Training for farmers
in the agri-environment scheme
«Maintaining biodiversity in grasslands»

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Adapted by HNV-Link project from the presentation given in the Workshop "The role of Rural Development Programmes in supporting semi-natural grassland management in Boreal countries", 2018, LATVIA

Content

- Background to the agri-environment scheme and training in it
- Training content and methods
- Results
- Challenges and improvements

Agri-environment support for maintaining biodiversity in grasslands

"Maintenance of Biological Diversity in Grasslands" (MBG).

- Agri-environment-climate measures of the Rural Development Programme (RDP) - the only long-term EU financial instrument for management of semi-natural grasslands.
- In Latvia, MBG measure has been implemented since 2004.
- As of 2016, the only measure directly aimed at maintaining biodiversity in Latvia
- Currently, c. 60% of semi-natural grasslands are managed under the MBG
  - significant improvement compared to the period, when such support was not available to the land owners in Latvia.

Rūsiņa, S. 2017. Semi-natural grasslands in Latvia. In: S. Rūsiņa (ed.) Outstanding semi-natural grassland sites in Latvia: biodiversity, management, restoration. University of Latvia, Riga, pp. 5–19.

Maintenance of Biological Diversity in Grasslands (RDP 2014-2020 for Latvia)	
Budget & Target area	31 000 000 EUR 47 000 ha
Eligible area	Semi-natural grassland habitats under the EU Habitat Directive across all Latvia
Eligible areas	Min 1 ha per farm Parcels over 0,3 ha
Eligibility criteria	Directive habitats on agricultural land (1-3rd categ.) Directive habitats outside agricultural land (4th categ.)
Management	Mowing 1 x year with hay removal by 15 Sept. (any mowing period) OR Grazing with no more than 0.9 livestock units per ha (15.05-15.09). If not grazed properly, than mowing without hay removal No soil disturbance, no cultivation 16 hour training (mandatory) Management diary
Support rates by EU Directive Habitats	1st category (Natura 2000 habitat types and variants: 6270_1, 6450_1, 2, 6510_1, 2): 83 Eur/ha
	2nd category (6270_2,3, 6450_3): 155 Eur/ha
	3rd category (1630*_1, 4030_3, 2330_2, 2320_3, 2190_2, 2130*_4, 5130_3, 6120*_1,2,3, 6210-1,2,3,4, 6110*_3, 7230-3, 6230*_1,2, 6410_1,2,3,4, 6530*_1): 206 Eur/ha
	4th category (1630*_2, 6100, 6110*_1,2, 2130*_1,2,3, 2190_1, 6410_5, 2320_1,1, 2330_1, 4010_1,2, 4030_1,2, 5130*_1,2, 6530*_2, 6450_4, 7230_1,2): 330 Eur/ha

The MBG measure experienced substantial changes between 2004 and 2017. The most important changes were allowed starting dates for mowing and permission to mulch the cut grass and leave it on the field.

Conditions under the agri-environment-climate measure "Maintenance of Biological Diversity in Grasslands" under the Latvian RDP (Rūsiņa, 2017)

Conditions	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Grazing Livestock stocking rate (livestock units ha -1)	0.65–0.74				0.4–0.9							0.3–0.9		
Mowing (single mowing allowed)														
10 July – 10 September														
1 August – 15 September														
15 August – 15 September														
No starting date – 15 September														
Grass removal compulsory														
Mulching and leaving of grass allowed														
Support in EUR ha-1	138				123							differenti-ated		

1 something happened to the quality of this table; we will need to replace it with the original
HNV-Link, 10/09/2018

Effectiveness of the MBG scheme

Two reports on effectiveness of the RDP measures in preserving semi-natural grassland biodiversity within the scope of the Ongoing Evaluation System of the RDP 2007–2013 (LVAEI 2013, 2014).

2013 Grassland survey showed that MBG measure objectives not achieved during 2007–2013:

- 24 % of surveyed MBG areas had ceased to conform to MBG criteria
- plant species richness has declined, expansive nitrophilous species (e.g., *Aegopodium podagraria* and *Anthriscus sylvestris*) colonised many parcels
- high biodiversity preserved only in ca. 15 % of total area managed under the MBG measure.

Shortcomings and lessons-learnt

Measure failure resulted from inadequate management conditions:

- late mowing and mulching negatively affected plant diversity;
- Single payment level created unbalanced representation of the habitat types
  - Most valuable sites are also most challenging for management & have lower production value
  - Single payment level resulted in underrepresentation of most biologically diverse sites

Since 2014, adjustments to eliminate above problems

- Current rules include compulsory hay or fresh biomass removal,
- Flexible mowing time, no set starting date.

Current measure

Since 2014: Adjustments to improve effectiveness

- Current rules include compulsory hay (or fresh biomass) removal,
- Flexible mowing time, no set starting date.
- Obligatory training for farmers
- differentiation of support rates by grassland productivity (less productive grasslands get higher support)

Training for farmers

Eligibility: Farmers who joined (or continued) the scheme in 2015 trained in 2016

Funding: European Agricultural Fund for Rural Development (EAFRD).

Training providers in 2016-2018:

- Procurement winners (3 year contract)
  - Latvian University of Life Sciences and Technologies
  - Latvian Rural Advisory and Training Centre
- 12 instructors (incl. certified habitat experts) in total hired in both providing organisations.
- Additionally, a farmer who already recieves MBG takes part.

Certification

- regulated through law and organised by The Nature Conservation Agency.

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Structure of the training

- 1st day:
  - 4 hours of theory and discussions
  - field trip to a grassland receiving MBG payment.
- 1-2 weeks for a personal assignment (homework)
- 2nd day:
  - 4 hours of theory and discussions
  - field trip to the grassland with a management plan
  - Feedback (collected on the spot after the second day field trip).
- Total of 16 hours

Day 1: presentations

- Presentations given by the experts and short interactive activities on the themes (4 hours):
  - Why training is necessary
  - What are semi-natural grasslands, their classification, values, distribution, threats
  - Why agri-environmental scheme for semi-natural grasslands (MBG) is needed; reasons behind scheme's restrictions and requirements, why schemes have changed during the 3 RDP periods
  - How support rate is differentiated
  - Result-based schemes: approach, management plans, explanation of homework

Day 1: Interactive activities

Optional interactive activity around each or several topics of ca 20 min; the experts freely chose a type of activity and tasks.

Example: Small groups (4-5 people)

Groups list all grassland values of which participants are aware and which they use;

Follow with 5-min presentations from each group + general discussion.

Day 1: Field trip, 4 hours

- Site representing different habitat types + adjacent cultivated grassland for comparison.
- Expert introduces main habitat types, shows dominant, typical and indicator species; participants name species they know and ask questions – ca 60-min.
- Farmer explains site's management history and current management – ca. 20 min.
- Participants work in pairs filling in management plan for a particular part of the grassland – ca 30-50 min.
  - Same form as homework assignment
  - Participants receive grassland map and management plan form, field guide of plant indicator species, and a short summary of theory.
- Discussion of the results, main management problems and possible solutions.

Personal assignment (homework)

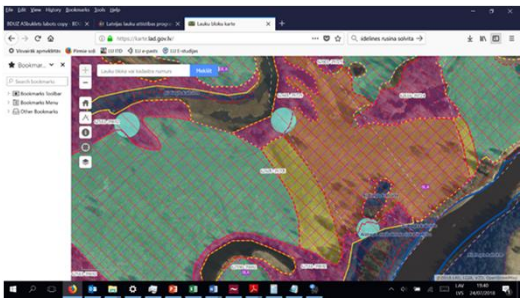
- 1-2 weeks

Each participant receives a book with guidelines on the semi-natural grassland management in Latvia, and prepares a management plan for one of his/her grassland.

The plan can be submitted on paper (on a form handed out on Day 1) or digitally.

The book is available as pdfs: http://nat-programme.daba.gov.lv/public/eng/documents_and_publications/

Example of a management plan



Grasslands eligible for MBG scheme as they appear in Rural Support Service homepage https:/karte.lad.gov.lv/

Form for a management plan -1

RAC client nr: _____ Name, Surname _____ - _____
Preparation date: _____ Tel.Nr. _____
Signature of the author of the plan: _____

Long-term management plan of semi-natural grasslands of the farm (2021-2027)

(prepare for one field of the farm after free choise; one copy should be submitted to the lecturer on the 2nd day of the training)

The plan includes optimal and suboptimal mangement of EU importance grassland habitats in the accordance with the gudelines elaborated by the Nature Conservation Agency in the frame of the project „National conservation and Management Programme for Natura 2000 sites in Latvia" LIFE 11 NAT/LV/371 NAT-PROGRAMME financed by te LIFE+ programme: Rūsiņa S. (ed.) 2017. Protected habitat management guidelines for Latvia. Vol. 3. Semi-natural grasslands. Nature Conservation Agency, Sigulda.

1. Basic information

		Area, ha
Sown grasslands in arable land	code 720:	
Permanent grasslands	code 710:	
	From them under the scheme MBG:	
	-from them biol.valuable grasslands	

Form, cont. - 2

2. EU importance grassland habitats in the farm

EU importance grassland habitats with high productivity and bird habitats (1st category)		Indicate with X	Area, ha
6270*_1	Fennoscandian lowland species-rich dry to mesic grasslands – typical variant		
6450_1	Northern boreal alluvial meadow – variant with tall sedges and Phalaris arundinacea;		
6450_2	Northern boreal alluvial meadow – variant with Alopecurus pratensi and Poa spp. In fertile soils;		
6510_1	Lowland hay meadows – typical variant		
6510_2	Lowland hay meadows – moist variant		
		Total:	

EU importance grassland habitats with moderate productivity (2nd category)		Indicate with X	Area, ha
6270*_2	Fennoscandian lowland species-rich dry to mesic grasslands – poor soil variant		
6270*_3	Fennoscandian lowland species-rich dry to mesic grasslands – moist variant		
6450_3	Northern boreal alluvial meadow – moist variant in moderately fertile soils;		
		Total:	

EU importance grassland habitats with low productivity (3rd category)		Indicate with X	Area, ha
1630*_1	Boreal baltic coastal meadows - variant in dry to moist soils		
2130*_4	Fixed coastal dunes with herbaceous vegetation (grey dunes) – grassland variant		
2190_2	Humid dune slacks – grassland variant		
2320_2	Dry sand heaths with Calluna and Empetrum nigrum – grassland variant		
2330_2	Inland dunes with open Corynephorus and		

Form, cont. - 3

Field No.	Habitat code (i) (if it is not a EU hayitat, than indicate: Permanet grassland 710; Grassland sown in arable land 720; fallow-land 610)	Grasslands for bird protection	Area, ha	Last year of ploughing (approx)	If you would collect hay in this area, what would be the yield (indicate hay gain in tonnes)					P_2O_5 g kg^{-1} (if known)	Degree of conservation of the grassland: sufficient	Degree of conservation of the grassland: unsufficient	
					Up to 1 t	1,1-2 t	2,1 -3 t	3,1 and more t	t/ha (if known presicely)		Needs only maintenance	Needs restoration	Restoration has been done but should be continued
Example	*6450_1*	*no*	*10,3*	*1990ies*			*x*		*3,5*	*3,5 g kg^{-1}*	-	X	-
1													
2													
3													
4													

Form, cont. - 4

4. Summary of restoration activities

Fill up only if the conservation degree of the grassland is insufficient

	Planned actions indicate with X	Field No.	Year of restoration implementation	Year when implemented according to the managemnt diary
Restorative mowing and grazing				
1. Not necessary				
2. Restorative mowing				
3. Restorative grazing				
Removal of litter and mosses				
4. Not necessary				
5. Restorative mowing				
6. Supervised burning				
7. Mechanical removal of mosses. Indicate method:				
Smoothing of grassland surface				
8. Not necessary				
9. Smoothing of tracks				
10. Smoothing of tussocks				
11. Smoothing of anthills				
12. Smoothing of molehills				
13. Smoothing of wildboar rootings				
Method used:				
14. Restorative mulching				

Form, cont. - 5

Restoration of hydrological regime				
28. Not necessary				
29. Maintenance of current drainage system				
30. Maintenance of shallow ditches				
31. Changing of profile of ditches				
32. Damming or filling up the ditches				
33. Removal of ditch berms				
34. Regulation of beaver activity				
35. Creation of floodgates and spillways				
36. Creation of shallow valleys, variation of terrain				
37. Restoration or polder grasslands				
38. Restoration of natural river flow				
Reduction of soil fertility				
39. Not necessary				
40. Restorative (frequent) mowing with hay removal				
41. Turf removal (to 20 cm deep)				
42. Soil layer removal (to 50 cm deep)				
43. Cultivation of cereals without P fertilisation				
44. Deep ploughing				
45. other, *indicate here:*				
Creation of species-rich sward				
46. Not necessary				
47. Sowing low-diversity seeds				
48. Sowing high-diversity seeds in arable land				
49. Sowing high-diversity seeds in cultivated grassland				

Form, cont. - 6

5. Maintenance activities in meadows and pastures (in the frame of the field)

Fill up both when the grassland evaluated as in sufficient conservation degree and in insufficient conservation degree

		Planned actions indicate with X	Field No.
Maintenance activities in meadows			
Mowing frequency :	1 x season		
	2 x season		
	1x in two years		
	Other (*indicate*):		
Mowing time:	Early mowing: **until:**		
	Late mowing: **after:**		
	Following weather conditions		
Mowing animal friendly:	Unmown islets (patches)		
	Scaring devices		
	Mowing from centre to edges		
Mowing height:	3 - 5 cm		
	~10 cm		
	15 - 20 cm		
Hay removal:	Stacks		
	Bales		
	Silage		
	Small bales		
	Other (*indicate*):		
Aftermath grazing			
Controlled burning			
Harrowing			

Form, cont. - 7

Maintenance activities in pastures			
Grazing season (months):	May - september		
	Year round		
	Other (*indicate*):		
Daily regime:	Only during day		
	Only during night		
	Day and night		
Stocking method (controlled stocking, continuous stocking)	Controlled in several movable or stationary enclosures		
	Whole season in one enclosure		
	Other (*indicate*):		
Grazing animals:	Mixed		
	Milk cattle		
	Meat cattle		
	Other (*indicate*):		
Grazing pressure (cattle units):	0.3-0.5		
	0.5-0.7		
	0.7-0.9		
	0.9-1.0		
	Other (*indicate*): *(rows add as needed)*		
	Number of days in one enclosure: **from**: **to:**		
	Number of grazing events in one enclosure (*indicate*):		
	Other (*indicate*): *(rows add as needed)*		
Sward height in grazing season	Heigh can be variable but avoid overgrazing		
	Not lower than 30 cm		
Mowing (clipping) after grazing	According to needs		
	Not allowed until 1st August		

Day 2: Presentations

- Given by the experts and short interactive activities on the themes (4 hours):
  - How habitat mapping is done, daily work of habitat experts
  - Best practices in habitat management, innovative solutions
  - The place of Latvian grasslands in the EU grassland biodiversity and conservation
  - Restoration of grassland habitats

Day 2: Discussions of homework

- Format up to the lecturer, *e.g.* free discussion or work in groups

Example I: Presentation discussions
During presentations on best practices and on restoration, lecturer asks farmers to share their experiences in preparing management plans – what methods of management did they plan?

Example II: Small group discussion
Discussion of homework (40 min), group summary presentations (7min/group):

1. how did group participants decide whether restoration was needed;
2. What are the main restoration and management methods they planned;
3. What were the main problems in preparing management plan?

Day 2: Field day, 4 hours

Visit to grassland for which an owner/manager participant (owner/manager) has designed management plan (homework assignment)

- Expert introduces main habitat types, shows dominant, typical and indicator species; participants name species they know and ask questions – 40 min.
- Farmer explains site's management history and current management – 20 min.
- In groups of 4, participants complete management plan for the parcel – 60 min.
  - Participants use grassland map, management plan form, plant indicator species guide, and a short summary of theory.
- Groups present their version of the plan - 40 min.
- Site owner/manager presents his/her version of the plan - 20 min.
- Discussion: experience exchange on practical issues relevant for site management, e.g. grazing approaches, animal welfare, machinery, grassland products - 40 min.

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Results and feedback

- More than 1500 farmers attended the training 2016-2018.

Results are based on the feedback in 2016 (Rūsiņa et al. 2016):

- several open questions to the instructors (8 of 12 persons responded);
- anonymous questionnaire to the farmers (500 responses from groups of 6 instructors)

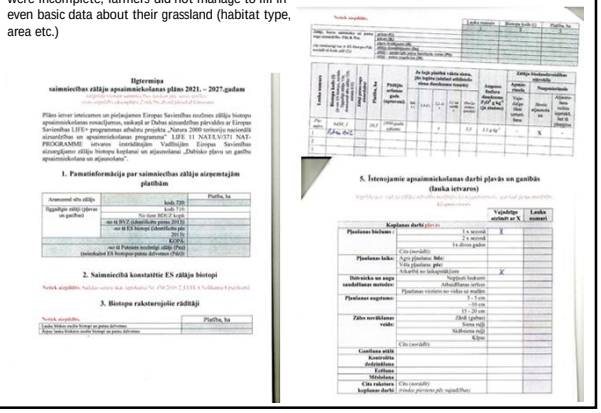
Rūsiņa et al. 2016. Results of the training course «European Union's grassland habitats or species habitats» in 2016 and proposals for improvement of the course and for the development of a result-based agri-environment measure

Learning outcomes: perspective of the experts

1. Semi-natural grassland management plan
- 30 % of the plans were well done with sufficient detail
- 70 % of the submitted management plans were incomplete:
  - 30 % did not contain information about habitat type of their grassland)
  - Many management plans contained controversial information. e.g. ex-arable land in need of restoration lacked restoration actions in the plans.
- Some participants asked for, but did not receive, advice from the advisors of the local office of the Latvian Rural Advisory and Training Centre.
- Several participants recognised problems in their grassland but, in order to avoid potential penalties, did not propose management solutions

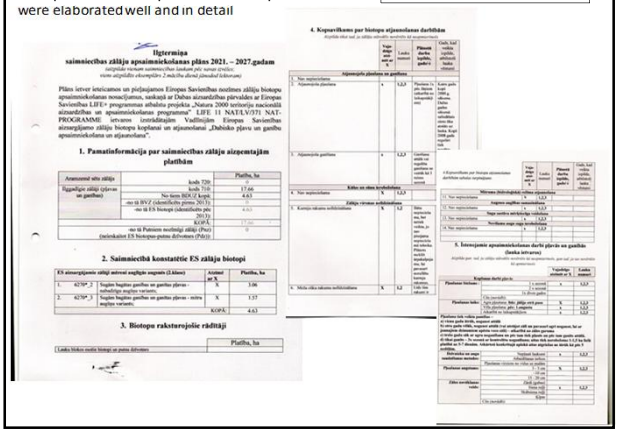
Example of an incomplete plan. About 70 % plans were incomplete, farmers did not manage to fill-in even basic data about their grassland (habitat type, area etc.)

Submitted incomplete plans



Example of a detailed plan. About 30 % plans were elaborated well and in detail

Submitted completed plans



Learning outcomes: perspective of the experts

2. Attitudes

Improved towards the scheme and semi-natural grasslands

- Majority of participants were interested & participated;
- Sceptics developed positive views toward scheme;
- Knowledge developed, including for best practices.

Farmers are looking forward to the result-oriented approach

- Several participants said that they had parcels with "all the right flowers", need only to resume management.
- Some are thinking of keeping their grasslands instead of ploughing them up.
- One said he had "done the rules as Rural Support Service demanded" and "Where were you to tell me that I had done everything for all these 10 years to ruin the grassland?"
- Prior to the training, most farmers had not thought about grassland as habitat for "insects, flowers and birds».

Each group had individuals who were not satisfied

- Mainly due to having small parcel(s) with maintenance costs exceeding payment.

Learning outcomes: perspective of the experts

3. Using the management plans submitted by training participants for the implementation and administration of a results-oriented agri-environment scheme

Inadequate training

- Instructors estimate that training was inadequate for the farmer to acquire the competence needed for developing a management plan of good quality.

Inadequate knowledge

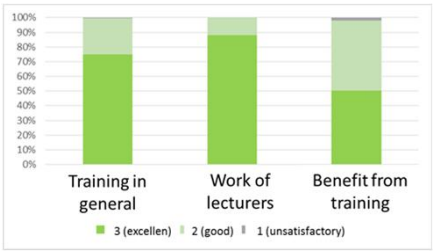
- Farmers with production grasslands have better grasp of grassland ecological processes.
- Farmers with only rented land & those managing it for subsidies had poor understanding.

Advisory services needed

- In parallel to training, farmers need access to high quality advisory services, both in field by surveying grasslands together and during the development of the management plan.

Feedback from the farmers

n = 416



Possible reasons for low scores about the benefits from the training

Timing

- 2016 training took place in late August-October
- Most grasslands already mown or grazed, plant species not in flower

Poor prior knowledge

- Participants little to no subject knowledge prior to training.
- Training had no time for building basic knowledge to support development of the practical skills and competences from the theory.

No individual consultations

- The instructors could not provide individual consultations.
- Many questions of the participants related to their particular situations (financial, technical, physical conditions like soil, terrain, moisture etc.) and grassland condition remained unanswered.

Content

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Challenges

- Farmer-designed management plans without expert input insufficient for result-oriented scheme administration
- Participants do not receive further assistance in designing their management plans
  - Exceptions: voluntary work of experts, lecturers
- No funding to cover costs of visiting all grasslands for which the plans are being produced
- Training focuses solely on public support (agri-environment scheme)
  - does not include other (market-based) possibilities from using semi-natural grasslands

Improvements: information & communication

- Interface of the official web page of the habitat and species database in Latvian should be user-friendly, also for farmers
- Accessible and understandable information for farmers about farm's grasslands: i.e. conservation values & management needs. Versions of expert assessment need to be made that are understandable to farmers
- An interactive website should be developed based on the above information.
- Identification guides for grassland indicator species and problematic species *in print* are needed http://old.ldf.lv/upload_file/29124/DAP-lepazisim_Plavas-DEMO.pdf is out of print and not available for farmers.

Improvements: training & funding

- Training should include business issues
  - e.g. promoting grassland-based products, innovations.
- Management plan structure should be more user-friendly
  - e.g. combine restoration & maintenance sections, add a land parcel map & field form for assessing grassland quality.
- Training should include field visit by instructor to all the participants' grasslands.
- Early advisory work with farmers is crucial and needs to be funded.
  - Network of experienced farmers that can later provide peer-to-peer support.
- Instructor training is also needed
  - Especially for agricultural production and grassland products and their facilitation.

Improvements: advisory services

- Aim to provide qualified advisory in the local offices of the Latvian Rural Advisory and Training Centre.
- Advisors should be certified habitat experts with experience in grassland management and restoration.
- Advisor's tasks should include:
  - Assisting and advising on the preparation of the grassland management plans;
  - Advising during the whole period of the contract;
  - Controlling (incl. inspection in field) the success of the scheme in terms of ecological outputs.

Thank you!