



Lowland meadows, management and history

Alison W. McDonald

Picksey Mead, traditionally cut for hay and grazed by cows in autumn, is a flood-plain meadow with MG4 grassland



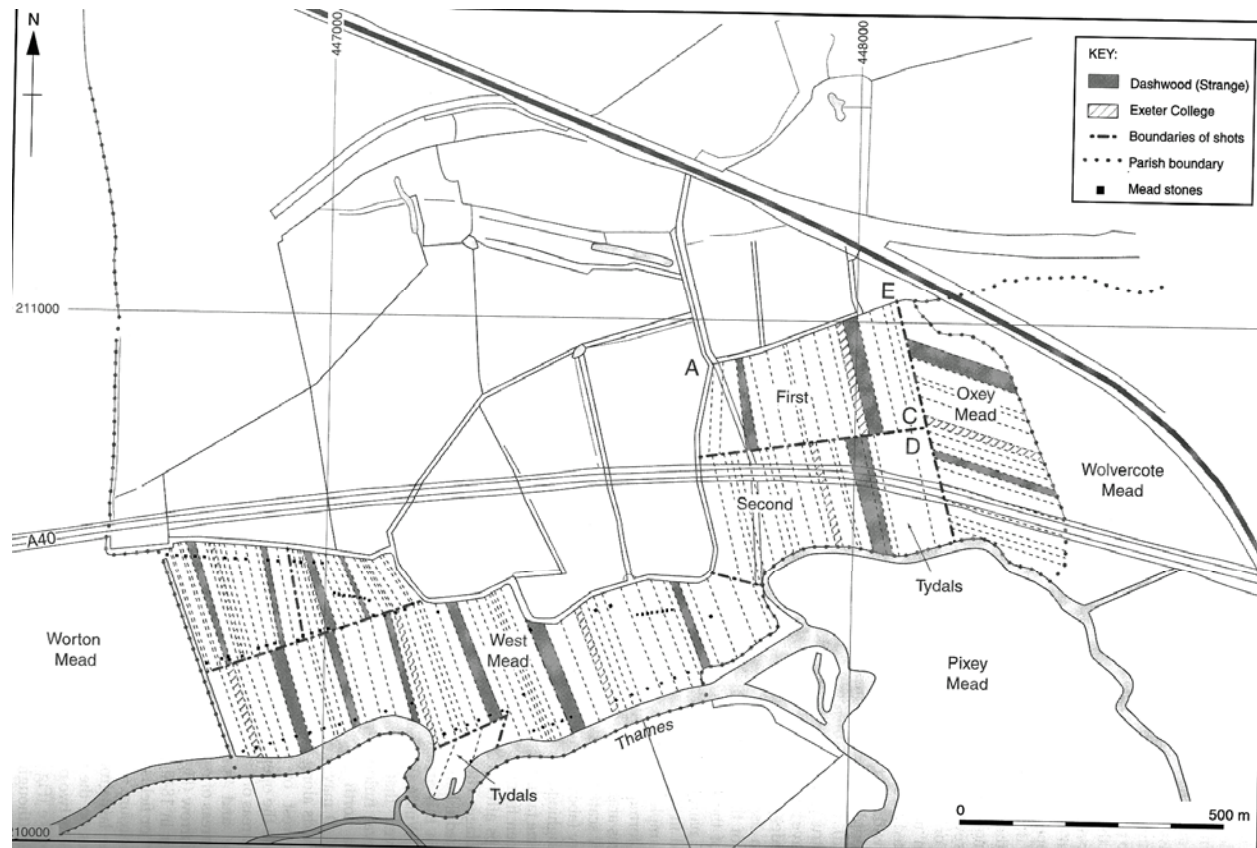
Joint Nature Conservation Committee. 2007. Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006. Peterborough: JNCC. Distribution of MG4 grassland in the UK.



Flood-plain meadows in lowland England were the most expensive land surveyed for the Domesday Book (1087).

Sited beside, for example, the rivers Wye, Severn, Thames, Nene, Ouse and their tributaries they were cut for hay and the aftermath (second grass crop) grazed by cattle from August 2 (Lammas Day) to November 2 (All Souls' Day) and by sheep between 3 November and 2 February (Candlemas), floods permitting. Then they were shut up for the hay crop to grow.

From at least the 9th century, like the arable fields, the meads were divided into unenclosed strips e.g. West and Oxey Mead, Yarnton (Hey G. 2004).



Stones on West Mead, Yarnton, marked the ends of each strip.



The products of the land were shared by lot annually. The late meadsman, Eddie Harris, checks the balls ready for the lot ceremony.






























































The 13 cherry-wood balls show the names of 13th century Yarnton and Begbroke farmers




Symbols were usually used instead of names to identify the hay lots.

LOT MEADOW SYMBOLS - 14 March 2003

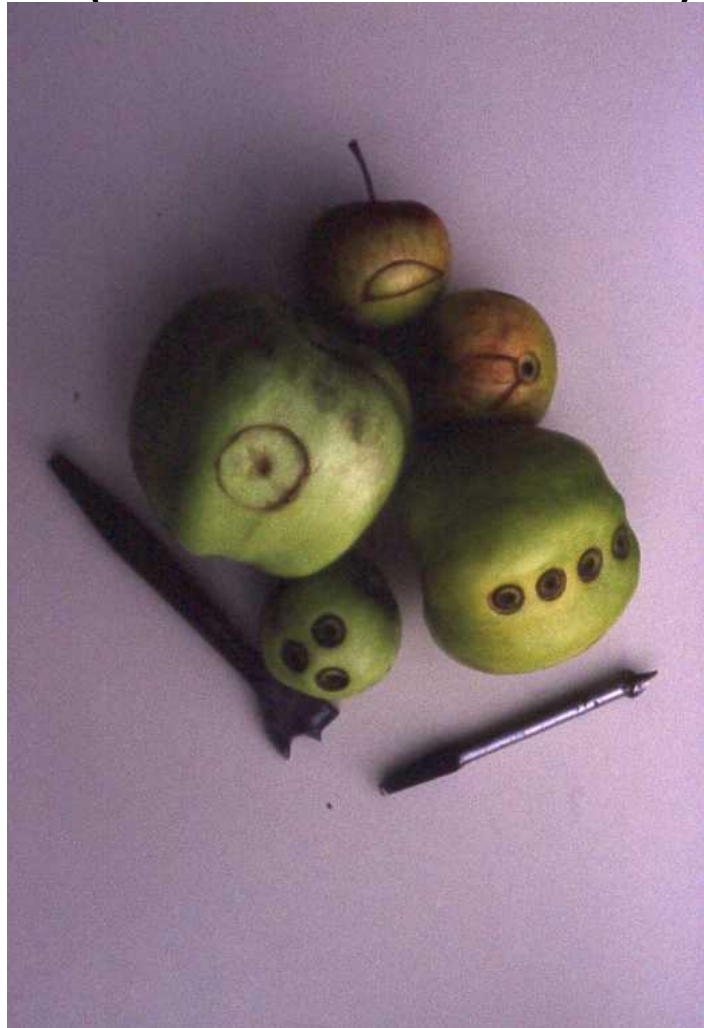
No symbols shown in manuscript or text

PUXTON DOLMOORS		THE ORKNEYS		CALCUT MEAD		DITMARSH		ESTONIA	SHIPTON-ON	BOWERHAM MEAD
SOMERSET				LOWER HEYFORD		OXON.			CHERWELL	BURFORD
Chain = 18 yards										
Cross		Bow of A-S tir, the bow				Peel (frying pan)**			Cross	Double cross
Ducks Nest		Crane's foot				Duck's nest*			Hole	Hole
Dung pick		Cross				Ethel"			Horseshoe	Pitt and dock
Evil O.E. eaful - a fork		Headless				Mare's tail*			Ship	Pitt and dockseed
Hand reel		One on right				Oven""			Slytt	Pitt and stone
Hares taile		Peel (Fr. baker's paddle)		One score					Two score	Pitt and thorn
Horne		Reel		One score		* cf. Greek letters			Three score	Single cross
Oven		The priest (tonsure)		Three score		^ peel in Oxon.			White loaf	Two pitts
Pole ax		One thwart over		Three score		" signifies the band				Three pitts
Shell O.E. sele - house		Two thwart over				of gilt leather which				Vice
Two pits		Three thwart over				adorns a maidens				
Three pits Bran		Four thwart over				head.				
Four pits		Two on right				""very Celtic				
Four oxen and a mare		Three on right				cf. woolstaplers &				
Five pits		Two on right and one at head				stonemasons marks				
Seven pits		Three on right and one at head				Annotations from				
		Annotations from Gardner 1985.				Williams 1857.				

The terrior below, from Lower Heyford, Oxon., shows the shape and ownership of lot symbols.

Lower Heyford		Calcut Mead belongs to the Calcut Land & is Divided by lots drawn. Contains 15 a. 3 r. 24p. statute measure, is Hained the 2 nd of Feb. The second Crop is either mow'd & divided as the first or fed & stocked one Cow to the yardland & after 2 sheep till the 11 th of November & then Common to the whole Parish. The number of lots are 445 with Endall known Ground & are mark'd when drawn in the following manner.
+	Rector 4 & the Endall	T Mr. Macock 4
Classes		<u>South Mead</u> contains 19 ac. 3 r. 3 p. is stoned out in lots & drawn by the same marks, only Mr Mackock changes one Lot share with Wm. Jordan in the Ladles & the upper Lot is not drawn but goes Round in turn. Is Hain'd up at Lady Day & after the Hay is cutt is Cow Cöm & Horse Cöm till Nov. 11. & then for sheep. & belongs to the Calcut land.
	J Sheers 3 Rectory Calcut yd lands.	These same marks are to the Furze Lotts in both the Heaths in general but when different Persons are in the same mark they sometimes vary them as Mrs. Dolly's is mark'd thus  with three round holes...
	score Parsonage farm - 2 Mrs. Jordan - 2	
I	score Parson: farm - 1 J. Norton 2 Wm. Jordan 1	
I	Mr. Brangwin Cf.	
R	P. Laurence 3 Bennett 1. for the free land	
Y	Mrs. King 2 Bennet 1 Wm. Jordan 1	
	score Mrs. Dollys 2 J. Merry 2	
	score J. Merry 3 Wid. Brangwin) 1 J. Elfred)	

In Puxton Dolmoors, Somerset, carpenters' tools were used to make the symbols on hedgerow apples
(Dr. Anthea Brown).



Instead of paying tythes in kind a piece of land called the Tydals was set aside and let in lieu of tythes. This side of the stone indicated land owned by Begbroke Rectory.



The obverse of the last stone identified the
land owned by Exeter College



Yarnton cattle were branded with 'E' for Erdington an earlier name for this village.



As a result of this management a very rich plant community has developed.

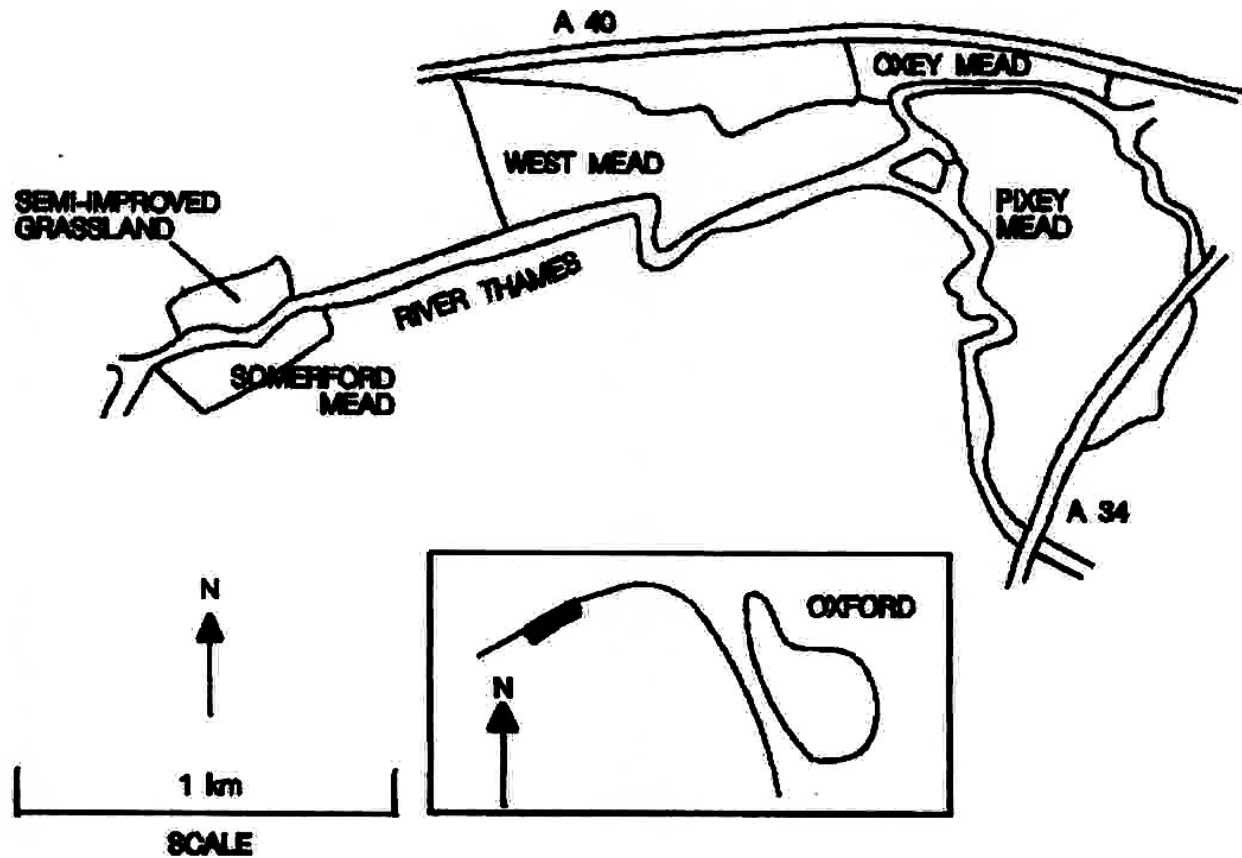


MG4 grassland provides habitat for a wide range of invertebrates including the southern chaser



- Acknowledging the loss of this important habitat over the last 200 years and unsuccessful attempts to re-locate rare habitats led me to try to re-create MG4 grassland on Oxford University Field Station, Wytham.

Somerford Mead is situated beside the river Thames, Wytham, Oxfordshire.



In 1985-6 a study showed few meadow and many modern arable plant species in the seed-bank



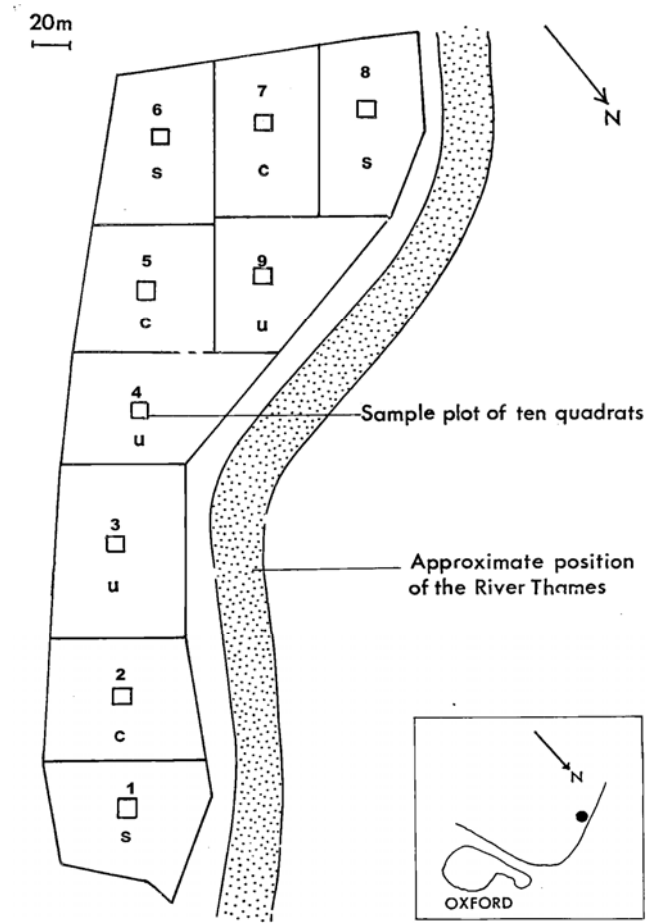
The first summer after Oxey Mead seed was sown (June 1987) annual species were dominant.



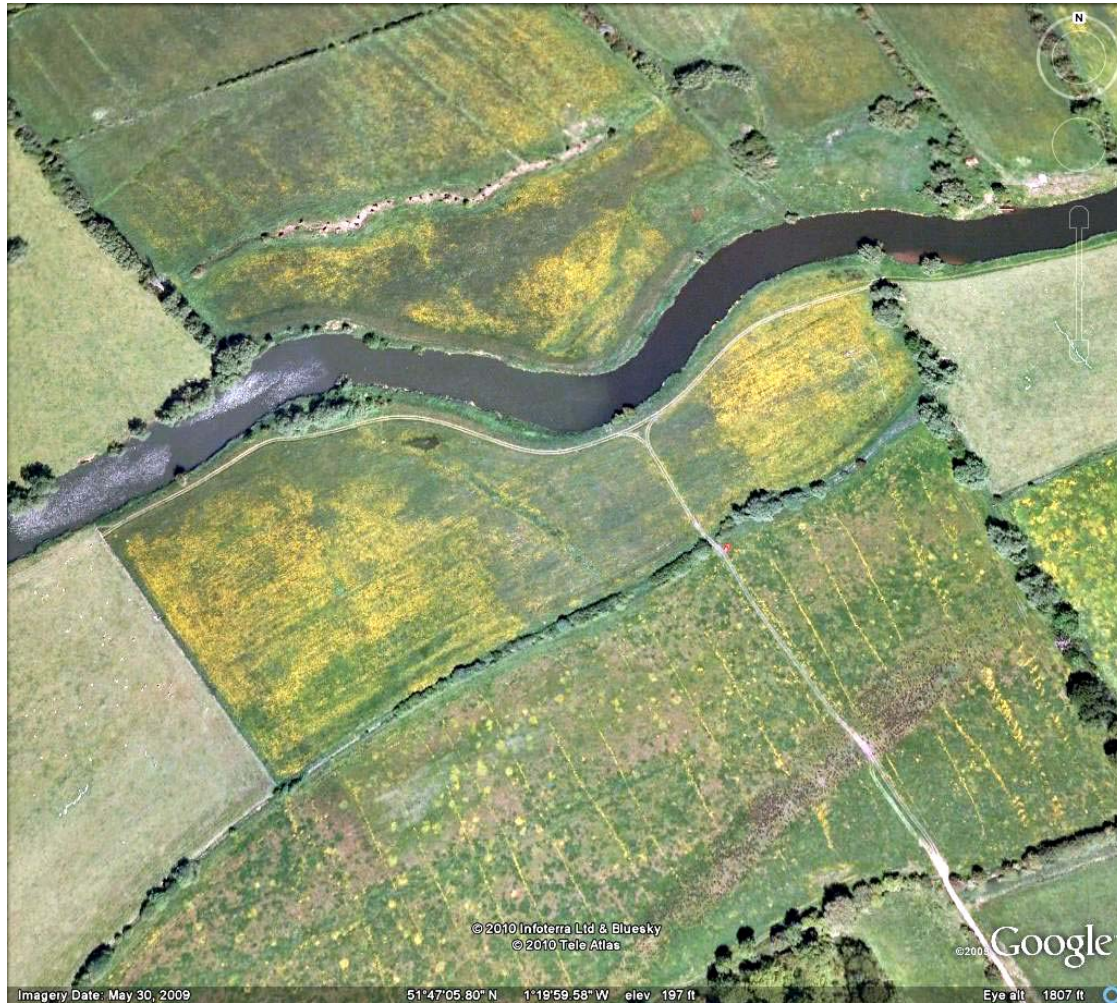
By October 1989 the sward was established most annuals had gone and experimental aftermath grazing began.



Three replicates of three treatments in Somerford Mead: 10 sheep in each of 3 plots, 2 cows in each of 3 plots and no grazing in each of 3 plots.



Somerford Mead in May 2009 showing the dominance of buttercups in the ungrazed plots.



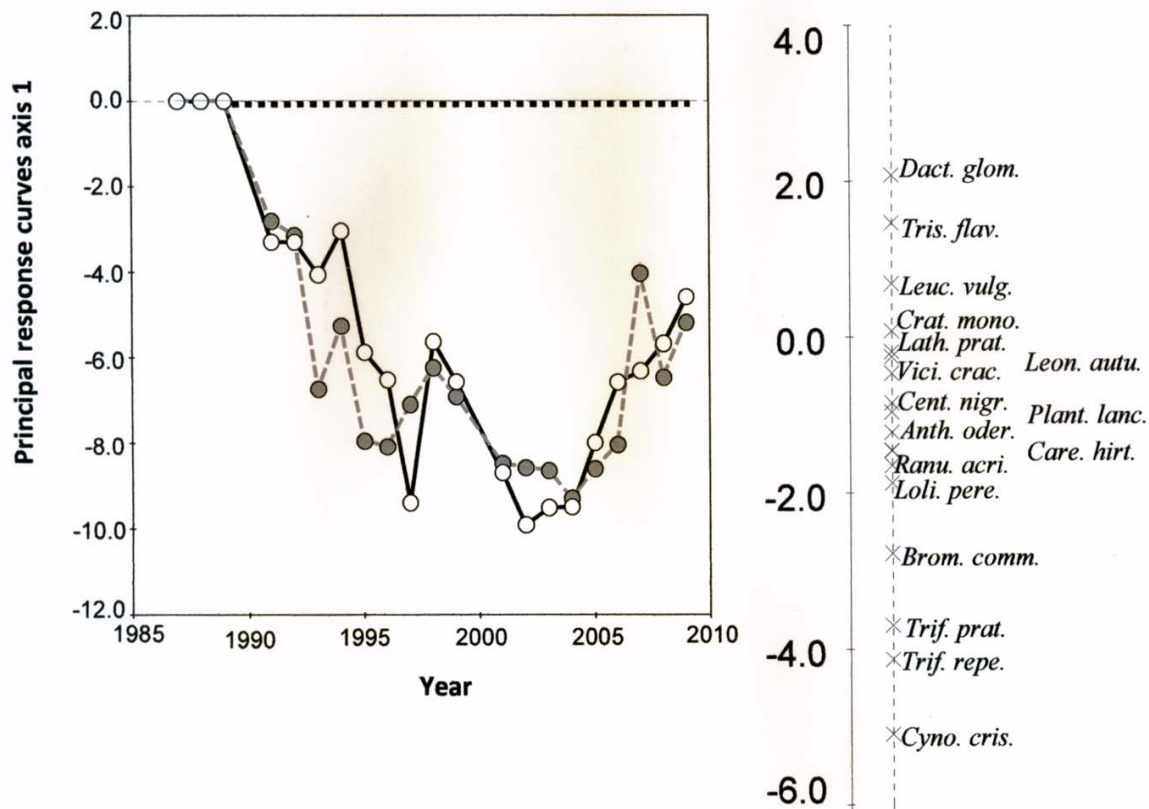
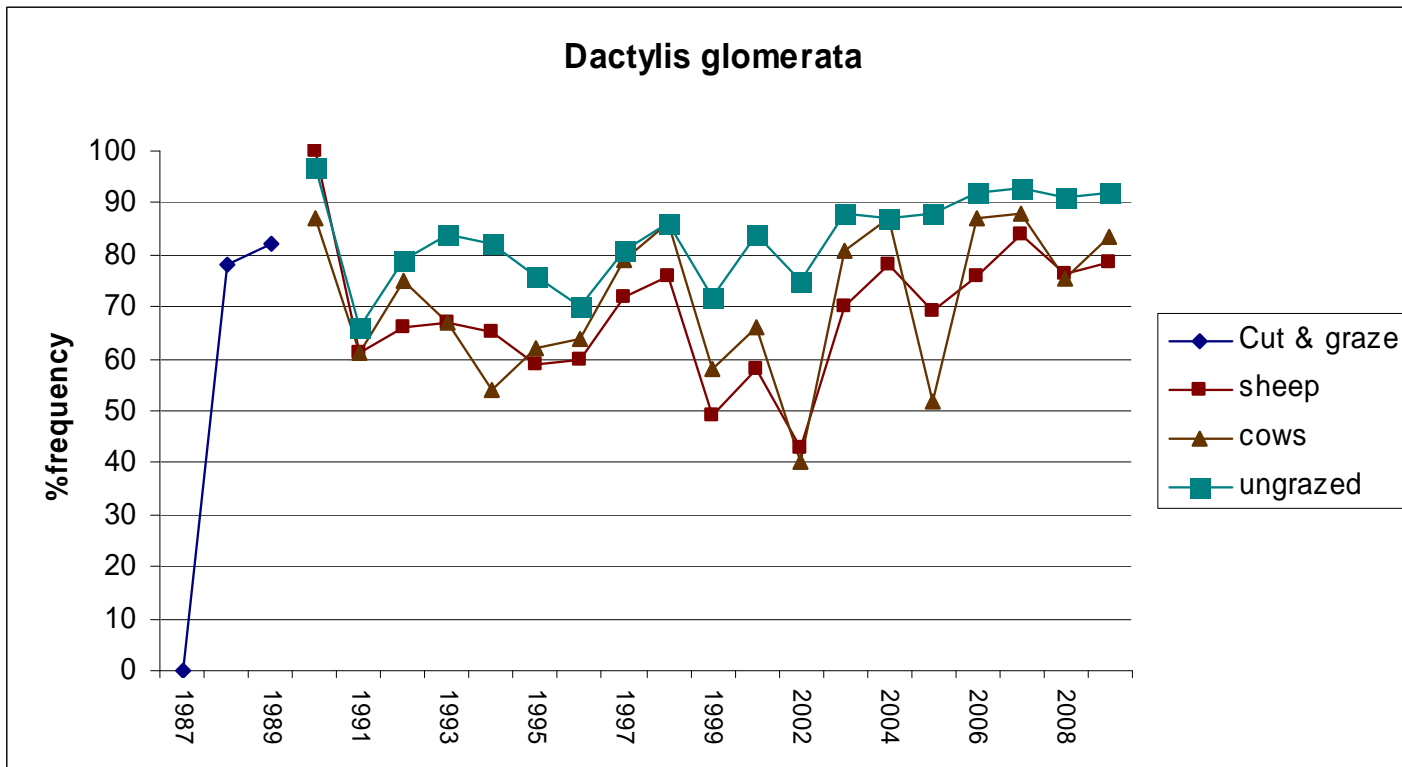
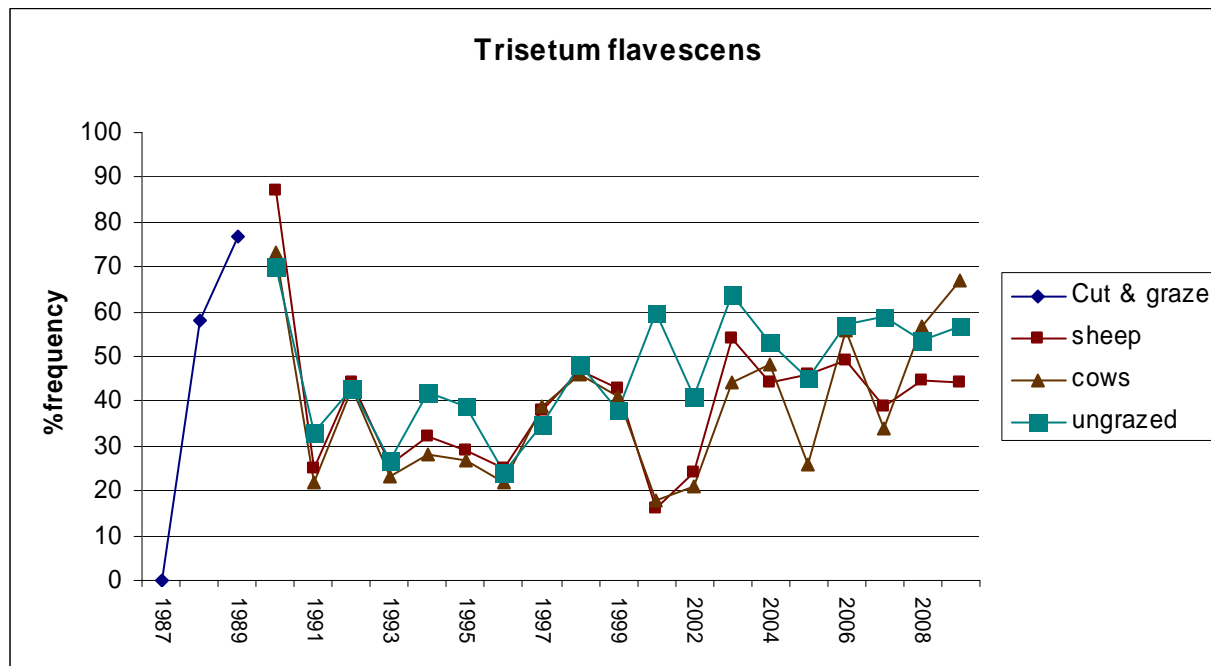


Fig. 1. Principal response curves for the long term succession during the recreation of a species-floodplain hay meadow at Somerford Mead. Changes in community structure are all relative to the control (which received no grazing management following 1990), the position of which is fixed along the line of unity (dotted line). Cattle grazing (solid line) and sheep grazing (grey dashed line) are also indicated. All species names are abbreviated to the first four letters of the specific and generic name. Only species with the best fit to the axis are shown. The first PCR axis is significant ($F=28.28$, $p=0.03$). Ben Woodcock

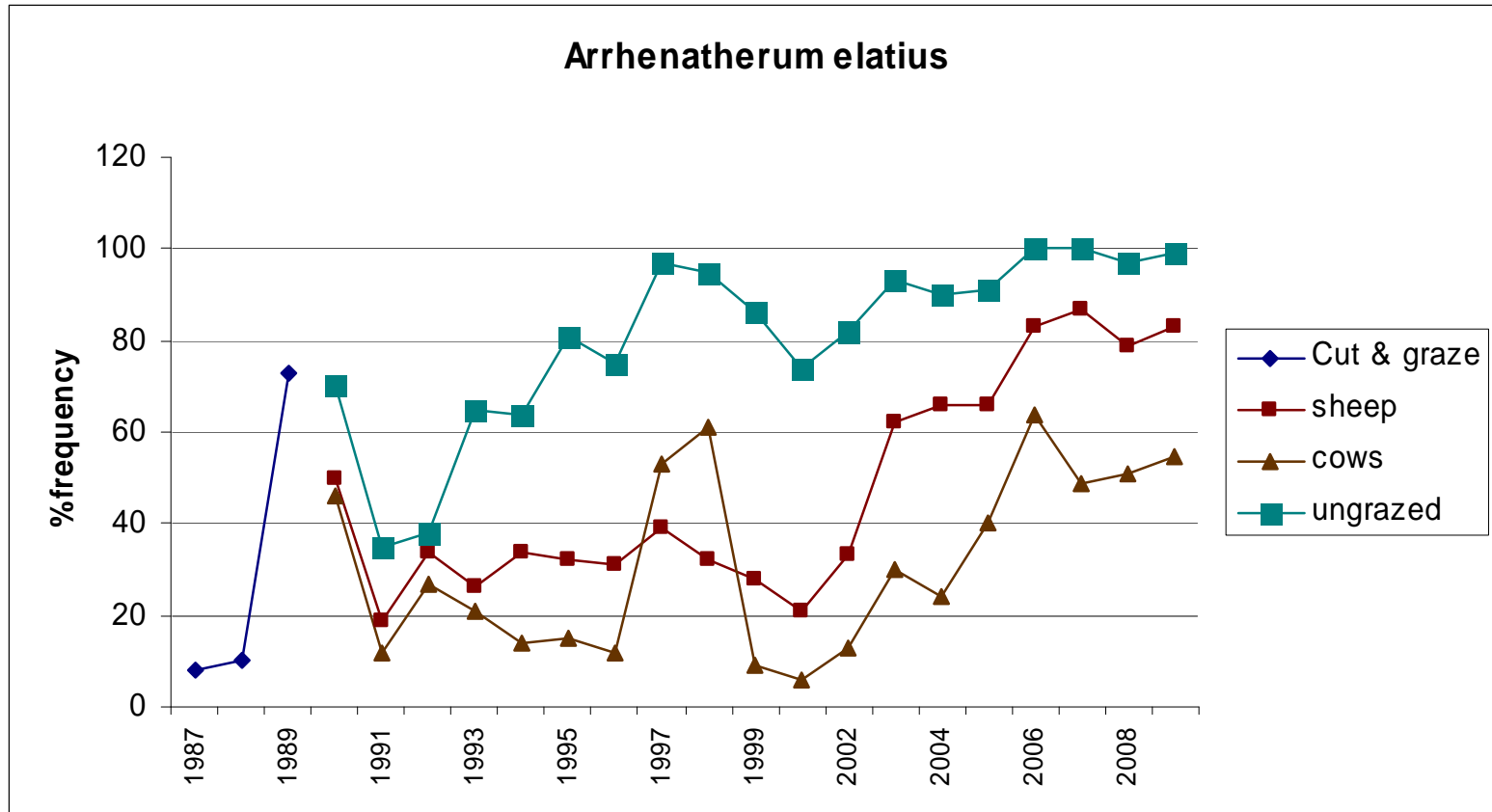
The frequency of *Dactylis glomerata* has gradually increased over the years and remains slightly greater in the ungrazed plots.



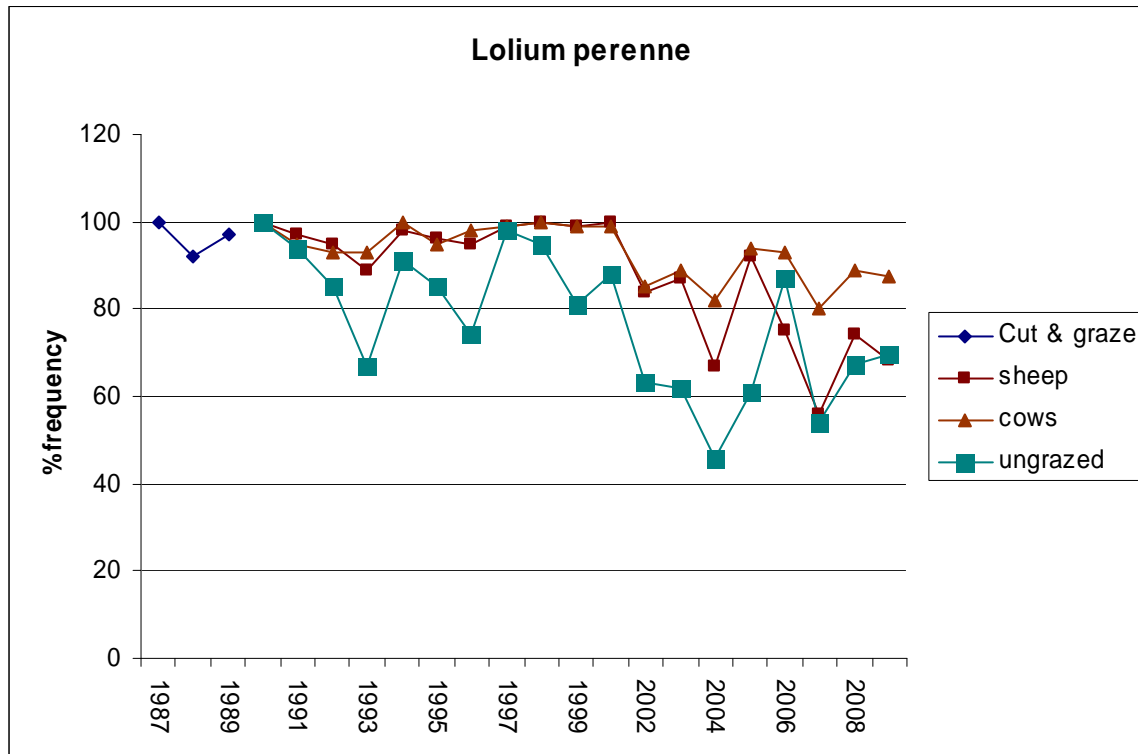
Trisetum flavescens is much less affected by treatment in most years.



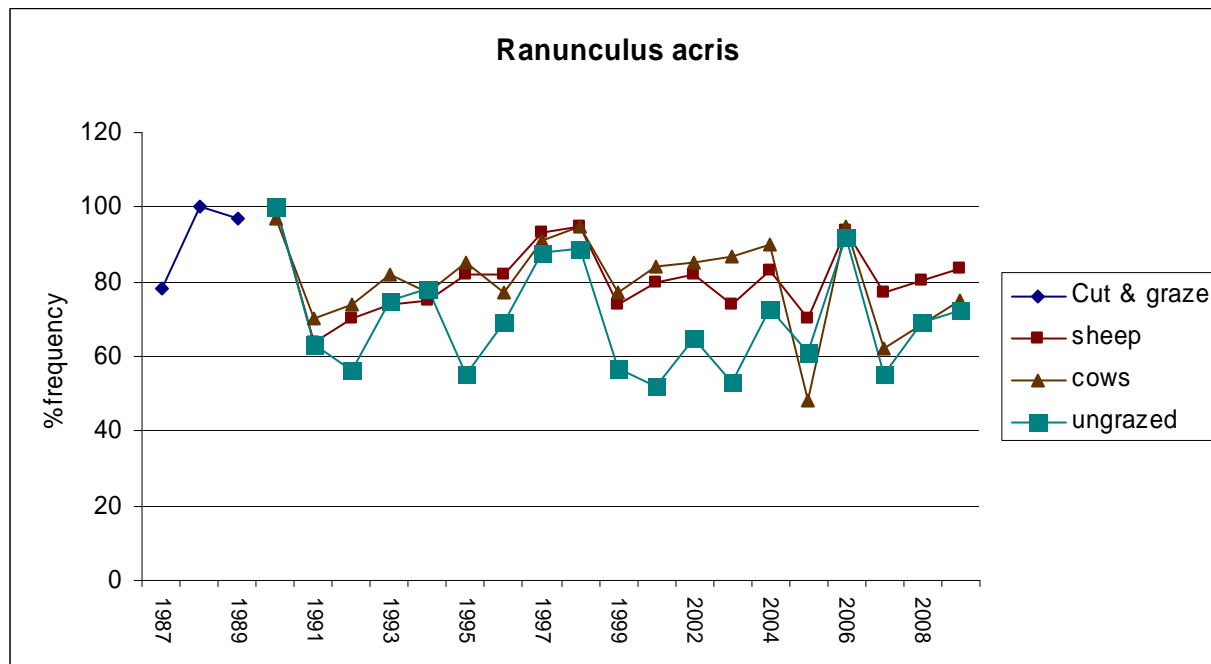
Cutting in late June and no grazing also favours *Arrhenatherum elatius*.



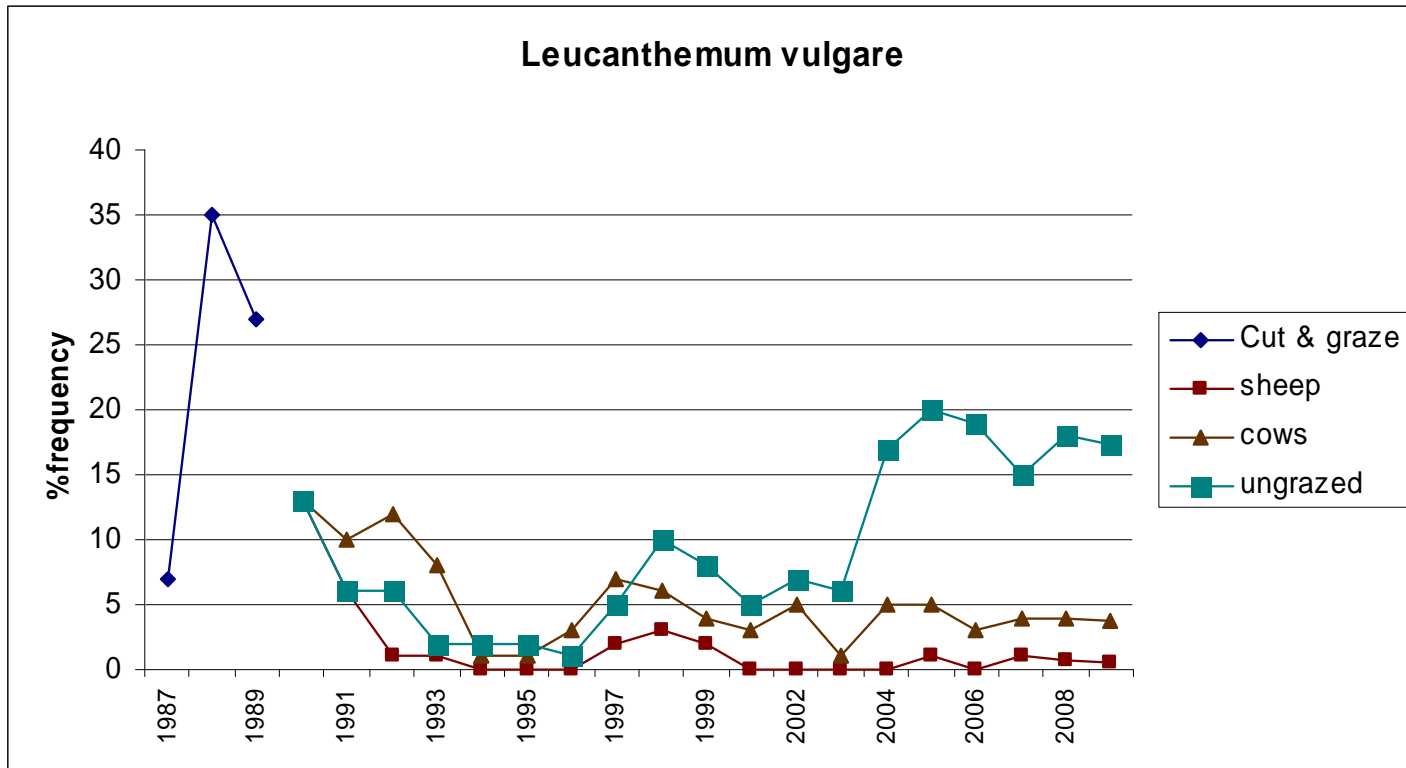
Grazing is more important to the frequency of *Lolium perenne* than cutting alone.



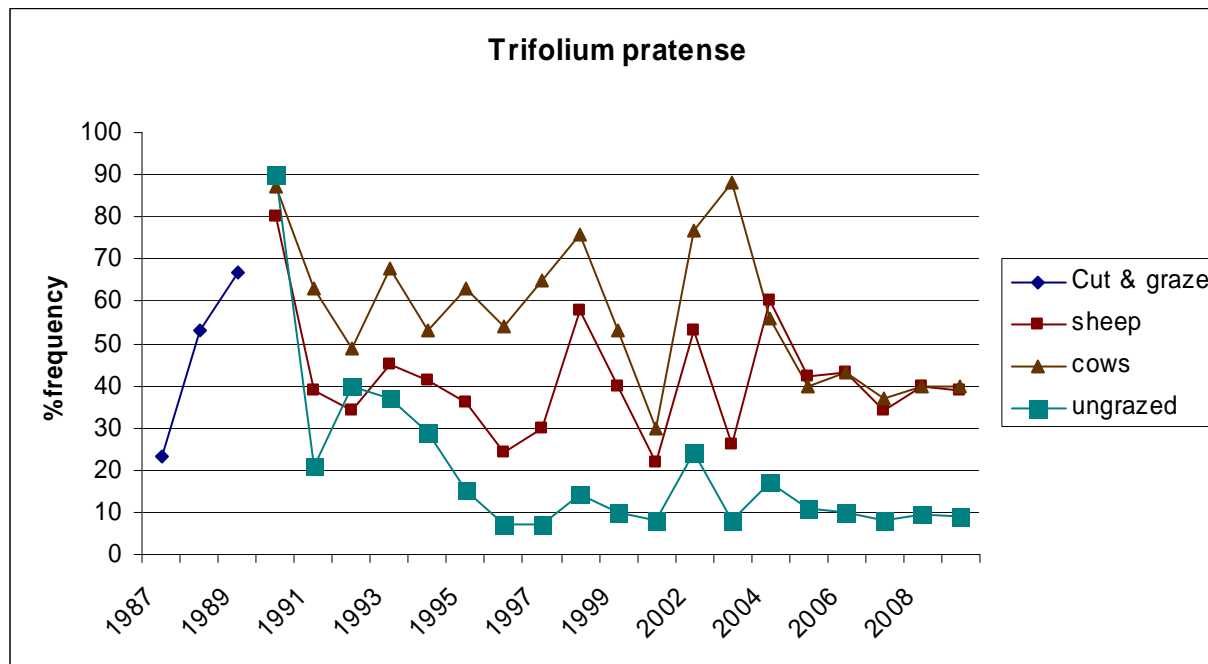
Ranunculus acris is avoided by grazing animals.



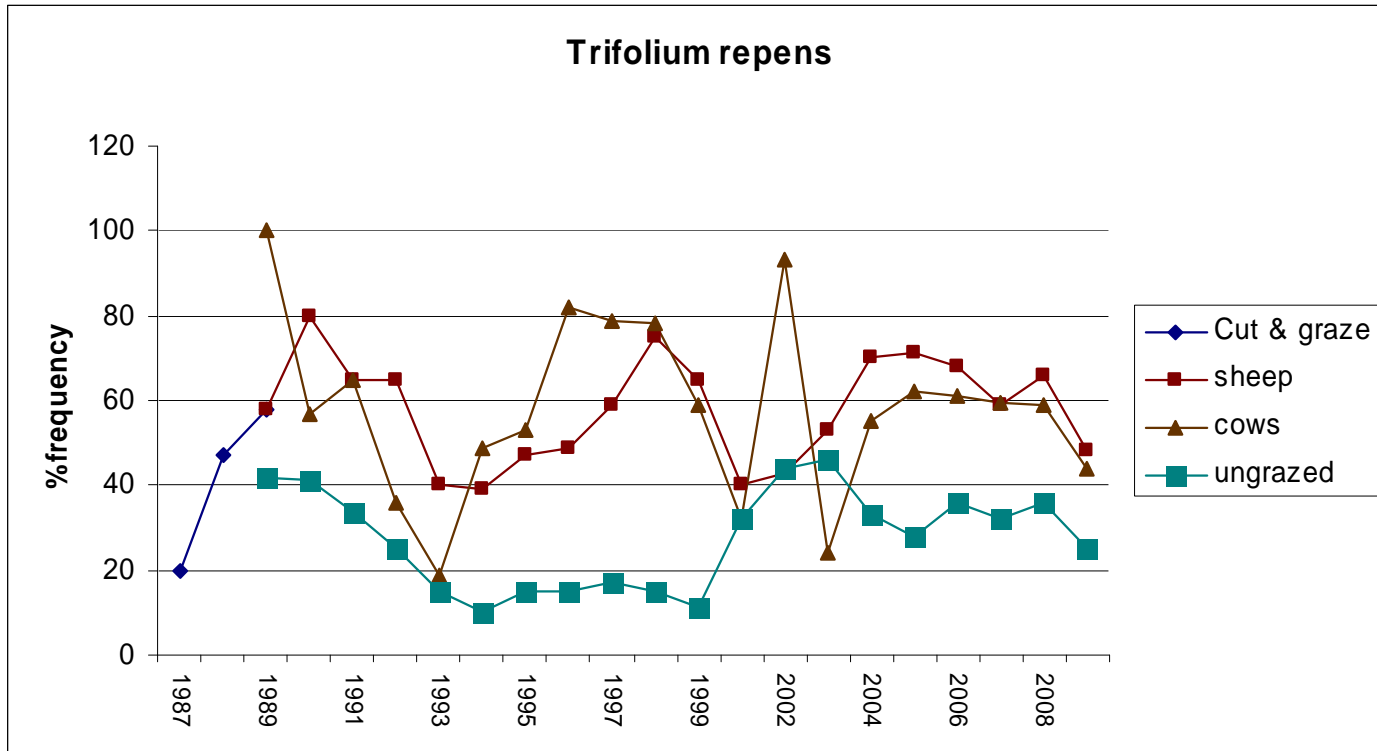
*Although **Leucanthemum vulgare** germinated well its %frequency diminished after 1990.*



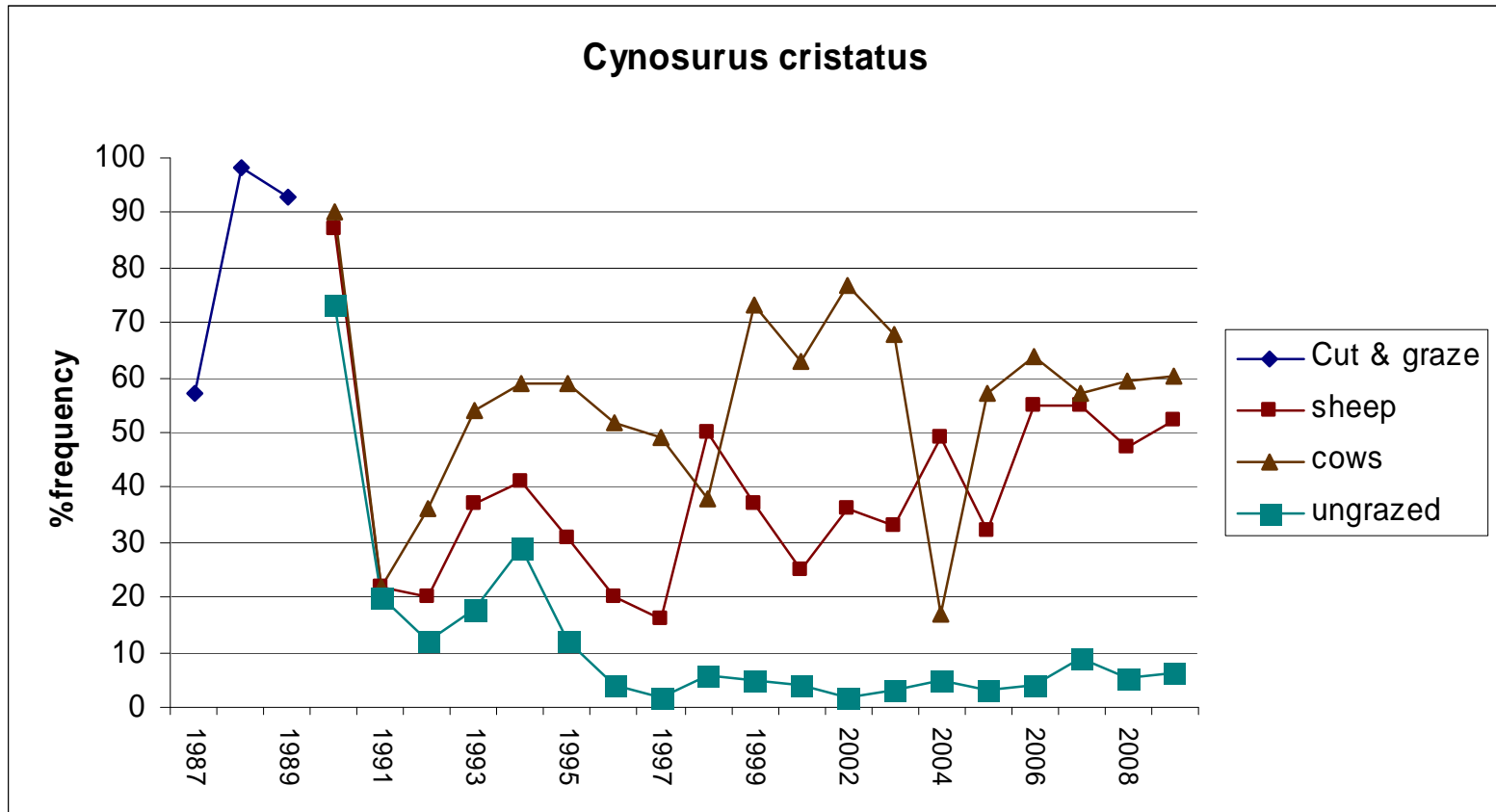
The %frequency of *Trifolium repens* fluctuated in all treatments from 1990 – 2005 and then remained relatively stable.



The %frequency of *Trifolium repens* also fluctuated but on a slower cycle.



Germination was also good for *Cynosurus cristatus* but succession developed after 1991.



ACKNOWLEDGEMENTS

- I thank the University of Oxford's Departments of Agriculture and of Plant Sciences, the University Field Station and Food Animal Initiatives' Staff,
- the University of Groningen, the Hamamelis, Cecil Pilkington and Oxford Preservation Trusts, the Department of the Environment, Food and Rural Affairs and many volunteers for supporting this work.
- I acknowledge the helpful discussions with Jan Bakker, Roger Hall, Richard Jefferson, Jerry Tallowin and, particularly Ben Woodcock who also produced the graph.