Bedfordshire
Cambridgeshire
Northamptonshire

Thistle Control in Grassland


Spear thistle

Creeping Thistle *Cirsium arvense* & Spear Thistle *Cirsium vulgare* control in grassland

Whilst all plants have a value to wildlife, some can become very invasive in grassland, such as thistle, ragwort, dock nettle and even rush on wetter sites. In large infestations they can out-compete other species or make management such as hay cuts impractical and the hay unsaleable. Indeed both spear and creeping thistle are classified injurious weeds under the Weeds Act 1959, under which it is the landowner's responsibility to control them and prevent their spread.

Within species rich grassland, control of thistles is not necessarily about total elimination but about achieving a sensible and manageable balance using methods of control that do minimum damage to other wildlife interests.

Thistle Control

Creeping Thistle It rarely propagates itself by seed (the fluffy heads often have no fertile fruits). Instead, its root propagation is very efficient; fragments of a rhizome can remain dormant in the soil for years and then appear when there is a gap in the sward. A small cutting can spread into a 20m patch in just two years.
Spear Thistles they depend on wind dispersal of the seeds with the seeds usually falling to earth in the first 40 m.


Fluffy head (pappus) on creeping thistle

Control Options

Prevention is better than cure – aim to maintain a well managed sward without gaps. Avoid over grazing (especially in winter) and poaching which opens up gaps in the sward into which thistles can spread. Thistles are generally not a problem on damp grassland.
Timing of thistle control is crucial and the method used will vary according to the site. No control strategy should rely on herbicide use alone and needs to be integrated, particularly with good grazing practice and mechanical topping if it is to be effective (see Table 1).


Goldfinch

Thistles for Wildlife

The goldfinch is the bird most commonly associated with thistles, the seeds of which make up one third of its diet. Greenfinch, siskin, linnet, twite and redpoll also feed on the seeds.
Butterflies including painted lady feed on the leaves. Other butterflies such as the white letter hairstreak, peacock and meadow brown use thistles as a nectar source.
Other invertebrates including bees feed on nectar and use the micro-habitats created in and on thistles. The stem is particularly important as an over-wintering habitat for insects.

Table 1. Summary of thistle control methods

Method of thistle control	Suitable situation	Objective
Cutting By tractor-mounted cutter, scythe or strimmer	Where infestations of creeping or spear thistle are small, bird nesting is not an issue, equipment and labour are available and where total control is neither desirable nor necessary	Timing of the cutting is crucial. This should take place just before the flower head turns purple, as this is when the maximum reserves from the thistle roots are being used to produce seed. Remove cuttings to prevent seed ripening
Mechanical Control with 'thistle spear' or spade	For spear thistle **only** – this method simply encourages spread with creeping thistle	Digging out the root or destroying the rosette can be very effective with spear thistles
Spring grazing	As part of a combined approach with herbicide applied with weed wiper (see box in bottom left for more information) – on its own it can exacerbate the problem	Spring graze quite hard to reduce the vigour of the sward and create a significant height difference in the sward to avoid accidental application to non-target species.
Spot Herbicide treatment with knapsack sprayer	Suitable where infestations are very concentrated or where spray drift is unlikely to damage other broadleaved plants	Best in May or June well before the flower has developed. Repeat application to established creeping thistles is usually necessary.
Weed-wiper herbicide treatment This techniques brushes herbicide directly onto the weed leaf ensuring that only the target weeds are treated and that herbicide is not wasted on the rest of the field where not required and where damage to the non-target species could be devastating. These can be hand held or tractor mounted.	Suitable for sensitive and badly infested sites - *only use* if unavoidable. Apply herbicide before plants are in flower.	The herbicide should be applied only when a sufficient height differential exists between the sward and the target weed(s) to avoid accidental application to non-target species. Hard spring grazing can achieve this height difference in the sward. Take advice on herbicides approved for use near water. Optimum timing is when the thistles are well grown above the surrounding vegetation, but before flowering. Repeat applications over summer – two passes in opposite directions are recommended.

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Other thistle species NOT prescribed in the Weeds Act 1959

The species listed below - unlike spear and creeping thistle - do not tend to dominate sites and their presence usually signifies a good quality habitat:

Marsh thistle (*Cirsium palustre*) biennial found in marshes and other damp areas. More closely resembles spear thistle than creeping thistle.

Welted thistle (*Carduus acanthoides*) biennial of stream-sides and damp hedgerows. Small flower heads.

Dwarf thistle (*Cirsium acaule*) stemless perennial thistle with a solitary flower head found on short and chalk grassland.

Musk thistle (*Carduus nutans*) annual or biennial plant of short chalk grassland. Large flowering heads are usually solitary and drooping.


Musk thistle


Dwarf thistle

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