



Workshop for on-farm and participatory research

Case animal husbandry

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MTT Animal Production Research

Types of research

- Analysis of retrospective production data
 - Batch data from fattening pig and broiler production
 - Herd data from piglet or milk production
 - Combined with background information from farms or other data bases
- Surveys
 - Questionnaires (web or interview)
 - Sampling and measurements on farms
- On-farm experiments
 - Feed production and preservation
 - Feeding and production trials

Animal experiments on farms

- Rules for the use of animals for scientific purposes are set down in The Act on the Protection of Animals Used for Scientific or Educational Purposes (New legislation 1.1.2013)
- **Does your on-farm trial cause animals pain, suffering, distress or lasting harm comparable at least to the pain caused by the introduction of needle? If YES**
 - Project licence authorized by Animal Experiment Board
 - Competence to perform animal experiments
 - Authorization of establishment
- Feeding trials with performance measurements only are not generally considered as animal experiments that would require a project licence. **Uncertain? Ask advice from authorities.**
- Farms where feeding trials are carried out must meet the requirements set down in The Act on Animal Protection

Some challenges in on-farm feeding trials


- Experimental unit in group feeding systems can be large
 - The smallest unit where feed consumption can be measured
- Application of concurrent dietary treatments
 - Many on-farm feeding systems can deliver only one feed at the time
 - Residual feed in liquid feeding system (mixing tank, pipelines)
- Presence of confounding factors
 - Time, animal background, production environment
- ❑ Experimental design, sample size, randomization
- Accurate and reliable measurement of feed consumptions
- Individual identification of animals throughout the trial
- Some management practices, e.g. cross-fostering, and handling of unexpected events
- ❑ Detailed protocol, support to farmer (workers), regular visits to the farm and monitoring of data collection



On-farm trial to test two sire lines for fattening pig production

- Research questions
- Experimental design
 - Experimental unit
 - Calculation of sample size
 - Design and randomization
- Practical arrangements at three production sites
 - Breeding unit
 - Farrowing unit
 - Fattening unit
- Protocols, identification of treatments and individual animals, data collection forms
- Regular visits, support and monitoring data collection
- Arrangements at slaughter
- Analyses and reporting





Did anything
go wrong?

Impact of
research
results?