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EXPERIENCES WITH ERADICATION AND CONTROL OF SARCOPTES SCABIEI VAR.SUIS INFECTION IN GERMANY

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Introduction

Mange is an economically important skin disease of swine sarcoptes spp. mites. They have negatively impact of the fertility and the daily weight gain or the feed efficiency. Mange can be controlled by different programmes in the intensive swine production systems. Since the year 1998 different programmes for eradication of sarcoptes mite were tested by the animal health service (Busse, 2003) in Germany. They were monitored with clinical examinations and by two different ELISA tests for the serum and one for the milk too.

Material and Methods

In some farms we tested different methods to eliminate the mange mite in sow herds. In herd one with a SPF status for different diseases and medication with an end-ectocide for the breeding sows against parasites, we collected blood and colostrum samples of the sows in the first three days after birth. The probs were tested in the laboratory with the Elisa Chekit°Sarcoptes for blood and colostrum and some samples were tested with the Sarcoptes Elisa VM-PRO° for blood. In herd one (250 sows),in which over four years all pregnant gilts were medicated five days before paturition with an end-ectocide, some days after birth we collected blood and colostrum samples.

In herd two all pigs were removed and the stables were cleaned and disinfected. After this process the farm was repopulated with mange-free animals. In the farm no pigs got therapueticals against mange. In this herd (150 sows) with a SPF status at different times blood samples were collected and tested with the Sarcoptes-Elisa VM-PRO in the last two years.

Results

Herd one:

In the year 12/2001 all collected blood samples were negative in the Sarcoptes Elisa. In the year 7/2002 50 blood and 45 colostrum samples were tested negative; four colostrum samples were positive and one doubtful in the Elisa Chekit Sarcoptes. In the year 12/2002 all ten blood samples were negative. With the five not negative colostrum samples from the test 7/2004 in the year 12/2002 we got the following results with the Elisa Chekit Sarcoptes: two positive,

one doubtful and one not tested, as killed. In the years 6/2003 and 2 a.4/2004 all blood samples, tested with the Elisa Chekit or the VM-PRO Sarcoptes were negative (Table 1).
Herd two:

At the 1-th test point with thirty probes one of the probes was doubtful (OD:16.302) and one was positive (OD:27.488) in the sarcoptes Elisa VM-PRO. At the 2-th point the two probes (doubtful/positive) from the first test were negative. At the 3-th test time with eight probes all were negative, at the 4-th time with ten probes two were positive (OD:34.473 a.34.473),at the 5-th time with four probes two were negative and two doubtful (OD:20.745 a.20,817) in the Elisa VM-PRO. Till now (4/2005) the ELISA test for herd two is going on.

Discussion

In the last ten years there were established different programmes to eradicate mange from the farrowing herds and a treatment with an end-ectocide (Doramectin or Ivermectin) for all pigs in the breeding herd. When checking a herd for mite the oldest test is rubbing and scratching of the weaners and growers (Cargill, 1998).During 15 minutes 25 – 50 pigs were observed for calculating a rubbing index (RI).Another test is the slaughter check with looking for skin lesions at the carcase. In herds with mange problems we can test earwax or ears from the slaughterhouse with the microscope (Hasslinger et al., 1992).A modified Elisa technique for the detection of specific serum antibodies has been developed (Smets, et al., 1999).Two breeding herds with mange (Alt, et al., 2003) installed a mange eradication programme by treating all pigs in the farm with an end-ectocide (Doramectin or Ivermectin) per injection. After more than two years all blood samples collected from the two farms at different times were negative in the sarcoptes Elisa test VM-PRO (Baier, 2005).

Now with end-ectocids and with different test systems we have instruments to eliminate mange from sow herds. Mange can be controlled by a treatment programme and by laboratory tests to certificate a mange-free herd by the different test systems. Now we can distinguish between herds that are free of mange mites and herds that are only free of clinical signs of mange (Ebbesen et al, 1998).

Conclusion

Mange mite is an important skin disease of pigs. Infestations of Sarcoptes spp.mite decrease sow fertility, daily weight gain and feed efficiency in growing and finishing pigs. For the intensive pig production with a treatment programme (Doramectin, Ivermectin) and

the Elisa test-system for blood and colostrum we have a method to build up and to control mange-free herds. To avoid reinfestation biosecurrity measures are applied.

Table1. Results of the serological examination (Elisa test) of mange mite antibody titer in blood and kolostrum in herd one with 250 sows

test date: *Elisa Chekit Sarcoptes °Sarcoptes-Elisa VM-PRO	blood samples Elisa test	colostrum Elisa test
12/2001*	N=10,all negative	not tested
7/2002*	N=50,all negative	N=50 4 x positive 1 x doubtful 45 x negative
12/2002*	N=10,all negative	N=3 2 x positive 1 x doubtful
6/2003°*	N=10,all negative°	N=2,all negative*
2,4/2004°	N=10,all negative	not tested

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