Introduction

Testing new seed mixtures for permanent meadows provide valuable information about the opportunity of recommending them for the local agricultural context. In South Tyrol about one third of the permanent meadows can be found between 800 and 1200 m a.s.l.; at these altitudes are located most of the intensively managed meadows (3 cuts y⁻¹ and more). Recommended seed mixtures for permanent meadows should indeed fulfil:

- the prerequisites of adequate productivity and forage quality
- long-term persistency of the meadows

Material and methods

Investigation site

Site: experimental farm "Mair am Hof"
Location: Dietenheim, South Tyrol, Italy
Altitude: 890 m a.s.l.
Mean annual temperature: 7.7 °C
Mean annual precipitation: 798 mm
Management regime: 4 cut y⁻¹, fertilisation after each cut with 20 m³ ha⁻¹ of 2:1 water diluted slurry

Trial design and investigated traits

2 already recommended and 2 new seed mixtures
7 observation years
Latin square with 4 replication
Statistical analysis: ANOVA/mixed model, seed mixture fixed, year repeated factor; post hoc comparisons by LSD test

Assessment of:
- seed share of each species before the first cut
- DM-yield
- forage quality (van Soest)

Results

Seven year after sowing clear differences in the botanical composition depending on the seed mixture used: Dactylis glomerata was the most abundant grass in all treatments except in DWi-h (Alopecurus pratensis was dominant)

- DWi-h proved to be the most persistent seed mixture
- highest share of sown species
- DWi-Lp was the least persistent seed mixture
- highest share of opportunistic species and weeds
- Since 2005 highest NDF and ADF content for DWi-h (due to the earliness of dominant Alopecurus pratensis); no such effect for DWi-Fa at a moderate share of Festuca arundinacea (about 20%) was observed

Conclusions

Although showing an initial high productivity and satisfactory forage quality, DWi-Lp proved to be prone to a deterioration of the botanical composition in a mountain environment. A further development of DWi-Fa for summer-dry areas seems to be advisable.

Contact

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