

# Science leads the way in pig productivity

The recent 2010 IPVS (International Pig Veterinary Society) conference set the scene for progress in pig production. Experts from Janssen Animal Health in collaboration with researchers from universities across Europe presented the results of recent studies and trials that demonstrate that science holds the key to future improvements in productivity. Pig producers should seek advice from their vet or a suitably qualified person regarding implementation of these new techniques.

A short summary of the presentations is given below.

## Worming

Studies showed that the drinking water wormer flubendazole (Solubenol 100mg/g oral emulsion for pigs) could be given over a two day treatment period, instead of a standard five day treatment period with similar efficacy and the same safety. The two day treatment has been added to the registration recently (September 2010) and exists next to the five day treatment for pigs.

## Oestrus induction and synchronisation

Peforelin (Maprelin 75µg/ml solution for injection for pigs) – a GnRH with selectivity for follicle stimulating hormone (FSH) – can result in better synchronisation, earlier onset of oestrus and improved pregnancy rates. Higher number of piglets were born alive and had heavier birth weights, which was attributed to better growth and development of sow follicles during the oestrus cycle.

## Lactation

- Improved suckling that results in more even intakes of colostrum across a litter, increases survival rates. Easy access to the udder is likely to be the limiting factor.
- Administration of the sedative azaperone (Stresnil 4 mg/ml solution for injection for pigs) immediately after expulsion of the placenta reduces stress in farrowing sows, allowing the udder to be exposed and encourages more even suckling by the piglets, resulting in higher rates of piglet survival and stronger healthier piglets with improved weight gain by weaning.
- The effects are most marked in large litters since colostrum production does not correlate with litter size.

Several of the studies took place in highly productive units where further improvements had proved difficult to deliver. In many cases additional 'fine

tuning' in these key areas could produce the results that had not been achievable using current management systems.

## References

- Deworming via the drinking water system with flubendazole, both safe and efficacious. Jacobs J, Jourquin J, Goosens L, Van Leemput L, IPVS 2010.
- Routine deworming of pregnant sows in group housing systems. Jacobs J, Jourquin J, Goosens L, Van Leemput L, IPVS 2010.
- A new method for oestrus synchronising of gilts in group housing systems. Suls, L, Jourquin J, IPVS 2010.
- Use of a new GnRH to control reproduction in gilts. Engl S, Bischoff R, Zamera W, IPVS 2010.
- Improving oestrus behaviour with peforelin, a specific FSH releasing GnRH. Arnauts J, Jourquin J, Goosens L, IPVS 2010.
- Effect of alternogest on prevention of early parturition and reproductive performance in sows. Vanderhaege C, Dewulf J, Jourquin J, Maes D, IPVS 2010.
- Piglet serum IgG, a non disruptive method to measure colostrum distribution. Jourquin J, van Engen M, Goosens L, IPVS 2010.
- Better colostrum distribution increases piglet survival in high prolific sows. Jourquin J, van Gelderen R, Goosens L, IPVS 2010.
- Facilitating nursing behaviour of sows at farrowing has a positive effect on colostrum distribution. Bermann J, Jourquin J, van Gelderen R, Goosens L, IPVS 2010.
- Improving sow behaviour at farrowing. Jourquin J, Vanthillo I, Zotti E, Goosens L, IPVS 2010.
- Facilitation of nursing behaviour in primiparous sows during colostrum phase improves piglet condition. Miquet J M, Viana G, IPVS 2010.
- Facilitation of nursing behaviour in sows during colostrum phase improves piglet condition. Tseng S, Jourquin J, Goosens L, IPVS 2010.

Solubenol 100mg/g oral emulsion contains 100mg/gm flubendazole  
License category POM-VPS

Regumate porcine 0.4% oral solution contains 0.4% w/v alternogest  
License category POM-V

Maprelin 75µg/ml solution for injection to pigs contains 75µg/ml peforelin  
License category POM-V

Stresnil 40mg/ml solution for injection for pigs contains 40mg/ml azaperone  
Licence category POM-V

# Proof that colostrum offers the key to improved productivity

Recently carried out studies show how individual colostrum intake influences litter survival rates. The results of several studies were presented at the 2010 IPVS (International Pig Veterinary Society) conference and they should give pig producers significant food for thought.

The researchers' work builds on a new method for measuring the levels of IgG (immunoglobulin G or antibodies) in the bloodstream of piglets using blood collected during tail docking at three days of age and applying statistical methods to aid interpretation of individual results. IgG is absorbed for the first 24-48 hours after birth and then declines.

Stress reduction in the critical period during which colostrum is being produced and transferred is likely to encourage good nursing behaviour by the sow and will be instrumental in achieving even colostrum intake.

The solution to the problem of colostrum transfer may lie in a further series of studies presented at the conference where Janssen's team revealed the results of some innovative trials in which the sedative azaperone (Stresnil 40mg/ml Solution For Injection For Pigs) was administered immediately after expulsion of the placenta, with some very positive results.



While colostrum production by the sow can vary widely, the actual amount produced is not generally a good reflection of how much an individual piglet will consume.

Direct measurement in the piglet using this novel method has allowed the Janssen scientists to confirm that the colostrum intake by individual piglets is much more variable in larger litters and these litters also show higher pre-weaning mortality.

The authors of the study concluded that individual colostrum intake is likely to be key to increasing productivity in breeding units.

The group also looked specifically at highly prolific sows, as they do not necessarily produce greater amounts of colostrum in relation to the litter size.

The scientists were able to prove that an even distribution of colostrum intake by the litter had a positive impact on survival rates. High piglet numbers, low birth weights and low vitality can lead to big differences in colostrum intake.

The scientists suggest that ensuring a greater number of functional teats and access to those teats by the piglets will maximise the economic benefits of large litters.

## References

- Piglet serum IgG, a non disruptive method to measure colostrum distribution. Jourquin J, van Engen M, Goosens L, IPVS 2010
- Better colostrum distribution increases piglet survival in high prolific sows. Jourquin J, van Gelderen R, Goosens L, IPVS 2010
- Facilitating nursing behaviour of sows at farrowing has a positive effect on colostrum distribution. Bermann J, Jourquin J, van Gelderen R, Goosens L, IPVS 2010
- Improving sow behaviour at farrowing. Jourquin J, Vanthillo I, Zotti E, Goosens L, IPVS 2010
- Facilitation of nursing behaviour in primiparous sows during colostrum phase improves piglet condition. Miquet J M, Viana G, IPVS 2010
- Facilitation of nursing behaviour in sows during colostrum phase improves piglet condition. Tseng S, Jourquin J, Goosens L IPVS 2010

Stresnil 40mg/ml Solution For Injection For Pigs contains 40mg/ml azaperone  
Licence category POM-V

Advice on the use of this or alternative medicines should be sought from the medicine prescriber

# New worming routines for better pig management

Recent studies presented at the 2010 IPVS (International Pig Veterinary Society) conference have revealed that new worming routines offer safe and effective solutions for control of parasitic worms in pigs.

The presentations confirmed that the wormer flubendazole (Solubenol 100MG/G Oral Emulsion) can be given over a two day treatment period, instead of a standard five day treatment period, without increased risk of adverse events. Since September 2010 the two day claim is approved in the EU.

The first report took evidence from two studies, one conducted under controlled laboratory conditions and one as a field trial, involving pigs naturally infected with *Ascaris suum*, a significant cause of economic loss.

Instead of the standard 5mg/kg bodyweight dose of flubendazole (Solubenol 100MG/G Oral Emulsion) given over five days, the pigs were treated with the same total dose but given over two days.

The results showed that the wormer remained 99.9% effective and medicinal residues in tissues declined rapidly until they were unquantifiable three days after treatment. This means the four day meat withdrawal time for Solubenol was not compromised. A safety study confirmed no abnormalities were observed and no palatability issues arose during the trials.

The authors concluded that Solubenol 100MG/G Oral Emulsion has a wide safety margin and can be used in more flexible treatment protocols that can save time and improve workflow. Solubenol has also recently been granted authorisation for use in pregnant sows.

A second presentation addressed the need to reduce stress in pregnant sows when administering medication: this has proved especially problematic in group housing systems. Accurate delivery of in-feed medication can prove difficult due to differing nutritional requirements and food intake at various stages of gestation.

Delivering worming treatments via the drinking water or in wet (liquid) feed is very convenient in this situation.

Results from a trial involving 110 sows at different stages of gestation were reported, confirming safety with no statistically significant differences in litter size between treated and untreated groups. Treated groups had slightly more live piglets and less stillborn piglets.

No differences were reported between sows dosed through the drinking water system or those dosed individually on wet feed using a drench gun.

Hopefully this trial will lead to products with a licensed claim for alternative dosing mechanisms in the future.

## References

- Deworming via the drinking water system with flubendazole, both safe and efficacious. Jacobs J, Jourquin J, Goosens L, Van Leemput L, IPVS 2010.
- Routine Deworming of pregnant sows in group housing systems. Jacobs J, Jourquin J, Goosens L, Van Leemput L, IPVS 2010.

Solubenol 100MG/G Oral Emulsion contains 100mg flubendazole License category POM-VPS

Advice on the use of this or alternative medicines must be sought from the medicine prescriber. [www.janssenanimalhealth.com](http://www.janssenanimalhealth.com)

# Route to bigger and better litters

Built on a body of work looking at the effects of colostrum intake across a litter a simple tool appears for a complex problem.

Initial studies demonstrate that improved suckling in the first few hours after farrowing, when distributed evenly across the litter, can improve litter survival rates and that the administration of the sedative azaperone (Stresnil 40mg/ml Solution For Injection For Pigs) immediately post farrowing could improve sow attitude and facilitate suckling.

It is estimated that 25% of the sow's show behaviour prevents her piglets from suckling at birth and this rises to 30% within six hours. This can represent a significant loss in productivity for the unit.

Three additional studies were carried out, supported by a novel method for measuring IgG (antibodies) in individual piglets. The results demonstrate some conclusive benefits resulting from administering azaperone following the recommended protocol:

- **Study 1:** Piglets from sows treated with azaperone showed improved weight gain at weaning, gaining 9.9% more than piglets from untreated sows.
- **Study 2:** In sows giving birth to their first litter, azaperone treatment of the sows resulted in increased piglet survival and improved weight gain, resulting in litter weight being 11.3% better in the azaperone treated group. In the outdoor situation this was mainly due to decreased early mortality and in conventionally housed sows increased weight gain made the biggest contribution.
- **Study 3:** Sows giving birth to larger litters were more likely to have litters where the colostrum intake was less evenly distributed – a factor known to have a negative impact on piglet survival. Administering azaperone to sows resulted in colostrum intake remaining even across the litter,

even with large litter sizes. The benefits of azaperone are likely to be particularly marked in farms with a higher proportion of prolific sows.

These results demonstrate that stress reduction and relaxation can be achieved by administering azaperone to the sow at the end of parturition.

Improved suckling for all piglets due to better early access to the teats is likely to result in stronger piglets at an early stage with subsequent improvements in survival and weaning weights.

## References

- Piglet serum IgG, a non disruptive method to measure colostrum distribution. Jourquin J, van Engen M, Goossens L, IPVS 2010.
- Better colostrum distribution increases piglet survival in high prolific sows. Jourquin J, van Gelderen R, Goossens L, IPVS 2010.
- Facilitating nursing behaviour of sows at farrowing has a positive effect on colostrum distribution. Biermann J, Jourquin J, van Gelderen R, Goossens L, IPVS 2010.
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- Facilitation of nursing behaviour in primiparous sows during colostrum phase improves piglet condition. Miquet J M, Viana G, IPVS 2010.
- Facilitation of nursing behaviour in sows during colostrum phase improves piglet condition. Tseng S, Jourquin J, Goossens L IPVS 2010.

Stresnil 40mg/ml Solution For Injection For Pigs contains 40mg/ml azaperone Licence category POM-V

Advice on the use of this or alternative medicines should be sought from the medicine prescriber

# GnRH provides vital top up for peak performance

Peforelin (Maprelin 75 µg/ML Solution For Injection For Pigs) is a gonadotropin releasing hormone that preferentially stimulates FSH (follicle stimulating hormone) release, allowing growth of the follicle in the ovary and eventually resulting in release of the mature ova for fertilisation.

Studies presented at the 2010 IPVS (International Pig Veterinary Society) conference have been able to demonstrate how peforelin can be used in conjunction with altrenogest (Regumate Porcine 0.4% Oral Solution) to refine the timing of oestrus, compared to using altrenogest alone.

The first study involved 110 gilts given either altrenogest alone or altrenogest followed by peforelin.

More gilts came into oestrus within eight days of the last altrenogest treatment in the group also given peforelin (96% compared with 81% in the untreated group).

These results were statistically significant. There was also a tendency towards higher pregnancy rates in the peforelin treated group with 88% detected pregnant sonographically compared to 83% in the control group.

The results show that insemination times are grouped closer together when peforelin is used, which delivers considerable benefits to batch management systems.

The second study resulted from a collaboration between Leuven University and Janssen Animal Health and was carried out in a high productivity farm.

Both sows and gilts were treated with altrenogest and half the group was also treated with pe-

forelin. More gilts came into season in the seven day interval post altrenogest in the peforelin treated group (95% against 92%).

Sows also came into oestrus earlier, with 96% in oestrus within six days post weaning. Pregnancy rates were higher in both gilts and sows in the peforelin treated group.

In high productivity farms standards are already high and it can be challenging to improve upon the existing level of performance.

This study showed the peforelin provides a way to improve synchrony and shorten the weaning to oestrus interval to fine tune performance still further.

## References

- Use of a new GnRH to control reproduction in gilts. Engl S, Bischoff R, Zamera W, IPVS 2010.
- Improving oestrus behaviour with peforelin, a specific FSH releasing GnRH. Arnauts J, Jourquin J, Goosens L, 2010 IPVS.