

## **Prospects for ‘on-farm experimentation’**

### **- EVOP as a dairy herd management evaluation tool**

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EVOP – as in EVolutionary OPerations – as in ongoing on-farm experimentation to evaluate effects of management changes during running production.

The EVOP concept explore the potentials of systematic experimentations at farm level as the next step in proactive and dynamic herd management and decision making – coming after years of herd specific retrospective analysis, monitoring etc. EVOP seeks to provide the answer to the questions that the farmers ask themselves every day; what if? The challenge of EVOP is to combine trial theory, everyday farm technology and practicality embedded in empowerment of farmers.

In the EVOP project, researcher sat down with farmers and consultants; asked, listened and designed a number of trials to meet the following basic components;

- 1) Farmer-driven hypothesis and interventions
- 2) Herd-specific goals for the intervention
- 3) Study period with a short time frame
- 4) Simple, but at the same time statistically sound designs – including data access
- 5) Regular estimation of effects and frequent reporting to the farmer.

In the project EVOP-trials concerning feeding, udder-health and group moves are designed, conducted, analyzed by dynamic models, including all available data. EVOP-trials are ideally constructed so they are repeated; adjusting the initial intervention or changing intervention, but maintaining the herd-specific goal – e.g. evolutionary or ongoing. In some way, the words also link to the minds of ‘participants’ – trialing becomes an ongoing mindset – what do we want to know next? Results are reported, and farmers are to decide – stop (with former or new management procedure) or go trialing to optimize further. Finally, participants are interviewed and their arguments are used to explore the perception of ‘systematic evaluation’ of a wider range of other dairy farmers.

In order to bridge both validity (e.g. randomization is the most valid to determine ‘cause and effect’ by scientific measures) and practicality (e.g. which trial design can actually be fitted into the everyday life on a farm], a fight between the champion in trial theory Mr. R. Andomize and the more ordinary Mr. H. Istorical Control began. The fight is not over!

Researcher and consultants has a lot to learn about on-farm research; to be consistent in pragmatic trial design and conduct, to listen to farmers’ needs, to follow his demands and accepts his decision, no matter the strength of the scientific evidence.

Farmers have a lot to learn about trial theory; to formulate hypotheses, knowledge about validity of results and confounding factors and how to stick to a plan long enough.

BUT most important – we ALL must learn to unite our competencies; farmer, consultants and researchers to move the dairy industry forward in one direction – a farm-specific direction.

Get out there and try tomorrow – look around your ‘dairy world’ – do you need a valid answer of cause and effect on herd level – trial it! Randomize till it hurts!