

*Perspective***A brief note on reproduction growth in pigs**

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DESCRIPTION

We look at the key parameters that influence female breeding pigs' reproductive success, lifespan performance, and herd productivity in commercial herds. There are influences at both the sow and herd levels. Low or high parity, increased outdoor temperature, decreased lactation feed intake, single inseminations, increased lactation length, prolonged weaning-to-first-mating interval, low birth weight or low pre weaning growth rate, a few pigs born alive at parity 1, an increased number of stillborn piglets, foster-in or nurse sow practises, and low or high age at first-mating are all high risk sow-level groups for decreasing reproductive performance of female pigs. Also, returned female pigs are more likely to go into oestrus again, and female pigs near farrowing are more likely to die. Producers should constantly monitor females in these high-risk groups and optimise herd management to maximise the reproductive potential of female pigs. Herd management and performance metrics should also be focused in high-performing herds.

Many data points on commercial pig herds can now be collected and stored because to advances in information technology. As technology progresses, the opportunities for data collecting, collaboration, and analysis grow. Farm data analysis might enhance the broadcast of important information, allowing sows to reach their full reproductive potential while also increasing herd production and ensuring steady output in breeding herds. The application of this agricultural data, however, is currently limited. This review will utilise farm data to examine crucial parameters related with sow reproductive success, lifetime performance, and herd productivity in commercial herds, as well as discuss the limits of such data analysis utilising commercial herd data.

Pigs weaned per sow per year

The number of Piglets Weaned per Sow per Year (PWSY) is a standard benchmarking tool for comparing breeding herd production, either within a country or across countries. PWSY goal values have risen from 20 to 30 pigs in the previous three decades, and genetics and sow management are anticipated to push PWSY up to 30–40 pigs. PWSY is an excellent marker for herd production in the near term, but it is not the greatest measurement for sow lifespan, piglet quality, or piglet and sow wellbeing. Herds with high PWSY may produce a lot of runts or undersized piglets, which is a severe problem. Lower colostrum consumption and lesser birth weights have been linked to increased pre weaning mortality and worse post weaning growth performance. When sow prolificacy is genetically improved to such a high degree, piglet quality and welfare may be affected unless genetic advances are oriented on improving uterine capacity, the number of functional teats, and milk supply in sows.

Reproductive performance of sows

Fertility (e.g., weaning-to-first-mating interval: WMI) and prolificacy (e.g., weaning-to-first-mating interval: WMI) are two aspects of sow reproductive performance (e.g. PBA). The WMI is strongly linked to gonadotropin secretion in sows *via* the hypothalamic-pituitary-gonadal axis. In terms of fertility, farrowing rate (FR), as well as re service intervals and culling intervals, have an impact on the number of litters per sow every year due to their impacts on non-productive days. Abortion incidences in commercial herds also increase the number of non-productive days for gilts and sows. Meanwhile, rising ovulation rates and reducing embryonic or foetal survival rates have a major impact on prolificacy, as assessed by PBA.

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There are risk factors for sows' low reproductive success at both the sow and farm level. Ordinary and performance variables are both included in the sow-level factors. Low or high parity, high temperature, decreased lactation feed intake, increased lactation length, and a farrowing event are common factors, whereas performance factors include prolonged WMI, returns, few PBA, low pre weaning growth rate, foster-in or nurse sow practises, early or late age at first-mating, and farrowing stillborn piglets. Female pigs fed in inefficient breeding herds,

late insemination, significant within-herd variability, restricted numbers of farrowing spaces, changing age structure, and poor semen quality are all herd-level problems. In order to maximise a sow's potential and improve their client's breeding herd output, veterinarians should be aware of the elements impacting sow reproductive performance. However, accurate data recording, data gathering, and data integrity checks are required to enable farm data analysis.