



THE CONTROL OF JAPANESE KNOTWEED WITH ROUNDUP PRO BIACTIVE



The problem

Japanese Knotweed was introduced to the UK in 1825 and widely planted as an exotic garden ornamental before the invasive nature of the plant became clear. Japanese Knotweed is probably the most invasive plant in Britain and is scheduled under the 1981 Wildlife and Countryside Act so that it is an offence to plant or cause it to grow in the wild. In addition under the Environment Protection Act (1990) Japanese Knotweed is classified as 'Controlled waste' and must be disposed of at a licensed landfill site in accordance with the Environment Protection Act (Duty of Care) Regulations 1991.

Growth habit

Fleshy, red shoots appear in the early spring from an extensive underground network of stems (rhizomes). The shoots can reach 1.5m by May and 3m by June.

Long racemes of cream flowers appear in late summer and dieback occurs at the first frost of the autumn, leaving the leafless stems to remain throughout the winter. The rhizomes from one plant can be 2m deep and 7m across.

Thankfully in the UK the plant does not produce viable seed, except in the rare instances of hybridisation with other similar introduced species.



Many areas of the country have campaigns to eradicate the alien weed and Roundup Pro Biactive plays an important role by controlling the weed with maximum safety to operators, the public and the environment.

CONTROL WITH ROUNDUP PRO BIACTIVE

- Chemical control in aquatic areas needs Environment Agency approval. You will need to fill in form WQM 1 and submit it to your local EA office.
- Always clear the previous year's growth during the winter. This evens up the new stems and makes spraying easier.
- Treated plants take up to 6 weeks to show symptoms. Only remove plant material when there is no further sprouting. Only re-spray if there are no visible signs of dieback after 6 weeks.
- As with most broad-leaved perennials, optimum control will be achieved from treatment at flowering in August or September but before die-back.
- Treatment late in the season is the most effective because the glyphosate is transported deep down into the underground rhizome structure along the natural flow of plant nutrients down for winter storage. Japanese Knotweed is sensitive to frost so late season applications should be made in advance of the first frosts.
- Treatment in early season is usually less effective because the plant is naturally pushing nutrients strongly upwards to the developing canes. This can lead to a good initial top kill of leaves but less transport to the rhizomes. Regrowth after early season treatment can often be 'epinastic' ie stunted and distorted and because it is not actively growing it is more difficult to kill.
- For established stands it is important to plan an effective management programme over several years as repeat applications may well be necessary, either to control very large plants, with their associated underground mass of rhizomes, or to control those plants which were missed by earlier applications due to shading. Sites should be monitored for at least three years.

APPLICATION TECHNIQUES

1) FOLIAR SPRAY AT FLOWERING

This is the optimum timing. Apply 5l/ha in 200 litres water. Use of specialist extending hand lances is recommended where plants are 2-3m tall. Spray the underside as well as the upper surface of the leaves.

2) TWO FOLIAR SPRAYS AT 1 METRE STEM HEIGHT

Spray the plants at 1-1.5m tall, in late May, with a rate of 5.0 l/ha and repeat on any re-growth later in the season once they reach 1.5m again. This technique can be used where stands are particularly thick, as part of an integrated control programme or where long lances are not available.

3) WEEDWIPER TECHNIQUE

Applications using a hand held weed wiper have proved successful. Use Roundup Pro Biactive at a 1:2 ratio with water. This method can be useful where treatment of nearby vegetation is to be avoided or for spot treatment of small re-growth. It has very high success rates, but it is labour intensive.

4) STEM FILLING TECHNIQUE

In certain situations such as when the Japanese Knotweed is growing on sites with a ground flora considered of particular value or a Cornish hedge, or in a garden situation where the Knotweed is growing close to other plants, a stem filling technique may prove a suitable alternative. Although requiring a far higher labour input, the herbicide can be more accurately directed. This technique involves cutting the stem and introducing 10ml of a 20% solution directly through the top. It has been developed by the National Trust, in conjunction with the Cornwall Japanese Knotweed Forum. Full details of the method are available on request or visit http://www.ex.ac.uk/knotweed/work_in_progress.htm

5) JK INJECTION TOOL

This recent introduction from the USA can be used in similar circumstances to the stem filling technique to treat small stands, particularly by water, new invasions and to tidy up escapes from eradication control programmes. The tool uses a needle to inject directly into the stem rather than cutting the stem down.

More at http://www.cdae.co.uk/stem_injection_systems/

RESULTS FROM SOME DIFFERENT APPLICATION METHODS

Treatment method	% green cover after 1 year	% green cover after 2 years
Roundup Pro Biactive 5l/ha foliar spray in 250l/water	2.7	2.3
Roundup Pro Biactive Foliar weedwiper 1:2 dilution	0.0	Only 1 year's data
Roundup Pro Biactive Stem filling using 20% solution	4.7	
Amateur formulation in watering can	60	

(Avon Vegetation Research 2001-2003)

RATES, TIMINGS AND WATER VOLUMES

Method	Dose rate	Timing
Overall foliar spray	5 l/ha or 25ml per litre of water in a standard knapsack sprayer fitted with 200l output nozzles. (Spot-treated leaves should be covered in spray droplets but not running off.)	1) Apply to flowering stems from late summer, using long lances 2). Apply late May with a follow-up treatment to re-growth at 1-1.5m height before the first frost. If stems taller than 1.5m consider cutting back and treating re-growth.
Hand held weed-wiper *	1 part Roundup Pro Biactive to 2 parts water	Stems can be wiped from 1m–3m height in late summer.
Stem filling technique	1 part Roundup Pro Biactive to 5 parts water, 10 ml per stem	Shortly before senescence from September through October. Use approved methodology.
JK Injection tool	1 part Roundup Pro Biactive to 5 parts water, 10 ml per stem	Apply to flowering stems from late summer through October for best results.

*The Microwipe, hand held weed-wiper is available from Billericay Farm Services, telephone (01268) 710237

For more information telephone the Monsanto Hotline on (01954) 717575

Roundup Pro Biactive contains glyphosate.

Roundup & Biactive are registered trade marks of Monsanto Technology LLC

Other brand names used are Trademarks of other manufacturers in which proprietary rights may exist.

ALWAYS READ THE LABEL: USE PESTICIDES SAFELY

Monsanto UK Ltd 2009(MS)

We Support

