Guidance on the Chemical Control of Japanese Knotweed in Guernsey

(Professional Products - NPTC Qualified Spray Operators Only*)

For up to date information on pesticide approvals always check the Plant Protection Product Databases at https://www.hse.gov.uk/pesticides/databases/index.htm

Chemical control is currently the most successful treatment for controlling Japanese Knotweed (JKW) as it can over time kill its extensive rhizome system. However, complete control will seldom be achieved in one season and may take several years. It is also important to select the appropriate product, method of application and timing of applications for the individual situation.

Choice of herbicide & Timing of Application

Some products are that approved for the control of JKW in the UK & elsewhere may not be approved in Guernsey. If in doubt please check with Guernsey Health & Safety Executive (HSE) before deciding on a particular treatment e.g. Picloram, & Aminopyralid based herbicides are banned in Guernsey as they pose an unacceptable risk to the environment.

Some formulations of glyphosate have UK approval for use on or near water – this is not always the case in Guernsey so please check with Guernsey Water or the HSE if in doubt.

Recent research has indicated that not only the type of herbicide but also the growth stage at which it is applies has the most influence on the control achieved (Jones et al. 2018).

JKW produces a robust rhizome system within the soil which is best controlled by a translocated herbicide that is drawn down into the roots / rhizomes to kill them. The time of year at which this is most effective is between June – October when the JKW is actively producing more rhizomes and will direct the herbicide downwards into the plant better than in the spring when transport systems within the plant favour new top growth away from the roots.

A foliar spray application of Glyphosate in late May / early June when the leaves are fully expanded followed by another at flowering time in autumn have produced the best results for the minimum use of herbicide in recent UK trails.

Other broad leaf weed killers containing the likes of **2,4D, Dicamba, Mecoprop-P, MCPA** , **Clopyralid, Triclopyr** etc. act in a slightly different way and did not prove as effective as glyphosate in recent trails. However, as glyphosate-based products are not selective it may be that these still have a place where surrounding plants need to be kept.

Before spraying a stand of JKW any dead stems from the previous season should be removed by cutting and safely disposed of. Where stands are too tall to treat and long lances are not available the JKW can be cut back and the regrowth treated when at a manageable size e.g. 1-1.5m. Again, this will be most effective once the leaves are fully expanded.

Collect the cut stems and dry them on a polythene sheet, or similar, to prevent rooting until they are dark brown before burning in situ if practical and will not cause a nuisance.

Where burning is not possible the cut stems can be placed fresh or dried in strong black polythene sacks to compost. To ensure that no live plant material escapes use two plastic sacks one inside the other.

There is no longer any facility to dispose of Japanese Knotweed in landfill so every attempt to dispose of on site should be made. For off-site disposal contact Guernsey Waste Management on 231234.

A). Glyphosate

There are well over 150 different formulations of glyphosate to choose from but some such as Roundup ProBio, Roundup ProActive or Roundup Provantage have specific label instructions for use against JKW.
Glyphosate is systemic and is translocated from the leaves or the stems back into the underground rhizomes. Care must be taken when using glyphosate because it is a total weed killer which means any plant material sprayed could be damaged. It is a versatile product which can be applied using a hydraulic sprayer, knapsack sprayer, and weed-wiper or stem injection gun if the label /approval allows.

Glyphosate based herbicides can take up to 6 weeks to show their effects during which time the JKW should not be cut or re-treated.

B). 2,4-D,Dicamba, Mecoprop-P, MCPA, Clopyralid or Triclopyr & their mixes.

These active ingredients all mimic the plants natural growth hormones causing abnormal growth and cell disruption. As with all pesticides care should be taken to avoid any drift which can occur resulting in nearby unintended plant damage. There are a number of possible products available but when choosing make sure that it is approved for the situation you find the Japanese Knotweed in.

Details of the definitions of various crop situations can be found on the UK HSE website https://www.hse.gov.uk/pesticides/databases/crop-hierarchy-introduction.htm

Application Methods

(Always check the label or conditions of approval for the application methods permitted)

At the time of writing Guernsey Water have identified vulnerable areas which are high risk of pollution to the to the water catchment of the island as “stream banks, ponds, wet meadows, marshy areas, douits, drainage ditches, underground culverts or paved areas”. Pesticide applications must be at least 3m away from a vulnerable area. This can be reduced to 1m if weed-wiper or gel applications are being used. See http://www.water.gg/CHttpHandler.ashx?id=108839&p=0 for further details. If in any doubt please contact Guernsey Water.

1. **Spray Applications e.g. Knapsack, Hydraulic Sprayer etc.**

Care should be taken to avoid drift onto neighbouring plants by selecting the appropriate nozzle (deflector or even flat fan) and pressure and choosing a time when there is very little wind (Force 1-2). The treatments also need time to get into the plants, therefore, select a day when the weather is likely to be dry for at least 8 hours after treatment (or as stated on the product label). Where

possible apply the spray when the plants are between 0.5-1m tall. Read the label and wear the appropriate protective equipment. Also follow the local legislation when you are treating knotweed near water. Guernsey Water provides guidance on its website www.water.gg on the application of herbicides within the water catchment area.

2. **Weed-wiper**

This method of application is restricted to certain glyphosate formulations. It may be useful in vulnerable areas because there is less risk of drift onto plants or water, less wastage of chemical onto soil and lower risk of operator contamination. Details of rates are given on the individual product label. Again, follow the local legislation when you are treating knotweed near water.

3. **Stem treatments**

There are two basic stem treatments, one involves cutting the stems and pouring the chemical into the stem cavity and the other involves injecting the chemicals into uncut stems. The optimum timing for this is from mid-August to late September. Details of how to do this can be found on the relevant product label.

Useful Contacts:

Guernsey Water Tel: 239500 or www.water.gg

The States Analytical Laboratory Tel: 707612.

Health & Safety Executive Tel: 234567

References

'Optimising physiochemical control of invasive Japanese knotweed': Jones, D., Bruce, G., Fowler, M.S. et al. Biol Invasions (2018) 20: 2091

'Japanese Knotweed Guidance for Identification & Control': Cornwall Knotweed Forum (Undated).

**Use of Professional Pesticide Products*

A certificate of competence is required to buy and use professional herbicides and to apply such treatments to amenity, commercial, agricultural and horticultural premises.

The Guernsey College of Further Education provides a range of suitable City & Guilds NPTC courses that cover the legislation and codes of practice that must be adhered to, as well as offering qualifications for different types of application such as tractor mounted or knapsack sprayers. They can be contacted on 737500.