

Persicaria chinensis – a new alien Asian invader?

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Summary A site of Chinese knotweed (*Persicaria chinensis* (L.) H.Gross (1913) was recently identified on eight properties in North Shore City, Auckland. This paper describes the response to this incursion.

Keywords Chinese knotweed, *Persicaria chinensis*, weed control, eradication.

INTRODUCTION

Early in September 2009 Auckland Regional Council (ARC) Biosecurity was called to a site in Glenfield on Auckland's North Shore to investigate an invasive weed growing rampantly along the boundary of several properties. Initially it was thought to be Asiatic knotweed (*Reynoutria japonica* (Houtt.) Ronse Decrane (1988)) (Webb *et al.* 1988) as it looked very similar. However, closer inspection revealed several distinct differences with stem length and flower detail that raised doubt. Subsequent identification by Bill Sykes of Landcare Research Lincoln positively confirmed the plant to be Chinese knotweed (*Persicaria chinensis*). This is the first recorded site in New Zealand.

Chinese knotweed is an upright, shrub-like, herbaceous perennial that can grow rapidly to varying heights dependent on what it is scrambling over. It can tolerate a wide range of environmental conditions, including shade, high temperatures, high salinity and drought (Webb *et al.* 1988). The site found in Auckland was in an area of damp wasteland behind several residential properties. As a native of China it is found in wet valleys, grassy slopes, mixed forest, thickets in valleys and mountain slopes from sea level up to 3000 m (Wu *et al.* 1995). It is also found throughout South East Asia and the Indian sub continent (Wu *et al.* 1995).

Within New Zealand this plant is believed to spread by vegetative means only. However, because of its suspected invasiveness and with no other naturalised sites known within New Zealand, steps were immediately put in place to eradicate this plant.

MATERIALS AND METHODS

An initial investigation was undertaken by Ministry of Agriculture and Fisheries Biosecurity New Zealand (MAFBNZ) Wellington as to the possible origin of this plant. Initial thoughts indicated possible introduction into New Zealand as Chinese medicine ingredients by

tenants of one of the properties. Because of this and due to the ethnicity of the surrounding area of North Shore City and greater Auckland it was to be too costly to undertake a larger delimiting survey. Media articles were published in local papers and all reports were actioned. A contractor was engaged to immediately carry out control over the eight affected properties. Having gained landowner consent, an initial foliar spray treatment was carried out.

The affected areas were treated with a foliar spray by knapsack using glyphosate at 200 mL 10 L⁻¹ plus a surfactant. Plants were sprayed to ensure complete coverage of all leaf material on 9 September 2009. Subsequent follow-up spraying was carried out on three further occasions at 6 weeks apart with the last spray treatment done on 27 January 2010. At this time only three small plantlets approximately 100 mm in size were found and treated. These were in an area originally mown down and cleared by one of the landowners prior to our involvement. At this time all other plant material above ground was dead, decaying and showed no signs of regrowth. It is our intention to continue monitoring this site for a further 12 months to ascertain any growth from underground rhizomes.

RESULTS

Inspection after the first spray revealed total brown off of all stem and leaf material within a 2 week period, although there was some plant material that appeared to be still very active. This was found to be material growing beneath the thick canopy when the area was first treated (S. Cook, Ecoscience Ltd, pers. comm.) Further spray of this plant material caused similar quick die back with leaf fall and stem decay apparent within 2 weeks. Initial inspection of the rhizomes has indicated some decay and browning. Follow up inspection and subsequent spraying of the limited regrowth found, has been carried out on a 6-weekly basis and it appears as though this plant has been controlled to zero density at this point.

DISCUSSION

The initial treatments appear to have been very effective in controlling and containing this plant with no obvious signs of regrowth. However, it is intended to now monitor the sites bi-monthly over the next 12

months and treat any regrowth if found. A decision on further action based on this monitoring will be made in March 2011.

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