

Romania – innovation example 3

EFFECT OF TRADITIONAL AND MODERN AGRICULTURAL PRACTICES ON HNV GRASSLAND

- **Location:** Dealurile Clujului Est
- **HNV system:** Extensive grazing, mozaic farming
- **Scale of operation:** 24 plots of land from Dealurile Clujului Est
- **Timespan:** 2014-2016
- **Keys to success:** Initiative and experience of the Romanian Lepidopterological Society in research in the area; opportunity to attract funds

Problems addressed by this example

There is little information available regarding the correlation between biodiversity and traditional or modern farming practices. SLR has done over the years several researches proving that there is a link between biodiversity and land use (mowing, grazing, abandonment). The project intended to propose practical grassland management measures to be sent to the national and local authorities.

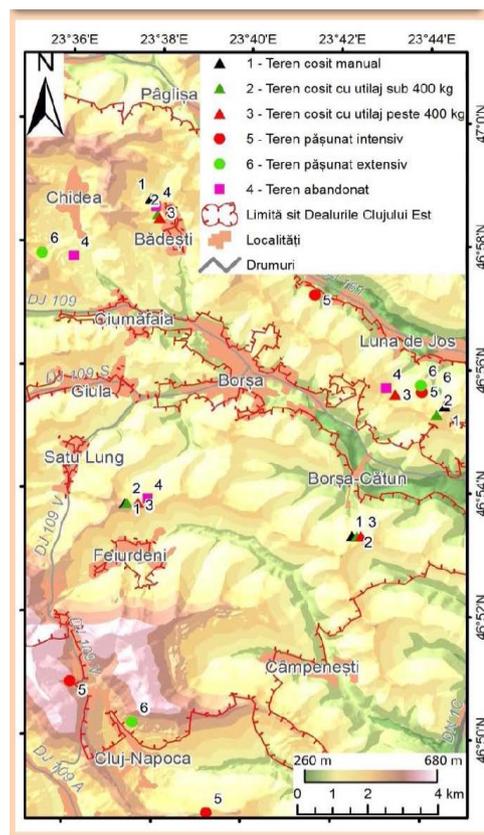


Figure 1 Map of experimental plots
Source: Romanian Lepidopterological Society

Story in a nutshell

The effect of traditional and modern agricultural practices on HNV grassland - project “Quantification of the effect of traditional and modern agricultural practices on the biodiversity of HNV grasslands targeting sustainable management”, initiated by Romanian Lepidopterological Society (SLR). It was also tested the use of ecological mowers as possible replacement for the traditional hand mowing for biodiversity conservation. There are 24 plots of land, each with a different management technique and 6 different groups of species, to be compared and to determine an index of biodiversity for each type of use. There were used 6 different techniques: intensive grazing, extensive grazing, manual mowing, mowing with mechanical mower of low capacity, mowing with a tractor, abandoned. Innovation: use of Brielmaier mower does not have a negative impact on biodiversity.

What does Traditional and modern agricultural practices achieve for HNV farming?

- About 20000mp mowed using Brielmaier machines
- Biodiversity is maintained
- Farmers can comply with the conditions or Package 6
- Grasslands important for butterflies (*Maculinea sp.*)
- Reduced working time and increased productivity



Figure 2 Brielmaier mower. Source: Romanian Lepidopterological Society



Figure 3 Butterfly *Maculinea teleius*
Source: Romanian Lepidopterological Society

Achievements

There were mowed about 20000mp using Brielmaier machines and was proved that biodiversity is not harmed. Final results of the project are expected to be officially disseminated.

Economics of HNV farming

On a long-term, the socio-economic viability of the farms can be improved if farmers are using proper agricultural techniques that do not harm the nature, helping them to reduce the working time, to increase the productivity and to comply with the conditions of the agri-environment measure (e.g. Package 6)

Maintaining or improving HNV values

Main objective was to conserve nature values and increase awareness of the benefits of using traditional and modern agricultural practices

How does Traditional and modern agricultural practices respond to the HNV LINK innovation themes?

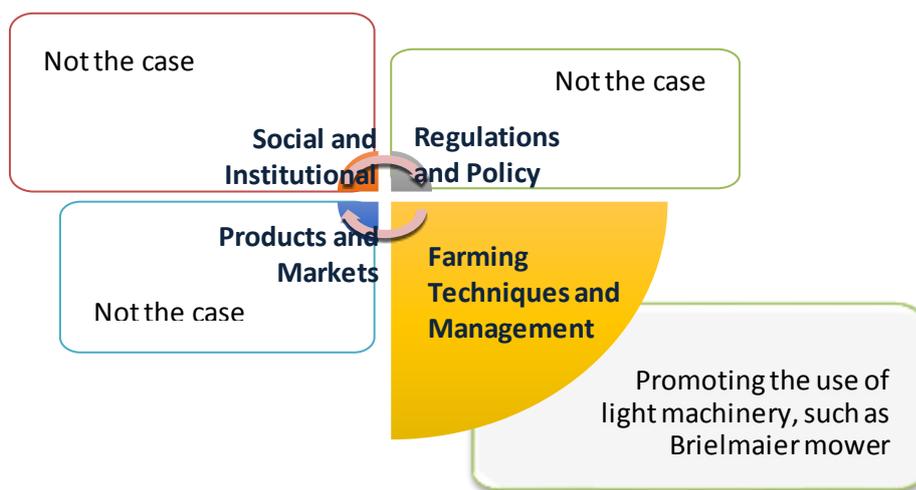


Figure 2 Shows how this innovation addresses the four themes of the HNV-Link innovation framework.

- **Farming Techniques and Management:** Use of light machinery mowing. The use of Brielmaier mower does not have a negative impact on biodiversity. Farmers can reduce the time spent form mowing and increase productivity.

The process that made it happen and critical factors for success

- Opportunity to attract funds to continue research started in 2004
- Critical factors: reluctance of farmers; lack of money to buy the Brielmaier mower
- Increase farmers awareness related to the benefits of using light machinery for mowing



Figure 4 Use of Brielmaier mower in Dealurile Clujului Est
Source: <https://assets.vlinderstichting.nl/docs/2983adae-ff6b-4dc2-813b-bd0dc442b812.pdf>



Figure 5 Researchers in the field. Source: <http://www.lepidoptera.ro/evenimente.htm>

Actors and roles: Romanian Lepidopterological Society (SLR) – initiator/**catalist/innovator**; Romanian Ministry for Education and Research – funding partner; Brielmaier Motormäher GmbH – partner.

Institutional context that made it possible

It is the result of many years of research projects related to butterflies conducted by SLR. The opportunity offered by CAP for an extra payment in addition to the direct payments.

Resources: Financed by the Romanian Ministry for Education and Research (PN II-PT-PCCA 2013-4-1229, nr. 79/01.07.2014)

Processes: Previous researches on the protection of butterflies and their habitats lead to the research idea of investigating the effects of using the Brielmaier mower.

Critical factors for success: Reluctance of farmers in using the proposed farming techniques. No information found if farmers are using the Brielmaier mower. Continuity depends on the purchasing power of farmers (about 25,000 EURO new mower; 18,000 EURO second hand mower)

Limiting factors, actual/potential problems, and how could they be overcome: Make farmers aware of the fact that their involvement in protecting natural values will not stop them from practicing agriculture.

Lessons learnt from this innovation example, and its potential replication

- Positive effect of using Brielmaier mower demonstrated over years in Dealurile Clujului Est
- Brielmaier mower proved to be efficient in Tarnava Mare a well (STIPA project)
- Applicable in other HNV areas



Figure Use of Brielmaier mower in Tarnava Mare

Source: http://www.fundatia-adept.org/?content=lifeplus_whatwedid&news_id=&set_lang=ro

Overall lessons from this example, especially from point of view of HNV farming?

The project was a predictable action of SLR to continue the investigation started in 2004 about the link between biodiversity and land use (mowing, grazing, abandonment). They demonstrated the positive effect of using the Brielmaier mower.

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

Even if it can be considered unique by the fact that it was tested the effect of six different techniques on flora and fauna, the innovation can be replicated in other areas. For instance, the positive effect of the Brielmaier mower was demonstrated previously in another region of Romania, Tarnava Mare within a project conducted by ADEPT foundation (STIPA project).

Could it be rolled out on a bigger territorial scale?

Yes, Brielmaier mower was proved to be efficient in Tarnava Mare a well

What would be needed to do this successfully?

To increase awareness of the positive effects of using it (technical innovation); create farmer association to afford purchasing the mowers, which could be shared by farmers.

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