

On farm artificial insemination – the logical alternative

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One of the major changes in UK pig farming over the past 15 years or so has been a big move to AI. My own view is that the major reason the UK was generally later than others to follow this trend was because we had many of the major breeding companies and, in their quest to produce super boars, they inevitably produced a large stock of pretty good ones, and these needed to be sold at a profit in order to help to finance the search.

However, by the mid-nineties, the move to AI was well and truly under way, with all those breeding companies eventually opening their own commercial studs to produce semen from terminal sires.

The UK has subsequently reached pretty much the same level of AI usage as its European colleagues, given a couple of sets of circumstances that set it apart from most of Europe – first a large proportion of our sows are outdoors, and generally farmed extensively and, second, AI is much easier when sows are in crates, a practice that has been illegal here since 1999. It is believed that around 80% of matings today are artificial, including a good proportion of the UK's outdoor herd.

A small, tidy laboratory with everything to hand.



One feature of UK AI has been the relative importance of On-Farm AI (OFAI), where the farmer collects semen from his own boars, processes it on the farm and then uses it to inseminate his own sows.

Rotech can take some of the credit for this, due principally to their extremely simple and effective Sembang System for processing semen.

OFAI operations are also the destination of many of those top quality boars which did not quite make the stud grade. We estimate today that around 20% of the UK sow herd is inseminated with semen collected from boars on the same farm.

While some of the enterprises using OFAI are large by UK standards (5000 + sows), many are much smaller, with 2-300 sows only. Because it is too risky to have just one breeding boar on a unit, and because boars need to be collected regularly, approximately weekly, to maintain semen quality, you will have semen to produce around 30 doses per week (15 per collection), which suggests a starting point of about 300 sows.

That is not to say that the UK does not have users with smaller herds operating very efficiently, but they could almost certainly increase sow numbers without increasing boar collections.

So, why do they do it rather than buy in semen from a commercial stud? Of course



Semen is checked under the microscope.

many, maybe even most, buy commercial semen when necessary, but most OFAI practitioners believe that their performance is better, and/or find it more convenient to do it themselves. They will not collect semen until they need it, and so most inseminations are made on the same day as the collection.

Sows are frequently inseminated with semen still warm from the boar. Semen is unlikely to be diluted to anything like the levels that will, quite properly, be common place in a commercial stud, and most OFAI operators feel that this has benefits.

Of course, newer, long term diluents mean that for holidays or other pinch-points, they can collect in advance if necessary. Most importantly, it works for these people. Remember, around 20% of the UK national herd is using OFAI, and has been for 15-20 years. This is not a transient phenomenon.

One of Rotech's major customers ($\pm 3,500$ sows) summed up in one word why he prefers On-Farm AI – 'control'. It provides control of every aspect of his breeding programme. Quality is so easy to check at every stage of the process that it is now second nature to do it routinely. The bought in semen that is used for their gilt replacement

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programme habitually gives results that are below those from their own production in terms of conception rate and litter size.

He is not sure what the difference is, except that he does not know for certain what has happened to the semen before he receives it, so he considers this control to be crucial.

OFAI will save you money compared to bought-in semen, and it will save you a fortune compared to using natural service.

Currently, the cost of a dose, without using a colorimeter to stretch your collection to as many doses as possible, and taking all depreciation, boar, veterinary and labour costs into account, is less than £2. Using a colorimeter, if your herd is large enough to warrant this, will reduce this even more.

The semen arrives fresh and you can (and will) check its motility before inseminating. This ability to easily and quickly check quality at every stage is possibly why OFAI operators report better conception rates and litter sizes on average than they get when using bought-in semen.

Semen is checked under the microscope at every stage of production, so operators become very familiar with the constant quality control.

Whereas a breeder using natural service will have a ratio of around one boar per 20 sows, an OFAI operator needs only around 1:100.



The finished product.

So, if he spends the same on boars as he would have done using natural service, he can afford to spend much more per boar than he did, and the improvement in genetic quality will be apparent immediately the first litter is born.

Additionally, he will have freed up some accommodation which could be turned over to extra sows. He may need a vasectomised teaser boar to stimulate sows, and to aid in heat detection, but this can be an animal he holds back from his production.

What is necessary is a workforce that is committed to the job, and who want OFAI to be successful.

The Sembag System has evolved over the

years, using experience gained from many hundreds of units, to fine tune the various stages. Provided that operators take no short cuts, and stick rigorously to the rules, they will be successful.

An operator will know for sure before he inseminates that the semen quality is good ('control') and provided he performs the insemination itself with the same level of commitment and skill, he will have good results. A good supplier will advise on setting up the laboratory and collection area, paying special attention to ensuring that the whole set-up is tailored to fit the customer's individual needs.

They will provide all necessary equipment and training, and ensure that customers are supported day to day if necessary (it sometimes is at the outset) and kept up-to-date with any changes that from time to time improve things.

They will ensure that your equipment is maintained in tip top working condition, and that new staff are trained to the required level. Most importantly, they will maintain stocks of all consumables so as to ensure that you are never in a position where you are unable to operate for the want of some essential item.

On Farm AI does fit well with very many producers, and if your sow numbers are greater than 250 or so, it will be well worth investigating further. ■

Photographs: James Bodman