Pfizer Animal Health

Neovac® *E. coli* vaccine study
Neovac®

- An “aid in the control” of neonatal scours due to *E. coli*
- Antigen serotypes: K88ab, K88ac, K99 and 987P
- Vaccination of the pregnant sow stimulates high levels of antibodies in her serum and colostrum
- Piglets obtaining sufficient colostrum from vaccinated sows are passively immunized
Neovac® *E. coli* vaccine study

- Between September and November 2011 Pfizer sponsored clinical trial to assess the efficacy of Neovac® commercial vaccine
- Looking at the serological response of pigs post vaccination under field conditions
- All pigs screened by blood test for no significant pre-existing level of circulating antibody to *E. coli*
Neovac® *E. coli* vaccine study

- 20 eleven week old female grower pigs were randomly allocated to treatment groups
- One group were unvaccinated control group
- Vaccinated groups received two doses of Neovac® vaccine
- Vaccination at day 0 and 28
- All pigs were bled on day 0, 28, 42 and 56
Neovac® *E. coli* vaccine study

- Serum samples were analysed for antibody levels using Enzyme Immunoassay (EIA)
- Analysis to the four *E. coli* antigens K88ab, K88ac, K99 and 987P
- Antibodies to these antigens are associated to with protective immunity
- No natural exposure to *E. coli*
E. coli K88ab EIA antibody titres for each animal
E. coli K88ac EIA antibody titres for each animal
*E. coli* K99 EIA antibody titres for each animal
E. coli K987P EIA antibody titres for each animal
Results of the Neovac® *E. coli* vaccine study

- All of the pigs receiving two doses of Neovac® vaccine demonstrated very high antibody levels in response to all of the four antigens.
- Titre generated to all of four antigens on day 42 and 56 are between 109 and 437x the minimum antibody titre measured in the same pig prior to vaccination.
- Antibody titre in gilts and sows of between 13 and 17x greater than that in seen in control pigs at the time of farrowing protect suckling piglets after challenge.

- Greenwood PE, Clark SJ, Cahill AD, Trevallyn-Jones J and Tzipori S Development and protective efficacy of a recombinant-DNA derived fimbrial vaccine against enterotoxigenic colibacillosis in neonatal piglets *Vaccine* 1988 6 389-392