Agricultural Research Education Centre

SALVERE Workshop, Bernburg, 18. – 20. May 2011

Use of site-specific regional seed mixtures for re-vegetation of road embankments in Austria

Wilhelm Graiss, Bernhard Krautzer & Christian Tamegger

Status quo

- Infrastructural interventions: slopes and open areas in intensively used landscapes (arable land)
- Thick humus layer with diaspores of weeds and high nutrient content
- Rules, standards of the structure of slope stabilization of road embankments
- Actual standard in discrepancy to the establishment of site- specific vegetation


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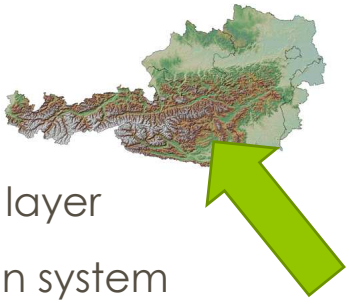
Aims

- Offer an alternative to commercial seed mixtures: site-specific regional seed mixture
- Establishment of plant communities of high nature value
- Re-vegetation of the road embankment
- Protection against erosion

Road embankment St. Veit/Glan



- Site description: altitude 470 m, exposition south, inclination 45°
- Slope preparation: without humus layer
- Restoration technique: black green system
  - Hydro-seeding
  - straw layer
  - Bitumen emulsion
- Site specific regional seed mixture: 10 g/m²

Site-specific regional seed mixture

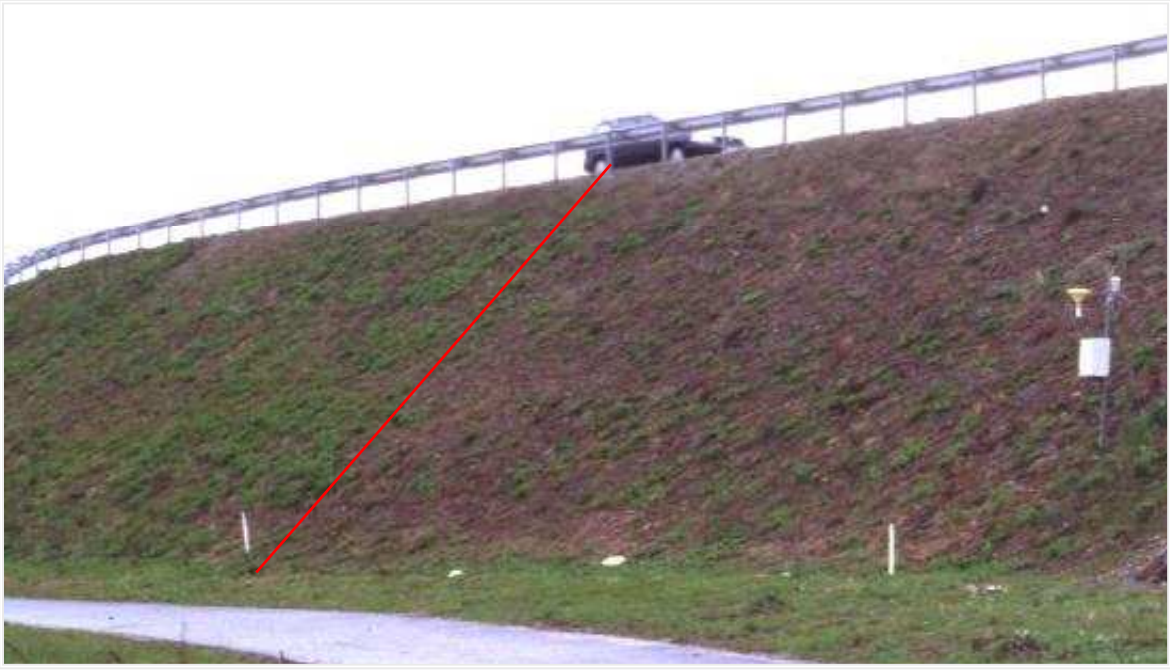
Phleum phleoides	0.28	*Trifolium arvense*	2.92
Poa compressa	5	*Trifolium campestris*	0,8
Poa bulbosa	3.6	*Trifolium dubium*	2
Poa angustifolia	10	*Anthyllis vulneraria*	2
Festuca nigrescens	16	legumes (total)	7.72
Festuca rupicola	18		
Festuca ovina	14		
Koeleria macrantha	9	*Euphorbia cyparissias*	0.8
Anthoxantum odoratum	9	*Thymus pulegioides*	0.8
Koeleria pyramidata	5	*Leontodon hispidus*	0.8
grasses (total)	89.88	herbs (total)	2.4

Hydro-seeding

Straw layer

July 2004

May 2005



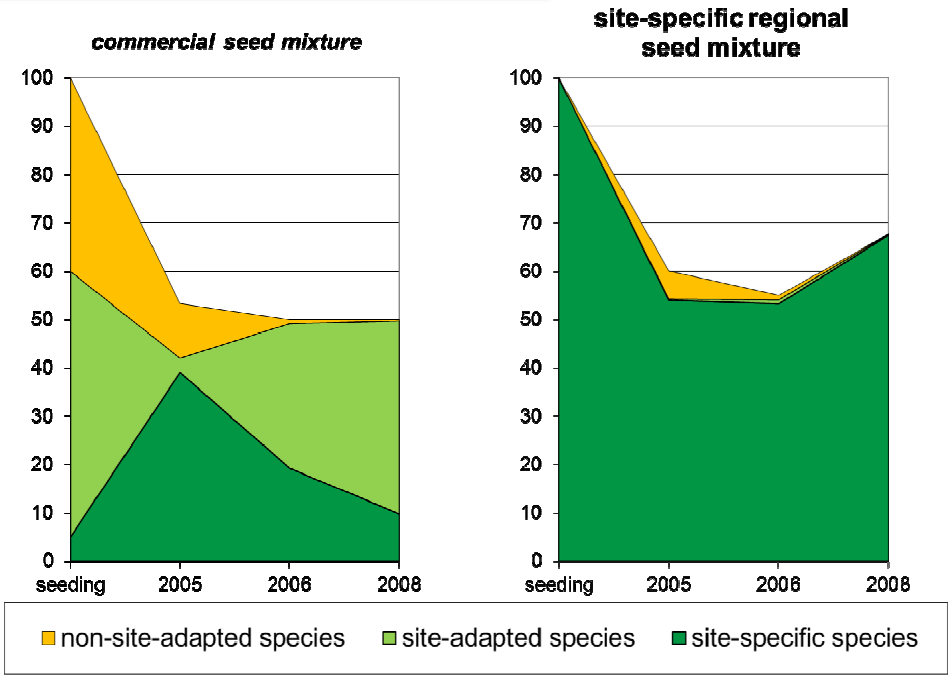
May 2006

June 2008

Classification of the species referring to their ecological value

- *Group 1*: site-specific species, growing naturally under given site conditions
- *Group 2*: site-adapted species, not site-specific but sustainable under given site conditions
- *Group 3*: non-site-adapted species, naturally not occurring under the specific climatic and site conditions

Comparison of seed mixtures on road embankement without humus layer



Conclusions

- Higher cost for set up: technique with mulch layer – handicaps the development of herbs
- Low biomass production, low costs for maintenance
- Slow growing, but long staying, persistent
- High nature value: seeds from regional origin (no flora falsification)
- High biodiversity on diaspore free and low nutrient content soil

Thank you for your Attention

Dr. Wilhelm Graiss
Agricultural Research Education Centre
Raumberg-Gumpenstein

Raumberg 38
A-8952 Irdning
http://www.raumberg-gumpenstein.at

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