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An outbreak of blue eye disease associated with PRRS

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Introduction

Blue eye disease (BED) is a disease of swine associated with a porcine paramyxovirus infection and characterized by central nervous disorders, reproductive failure, and corneal opacity. A second form, blue eye porcine paramyxovirus (BEP), has only been observed in swine (attempts to reproduce the disease in other species have failed, only mice and rats has been able to reproduce some clinical signs and lesions); humans exposed to the virus do not develop antibodies or show clinical signs.¹

The disease was first observed in 1979³ and numerous outbreaks of the disease have been observed in central Mexico, with a severe impact on productivity. Since 1991, the prevalence of the disease has diminished considerably and only a few occasional cases have been observed.

The most severe cases are usually present when associated with other primary pathogen.²

This year, severe cases of Blue Eye Disease, associated with PRRS virus infection, appeared in some of the area farms. In this paper, I will discuss the results observed in one particular complex.

Farm management

The site in question is a complex of five farms, four of them originally with 250 sows and one with 500 sows, operating with a farrow-to-finish system. However, as a result of different disease problems, in 1996 the producers decided to modify the management system and in 1997 the farms were altered to increase the number of sows.

Figure 1. Farrowing rate

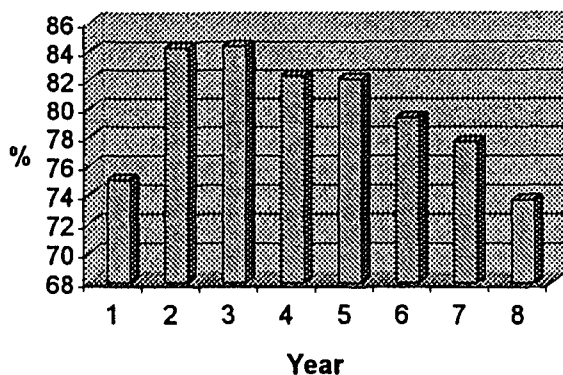


Figure 3. Sow mortality

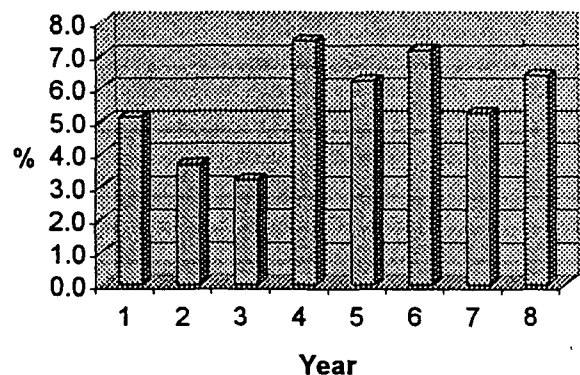


Figure 2. Return to estrus

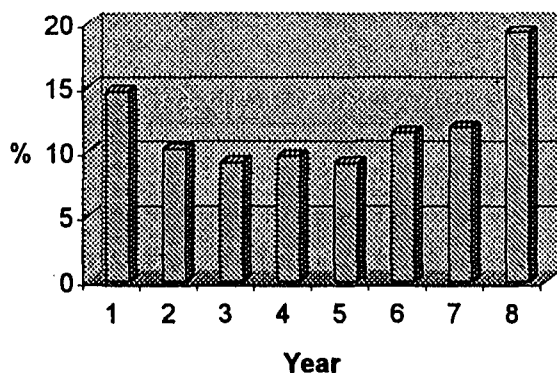
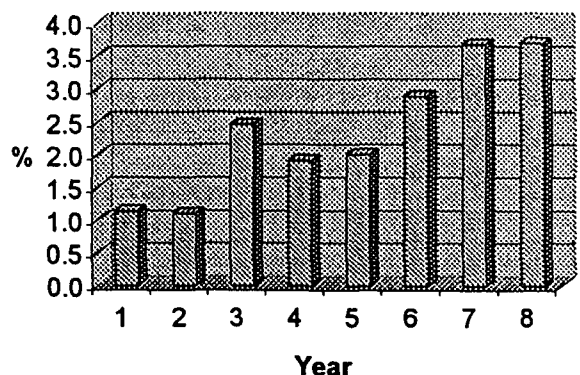


Figure 4. Abortion



The farms are located in a dense pig-populated area, close to other farms. The distance between farms is 50–400 m.

The modification in the production system consisted of moving the sows to farrow in one farm per week. Those sows that came back to estrous were sent to the farm in which they were inseminating that week. With the increase in population, the weaning buildings were modified to farrowing houses and the finishing facilities to service and gestation barns. New weaning facilities were built, far from the Site 1, and different Site 3 farms were acquired.

Case description

In 1991, an outbreak of blue eye disease was diagnosed in the complex that affected all farms. A severe reproductive failure with orchitis and epididymitis in 50% of the boars was observed. A health control program with quarantine of the farms to limit the entrance of new animals, vaccination with an inactivated paramyxovirus vaccine, improvement in management, and artificial insemination was established to control the disease and improve the reproductive performance. The productivity slowly improved and the disease disappeared from the farms, remaining negative until 1998.

Figure 5. Total born

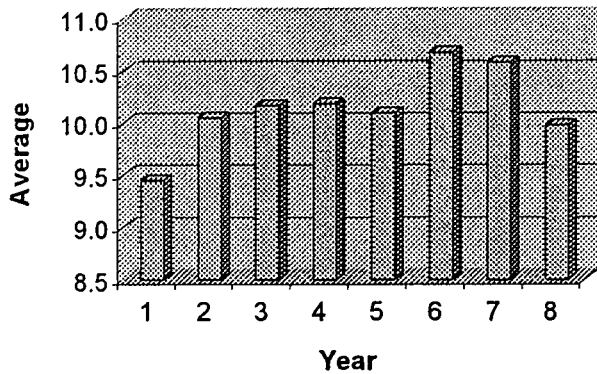


Figure 8. Mummies

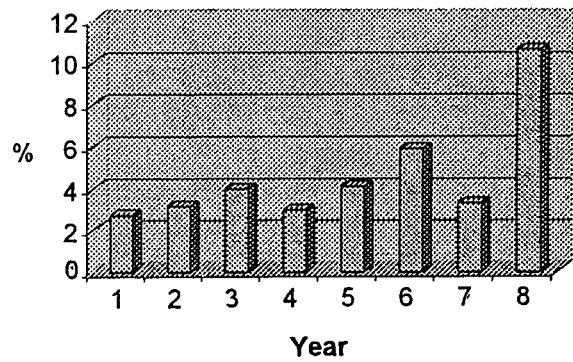


Figure 6. Born alive

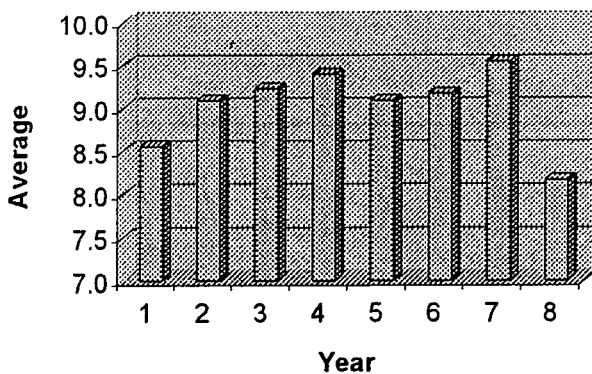


Figure 9. Prewearing mortality

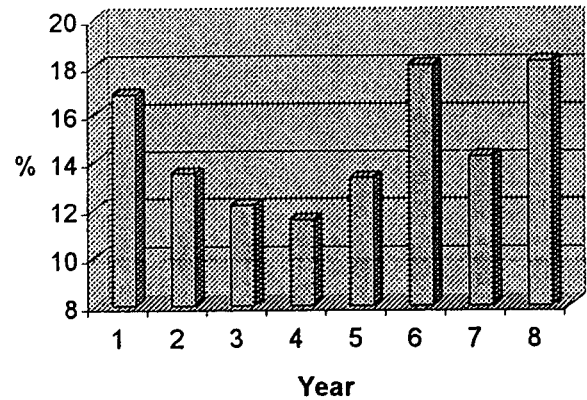


Figure 7. Stillborn

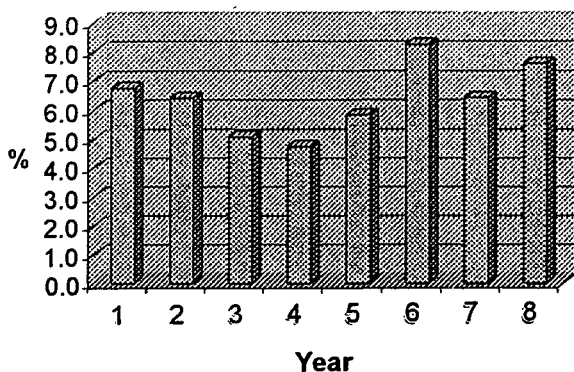
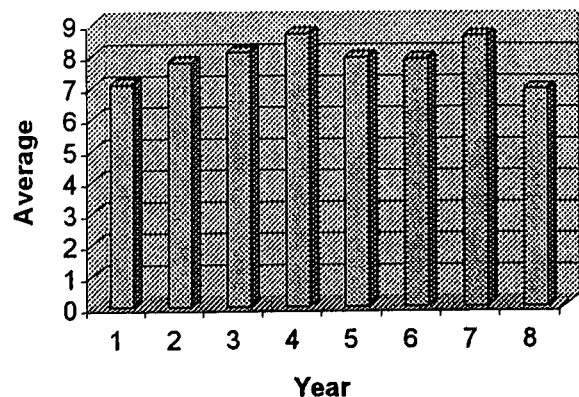


Figure 10. Weaned per farrow



In April 1996, a severe reproductive problem associated with PRRS virus infection was present, and affected most of the parameters; since they were not able to control the disease, the producers decided to modified the production system as already explain and reduce the weaning age to 15 days. The disease was not controlled and the virus was circulating in all areas, with severe results.

In 1998, numerous outbreaks of BED were observed in neighboring farms, and in April the disease was observed in one of the nearest farm to the complex from which the disease had spread to the entire complex. Central nervous

signs with mortality were observed in adult animals and gilts and later affected the piglets in the farrowing house.

Diagnosis

The PRRS virus was diagnose by history, clinical signs, lesions, and ELISA test. BEP was also diagnosed by history, clinical signs, lesions, serology, and virus isolation.

Results

The results are presented in the **Figures 1–13**, from years 1991 to 1998. It is clear that when PRRS virus and BEP are associated the results are worse than when a single viral disease is present.

References

1. Stephano, H.A. Blue Eye Disease. 1992. In: Diseases of Swine. Ed by Leman, A.D. Et al. 237–241
2. Stephano, H.A. and Gay, G.M. 1986. Encefalitis, Falla reproductiva y Opacidad de la cornea, Ojo Azul. Sint Porc. 5 (12):26–39.
3. Stephano, H.A.; Gay, G.M.; Ramirez, T.C. and Maqueda, A.J.J. 1982. An outbreak of encephalitis in piglets produced by an hemagglutinating virus. Proc 6th Int Congr Pig Vet Soc, Mexico City, p. 153



Figure 11. Weaned per sow per year

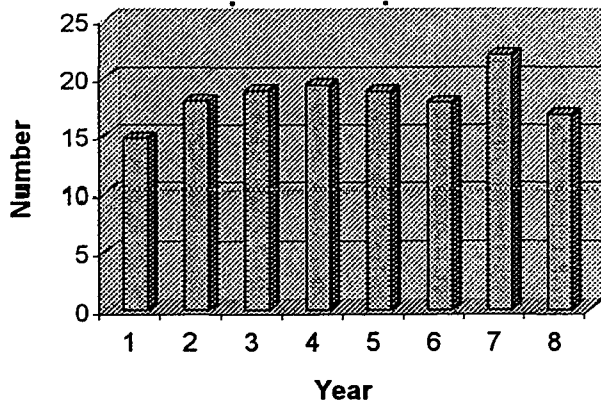


Figure 12. Farrow per sow per year

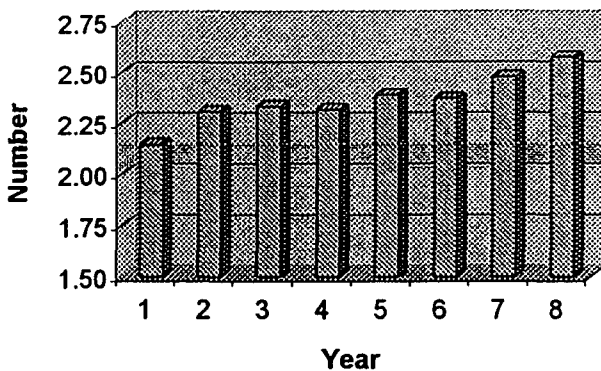


Figure 13. Number of sows

