

Code of Practice to Prevent the Spread of Ragwort

**Final Code
Draft V3**

Contents

Code of practice	Page	Para
Scope	1	1
Introduction	1	2 - 4
Legal framework	1	5- 7
Responsibilities to control the spread of ragwort	2	8 - 10
Assessing the risk posed by ragwort	3	11 -12
Action to be taken by owners of livestock	4	13
Action to be taken by producers of conserved forage	4	14
Action to be taken by owners / occupiers of land	4	15
Control methods	5	16
Control policies	7	17 – 20
Local Control Strategies	7	21
Advice	8	22 - 23
Enforcement	8	24 - 25
Appendix 1 – Pasture Management		
Pastures	10	1 – 5
Uncultivated or semi-natural areas	11	6 – 7
Appendix 2 – Biology and Identification		
Introduction	13	1
Biology	13	2 - 3
Distribution	13	4
Habitat	14	5
Other species of ragwort and similar plants	14	6
Identification	14	
Appendix 3 – Control techniques		
Introduction	16	1 - 3
Grazing	18	4
Cultural	18	5
Avoiding bare ground	20	6
Pulling and levering	20	7 - 8
Cutting	20	9 - 10
Burners	20	11 -12
Chemical	21	
– Use of herbicides	21	13 - 17
– Legal restrictions	22	18 - 21
- Grazing restrictions	22	22 - 23
– Environmental restrictions	23	24
- Methods of application	23	25 - 27
- Training and certification of spray operators	23	28
- Environmental safety	24	29 - 31
Biological	26	32 - 33

Appendix 4 – Particular categories of land		
Introduction	27	1
Set-aside	27	2
Organic farming	27	3
Agri-environment schemes	27	4
National Nature Reserves (NNR), Sites of Scientific Interest (SSSI) and other statutorily designated wildlife sites	28	5 – 8
Non-statutorily designated wildlife site/sites with nature conservation interest	28	9
Scheduled monuments	29	10
Common land	29	11
Other Land used for grazing	29	12 - 13
Forage production	29	14 - 15
Amenity grassland	30	16
Highways	30	17 - 19
Railways	31	20 - 22
Aquatic areas	31	23
Woodland/forestry	32	24
Development, waste and derelict land	32	25
Defence land	32	26
Bridleways	32	27
Appendix 5 – Disposal		
Disposal	33	1 - 3
Appendix 6 – Safety guidelines		
Handling ragwort plants	34	1 - 2
Operator safety	34	3 - 9
Prior authority	35	10
Use of herbicides	36	11
Appendix 7		
Government Departments, Agencies and Statutory Authorities	37	
Appendix 8		
Useful publications	39	
Appendix 9		
Sources of technical advice on ragwort control	40	

Code of Practice to Prevent the Spread of Ragwort

Scope

- 1 This code applies to Common Ragwort (*Senecio jacobaea*) and all subsequent references to “ragwort” in this code refer to “common ragwort”. This code applies to England only (although a separate code applies in Wales).

Introduction

- 2 Ragwort is a native species of the British Isles. It is a specified weed under the Weeds Act 1959. It contains toxins which can have debilitating or fatal consequences, if eaten by horses and other grazing animals. Ragwort is less likely to be rejected by stock if dried and contamination of forage (hay, haylage and silage) is a particular problem. Humans may be at risk from ragwort poisoning through direct contact (e.g. hand pulling) or the consumption of contaminated food. Research undertaken for the Government in the 1990s suggested that, the risk to human health in the UK through the contamination of staple foods i.e. grain, milk, eggs and honey is likely to be insignificant.
- 3 This code does not seek to eradicate ragwort. Ragwort, as a native plant to the UK, supports a wide variety of invertebrates and is a major nectar source for many insects and in many situations ragwort poses no threat. It is a natural component of types of unimproved grassland. However it is necessary to prevent its spread where this presents a high risk of poisoning horses, livestock or contaminating fields used for the production of forage. A control policy should be put in place where a medium risk is identified.
- 4 Ragwort is a highly successful species and in certain situations it can be difficult to control particularly where it has not been effectively managed for a number of years. As a result it might be necessary to use a variety of control methods over an extended period to reduce problem infestations to a manageable level.

Legal framework

- 5 Under the Weeds Act 1959 the Secretary of State for the Environment, Food and Rural Affairs can, if satisfied that injurious weeds are growing upon any land, serve a notice requiring the occupier to take action to prevent the spread of those weeds. An unreasonable failure to comply with a notice is an offence. The Weeds Act applies to¹:
 - Common Ragwort (*Senecio jacobaea*);

¹ The Secretary of State is empowered to add to this list if necessary

- Spear Thistle (*Cirsium vulgare*);
- Creeping or Field Thistle (*Cirsium arvense*);
- Curled Dock (*Rumex crispus*);
- Broad-Leaved Dock (*Rumex obtusifolius*).

The Weeds Act 1959 enables Defra to investigate complaints where there is a risk that injurious weeds might spread.

- 6 The Ragwort Control Act 2003 gives this code evidential status in any proceedings taken under the Weeds Act 1959. This means that a failure to follow this code is not an offence but non-compliance may be used as evidence in any legal action. Equally, owners/occupiers should be able to establish a defence if they can demonstrate that they have adopted control measures that comply with this Code.
- 7 The provisions of the Weeds Act only apply to Common Ragwort and do not apply to other ragwort species. Other species of ragwort may be equally toxic to horses or other livestock. However some species, such as Fen Ragwort, are protected. Obligations under SSSI designations or other land management agreements must also be considered and discussed with the appropriate authorities (see Appendix 4) before control action is initiated.

Responsibilities to Control the Spread of Ragwort

- 8 Responsibility for control rests with the occupier of the land on which ragwort is growing. This responsibility applies to ragwort and the other weeds specified under the Weeds Act. When seeking to prevent the spread of ragwort it is expected that all landowners, occupiers and managers will co-operate and, where necessary, take a collective responsibility for ensuring that effective control of the spread of ragwort is achieved.
- 9 The most effective way to prevent the spread of ragwort is to preclude its establishment through strategic management rather than last minute control. In managed grasslands, good pasture management will minimise the chance of Common Ragwort establishing itself. In amenity areas, highway verges, railway land and woodland, any activities which cause disturbance to the soil and the loss of ground cover may increase the risk of ragwort becoming established.
- 10 Occupiers of all land, including uncultivated land, derelict and waste areas, should be vigilant for the presence of ragwort. Action to prevent its spread should be taken where ragwort poses a high risk to land used for grazing, or forage production. Detection at an

early stage will enable any potential problems to be more easily, safely and economically dealt with. The implementation of a control strategy will ensure that persistent problems are dealt with in a timely manner.

Assessing the Risk Posed by Ragwort

- 11 Where land is affected by ragwort the owner / occupier should make an assessment to determine whether action should be taken to prevent the spread of ragwort to neighbouring land by establishing the risk posed to grazing animals or forage production.
- 12 The following three risk categories are provided as guidelines for assessing risk:

High Risk:

- Ragwort is present and flowering/seeding within 50m of land used for grazing by horses and other animals or land used for feed/forage production

Medium Risk:

- Ragwort is present within 50m to 100m of land used for grazing by horses and other animals or land used for feed/forage production

Low Risk:

- Ragwort or the land on which it is present is more than 100m from land used for grazing by horses and other animals or land used for feed/forage production.

When assessing risk, account should also be taken of particular local circumstances and other relevant factors. A high level of infestation (more than 10 plants per square metre) will pose a higher risk than low-density infestation, whilst a very low level of infestation, shelterbelts or other topographical / natural barriers that will restrict seed dispersal will reduce the level of risk.

Action to be taken by Owners of Livestock

- 13 Livestock owners should satisfy themselves that their stock is not exposed to the risk of ragwort poisoning. In particular they should:

- ensure pastures are maintained in good condition and are not under or overgrazed (see Appendix 1)
- inspect grazing land regularly for ragwort (see Appendix 2) when animals are present
- move stock to ragwort free land where practicable taking into account the experience of stockmen on the likelihood that particular animals will ingest ragwort
- remove ragwort plants using an appropriate control technique (see Appendix 3) taking account of the status of the land (see Appendix 4)
- dispose of ragwort plants in an approved manner (see Appendix 5)
- follow safety guidelines (see Appendix 6)

Action to be taken by Producers of Conserved Forage

14 Producers of conserved forage should:

- ensure managed grassland is maintained in good condition (see Appendix 1)
- inspect land regularly for ragwort (see Appendix 2) in the growing season
- remove ragwort plants using an appropriate control technique (see Appendix 3) taking account of the status of the land (see Appendix 4)
- dispose of ragwort plants in an approved manner (see Appendix 5)
- follow safety guidelines (see Appendix 6)

Action to be taken by other Owners / Occupiers of Land

15 Owners / Occupiers should:

- identify land on which ragwort (see Appendix 2) is present
- review the risk of spread to land used for grazing or conserved forage production (see paragraph 11) on an annual basis
- ensure managed grassland is maintained in a good condition (see Appendix 1)
- where appropriate and safe to do so avoid removing ground cover in amenity areas, roadside verges and on railway land unless provisions are made for the appearance of ragwort.

- pay particular attention to areas of bare/disturbed land
- where a **high risk** is identified
 - take **immediate** action to control the spread of ragwort using an appropriate control technique (see Appendix 3) taking account of the status of the land (see Appendix 4)
- where a **medium risk** is identified
 - establish a control policy to ensure that where a change from a medium to a high risk of spread can be anticipated, it is identified and dealt with in a timely and effective manner using appropriate control techniques (see Appendix 3) taking account of the status of the land (see Appendix 4)
- where a **low risk** is identified
 - no immediate action is required (see paragraph 21)
- dispose of ragwort plants in an approved manner (see Appendix 5)
- follow safety guidelines (see Appendix 6)
- monitor the impact of clearance action to ensure its effectiveness for up to six months or to the end of the growing season if sooner

Control Methods

16 A summary of possible control methods are shown at Table 1. In many cases a single control method or single application will not be completely effective and consideration should therefore be given to combining more than one control / management technique. Effective control might not be achieved in one season, particularly where it is a long-standing infestation, which has been inappropriately managed in the past. The cost categories shown in the table do not provide a reliable guide to costs where linear land such as roads and highways is concerned. Control techniques are considered in more detail at Appendix 3.

Table 1. Summary of control methods

Method	Labour requirement	Cost	Prevention of flowering	Success of control - long term	Grazing removal period (days)	Number of treatments required per year	Repeat time scale (years)	Optimum time of treatment	Suitable for large areas	Suitable for high ragwort infestations	Remarks
Cutting	*	*	**	*	0(1)	1/2	1	F	***	***	Emergency treatment to prevent seeding. It is essential to cut before seed heads are mature & must be followed with a control technique
Levering out	***	*	***	**	0(1)	1/2	1	F	*	*	Tools available for digging up plants. Best results when soil is wet. Very dependent on spotting plants, some may be missed requiring further treatment.
Herbicide citronella oil derived product (3)	***	***	***	***	7(2)	1-2	1	R And F	*	*	£60 for up to 1,600 rosettes. Very dependent on spotting plants, resulting in some being missed. Large plants may need respraying two weeks later. Will control broad-leaved plants.
Herbicide selective spraying (3)	*	**	***	***	21(2)	1-2	1	R	***	***	Cost £5-10/ha for chemical & a fee for qualified contractor to spray. Most products will kill other broad-leaved plants sprayed.
Herbicide spot treatment (3)	***	**	***	***	21(2)	1-2	1	R Or F	***	*	Cost £5-10/ha for chemical & a fee for contractor to spray. Very dependent on spotting plants, some may be missed requiring further treatment.
Herbicide weed wipes (3)	*	**	**	**	21(2)	1-2	1	F	***	***	Only tall ragwort plants will be effected. Costs £5-10/ha for chemical. Cost of machine hire dependent on source.
Pulling by hand	***	*	***	**	0(1)	1/2	1	F	**	*	Gloves must be worn. Best results when soil is wet. Very dependent on spotting plants, some may be missed requiring further treatment.
Pulling by machine	*	**	***	**	0(1)	1	1	F	***	***	Selects plants for pulling on height difference & leaves shorter plants.
Biological	*	***	*	?	N/A	1	1	R Or F	***	***	Biological control using the Cinnabar Moth is at the early stages of development in the UK.

Key: * Low ** Medium *** High: R – When rosettes start growing; F – early summer before flower heads mature; (1) – Provided ragwort cuttings are removed;
 (2) These timings are only a guide – follow the manufacturer’s guidelines; (3) Always follow the manufacturer’s guidelines.

Control Policies

- 17 Where a medium or high risk has been identified, owners / occupiers and managers of land, including private and public land, highways, waterways, railways, conservation and amenity areas and land awaiting development, should put in place and implement a ragwort control policy. Such policies should take account of the need for vegetation management, including weed control and identify ragwort as a specific weed that should be controlled.
- 18 When considering what is practical owners / occupiers / managers should balance the risk against the time and cost of taking the action, and consider whether the cost of control is proportionate to that risk. For some categories of land e.g. railway land and trunk roads this might make regular inspections of all land holdings impractical. In such situations complaints should be used to accumulate information on ragwort “hotspots”. Where ragwort is present in areas that will cause a high risk (**see paragraph 12 above**) during the flowering / seeding season, there should be a presumption that action to manage the spread of ragwort will be necessary, even where the cost of control is potentially high.
- 19 A control policy should encourage collaboration and co-operation with neighbours to achieve effective control of the spread of ragwort. Wherever practicable control action should be taken at early stages of growth in order to reduce the risk of seed dispersal and thereby achieve more effective long-term control.
- 20 Where a low risk is identified (**see paragraph 12 above**), but the presence of ragwort is likely to present a risk in the future, contingency plans should be prepared for its control. Where there is no immediate risk the presence of ragwort should be recorded and the situation should be monitored annually to ensure that the risk is reassessed should circumstances change.

Local Control Strategies

- 21 At local levels, it may be useful for those responsible for the management of the land or adjacent land and those with a statutory or advisory remit for nature conservation and animal welfare to get together to form a Local Ragwort

Strategy Group. These groups may be particularly effective in areas where there is a conservation and wildlife interest and where ragwort management is a difficult issue. Such groups could agree a way forward on ragwort control which would be endorsed by all parties.

Advice

- 22 Defra produces a range of guidance on the Weeds Act, which is listed at Appendix 8. Technical advice and advice on ragwort control is also available from the organisations listed at Appendix 9.
- 23 Advice may also be available from organisations which are responsible for the management of land in their ownership and/or control i.e. Highways Agency, Local Highway Authority, Network Rail, British Waterways, English Nature, Forest Enterprise, Ministry of Defence and Local Authorities (Appendix 7).

Enforcement

- 24 Defra will take enforcement action under the Weeds Act where ragwort poses a high risk to horses, other livestock, the production of conserved forage or other agricultural activities. Where a potential problem is identified contact should first be made with the owner/occupier or relevant body responsible for the land on which the ragwort is growing to attempt to resolve the matter informally, before contacting Defra. Organisations that control or own land are listed in Table 2.

Table 2 - Organisations that own and/or control land

Location	Owner/Occupier
Private & commercial property & land & private roads	Owner/Occupier
Agricultural land & livestock other than animals kept for non-agricultural business or recreational purposes	Owner/Occupier
Motorways & trunk roads	Highways Agency
All other public roads	Local Highway Authority
Railway Land	Network Rail
Canals & Towpaths	British Waterways
SSSI	Owner / Occupier
National Nature Reserves	English Nature/Owner/Occupier
Local Nature Reserves	Owner/Occupier

Common Areas/Common Land	Local Authority/Owner
Ministry of Defence Land	MoD
Development Land	Owner/Occupier
Parish/Town/Community Council Land	Parish/Town/Community Council
Private Woodland/Forestry	Owner/Occupier
Forestry (Forest Enterprise)	Forest Enterprise

25 Where contact with the owner / occupier / relevant body fails to secure any improvement the local Defra Rural Development Service Office should be notified (Appendix 7).

Grassland management

Pastures

- 1 Pasture management plays a crucial role in preventing the establishment and spread of ragwort. It is not possible in a Code of this nature to provide comprehensive guidance on pasture management. Best practice varies according to specific circumstances and a different approach would be appropriate in different circumstances e.g. in relation to managed grassland or unimproved semi natural grassland. Comprehensive guidance is available from a variety of sources and key references are provided at the end of this appendix.
- 2 Horses are very selective grazers and will eat down some areas until they are almost bare. Coarser grasses can dominate, particularly in those areas where horses dung or urinate, and the grass is left to seed creating a very uneven sward. Bare patches can develop resulting in ideal conditions for the establishment of ragwort. Horse pastures in particular must be very carefully managed to prevent this. Leaving horses out in wet winter conditions can exacerbate the situation causing the ground to become poached, damaging the grass sward and providing an opportunity for ragwort to establish in the bare ground.
- 3 To maintain horse pasture in good condition:
 - divide fields to suit stocking densities wherever practicable
 - dung should be collected and removed or spread regularly
 - weeds should not be allowed to become widespread
 - prevent poaching by keeping horses off fields in wet conditions, wherever practicable
- 4 Agriculturally improved grassland should be managed to achieve a dense ground cover of grasses.

- Nutrient and pH levels should be maintained through the appropriate application of fertilisers and lime (application rates should be determined by a soil analysis)
 - Appropriate stocking levels should be maintained to avoid under and overgrazing
 - Where pastures deteriorate to such an extent that other methods do little to improve the sward cover renovation through reseeding may be necessary
 - Poaching should be minimised to prevent sward damage
- 5 Where grassland is being managed for its ecological value, but is also being used for grazing, different constraints will apply. Here it will be necessary to keep the population of weeds designated under the Weeds Act to a minimum level consistent with the ecological requirements of the site and the welfare of the animals grazing there.

Uncultivated or semi-natural areas

- 6 Wherever possible uncultivated land with low levels of ragwort should remain undisturbed. Where an open sward is maintained and ragwort can be expected to be a natural component of grassland, other control methods might be necessary to prevent ragwort becoming a problem.
7. Anyone planning to change uncultivated or semi-natural areas to intensive agricultural use should find out whether they need to make an application under the *Environmental Impact Assessment (uncultivated land and semi-natural areas) Regulations 2001*. Land types covered includes unimproved grassland, heathland, moorland, scrubland and wetlands. Agricultural intensification may include cultivation, soil spreading, drainage, reclamation, increased application of fertilisers or pesticides, and increased grazing by livestock. Anyone planning such work should contact the Defra helpline (0800 028 2140) and read the guidance on the Defra website at www.defra.gov.uk/eia.

Where to go for more information?

- ADAS
- British Institute of Agricultural Contractors
- English Nature Ragwort Information Note 2003
- English Nature - The Lowland Grassland Management Handbook 1999
- English Nature - The Upland Management Handbook 2001
- Farm Wildlife Advisory Group
- Royal Society for Protection of Birds – A practical guide to the restoration and management of lowland heathland 2003
- Surrey County Council Website
- The British Horse Society

Biology and Identification

Introduction

- 1 Common Ragwort (*Senecio jacobaea*) is an erect plant usually 30-90cm high, but may exceed 100cm. The stems are tough and often tinged red near the base, but brighter green and branched above the middle. A basal rosette of leaves usually dies before flowering but the stem leaves persist. They are deeply dissected, with irregular, jagged-edged lobes. All the leaves are dark green and rather tough and may be sparsely hairy on the lower side. The inflorescence is a conspicuous, large, flat-topped head of densely packed yellow flowers with ray florets and disc florets, all of which are bright yellow. The seeds are borne singly and have a downy appendage making them readily dispersible.

Biology

- 2 Common Ragwort is normally a biennial (rosette 1st year and flowering 2nd year). During its first year of growth it establishes a rosette of basal leaves and over winters in this way. During the second year the rosette sends up a single leafy stem, up to one metre in height, which is unbranched and produces numerous flower heads at the top. The flower heads are carried in a large flat-topped cluster. Flowering usually occurs from June until late October after which the plant dies.
- 3 Common Ragwort can also behave as perennial (flowering every year) after damage to the crown such as cutting, grazing, hoof damage, damage by machinery and following incomplete / ineffective hand pulling in dry weather.

Distribution

- 4 Common Ragwort is widespread throughout the UK and can be found on wasteland, development land, roadside verges, railway land, amenity land, conservation areas, set-aside, woodland and grazing land. Common Ragwort may also be found on land used for grazing horses and other stock. Poor quality and poorly managed horse pastures are particularly susceptible to

ragwort infestations and every effort should be made to control ragwort and improve pasture management in these situations.

Habitat

- 5 Common Ragwort can be found over a large range of soil types and climatic conditions and can be characteristic of badly managed grasslands, where trampling breaks the sward, where patches of turf have died in drought or where there is over or under grazing. However, well-managed acid/calcareous grasslands may naturally contain ragwort. Disturbance to grass verges, embankments and woodland areas which leads to open soil are also favourable conditions for seedling establishment.

Other species of Ragwort

- 6 Marsh Ragwort (*Senecio aquaticus*) is locally abundant in wet areas of fields, ditch banks and marshes. Hoary Ragwort (*Senecio erucifolius*) occurs mainly on roadsides, semi-natural meadows and field boundaries. Oxford Ragwort (*Senecio squalidus*) grows widely on roadsides, railway land, old walls and unmanaged land and Fen Ragwort (*Senecio paludosus*) grows on fens and stream sides.

Identification

[N.B. Photographs will be included in the final version of the Code to aid the identification of Common Ragwort]

Species which may be confused with Common Ragwort (*Senecio jacobaea*)

Other widespread Ragwort species

Marsh Ragwort *Senecio aquaticus*

Hoary Ragwort *Senecio erucifolius*

Oxford ragwort *Senecio squalidus*

Rare Ragwort Species

Fen Ragwort *Senecio paludosus*

Welsh Groundsel *Senecio cambrensis*

York Groundsel *Senecio eboracensis*

Other similar species

Field fleawort *Tephrosieris integrifolia*

Tansy *Tanacetum vulgare*

Fleabane *Pulicaria vulgaris*

St. John's worts *Hypericum* spp.

Yellow Loosestrife *Lysimachis vulgaris*

Goldenrod *Solidago virgaurea*

Agrimonies *Agrimonia* spp.

Mulleins *Verbascum* spp.

Other tall yellow composites

Heath Groundsel *Senecio sylvaticus*

Hawkweeds *Hieracium* spp.

Hawk's beards *Crepis* spp.

Catsears *Hypochaeris* spp.

Sow Thistles *Sonchus* spp.

Elecampane *Inula helenium*

Control techniques

Introduction

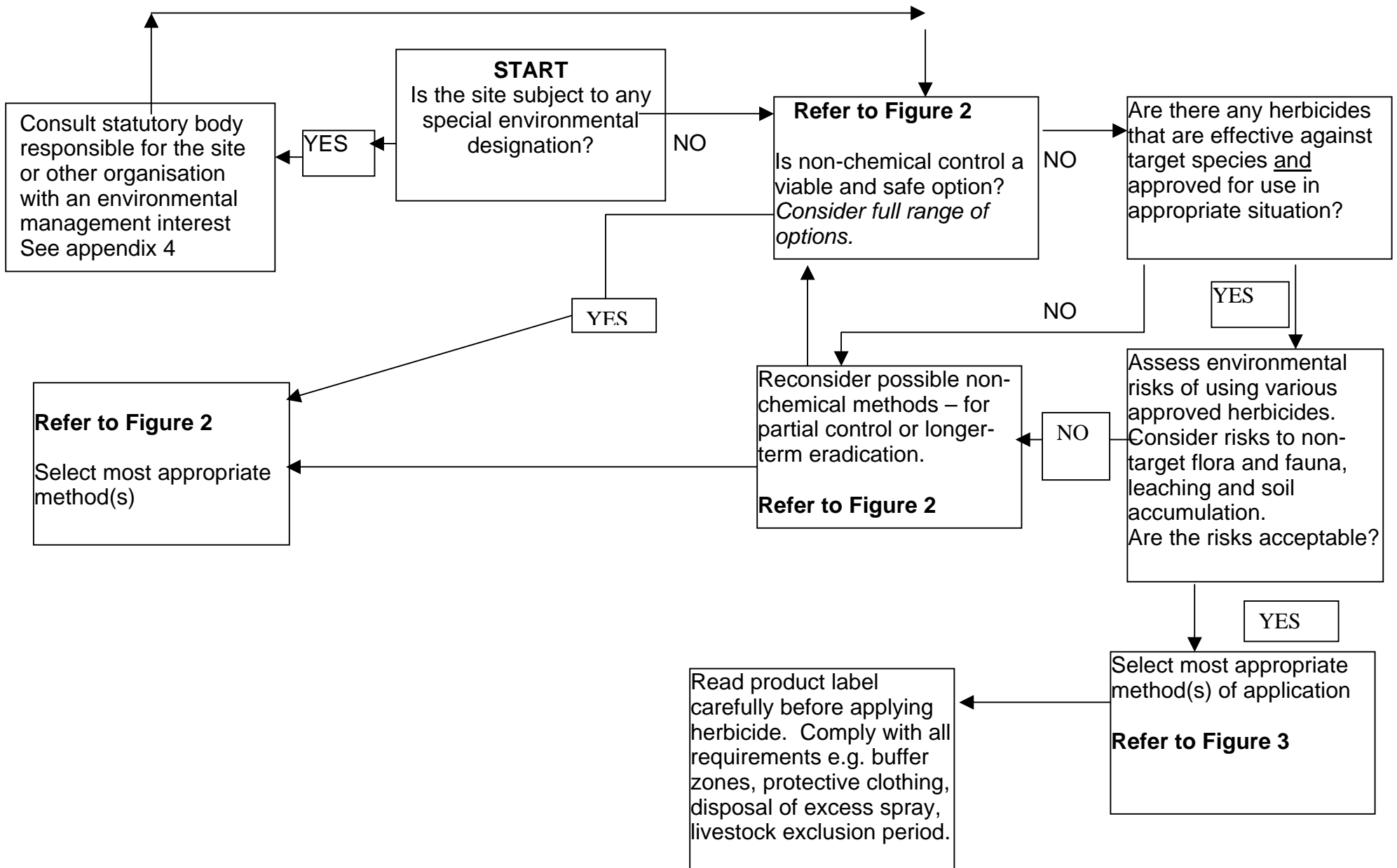
1 Where the risk that ragwort will spread is such that control action is required or where ragwort is present on grazing land / land used for the preparation of conserved forage, three primary control methods are available:

- cultural
- chemical
- biological

Each method can be employed in a number of ways depending on the location, the level of infestation and the extent of control required. In many cases effective control will only be possible if a combination of methods are employed. Repeat treatment over several seasons might also be required to deal with long established infestations.

2 The decision tree in Figure 1 will assist with selecting the most appropriate method of control.

Figure 1. Decision Tree to Assist Selecting the Most Appropriate Control Method



- 3 On managed grassland or other pasture land management techniques have an important role to play in controlling the spread of ragwort by preventing its establishment (see Appendix 1).

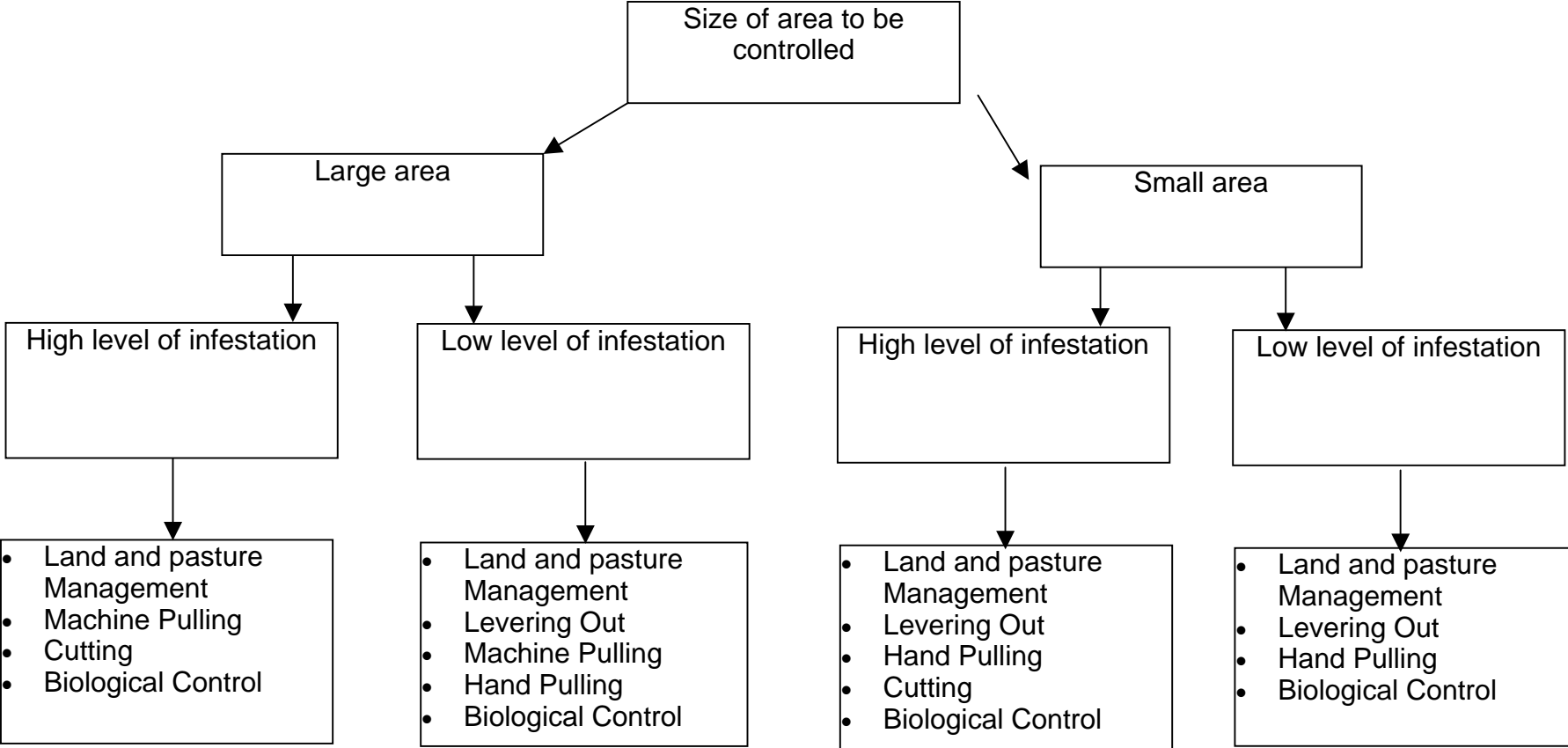
Grazing

- 4 All grazing animals are susceptible to the toxic effects of ragwort and therefore the control of ragwort by grazing horses, sheep, goats or other livestock should not be permitted on animal welfare grounds.

Cultural

- 5 Several cultural methods can be used to prevent the spread of ragwort. These include pulling and avoidance of bare ground areas. Figure 2 will assist with selecting the most appropriate method of cultural control.

Figure 2. Selecting the Most Appropriate Cultural and Biological Control According to Size of Area and Level of Infestation



Avoiding bare ground

- 6** Bare ground areas are to be avoided where at all possible. This can be achieved by removing animals from land to prevent poaching of land in wet weather conditions, particularly December to March, and by avoiding over grazing of land at other times. Control of rabbit populations may also be necessary to maintain ground cover.

Pulling and levering

- 7** Pulling or levering up plants can prevent seed spread and can give long-term control although any root fragments not removed can produce weak growth. Hand pulling is appropriate for smaller areas but for larger areas the use of machine pulling should be considered. Machine pulling requires a height difference between the ragwort and other plants and is only suitable on certain soil types and topographies. Various hand tools are available for levering. Best results are achieved when the soil is damp and before ragwort has seeded.
- 8** A combination of manual/mechanical pulling or levering and reducing disturbance to soil can be effective against ragwort, if repeated over a number of years, without having to resort to herbicide use.

Cutting

- 9** Cutting is a control method of last resort and should only be used to reduce seed production and dispersal where other more effective control methods cannot be used. Cutting stimulates growth and plants subsequently re-flower later in the season. Cutting and stem removal at the early flowering stage reduces seed production but does not destroy the plant, turning it from a biennial into a perennial habit and therefore repeat treatments will be required to prevent the ragwort from seeding.
- 10** Cut plants left lying in the field are a serious risk to grazing animals, as they remain toxic, are more likely to be eaten and may still set seed. Plants must be removed and safely disposed of (see Appendix 5) before returning grazing animals to the field.

Burners

- 11** Spot burners (hand held flame guns) can be used at rosette stage. Success can be variable ranging from 93% kill of ragwort seeding plants to rapid re-growth occurring. Consideration will need to be given to the potential damage that might be done to

surrounding vegetation and the risks of fire. Operator safety will also need to be considered carefully. In most circumstances the use of spot burners is unlikely to be suitable except on hard surfaces and paved areas.

- 12 Where the use of spot burners is a preferred method of control a suitable and sufficient risk assessment must be undertaken prior to use.

Chemical

Use of Herbicides

- 13 Herbicides must only be used after a risk assessment has been completed. This must include consideration of any potential effects on the environment and on human health. Risk assessments should also consider the likely ecological impacts of taking no action, which can sometimes outweigh any negative effects of a herbicide treatment.
- 14 Herbicides can be a time efficient and effective method of preventing the spread of ragwort. Total control cannot be guaranteed with one application. However, an annual chemical control programme will generally prevent the spread of ragwort.
- 15 Only herbicides and uses approved under the Control of Pesticides Regulations 1986 (COPR) as amended by the Control of Pesticides (Amendment) Regulations 1997, or for products containing more recently available active ingredients, EC Directive 91/414/EEC (the 'Authorisations Directive') and the Plant Protection Products Regulations 1995 (PPPR) as amended by the Plant Protection Products (Basic Conditions) Regulations 1997 (PPP(BC)R), can legally be sold, supplied, stored, advertised and used. Current lists of approved products can be found on the Pesticide Safety Directorate (PSD) website at www.pesticides.gov.uk. All herbicides must have an appropriate standard or 'off-label' approval for use in a relevant situation.
- 16 Always read the product label before using a herbicide and comply with all statutory conditions. Where a herbicide is to be applied under the terms of an off-label approval, users must obtain and read the relevant Notice of Approval (published by Defra). Users should be aware that there is a risk that pesticides used under an off label approval may not be as effective.
- 17 Because herbicides are not equally effective at all stages of plant growth, repeated treatments at different times of year are recommended for optimum control. However, the time of year that a herbicide is applied might be constrained by legal requirements

stipulated on the product label. Decisions should take into account the efficacy of the herbicide against the target species (e.g. many herbicides are more effective when applied to actively growing weeds) and any probable impacts of different timings on other non-target species at that site.

Legal Restrictions

- 18** The advertisement, sale supply and use of agrochemicals are regulated by Part III of the Food and Environment Protection Act 1985, Control of Pesticides Regulations 1986 as amended by the Plant Protection Products (Basic Conditions) Regulations 1997, and the Health and Safety at Work Act 1974. These are supplemented by two statutory codes: the Code of Practice for the Safe Use of Pesticides on Farms and the Code of Practice for Suppliers of Pesticides to Agriculture, Horticulture and Forestry.
- 19** The Control of Substances Hazardous to Health (COSHH) Regulations 2002 require that pesticides (including herbicides) should only be used where necessary, and where the benefits significantly outweigh the risks to human health and the environment. Non-chemical control options must, therefore, be considered and herbicides should only be used in situations where alternatives do not exist, or are impractical or likely to be inadequate.
- 20** Regulations made under the Food and Environment Protection Act 1985 control the use of herbicides / pesticides where pollution of water might occur.
- 21** Spraying should only be carried out by a competent person and in accordance with the above legislation. Persons applying herbicides / pesticides for agricultural use may also need to hold recognised certificates of competence. Surplus chemicals must be disposed of according to the Code of Practice for the Safe Use of Pesticides on Farms and Holdings.

Grazing Restrictions

- 22** The application of herbicides to grazing land will result in grazing restrictions. Each product has a specified grazing interval i.e. the period between treatment and grazing. The grazing interval provides sufficient time for the applied product to work on the growing plants and does **not** indicate that it is safe to graze.

- 23** It is only safe to graze fields once any ragwort and other toxic weeds present have disintegrated and are **not** accessible to grazing animals. The same principle also applies to grassland treated which is intended to be conserved for hay and haylage.

Environmental Restrictions

- 24** The use of herbicides to control ragwort will affect other plant species within the treated area. Areas protected by legislation, e.g. SSSIs and agri-environment schemes, also restrict the use of certain chemicals and the relevant authority should be consulted prior to operations (see Appendix 4).

Methods of Application

- 25** Efficacy and environmental safety are directly affected by the method of application, which must comply with statutory requirements and the specific conditions of approval set for the pesticide concerned. Effective targeting of herbicides is important, particularly when non-selective herbicides are used. Non-selective, translocated herbicides present the highest risk to non-target plants. The method used to apply a herbicide will be influenced by:

- the extent and distribution of the target species
- height and structure of the target species
- height, structure and sensitivity of surrounding/adjacent non-target species
- approval and label requirements

- 26** Weed-wipers provide a method for the targeted treatment of weeds that are taller (at least 10 cm taller) than the associated non-target vegetation. Weed-wipers are available for different scales of operation – from small hand held wipers to large tractor-mounted equipment.

- 27** The most widely used type of hand-held sprayer is the knapsack sprayer, which is suitable for spot-treatment of ragwort on small areas and on very rough or steep terrain. Sprayers mounted on tractors or ATVs are more suitable for larger areas of relatively even ground.

Training and Certification of Spray Operators

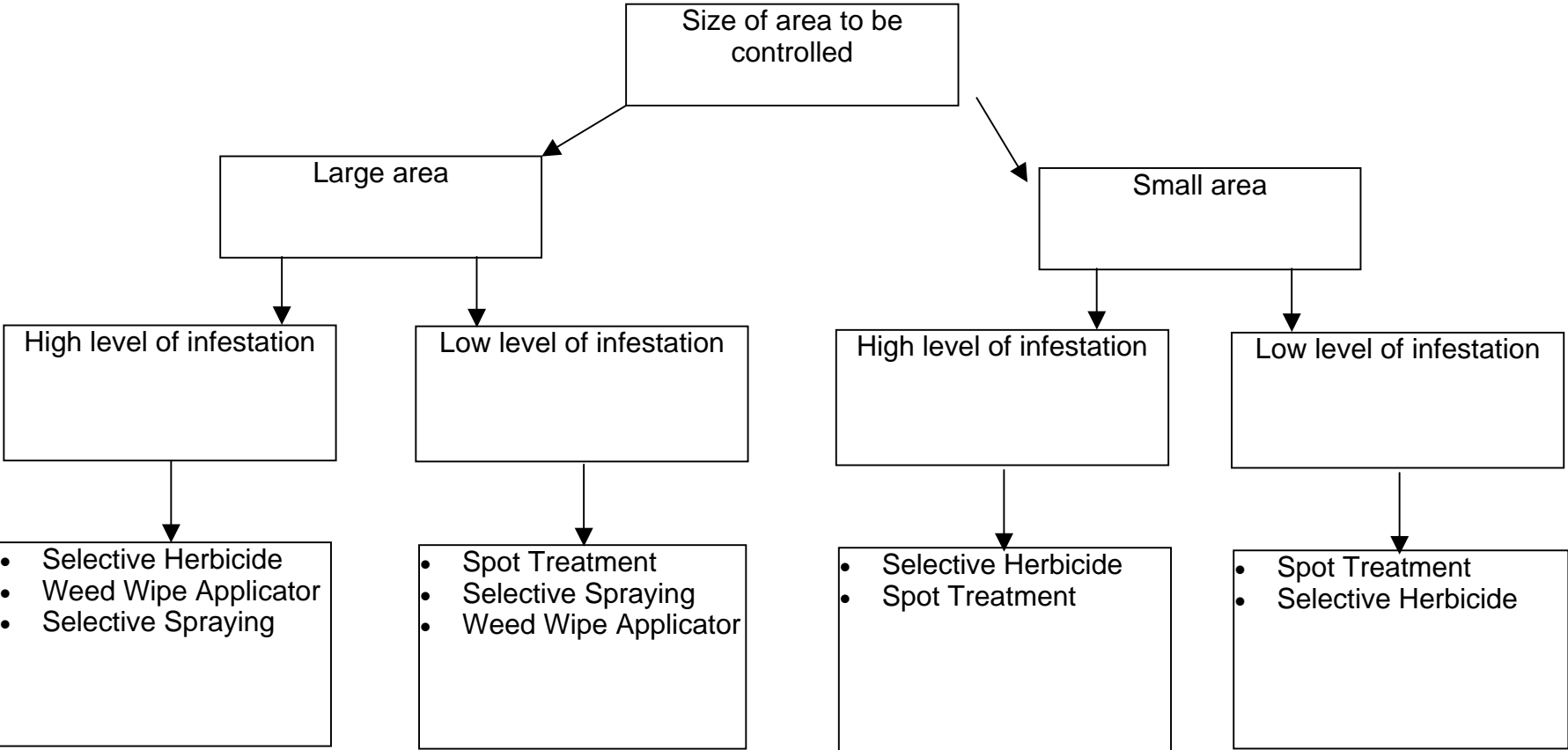
- 28** No person who was born later than 31 December 1964 can use a pesticide for agricultural use on land in their possession or the possession of an employer unless that person has obtained a recognised Certificate of Competence. All persons who use pesticides as part

of a commercial service (i.e. as a contractor on land not in the ownership or occupation of the contractor) must hold a Certificate of Competence, irrespective of their age.

Environmental Safety

- 29** An evaluation of environmental risks is essential wherever herbicides / pesticides are used and should always consider both short and long-term, local and remote effects, impacts on animals as well as plants and possible indirect effects (e.g. through destruction of nesting sites, deoxygenation of ponds caused by organisms decomposing dead vegetation etc.)
- 30** To minimise the effects of herbicides on non-target species:
- use a weed wiper or spot treatment wherever practicable
 - spot treat, if possible, and use a guard on the sprayer lance to more effectively target sprays and reduce drift
 - use a selective herbicide that is less damaging to non-target species
 - leave an unsprayed buffer zone between treated and vulnerable species/habitats
 - avoid fine sprays – use medium-coarse droplet nozzles
 - keep spray nozzles as close as possible to target plants
 - avoid spraying in unsuitable weather e.g. when wind speed is greater than Beaufort Force 2 or on very calm, warm days
- 31** Figure 3 will assist with selecting the most appropriate method of chemical control.

Figure 3. Decision Tree to Assist Selecting the Most Appropriate Herbicide Treatment According to Size of Area and Level of Infestation



Biological

- 32** Biological control is aimed at controlling ragwort by using the plant's natural enemies to lower its density, thereby suppressing ragwort populations and allowing other plants to re-establish. Many species feed on ragwort including; cinnabar moth (*Tyria jacobaea*), ragwort flea beetle (*Longitarsus jacobaea*) and ragwort seedfly (*Pegohylemia seneciella*). However their natural spread might not always be as wide-ranging as that of ragwort. Other potential biological control agents include several fungal pathogens (rust diseases). None of these are fatal to ragwort populations.
- 33** The introduction of a biological control agent has a potential advantage in areas where chemical/mechanical control is unachievable or undesirable. However, it can be difficult to maintain sufficient predator populations to provide adequate control and may only result in a reduction rather than a control of spread. Biological control is therefore best used as part of a long-term strategy. Approval is required from English Nature before this technique is used on SSSIs.

Particular categories of land

Introduction

- 1 Where land has a special designation, attracts support payments which place conditions on the way the land is managed or has a specific biodiversity / wildlife interest no action to prevent the spread of ragwort should be taken without the approval of the competent authority.

Set-aside

- 2 Land set-aside from agricultural production is a potential source of ragwort infestation and is subject to the provisions of the Weeds Act in the same way as other land. Action may be taken to control ragwort at any time by means of pulling, cutting, spot burning or herbicide. Full details of the rules for weed control on set aside land are included in the 2002 Arable Area Payments Scheme Explanatory Guide (Part II) and the 2004 Update to the Arable Area Payments Scheme which have been issued to all arable farmers.

Organic farming

- 3 Where land is farmed organically there will be limitations on the control options that can be used. If in any doubt about the standards covering this area farmers should contact their Certification Body. Further advice on practical measures should be obtained from suitably experienced organic consultants.

Agri-Environment Schemes

- 4 Agri-environment schemes cover Environmentally Sensitive Areas (ESAs) and land subject to Countryside Stewardship and from 2005 Environmental Stewardship Entry Level and Higher Level Schemes. The control of weeds, including Common Ragwort on land covered by an ESA or other agreement is included in the terms of individual agreements. Where ragwort is present on land within an ESA or other agreement and poses a high risk to the health and welfare of grazing animals and/or the production of feed or forage it should be adequately controlled. Although individual agreements may limit the options for control, it should not rule out control. Guidance is available from Defra's Rural Development Service (Appendix 7).

National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) and other statutorily designated wildlife sites

- 5** Several species of ragwort and closely related species occur as native plants on many statutorily designated wildlife sites such as NNRs and SSSIs. Some species of ragwort are rare. Management of plant life is crucial to the ecology of NNRs and SSSIs and in such situations weed control, including the control of Common Ragwort, may be potentially damaging to the nature conservation interests of the site. With regard to NNRs and other SSSIs, English Nature must be consulted in advance of action and consent sought as to the most appropriate control method (Appendix 7).
- 6** On sites where grazing management is required and there is a wildlife interest associated with the ragwort then a risk assessment should be undertaken. If ragwort poisoning becomes a risk then grazing animals should be excluded from the areas for the period of risk, or the ragwort removed. The risk assessment may take into account the susceptibility of the particular grazing animals (species, breed, age, experience, foraging behaviour), the presence of abundant alternative palatable herbage and prevailing weather conditions.
- 7** Where sites do not require grassland management for grazing, ragwort may be acceptable providing the presence of such ragwort is not a threat to horses and stock grazing land neighbouring the site, or adjoining land used for feed/forage production. The key factor will be the level of ragwort present relative to the risk of seed dispersal contaminating land used for grazing and/or forage production.
- 8** Emphasis should be placed on ‘preventing’ infestations by management, rather than ‘controlling’ them once they have occurred. Where control of the ragwort population is necessary, cultural control methods are the preferred option.

Non-statutorily designated wildlife sites/sites with nature conservation interests

- 9** It is recommended that the approach adopted in paragraphs 5 to 8 above should generally apply to non-statutorily designated wildlife sites.

Scheduled Monuments

- 10** Control on or removal from land which is protected as a Scheduled Monument under the Ancient Monuments and Archaeological Areas Act 1979 may also require Scheduled Monument Consent (SMC). English Heritage must be consulted and advice sought as to the most appropriate method of control (Appendix 7).

Common Land

- 11** Common land can sometimes be populated by a number of species including Common Ragwort. Where ragwort is identified as putting at risk animals grazing on the common, or to neighbouring land used for grazing and/or feed/forage production, it must be controlled. Responsibility for control lies with the registered owner of the land and/or the person entitled to the occupation of the land (normally the landowner but not exclusively so), the common right holders are not normally deemed to be the owners or occupiers.

Other Land used for Grazing

- 12** Land used for grazing horses and other animals is the responsibility of the occupier (owner or tenant) of the land. The presence of ragwort within a grazing area can pose a high risk to grazing stock, particularly horses, which are highly susceptible to the toxic effects of ingested ragwort. Grazing horses on land where ragwort is present is not considered acceptable on animal welfare grounds.
- 13** Particular attention must be given to the presence of ragwort seedlings which are less visible than the rosette stage and more likely to be eaten. Where ragwort is identified as posing a high risk to animals, suitable control measures should be taken or animals removed from the source of risk.

Forage Production

- 14** Grassland conserved for forage production including; hay, haylage, silage and crops grown for dried grass is at risk from ragwort infestation. Ragwort cannot easily or readily be detected once dried. It remains highly toxic and cannot be easily discarded. In its dried form it is more likely to be eaten and poses a higher risk of poisoning to the animal than in the grazing situation. Where ragwort is identified in fields used for feed / forage production suitable control measures must be taken.

- 15** Any feed or forage that contains ragwort is unsafe to feed to horses and other animals and must be declared 'unfit' as animal feed and be disposed of safely. The Agriculture Act 1970 and the Feeding Stuffs Regulations 2000 govern the sale of animal feed and forage. Regulation 14 makes it an offence to sell any material for use as a feeding stuff which is found, or discovered as a result of analysis, to be unwholesome for or dangerous to any farmed animal, pet animal or human being. Trading Standards should be notified if feedstuffs are found to contain ragwort as an offence may have been committed.

Amenity Grassland

- 16** Amenity grasslands which includes sports grounds, playing fields, village greens and grassed areas around buildings and gardens, are usually well managed and usually pose a low risk of ragwort contaminating grazing land and land used for feed/forage production. However, where land is less well managed it can pose a risk if ragwort is allowed to proliferate in areas not frequently cut and/or on the perimeter of the amenity area. In such situations where ragwort poses a high risk of contaminating neighbouring land used for grazing and/or feed/forage production then effective control measures must be taken to prevent the spread of ragwort. Control methods should take into account public access and safety and a suitably sufficient risk assessment must be undertaken prior to control.

Highways

- 17** Ragwort is frequently found growing by the side of highways including motorways and other trunk roads, other public roads and private roads. It can pose a serious risk of contaminating grazing land and land used for feed/forage production within the locality. Where ragwort is present on roadside verges and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production it must be controlled.
- 18** The control of roadside vegetation including Common Ragwort is the responsibility of the Highways Agency in the case of motorways and other trunk roads, and the Local Highway Authority in respect of all other public roads. Private roads are the responsibility of whoever owns them.
- 19** Particular problems arise where road improvements or other disturbances of the highway verge have occurred. Special measures that prevent weed species (including ragwort)

becoming established should be considered in the early years of management of new highway verges to prevent the establishment of ragwort infestation.

Railways

- 20** Ragwort is often found growing by the side of railway lines and, due to the size of the railway network, can pose a risk of contaminating grazing land and land used for feed/forage production within the locality. Similarly, the number of neighbours surrounding the 30,000 hectare network means that ragwort will undoubtedly spread on to railway property.
- 21** The control of vegetation on railway land, including the control of ragwort, is the responsibility of Network Rail and is undertaken to ensure the risks posed to trains, railway personnel and the travelling public are reduced to as low as is reasonably practicable. Ragwort is controlled on a reactive basis, dealing with incidents on a site-specific basis. Weed control on private railway land is the responsibility of whoever owns the land.
- 22** Where ragwort is present on railway land and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production it must be controlled. Control of ragwort on Network Rail property can only be undertaken by personnel authorised to work in the railway environment. These personnel have access to safety and environmental information to ensure that the control activities do not compromise the safe running of the railway or contravene environmental legislation.

Aquatic Areas

- 23** Land immediately adjacent to water (this includes rivers, streams, brooks, canals, ponds and reservoirs) can be a source of ragwort, and in particular the rarer species, such as Fen Ragwort, which flourishes in damp conditions. Where ragwort is present on land adjacent to waterways and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production it must be controlled. However care must be taken to distinguish Common Ragwort from Fen Ragwort, which is protected and should not be controlled. The Food and Environment Protection Act 1985 places a special obligation on all pesticide users to prevent pollution of water. No herbicides / pesticides may be used in or near water, unless the approval specifically allows such use.

Woodland and Forestry

- 24** Ragwort in woodland and forestry generally represents a low risk to grazing animals and to feed and forage production. Where ragwort is present and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production then it must be controlled.

Development, Waste and Derelict Land

- 25** This category includes brown field sites awaiting development, abandoned land, and land not utilised or managed surrounding development areas. Land within the urban environment generally represents a low risk to grazing animals and to feed and forage production. Where ragwort is present on development, waste and neglected land and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production, then it must be controlled. It is expected that owners, occupiers and managers of such land will have in place policies for the identification, monitoring and control of ragwort on land for which they are responsible.

Defence Land

- 26** The Defence Estates (an Executive Agency of the Ministry of Defence) administer the defence estate and are responsible for ensuring that the appropriate standards of weed control are maintained on defence land under its jurisdiction. Where ragwort is present on defence land and the spread of ragwort poses a high risk to grazing animals and/or feed/forage production then it must be controlled.

Bridleways

- 27** Ragwort should be controlled on bridleways where the bridleway runs across grazing land or land used for forage production and where grazing animals may be at risk. Where there is no risk, it should not be necessary to control ragwort simply because horses will be ridden along the bridleway. It is the rider's responsibility to ensure that a horse when ridden or led on a bridleway does not ingest ragwort.

Disposal

- 1 Cut and pulled ragwort plants can still set seed and all parts of the ragwort plant remain toxic when treated or wilted. Cut and pulled plants will therefore continue to pose a risk to horses and other grazing stock. **Safe disposal is an important part of ragwort control.**
- 2 After cutting or pulling plants should be collected and placed in plastic bags, which can be sealed and disposed of by incineration or landfill. Where plants are removed before flowering, the plants may be disposed of in an environmentally acceptable way (e.g. shredding and blending into garden compost), providing that necessary controls are in place to ensure there is no risk to animal welfare.
- 3 When plants are incinerated this must be undertaken in accordance with the Code of Practice for the Protection of Air (Appendix 8) and Local Byelaws. Landfill sites must be an approved local authority facility. The Environmental Services Department of your Local Authority will be able to identify the nearest waste reception centre.

Safety guidelines

Handling Ragwort Plants

- 1 Ragwort is a toxic plant and suitable precautions must be taken when handling live and dead plants. Hands must be protected by wearing sturdy waterproof gardening type gloves. Arms and legs should also be covered. A facemask should be used to avoid the inhalation of ragwort pollen
- 2 If your skin comes into contact with ragwort you should wash the area thoroughly in warm soapy water.

Operator safety

- 3 Care must also be taken to ensure operator safety when undertaking ragwort clearance, this is particularly important when clearance takes place on road verges and other public areas accessed by motor vehicles.
- 4 If assistance is provided by volunteers they must be competent to undertake the task and have adequate training (including road safety). They should be supervised to ensure that they are not a danger to themselves or to others. This is particularly important when clearing ragwort from roadside verges on the public highway. Volunteers are not permitted to operate on land owned by Network Rail.
- 5 Before clearance commences a sufficient and suitable risk assessment should be undertaken which:
 - identifies the hazards
 - decides who may be harmed by them
 - evaluates the risk and decides whether the existing precautions are adequate or whether more should be done
 - records the findings
 - reviews the assessment and revises it if necessary

Further guidance on undertaking Risk Assessments is available from the Health & Safety Executive (see Appendix 7).

- 6 When digging or pulling ragwort adjacent to a public highway i.e. roadside verge, public footpath, bridleway or byway open to all traffic, it is essential that operators can be seen by other road/highway users. All operators should wear high visibility clothing and generally work facing the traffic. Basic road safety training should be provided to raise the awareness of road safety hazards. No attempt should be made to dig or pull ragwort in poor visibility or during the hours of darkness on roads.
- 7 Any vehicles used to transport operators to the location where ragwort is being controlled must be parked safely and must not be parked in such a way as to obstruct the public highway.
- 8 Standard road works signing should be set up in accordance with standard practice governing the type of road. On trunk roads including motorways different rules apply and traffic signing needs to be approved by the Trunk Road Agent and Police prior to being erected or works beginning.
- 9 On high-speed dual carriageways where the speed limit exceeds 50 mph, special traffic management requirements are called for under the terms of the Highways Agency document "Guidance for Safer Temporary Traffic Management", published by the Transport Research Laboratory (Appendix 8).

Prior Authority for Access to Land

- 10 It is essential that prior authority be obtained before clearance of ragwort is undertaken. Access to land without prior authority would amount to trespass and could lead to a charge of criminal damage. Authority should be obtained as follows:
 - Private Land – authority must be obtained from the owner / occupier of the land
 - Public land - prior authority should be obtained from the relevant public body responsible for the management of that land, i.e. parish council, town council, local authority or other public body.
 - The public highway, i.e. road side verges - clearance should only be undertaken with the prior notification and authority of the relevant local highway authority, i.e. normally the Highways Department of the County Council.
 - Trunk roads including motorways - these are the responsibility of the Highways Agency

- Railway land – this is the responsibility of Network Rail.

Use of herbicides

- 11 All herbicides are potentially hazardous if not used in accordance with their approval, and where appropriate, environmental risk and COSHH assessments. (See Appendix 3). The use of such products should be prevented or where this is not reasonably practicable controlled. A risk assessment must be carried out before application. The risk assessment should determine the risks to operators and other people (including members of the public) and should specify the measures required to adequately control those risks. Any measures e.g. substitution of the product (by a less hazardous one), engineering controls etc deemed appropriate and necessary by risk assessment should be implemented and protective equipment required by and stipulated on the product label should be worn. Information relating to first aid and medical treatment in the event of accidental exposure to the chemical is also given on the product label.

Government Departments, Agencies and Statutory Authorities

British Waterways

Alexandra House, West Key, Gloucester GL1 2LG Tel: 01452 318030 Website: <http://www.britishwaterways.co.uk>

Department for Environment, Food & Rural Affairs (Defra)

Nobel House, 17 Smith Square, London SW1P 3JR Defra Helpline (Public Enquiries) Tel: 0645 335577 Website: <http://www.defra.gov.uk>

Defra Rural Development Service Offices

Bristol RDS

Defra Block 3, Government Buildings, Burghill Road, Westbury-on-Trym, Bristol BS10 6NJ Tel: 0117 959 8622 E-mail enquiries: enquiries.bristol@defra.gsi.gov.uk

Areas covered: Avon, Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cornwall, Devon, Dorset, East Sussex, Essex, Gloucestershire, Hampshire, Hereford & Worcester, Hertfordshire, Isle of Wight, Isles of Scilly, Kent, London Boroughs, Norfolk, Oxfordshire, Shropshire, Somerset, Staffordshire, Suffolk, Surrey, Warwickshire, West Midlands, West Sussex, Wiltshire

Crewe RDS

Defra, Electra Way, Crewe, Cheshire CW1 6GJ Tel: 01270 754 262 E-mail enquiries: weedshelpdesk.crewe@defra.gsi.gov.uk

Areas covered: Cheshire, Cleveland, Cumbria, Derbyshire, Durham, Greater Manchester, Humberside, Lancashire, Leicestershire, Lincolnshire, Merseyside, North Yorkshire, Northamptonshire, Northumberland, Nottinghamshire, South Yorkshire, Tyne and Wear, West Yorkshire

English Heritage (EH)

23 Savile Row, London W1S 2ET Tel: 020 7973 3000 Website: <http://www.english-heritage.org.uk>

English Nature (EN)

Northminster House, Northminster Road, Peterborough PE1 1UA Tel: 01733 455000 Website: <http://www.english-nature.org.uk>

Environment Agency (EA)

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol WS32 4UD Tel: 01454 624400 Website: <http://www.environment-agency.gov.uk>

Forestry Commission (FC)

231 Corstorphine Road, Edinburgh EH12 7AT Tel: 0131 334 0303 Website: <http://www.forestry.gov.uk>

Health & Safety Executive (HSE)

HSE Information Services, Caerphilly Business Park, Caerphilly, CF83 3GG HSE InfoLine Tel: 08701 545500 Website: <http://www.hse.gov.uk>

Highways Agency (HA)

Romney House, 43 Marsham Street, London SW1P 3HW Tel: 020 7081 7070 Website:
<http://www.highways.gsi.gov.uk>

Network Rail

40 Melton Street, London NW1 2EE Tel: 020 7557 8000 Website: <http://www.networkrail.co.uk>

Pesticide Safety Directorate (PSD)

Mallard House, Kings Pool, York YO1 7PX Tel: 01904 455775 Website:
<http://www.pesticides.gov.uk>

Useful publications

Defra Publications

- The Weeds Act 1959 Preventing the spread of harmful weeds (2002)*
- The Weeds Act 1959 Guidance on the methods that can be used to control harmful weeds (PB 7190) (2002)
- Weed Identification (PB 4192) *Provides guidance on weed identification including ragwort species* (1999)
- The Green Code (PB 3528) *A code of practice providing guidance on the safe use of pesticides on farms and holdings*
- Code of Good Agricultural Practice for the Protection of Air (PB 0618) *Provides guidance on avoiding air pollution from odours, ammonia and smoke*
- DEFRA Water Code (MAFF, 1998 PB 0507) *Provides guidance on pesticide storage, use and disposal*
- Arable Area Payments Scheme Explanatory Guide: 2000 Edition (AR 35B) *Guidance on weed control on set-aside land*

Copies of all numbered DEFRA publications can be obtained from:

Defra Publications
Admail 6000
London SW1A 2XX
Tel: 08459 556 000

And are also available on the Defra website (www.defra.gov.uk)

* Only available on the Defra website.

Other Publications

- The Safe Use of Pesticides for Non-agricultural Purposes (HSC 1995) *An approved code of practice giving practical guidance on the use of non-agricultural pesticides in accordance with the requirements of the COSHH Regulations 1994*
- The UK Pesticide Guide (CAB International & BCPC) (ISBN 0-85199-6892) *Annual publication of available pesticides and adjuvants in the UK for use in agriculture, horticulture, forestry and amenity situations*
- The Orange Code – Code of Practice for the Use of Approved Pesticides in Amenity and Industrial Areas (National Association of Agricultural Contractors with British Agrochemicals Association) (ISBN 1-871140-12-9) *Voluntary Code of Practice*
- English Nature Information Note – Towards a Ragwort management strategy 2003 *Information note on the control of common ragwort*
- “A Guide to Animal Welfare in Nature Conservation Grazing” (Grazing Animal Project 2001). Available from GAP Office, The Kiln, Mather Road, Neward, Nottinghamshire. NG24 1WT. Tel: 01636 670095. Fax 01636 670001 E-mail: gap@cix.co.uk *Provides guidance on the management of stock on nature conservation sites.*
- “Guidance for Safer Temporary Traffic Management”, published by the Transport Research Laboratory ISBN 0 9521860 98 (www.trl.co.uk).

Sources of technical advice on ragwort control

ADAS

Provide chargeable consultancy advice

ADAS, Woodthorne, Wolverhampton WV6 8TQ

Tel: 0845 7660085

<http://www.adas.co.uk>

AICC (Association of Independent Crop Consultants)

Provide chargeable consultancy advice

AICC, Agriculture House, Station Road, Liss, Hampshire GU33 7AR

Tel: 01730 895354

<http://www.aicc.org.uk>

ALVAN BLANCH

Supplier of the 'Eco-Puller' a mechanical tall weed pulling machine (including ragwort)

Chelworth, Malmesbury, Wiltshire SN16 9SG

Tel: 01666 577333

<http://www.alvanblanch.co.uk>

AQUATIC WEEDS RESEARCH UNIT

Control of injurious weeds in or near water

The Centre for Aquatic Plant Management, Broadmoor Lane, Sonning-on-Thames, Berkshire RG4 6TH

Tel: 0118 969 0072

<http://www.capm.org.uk>

BARRIER ANIMAL HEALTHCARE

Supplier of Citronella Oil derived product

36/37 Haverscroft Industrial Estate, New Road, Attleborough, Norfolk NR17 1YE

Tel: 01953 456363

<http://www.barrier-biotech.com>

BASIS Registration Ltd

Runs the accreditation scheme for advisors of pesticide use

BASIS, 34 St John Street, Ashbourne, Derbyshire DE6 1GH

Tel: 01335 346488

<http://www.basis-reg.co.uk>

THE BRITISH HORSE SOCIETY

National organisation for horse owners and riders

Stoneleigh Deer Park, Kenilworth, Warwickshire CV8 2XZ

Tel: 08701 202244 Fax: 01926 707800

<http://www.bhs.org.uk>

BRITISH INSTITUTE OF AGRICULTURAL CONSULTANTS (BIAC)

Provide chargeable consultancy advice

The Estate Office, Torry Hill, Milstead, Sittingbourne, Kent ME9 0SP

Tel: 01795 830100
<http://www.biac.co.uk>

CROP PROTECTION ASSOCIATION

Member companies can supply technical literature

Crop Protection Association, 4 Lincoln Court, Lincoln Road, Peterborough PE1 2RP

Tel: 01733 349225

<http://www.bcpc.org>

ENGLISH NATURE

Advice on Wildlife Sites only

Northminster House, Peterborough PE1 1UA

Tel: 01733 455101

<http://www.english-nature.org.uk>

FARMING AND WILDLIFE ADVISORY GROUP (FWAG)

Advice on farming and conservation

National Agricultural Centre, Stoneleigh, Kenilworth, Warwickshire CV8 2RX

Tel: 024 7669 6699

<http://www.fwag.org.uk>

THE 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 76303157

<http://www.hdra.org.uk>

LAZY DOG TOOL LTD

Supplier of ragwort lifting tools and weeding brigades

Hill Top Farm, Spaunton, Appleton-le-Moors North Yorkshire YO62 6TR

Tel: 01751 417351

<http://www.lazydogtoolco.co.uk>

MACHINERY RINGS ASSOCIATION

Co-operative supply of machinery and labour

Wood Street Farm Cottage, Catfield, Great Yarmouth, Norfolk NR29 5DF

Tel: 01629 582276

<http://www.machineryrings.org.uk>

NATIONAL ASSOCIATION OF AGRICULTURAL CONTRACTORS

Member companies can provide contracting services in agriculture amenity and industrial land based areas

National Association of Agricultural Contractors, Samuelson House, Paxton Road, Orton Centre, Peterborough PE2 5LT

Tel: 01733 362920

<http://www.naac.co.uk>

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
<http://www.efrc.com>

RAG-FORK

Suppliers of ragwort lifting tools
110 Sunderland Street, Tickhill, Doncaster DN11 9ER
Tel: 01302 743146
<http://www.rag-fork.co.uk>

RAGWORT-UK LTD

Cinnabar biological control agents
Ragwort-UK Ltd, 74 Roman Bank, Long Sutton, Lincolnshire PE12 9LB
Tel: 01406 365180
<http://www.ragwort-uk.com>

UNITED KINGDOM AGRICULTURAL SUPPLY TRADE ASSOCIATION

Member companies supply and distribute agrochemicals
UKASTA Ltd, 3 Whitehall Court, London SW1 2EQ
Tel: 020 7930 3611
<http://www.ukasta.co.uk>

The presence of any organisation on this list does not imply that the Code endorses the advice, guidance, information, products or services provided by those organisations.