

Better boar training

There are various reasons why the training of boars for semen collection can fail. The animal can be under age, there can be lack of perseverance, the animal can be suffering from traumatic experiences or perhaps incorrect techniques have been used. Here's a step-by-step approach to obtain the best results in the boar stud.

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For boar studs, it is generally accepted that an animal is suitable for production if it can mount the dummy and semen can be collected. The number of trained boars and duration of training, the percentage of animals that mount the dummy, the time required per collection and the average number of sperm cells per ejaculate define the efficiency of the boar stud. When boars reach puberty at the age of five to eight months, it does not mean that their libido and ability to mount are fully developed. Environmental and individual factors of the boar can adversely affect his libido and sexual development.

Boar sexual behaviour



Factors influencing fertility in males are complex, but behaviour as well as ability to mount and produce an adequate number of sperm cells in excellent quality is undoubtedly essential. Selection, feeding and the management programme are key factors to determine the reproductive potential of the animal.

Semen collection allows evaluation of libido, mounting and ejaculating ability of the semen donor. The behaviour prior to mounting implies visual and olfactory stimulation. The boar grunts and increases salivary secretion; he smells, bites and puts pres-



A grunting boar, increasing salivary secretion; he smells, bites and puts pressure on the dummy to provoke the immobility reflex of the female.

sure on the dummy to provoke the immobility reflex of the female. The lack of this type of behaviour may lead to infertility, a reason why the observation and evaluation of sexual behaviour during training is a key factor to detect animals that need special attention (see *Table 1*).

The reasons for libido problems are often due more to behavioural alterations than to endocrine problems. Shy, nervous and non-aggressive animals have a lower libido. Other important factors are given by feet lesions, which may be negative for the sexual behaviour when the animal is not able to mount.

Use of prostaglandins

Most data related to effects of prostaglandins on sexual behaviour and semen

production have been based on studies with reduced numbers of boars per treatment, making it difficult to draw conclusions. The mechanism, by which prostaglandins seem to stimulate sexual behaviour on boars is unknown, as well as the long-term effect on semen production and sexual behaviour. Prostaglandins undoubtedly produce a kind of irritation in males, which may increase libido in some boars with mounting problems. It is possible, that prostaglandins affect certain areas of the brain.

Research has shown that administration of prostaglandin F_{2α} prior to initiation of training and collection may improve libido of young or adult boars that are used to natural breeding, including those showing loss of libido.



Table 1. Classification of boar's libido level during training for semen collection (Estienne and others, 2005).

Classification	Observations
1	No interest in dummy
2	Some interest in dummy, but no mounting intent
3	Mounting on dummy, but without erection
4	Mounting on dummy, erection occurs, but no semen collection is allowed
5	Mounting on dummy and permitting semen collection

Table 2. Sexual behaviour of boars treated with prostaglandin F2a injected i.m., with distilled water and without treatment (adapted from Estienne and others, 2000).

Treatment parameter	Prostaglandin	Distilled water	No treatment
Boars (number)	9	4	11
Ejaculates (number)	9	4	11
Reaction time (minutes)*	8.6	7.8	7.3
False mounts	1.6	4.0	4.2

* Reaction time: time needed for the boar mounting the dummy.

Environment: Temperature must be comfortable for both animal and operator (approx. +20 °C). Light should be available in sufficient amounts, especially in the collecting area around the dummy. With optimal light intensity, the operator should be able to read a newspaper.



Ground: The complete surface must be covered with a non-slippery mat to avoid slipping of the boar while intending to mount the dummy. The first ejaculate jets (pre-spermatric fraction) are normally discarded to the ground, so its surface must be easy to clean.

Collection dummy: While its shape must be similar to a sow, it has to be slightly lower than the eye-level of the boar and be accessible from both sides. Its approximate dimensions should be:

- Length: 1.00-1.50 m
- Height: 0.50-0.75 m
- Width: 0.25-0.30 m

The upper part of the dummy needs to be coated with a flat and easy to clean surface without sharp edges. Its height must be adjustable for different sizes of boars with an easy to adjust system. The optimal height is approximately 10 cm below the boar's shoulder. This must be taken in account when using the same dummy for training young

In a study analysing different treatments, it was shown that although the distinctions between groups were not significant, animals in groups treated with prostaglandins had less false mounts before collection compared to other groups (see *Table 2*).

The disparity of results with giving prostaglandins to improve boar sexual behaviour may be related to genetics, age and weight of the animals, different products used, applied doses or type of management. It is not advisable to use these treatments regularly, but they may be useful to improve libido in special situations, as for example to train young boars for mounting the dummy.

Training area, collection and dummy Facilities: Facilities and the manage-

ment protocol for animals have an influence on sexual behaviour of the boar, semen collecting efficiency and job safety.

Design: The collection pen must have proper dimensions (maximum 2 x 3 m) to focus the boar's attention completely to the dummy. The dummy should be the only object in the room. The entrance door of the collection pen has to be designed in such a way that the operator may escape easily if the boar turns aggressive. It must have an easy to handle entrance and exit door system. The type of collection pen can influence the times the boar needs for mounting the dummy and to leave the collection pen after ejaculation. This may influence the final productivity of the AI-centre.

and collecting semen from adult boars. The structure of the dummy has to be solid and fixed to the ground to resist the weight of the boar and the movements during his excitation phase. On the market there are pneumatic spring acting dummies available, which give, besides an easy height regulation, comfortable sensation to the boar during mounting, acting as shock absorber.

Training method



Time and patience are the key factors of training boars for an AI-centre. Nervous or even aggressive attitudes of the operator while training the animal (shouting, pushing and hasty movements) have a negative influence on his behaviour and may be the reason for refusing the

dummy. It is very important that the operator is familiar with the boar's sexual behaviour. He has to be a good observer, patient as well as persistent on his job and, what is most important, he has to be motivated.

The sexual behaviour of the male starts with a gallant phase (the boar gets next to the dummy, smells, grunts and rubs against it). This stage is followed by mounting, erection and finally ejaculation. The observation of the animal's reaction in front of the dummy is essential to determine the kind of strategy or technique used for the training.

To be successful with the training, we must try to get the boar's attention fixed on the dummy from the moment he enters the collection pen, so that he associates the collection with a pleasant experience. This is achieved by good design of the collection pen and dummy, plus proper interaction between boar and operator.

With this aim in mind, the operator has to find viable methods, which are easy to apply and mainly safe, to stimulate the boar. One of the most usual options is to let the boar watch the semen collection of another boar just before entering the collection pen for his own training. It is interesting to observe how young boars accept the dummy more quickly, when they notice the smell of other boars. Urine, saliva and synthetic pheromones may be

used to impregnate the dummy.

The mounting desire can be present within the first ten minutes. If the boar doesn't show any interest or mounting intent, the best thing is to get him away and to try again later; probably he will not perform during this session. The boar should never be forced because if he associates the training with a negative experience, he will probably reject the dummy in further sessions.

Young and nervous boars are easier to train as they seem to have more libido. Adult boars can also be trained, but this may take longer. Some papers confirm a negative correlation between starting age of training and the percentage of success. When training is started prior to age of ten months, success may reach 90% and most boars can be collected within the first three to four weeks after the first contact with the dummy. In contrast, if training is started after the age of ten months, success rate is normally reduced to 70% or less.

Collection

When the boar has mounted, the operator slowly approaches the boar from the rear, making sure not to frighten the boar in order to avoid dismounting. Then, a careful massage of the preputial area must be initiated to stimulate the exposure of the penis. After the boar has exposed his penis, the penis tip must be grasped with the hand applying pressure with the fingers on the tip. This is important to achieve a complete erection to initiate ejaculation.

If the boar has mounted the dummy but not begun ejaculation yet, the preputial area must be stimulated by massaging it forwards and backwards. This is important for young boars without experience. When the animal begins with the movements previous to ejaculation, it is suitable to purge the preputial content; preputial fluid is heavily polluted with bacteria, dirt and is therefore a contamination source. It is essential that the boar finishes his ejaculation; otherwise he will adopt bad habits, which will have consequences on his productivity later on. **PP**

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