

# Para Shield®

*Haemophilus Parasuis* Bacterin

For use in healthy swine as an aid in the prevention and control of disease caused by *Haemophilus parasuis*.

**Para Shield** is a bacterin designed to provide protection against *Haemophilus parasuis*, the cause of Glasser's Disease and polyserositis. Studies indicate *H. parasuis* is widespread and capable of causing severe outbreaks in susceptible herds. **Para Shield** gives hog producers confidence, knowing that their animals can be vaccinated against this deadly disease.

**COMPOSITION:** This bacterin contains an inactivated culture of *Haemophilus parasuis* adjuvanted with aluminum hydroxide. Contains penicillin and streptomycin as preservatives.

**DIRECTIONS AND DOSAGE:** Shake well before using. Administer 2 mL intramuscularly at 3-4 weeks of age. Revaccinate in 2-3 weeks.

**PRECAUTIONS:** Store in the dark at 2°-7°C (35°-45°F). DO NOT FREEZE. Use entire contents when first opened. Do not vaccinate within 21 days prior to slaughter. Anaphylactic reactions may occur following the use of this biological. Symptomatic treatment: Epinephrine.

**PACKAGING:** 100 mL/50 dose bottles.

### Haemophilus Parasuis Challenge Study

	No. of Pigs	Live After Challenge	% Protected
<b>Para Shield</b>	11	9 of 11	82%
<b>Controls</b>	11	2 of 11	18%

- Vaccinated pigs demonstrated 74% less fibrin and fluid accumulation than the nonvaccinated controls.
  - *H. parasuis* was reisolated from none (0%) of the 11 vaccinated pigs as compared to 6 of the 11 (55%) nonvaccinated controls.
- Data on file with USDA



# Technical Disease Information

*Haemophilus parasuis* causes Glasser's Disease in swine, which is an infection of the serous membranes throughout the body (polyserositis). The disease is found throughout the world. Pigs under 4 months of age are most commonly affected, with the majority of cases occurring in the month immediately after weaning. Older animals may be infected, with specific pathogen free (SPF) pigs especially susceptible due to their lack of natural exposure to disease organisms. The morbidity rate is variable, and the mortality rate may reach 50% of the infected animals.

More research must be done into how the disease spreads, but it is known that the organism is common on many farms, and that healthy carrier pigs play a role. Stress conditions such as weaning, inclement weather, and transporting are the usual triggering factors for a disease outbreak. Miniats et al. (1) reported that Glasser's Disease is one of the most immediate and frequent problems associated with mixing pigs of different health status and that field observations indicate that the true incidence of disease is at least 10-fold greater than recorded by diagnostic laboratories.

Infected pigs may show various clinical signs, depending on which area of the body is most severely affected. Affected animals show fevers of 105° to 108°F. They may show purplish discolorations of the skin and edema around the eyelids, indicating a failure of the peripheral circulation. They may show signs of difficult breathing. One or more joints may be swollen and painful. Many animals show tremors, incoordination and inability to rise, indicating central nervous system involvement. At least 2 reports suggest that *H. parasuis* may serve as an initiator or potentiator of pneumonia or atrophic rhinitis in pigs. (2, 3)

At necropsy, the main lesions are fibrinous inflammations of the various serous membranes. The most commonly occurring abnormalities are in the brain (meningitis), the joints (arthritis), the chest and abdominal cavities (pleuritis and peritonitis), and the tissue surrounding the heart (pericarditis).

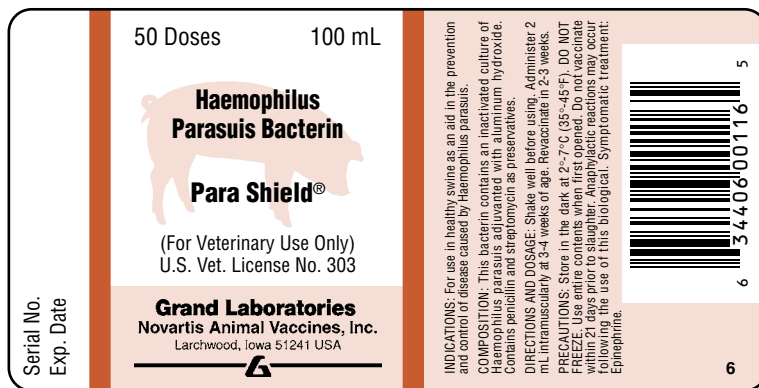
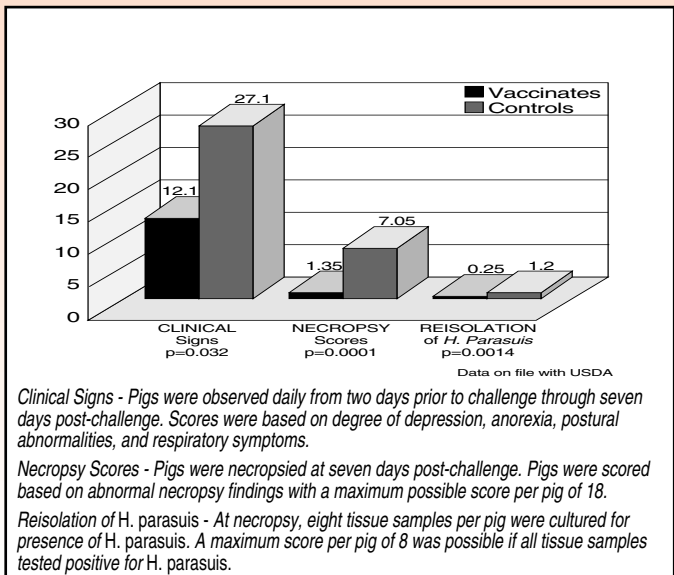
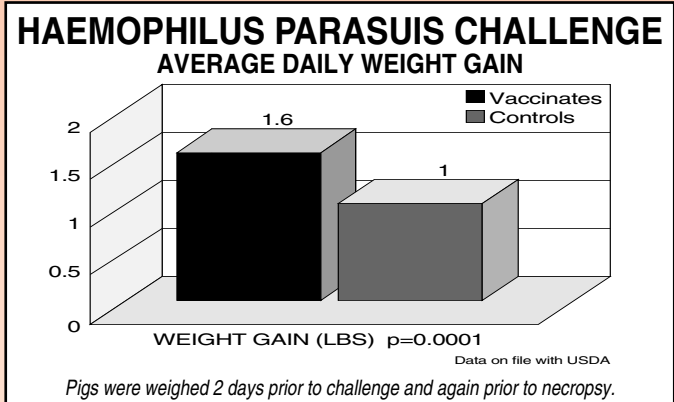
It is important to confirm a diagnosis of Glasser's Disease by bacterial culture, since several other diseases may show similar symptoms. These include *Streptococcus* infections, erysipelas, *Mycoplasma* infections, edema disease (*Escherichia coli*), and pseudorabies.

Treatment must be started as soon as symptoms are noticed, and all pigs in the group should be treated. Penicillin, ampicillin, and tetracycline are normally effective, but must be given in high doses in order to reach therapeutic levels in the brain and joints.

Prevention can be accomplished by vaccinating with **Para Shield**. Piglets should be vaccinated intramuscularly with a 2 mL dose at 3-4 weeks of age, followed by a booster dose 2-3 weeks

later, which will assure high levels of protection against this deadly disease.

1. Miniats, O.P. 1986. Proceed. 9th Int. Pig Vet. Soc. Cong., 279.
2. Gois, M. 1983. Am. J. Vet. Res. 44:372-378.
3. Kott, B.E. 1983. Chronological studies of respiratory disease in baby pigs. M.S. Thesis, Iowa State University.



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Customer Service 800-843-3386