The failure to optimize reproductive efficiency in the pig breeding herd in a major source of economic loss and many producers are not aware of this loss. It is essential therefore that reproductive failure is recognized early and a method is adopted that clarifies the point of this failure and identifies the problem. This is carried out in two parts; record analysis and clinical examination of the herd.

**Record Analysis.** Without accurate records it is impossible to investigate reproductive failure and the principles and total approach are shown in Fig. 1.

- **Records of herd performance**
  - Potential areas of failure identified
  - Monitoring, management, pathological examination.
  - Areas of actual losses identified (infections or non-infectious cause)
  - Remedial activities

**Fig. 1**

The areas where losses occur can be divided into five groups:

1. **Oestrus and follicular production.** Records and history would indicate low litter size or ovarian malfunction.
2. **Fertilization.** Records would indicate a high rate of un-mated gilts or a high rate of un-mated gilts.
3. **Implantation.** A period of group feeding is crucial and embryos begin to become viable but may be lost by variable litter size and/or abortion rates observed in 24-26 days post-service.
4. **Retention.** In this period reproductive failure may be caused by individual or total embryo death followed by complete resorption or resorption, total failure may also be caused in the farrowing process.
5. **Farrowing.** This final phase of loss takes place at farrowing and the data can be taken during the period of actual farrowing.

The grouping of "failing" gilts in this way enables the investigator to select available data to use or groups of gilts so that further clinical and pathological examinations will clarify the epidemiology.

The type of data required is not comprehensive but its rational and preconceived can create considerable problems on the farm. In the authors experience, detailed individual sow and litter records are essential and if designed correctly will hold information for up to 5 parity rates thus allowing retrospective analysis either manually or by computer. Group herd examination can be made at any time and in retrospect relating the problem to the state of the herd as it was identified.

**Farrowing.** Target levels and means/day livet weight - Table 1

<table>
<thead>
<tr>
<th>Sex noted (or born)</th>
<th>Identification</th>
<th>Intra-herd test results</th>
<th>Virological examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable 12-24 hrs</td>
<td>Bovine virus</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Date born</td>
<td>Live (alive)</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Litter size variation</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Date of accident + infection</td>
<td>30%</td>
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For most of the parameters a range is given and the extreme deviates from the mean. Unfortunately, however, no information is presented in this regard.

**Clinical Investigation.**

These consist of post-mortem, a clinical examination of the herd and a whole pathological investigation. The investigation and pathological investigations are required. Clinical investigations are required that the abortion of the production and the possible cause. To confirm this and decide upon remedial activities require further information which is gained from the clinical examination.

**Reproductive Failure and the Environment.**

Reproductive failure and the environment and any evidence of disease are noted and further investigations may, if warranted, be carried out. Stopping slaughter and house hygiene play an important role in the control achieved between herd and organisational. Pathological tests include bacteriological and virological examination. Clinical and pathological examinations can be of value in the diagnosis using a vaginoscope.

A final assessment of the record data clinical and pathological information will indicate whether the reproductive failure is due to an infectious or non-infectious cause. The records include the sow performance and the farrowing rate and the losses. The significance of the report findings and their interaction are important factors in the epidemiology. The results of the report findings are essential in the interpretation of the herd findings.

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