

Boar training 2 – Evaluation of the boar



Evaluation of boar training

Proper boar training as well as correct semen assessment and analysis in due time, will ensure an efficient on-farm transfer of high genetic potential of DanBred.

What to look for in achieving ideal training results

The rapid genetic development within the DanBred breeding programme, entail that a young DanBred boar is delivered with the a superior genetic potential compared to older DanBred boars. On this basis it is imperative that young boars are trained and set in production as soon they have reached sexual maturity. Training the boars and having their semen go through a proper quality analysis in due time will ensure an efficient transfer of the high genetic potential from the boars into the herd.

Optimum evaluation upon training

The purebred DanBred boar reaches sexual maturity by the age of 6-7 months, and when the DanBred boar is 8 months it is able to deliver a semen quality and sperm count which is adequate for use within a breeding program.

The semen collected should always go through a proper quality evaluation. Basic parameters can be used for evaluating boar semen quality:

- Colour and Odour
- Concentration
- Motility
- Morphology

Colour and odour as well as semen concentration is not a direct a component of semen quality evaluation, but is valuable indicator of the boars health and productive output. Collected semen should have a milky white colour and must not have a noticeable odour (Rozeboom, 2000). The concentration of sperm cells should be above 150 mill./ml (DPRC, 2018).

Motility describes the ability of sperm to move properly forward, and is important in order for the sperm ability to move through the reproductive tract. Because semen motility decreases during storage, semen should be tested shortly after collection and subsequently the diluted semen dose should be tested after 2-3 days of proper storage. The minimum motility rates during initial evaluation should be 90-80 % – with a motility cut off level at 70-60 % (DPRC, 2018).

Motile Sperm Cells	Semen Quality	Expected productivity
90 %	Very Good	Excellent
80 %	Good	
70 - 60 %	Sub-standard	Reduced
40 - 20 %	Poor	Very reduced
< 20 %	Unusable	Non-productive

Table 1: Semen motility evaluation.

Morphology is the study of the form or shape. The morphology assessment determines the percentage of abnormal sperm cells. Semen with less than 70 % morphological normal sperm can be identified as poor quality why the ejaculate should be discarded if the assessment is below this level (Rozeboom, 2000).

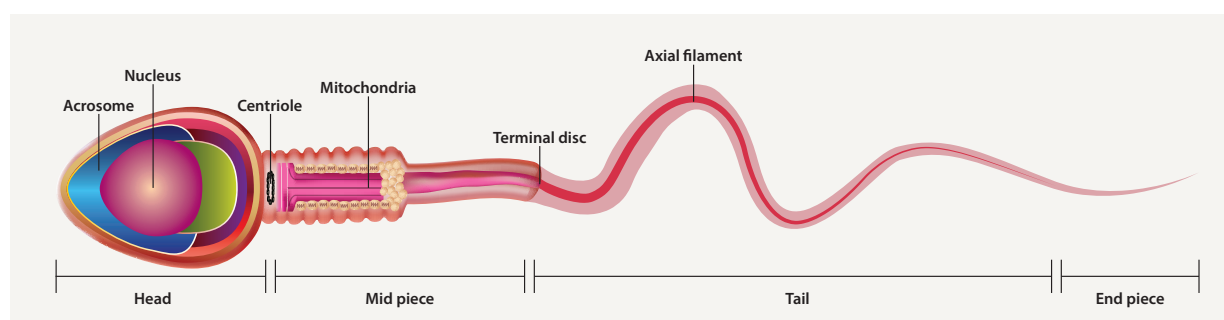


Figure 1: Sperm cell anatomy.

Sub-standard motility levels as well as an odd number of abnormal cells found with young boar can be a sign that the boar not mature for production or a sign of disease. Continue evaluating the semen until the results are acceptable and make sure to have the boar examined by the herd veterinarian.

Test the boar in the sow herd

Before the boar is finally approved for production an on-farm test of the fertility can be made by initiating a series of purebred matings in the sow herd and evaluating the percentage of non-pregnant sows among the mated sows. The suggestion is to inseminate 10 productive sows with proper diluted doses from the new boar. If 9 or more sows are pregnant and the semen analysis for the boar are within the quality standards the new boar is ready for use. If less than 7 sows are found pregnant can be a sign of the boars age and maturity or a sign of disease. Give the boar a few weeks to recover and make sure to have the boar examined by the herd veterinarian.

Easy steps for boar evaluation

Semen evaluation

Make a a proper quality evaluation.

- Semen should have a milky white colour and no noticeable odour.
- Concentration of sperm cells >150 mill./ml.
- Semen morphology >70 % morphologically normal sperm cells
- Semen motility level: 90-80 %
 - Motility cut off level: 70-60%

Semen Motility should be evaluated both in the ejaculate as well as in a diluted semen analysed after 2-3 days storage at 16-18 degree Celsius

Boar test on-farm

Inseminate 10 productive purebred sows:

- If 9 or more sows are pregnant
 - The boar is ready for production.
- If less than 7 sows are pregnant
 - Give the boar a few weeks to mature further
 - Have the boar examined for disease by the herd veterinarian

Sub-standard results in young boars can be a sign that the boar is not mature for production or can be a sign of disease. Continue evaluating the semen for some weeks until the results are acceptable and make sure to have the boar examined by the herd veterinarian.



References

Danish Pig Research Centre (DPRC); H6C – Intern KS – Tapping af orne (2018). Online. Manual om reprodmanagement. SEGES Videncenter for Svineproduktion. Retrieved 08/05/19 <https://svineproduktion.dk/Viden/I-stalden/Management/Manualer/Repro>

Danish Pig Research Centre (DPRC); H6B – Opbevaring af sæd (2018). Online. Manual om reprodmanagement. SEGES Videncenter for Svineproduktion. Retrieved 08/05/19 <https://svineproduktion.dk/Viden/I-stalden/Management/Manualer/Repro>

Rozeboom, K.J. (2000): Evaluating Boar Semen, Extension Swine Husbandry. Publication no. ANS 00-812S Quality, North Carolina State University. Retrieved online 9/5/19 https://projects.ncsu.edu/project/swine_extension/publications/factsheets/812s.htm