Productivity for the pig breeding unit remains the basis for profitability and optimising performance from the sows is paramount.

Production losses associated with empty or non-productive days can be extremely costly and the aim in the breeding herd is to minimise such cost by minimising empty days - those days when the sow is neither pregnant nor suckling. Even in the most successful units, some sows will fail to conceive or carry a litter through to term. It is vital that such sows are detected as early as possible, such that action can be taken - either to cull them or to move them back to the service area for re-breeding. The primary aim of any pregnancy testing system is, thus, to pick up the negatives.

The cheapest and most reliable method is detection of returns to service as early as possible, recognising demonstrable signs of heat. It is a fundamental aspect of breeding herd husbandry and is not replaced by application of technical machines. It requires correct training of stockmen, application of that training and sufficient controlled exposure to mature boars to enable the sows to show signs. Advisors, senior staff and veterinary surgeons can all provide the necessary training for new and inexperienced staff.

Active pregnancy testing can be done either by ultrasound scanning or use of Doppler effect. Hormone blood tests have historically been used but are not now commercial available.

Ultrasound scanning can be done early - around 21-25 days post service - and can be very accurate operating in such a way that an image of the developing embryos is created. However, it must be borne in mind that it is possible for a sow to totally re-absorb a litter up to 35 days gestation. Therefore, a positive pregnancy test at 21-25 days is no guarantee that the sow will remain in pig and carry the litter through to term.

Doppler effect testing acts by bouncing sound waves off the uterine artery and thus detecting the increase and turbulence in blood flow that accompanies pregnancy. It cannot be reliably used before 4 weeks gestation. The accuracy of a negative result depends on the skill of the operator in detecting the artery. A positive result, however, at this time still is not definitive that a litter will carry through:-

1) It is still possible for the litter to be re-absorbed and indeed it is possible that the litter has died and is in the process of being re-absorbed when a “positive” test result is achieved. This is because the increase in blood flow that accompanies pregnancy will take time to reduce after loss/re-absorption of the litter. (It is possible to get a “positive” pregnancy test with a Doppler machine on a sow that farrowed 2 days ago!).

2) A sow on heat or in pre or post oestrous has an increased blood flow to the uterus which can produce the "wooshing" sound with a Doppler machine. Experienced operators can distinguish between this and a pregnant sound but some may not.

3) A uterus that is heavily infected will mimic a pregnant one in terms of blood supply. Again an experienced operator may be able to differentiate the sound from that produced by a genuinely pregnant.

4) False pregnancy is a rare condition in the sow. This is where the uterus fills with fluid, hormonally the sow behaves as pregnant but there is no litter present. There is a suggestion that the condition may be associated with PRRS infection and may be more common now than it once was.

Because of the possibility of a false positive pregnancy test at 4-5 weeks, it is accepted practice that sows are re-checked for pregnancy beyond 8 weeks gestation. Again, false pregnancy, infected uteri, sows around oestrous and a sow with a uterus full of mummified pigs all give a positive test result with a Doppler machine. Some operators claim to be able to hear foetal heart beats from 8 weeks onwards and to even be able to distinguish and count them at 70-100 per minute. This is unlikely as the piglets heart rate during gestation is about 200 beats per minute - reducing as term approaches. If one considers that 10-15 hearts will be beating at this rate but are not synchronised, the sound is more like a cat purring or an engine idling.

Equipment must be properly maintained and in particular batteries should be regularly replaced. It is always worth remembering that a sow which has received 2 positive pregnancy tests but fails to farrow either:-
a) Was not pregnant in the first place - due to inaccurate testing, false pregnancy or infected uterus.

b) Is full of mummified pigs which will not trigger farrowing (such animals will not come on heat).

c) Has aborted.

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