

## The Global Costs of Exotic Plants<sup>®</sup>

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**“If there were no more weeds...we'd be \$4 billion richer”**

**Reported from, *Economic Impact of Weeds in Australia*; CRC for Weeds, 2004.**

### **COSTS OF WEEDS**

**The Cost of Weeds to Australia.** If there were no more weeds, incomes of Australian agricultural producers would rise, giving 20% of the benefits to food consumers and a saving of \$112 million in government expenditure: “Last year Australian bio-control science turned a \$4 million investment into a \$95 million return...and did the same the year before, and the year before that, effectively all the way back for 100 years. An average benefit-cost ratio of 23 : 1 over that time period is simply a brilliant investment” [The Hon. John Kerin, former federal Minister for Primary Industries, Jan 2006 (Cruftwell McFadyen, 2007)].

**The Cost of Weeds to New Zealand.** Per annum NZ\$40 million is spent preventing their introduction and spread and NZ\$60 million per annum is lost in agricultural and forestry production. There are only 10 of us actively working on 15 weed species with a budget of only NZ\$1.4 million per year.

These weeds are estimated to be costing New Zealand in excess of NZ\$200 million per year.

The ragwort flea beetle (*Longitarsus jacobaeae*) is one agent that has removed ragwort (*Senecio jacobaea*) from much of New Zealand's pastoral land and is estimated to have saved NZ\$17 million per year. (L. Hayes, pers. commun.)

**The Cost of Weeds to the United States of America.** Weeds in the United States cause major environmental damages and losses adding up to more than US\$138 billion per year. One recent study reported that damages from 79 exotic species caused approximately US\$97 billion during the period from 1906 to 1991 (Hall, 2000)

Weeds cost many countries around the world millions of dollars in lost production, chemical control, and animal health issues. These costs are not just attributed to the commodity producer but also the food consumer. These figures do not include the loss of intrinsic values, sensitive habitats, or native environments. These costs are incalculable!

## CURRENT STATUS

### The Situation in Australia (R.P. Randall, 2007).

- An estimated 26,242 exotic plant species have been introduced into Australia.
- Approximately 2,739 have become naturalised.
- There are 23,503 species that may become weeds in the future.
- Many of these plants are well known weeds in other countries.
- There are 5,907 species present in Australia which have weed histories elsewhere in the world.

### The Situation in New Zealand (L. Hayes, pers. commun.).

- Weeds have only become a problem in the last 200 years (following European colonisation).
- Since 1769, at least 25,000 exotic species have been introduced to N.Z.
- A new species naturalises every 39 days. We now have more naturalised species (2108) than native species.
- In a short time we have doubled the flora of New Zealand.

### The Situation in the United States of America (Hall, 2000).

- There are approximately 50,000 exotic species introduced into the United States.
- About 42% of threatened or endangered plant species are at risk from these exotic species.
- Some exotic species cause major economic losses in agriculture and forestry in addition to harming the environment.

Garden escapes are often what we call sleeper weeds. This means that they will sit in our environment in small numbers waiting, in some cases for many years and then will quite quickly become major pest plants. There are two good examples of this scenario.

- **Japanese Knotweed in the U.K.** There were seven recorded knotweed sites in the U.K. in 1847 but by 1987 there were around 4000 recorded sites with many of these having greater than 40% density of ground cover (Dick Shaw, pers. commun., CABI Europe U.K., Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.).
- **Leafy Spurge in the U.S.A.** In the 1880s there were three states that recorded a presence of leafy spurge, but by the 1990s leafy spurge was present in more than 20 states (Anderson et al., 2000).

## WEEDY SPECIES EXAMPLES

Here are some examples of ornamental plants that are now serious pest plants around the world:

Purple loosestrife	<i>Lythrum salicaria</i>
Yellow nutsedge	<i>Cyperus esculentas</i>
Tutsan	<i>Hypericum androsaemum</i>
Boneseed	<i>Chrysanthemoides monilifera</i>
Wandering willie	<i>Tradescantia fluminensis</i>
Velvet tree	<i>Miconia calvescens</i>
Strawberry guava	<i>Psidium littorale</i> var. <i>longipes</i> (syn. <i>P. cattleianum</i> )
Scarlet firethorn	<i>Pyracantha coccinea</i>
Lantana	<i>Lantana camara</i>
Japanese knotweed	<i>Fallopia japonica</i>
Barberry	<i>Berberis darwinii</i>
Ornamental broom species	<i>Cytisus multiflorus</i> (syn. <i>C. albus</i> ), or cytistus golden flower <i>Cirsium rivulare</i> , <i>Cirsium japonicum</i>
Pink thistle	<i>Hedychium gardnerianum</i>
Ginger	<i>Passiflora mollissima</i>
Banana passionfruit	<i>Asparagus asparagoides</i>
Bridal creeper	<i>Asparagus scandens</i>
Climbing asparagus	<i>Lonicera japonica</i>
Japanese honeysuckle	<i>Eichhonia crassipes</i>
Water hyacinth	<i>Araujia sericifera</i>
Moth plant	<i>Clematis vitalba</i> , clematis purple flower
Old man's beard	<i>Euphorbia esula</i>
Leafy spurge	<i>Ligustrum robustum</i>
Privet	<i>Chromolaena odorata</i>
Christmas bush	<i>Tamarix ramosissima</i>
Salt cedar	<i>Solanum mauritianum</i>
Woolly nightshade	

## BIOCONTROL SUCCESS STORIES FROM AROUND THE WORLD

There are 41 weeds listed which have been successfully controlled by using introduced insects or diseases in: U.S.A., Canada, Australia, Tasmania, India, West Indies, Mauritius, Sri Lanka, Malaysia, Fiji, PNG, Botswana, Ghana, Zambia, Zimbabwe, Benin, Nigeria, Uganda, Thailand, China, Palau, Micronesia, Cook Islands, Guam, Marianas, New Zealand, Hawaii, South Africa, Indonesia, Chile, and Europe (Cruttwell McFadyen, 2000).

## CONCLUDING REMARKS

**Preventing the Introduction of Weed Pests.** To help reduce or prevent plants becoming pests:

- Label plants correctly with the scientific name
- Do not use plants in the same genus as other weedy species
- Check new plants for their weedy status overseas

The safest option to prevent new weed incursions is simply; look before you leap. If in doubt then investigate more or leave it out.

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