DLF FORAGE ACADEMY

Weed control in Grassland

Creeping Thistle
Cirsium arvense

Left: Creeping Thistle re-growth from old roots

Right: Creeping Thistle from seed

Note difference in leaf shape and also in root

Creeping thistle
Cirsium arvense

Creeping Thistles connected by their underground root system (rhizomes).

Creeping thistle
Cirsium arvense

Creeping Thistle is a perennial plant and grows mainly from an underground stem or rhizome and this makes total control difficult with one spray. Yield losses of up to 15% have been recorded but they cause most damage by preventing animals grazing around them.

Frequent topping can reduce the root reserves but will seldom eradicate the problem as root fragments can lay viable and dormant for years. This weed is best sprayed with Thisltlex, Forefront, MCPA or 2, 4-D in June before flowering and may need a second treatment later in the season to control any late shooting thistles. In a reseed, both root fragments and seed can cause an explosion of creeping thistles.

Common chickweed
Stellaria media

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Common chickweed is an annual weed (lives for one year) and only spreads by seed.

However, it can germinate and set seed throughout the year making it seem a perennial weed (lives for many years). It is a low ground hugging weed and its fast growth allows it to become established especially after re-seeding. It has been shown to reduce silage yields and quality in trials.

The key to its effective management is to get the grass sward established rapidly to smother out the chickweed (and other annuals). Late sown and poorly established re-seeds are likely to have chickweed problems. In old pastures there are many excellent chemical options available but the ‘holes’ left after killing the chickweed are ideal for more seeds to germinate, continuing the problem.

Spear thistle
Cirsium vulgare

Left: year 1 spear thistle (will not flower)

Right: year 2 spear thistle (will die after flowering)

Spear thistle
Cirsium vulgare

Spear Thistle only spreads by seed. Each plant lives for 2 years (like ragwort) producing a flatted rosette of leaves in year one and then the familiar ‘tree-like’ structure in year two.

Once controlled in the re-seed, it is rarely a problem in grazed fields except after poaching or other sward damage. Topping is not effective to control the growth in year one but can be carried out on the second year growth before seed is set. Chemical control options are the same as for Creeping Thistle.

Broad-leaved dock
Rumex obtusifolius L.

Broad-leaved dock
Rumex obtusifolius L.

Docks. Best control of docks will be achieved in good growing conditions when docks are actively growing and nutrients are actively being transported to new foliage and roots. If seed stalks are seen on the plant or if the dock has diseased leaves or is under pest attack it is better to cut/top or graze and allow re-growth of the docks before applying chemical.

Do not apply chemicals in a period of drought as the chemical will not be taken up by the plant leaves in sufficient quantities. Use the highest water rates on the manufacturer's label for best effects. Allow adequate time between spraying and cutting silage for the herbicide to work.

Creeping buttercup
Ranunculus repens

Dandelion
Taraxacum officinale

Left: Untreated field (70 %grass yield of treated field)

Right: 2.0 l/ha Starane applied mid March

Dandelion
Taraxacum officinale

Dandelions are a perennial weed with a deep taproot. They primarily spread by seed and can reduce the overall value of the pasture if allowed to establish.

In small amounts, MCPA or 2,4-D will keep them at bay but where long term control is required the aminopyralid/Fluroxypyr/dicamba/CMPP based sprays are best if applied in the summer or early autumn.

Soft rush
Juncus effusus

Soft rush is the most common of the many rush species. Draining of such infested areas is essential if any herbicide programme is to be successful. Soft rush can be controlled with MCPA or 2, 4-D applied in June or July when growth conditions are good.

Cutting and removal of the rush about three weeks before spraying will give the best results. A wetting agent can improve the spray sticking to the slender rush ‘target’.

Perennial (stinging) nettle
Urtica dioica

Perennial nettle tends to grow in clumps in pasture and can prevent grazing. The growth pattern of this weed makes it an ideal target for spot treatment with some of the triclopyr/Fluroxypyr/aminopyralid based products.

If the clumps are small and not too dense some of the dicamba /CMPP based products will also contain them if sprayed on a regular basis. High water volumes (400 l/ha) are essential when spot treating. Treat before seed production for best effects.

Ragworth
Jacobaea vulgaris

Ragwort is poisonous in the green and preserved state and has been responsible for many animal fatalities. Normally it is not eaten in pasture where it takes up to 12 % of the animal's body weight to cause problems but where present in finely chopped silage it becomes far more potent and the natural animal selectivity is reduced so serious fatalities can occur.

It becomes more palatable to animals when cut or sprayed, as it releases sugars. Any control strategy should be based on the fact that Ragwort is a biennial (lives for 2 years) and also that just because you killed it with a spray does not mean it cannot harm livestock.

Small numbers of ragwort can be effectively pulled or dug up and safely removed. For larger numbers, sprays such as MCPA, 2, 4-D, Dicamba and Forefront provide good control but measures must be taken to avoid stock eating any dying or dead ragwort present.

Ragworth
Jacobaea vulgaris

Weed control
Use of herbicides in Grassland

- All use of herbicides (and other pesticides) is regulated and may vary from country to country – both as far as permissions and recommendations are concerned
- The same chemical may be sold under different tradenames in different countries
- It is neccessary to respect the local recommendations when using pesticides – here are some links to websites in various countries:

- France: https://ephy.anses.fr/
- Denmark: https://www.landbrugsinfo.dk/planteavl/plantevaern/plantevaern-online/sider/startside.aspx (login needed)

Herbicides for grassland weeds – except docks

HERBICIDES FOR GRASSLAND WEEDS

Weed	Latin	Herbicides*	Dose	Remarks
Ragwort	*Senecio sp.*	2,4-D	3.3 L/ha	Keep stock off until all
		MCPA	3.3 L/ha	ragwort is decayed and
		2,4 D + MCPA	4.0 L/ha	animals cant graze it
		2,4 D + dicamba	3.5 L/ha	
		Aminopyralid + triclopyr	2.0 L/ha	
Thistles	*Carduus sp.*	MCPA	3.3 L/ha	Apply in warm weather.
		2,4 D + MCPA	4.0 L/ha	
		Triclopyr+fluroxypyr+clopyralid	4.0 L/ha	Apply when thistles at
		Clopyralid + triclopyr	1.0 L/ha	25cm tall or across.
		Aminopyralid + fluroxypyr	2.0 L/ha	
Nettles	*Urtica sp.*	Dicamba+triclopyr+2,4 D etc.	2.0 to 3.0 L/ha	Spray in good conditions.
		Fluroxypyr (Starane)	2.0 L/ha	Use 400 l/ha water.
		Aminopyralid + triclopyr	2.0 L/ha	
Rushes &	*Juncus sp.* &	MCPA or 2,4-D	3.0 to 7.0 L/ha	Cut and remove rushes
Buttercups	*Ranunculus*			before spraying regrowth
Ferns	Botanical group:	Asulox*	11.0 L/ha	Apply in mid July to mid
	Pteridophyta			August.
		Glyphosate	5.0 L/ha	

**Only active ingredients are mentioned. Check labels on commercial products authorized in your region.*

Herbicides for dock control in established grassland

HERBICIDES IN ESTABLISHED GRASSLAND			
Clover Safe	**Chemical**	**Rate/Ha**	**Comment**
Yes	Amidosulfuron 75%	40-60 g	Controls both broad leaf and curled docks. No effect on clover. Should not be used in very dry weather. Costs €33 to €49/ha
Yes	Asulam Thifensulfuron-Methyl	2.8 L 15g sachet	Does not affect Clover but may retard grass growth in certain conditions. Allow 7 days after application of Prospect before cutting or grazing. Price range €28-44/ha
No	Fluroxypyr 2,4-D (ester) Dicamba	2 L	Wide range of grassland weeds controlled including Docks, Thistles, Buttercups, Dandelions and Ragwort.
No	2,4-D Dicamba Triclopyr	4-5 L	Apply June - September. €100/ha
No	Fluroxypyr Aminopyralid	2.0 L	Apply at rosette stage. Also controls a wide range of weeds incl. thistles, nettles, ragwort etc. €75/ha. Should be applied on grazing ground only.

Herbicides for dock control in established grassland

HERBICIDES FOR DOCK CONTROL IN ESTABLISHED GRASSLAND

Clover Safe	Chemical	Rate/Ha	Comment
No	Triclopyr + Fluroxypyr	3.0 L or 1.5x2 (300-400 L water)	Good spectrum of weeds. Apply May-September. Apply four weeks pre-cutting silage. Affects Clover. Good suppression at reduced rate. Costing €76/ha at full rate, two applications of half rate, spring and autumn more practical.
	Triclopyr + Fluroxypyr + Clopyralid	3.0-4.0 L (300-400 L water)	Pastor also contains clopyralid. It is recommended at 3L/ha for nettles and 4L/ha for Docks and thistles. Costs €88/ha at the 4L/ha rate for docks.
No	Fluroxypyr	2.0 L	Controls Dandelions, Nettles and established Docks. Cost €30+/ha at 2 L rate
No	Dicamba + CMPP-P	1.25 L	Controls broadleaf and curled Docks as well as other species. Price range €30 +/ha
No	Dicamba + CMPP-P	5.0 L	€73/ha. Includes a higher rate of Dicamba
No	Metsulfuron methyl (with safeners)	3g/ha	One tablet to 2.5ha. Use as late season control Cost €13.40/ha (€5.40/ac)
No	2,4-D + MCPA	4.0 L	Controls broadleaf and curled Docks and a wide range of weeds incl. Ragwort, Buttercup,Nettles, Thistle etc
No	Dicamba + 2,4-D	3.5 L	Includes high rate of Dicamba and 2,4-D. Controls broadleaf and curled Docks and a wide range of weeds incl. Ragwort, Buttercup, Thistle etc