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SALVERE News

Issue 4, December 2010

Semi-natural grassland as a source of biodiversity improvement - A CENTRAL Europe Project

3rd regional Workshop in Slovakia Banska Bistrica

The Plant Production Research Centre Piešťany, Slovakia, was host of the third regional SALVERE workshop, held between 22-23 September 2010 in the peaceful surroundings of Starohorské vrchy Mts. The meeting was attended by 40 participants from 15 public and private institutions. The programme included 10 presentations in two sessions:

- 1.) Semi natural grassland as High Nature Value farmland areas and
- 2.) Plant genetic resources: key principle for the biodiversity conservation.

The first session provided an input to the current state of High Nature Value grasslands in Slovakia and perspectives on their use and conservation. Presentations in the second session ranged from the maintenance of plant genetic resources and their use for the establishment of new high nature value grasslands to the importance of species rich grasslands for landscape planning and territory development. On a half day excursion the demonstration site in Liptovská Teplička village located in the Low Tatras National Park was visited. Participants had



the opportunity to discuss biodiversity improvements of species poor grasslands. During the second excursion to Tajov, participants saw the results of the use of different propagation material from species rich donor sites for grassland establishment on arable land.

by Miriam Kizekova

Establishment of Semi-natural grasslands or species-rich grasslands

The stability and durability are very important objectives for ecological restoration and are most likely to be achieved when the similarity of the site origin and the sowing site of the plants are as large as possible (adaptation to climate, special site characteristics ...). Essential parameters to be observed during the planning are the substrate and, if necessary, the instructions for cultivation measures. The substrate properties in suitable areas generally lie in the damp to wet or semidry to very dry range. Due to the substrate properties the tendency for the development and spreading of bushes is comparatively low and is generally avoided through extensive cultivation, respectively, agricultural measures (mowed annually or bi-annually).

Recommended methods for ecological restoration of semi-natural grassland

- Seeding of collected or propagated local seeds
- Fresh-cutting („green hay“) or hay mulch seeding

- Threshed hay seeding
- Topsoil transfer
- Application of local plant material (grass-swards or pre-cultivated plant elements)



Semi-natural grassland, established in July 2009

Varieties of wild plants changed through cultivation must not be used. The plant species set out must not have a negative influence on the plant stands in the vicinity and must not confuse the natural distribution pattern of a small variety of plants - as would be the case, for example, if strongly divided subspecies (such

as *Achillea millefolium* agg.) from completely different regions were used. The compilation of mixtures should be taken from the successional processes in nature, which lead from short-lived plant species to the establishment of enduring species.

by Bernhard Krautzer

Case studies: semi natural grassland in Poland, Austria and Slovakia

Poland



July 2009

Demonstration site of Project Partner 8 (PULS) was established on an embankment of the A2 motorway near the village of Gluponie (16°18' E; 52°22' N). The aim of the demonstration site was to analyze the effectiveness of different propagation material for restoring high nature value areas. The type of the target community wanted is Arrhenatherion. Before establishment, the area was ploughed and harrowed. For the setup three different types of propagation material/seed transfer were used: GH - green hay, OST - on-site threshing, SS - seed stripper. Sowing of the propagation materials was been done on 1st August 2009. All three types of propagation



June 2010

materials were applied immediately after the harvest from the donor site. A proper layer of barley straw was applied on OST and SS material. No cleaning cuts were done in 2009. After the botanical survey in 2010 it turned out that from the donor site (An Arrhenatherion community consisting of 35 species of which 21 were target species) the number of target species on the demonstration site were 8, 9 and 11 for OST, GH and SS, respectively. It can be concluded that the best transmission/establishment rate of target species at the level of 52.4% were recorded by using the seed stripper.

by Piotr Golinski

Austria



April 2009



June 2010

This project shows with the right construction of the base layer, the adjusted greening techniques and with a site specific seed mixture the creation of an extensive, high valuable ecological meadow is possible. The flood detention basin was built in April 2009 and sown via hydorseeding consisting of three different seed mixture combinations (AV1 - semi dry grass and mixture, AV2 - Tall oat grass meadow, BM1 - poor grass and mixture) mixed with seed rich material from on site threshing (OST) originated from the

Welsler Heide in Upper Austria. For the construction of the flood detention basin different types of gravel (Breiningsdorfer and Waldzeller gravel) were used. One year after building and greening the flood detention basin it can be concluded that a greening success on all variants is visible. The Waldzeller gravel with the seed mixture combination AV2 + OST shows the highest establishment rate with 43,48 % of target species. Because of the site specific seed mixture no cut was necessary. *by Petra Haslgrübler*

Slovakia



June 2009

The aim of the demonstration trials in Slovakia is to create new HNMF on degraded arable land and to improve vascular species diversity on a degraded *Festuca arundinacea* monoculture sward. Demonstration sites are situated in two different localities. Site Tajov is located in the buffer zone of the Low Tatras National Park with an area of about 0.3 ha at an altitude of 647 m a.s.l.. Locality Liptovská Teplička is situated in the Low Tatras National Park at the altitude of 960 m a.s.l.. Both demonstration sites were established with two variants of propagation material in July 2009. Green and dry hay from donor sites with an Arrhenatherion and Festuco-Bromion community were transferred to



June 2010

the demonstration sites. The donor Arrhenatherion community in Tajov and Liptovská Teplička comprised 46 and 49 plant species respectively; target species were *Anthoxanthum odoratum*, *Agrostis capillaris*, *Arrhenatherum elatius*, *Briza media*, *Trisetum flavescens*, *Anthylis vulneraria*, *Gladiolus imbricatus*, *Leucantheum vulgare*. The donor Festuco – Bromion community was composed of 52 plant species and dominated by *Bromus erectus*, *Festuca rupicola*, *Poa pratensis*, *Dianthus cartusianorum* and *Salvia pratensis*. One year after the set up a higher establishing rate of target species was recorded on the arable land in Tajov than on the *Festuca arundinacea* monoculture in Liptovská Teplička.

by Miriam Kizekova

Upcoming News

19 - 14 May 2011	6 th International Congress of the European Society for Soil Conservation "Innovative Strategies and Policies for Soil Conservation Thessaloniki, GREECE www.esscthessalonikicongress.gr
18 - 20 May 2011	4 th Regional Workshop in Germany www.salvereproject.eu
29 June - 1 July 2011	CIOSTA & CIGR Section V Conference 2011 - Efficient and safe production processes in sustainable agriculture and forestry www.nas.boku.ac.at/ciosta2011
28 - 31 August 2011	16 th EGF Symposium 2011 - Grassland farming and land management systems in mountainous regions www.egf2011.at
20 - 22 September 2011	Final Conference in Italy, Legnaro www.salvereproject.eu

The SALVERE Team wishes you a Merry Christmas and a Happy New Year



Imprint

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