20th International Pig Veterinary Society Congress

June 22-26
Durban
South Africa

We are delighted that the International Pig Veterinary Society Congress 2004, decided to select South Africa as the host country for the 20th IPVS Congress. The Pig Veterinarians of South Africa will ensure that this congress lives up to the best traditions of previous congresses; incorporating an interesting and topical scientific programme, fascinating accompanying persons tours and an excellent social programme, allowing delegates the opportunity to network with their overseas colleagues.

This, the first IPVS congress on the African continent, will undoubtedly be of enormous benefit in generating solutions to the emerging pig veterinary challenges, especially those related to exotic and changing viral diseases, decreased use of antimicrobials and nutritional advances. The congress is important to further pig veterinary science in South Africa, to encourage younger veterinarians to join the pig industry, as a vehicle to generate funds for research and to improve the pig industry in Southern Africa.

South Africa is a magnificent and beautiful country, and offers tourists value for money. Thus, pre and post congress tours will be a major attraction for delegates to come to South Africa. Durban, in KwaZulu Natal, is a vibrant multi-cultural city with magnificent beaches, easily accessible game parks, theme villages and a moderate winter climate making it an ideal tourist destination. We urge our colleagues throughout the world to use this opportunity to get a glimpse of the continent’s rich and fascinating wonders and to enjoy the hospitality of their African friends.

Dr Peter Evans
Chairman: Local Organising Committee: IPVS 2008
Lawsonia intracellularis (Li) is the causative agent of proliferative enteropathy (PE). Enterisol® Ileitis is a live oral swine vaccine manufactured by Boehringer Ingelheim containing an attenuated isolate of Lawsonia intracellularis. Prior to availability of an effective Lawsonia vaccine, continuous feeding of dietary antimicrobials was the typical means of controlling PE. A previous field study demonstrated that vaccination with Enterisol Ileitis was effective at preventing PE in a newly established genetic multiplication herd and its downstream gilt wean-finish site that used no feed or water antimicrobials (2). The objective of the present study was to compare the performance of groups of finishing pigs continuously fed dietary antimicrobials to those vaccinated with Enterisol Ileitis and fed no finishing antimicrobials in a large swine production system in Minnesota USA.

Materials and Methods
Two treatment groups were replicated 11 times (22 total barns containing 28,765 pigs at 7 sites) with barn as the experimental unit. Barns within each replicate (block) were matched for sex, pig source, facility type and finishing site. Pigs entered the study during early summer and closed out during the fall of 2005. Vaccinates were on non-medicated feed during the last three weeks in the nursery to permit IPMA serology to confirm Li exposure.

Vaccinates received a single dose of the deep frozen form of Enterisol Ileitis via their drinking water approximately two weeks prior to entering the finisher. Controls received 44 ppm tylosin phosphate continuously in feed throughout the finishing period (21-123 kg). Vaccinates received no dietary antimicrobials during finishing. Ractopamine 7.2 ppm was fed to some but not all blocks. Use of injectable and drinking water antimicrobial treatments were recorded. Fifteen serum samples per barn were collected every three weeks in finishing for Lawsonia IPMA serology to confirm Li exposure.

Performance data were collected and compared only during the finishing period, and were analyzed using JMP v5.1 statistical software (SAS, Cary, North Carolina, USA) as a randomized complete block design with main effects of treatment and sex and an interaction of sex by treatment.

Results
All blocks of barns demonstrated seroconversion (≥2/15 positive samples in ≥1 group sampling in ≥1 of the matched barns) confirming varying levels of Li exposure. Five of twenty two barns tested seronegative (≤1 positive individual pig sample) throughout finishing. Group seroprevalence on a single sampling point-in-time basis ranged from 0% - 87%. Overall seroprevalence was 7.1%. Finishing performance was not different between the two groups (Table 1). No effects or interaction were found between gender, use of ractopamine or number of days on feed. Total costs of feed, water and injectable antimicrobials for the controls were US$1.56/pig. Total costs of Enterisol Ileitis Frozen Form vaccine, water and injectable antimicrobials were US$1.06/pig for vaccinates.

Table 1 Finishing performance of pigs vaccinated or medicated for control of proliferative enteropathy.

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<thead>
<tr>
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<th>Controls</th>
<th>Vaccinates</th>
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<tbody>
<tr>
<td>Average Start Weight</td>
<td>21.83</td>
<td>21.28</td>
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<tr>
<td>Average End Weight</td>
<td>123.35</td>
<td>123.14</td>
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<tr>
<td>Average Daily Weight Gain</td>
<td>813.94</td>
<td>816.17</td>
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<tr>
<td>Feed efficiency</td>
<td>2.55</td>
<td>2.56</td>
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<tr>
<td>Mortality + culls (%)</td>
<td>4.01</td>
<td>4.25</td>
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<td>Total health product input costs (US$/pig)</td>
<td>$1.56</td>
<td>$1.06</td>
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Discussion
Finishing performance of vaccinated pigs equaled that of continuously medicated pigs with US$0.50 less total health product costs per pig. Use of 10 grams of dietary tylosin phosphate per pig was avoided by using vaccine for control of PE. Previous studies in which dietary finishing antimicrobial use was reduced (rather than eliminated) in vaccinated pigs demonstrated significantly improved rate and efficiency of growth while reducing mortality and culls compared to continuously medicated, non-vaccinated pigs while health product input costs were equal (3). This study demonstrated that producers may have the option of eliminating finishing dietary antimicrobial use while reducing input costs and maintaining performance similar to continuously medicated, non-vaccinated pigs. Vaccine use has demonstrated improved finishing performance when added to dietary antimicrobial use, with the economic advantage expressed as improved productivity with equal input costs (3). Given the level of Li challenge in this study, we demonstrated that vaccine use can replace finishing dietary antimicrobials while achieving equal performance, with the economic advantage expressed as reduced input costs.

As restrictions on antimicrobial use continue to increase, pork producers will need more options for controlling diseases like PE which have traditionally accounted for much of the need for antimicrobial use. Use of an effective vaccine to control PE is a biologically feasible, environmentally responsible and economically attractive alternative to continuous feeding of antimicrobials.

References