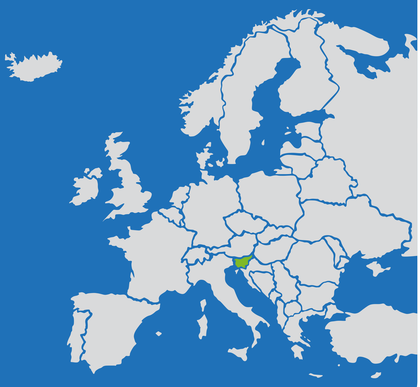
Climate resilient farming and forestry systems and water management



AGRI Innovation summit 2019

Operational Group

Improved forage production and conservation - protein rich legumes and legume/grass mixtures for adaptation to climate changes

Izboljšane tehnologije pridelave in konzerviranja z beljakovinami bogate krme - metuljnice in njihove mešanice za prilagajanje podnebnim spremembam

Calendar

Start: 01/01/2019
End: 31/12/2021

Budget

Total amount:
€239,934

Practical problem

Ensuring sufficient amount of high quality forages under conditions of more frequent droughts

Partners

University of Maribor, Faculty of Agriculture and Live Sciences (coord.), Agricultural Institute of Slovenia (research instit.), 1 advisory service, 5 farms, 1 SME.

Objectives of the project

To determine if the supply of high quality forage can be improved by:
– short-term, winter-time grass-clover mixtures (GCM) that thrive in a period when water scarcity is less likely and/or,
– medium-term GCM based on alfalfa that tolerate dry conditions.
To determine if GCM can improve performance of pure stands concerning:
– high nitrogen requirements and a short optimal harvesting time in grasses,
– lower energy value and difficult preservation (silage and hay making) in legumes.
To demonstrate any other benefits of GCM such as:
– improving the soil fertility,
– lower consumption of nitrogen from mineral fertilisers,
– water and air protection and increased carbon stock in the soil.

Main activities

The project includes a series of on-farm field experiments comparing grass-clover mixtures on one side and grasses and clovers in pure stands in the other. A wide range of pedo-climatic conditions is covered. The activities include:
– soil analyses (P, K, Nmin, organic matter),
– forage dry matter yields,
– fresh forage and silage composition and energy value, including buffering capacity, water soluble carbohydrates, ammonia N, lactic acid and volatile fatty acids in silages,
– measurements of yields and composition of the following crop in the crop rotation,
– demonstration and education activities, knowledge transfer and exchange.

Expected results

– Improved, climate change adapted technology of forage production and preservation,
– Environmentally friendly forage production,
– Climate change adaptation technology for animal production which is based on high quality forage reserves for dry periods and years.

Results so far/first lessons

The project started few months ago. There are no results yet.

Who will benefit

– Animal production farms
– Agricultural advisory service
– Students of agriculture
– Broader professional public

Supported by: PROGRAM RAZVOJA PODEŽELJA
Evropski kmetijski sklad za razvoj podeželja: Evropa investira v podeželje

Contact: Branko Kramberger
Mail: branko.kramberger@um.si