

Department for Environment, Food and Rural Affairs

# Guidance note on the methods that can be used to control harmful weeds

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## Introduction

1. This note provides guidance on the methods which can be used to control the five injurious (harmful) weeds specified in the Weeds Act 1959.

2. The five weeds covered by the Weeds Act are:

- Spear thistle (*Cirsium vulgare*)
- Creeping or field thistle (*Cirsium arvense*)
- Curled dock (*Rumex crispus*)
- Broad leaved dock (*Rumex obtusifolius*)
- Common ragwort (*Senecio jacobaea*)

Further guidance on the [identification of injurious weeds](#) is available.

3. Primary responsibility for weeds control rests with the occupier of the land on which the weeds are growing. However, under the Weeds Act 1959 Defra can take action where there is a risk of injurious weeds spreading from neighbouring land. Further information on these responsibilities is contained in the Defra leaflet "The Weeds Act 1959 - Preventing The Spread of Harmful Weeds", which is available from Defra publications (see paragraph 28).

## Control methods - general guidance

4. Injurious weeds can be controlled using a number of chemical or cultural means. Care should be taken to choose the most appropriate method for the specific circumstances of each site. This applies particularly to sites of special conservation interest where control of the injurious weeds may risk damaging rare or valuable flora and fauna. In these situations expert advice should be sought before any action is taken.

## Use of herbicides

**Note: This document is kept under review as the continuing validity of the herbicide recommendations could change. Please check the Defra website to ensure that you have the most up to date version.**

5. The application of herbicides is subject to regulations which must be observed when using these products. These are summarised in **The Code of Practice for the**

**Safe Use of Pesticides on Farms and Holdings [PB3528].** This Code is available from [Defra Publications](#).

6. Instructions for use including operator and environmental protection, the crops or plants on which the product may be used, maximum dose, harvest interval and other details are shown **on the product label**. Each time a product is used you must **read the label and follow the instructions**. Some products are only available to operators who hold a certificate of competence as recognised by the Department for Environment, Food and Rural Affairs.

## **Non-selective herbicide treatment**

7. Control of injurious weeds can be undertaken using a non-specific herbicide such as glyphosate either as an overall spray or using a height selective applicator or spot treatment. Non-selective herbicides must be used with care to ensure that non-target vegetation is not damaged.

## **Selective herbicide treatment**

8. Injurious weeds can be controlled using selective herbicides. Although most products are generally used as an overall spray, some can also be applied through a selective height applicator or as a spot treatment to improve their selectivity.

9. Paragraphs 18 to 27 describe the most favoured active ingredients for the control of each injurious weed specified under the Weeds Act 1959. These active ingredients may be available alone or in mixtures with other chemicals and qualified advice should be obtained to determine the most appropriate product especially when mixed populations of weeds occur.

## **Ragwort control**

10. Common Ragwort (*Senecio jacobaea*) is the only ragwort species specified in the Weeds Act 1959. Other species of *Senecio* are not so widespread as common ragwort. Flowering is from late June onwards to early autumn when the characteristic yellow inflorescences usually extend between 30-100 cms in height.

11. Ragwort occurs in neglected grass fields, on uncropped ground and sand dunes. It prefers light soils of low fertility, particularly in over or under-grazed pasture.

Common ragwort is biennial when undisturbed but can develop perennial characteristics following cutting or treading.

12. Ragwort is a potential killer. It is poisonous to livestock. Eating ragwort can lead to liver damage which cannot be treated. Cattle and horses are particularly susceptible to poisoning by common ragwort but sheep are also susceptible. Palatability of the weed increases when plants are conserved in hay or silage or treated with herbicide. An added problem is that livestock cannot easily reject fragments of ragwort in conserved herbage and its poisonous alkaloids are unaffected by the conservation process. Dried and dying ragwort is also dangerous because it is more palatable to livestock than the living plant. It is important, therefore, to ensure that before animals are allowed to graze, ragwort plants are removed or have completely disappeared after using control techniques.

13. Prevention is the best form of control. Good pasture management which keeps the grass sward tight will minimise the chance of ragwort establishing. Further information on pasture management and control techniques can be obtained from the organisations listed at Appendix 1. In addition you should encourage neighbouring landowners to control ragwort to prevent seed spreading which will in turn, reduce the likelihood of seed germination.

14. If your land is affected by ragwort there are a number of control options available to you. The most suitable method of control will depend on your personal circumstances and how far time or cost are limiting factors. To be successful all control methods must be accompanied by improved grassland management. There is no right or wrong approach. Each method has its advantages and disadvantages.

## **Ragwort control methods**

15. Where short-term action is undertaken to clear existing plants, reinfestation will be rapid unless overall husbandry is improved, particularly for uncropped ground and grassland.

### **Cutting**

16. Cutting and stem removal at the early flowering stage reduces seed production but does not destroy the plant. Cut plants left lying in the field are a serious risk to grazing animals and may still set seed. These should be removed and burned within [The Code of Practice for the Protection of Air](#).

## **Pulling (and digging)**

17. Pulling or digging can also prevent seed spread but may not give long-term control. Plants should be removed and burned within the [Code of Practice for the Protection of Air](#).

## **Herbicides**

18. No single herbicide treatment will completely eliminate a ragwort infestation due to successive germinations of the weed. Treatment with selective herbicides can be made to the plant rosettes usually late spring and in the autumn before frost damages the foliage. The most effective material for overall spraying is 2,4-D\* but this will damage clover and a number of other plant species. Products containing citronella oil\* are now available for spot treatment of ragwort.

## **Spear thistle control**

19. Spear thistle (*Cirsium vulgare*) occurs widely on lowland and upland grassland and waste places. The weed competes effectively with crops for water, light and nutrients. It is biennial and only spreads by seed. Mature plants are normally 30-50 cm tall, with flowers from July through to late autumn. Large numbers of seeds are produced which can be blown by wind across farm and field boundaries.

20. The plants can be cut each year before mid-July to prevent shedding of viable seed. It is also possible to remove them by digging. Long-term control is possible using herbicide treatment; spear thistle is susceptible to clopyralid\* and moderately susceptible to MCPA\* herbicides. Where clover is an important constituent of the sward, a mixture of MCPA\* and MCPB\* herbicides is more appropriate.

## **Creeping or field thistle control**

21. Creeping thistle (*Cirsium arvense*) can quickly dominate vegetation in grassland or waste ground. The weed forms dense patches, which suppress crop plants. Mature plants extend 30 - 100cm in height, with flowers from July into late autumn each year. The plants produce only a few viable seeds which can be blown by wind. However, invasion is more often by spread of the plants' underground root systems.

22. Cultivation is not an effective means of control as the number of root pieces which can throw up new shoots is increased. Control on arable land therefore is usually by use of a range of herbicides depending on the field crop grown.

23. On grassland, cutting at flower stem extension but before opening of the flower buds will prevent seed spread for a particular season. Repeated cutting at the same growth stage over several years may "wear down" an infestation.

24. MCPA\* herbicide applied during the early bud stage will kill the aerial parts of the plant, but repeat treatments the following year may be necessary for complete control. One application of the herbicide clopyralid\* is normally sufficient to achieve an acceptable level of control.

## Broad-leaved dock and curled dock control

25. Broad-leaved dock (*Rumex obtusifolius*) thrives in high nitrogen environments, open swards and where there is heavy treading by stock. Curled dock (*Rumex crispus*) occurs more commonly on arable and waste land.

26. Both species produce many seeds which can remain viable in soil for decades. Buds on pieces of tap-root broken by soil disturbance or treading will produce new plants. The two species are similar in appearance but leaf shape differs, as reflected in their names. Hybrids are common between the species and this can hinder identification. Flowering for both species is from late June until early autumn with inflorescences reaching over 100 cm in height.

27. Herbicides can be used to control these species as follows:

Broad-leaved dock	
Seedlings:	MCPB* mixture for grass clover reseeds.  Mecoprop* or MCPA* alone or in mixtures for grass reseeds without clover.
Established:	Asulam* for grassland with clover  Fluroxypyr*, dicamba*, 2,4-D*, triclopyr*, or thifensulfuron* for grassland without clover.

Curled dock	
Seedlings:	MCPB* for grass clover reseeds.  Mecoprop* or MCPA* for grass reseeds without clover.
Established:	Asulam* for grassland with clover.  Fluroxypyr*, 2,4-D*, dicamba*, MCPA*, mecoprop* or triclopyr* for grassland without clover.

\* **Note:** Herbicides are referred to by active ingredient not product name.

## **Appendix 1: Sources of technical advice on weed control and pasture management**

### **ADAS**

(Provide chargeable consultancy advice on weed control)

ADAS

Woodthorne

Wergs Road

Wolverhampton

WV6 8TQ

Tel: (0845) 7660085

### **Association of Independent Crop Consultants ( AICC)**

(provide chargeable consultancy advice on weed control)

AICC

Agriculture House

Station Road

Liss

Hants

GU33 7AR

Tel: (01730) 895354

**Aquatic Plant Management Group**

(Control of injurious weeds in or near water)

Aquatic Plant Management Group  
Centre for Ecology and Hydrology  
CEH Wallingford  
Maclean Building  
Crowmarsh Gifford  
Wallingford  
Oxon  
OX10 8BB

Tel: 01491 838800

Fax: 01491 692430

**Crop Protection Association**

(Member companies can supply technical literature)

Crop Protection Association  
4 Lincoln Court  
Lincoln Road  
Peterborough  
PE1 2RP  
Tel: (01733) 349225  
Fax: (01733) 562523

**English Nature**

(Management of mixtures of rare or unusual plants with injurious weeds)

Headquarters: English Nature  
Northminster House  
Northminster Road  
Peterborough  
PE1 1UA  
Tel: (01733) 455000  
Fax: (01733) 568834

**Henry Doubleday Research Association**

(Organic gardening, including weed control)



HDRA - Advisory Department  
National Centre for Organic Gardening  
Ryton-on-Dunsmore  
Coventry  
CV8 3LG  
Tel: (024) 76303517  
Fax: (024) 76639229

**Machinery Rings Association**

(Co-operative Supply of Machinery and Labour)

Wood Street Farm Cottage  
Catfield  
Great Yarmouth  
Norfolk  
NR29 5DF  
Tel: (01629) 582276  
E-mail: [s.roberson@farming.co.uk](mailto:s.roberson@farming.co.uk)

**National Association of Agricultural Contractors**

(Member companies in Agricultural Section and Industrial and Amenity Section)

National Association of Agricultural Contractors  
Samuelson House  
Paxton Road  
Orton Centre  
Peterborough  
PE2 5LT  
Tel: (01733) 362920  
Fax: (017330) 362921

**Organic Advisory Service**

(Organic farming (including horticulture) and weed control)

Elm Farm Research Centre  
Organic Advisory Service  
Hamstead Marshall  
Newbury  
Berkshire

RG20 0HR

Tel: (01488) 657600

Fax: (01488) 658503

**United Kingdom Agricultural Supply Trade Association (UKASTA)**

(Member companies supply and distribute agrochemicals)

UKASTA Ltd

3 Whitehall Court

London

SW1A 2EQ

Tel: (020) 7930 3611

Fax: (020) 7930 3952

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