# THE EFFECT OF AN OUTBREAK OF SWINE DYSENTERY ON THE PERFORMANCE OF GROWING PIGS

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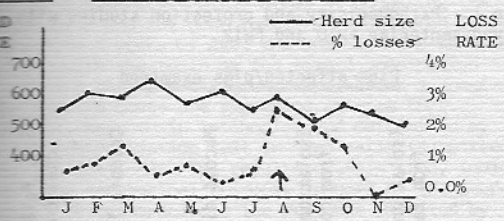
During 1980 an outbreak of swine dysentery occurred at the Meat and Livestock Commission's Commercial pig evaluation unit. The outbreak was preceded by sporadic cases in breeding stock but classical disease suddenly occurred in growing pigs some 6 months later in August. This paper describes the changes in mortality, culling and growth rates which occurred on this unit in 1980.

System management: The function of the station was to compare the genetic merit of breeding stock offered for sale by different pig breeding companies. Approximately half the pigs born to gilts or first litter sows were selected at about 20kgs for feeding trials when pigs were reared on an adlib or restricted feeding regime to one of three slaughter live weights, pork (61kg) bacon (87kg) or heavy hog (116kg). Pigs were sent for slaughter each week on reaching their final liveweight. Pigs were kept in groups of 8 for pork 6 for bacon and 4 for heavy hog. Pens were the same size for all groups, with open fronts, natural ventilation and had slatted floors. They were arranged in 7 rows, 3 blocks to a row, 10 pens in a block. Some straw was provided. Halquinol was the only routine medication given to the pigs to prevent post weaning scours.

Results:

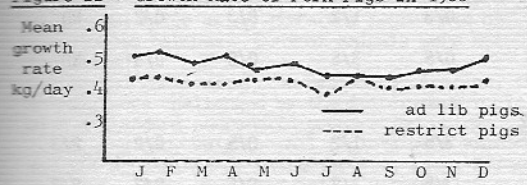
1. The herd size at the end of each month together with total % losses (deaths and cullings) in each month are summarised in Fig 1. Over a period of 10 weeks dysentery was considered to be directly responsible for the loss of 29 pigs. In about 25% of the pens at risk during the outbreak there were classical clinical signs of the disease involving some 20% pigs.

Figure I Herd size and cullings 1980




2. The mean age at slaughter, mean growth rate and mean pen food conversion ratio were examined monthly for all pork pigs. Growth rate from birth to slaughter was considered to be the most reliable indicator of herd performance but it was not obviously affected as shown in Figure II. Growth rate variations examined from previous years data was found to be similarly variable and was noted to have declined over the years.

Figure II Growth Rate of Pork Pigs in 1980




3. The effect of dysentery on the growth rate of affected pigs was assessed by

a) a comparison of the growth rates of individually treated pigs with other pigs in the same pen. The lower growth rate in treated pigs of 0.047kg/day (weighted mean difference) was statistically highly significant ($P<0.0$ ) see Table I.

Table I Effect of dysentery on growth rate

| No of pens | No of treated pigs | No of un-treated pigs | Difference in growth rate |
|---|---|---|---|
| 9 | 12 | 44 | 0.047kg/day |

and b) a comparison of growth rates of pork pigs slaughtered in the four months August to November 1980 with those in the same period of 1979. In an analysis of variance the effect of year, month and feeding regime were taken out. Company effect was not included in the model because of small numbers and because much the same companies were represented in both years. The mean growth rate was 0.046kg/day lower in 1980 compared with 1979 and this difference was highly significant ($P<0.01$).

Although the two results are almost identical their interpretation is different. In a) there is a direct comparison of very sick individual pigs with pen mates which did not show such marked signs of the disease while in b) the data on the overall rate of growth during the outbreak included pigs which showed no clinical signs of dysentery but may have been affected subclinically. In addition other factors apart from dysentery could account for the difference.

4. Mass medication of all pigs was started a few days after the first clinical signs but it was only with a change in medication that clinical signs rapidly disappeared and no further cases of dysentery were seen. At this time a programm of pen cleaning and disinfection were carried out. The estimated costs of the disease are shown in Table II.

Table II Cost of dysentery outbreak 1980 prices

| | |
|---|---|
| Loss of 29 pigs | £1200 |
| Water and injectable medication | £3200 |
| In feed medication | £3000 |
| Hygiene programme | £500 |
| | £7900 |

Conclusions: A depression of growth rate of about 10% was found in pigs markedly affected by dysentery. However the overall growth rate of pigs did not show any marked difference from that expected in any one month during the disease outbreak and in these circumstances monitoring of growth rate did not give an indication of the course of the disease. The effect of dysentery on overall performance could nor be readily demonstrated. Food conversion ratio and carcase quality need to be considered in any assessment of the effect of the disease on economic performance. The slower growth may simply be a result of the period of inappetance in sick pigs and may not be associated with any great deterioration in food conversion ratio. The overall effect of disease on the production of lean meat is being examined but preliminary examination indicates that the loss in performance is unlikely to be a major factor in the cost of this outbreak.

The cost of any disease outbreak will depend on a large number of factors. Medication was the main expenditure in this case but such a cost can be reduced by restricting this to the actual pigs in need of medication and taking precautions to reduce the number of pigs at risk. Also some pigs appeared to find the taste of medication water unacceptable resulting in their playing with the drinkers and wasting water.

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