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Prevalence of Mange is Still High in Northern Swine Belt

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The impact of mange, caused by *Sarcoptes scabiei* var. *suis,* on swine production is quite extensive. In most infestations there is no mortality and frequently morbidity is minimal. The major impact on growers and finishers is decreased weight gain[1], decreased feed conversion[1], hide damage, and decreased carcass value. Sows are also affected with lower litter sizes[2], lower litter weaning weights and increased non-productive sow days[2]. Equipment costs may also be higher, because of the relief pigs try and achieve when scratching the dermatitis and pruritus, caused by the mites.

Within the swine industry, consolidation, depop-repop programs, SPF stock, and mange control and eradication programs have decreased the prevalence of mange, as well as the concern that mange is a disease problem for the industry. The methods by which mange is diagnosed may also play a role in the rate at which it is found. Present methods include clinical signs and lesions, ear scrapings to find the mites (the gold standard), scratching index observation, and papular dermatitis lesions at slaughter. An ELISA test for mange has not been developed at this time for use in the USA.

A random survey conducted in 1996 indicated that mange in operations, which finished pigs, had a prevalence rate of 43 %[3]. With the rapid changes in the swine industry since 1996, another survey was conducted to determine the change if any in the prevalence rate of mange in 2002. This survey was conducted during the winter and early spring months to avoid complications from lesions possibly caused by insects.

Seven slaughter checks were conducted in 6 different packing facilities, starting in January and ending on May 15, 2002. Melancon with Merial conducted four slaughter checks and Wetzel, Bush, and Hardenburger, all veterinarians in private practice, conducted the remaining 3 checks. All of the investigators were familiar with the papular dermatitis scoring system used to determine skin lesions caused by mange mites.

Pig carcasses were examined after they had been scalded and dehaired. Individual pigs were scored (scores were 0, 1, 2, or 3) and their tattoo recorded under the appropriate skin lesion score. The tattoos' identified individual operations. The owner of the pigs was kept confidential by each packing plant. Each operation had an average dermatitis lesion (ADS) score determined (total scores of all pigs examined ÷ total number of pigs examined = ADS)[4].

There were a total of 438 operations identified by individual tattoos. For each operation at least 10 pigs were scored for it to be included in the ADS score grouping. 311 (71%) operations had scores of < 0.5, which usually is indicative of no mange. 127 (29%) of all of the operations had an ADS score of > than 0.5 and 87 of these operations had a score of >0.7 which is highly indicative of mange[5].

From the above operations there were a total of 20,468 carcasses examined.
70% of all pigs examined had no skin lesions and were scored as 0. There were 2,617 pigs (12.8%) with lesion scores of 1. There were 2,894 pigs (14.1%) that had scores of either 2 or 3.

The total number of operations that were identified in 2002 was less (438 to 1442) than 1996. These operations were also much larger in size in 2002 than 1996, based on the number of pigs seen and scored for each operation. At times there were over 250 pigs with the same tattoo. There were fewer operations with ADS scores indicating mange in 2002 than 1996. However there was still a prevalence rate of 29 % in all of the operations.

Of the pigs examined more than 70% had no lesion scores, and many of the operations had all their pigs identified with 0 scores. However there were still 2984 pigs, or 14 % of all the pigs with scores of 2 and 3, which is highly indicative of mange.

Mange can still be found in the swine industry where it is causing economic losses for producers. This should be of concern especially when it is a disease that can easily be eradicated with management compliance.

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