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.

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Chairman: Local Organising Committee: IPVS 2008
ANTIMICROBIAL RESISTANCE OF THREE MAJOR FOODBORNE PATHOGENS AMONG PIGS REARED IN CONVENTIONAL AND ANTIMICROBIAL-FREE ENVIRONMENT IN THREE GEOGRAPHIC LOCATIONS IN THE UNITED STATES

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Introduction
Foodborne pathogen, particularly Salmonella and Campylobacter are important reservoirs of antimicrobial resistance. Previously, we reported the common occurrence of multi-drug resistant (MDR) Salmonella strains such as the pentaresistant DT104 among swine herds in North Carolina (Gebreyes et al., 2004). The use of antimicrobial growth promotants (AGP) in swine production and its role in emergence and persistence of such resistant strains has been controversial.

The objectives of the current study was to compare the prevalence and antimicrobial resistance profiles of three important foodborne pathogens, Salmonella, Campylobacter and Yersinia enterocolitica between antimicrobial-free and conventional pig production units in three regions of United States, North Carolina, Ohio and Wisconsin.

Materials and Methods
Three states with high (North Carolina), moderate and low (Ohio and Wisconsin) were selected to participate in the study. From each of the states, 20 pig farms (10 conventional and 10 antimicrobial free) were selected based on convenience. From each of the farms, 30 fecal samples on-farm within 48 hours of marketing and 30 carcass swabs at slaughter house (10 samples each from pre-evisceration, post-evisceration and post-chill) were collected. Thus far, sample collection analysis has been completed for 49 of the 60 total farms.

Isolation of each of the organisms from samples collected from all the three states was done in the same laboratory using conventional approaches. Samples were shipped overnight on ice as needed. Antimicrobial susceptibility testing was done using Kirby-Bauer disc diffusion for Salmonella, microbroth dilution for Y. enterocolitica and agar dilution for Campylobacter as recommended by the Clinical laboratory Standards institute (CLSI).

Results
Salmonella prevalence at farm and slaughter. The overall, Salmonella prevalence at farm was 9.3% (n=83) and 10.8% (n=80) at the slaughter. Among the two production systems, prevalence was significantly higher among the ABF (xx%) than the conventional system (yy%) (P < 0.001) [Figure 1]. We did not find any significant difference in prevalence between the farm and slaughter (P = 0.33). Within the conventional production units, although prevalence was higher at slaughter (6.8%) than the farm (4.2%) within the conventional system, the difference was not significant (P = 0.09). We observed similar result within the ABF system with no significant difference between the farm and slaughter (P = 0.9).

Campylobacter. C. Coli was identified from all the farms. The difference in prevalence of Campylobacter between the two production systems was not significant (P>0.05). Yersinia enterocolitica: For pig samples, 10.9% of fecal samples overall were found to be positive. Of these, 36.9% overall were identified to be harboring the ail gene. North Carolina had the lowest prevalence with 2.5% (21.4% of which were ail positive) of samples positive, while Ohio and Wisconsin had similar Y. enterocolitica prevalence (16.8% and 16.1% respectively). Interestingly, 21.5 % of Ohio Y. enterocolitica were ail positive, similar to North Carolina samples. Wisconsin had the highest proportion of isolates as ail positive with 52.6% of Y. enterocolitica isolates harboring the ail gene. Isolation of Y. enterocolitica from carcass samples was rare. Only 4 pre-evisceration carcass samples were positive, and 1 pre-evisceration isolate (25%) was identified to harbor the ail gene. All positive carcass samples originated from either Wisconsin or Ohio.
Antimicrobial resistance of Salmonella. There was no significant difference in the resistance against tetracycline between the two production system at the farm level (P = 0.22). Frequency of resistance against ampicillin, streptomycin and sulfamethoxazole was higher in Salmonella isolates from pigs reared in the conventional system at both farm and slaughter (P < 0.001). We observed a total of 20 multidrug resistance (MDR) patterns exhibited by 147 (21%) isolates. MDR here is defined as isolates exhibiting resistance to four or more antimicrobials simultaneously. The ACSSuT MDR pattern was the most common seen in 73 (10.4%) of the isolates. Among the two production systems, this pentaresistance pattern was observed significantly higher in the ABF (20.6%) than the conventional (2.4%) at the farm level (P < 0.001).

Discussion and Conclusions
Though not generalizable due to the desing of this study, the high prevalence of Salmonella in ABF herds and the common occurrence of resistance to tetracycline and MDR in Salmonella strains is of major interest.

References