

## Pig Fact Sheet 4

### FACTORS THAT INFLUENCE LITTER SIZE

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*In order to maximise output from the breeding herd it is vital that both fertility of the herd is good (expressed as litters/sow/year) and that the number of piglets weaned per litter is satisfactory. A number of factors are known to influence litter size and the following details a number of the more common points that should be considered if litter size for your herd is not as good as expected.*

#### GENETICS

Litter size is known to fluctuate significantly between breeds of pigs, with the Meisham perhaps being the best example of the breed which has a tendency to high litter sizes. The potential for bigger litter sizes is heritable and therefore when producing homebred females it is important to consider litter size as one of the selection criteria.

#### GILT MANAGEMENT

Good gilt performance tends to be reflected in good lifetime performance of the female. The gilt is the future of the sow herd and as such should be treated correctly in order to enable her to achieve her true potential for excellent lifetime performance.

Prior to first service, gilts should ideally be 230 – 250 days of age and 130 – 150kg bodyweight. It has been shown that optimal litter size is achieved if gilts are served on their third heat. It is important to ensure that there is sufficient gilt availability in the herd to maintain an optimal herd parity profile.

#### SERVICE MANAGEMENT

##### a. Semen Management

The majority of herds now utilise artificial insemination. The management of semen on farm can have a profound effect upon its quality at insemination and thus upon both conception rates and potential litter sizes. The storage of semen should be regularly monitored to ensure that this does not pose a weakness on the operation. Semen is best stored at 17°C and the sachets **gently** rotated two to three times daily in order to help reduce the risks of sperm settling out from the diluent. It is important to note the expiry date on the semen pack to ensure its usage within that timeframe.

##### b. Service Technique

The correct timing of service is critical to maximise litter size. Sows tend to ovulate two-thirds through their standing oestrus and ideally insemination would occur within 12-hours of ovulation. Attention to detail to try and ensure as many sows as possible are inseminated in the correct “window” will have a profound effect upon performance of the herd. It is useful (especially if batch farrowing) to assess the time in which sows come on and off standing heat two to three times during the year (autumn, spring, summer). This will help to determine how accurate timing of insemination is – a so-called oestrus plan. In addition to the timing of service, other factors such as light levels, catheter types, stressing the sow out during service/ within the first 14 days of pregnancy, can all have an impact upon litter size

## BOAR MANAGEMENT

For those units still utilising natural service, it is important to ensure that boars are fit and capable of work. It should be remembered that if any problem with a boar triggering a fever, e.g. infected foot, etc. will have a negative impact upon semen quality and thus on potential performance. In addition, avoid overwork of boars (ideally 1:1 boar/sow ratio with natural service) and if using natural service for gilts, minimise the number of gilts within a service pool for any team of boars.

## FEED MANAGEMENT

### a. *During lactation*

Any condition loss during lactation can have a negative impact upon the re-breeding ability of the sow manifesting as either reduced conception rate or reduced litter size. In order to minimise condition loss during lactation it is important to ensure that sows enter the farrowing department in satisfactory (but not excessive) condition (aim for condition score of 3 to 3.5). If not already doing so, consider the use of lactation rations and always ensure there is a constant ready supply of fresh water available to sows within farrowing.



### b. *During the weaning to service period*

It is important to maintain high feed levels during the weaning to service period. Again, a high quality lactation/ grower ration is of benefit here to maximise energy intake. If floor feeding sows, it is important to ensure that feed is spread sufficiently far to encourage all animals to get their share of the feed allocation.

### c. *Post service*

The post service feed regime is causing controversy, but the general consensus within the UK is to try and avoid overfeeding sows within the first two to three weeks post service (aim for no more than 2.5kg per head during this time). It is obviously important with outdoor sows to ensure that sows are fed to their own body condition and also that feed levels are adjusted to account for weather patterns and ground conditions.

### d. *Feed quality*

Poor quality feed containing mycotoxins can impact on litter size. If necessary, consider the use of a mycotoxin binder within the rations to reduce the problems and ensure good bulk bin management to minimise the risks of mycotoxins affecting the feed.

## INFECTION

A number of diseases are recognised as impacting upon fertility/ litter size and quality, e.g. PRRS, Lepto, Parvovirus. At the moment within the practice we are seeing more evidence of Parvovirus infection within herds which is having a significant impact upon the performance of those herds and it would be prudent to reconsider the common policy of vaccinating gilts only with Parvovirus vaccine. Increasingly we are advising an annual Parvovirus booster to sows in order to minimise the risk of parvovirus impacting upon herd fertility.

In addition to the above points, a number of other factors should be considered should litter sizes be a problem, notably; moving sows at inappropriate time (move within 3 days of service, or beyond 28 – 35 days served); predation of piglets prior to litter counting with outdoor sows, etc.

If you have concerns that litter size for your herd is below target, then please consider the above and contact your unit vet/ Larkmead Veterinary Group to discuss this in more detail.