

Japanese knotweed



Japanese knotweed (*Fallopia japonica*), is an invasive herbaceous perennial (a plant that can live more than one year). Since it was introduced as an ornamental plant in the 19th Century from Japan, it has spread across the island of Ireland, particularly along watercourses, transport routes and waste grounds where its movement is unrestricted. Japanese knotweed can:

- Seriously damage houses, buildings, hard surfaces and infrastructure growing through concrete, tarmac and other hard surfaces in some cases.
- Threaten native plants and animals by forming dense thickets.
- Block routes used by wildlife to disperse.
- Riverside Japanese knotweed damages flood defence structures and reduces the capacity of channels to carry flood water.

Identification

You can download an identification sheet from the following link: [Japanese Knotweed \(*Fallopia japonica*\)](#)

Red/purple shoots appear early in spring which in some case resemble an asparagus like appearance but, as the canes grow, the leaves unfurl and the plant takes its more characteristic appearance. The mature canes are like bamboo, being hollow, and have a characteristic pattern of purple speckles. The plant can grow to over 3m in height. Flowering occurs in late summer/autumn (End July – typically August) and consists of small creamy white flowers. During the winter the leaves die back and reveal orange/brown woody erect stems.

The underground rhizomes which can extend up to 7 meters from the parent plant and up to 3 meters in depth (sometimes further in exceptional cases) are thick and woody with a knotty appearance and when broken reveal a bright orange-coloured centre.

Only female Japanese knotweed plants have been recorded to date in Ireland and the UK

hence it is spread entirely from site to site through the deliberate or accidental movement of rhizome fragments or cut stems. Some reports suggest a fragment of knotweed as little as 0.6 grams can result in new growth.

The key features of the plant are summarised below (see identification tab for images):

- Produces fleshy red tinged asparagus like shoots when it first breaks through the ground in an established stand.
- Has large, heart or spade-shaped green leaves which are approximately the size of your hand.
- Has leaves arranged in a zig-zag pattern along the stem.
- Grows up to 3 metres in height.
- Yellow / cream flowers in late summer (Typically the start forming from late July onwards).
- Hollow bamboo like stems which have distinctive ring like nodules at regular intervals along it.
- Brown stem in winter once it has died back.
- Extensive rhizome system (roots) (7m x 3m approximately)
- Orange centred rhizome.
- Spread entirely via the movement of plant and rhizome fragments.

Similar species

The following species are commonly confused with Japanese knotweed: dock; buddleja (butterfly bush); knotgrass, Russian vine (also known as mile a minute weed), red osier dogweed, some species of virburnum and redshank (herb). Be aware that in Northern Ireland, Ireland and other parts of the UK other knotweed species occur. Namely giant knotweed, hybrid knotweed and Himalayan knotweed which are all listed under legislation. Both the giant and hybrid knotweed can easily be confused with Japanese knotweed and can be distinguished by their leaf size and shape (see the GB NNS ID sheet for drawings on page 2).

Impacts and key issues

Japanese knotweed grows vigorously and outcompetes native plants. Japanese knotweed forms tall thickets that exclude all other vegetation, shading the area below. Native plants can rarely compete with this invasive species and local plant biodiversity is reduced. Rivers, hedgerows, roadsides and railways can form important wildlife corridors for native plants and animals to migrate and disperse along, and large infestations of Japanese knotweed can block these routes for wildlife.

Japanese knotweed can also seriously damage buildings, hard surfaces and infrastructure in some cases. Once established underneath or around the built environment, it can be particularly hard to control, in some cases growing through concrete and tarmac and other areas of hard-standing. When Japanese knotweed colonises riverbanks, it can damage flood defence structures and reduce the capacity of channels to carry flood water.

The following provides a summary of the key impacts of the species:

- Excludes native species;
- Dies back in winter leaving river banks vulnerable to erosion;
- Subsequent potential sedimentation impact on fish spawning areas;
- In cases it can damage building foundations;
- Collects litter in urban areas; and
- Can damage hard surfaces by growing through them.

How is the species spread

Even though Japanese knotweed plants flower the principal means of spread is entirely through the deliberate or accidental movement of rhizome fragments or cut stems. Japanese knotweed has an extraordinary ability to spread vegetatively from crown, stem and rhizome (underground root) if disturbed. Even tiny amounts of cut stem, crown or rhizome are capable of producing a new plant. Controlling spread is therefore dependent on preventing the spread of the stem, crown or rhizome.

Management summary

Chemical control

Herbicide active ingredient / Invasive Plant	Glyphosate (residual for 24-48 hours).	2,4 – D amine (residual for approximately 1 month)	Triclopyr (a weeks)
Japanese knotweed	Optimum time of application is late season (Mid to late September). An early season spray maybe required in year to assist with access for the late season spray. Will also kill grasses - only approved for use near water in certain products.	Early season application preferred (Only approved for use near water in certain formulations). Commonly found in products with triclopyr	Early seas preferred – use near w in products also prese

Non-chemical control

- **Deep excavation and deep burial:** This is an option that is used in situations where there is a pressing development need for the site and time which would not allow for *insitu* herbicide control over a longer period of time. **If you require more information on this method, see the Environment Agency knotweed code of practice. It is recommended in these instances to seek advice from a suitably experienced knotweed specialist.**
- **Biological:** This method is not usually recommended for control of this species. Grazing is not an eradication tool but is helpful in suppressing the plant and reducing spread in certain circumstances. You must remember that Japanese knotweed has an extensive rhizome system that will not be grazed. The psyllid bug *Aphalara itadori* was released in

England in 2010. The effectiveness of this species at reducing the vigour of Japanese knotweed is still being assessed. There are no current plans to release this species in Ireland or Northern Ireland until more information is available. It is illegal to release any non-native animal into the wild in both Ireland and Northern Ireland without a licence.

In general

- Herbicides can be applied using a range of suitable applicators such as a knapsack sprayer. Control is easier if dead winter stems are tidied over the winter months to assist with access before growth commences i.e. to prevent tripping on them or them interfering with your knapsack lance. It is advised to leave the cane *in situ* to reduce the risk of spread to other sites. Be careful to avoid spreading knotweed crowns when tidying dead canes. Application in sensitive vegetation areas is best achieved by stem injection or weed wiper.

Further details on control measure

1. Remember that it is illegal to dump Japanese knotweed waste in the countryside.
2. It is illegal to plant or otherwise cause Japanese knotweed to grow. Hence you should be careful to ensure that you do not cause further spread.
3. It is illegal to dispose of Japanese knotweed at a landfill site without informing the landfill site that the waste material is Japanese knotweed.
4. To move soil in the Republic of Ireland that contains Japanese knotweed will require a license from NPWS.
5. Japanese knotweed can regenerate from very small fragments of rhizome (as little as 0.7 grams).
6. Plant material should not be composted as it is ineffective and may result in further spread.
7. Plants should be treated in the same season as they are identified. Try not to let stands of Japanese knotweed become established as this species is very difficult to control. If it is a recent introduction it is best to tackle it quickly to prevent the rhizome system from fully establishing.
8. Japanese knotweed is not an easy plant to control due to its extensive underground rhizome system. Therefore treatment often needs to be repeated until no regrowth is observed over several years for eradication to be achieved.
9. Repeated herbicide treatments over several years are normally recommended for complete control of Japanese knotweed. Continued monitoring of the treated areas should also be carried out to ensure that no new shoots appear.
10. If you intend to deep bury the dead Japanese knotweed material or dispose of it off-site for deep burial, it is recommended that you should only use glyphosate formulations. Other persistent herbicides may not be allowed for deep burial under various waste regulations and due to a potential risk of pollution of groundwater. It is recommended not to deep bury or bund Japanese knotweed onsite within 10 metres of the site boundary as a precaution.
11. When planning works with Japanese knotweed ensure you have built in biosecurity measures into your management plan. For example fencing off and creating a buffer

around the area if it is a development site, warning signs, use of set haulage routes, covering loads, ensuring all staff working on the site are aware of the presence of knotweed, use of a set cleaning area etc.

Sources of further information:

- [The Environment Agency's Japanese Knotweed Code of Practice](#)
- [Northern Ireland Environment Agency. Japanese Knotweed \(Fallopia japonica\) – Commonly Asked Questions](#)