

# Dales Heritage

Projects, people and places in  
and around the Yorkshire Dales

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# Dating the Dales' hay meadows

Upland hay meadows are a key part of the cultural landscape of the Yorkshire Dales. Their history is closely linked with the hay meadow / field barn system. From the sixteenth century small dairy farms making butter and cheese from cows' milk spread throughout the dales. The milking cows were kept inside over winter in stone barns from the beginning of November to early May, and so needed hay for fodder for nearly six months of the year. The need for more hay to feed growing numbers of overwintering dairy cattle resulted in a significant increase in the area of hay meadow in the Yorkshire Dales. Market opportunities associated with growing urban and industrial populations as well as the colder winters of the Little Ice Age (from around 1600 to 1900) were crucial factors driving these changes.

The repetitive annual cycle of meadow management - grazing by lambing sheep in the spring followed by a shut up period to let the grass grow from mid-May to early July ready for cutting to make hay in late summer - coupled with relatively low nutrient inputs developed a sward which is floristically rich and of high conservation and aesthetic value. Surprisingly, little is known regarding the age of these swards and how differences in management histories before the Second World War affected their present day floristic composition. Why is it important to know the age of the meadows? Unlike more recent intensive grasslands, upland hay meadows can be very biodiverse in terms of flora and fauna. How stable is this biodiversity and how does it develop over time? This knowledge can inform meadow restoration programmes and future management practices.

Recently it has been shown that a study of creeping buttercup *Ranunculus repens* L. in meadows might provide useful information regarding meadow age. *R. repens* is a clonal perennial that occurs in a wide range of environmental conditions and is also a notorious weed of disturbed habitats. Ramet production by generations of stolons produced year after year are not perfect copies of the parent plant. In particular, flowers are produced with more than the usual five yellow petals. It has been suggested that the proportion of creeping buttercup in a meadow with more than five petals is a surrogate for the stability of the sward ie the time since the meadow was last disturbed (ploughed up, scarified, reseeded or fertilised in some way). Disturbance re-sets the biological 'clock'. Estimates of the age of a meadow and age of its associated barn should be very similar if there has been no re-building or treatment of the sward.

In order to test the idea in the Dales we need to build up a database for statistical analysis. If you know of any well-dated hay meadows (ie time since last disturbed) we would like to hear from you. Please provide an O.S. grid reference and estimated age since the meadow was last disturbed. Photos welcome.

**Tom Lord**  
(Hon Res Fellow, Centre for North West Regional Studies  
- Lancaster University)  
[tomlord@daelnet.co.uk](mailto:tomlord@daelnet.co.uk)  
**Dr Peter Vincent**  
(formerly Senior Lecturer, Lancaster University)  
[peterjohn.vincent@gmail.com](mailto:peterjohn.vincent@gmail.com)



*A hay meadow in early summer with its associated field barn © YDNPA*