Can a participatory approach adapting a structured framework for disease monitoring and prevention to farm-specific situations improve animal health?

An intervention study in organic dairy herds

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Introduction

Knowledge to improve animal health is available often in the format of 'Good practices protocols' which are inconsistently implemented. Innovative methods have to be designed to improve compliance, effectiveness of health plans and finally animal health. We hypothesise that this can be achieved by a more thorough understanding of the farming system and farmer's specific situation. This might be even more important in organic dairy production systems where production specifications induce more constraints in herd and animal health management compared to conventional systems.
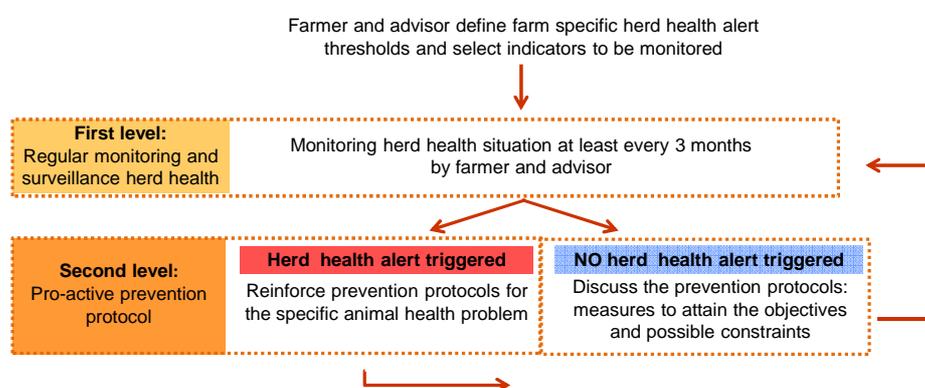
> **Objective: to evaluate the effectiveness of a participatory approach that adapts a systematic structured framework for disease monitoring and prevention to farm-specific situations in French organic dairy farms**
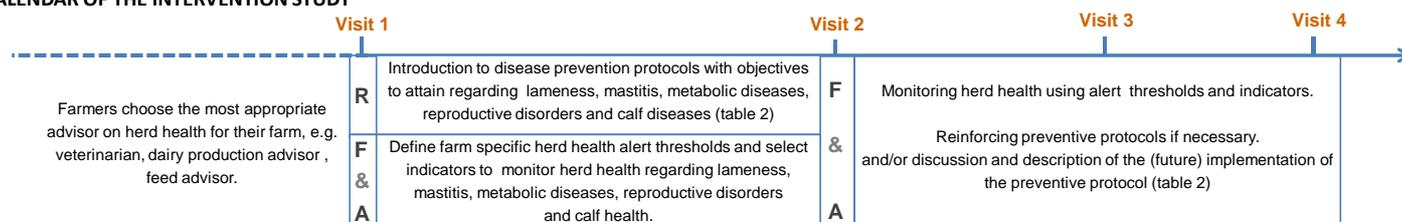
Materials and methods

SELECTED FARMS

Intervention group	Control group
21 certified organic dairy farms	21 certified organic dairy farms

Farms are located in the same geographic area, with comparable feeding practices, herd size and milk production level

The effectiveness of the intervention in terms of improvement in animal health and compliance of farmers to preventive measures proposed by advisors will be compared to control farms

OUTLINE OF THE PRO-ACTIVE MONITORING AND SURVEILLANCE PROTOCOLS

Farmer and advisor define farm specific herd health alert thresholds and select indicators to be monitored

First level: Regular monitoring and surveillance herd health — Monitoring herd health situation at least every 3 months by farmer and advisor

Second level: Pro-active prevention protocol

Herd health alert triggered — Reinforce prevention protocols for the specific animal health problem

NO herd health alert triggered — Discuss the prevention protocols: measures to attain the objectives and possible constraints

CALENDAR OF THE INTERVENTION STUDY

Visit 1 — Visit 2 — Visit 3 — Visit 4

Farmers choose the most appropriate advisor on herd health for their farm, e.g. veterinarian, dairy production advisor, feed advisor.

R — Introduction to disease prevention protocols with objectives to attain regarding lameness, mastitis, metabolic diseases, reproductive disorders and calf diseases (table 2)

F & A — Define farm specific herd health alert thresholds and select indicators to monitor herd health regarding lameness, mastitis, metabolic diseases, reproductive disorders and calf health.

F & A — Monitoring herd health using alert thresholds and indicators.

Reinforcing preventive protocols if necessary. and/or discussion and description of the (future) implementation of the preventive protocol (table 2)

Abbreviations used: R= research team, F= farmer, A= advisor

EXCERPT OF THE PREVENTIVE PROTOCOL: EXAMPLE FOR LAMENESS & RISK FACTORS ON HOUSING CONDITION

Nature of the risk factor		Objectives prevention protocol and steps to achieve objectives		Additional animal observations than can be conducted to confirm the presence of the risk factor	Describe measures taken/proposed on the farm to attain the objective	Identify possible constraints for not attaining objective
claw health problems due to a reduction of the time the cows can spend lying down	comfort of the lying area	Prevent a reduction of the time the cows can spend lying down	by ensuring that all the cows can lie down on the deep litter lying area	Check for cows that are lying down outside the deep litter area	*To be filled in by farmer and advisor*	
	difficult access to the lying area (in case of the deep litter area being segmented)		by ensuring the cows to have a comfortable surface to lay on			
			by ensuring that the cows can lay down dispersed homogenously over the lying area	Check for a heterogeneous distribution of the cows on the deep litter area		

Expected results and perspectives

Demonstration of increased compliance by the farmer to the proposed measures by the advisors and consequently an improved animal health situation.

Insight in the objectives of organic dairy farmers and advisors regarding herd health by using the data of the identified herd health alert thresholds and indicators. Furthermore the described measures and constraints in the preventive protocols will provide insight on 'good practices' that are used and applicable to organic dairy farms.

The results of this study could be the first step in developing an innovative and effective disease monitoring and prevention protocol for dairy farms. And this protocol could be applied in conventional dairy farms as well.