

Forage species in Sweden

- *Perennial legumes*
- Red clover (*Trifolium pratense* L.)
- White clover (*Trifolium repens* L.)
- Lucerne (*Medicago sativa* L.)
- Alsike clover (*Trifolium hybridum* L.)
- Bird's foot trefoil (*Lotus corniculatus* L.)

Variety testing of forage crops in Sweden

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Forage species in Sweden

- *Perennial grasses*
- Timothy (*Phleum pratense* L.)
- Meadow fescue (*Festuca pratensis* Hudson.)
- Perennial ryegrass (*Lolium perenne* L.)
- Festulolium (\times *Festulolium braunii*)
- Hybrid ryegrass (*Lolium x boucheanum*)
- Italian ryegrass (*Lolium multiflorum* Lam.)
- Cocksfoot (*Dactylis glomerata* L.)
- Smoot bromegrass (*Bromus inermis* Leysser.)
- Kentucky bluegrass (*Poa pratensis* L.)
- Red fescue (*Festuca rubra* L.)

Forage species in Sweden

- *Annual species*
- Westerwold ryegrass (*Lolium multiflorum* var. *westerwoldicum*)
- Silage maize (*Zea mays* L.)
- Fodder kale (*Brassica oleracea* L. convar. *acephala*)
- Forage rape (*Brassica napus* L. partim)

Number of varieties in VCU testing 2002

Species	For Swedish Nat. list	On the Swedish list
Red clover	2	18
Alsike clover	0	1
White clover	1	8
Lucerne	0	4
Timothy	3	13
Meadow fescue	1	11
Cocksfoot	3	4
Perennial ryegrass	2	10
Hybrid ryegrass	0	3
Italian ryegrass	0	2

Number of varieties in VCU testing 2002

Species	For Swedish Nat. list	On the Swedish list
Festulolium	1	2
Smooth bromegrass	0	1
Kentucky bluegrass	0	5
Red fescue	1	4
Tall fescue	1	
Westerwold	1	10
Fodder kale	0	2
Forage rape	0	2
Forage maize	0	3
Total	16	103

Number of years in VCU testing

2 establishing years 2 harvesing years	red clover, timothy, meadow fescue, perennial ryegrass, cocksfoot
2 establishing years 3 harvesing years	white clover, alfalfa, perennial rye-grass (pasture), smooth bromegrass
2 establishing years 4 harvesing years	kentycky bluegrass, red fescue

Source: VCUOHeng.doc

Number of cuts per season

2-3 cuts	red clover, timothy, meadow fescue
3 cuts	alfalfa, perennial ryegrass, cocksfoot, smooth bromegrass, green fodder
4 cuts	white clover, perennial ryegrass (pasture), kentucky bluegrass, red fescue

Source: VCUOHeng.doc

Development stage at first cut

Early budding	Red clover, Alsike clover
Budding	White clover
Early flowering	Alfalfa
Heading	Timothy, meadow fescue, cocksfoot, perennial ryegrass

All varieties are cut at the same time

Trial layout

- 4-6 per year in south and middle Sweden
- 4 per year in north Sweden
- Fixed experimental stations
- Three replications
- Plotsize approx. 15 m²

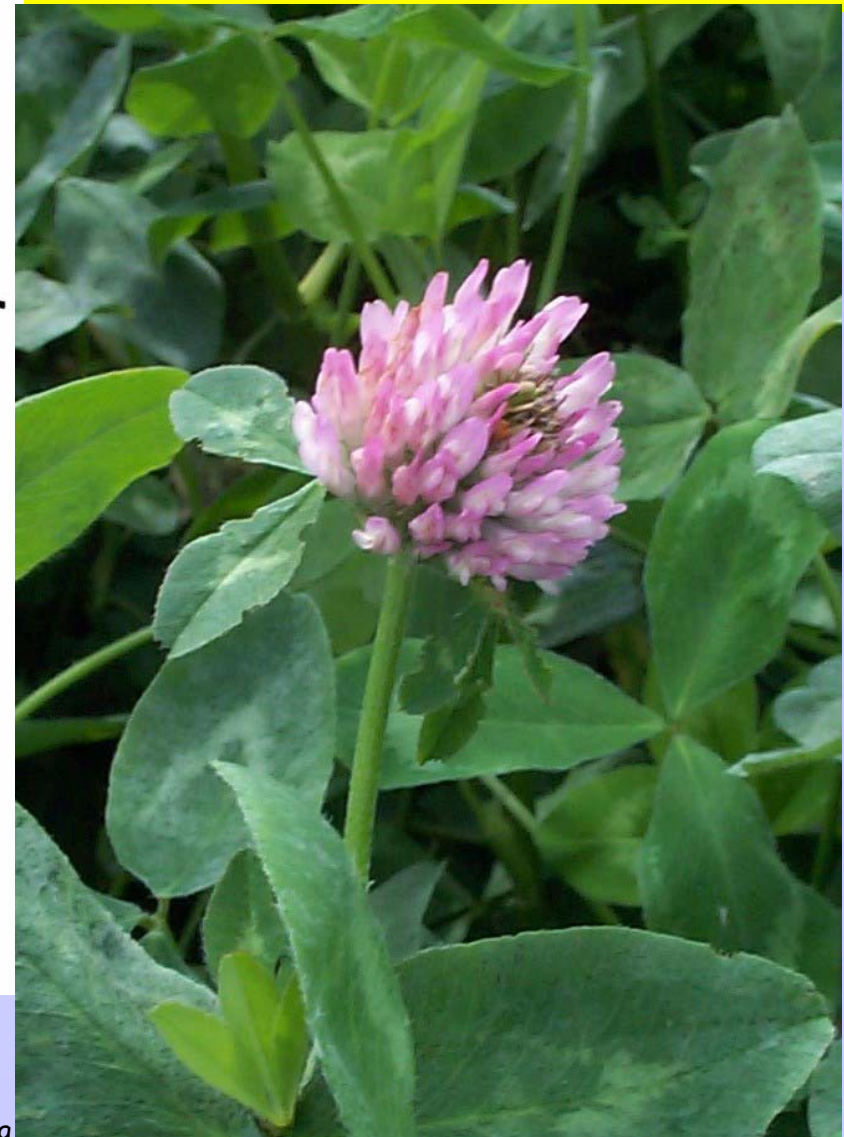
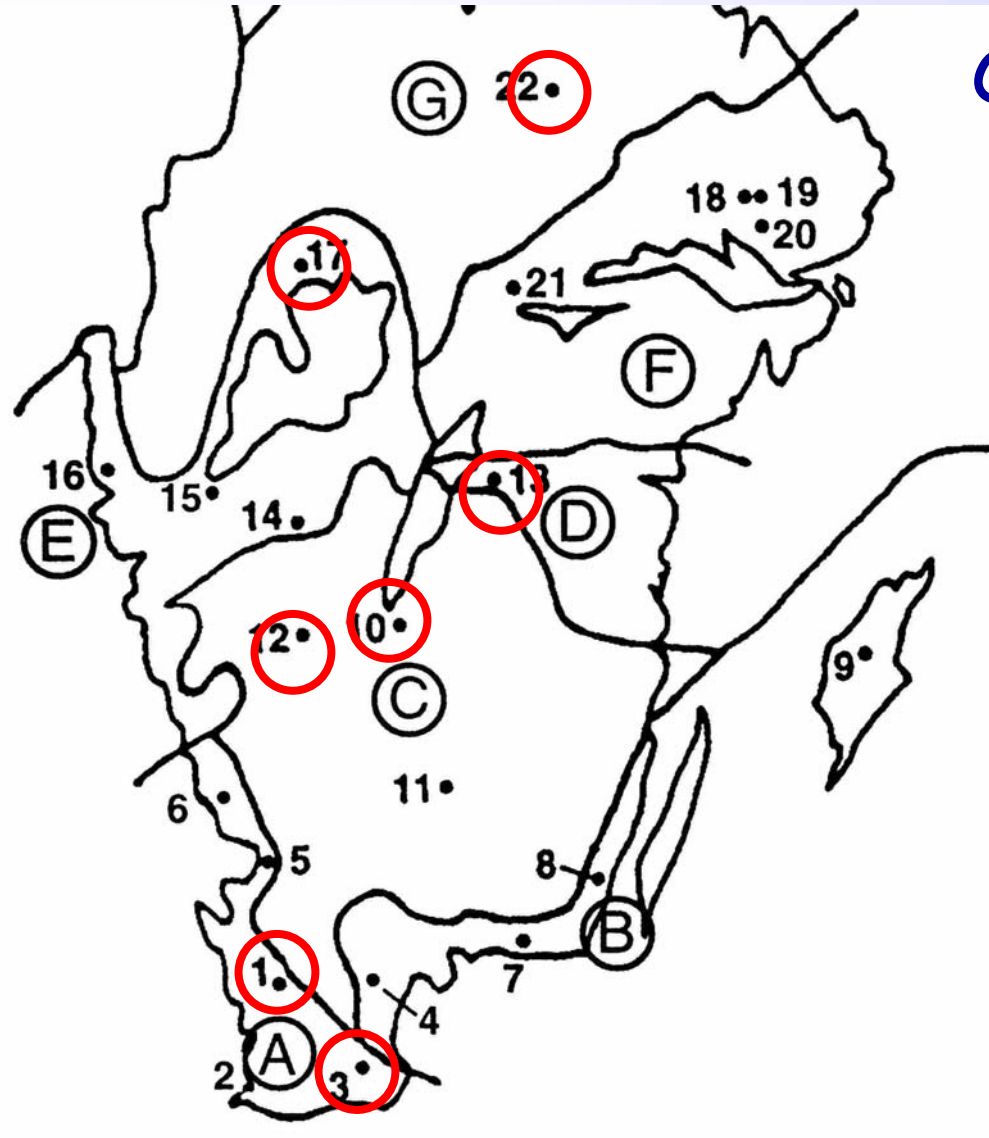
Fertilisation

- N: 160 kg/ha N when cut twice and 240 kg/ha N when cut 3-4 times. Annual green fodder; forage rape 180 kg/ha N, fodder kale 150 kg/ha N, silage maize 150 kg/ha N). No nitrogen to legumes. The establishment year 50 kg/ha N.
- P and K: recommended amounts according to soil survey.

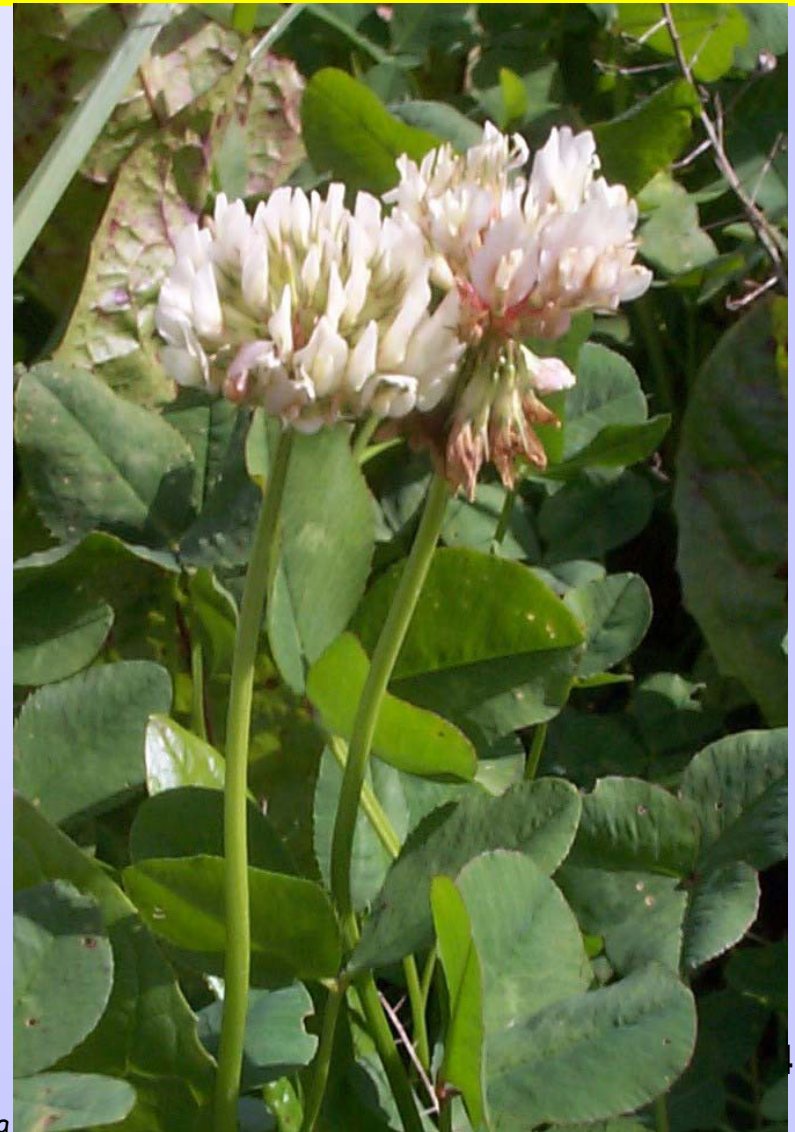
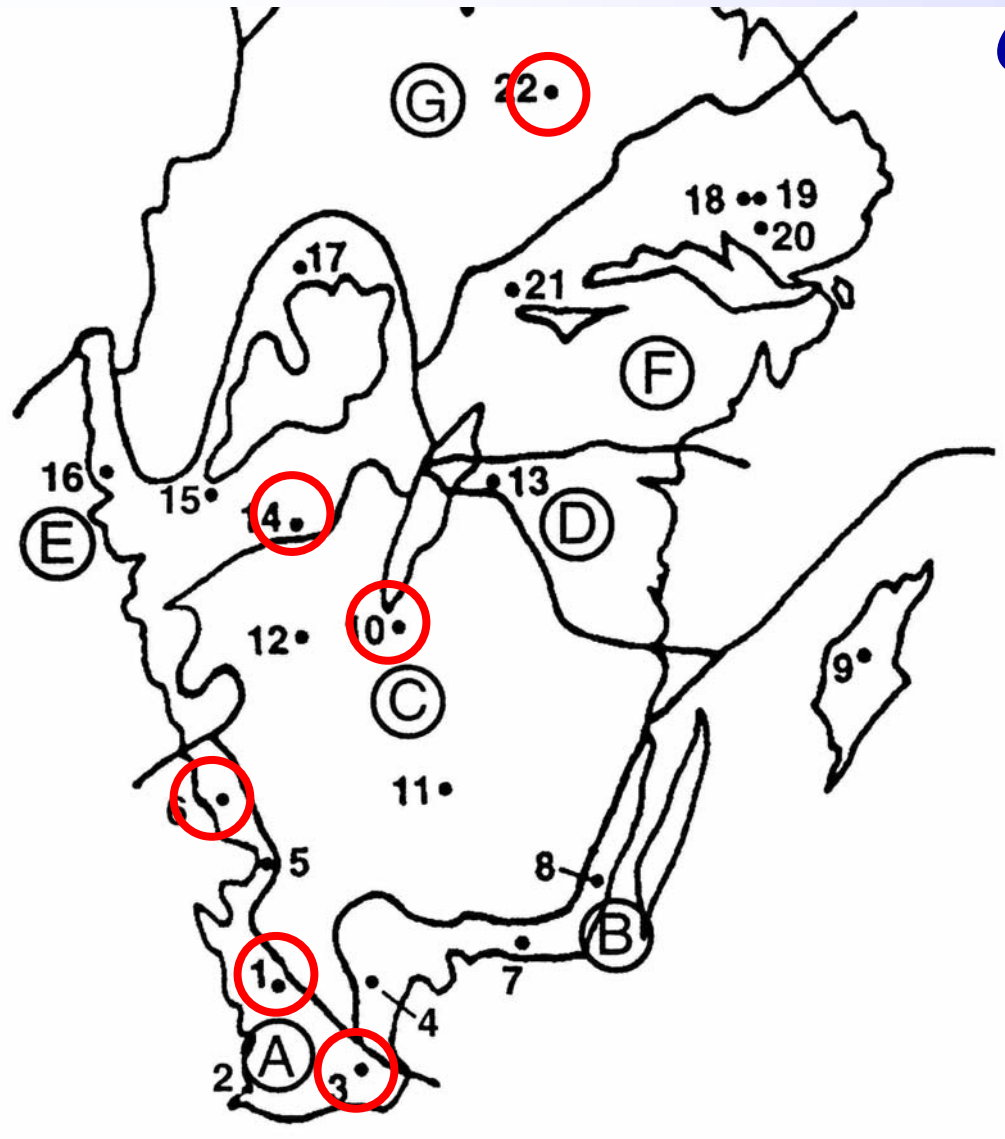
Measurements and observations

- Yield, fresh
- DM percent
- Botanical composition (mixed stands)
- Overwintering
- Plant density spring and autumn
- Diseases
- Damages
- Development stages
- Lodging
- Percentage of sown variety
- (Quality properties - not common)

Trial sites red clover 1991-2000



Trial sites white clover 1991-2000



Statistical processing

- Mixed model in the statistical package SAS is used
- Varieties with few observations are removed
- Model: Region and variety fixed factors. Site and harvest year random factors
- Least square adjusted means are used
- More than two trials to be included in the results