Release of the Non –Native bio-control agent for control of Japanese Knotweed - Aphalara itadori – the Psyllid jumping louse.

Japanese knotweed was intially introduced to the United Kingdom by a Dutch Nursery man called Von Siebold. The Victorian gardeners of the time saw themselves very much as Masters of the Universe – thinking that they could manage and control the plants that they brought to the country from around the world. In a very short period of time these plants spread from the managed gardens into the nearby countryside and from there throughout the UK. Our native countryside is now riddled with the mistakes that these gardeners made.

Originally planted at Kew Gardens the Royal Horticultural Society actually recommended Japanese Knotweed as an 'infill' shrub for ornamental borders. They then noticed its prolific leaf and fleshy stems – so encouraged its use as a fodder plant. Further investigation identified a massive root system and huge spread beneath the ground therefore its use as ground stabilisation was suggested to both Rivers and Railways authorities.

Japanese Knotweed is now quoted as being able to grow a foot a week during the growing season and to spread 7 meters in all directions during each year of its growth. Each Japanese Knotweed plant in the UK is female and does not spread by seed but by what are called 'propagules' – this basically means that *any* part of the plant has the ability to re-grow.

Japanese Knotweed is present throughout the United Kingdom and is now recognised as the countries most invasive alien species. The plant has the ability to spread and grow from 'a piece as small as a fingernail' - and it is this ability which has seen it spread unchecked throughout the country. It is thought that the urbanization of the countryside has been the accelerator in the growth of invasive plants throughout the country. Movement of infested topsoil has been an influencing factor along with the Utilities companies being unaware of the fragments of Knotweed that have been carried on machinery moving from one site to the next.

Flooding has played a major part in the waterside spread of invasives along with ill advised clearance programmes on sites that have left sections of Japanese Knotweed floating down rivers to colonise slower sections of watercourse. As the climate changes and flooding incidence becomes a more regular feature of our rainfall pattern then the spread of invasive plants will become more of an issue. It is not just the growth of the plant that becomes problematic during times of flood – also the surplus leaf litter and stems of knotweed can often be seen blocking drains and overflow lagoons.

For several years now rumors have been rife that legislation covering Japanese Knotweed will be made more vigorous. Suggestions have been made that the plant should be included under the Weeds Act (this Act has historically been used to over weeds that could be a threat to our agricultural industry) this would put the onus on the landowner to treat remove and eradicate Japanese Knotweed.

The various legislative bodies – such as DEFRA and the Environment Agency would also be given powers to police the act by means of enforcement notices which would be served on landowners not taking action against invasive plants.

The problem with increasing legislative powers is the *potential cost burden* to the landowner. The people with the *biggest problem* will be the likes of the various

statutory bodies, the Environment Agency, Network Rail, the Highways Department and the various Local Authorities.

Currently there are a variety of strategies used to remove Japanese Knotweed:

1. Excavation and removal from site
2. Chemical Treatment – either residual or non-residual herbicides
3. On site incineration

There is now a suggestion that added to this list of strategies should be Biological Control..

A consortium of statutory bodies and land managers has funded work to identify a suitable bio-control agent. The research has identified two potential candidates – Mycosphaerella polygoni-cuspidati a fungus which causes 'leafspot' and Aphalara itadori which is one of a group of sap sucking insects called psyllids. The research has been carried out by CABI – an organisation which tries to apply scientific thinking to solve problems in agriculture and the environment.

Organisms which are potentially harmful to plants and which do not normally occur in Great Britain are regulated by the Plant Health Order(2005). When a new plant pest is found in the UK a Pest Risk Assessment or PRA is carried out to identify the risks.

The summary of the recently released Pest Risk Analyis appears to be riddled with inconsistencies and non-scientific terminology.

When commenting on the major host plants that support Aphalara itadori the PRA states that they all '*appear to be'* in the genus Fallopia. It then goes on to state that the eggs are largely sedentary making it '*unlikely'* to move to a non-target species. It is noted that the climate conditions in its native Japan are '*not directly comparable'* to GB – the climatic extremes are greater in its native Japan and it is '*not known whether the psyllid actually required these extremes*'. The conclusion within this section of the report is that the spread of the aphid is '*only likely'* to be limited by the availability of its target host.

Surely the conclusion should be that the climate is completely different in Japan and that we aren't really too sure what the climate differences will make to the growth and spread of the aphid?

One of the concerns should surely be the potential effect of a new food source on the food chain within the GB parasitoids? The PRA states that the '*likelyhood of significant attack is low'* and that a *'limited study'* showed a clear preference for normal aphids when a choice was available. The conclusion was that it was *'unlikely that A.itadori would be predated'* –

So what we are suggesting here is that we are going to introduce another alien species….. that NOTHING PREDATES UPON…! That's almost an exact description of Japanese Knotweed!!

With regards potential threats to our agricultural crops being threatened the Pest Risk Analysis notes that '*in its current area of distribution….it is **not thought** to damage the conifer species on which it is **presumed** to shelter'*

So what is being stated here is that they don't *think* it's a problem on something that they *presume* it over winters. So that's two - non specific statements on what is a critical issue.

The PRA goes on to suggest that the costs of Japanese Knotweed eradication should be *'reduced'* by the release of the aphid, but notes that *'however, in some riparian areas other weeds such as Himalayan balsam and Giant hogweed may become replacement weeds. Nevertheless these species should be easier to control than Japanese Knotweed'.*

So what we are saying here is that Japanese Knotweed which DOES NOT PRODUCE SEED and is spread MAINLY BY HUMAN ACTIVITY…is *MORE* DIFFICULT to control than two other alien species WHICH BOTH PRODUCE THOUSANDS AND THOUSANDS OF SEEDS EVERY YEAR……DUUUH

The Pest Risk Analysis goes on to state that a small workforce of weed control specialists has co-evolved with the expansion of Japanese Knotweed in the UK and that some individuals may lose income. It further states that the psyllid is likely to become part of an integrated control programme.

The main strategies for removing Japanese Knotweed from development sites all involve application of a foliar applied herbicide. In each and every project that requires removal of JK from site TIMESCALES are always an issue. If development is to go ahead - one simply cannot wait until an aphid has eaten the foliage….*and even if one were to wait*…the aphid DOES NOT KILL Japanese Knotweed.

PLEASE CAN THE EXPERTS EXPLAIN HOW THIS WILL HELP OUR BELEAGURED CONSTRUCTION INDUSTRY??

Surely this will mean that for development to go ahead the only strategies for removing defoliated JK will involve excavation and removal from site – THE SINGLE MOST EXPENSIVE AND MOST ENVIRONMENTALLY UNFRIENDLY STRATEGY CURRENTLY AVAILABLE!!

As part of the Pest Risk Analysis and within its own conclusion the report states that there are *'risks'*. It states that problems are *'not expected'* to occur yet quotes that some *'rare garden ornamentals'* may suffer… The document quotes that *'it is not possible to test all of the plant species that occur in the PRA area'.* It also goes on to state that ***'it is possible that A.itadori WILL BEHAVE DIFFERENTLY IN THE FIELD than the laboratory'*** surely that statement alone is enough to make people realise that this is not a good idea! The statement ***'some spill-over damage'*** may occur as a final note should put an end to any thoughts of actually releasing this alien pest.

In conclusion I would suggest that the Government is trying to find a cheap simple answer to what is a very complex problem – without FULLY understanding the issues involved.

DON'T DO IT!!!

Mike C