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-cultured 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
EFFICACY OF THE RECOMBINANT SUBUNIT PASTEURELLA MULTOCIDA TOXIN VACCINE AGAINST PROGRESSIVE ATROPHIC RHINITIS IN FIELD

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Introduction
Progressive atrophic rhinitis (PAR) is an important upper respiratory disease in swine. Among many potential bacterial pathogens, Pasteurella multocida is identified as one of the primary opportunistic pathogens that contribute to PAR and subsequent complication of porcine respiratory disease complex. In our previous study, three recombinant subunit PMT (rsPMT) derivatives constructed were proved to be safe and able to induce neutralizing antibodies in colostrums, which in turn protect their offspring from PMT challenge. In the present study, the protection efficacy of rsPMTs combined with P. multocida bacterin vaccine was further analyzed in commercial pig farms and the serum neutralizing antibody titers were assessed in sows after farrowing and in their offspring.

Materials and Methods
Fifteen commercial pig farms containing total 542 pregnant sows and gilts were used in this study. All farms had no vaccination program in prevention of PAR and no neutralizing antibody could be detected before the trial. Antigen construction and expression of rsPMTs with an N-terminal fusion peptide was used in this study (1). Among these pigs, 370 sows were vaccinated twice at 5- and 3-week (program I), and 172 sows were vaccinated once at 3-week (program II) prior to the expected farrowing date. The serum samples were obtained from sows within 1 week after farrowing for neutralizing antibody test. Moreover, sixty serum samples from 3 farms of age-matched piglets were also obtained at 1 to 12-week-old to monitor the kinetics of serum neutralizing antibody titer.

Results and Discussion
The efficacy of a vaccine composed of three short recombinant subunit Pasteurella multocida toxin proteins with P. multocida bacterin was evaluated in sows and piglets in 15 conventional farrow to finisher pig farms for prevention and control of progressive atrophic rhinitis (PAR). Total of 542 sows with severe to subclinical PAR symptoms were applied for immunization and vaccine efficacy was evaluated. The results indicated that 78.3% of multipara sows and 39.4% of gilts could mount good protective neutralizing antibody titers at 1:16 or higher after vaccination (Fig. 1). Among these pigs, 80% (258/322) and 76% (86/113) of multipara sows had protective antibody titer at least 1:16 after twice or single vaccination. By contrast, only 31% (15/48) and 36% (21/59) of gilts elicited protective titer 1:16 after double and single vaccination, respectively (Table 1).

Notably, a farm which suffered from severe PAR infection was selected for evaluation of massive vaccine application during outbreak. No protective antibody titer in sows and piglets could be detected before immunization, but elevated significantly to 1:16 or higher in 40% of sows after vaccination (data not showed). These results suggest that a new generation of rsPMTs-PM vaccine could induce good protective immunity in pregnant sows to protect offspring piglets to control the prevalence and severity of PAR in the contaminated pig farms.

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References