

# JAPANESE KNOTWEED

## *Fact sheet: Identification and Control*

### **What is Japanese Knotweed?**

Japanese Knotweed, (scientific name *Fallopia japonica*), also known as Donkey's Rhubarb, was introduced to Britain from the Far East in 1825 as an ornamental plant.

### **Why is it a problem?**

It is the most invasive plant in Britain. It spreads rapidly, especially on waste ground and next to streams and rivers, forming uniform stands that shade out native plants thereby damaging wildlife habitats. It can also be seen in gardens and on derelict areas and can pose a



problem to property developers due to structural damage to buildings caused by its roots and stems.



The main problem is that it spreads so easily through fragments of the roots (rhizomes) in contaminated topsoil or by stem cuttings in garden waste. Knotweed can grow in almost any habitat, and once established, it is very difficult to control. For this reason the Wildlife Act 1990 makes it an offence to plant Japanese Knotweed "or otherwise cause it to grow in the wild".

### **What does Japanese Knotweed look like?**

In spring red shoots appear with rolled up reddish purple leaves. The plant grows rapidly, up to 10 cm a day, and the leaves unfurl becoming lime green and later darkening to mid green colour. The stems elongate and look similar to bamboo, as they are hollow with prominent nodes. However Knotweed stems tend to zigzag and possess reddish-purple speckles. Each leaf is carried on a short stem at a different level from the next leaf below or above. Sometimes the young leaf has a subtle stripe. In summer the mature plant reaches up to 3m in height. Clusters of creamy white flowers are produced in late summer/early autumn. No viable seeds have been found in the British Isles.

In winter the plant dies back leaving woody stems that turn dark brown. These can persist for 3 years and prevent the growth of native plants by covering the ground with dense litter.

**Note:** Unlike Giant Hogweed (*Heracleum mantegazzianum*), Japanese Knotweed is not known to be harmful to humans.





## How does Japanese Knotweed spread?

Japanese Knotweed has extensive, deep roots called rhizomes. These can be up to 3m (10 feet) deep and can extend out to 7m (23 feet) from the parent plant. Think of the plant as an iceberg, with a third of the plant above ground and two thirds under ground in the form of rhizomes, with an ability to spread.

Knotweed does not normally spread by seeds. However it can grow from cut stems, crowns or rhizomes:

- Rhizome fragments of 1cm (0.7g) can sprout a new plant
- Stem cuttings from mowing, flailing, or strimming can re-grow and establish new plants
- Crowns can withstand drying and composting to sprout new red buds and create new plants



The stem (right) has a characteristic red speckled pattern. Shoots (left) appear from nodes on the stem.

The crown is at the base of the stem and is highly resistant to drying so it is capable of surviving composting and can regenerate into new plants.



**This plant easily spreads to other areas if cut stems, shoots, crowns or roots (rhizomes) are distributed.**

### DO

- Check your land for the presence of knotweed, especially along watercourses.
- Pull stems in June and July and lay them on an impermeable surface until they are dry and brown and can be burnt.
- Treat with herbicide in accordance with the instructions on the pack and guidance here.
- Fill in a Japanese Knotweed Recording Sheet and return it to DEFA if you have it or see it. DEFA are mapping its spread.



### But DON'T

- Tip green waste on verges, riversides, cliffs or derelict ground.
- Cut and spread Knotweed cuttings or chippings from affected areas.
- Move or spread topsoil from Japanese Knotweed contaminated sites.
- Move any parts of the plant (including dead-looking or uprooted stems) any more than is absolutely necessary – it is incredibly easy to spread this plant.

## What is the Government doing?

All departments have begun successfully treating the plant on Government land. The Department of Environment, Food and Agriculture advises both government and private landowners on the most effective methods of controlling the knotweed. Successful control of this plant on the Isle of Man can only be achieved with the co-operation of private landowners.

# How can you control Japanese Knotweed?

## Whose responsibility is it to control Knotweed?

The landowner or tenant of the land affected.

## Cultural (non-chemical) treatments

It is very difficult to remove large and long established infestations without the use of herbicides. Cutting every month during the growing season will eventually weaken the plant. However, it could take many years to fully eradicate the weed. Hand pulling is more effective than cutting, as it removes the crown and part of the rhizome. However the pulled stems and rhizome can easily take root and spread so the correct disposal of this material is important. Pulling can be used for small colonies in environmentally sensitive areas, such as alongside streams, and control should be achieved in 3 years. Shading out the Knotweed using plastic sheeting with the addition of a mulch or bark chipping has been tried, but is less effective than chemical treatment.

## Chemical control by herbicides

Chemical control is the most successful treatment for controlling Knotweed as it kills the extensive rhizome system, but even this may take several years to fully eradicate the plant.

The most commonly used herbicide at the present time is Glyphosate, (e.g. Roundup Bio Active) which may be obtained in a number of products for use in both commercial and amateur garden situations. (For gardens, pre-mixed hand held trigger sprayers can lead to good control).

Another herbicide that could be used is 2, 4-D Amine, which is more selective and will not affect grass. Both Glyphosate and 2, 4-D Amine are approved for use in or near watercourses provided an appropriate preparation of the chemical is used. Care should be taken when applying Glyphosate near trees and shrubs, as any spray drift may cause severe damage or kill the affected plant. Please read all product labels before use.

## When to treat

Best advice suggests **three applications** through the year – spring, mid-summer and late autumn. Spring application allows the herbicide to be applied when the plant is only 1 metre tall and there is plenty of leaf to absorb the chemical. By summer the plant could well be over three metres tall, making safe application to the leaves impossible. It may be necessary, therefore, to cut back the established growth (ensuring, however, safe disposal) before spraying, and again spraying the re-growth in late autumn when the plant is channelling nutrients back to the roots.

## How to treat

**Spraying** is the most effective treatment but take care to avoid drift and damage to non-target plants such as neighbouring plants, shrubs and lawns. It is best to spray when there is only a very light wind and when the weather is likely to be dry for 24 hours afterwards. It is important to follow the manufacturer's instructions closely when using herbicides and to wear appropriate protective clothing.

Take care on paved, waterlogged and steeply sloping areas to ensure that the herbicide run-off does not contaminate a watercourse. On paved surfaces or porous surfaces like gravel, care should be taken to ensure herbicide run-off does not seep through onto surface roots, where uptake may lead to the death of a tree.

**Weed wipers** or impregnated weed gloves can be used for foliar application by applying the herbicide directly to the leaves.

## Future treatments:

**Year 1:** For optimum effect, spray the plants with herbicide in April, June **and** September.

**Year 2:** Spray the plants as in Year 1. Make sure that the affected area is marked out so that any small remaining plants can be found the following year.

**Year 3:** The growths are very tiny – a few centimetres in height, but they must be treated thoroughly again or the plant will re-grow.

## Disposal of Japanese Knotweed material

Japanese Knotweed waste including the stems, leaves, rhizomes and crowns must be disposed of responsibly to prevent spread of this plant into new areas on the Island and to avoid committing an offence.

**On-site burning** is usually the most appropriate, but do not cause a nuisance to your neighbours or danger to road users. Consider the wind strength and direction before burning. Burn thoroughly.

- **DO NOT** compost the stems or other parts of the plant
- **DO NOT** allow plant material to contaminate watercourses or other habitats
- **DO NOT** cut, strim or flail Knotweed as this can spread cuttings

### Application of herbicides near to streams and watercourses

Herbicides, which are not approved for use in or near watercourses, should not be applied within 5 metres of a watercourse (Code of Good Agricultural Practice for the Protection of Water).

### Commercial Application

A Certificate of Competence is required for chemical treatments to commercial, agricultural and horticultural land. For further advice contact Department of Environment, Food and Agriculture.

## Guidance for Property Developers

It is important to identify whether Japanese Knotweed is present as it can grow through up to a metre of concrete and tarmac causing extensive structural damage and resulting in high costs. Recognition of stems, shoots and leaves should be possible with reference to the descriptions and photographs in this fact sheet. However determining whether there is rhizome or crown fragments in the soil can prove more difficult. Look out for the carrot-like orange-red core of the rhizome and the hard brown crown from which the shoots grow.

If Japanese Knotweed is found on the site:

- Cordon off the area where the Knotweed is situated in order to prevent machinery accidentally spreading the material across the site. Do not remove the Knotweed material to another site for disposal.
- Treat the Knotweed with an appropriate herbicide before work commences on the area. This can be done at any time when there are leaves on the plant. Herbicide treatment of soil contaminated with Knotweed rhizomes can also be carried out. Repeat herbicide applications are likely to be necessary.
- Dispose of Knotweed leaves and stems by burning on site if possible. Otherwise Knotweed contaminated green waste and soil will need to be buried to a depth of at least 5 metres. The potentially viable knotweed material should then be covered with a geo-textile layer (e.g. Lowtrak) or a heavy gauge polythene sheet prior to infilling.
- Remember that one herbicide treatment will not be sufficient and the knotweed is likely to re-grow for several years.



**This leaflet should provide all the information required to control the plant. However, further information and advice can be obtained from:**

#### Department of Environment, Food and Agriculture (DEFA)

This Slieau Whallian, Foxdale Road, St Johns IM4 3AS  
Telephone: 685835  
E-mail: [defa@gov.im](mailto:defa@gov.im) website: [www.gov.im/defa](http://www.gov.im/defa)

#### The UK Environment Agency

website: <http://www.environment-agency.gov.uk>

Advice on other aspects of watercourse management can be obtained from the **DEFA River Management Project Officer** on 651544/450736 Tuesday to Thursday during office hours.