The relationship between litter size, individual piglet birth weight and piglet survival

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Introduction

The average litter size in pigs has increased in some crossbred lines up to 14 piglets total born per litter and more. Along with this development the piglet mortality has increased dramatically, so piglet mortality and its relation to individual piglet birth weight comes into focus when discussing future breeding objectives in pigs.

increasing litter size

decreasing birth weight

decreasing survival rate

Material & Methods

individual birth weight

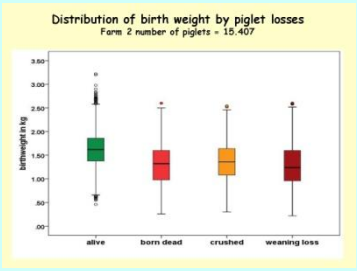
farm	piglets	litters	period
1	1.062	74	1 year
2	15.407	1.259	4 years

individual piglet losses from 4 multiplier farms over 18 month 11.779 piglets from 966 litters

Results

With increasing litter size an increase in losses is observed in farms with losses around 15 % as well as in a farm with losses over 20 %.

With the reduction of individual birth weight an exponential decrease in piglet survival is observed. Nearly half of the piglets with birth weights of less than 1.2 kg have no chance of survival.



Significant lower individual birth weights for piglets born dead, piglets crushed and other weaning losses compared to piglets weaned.

Conclusion

The optimal litter size in some breeds has been reached.

The breeding objective should include litter quality.

A scoring system for litter quality is possible.

litter quality =

average birth weight
+
variation in birth weight