CAUSES OF MORTALITY IN YORKSHIRE PIGS FROM BIRTH TO 20 WEEKS OF AGE

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ABSTRACT

The mortality rate in 6890 Yorkshire piglets from birth to 20 weeks was 25.6%, of which 7.2% occurred at farrowing, and 16.4% from birth to weaning. The average number of mummified or decomposed pigs was 0.13 per litter. Of the total mortality, 15.3% occurred on the first day and 43.7% occurred during the first week. Major causes of death were: general congenital weakness and inanition, 26.9%; overlain or bitten by dam, 19.2%; scours, 14.2%; and paralysis, 10.2%. When inbreeding increased from less than 5% to 25% and over, mortality before birth went from 5.9% to 14.1%, and before weaning from 15.1% to 20.9%. No significant effect of farrowing quarters on mortality was detected, but there were significant effects of lines and years. Curvilinear relationships between average pig weight, litter size and mortality were fitted, and maximum rates were calculated. A linear relationship was observed between the survival at weaning and the within-litters coefficient of variation of pig weights at birth.

RESUME

Le taux de mortalité de 6890 porcelets Yorkshire de naissance à 20 semaines était de 25.6%, dont 7.2% survenaient à la mise bas, et 16.4% de la naissance au sevrage. Le nombre moyen de porcelets momifiés ou décomposés était de 0.13 par portée. De la mortalité totale, 15.3% survenaient le jour de la naissance et 43.7% survenaient pendant la 1ère semaine. Les causes majeures de mortalité étaient: la faiblesse congénitale générale et l'inanition, 26.9%; écrasés ou étranglés par la mère, 19.24%; diarrhée 14.2% et la paralysie, 10.2%. Lorsque la consanguinité augmentait de moins de 5% à 25% et plus, la mortalité prénatale passait de 5.9% à 14.1%, et avant le sevrage de 15.1% à 20.9%. Aucun effet significatif quant au lieu de naissance sur la mortalité était détecté, mais il y avait des effets significatifs des lignées et des années. Des relations curvilignes entre le poids moyen des porcelets, la grosseur de la portée et de la mortalité étaient ajustées, et des taux maxima étaient calculés. Une relation linéaire était observée entre la survie au sevrage et le coefficient de variation du poids à la naissance des porcelets à l'intérieur des portées.

INTRODUCTION

The importance of baby pig survival at birth and through the preweaning period as a factor in the assessment of sow productivity has been repeatedly emphasized (Winters *et al.*, 1947; Pomeroy, 1960; Bauman *et al.*, 1966; Sharpe, 1966). Regrettably, an average of 20 to 25% of all pigs farrowed die before weaning. Few reports give preweaning mortality estimates of less than 20% (Brekke, 1948; MacMeekan, 1936), while mortality percentages exceeding 25% were reported by Pomeroy (1960), Hutchinson *et al.* (1954) and Sovljanski (1965). Bauman *et al.* (1966) estimated a loss of 2 bushels (70 liters) of corn equivalent for each pig dead at birth, and found that this loss increased to 3½ bushels (123 liters) if death occurred at weaning. They also gave examples of the success of efficient producers in reducing pig mortality to only 7.5%.

All the reports agree that overlaying by the dam and congenital weakness are the largest causes of deaths during the preweaning period (Sovljanski, 1965; Bauman *et al.*, 1966).

Prenatal and preweaning losses have been related to several factors: age of sow, inbreeding of litter, size and weight of litter, pig weight and season of the year (Winters *et al.*, 1947; Pomeroy, 1960; Kernkamp, 1965; Sharpe, 1966; Bauman *et al.*, 1966). The present study was carried out to investigate the influence of some of these factors on mortality and to study the direct causes of death of baby pigs before birth and up to 20 weeks of age.