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
DEVELOPMENT AND EFFICACY EVALUATION OF SWINE MYCOPLASMAL PNEUMONIA AND PROGRESSIVE ATROPHIC RHINITIS BIVALENT VACCINE

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Introduction and Objectives
Progressive atrophic rhinitis (PAR) and Mycoplasmal pneumonia of swine (MPS) are important upper and lower respiratory diseases in swine. Both diseases have similar vaccination program in farm practice. Combination of Mycoplasma hyopneumoniae with Pasteurella multocida bacterins and recombinant subunit P. multocida toxins (rsPMT) may be a feasible strategy in prevention of both diseases.

The PAR-rsPMT vaccine had been proved to provide good protection against PMT challenge. The objective of this study was to combine M. hyopneumoniae bacterin with PAR-rsPMT vaccine and to evaluate the immunogenicity of the bi-immunogens.

Materials and Methods
Eighteen piglets were randomly assigned into A (n=4), B (n=4), C (n=4), and D (n=6) groups and immunized twice at 3- and 6-week-old. Groups A and B served as un-vaccinated and un-vaccinated/challenged controls, respectively. Groups C and D were immunized with MPS bacterins and MPS/PAR-rsPMT bi-immunogens, respectively. Clinical signs and body weight were recorded and blood samples were collected every 3 weeks. M. hyopneumoniae antibodies were tested using commercial IDEXX Mycoplasma Hyopneumonae Antibody Kit. Test result was presented as S/P ratio, and the S/P ratio that was greater than 0.4 was indicated as positive in antibody production. Three weeks after the second immunization, immunized pigs (groups C and D) were challenged with 5 x 10^9 CCU of M. hyopneumoniae. Six weeks after challenge animals were sacrificed and submitted to pathological examinations. Lung samples were examined for MPS infection and nose turbinate conchae were checked for PAR lesions. Lung images were taken by digital camera and analyzed by computerized image system to determine the percentage of lesion areas. Genomic DNA was extracted from lung samples and subjected to PCR detection of M. hyopneumoniae-specific p46 genes.

Results and Discussion
There was no significant difference in body weight gains among four groups (data not shown). Challenged pigs showed dry coughing occasionally but no other clinical signs were noticed. The results indicated that artificial challenge could not compromise the body weight gain of both immunized and control pigs.

M. hyopneumoniae antibody titer was determined as shown in Figure 1. The antibody titer of groups A and B sustained as negative throughout the trial. Animals of group C developed antibodies against M. hyopneumoniae at three weeks post the second immunization, while animals of group D possessed later seroconversion time.

After challenge, challenge control and immunized pigs had characteristic lung lesions of M. hyopneumoniae infection. The average percentage of lung lesion of group B was 5.54%, and that of group C and D was 2.56% and 2.78%, respectively. No lung lesions were observed in group A. The turbinate conchae of bi-immunogen-immunized pigs showed normal in the pathological examination (Figure 2). As for PCR detection of M. hyopneumoniae p46 genes, the result of group A was negative while that of group B was positive. M. hyopneumoniae p46 genes were detected in 1 out of 4 (25%) lung samples in group C, and there were 2 positive samples out of 6 (33%) in group D (Table 1).

Table 1 Lung lesion analysis and examination of M. hyopneumoniae infection by PCR assay.

<table>
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<tr>
<th>Group</th>
<th>Lung lesion (%)</th>
<th>PCR positive rate</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>0.00</td>
<td>0/4</td>
</tr>
<tr>
<td>B</td>
<td>5.54</td>
<td>4/4</td>
</tr>
<tr>
<td>C</td>
<td>2.56</td>
<td>1/4</td>
</tr>
<tr>
<td>D</td>
<td>2.78</td>
<td>2/6</td>
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These results showed that immunization with MPS bacterins and MPS/PAR-rsPMT bi-immunogens could both induce antibodies against M. hyopneumoniae, though the two treatments had different pattern in induction time. Furthermore, immunization with MPS bacterins and MPS/PAR-rsPMT bi-immunogens reduced the infection rate and the severity of lung lesions as compared with unvaccinated/challenged group. Therefore, we conclude that combination of the two vaccines could be a candidate for the development of MPS/PAR bivalent vaccine.

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