Future prospects of 'on-farm experimentation'

EVOP in herd management

Dorte Bay, PNH, KU SUND
CPH-cattle seminar - 2017

IA project in collaboration between KU SUND, AU Foulum, SLU Sverige, Seges, Agrotech/Teknologisk institute - supported by MAF

UNIVERSITY OF COPENHAGEN
Inspired by at least two things today.

Aim of CPH cattle:..."cross-disciplinary research”
– in my mind that also includes studying humans and decisions – e.g. the life-worlds of farmers, advisors of all kinds and researchers

Telezhenko: ‘the cows give the best answer’
- In my mind that this adds up to the ‘cows in a specific farm-context involving human decisions give the best answer’
E..WHAT?

**EVOP** means **EVolutionary OPeration**

Translated into dairy herd context: **ongoing experimentation (or trials)** under running (milk)production to **demonstrate** **effect of intervention(s)** e.g. management change(s)
EVOP – in theory

Experiment/Trial
- requires a intervention – a change in management e.g. change in regrouping of fresh cows

Effect of intervention
- A result of valid experiment (e.g. design, conduct and analysis) is a measure of effect of the intervention

Ongoing
- Several systematic experiments with same goal (e.g. milk yield); same or different intervention
- Trial designed or analyzed in a sequential manner to optimize a procedure
- Methodology of experimentation adapted into farmers mindset and re-used to suit ‘his everyday life’
The conceptual idea:
Making decisions in the complex dairy world
> problem-reduction & hypothesis generation by ‘supported’ farmers
> EVOP-trial results potentially feed back into farmers mindset and modulate decisionmaking fundamentally >..
EVOP- Old Wine or New Wine?

OLD WINE
EVOP has been used in industrial process for ages – simple trial design
Randomization is the most valid method to estimate cause and effects

NEW WINE:
Farmer plans both ‘test and evaluation’ (not just trying and not evaluating)
Farmer decides HIS hypothesis to test – and he decide the ‘action’
The best applicable design are implemented
(Semi)Automatically collected data
Sequential reporting
The quantitative strength of the EVOP-project

EVOP milk yield estimation ‘tool’;
- Dynamic sequential modelling of milk yield based on all available data sources; tank milk, testdays, AMS-data, cow-data, etc.
- can be used in other projects and perhaps DMS

(Stygar et al., 2016)
The ongoing EVOP-fight of validity

Mr. R. Andomize;
- Difficult to plan
- Easy to analyse
- All factors accounted for

Mr. H. Istorical Control;
- Easy to plan
- Difficult to analyse
- Unknown factor not accounted for

Mr. T.Ime
Mr. W.Elfare
Mr. Production
Mr. Epi-understanding

THE WINNER
Mr. P.Racticality
The qualitative strength of EVOP

The lifeworld of farmers

The pyramid of farmer’s evidence

Difficult to accept of the superior strength of Randomization in effect evaluation

The art of ‘listening’ to individual farmers ‘lifeworlds’ and hypothesis in context

– if the answer is important to them, they will work hard and wait long to the answer
The EVOP-mission for you

Listen carefully to the questions of the ‘farmer’
Trial if you can
Randomize if it is possible

Enjoy the rest of your day
More on the concept of EVOP DAIRY

Lastein, DB, Herd specific randomized trial – an approach for effect evaluation in a dairy herd health management program, Ph.d.thesis 2012.


Kristensen et al, (?); ‘EVOP-DAIRY A HERD SPECIFIC MANAGEMENT TOOL’ (concept article in work)

Munksgaard et al., - EVOP example on regrouping of fresh cows (in work)

Bay (?); Farmers perception of EVOP-concept (article in work)

On youtube; search ‘EVOP mælkeproduktion’

EVOP-models on effect on milk yield hopefully to be used in future on-farm research and perhaps implemented in DMS.