

Participatory approaches are beneficial for making the conceptions of farmers and scientists converge

The design of a monitoring tool for dairy herd health as an example

Julie Duval^{1,2*}, Nathalie Bareille^{1,2}, Aurélien Madouasse^{1,2}, Christine Fourichon^{1,2}



¹ LUNAM Université, Oniris, UMR BioEpAR, CS 40706, F-44307 Nantes, France.

² INRA, UMR1300 Biology, Epidemiology and Risk Analysis in animal health, CS 40706, F-44307 Nantes, France

*Corresponding author: julie.duval@oniris-nantes.fr



Introduction

It is the scientist's task to align both biotechnical knowledge and pertinence of advice to farmers when conceiving new technical tools for the field. Evaluation of the pertinence of herd health management tools need a long follow up period and is resource intensive. Participation of actors in the design of new tools could reduce this time laps. (Darré et al. 2004) Furthermore, we hypothesise that it could improve the pertinence of tools for field application if using the knowledge of local actors in their design, making them more acceptable for farmers and thereby increasing their compliance to the co-conceived tools.

Objective: to evaluate the utility of participatory approaches in the design of a herd health monitoring tool for animal health management on organic dairy farms

Objectives	Methods	Results
<p>1 Design of a pro-active disease monitoring tool for the most common production diseases</p>	<p>Design based on recent literature and expert consultation.</p>	<p>Design of a first version of a pro-active disease monitoring tool for udder health, claw health, reproduction diseases, metabolic diseases and calf health</p>
<p>2 Identify key issues that could impair the compliance of farmers to the designed monitoring tool</p>	<p>Participatory workshop with local stakeholders: organic dairy farmers (2), advisors (5), veterinarians (3) and researchers (5)</p>	<p> Photo by J. Woodhead</p> <p>E.g. my goal is not to have to get up at night anymore! It's not my aim to improve the calf health situation.</p> <p>I don't have milk recording records but I look at the amount of discarded milk or the number of treatments with antibiotics. Indicators for monitoring health should be simple, easy to calculate and to remind.</p> <p>V2.0 MONITORING TOOL More adaptable tool allowing farmers to use different health indicators and alert thresholds than those proposed by scientists</p>
<p>3 Identify whether each farmer uses the opportunity to adapt the monitoring tool to its farm and objectives.</p>	<p>Co-construction of the monitoring tool V2.0 by farmers and their advisors in 20 certified organic dairy farms in France.</p>	<p>i) <u>All farmers</u> adapted the monitoring tool to their farm specific situation and herd health objectives. ii) <u>Not one farmer</u> adopted all the indicators as proposed by the scientists</p> <p>Example the use of an indicator to monitor udder health</p> <ul style="list-style-type: none"> ○ <u>Scientists</u>: >15% of the herd with an individual somatic cell count (iSCC) >300.000 cells/ml ○ <u>Farmers</u>: use the iSCC to make decisions at <u>individual cow level</u>, such as treatment or culling decisions. But they rarely use iSCC for health monitoring at <u>herd level</u>. <p>Thus, some of the proposed indicators serve other purposes than herd health monitoring, e.g. decision-making at individual cow level</p> <p>New questions identified Which different purposes do the indicators used by farmers and scientists serve? Do we need different kinds of health indicators to measure health at different levels (cow, herd, national level, ...) and could there be indicators in common?</p> <p> Photo by J. Duval</p>

Conclusion and perspectives

In the use of indicators for herd health monitoring a gap exists between what scientists propose and what is adopted by organic dairy farmers for herd health monitoring. Allowing the tool to be adaptable by the farmer to its farm specific situation might improve compliance and allow further understanding on how farmers use indicators. Non-compliance of farmers to herd health monitoring tools provided by scientists might be due to different conceptions of the purpose of the tool rather than technical failure or lack of motivation of the farmer. Thus, instead of accepting failure, **converging conceptions of farmers and scientists is essential and participatory approaches allows this.**

Converging conceptions demands; i) **redefinition of research objectives** and/or ii) **exploring the possibilities of improving the relevance of the conceptions of farmers.** (Darré et al. 2004) In the case of the design of on-farm herd health monitoring tools this could be, respectively by;

- redefining the intended purpose of indicators as proposed by scientist for herd health monitoring
- and/or to validate the quality of indicators identified by farmers compared to the ones by researchers for herd health monitoring activities. (Darré et al. 2004)

Reference: Darré J.P., Mathieu A., Lasseur J., 2004. Le sens des pratiques: conceptions d'agriculteurs et modèles d'agronomes. Institut national de la recherche agronomique, Paris.

This work is part of the IMPRO project, more information on: www.impro-dairy.eu and partly funded by a grant of the region Pays de la Loire

