

Duration of Immunity of Gilts Vaccinated with Enterisol® Ileitis

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Introduction

Enterisol® ileitis (Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO), a new vaccine against all forms of porcine proliferative enteropathy (PPE)/ileitis, including proliferative haemorrhagic enteritis (PHE), has been available in the USA since 2001, Canada (2002), Mexico (2003) and in the European Union (2005). Duration of immunity (DOI) for vaccinated animals lasting 17 weeks has been awarded by the European Union (1). This DOI, though adequate for pigs destined for slaughter, is insufficient for replacement animals that live for several years after entering recipient herds. In this paper, field observations on several hundred thousand gilts placed in recipient herds are used to estimate the DOI for Enterisol® ileitis vaccinated replacement gilts.

Materials and Methods

Records of Enterisol® ileitis vaccinated replacement gilts from eight seedstock suppliers in Canada were compiled. Gilts, vaccinated in each of the years 2002, 2003, 2004 and 2005, were tracked for their survival, free of clinical ileitis, in recipient herds. Historically, PHE in replacement gilts, with or without preventative treatment, had been common occurrences in most of these recipient herds.

Results

Table 1 documents ileitis cases in Enterisol® ileitis vaccinated gilts after entering recipient herds.

Supplier #1: Enterisol® ileitis vaccination of gilts started in December 2002. Follow-up was available for 25,000 of 85,000 vaccinated gilts placed in recipient herds between June 2003 and December 2005. PHE was reported in 2 of the 25,000 replacement gilts after entry in recipient herds.

Supplier #2: Some 20,000 replacement gilts entered downstream herds in 2004 and 2005 after Enterisol® ileitis vaccination started in September 2003. PHE was reported in 5 gilts during the first 6 months of using the vaccine. Audits on vaccine handling and administration techniques failed to reveal assignable causes for the ileitis breaks. No further breaks occurred in the ensuing 18 months.

Supplier #3: No ileitis breaks were recorded in any of 18,000 Enterisol® ileitis vaccinated replacement gilts placed in recipient herds in each of years 2004 and 2005.

Supplier #4: Clinical ileitis breaks were recorded in 53 of 66,500 Enterisol® ileitis vaccinated gilts within the first 5 months of commencing the vaccination programme. The outbreaks occurred a few weeks after placement in recipient

herds. No further breaks have occurred in the succeeding 17 months after revising administration techniques.

Supplier #5: Ileitis breaks occurred 2-4 months after placement in recipient herds in 90 of 24,100 Enterisol® ileitis vaccinated gilts from July 2003 to December 2005.

Supplier #6: Ileitis breaks were observed in 10 of 67,200 Enterisol® ileitis vaccinated gilts placed in recipient herds in 2004 and 2005.

Supplier #7: Ileitis was reported in 31 of 190,000 Enterisol® ileitis vaccinated gilts placed in downstream herds since vaccination started in February 2004.

Supplier #8: Ileitis cases were not observed in any of the 11,400 Enterisol® ileitis vaccinated gilts placed in downstream herds in 2004 and 2005.

Table 1: Ileitis histories of Enterisol® ileitis vaccinated replacement animals after entering recipient herds,

Year vaccinated	Clinical ileitis in Enterisol® ileitis vaccinated replacement animals		
	# placed in recipient herds	% with ileitis*	% without ileitis
2002	5,000	1.000%	99.000%
2003	18,900	0.228%	99.772%
2004	193,300	0.076%	99.924%
2005	222,900	0.009%	99.991%
Total	440,100	0.057%	99.943%

*Ileitis breaks occurred usually in the first 2-6 months of the supplier starting to use the Enterisol® ileitis vaccine.

Discussion

The 249 ileitis cases in Enterisol® ileitis vaccinated gilts identified in this survey occurred soon after gilts were placed in recipient herds and usually in the first 2-6 months of the seedstock suppliers starting their vaccination programmes. Once administration techniques were refined reports of clinical ileitis in vaccinated replacement gilts ceased. More significantly, however, vaccinated gilts have now lived, without revaccination, for up to 3½ years in recipient herds without ileitis breaks. Furthermore, over 200,000 of these gilts have survived at least 2 years without reports of ileitis.

Conclusions

These field observations would suggest that the duration of immunity for Enterisol® ileitis vaccinated gilts is at least 2 years and probably greater than 3½ years. This would adequately cover the entire productive life for most breeding stock in conventional herds.

Acknowledgements

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References

1. Anonymous (2005). Dutch Government Publication BRD/2005/10302.