

**Seasonal variation in the litter size
in relation with variations in the ovulation rate
and the embryo mortality in the sow**

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A variation in the litter size, ovulation rate and embryo mortality was noticed when analysing two sources of data.

The mean number of piglets born was maximum for litters conceived in August, September, November and minimum for those conceived in December and January. On an average a difference of one piglet was noticed between the two extreme months, i.e., November, January. Piglets were all issued from dams in fourth gestation ($N = 10\,981$), where prolificacy reaches a plateau and varies little.

Variation in the ovulation rate during the year in sows slaughtered at 30 days post coitum in third and fourth gestation ($N = 415$) was parallel to that of the number of embryos and that of the litter size. The maximum corresponded to fertilization in August, September, October, November and the minimum to fertilization in December, January and February. On an average, a difference of two ovulations was noticed between February-October.

The embryo mortality varied according to the ovulation rate; beyond 15 ovulations it was equal to 4 embryos or more. The analysis according to the month of mating showed that the embryo losses were maximum in March and minimum in November for the two groups studied (14-15 and 16-17 ovulations).

Economic and technical consequences of sow culling

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Have sows to be culled after the first, the second or the third return to heat? To solve this problem a simulatory assay was made on a herd of 70 sows kept in batches of seven each for 4 fertilization levels.

The mean number of sows to be mated was 19, 16, 14 and 12 sows for a fertilization level of 60, 70, 80 and 90 p. 100, respectively.

When the number of tolerated returns to heat increased from 0 to 2, the number of gilts to introduce into the batches decreased by 50 to 75 p. 100.

For a given fertilization level, the maximum of pigs produced with a minimum amount of feed (the best profit margin) was always obtained with two tolerated returns to heat.