms via purchased semen. Researchers at South Dakota State University have shown that gilts can become infected by artificial insemination using unextended semen from experimentally infected boars.

Studies at Iowa State University show that the PRRS virus may affect fertility, and vaccinating boars with the PRRS vaccine may reduce virus shedding in the semen.

Diagnosis
PRRS diagnostic workups

should include symptoms in the pig, as well as characteristic lesions in the tissue, virus isolation from tissues or blood, and blood tests to detect the presence of antibodies.

At present, blood samples can be submitted to any of Pennsylvania's animal diagnostic labs (Penn State, Summerdale, or University of Pennsylvania) for the ELISA test. The state labs can also perform virus isolation.

Control

The strategy for controlling PRRS (stopping virus spread) is simple in theory but difficult in practice. Often populations of negative animals exist beside groups of positive animals. If a negative animal picks up the virus, the resulting infection leads to heavy virus shedding and subsequent infection of other "naive" pigs. This phenomenon is especially true in breeding herds that receive replacement gilts every month or so. As a result, the level of immunity never stabilizes and virus shedding persists.

The following cleanup steps are those recommended by Dr. Scott Dee, DVM from Morris, Minn.:

- Step 1. Isolate and vaccinate (under veterinary supervision) incoming gilts. Gilts should be vaccinated upon arrival and isolated off-site. After 30 days, vaccinate again and isolate another 30 days. After this two-month period, gilts can be moved to the breeding herd.

(Turn to Page D3)

York Farm Credit To Issue Patronage Checks

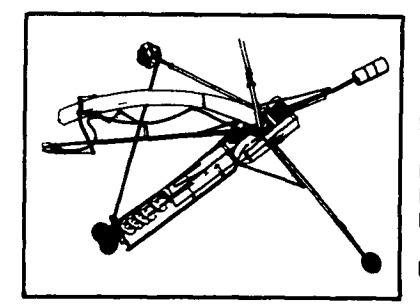
YORK (York Co.) — Member-borrowers of York Farm Credit will receive patronage refund checks for 1994, it was announced by Jay V. Rush, president.

The patronage refund for borrowers of York Farm Credit will total more than \$1.6 million. Borrowers will receive, on average, a rebate of 1.17 percent of the interest Farm Credit earned on their loans in 1994. Twenty-five percent, or \$408 thousand, of the refund will be paid in cash. The balance will be placed in allocated surplus in the names of individual member-borrowers.

"York Farm Credit had another successful year in 1994, and we are pleased to be able to share our success with our borrowers," said Lester E. Martin, chairman of the York Farm Credit Board and farmer from Chambersburg. "This is the fifth consecutive year we've paid a patronage refund. Since 1990, York Farm Credit has returned a total of \$1.6 million to its member-borrowers through patronage refunds and surplus revolvments."



0% - 12 Mos.
4.9% - 24 Mos. OR
7.9% - 36 Mos.
5 Months
Waiver Of
Finance!
...Now Available On
Most Badger Equipment!




Badger
EMPLOYEE-OWNED. QUALITY DRIVEN.

Pack Drive Silo Unloader Badger Frost Busters!

- Center-mounted blower allows for further travel between doors
- Simple, trouble-free collector ring designed for greater ease of service
- Quick installation and low cost, the ideal replacement unit
- High strength, extra-heavy angle iron frame
- Rugged 10" auger with double flighting on outer end, equipped with heat treated Zinc Dichromated knives
- Heavy-duty chipper sheel shaves silo wall clean



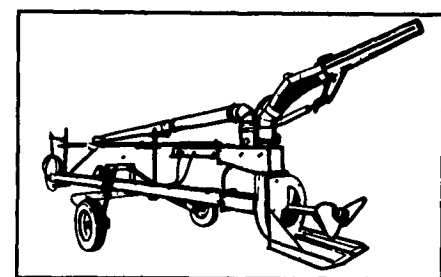
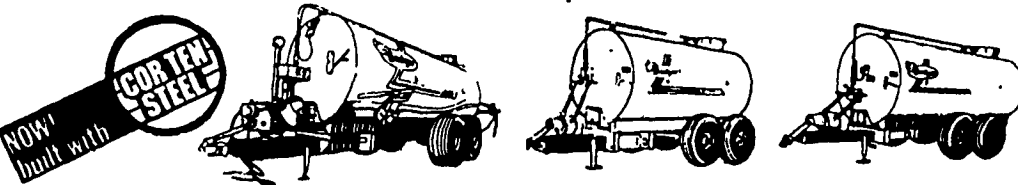
Ring Drive Silo Unloader



See Your Local Badger Dealer

- HONESDALE SPREADING SERVICE INC.**
505 Cliff St.
Honesdale, PA 18431
(717) 253-2410
- CHIDESTER FARMS**
RD 2, Box 75
Kingsley, PA 18828
(717) 289-4260
- MELVIN G. MILLER**
RT 2, Spring Mills, PA 16875
(814) 422-8279
- PIKEVILLE EQUIPMENT INC.**
RT 2, Oley, PA 19547
(215) 987-6277
- BHM FARM EQUIP. INC.**
RR 1, Annville, PA 17003
(717) 867-2211

Badger Liquid Manure Pumps, Spreader Tanks and Box Spreaders



Badger BN185 Souper Trail Pump/Agitator


- Up to 26,000 GPM agitation capacity
- Standard 28 foot length extendable to 38 feet for really big lagoons
- Choice of cutter blade or propeller options to match biggest agitation needs
- Exclusive internal shear bar chops even straw-laden manure
- Semi-cupped impeller paddles for high capacity pumping

Badger Forage Boxes... Built for the Long Haul!



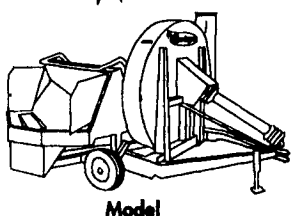
- High-strength alloy steel undercarriage
- 23-1/2" wide high-speed cross conveyor
- Model BN1055 available with heavy-duty corrugated steel roof
- Lifetime warranty on sides and deck

NEW... From Badger



Ask Your Dealer About The All New **BN 104 PUMP**

NEW Badger Blowers Beat Bottlenecks



Model **BN2060**

- Designed for plug-proof operation
- Unload wagons faster, fill silos more efficiently
- Choose from Model BN2054 or New Model BN2060, for bigger silos
- Rugged, heavy-duty construction
- Adjustable shear bar prevents hair pinning, carry-over and power loss.
- All material goes up the pipe in the air stream
- Flexible wind guards minimize spillage.

Badger Forage Boxes & Running Gear... The Right Combination For Your Farm!

- SHOW EASE STALL CO.**
573 Willow Rd
Lancaster, PA 17601
(717) 299-2536
- DEERFIELD AG & TURF CENTER, INC.**
RD 2, Box 212
Watsonstown, PA 17777
(717) 538-3557
- HEFLIN SALES & SERVICE**
12312 Oak Hill Rd.
Woodsboro, MD 21798
(301) 898-3233
- CHAMBERSBURG FARM SERVICE**
975 S. Main St.
Chambersburg, PA 17201
(717) 264-3533
- SOMERSET BARN EQ.**
R.D. #5
Somerset, PA 15501
(814) 445-5555
- McMILLEN BROS.**
RD 1 Box 134
Loydsville, PA 17047
(717) 789-3961
- HESS' EQUIPMENT**
Sales & Service
RR 3, Mifflinburg, PA 17844
(717) 866-2720
866-1998