Reproduction

Fixed time insemination

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Many changes have occurred in the swine industry over the years. All in/all out in the late 1960s, medicated early weaning, isowean, and multiple site production in the 1990s, then post cervical insemination and now fixed time insemination. The focus today is to be more productive, meaning not only producing more piglets but also doing it more efficiently. For this, reproduction is a key factor.

In swine reproduction has been modified and improved throughout time, progressing from natural mating to inseminating 3-4 times, then to inseminating only two times, and now the final stepping stone is here – single fixed time insemination.

Why use fixed time insemination?

The positive impact that fixed time insemination can have on your farm and its productivity can be endless. The most consistent and direct effects are shown below.

Labour:

- More efficient labour by focusing on higher priority factors and away from heat checking and multiple inseminations.
- Reduces human error by giving a precise indication of when to inseminate.
- Improves logistics.

Reproduction:

- Lowers cost by reducing the number of active boars in your stud.
- Reduces cost of buying semen (at least one semen dose less).
- Favours buying higher quality genetic boars and semen.
- More precision on insemination provides longer lifespan for the sow.

Production:

- Using fewer boars per batch, with higher genetic potential, will lead to higher productivity through piglet uniformity.
- Reduction of non-productive days.
- Grouping of farrowings.

Variablity:

- Having all sows mated on the same day, farrowing is also in some way synchronised. So we have sows farrowing in fewer days and giving all piglets the chance to have the same lactation days.
- Several studies demonstrate less variability on farrowing weight.

Single fixed time insemination and Porceptal

The concept of fixed time insemination is based on being able to accurately predict when the gilt or sow is going to ovulate. Once this is known, you can count back the time it takes for the spermatozoa to reach the oocyte and fertilisation to start. The tool that gives you the possibility to predict this is Porceptal; its active ingredient is buserelin acetate, a synthetic gonadotropin-releasing hormone (GnRH) analogue that triggers the release of luteinising hormone (LH), thereby inducing and synchronising ovulation. With the application of 2.5ml of Porceptal, via intra-muscular or subcutaneous, you can induce ovulation in gilts and sows 30-33 hours after application, giving you the possibility to artificially inseminate batches of gilts and/or sows at one predetermined time instead of doing multiple inseminations.

Conclusion

By timing and synchronising ovulation, Porceptal helps producers simplify their breeding schedule and reduce the amount of time their workforce spends on heat checks and inseminations. A single insemination also allows producers to purchase less semen, but from a smaller number of higher-quality boars, resulting in litters that have greater genetic uniformity. In addition, Porceptal reduces the time between weaning and insemination in sows, meaning fewer non-productive days. All of this helps producers to maximise their reproductive efficiency while optimising costs and simplifying their schedules. It is truly the future of reproduction – at your fingertips!

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Benefit	ROI	Description	Trial
More efficient workforce and better grouping at time of farrowing	Not analysed	Reduction in sperm doses: from 2.14 to 1.02	Benefits and implementation of Porceptal in a spani... (A. Garcia et al)
Simplifies management, concentrates farrowing, reduction of stillbirths and semen doses	2.6	Same fertility (P 92.7% vs C 90%); 0.25 less stillborn with Porceptal; 1 semen dose vs 2.5.	Comparison of reproductive performance of fixed time insemination… (C. Laza et al)
Workflow organisation, reduction of semen doses and stillbirths, concentration of farrowing	4.3	Less total stillbirths (P 1.18 vs C 1.73). Higher farrowing concentration, 1 vs 2.4 doses per sow.	Economics of single fixed time insemination protocol in a… (A.Martinez et al)
Reduction of semen doses, weaning to mating interval and NPD.	2.0	Weaning to mating interval went from 7.03 to 5 days.	Improvement of productivity efficiency in large… (J. Nava et al)