A deductive approach to animal health planning in organic dairy farming: *Method description*

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AIM: Introduce a **participatory and farm-centric methodological approach**, facilitating the **comprehension of farm specific processes** and **encouraging farmers** to increase animal health status.

PRECONDITIONS:

- **Vital key variables** that play a role in the way the system behaves are specified once for all farms.
- **Current animal health status** is determined for each farm on the basis of farm protocols, milk recordings, and animal based measurements.
- **Farmer, local veterinarian, agricultural advisor, and scientist** meet on-farm in a 'round table' situation.

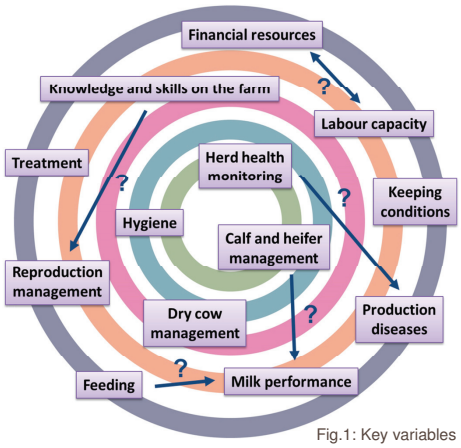

Fig.1: Key variables

IMPACT MATRIX: Provides an overview of complex situations and facilitates a **structured debate**.

How strongly would ➡ react, if ⬇ would change?	1 Milk	2 ProD	3 Finan	4 Lab	5 Feed	6 Keep	7 Repr	8 Dry	9 CaHe	10 Monit	11 Hyg	12 Treat	13 KnSk	Σ (AS)
1 Milk performance		3	1	3	2	0	0	0	0	0	0	0	0	9
2 Production diseases	2		3	3	0	1	0	1	1	1	1	2	2	17
3 Financial resources	0	0		2	0	3	0	0	2	0	0	2	0	9
4 Labour capacity	1	1	1		0	3	0	1	1	1	2	1	2	14
5 Feeding	2	1	3	2		0	0	0	0	0	0	0	0	8
6 Keeping conditions	1	1	1	2	0		0	0	1	1	1	1	0	9
7 Reproduction management	1	0	1	2	1	0		0	0	2	0	2	1	10
8 Dry cow management	1	2	1	2	1	2	0		0	2	1	2	1	15
9 Calf and heifer management	1	2	2	2	2	2	0	0		3	1	2	1	18
10 Herd health monitoring	1	2	1	3	1	1	1	2	2		1	1	1	17
11 Hygiene	0	1	0	2	0	1	0	1	1	1		0	1	8

Fig.2: Impact matrix

The interconnectedness of 13 system variables is assessed at **farm level**.

The **direct influence** from one variable (line) on another (column) is scored with:
0 (no influence),
1 (weak change),
2 (proportional change),
3 (strong change).

The **functional roles** of variables are identified by mathematically evaluating their interactions.

The positions of the variables between the **four key roles** (active, reactive, buffering, and critical) are displayed in a diagram and discussed with respect to their individual behaviour within the system.

Fig.3: 'Round table' discussion involving farmer, veterinarian, advisor, and scientist

BENEFITS: Based on the on-farm assessment and the impact matrix analysis the discussion results in the **formulation of farm-individual goals** in relation to the animal health status and the **identification of measures** that are expected to most likely improve the farm specific situation.

The participatory process facilitates **knowledge exchange** and **collective learning**.

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SEVENTH FRAMEWORK PROGRAMME

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