

# SARCOPTIC MANGE IN PIGS IN IBADAN

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## INTRODUCTION

Although sarcoptic mange is one of the common and ubiquitous dermatological problems of pigs (Brakenridge, 1958; Brownlie and Harrison, 1960; McPherson 1960; Sheahan, 1970; De channet, 1972), reports about this condition in pigs in Nigeria are very scarce. This is probably due to the fact that light infections frequently go unrecognised and probably because of the widespread belief that healthy animals are more resistant to *S. scabiei*. In this paper, we present the clinical observation and the prevalence of this ectoparasitic infection in two pigs units observed during the course of nutritional studies on pigs in the University of Ibadan Teaching and Research Farm.

## MATERIALS AND METHODS

The two pig units studied were the commercial and the breeding swine herds of the University of Ibadan Teaching and Research Farm. There were 181 and 176 pigs respectively in each unit. All pigs were kept under the intensive system of management on concrete floors of the pens built of concrete walls about 2—3 feet high. The in-pigs and the nursing sows were separately housed. The floors of the pens were routinely washed with water daily.

The pigs were fed on a concentrate ration consisting of coarsely ground maize (60%), Groundnut cake (or peanut meal) (28.85%), Rice bran (5.45%), Fish meal (2%), Dried yeast (2%), Oyster shell (1.2%), salt (0.5%) and Vitamins A & D

supplement at the rate of 2.7kg per day for the breeding unit. The commercial pigs were allowed half the concentrate ration of the breeding pigs. But in addition, they were provided with chopped cut grass or par-boiled cassava. In both units water was provided *ad libitum*.

All the pigs were examined for skin lesions and associated clinical signs. Where skin lesions were observed, scraping were examined under the microscope after maceration or "teasing" of the material in 2—3 drops of 10% potassium hydroxide solution with a mounted needle and allowing the preparation to stand for 20—30 minutes.

## RESULTS

**Clinical Observation:** Affected pigs were restless, shook their ears and rubbed their bodies against the walls of the pens or rails near the feeding troughs due to severe pruritus. The affected areas of the skin particularly in the adult pig showed alopecia, slight roughing to severe thickening and covered by dark brown adherent scabs. In the piglets, the lesions were in form of dark brown crusty exudates. The ear lesions were more keratinised and less exudative.

**Distribution of Lesion:** The lesions which were occasionally discrete but were more frequently diffuse were observed mainly on the face, snout, auricles of the external ears, the trunk particularly the back and lateral abdominal region. Occasionally lesions were present on the legs.

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TABLE 1

The prevalence of Sarcoptic mange in Pigs in the University of Ibadan Teaching and Research Farm Swine Herd

| Pig Grouping            | No. Examined | No. Showing Lesions | No. Positive for Parasites | No. Negative for Parasites |
|-------------------------|--------------|---------------------|----------------------------|----------------------------|
| Piglets<br>(0—8 weeks)  | 113          | 42<br>(37.2)        | 35<br>(31)                 | 7<br>(16.7)                |
| Weaners<br>(8—14 weeks) | 89           | 19<br>(21.4)        | 14<br>(15.7)               | 5<br>(26.3)                |
| Sows                    | 125          | 29<br>(23.2)        | 23<br>(18.4)               | 6<br>(20.7)                |
| Boars                   | 30           | 12<br>(40)          | 8<br>(26.7)                | 4<br>(33.3)                |
| Total =                 | 357          | 102                 | 80                         | 22                         |

Figures in brackets are percentages

\*Results from examination of animals showing lesions.

**Effect of Age:** Although young pigs appeared to show less clinical signs, lesions of sarcoptic mange were more frequently encountered in piglets and weaners than in adults. (Table 1).

**Effect of Breed:** All the exotic breeds — the Large White, Landrace and the Duroces were affected, however the Large White/Local crosses exhibited fewer lesions and were less positive for the parasites.

**Microscopic Findings:** Microscopic examination of the skin scrapings revealed many adult *sarcoptic scabiei* var *suis* and their ova. Although parasites were not always recovered from every skin lesion scraped (Table 1), they were easily recovered from the ear wax of the affected pigs. Pigs in the breeding unit were more affected than those in the commercial unit (Table 2).

## DISCUSSION

The finding of a higher prevalence of sarcoptic mange in the young pigs is similar to the reported observation of Sheahan (1970) during his study of about 2000 Irish pigs. It also agrees with the finding of Kral and Schwartzmen (1964) who concluded that young pigs are more susceptible to *Sarcoptis scabiei* infection than older pigs. The lower prevalence of sarcoptic mange in older pigs and the recovery of fewer parasites are probably associated with an immunological reaction as in human infections (Mellamb 1944). Pullar (1941), Seddon (1951) and Griffiths (1970) maintained that young pigs rarely show signs until weaning time while Walton (1967) noted that pruritic signs may be apparent in two to three week-old piglets. In this study, both the baby pigs and weaners were affected.

The higher occurrence of sarcoptic mange in the Breeding unit than in the

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TABLE 2

The analysis of the prevalence of Sarcoptic Mange in Pigs in the breeding and commercial swine herds of the University of Ibadan Teaching and Research Farm

| <i>Pig Grouping</i>             | <i>No. Examined</i> | <i>No. showing Lesions</i> | <i>No. Positive for Parasites</i> | <i>No. Negative for Parasites*</i> |
|---------------------------------|---------------------|----------------------------|-----------------------------------|------------------------------------|
| Piglets<br>(0—8 weeks)          | 31                  | 12<br>(38.0)               | 10<br>(32.3)                      | 2<br>(16.7)                        |
| Weaners<br>(8—14 weeks)         | 76                  | 14<br>(18.4)               | 11<br>(14.5)                      | 3<br>(21.4)                        |
| Sows                            | 69                  | 15<br>(21.7)               | 12<br>(17.4)                      | 3<br>(20)                          |
| Boars                           | 5                   | 2<br>(40)                  | 2<br>(40)                         | 0                                  |
| Total from Commer-<br>cial Unit | 181                 | 43<br>(23.8)               | 35<br>(19.3)                      | 8<br>(18.6)                        |
| Piglets<br>(0—8) weeks)         | 82                  | 30<br>(36.6)               | 25<br>(30.5)                      | 5<br>(16.7)                        |
| Weaners                         | 13                  | 5<br>(38.5)                | 3<br>(23.1)                       | 2<br>(40)                          |
| Sows                            | 56                  | 14<br>(25.0)               | 11<br>(19.6)                      | 3<br>(21.4)                        |
| Boars                           | 25                  | 10<br>(40.0)               | 6<br>(24.0)                       | 4<br>(40.0)                        |
| Total from<br>Breeding Unit     | 176                 | 59<br>(33.5)               | 45<br>(25.6)                      | 14<br>(23.7)                       |

Figures in brackets are percentages.

\*Results from examination of animals showing lesions.

commercial unit could be attributed to longer time the pigs remain in their pens in the breeding unit, whereas in the commercial unit, they are fattened up for slaughter to a live weight of 70—95kg. Slaughtering of pigs from the commercial unit, removes the carriers and probable source of infection for other animals.

Despite the relatively short duration of their stay in the commercial unit, pigs are still heavily affected. This situation is probably perpetuated by:

- (a) the wet and cool nature of the pens as the mites could survive up to 4 weeks in moist protected places in mild weather (Griffiths (1970).

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- (b) the fact that the pens are not regularly sprayed with acaricides.

An adverse effect on weight gain associated with a widening of the feed conversion ratio has been considered as probably the most important aspect of scabies in pigs (Seddon, 1951; McPherson, 1960). Lightly infected pigs have been reported to require twice as much food to produce one unit in weight as they would under normal conditions (Pullar, 1941). Treatment of affected pigs cannot, therefore, be over emphasised especially as marked improvements in weight gain have been reported following treatment of naturally infected pigs (Brakenridge, 1958). Since economic loss may also result from the adverse effect of skin abrasions on the appearance and value of dressed carcasses (Pully, 1959, Seddon, 1951); it is essential that pens be disinfected by washing and spraying with acaricides before re-stocking.

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