MANAGEMENT OF NARDETUM STRICTAE

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Introduction

Aim: which management system results in an optimum of plant composition, yield and forage quality

Material and Methods

- acid soil (Podsol)
- 820 m above sea level
- from 1960 up to 2009
- plots with 5 replications
- utilization date: 23.06. / 13.09.

period (year)	mineral fertilization N	P	K
	(kg ha^{-1} y^{-1})		
1 - 10	164	26.5	80.0
41 - 50	110	16.0	100.0

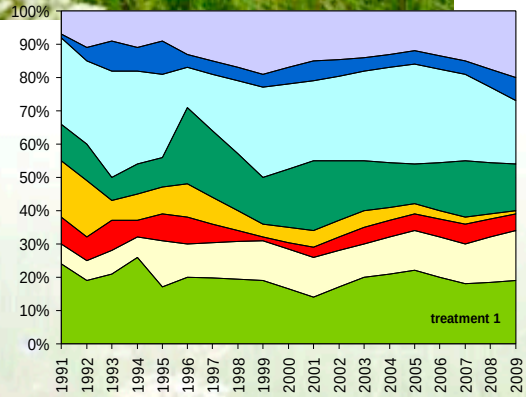
a fifty years experiment

TREATMENT 1
two cuts per year without any fertilization

TREATMENT 2
two cuts per year with fertilization

Results

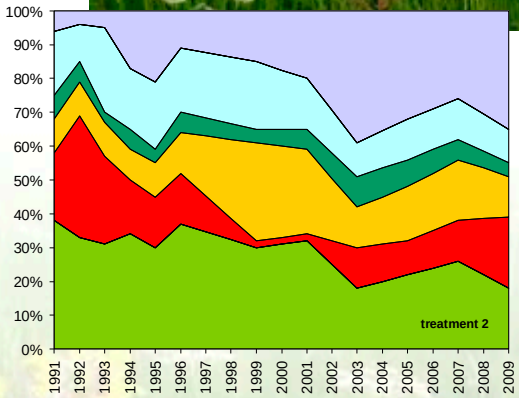
Plant composition



Nardetum strictae persist in a typical plant composition. It´s the species richer community.

beginning (1960):

2 %	other herbs
8 %	Galium harcynicum
25 %	Meum athamanticum
7 %	other grasses
0 %	Poa chaixii
4 %	Agrostis tenuis
40 %	Nardus stricta
14 %	Festuca rubra



The Nardetum changed into a Festuca rubra–Agrostis tenuis–community with a high amount of Poa chaixii and herbs.

Dry matter yield and parameters of forage quality

period (year)	treat-ment	dry matter yield (kg ha^{-1})	crude fiber (g kg^{-1} dry matter)	crude protein (g kg^{-1} dry matter)	mineral P (g kg^{-1} dry matter)	mineral K (g kg^{-1} dry matter)
1 – 10	1	2,820	284	126	2.6	17.8
	2	6,720	292	137	3.3	20.4
Tukey HSD $_{(P<0,05)}$		740	--	7	0.5	--
41 – 50	1	2,290	236	119	2.5	15.2
	2	6,590	271	119	3.0	19.3
Tukey HSD $_{(P<0,05)}$		610	15	--	0.1	1.8

dry matter yield

treatment 1:
continuously declining yield

treatment 2:
in correspondence with the level of mineral fertilization, especially nitrogen and potassium

forage quality

declining contents of all parameters in general (fifty years)

fertilization result in increase of plant contents

Conclusions

- **Two cuts per year without any fertilization is suitable for preservation of Nardetum strictae in regions with insufficient animal livestock.**
- **To achieve sustainable success utilization yearly and a suitable relationship between soil nutrients and plant diversity are necessary.**

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