

## RESULT 2: OPEN PLATFORM FOR SHARING KNOWLEDGE

### WP 1: Learning Environment for SMEs

## CASE STUDIES DEVELOPMENT

### APPLICATION of Automated dairy and cheese factory

#### Part 1: General information for the enterprise

1. Ecofarm Nelepeč
2. Nelepeč, Czech Republic
3. Subject of activity: Plant production, animal production, dairy
4. Legal status: Private enterprise
5. Management
  - a. Gender: Male / **Female** / Other
  - b. Age: **up to 35** / 36-45 / 46-55 / 56-65 / over 65
  - c. Education: primary / secondary / **higher**
6. Farm size
  - a. Cultivated land 90 ha, of which 30 ha arable land;  
barley, potatoes, clovers, wheat, rye, mustard for green manure, permanent grass, meadows
  - b. species and numbers of animals: dairy cattle 30 pcs, heifers

#### Part 2: Smart technologies used on the farm

*Automated dairy and cheese factory*

*Robotic milking system – before installation*

#### Part 3: Owners' satisfaction with the use of smart technologies

##### 1. Utility assessment

This is a family organic farm. Its co-owner Veronika Kropáčková is mainly engaged in the production and processing of milk.

In the farm diary, she has been using automatic pasteurization of milk and cheese production for 5 years. It allows her to sell already processed milk in the form of cheeses, yogurts and yogurt drinks. She also produces original desserts and cheese cakes. She makes more profit from the sale of finished products than from the sale of milk. In addition, she sells milk directly on the farm. To save manpower, the sales are self-service. In the wooden house in the yard, the customer chooses products from the fridge and pays in the box. It works without problems; they have never been a theft. The farm sells everything made. They could do more, but that is not their goal. They rely on organic quality, personal approach, and originality. They stock also 2 specialty stores and 3 restaurants.

Another technology that has been purchased but not started yet is the milking machine. Although it is designed for a larger number of cows (60) than the current state of the farm (30), the main goal is to save

labor and the hard work of milking. They consider the increase in milk yield and other benefits to be secondary. In any case, they have a reserve for further expansion of the number of cows and the dairy. The entire operation of the production of dairy products was created on the basis of Veronika's diploma thesis. She drew up a six-year business plan, which she sticks to.

It is not exactly modern technology, but they use modern hornless bulls, because dehorning is not allowed in the organic farming.

Veronika is satisfied with her farm. Everyone in the family has an acceptable income, there are ideas and capacities for further development, and everyone on the farm lives in harmony with nature.

## 2. Observed difficulties and problems

The operation of the automatic dairy was planned in advance in terms of technology and economics. So far, it meets the expectations and there are plans to introduce the production of long-lasting maturing cheeses, which are more profitable and in demand.

Veronika learned how to handle the technology while studying at university.

## 3. Potential risks

The farmer sees a certain risk in the introduction of a milking machine. She is not sure how the cows will learn to a new form of milking, what effect it will have on their health, milk quality, etc. She does not want to start rejecting cows that for some reason will not be suitable for automatic milking. She has a personal relationship with each cow and plans their life span for at least 15 years.

The farmer is used to computer applications and using a computer is natural for her both on the farm and in private communication. So, this will not be anything new.

## Part 4: Financing the investment in smart technologies

The farmer received subsidies from the "Young Beginning Farmer" program. This allowed her to buy a dairy technology right after the studies. She would have to wait several years if she were to finance it entirely herself. It also drew support from the "Rural Development Program" and LAG funds. She did not receive support to buy a milking machine because she is not a member of the sales cooperative as she does not need this.

High-quality modern technologies are expensive, but they are worth it. It is not only about profit, but above all about people. There is a labor shortage in Czech agriculture and it is important to make difficult work easier for family members to prevent negative effects on the health.

## Part 5: Future intentions towards smart technologies

Other plans are related to a milking machine and the production of maturing cheeses.

The planned expansion of dairy farming is linked to the entire farm. The farm is practically self-sufficient. They produce all feed in organic quality and fertilize with manure. The only thing that is bought is salt for the animals.

## Part 6: Some photos

Picture 1: The farmer Veronika and her favourite cow



Picture 2: International certificate of bio production



Picture 3: Interior of self-service shop in the yard

