



Ragwort: Noxious weed or precious wildflower?

Ragwort - about the plant

Nineteen species of the Ragwort genus, *Senecio*, occur in the wild in Britain, but most of these are garden escapes or other introductions. The main 'weed' species is the native Common ragwort (*Senecio jacobaea*) which thrives where bare ground or thin vegetation allows the development of seedlings. The plant is often biennial, with rosettes forming in the first year that later (usually the next year) develops into a flowering shoot which can tolerate being among other tall vegetation. Common ragwort supports the most specialist insect species, however the native Hoary ragwort (*Senecio erucifoliusci*) which is similar in appearance, is also preferred by some insects.

The New Atlas of the Flora of Britain and Ireland (2002) shows Ragwort as native and states that 'the distribution of Ragwort is unchanged from the map in the 1962 Atlas'. In addition, the Countryside Survey (a national scientific study) found no specific evidence of an increase in Ragwort in grasslands (i.e. grazing land) during the period 1990 to 1998. Although they showed an increase in lowland woods and on arable land, neither of these habitats are frequently grazed by horses. The perceived increase in Ragwort abundance seems to be simply a result of increasing awareness.



There are also other widespread Ragworts with similar sized flowers which look similar to common ragwort. Marsh ragwort (*Senecio aquaticus*), occurs locally in wet, unimproved fields. The growth form is shorter and the flowering shoots are more splayed than Common ragwort. Current information suggests that this supports fewer species of special insects but remains important for pollinating insects. Oxford ragwort (*Senecio squalidus*) is an introduced plant, with a loosely bushy growth form, which has become very widespread as a weed along railway lines and on rubbish dumps. A few insects feed upon it, but it is more important as a nectaring source for insects. Additionally there are some rare native *Senecio* notably the Fen ragwort (*Senecio paludosus*), which grows to 2m in height, and the Welsh groundsel (*Senecio cambrensis*), a species of waste ground and waysides.

Most of the other widespread native species of *Senecio* are groundsels. These often have inconspicuous flowers with poorly developed petals, whereas Ragworts have larger bright yellow petals. Groundsels support a relatively poor fauna however the Sticky groundsel (*Senecio viscosus*) is used by a few specialist species and is mildly attractive to pollinating insects.

It is important to realise that there are numerous other plants with a roughly similar growth-form and yellow flowers. Even on the ground, with limited botanical knowledge it is possible to be confused as to whether plants are Ragworts or not, let alone which Ragwort species. Tansy (*Tanacetum vulgare*), St. John's Wort (*Hypericum spp.*) and Hawkweeds (*Hieracium spp.*) are among the plants commonly mistaken for Ragwort.

Ragwort and horses

In some circumstances Ragwort needs to be controlled but the level of control needs to be proportionate to the risk. The purpose here is to look at the facts, especially in relation to the high profile concern over toxicity to horses.

The toxins (pyrrolizidine alkaloids) in Ragwort (sometimes known as Stagger Weed) can cause liver poisoning. It is a cumulative poison that eventually leads to the rapid onset of symptoms before death, however the symptoms are variable and resemble those of a number of other diseases. Furthermore the diagnosis can only be confirmed by dissection of the liver. The lethal volume of Ragwort is around 7% of body weight for horses and cattle are also prone. Sheep are thought to be less prone to poisoning although it is difficult to find solid evidence of any fatal effects on livestock other than horses.

In 1990, MAFF (the Ministry of Agriculture, Fisheries and Food) published figures showing that only 10 horses died that year from Ragwort poisoning however in 2002 the British Horse Society (BHS) and the British Equestrian Veterinary Association (BEVA) reported figures of 6500 per year! Although these figures have now been removed from their websites, they are sometimes still quoted as evidence for an increase in numbers of poisonings. At the time the Wildlife and Countryside Link (a consortium of most of the main voluntary conservation and countryside organisations) countered that the statistical basis of this analysis was inaccurate as only 4% of BEVA members responded saying on average they had seen 3.37 suspected cases. This was then multiplied by the membership of BEVA (1,945) to give a total of 6,553 cases. It is highly unlikely that this is anywhere near the true figure because;

1. The data is not based on confirmed cases, but on the suspicions of vets.
2. Vets who did not encounter any Ragwort poisoning would be less likely to respond to a survey about Ragwort poisoning, so extrapolation of results is not possible.

A more realistic reporting of the survey results would be that up to 283 horses were suspected of dying of Ragwort poisoning in 2002. Clearly any Ragwort poisoning is a tragedy to both horse and owner and there is no doubt that poisoning incidents do genuinely occur in Britain, but the figure of 6500 is improbably high.

Horses are susceptible to Ragwort poisoning via two main routes;

1. Grazing in fields containing Ragwort. Ragwort is not a preferred food plant for horses however, problems arise where paddocks and fields are over-grazed and animals have no choice but to eat toxic plants. Moreover, over-grazing opens up the turf to reveal bare ground which is ideal for Ragwort seed germination. To this extent, horse owners can generate the very problem that they wish to avoid.
2. The presence of Ragwort in stored food such as silage or hay. The plant is still toxic when dead, but horses are less able to detect and avoid it. For this reason, hay from fields with Ragwort should not be fed to stock or horses.

The most appropriate solutions to the problem of Ragwort poisoning are therefore;

1. The proper implementation of Agriculture Act 1970 and Feeding Stuffs Regulations 2000, in which regulation 14 makes it an offence to sell feeding stuff contaminated with dangerous material.
2. The promotion of improved management of horse pastures, using established techniques (e.g. stock rotation and reduced grazing pressure) to minimise Ragwort content.

A further worry is seed dispersal from land adjacent to horse fields or those used for hay. Though the seed is wind dispersed, a study showed that only 0.5% became airborne and that only a tiny fraction reached 40m from the parent plant (cited in Harper & Wood, 1957). Whilst it is possible that seed could travel more than 40m, there is no need for extra wide buffer zones.

Ragwort control and the Law

The Ragwort Control Bill Act started as a Private Members Bill and has a curious history whereby Defra omitted to consult the conservation NGOs during the initial stages of the Bill. The Wildlife & Countryside Link (of which Buglife is a member) raised a number of objections;

- a) That Ragwort and its fauna is part of Britain's wildlife and ought to be viewed positively.
- b) The claim that Ragwort was becoming more abundant could not be substantiated and data from the Countryside Survey suggested otherwise.
- c) The solution is improved horse husbandry, including avoidance of over-grazing and ensuring the production of ragwort free hay crops.
- d) The data for numbers of horse deaths attributed to Ragwort poisoning was not statistically valid.
- e) Efforts to control Ragwort by those lacking sufficient botanical knowledge could affect other Ragwort species or unrelated plants with a similar appearance.

In the House of Lords debate on 17 October 2003 Lord Brooke of Sutton Mandeville stated that; "A recent review by Buglife-the Invertebrate Conservation Trust identified 30 invertebrates as being confined to Ragwort. Three beetles and four flies were nationally scarce, and one of the flies may deserve red data book status. Lest all that seem de minimis, certain groups of such insects particularly associated with ancient trees use Ragwort as a nectar source, especially when the mid-season sources of nectar are scarce."

The Ragwort Control Bill is now implemented through a Code of Practice that provides guidance on how to prevent the spread of Ragwort;

<http://www.defra.gov.uk/publications/files/pb9840-cop-ragwort.pdf>

The Code states that 'common ragwort and other ragwort species are native to the British Isles and are therefore an inherent part of our flora and fauna, along with invertebrate and other wildlife they support. The Code does not propose the eradication of common ragwort but promotes a strategic approach to control the spread of common ragwort where it poses a threat to the health and welfare of grazing animals and the production of feed or forage.'

An excessive carpet of Ragwort, especially of Common ragwort, is not desired by either conservationists or farmers and the principle of applying control where ragwort has become dominant is well established. What is sought is a tolerance of reasonable quantities of Ragwort in locations where it is doing no real harm e.g.:

- 1) On urban and rural uncultivated land.
- 2) On road verges, bye-ways, even bridle-ways. In most circumstances horses are not going to stop to eat distasteful plants.
- 3) In pastures which are not destined to reach the over-stocking level which may drive animals to eat even plants which are unpalatable.
- 4) On land that has important Biodiversity associated with the Ragwort plants.



What is 'a reasonable quantity' of Ragwort?

The answer to this question depends on local circumstances and the richness of the fauna. An annual appearance of 25 - 50 decent sized flowering plants may be a fair minimum for bees, though more than 100 plants would be more viable for a self contained overall fauna within a few hundred yards or 'a site'. The best faunal districts are likely to contain many more plants, often as clusters of smaller stands of Ragwort (supporting metapopulations of insects).

Just as an understanding of the concerns of horse owners is needed, so too is an understanding of the biodiversity at stake. The objective is to ensure that there is a place for both horses and the special wildlife dependant on Ragwort.

Biocontrol

The main insects that can devastate populations of Ragwort are the Cinnabar moth and the flea beetle, *Longitarsus jacobaeae*. Some of the fly larvae and moth caterpillars have the capacity to decrease seed production. The remaining fauna collectively impact upon the health and vigour of Ragwort, though the significance will depend on local circumstances. On the whole, districts where Ragwort is always present should have the most complete insect fauna and are thus best placed to continuously affect control. It is usually where poor land management allows excessive colonisation by Ragwort seed that the man made problems arise.



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Biocontrol of Ragwort using British species has been attempted where the plant has become an introduced pest in such countries as North America and New Zealand. In Britain natural biocontrol can operate, but usually there is a cycle whereby strong suppression of Ragwort resulting in a collapse in the insect populations, allowing Ragwort to recover. It is also the case that the presence of a range of parasites of these insects in the UK also limits the populations of the Ragwort feeders. It should be noted that cinnabar moth larvae can strip plants completely but the roots usually managed to shoot again the next year whereas the flea beetle actually kills plants before they can flower.