



Application of irrigation on grasslands due to avoid the water deficit in the soil



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1 Description of the innovation



The innovation in the farm is bridge irrigation system applied on ryegrass dominant temporary grasslands. Thanks to irrigation the high application of fertilizers is possible leading to obtain high yield of DM and necessary amount of silage for dairy cows TMR feeding. The irrigation system (max. flow 45 m³/h, typical dose 15 l/m²) is working on two fields each 220 m width prepared specially for field size. It is driven by an electric generator. Water is obtained from



deep wells and mid-field ponds. The watering dose is determined according to daily requirement.



Added value:
Grassland production or yield
Livestock production quantity

Farmer's strategy

The farmer manages the dairy farm in specific habitat condition— light sandy soil, strongly permeable (low water retention). Such conditions did not allow for obtaining high-yields of grassland sward and stable production of feeds, especially in the case of drought periods. The farmer, through his own deduction and searching for a problem solution, decided to install an irrigation system on the farm. The first attempts to irrigate grasslands were made using reel-operated sprinklers. This solution gave good results, but it was very labor-intensive and expensive. Finally, the farm decided to implement a large investment and install a ramp transferred semi-automatic irrigation system. This solution allowed for the independence of forage production from weather conditions, and it has let to the possibility of using new grass mixtures containing high-yielding species and varieties. These elements together with the introduction of an efficient technology of harvesting and feed conservation technique allowed not only to maximize the production of feed but also to reduce its unit production costs. In the results the farmer achieves milk production at a very high level.

2 Farm description

ENVIRONMENT

Soil types:

Sand, Peat

Climate:

Warm-summer humid continental

Altitude:

75 m a.s.l.

Slope:

0%

GRASSLAND MANAGEMENT

All of the grasslands are exclusively mowed.

The sward is conserved by haylage making.

STRUCTURE

Annual Work Unit: 7

Agricultural Area 100 ha UAA

Main forage area: 100 ha

Arable land area: 85 ha

Permanent grassland area: 15 ha

Other forage area (silage maize): 55 ha

Average stocking rates:

- agriculture area 3.1 LU/ha
- main forage area 3.1 LU/ha
- grassland area 6.9 LU/ha

ANIMAL PERFORMANCE

Dairy cows: 180

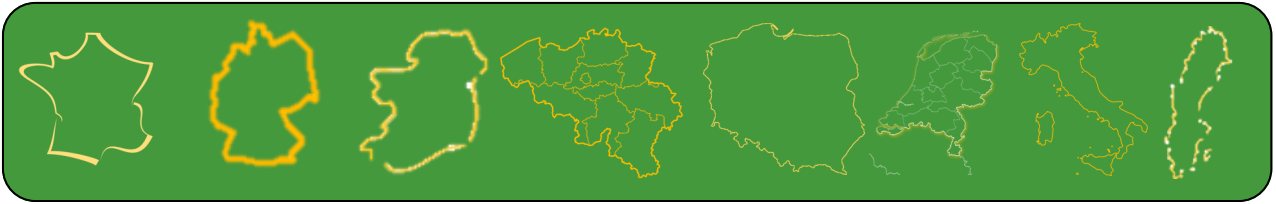
Total livestock units: 312 LU

Milk production per head: 12000 (l/year)

WHY IT IS WORKING

Farm is located in a specific habitat characterised by light sandy soils, in which periodic droughts occur. Thanks to the innovation forage production from irrigated and high-fertilized grassland is secure. The intensive grassland production allows to maximize the milk yield in the farm.

Country shapes



Domains of innovation



Machinery, tools



Forage mixture



Forage conservation technique



Grazing management system



Legume management



Animal feeding management



Animal type (breed)



Product processing



Marketing



Farm system



Landscape

Main types of animal

