

Technical efficiency



Socio-economic Resilience



Background

Growing dairy herds on farms leads to a higher workload, especially due to regularly recurring, time-bound activities such as milking. This leads to less flexibility on the farms and can also have a stressful effect on personal life. In addition, trained skilled workers are increasingly difficult to find. In order to achieve the goals of reducing working hours and increasing time flexibility, making work easier and providing individualized animal care for herds, farms are focusing on automating work processes.

How does the strategy work?

1. Automatic milking systems (AMS) - installation of a milking robot.

Plant types: Single stall system (most common), multi stall systems, carousels.

- 2,200 to max. 2,400 L per robot per day
- Autonomous milking technology
- Increase of single cow milking
- Concentrate feed offer as attractant
- Extensive data collection

2. Automatic feeding systems

Different levels of automation:

Stage I: Mixing - distributing - replenishing

Stage II: Mixer filling - mixing - distributing - pushing

Stage III: Removal and transport - mixer filling - mixing - distributing - pushing

- Rations prepared fresh several times a day
- Reduced feed refusals and leftovers
- Grouping and feeding cows according to yield, increasing feed efficiency
- Increase in herd activity due to more frequent feed presentation

Positive features

- Higher performance
- Better control of the animals through extensive data collection
- Reduction of physical stress (ergonomics)
- Reduction of working time requirements
- More flexible working time scheduling
- Use the working time gained in other profitable ways
- Technology partially replaces requirement of skilled personnel
- Savings in personnel costs

Be careful, especially on these points

- Assess capacities, utilize the full capacity but do not overload them
- Hygiene control
- Compatible software and data transfer
- Adapt management
- Pay attention to work safety

Equipment involved? Investment?

• Milking robot

Acquisition costs: €50,000 to €150,000 HTVA (depending on country & system)

Variable costs: feed costs increase by 0.8 c/kg of milk

→ higher individual milk yield, system-dependent concentrate feed is used as attractant feed and less grazing

Overhead costs: electricity costs are identical and water costs are lower

Fixed costs: expensive purchase causes slightly higher depreciation costs and interest costs, compensated by lower space requirements (investment costs)

• Feed automation

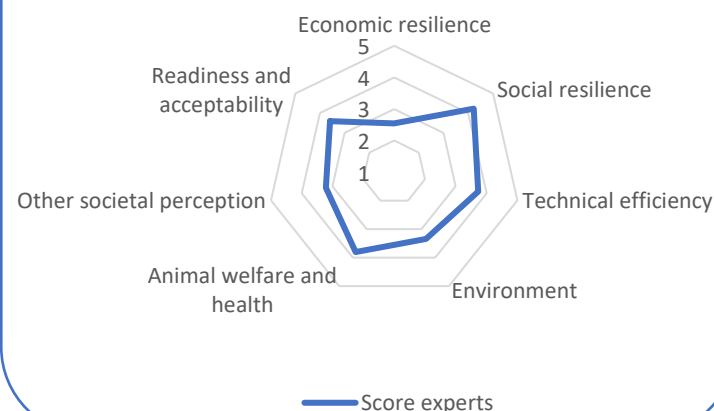
Acquisition costs: (example, depending on system & country)

- Feeding robot: €50,000 HTVA
- Feed kitchen: €100,000 HTVA

Specific advises

The switch to automation has an impact on herd management, animal behavior and the entire organization of work. The decisive factors for the changeover are the situation of the respective farmer, the future farm orientation and, above all, his workload.

Assessment of method



Quote of the farmer:

“Under the condition of a well utilized technology, automation is economically interesting for companies with limited labor capacity by achieving higher labor utilizations.”