APPENDIX 48.16

Poisonous Plants in New Zealand - external poisons (skin irritants)

Individual reactions to external poisons vary enormously. Some people are immune while others are so susceptible that even gentle handling can produce an adverse reaction.

Agapanthus (*Agapanthus* species). The slimy sap can affect some people's skins, although generally only adults seem to be susceptible.

Amaryllids (*Amaryllis* species, especially A. belladonna, and including *Hippeastrum* species). They have the same sap features as agapanthus.

Garden primulas (*Primula* species, especially *P. malacoides* and *P. obconica*). Some people are susceptible to these plants and contact can cause intense skin irritation. The common garden weed, scarlet pimpernel (*Anagallis arvensis*), belongs to the primula family and has occasionally caused dermatitis when handled.

Giant hogweed (*Heracleum mantegazzianum*). A powerful skin irritant that affects susceptible people more noticeably in sunny weather. Found mainly in eastern South Island.

Ivy (*Hedera helix*). Sometimes causes skin irritation when handled.

Japanese wax-tree [see **wax-tree**]

Nettles or **stinging nettles** (*Urtica* species). Three species are likely to be encountered - the first two are introduced and the third is native. Nettle or annual nettle (*U. urens*) is a common weed of gardens and waste places, especially where animals congregate. Perennial nettle (*U. dioica*) is much less common, but may grow in partly shaded places in the vicinity of buildings. The notorious giant native tree nettle or ongaonga (*U. ferox*) does not occur naturally in Auckland, although it is present north of the Waikato, as well as many areas to the south including the South Island. The stings can cause a numbing effect which lasts several days.

Parsnip (*Pastinaca sativa*). May cause rashes in susceptible people when leaves are rubbed against the skin.

Rue (*Ruta graveolus*). This small, very unpleasantly scented shrub is grown by people interested in herbs. It can cause skin irritation and even blistering when handled.

Smoke bushes (*Cotinus* species). Contact with sap in stems, shoots, and leaves can cause inflamma-tion and irritation for susceptible people. Closely related to *Toxicodendron* species, but not nearly as poisonous as them.

Spurges (*Euphorbia* species). The white sap can irritate skin; especially beware of caper spurge (*E. lathyris*). This plant has nothing to do with true edible capers.

Stinging nettles [see **nettles**]

Sumacs [see **wax-tree**]

Varnish tree [see **wax-tree**]

Wax-tree, Japanese wax tree or **varnish tree** (*Toxicodendron succedanea*). Susceptible people suffer blistering and skin inflammation with great irritation, that can result in temporary hospitalisation, although other people are immune. Some other members of the family to which this plant belongs are notorious for causing severe skin irritation like the wax tree. Fortunately they rarely grow in New Zealand, eg. poison ivy (*T. radicans*), from North America and Chinese lacquer tree (*T. vernicifluum*) that like the wax tree is from China and long cultivated in Japan. Note: the species of *Toxicodendron* have often been included in the large genus *Rhus*, but the *Rhus* species rarely cause trouble, eg. in many parts of New Zealand staghorn sumac (*Rhus typhina*) is commonly grown. The family has many tropical members, some of which can cause

severe skin disorders, but ripe fruits and seeds of mangoes and cashew nuts are quite safe to handle although the trees upon which they grow are not.

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Poisonous Plants in New Zealand - poisonous if eaten

Angel's trumpet (*Brugmansia candida*). Named for its large pendulous white flowers, this large, well-known shrub is related to the thorn apple. It is a dangerous plant, as all parts are poisonous. A frost-tender plant mainly found in lowland areas towards the coast.

Apple of Peru (*Nicandra physalodes)*. An annual plant related to the edible-fruited cape gooseberry, but with bell-shaped blue flowers. Most parts are likely to be mildly poisonous.

Apple of Sodom (*Solanum linnaeanum*). This shrub is so prickly that it does not invite close attention but its fairly large mottled berry (green and white when immature, yellow at maturity) has been reported as poisoning children.

Arum lily (*Zantedeschia aethiopica*). All parts are poisonous, but take particular care that children do not eat the attractive spikes of yellow-orange berries. Likewise nearly all other members of this family have similar poisonous properties in all their parts. The toxins present mainly affect the alimentary system from the mouth downwards. Even a tiny part ingested can cause burning in the mouth and throat as well as stomach pains and vomiting, the onset of these symptoms occurring dramatically and beginning within a minute or so.

Asparagus (*Asparagus officinalis*). The small bright red berries produced by mature female plants in summer are mildly poisonous.

Bitter almond (*Prunus dulcis*). The kernels are poisonous. Note: bitter almonds (with white flowers, pink at the base) are not as common as the ordinary edible form of *Prunus dulcis* known as almond or sweet almond (all pink flowers).

Bittersweet (*Solanum dulcamara*). The small purple flowers and shining scarlet berries are poisonous. Only likely to be found in the south island and southern districts of the north island.

Black nightshade (*Solanum nigrum*). This plant is only moderately toxic and the ripe black berries, which are similar to black currants, are scarcely or not poisonous at all. Note: this is the plant most people mistakenly call deadly nightshade. The true deadly nightshade (*Atropa belladonna*) can live up to its common name, but is fortunately very rare and only recorded in Christchurch. True deadly nightshade has a relatively large bell-shaped, brownish-purple flower, as opposed to the white star-like flowers of black nightshade, and its glossy black berries can be twice the size of those of black nightshade.

Blueberry lily [see **tūrutu**]

Boxthorn (*Lycium ferocissimum*). The orange-red berries are probably poisonous. Note that the green spines on boxthorn are often not noticed until the bushes are touched. Mainly occurs wild along the coast, and in some gardens.

Broom (*Cytisus scoparius*). The seeds are poisonous, especially if chewed and crushed before swallowing. The poisons are similar to those in its relation, the laburnum, but broom seems to be less harmful. Spanish broom (*Spartium junceum*) has larger flowers and is commonly grown in some areas although it has not naturalised extensively like the common broom. The seeds of the two species are similar and probably have similar poisonous properties.

Bushman's poison (*Acokanthera oppositifolia*). Although only fairly common and almost confined to warm regions north of the Volcanic Plateau, this South African shrub is included because it is most likely to be grown in the Auckland area. Bushman's poison is one of the most poisonous plants in New Zealand. All parts are toxic, especially the shoots and roots. The fruit is like a small blue-black plum. It belongs in the oleander family of which most members are dangerous.

Castor oil plant (*Ricinus communis*). The attractively mottled seeds are the usual parts eaten, sometimes with serious effects. The New Zealand plants usually have purple leaves.

Celery-leaved buttercup (*Ranunculus sceleratus*). This is one of the most toxic species of

buttercup. It grows in wet places such as in ditches, along streams and around ponds and lakes. The parts most likely to be put into the mouth are the glossy divided leaves which resemble those of celery. Contact with mouth and lips can produce blistering, but fortunately the bitter burning sensation usually prevents material being swallowed.

Cestrums (*Cestrum* species). There are several species of these popular ornamental garden shrubs, with flower colours ranging from scarlet and rose to white or orange. Fruit colours are white, black, or sometimes red. All parts are very poisonous. Does not grow in colder areas.

Cherry laurel (*Prunus laurocerasus*). The small black fruits have kernels which are poisonous.

Chilean jasmine (*Mandevilla suaveolens*). A climbing plant with fragrant white flowers which is usually grown on house walls or trellises. Like many other members of the oleander family, *Mandevilla* has poisonous white latex in all parts. The long pods are bean-like, but the seeds inside are small and winged. Mainly grown in warmer areas.

Comfrey (*Symphytum officinale* and its hybrid

S. Íuplandicum). Although the leaves are used as a general tonic, if used in quantity they can be harmful over a prolonged period.

Corsican hellebore (*Helleborus lividus* subsp. *corsicus*). A commonly cultivated evergreen herb, all parts of which are poisonous.

Cotoneasters (*Cotoneaster* species). The pretty red berries, which nearly all species have, seem to be mildly poisonous, but have never caused serious harm. Because they are so abundant in gardens and public places, children may often eat a few berries without parents being aware.

Cruel plant [see **moth plant**]

Daffodils and jonquils (*Narcissus* species). These well-known spring flowering bulbs contain poisonous properties and neither flowers nor bulbs should be eaten. Although it is unlikely that enough would be taken to cause illness, they regularly feature in overseas works on poisonous plants, along with snowdrops (*Galanthus* species) and snowflakes (*Leucojum* species) and cases of poisoning in humans are known. Similar properties are present in their South African relatives such as species of *Nerine, Crinum* and *Amaryllis*. The last is listed separately because one species, belladonna lily (*Amaryllis belladonna*) is such a common garden plant.

Daphnes (*Daphne* species). All species are poisonous. A few have attractive red berries.

Datura [see **thorn apple**]

Deadly nightshade [see **black nightshade**]

Delphiniums (*Delphinium* species). All parts are poisonous. [See the closely related larkspurs.]

Dumb canes (*Dieffenbachia* species). Very common house and patio plants with large deep green leaves variously spotted or streaked with white or cream. The sap is very poisonous as with other members of the arum lily family. *Dieffenbachia* species are often called "mother in law's tongue" in New Zealand but this name porperly applies to an unrelated plant. The usual English name "dumb cane" relates back to a time when African slaves in the West Indies were tortured with the juice from this plant.

A number of other plants in this family have become more widely grown in recent years as indoor and patio pot plants, especially in warmer parts of the North Island. They are all poisonous and have similar properties to the arum lily.

Elderberry or **elder** (*Sambucus nigra*). The large clusters of little black juicy berries can be made into jam or wine, but they easily can cause stomach upsets if too many are eaten raw. It mainly grows from the Volcanic Plateau southwards.

Elephant's ear (*Alocasia brisbanensis*). It is related to taro (*Colocasia esculenta*) and is a member of the poisonous arum family. Elephant's ear is a fairly commonly cultivated ornamental plant in warmer parts of the North Island and in the Nelson area, as well as being wild to a limited extent in a few North Island places. Although it can be cooked and eaten like the related taro, elephant's ear seems to be more toxic as shown by the tubers or rhizomes taking much longer for the toxic compounds to be broken down. This is the plant known as kape or 'ape to Pacific Islanders because of an almost indistinguishable relation in the Pacific Islands (*Alocasia macrorrhizos*) that is cultivated for food.

English holly [see **holly**]

Fatsia (*Fatsia japonica*). The berries of this ornamental large-leaved evergreen shrub closely resemble those of its relation, ivy. Although details of the toxicity of *Fatsia* are unavailable, assume that it is similar to ivy.

Five finger or **whauwhaupaku** (*Pseudopanax arboreus*). This very common plant is likely to be poisonous to some degree because it belongs to the ivy family, however no records of poisoning are available. It has blackcurrant sized berries.

Foxglove (*Digitalis purpurea*). All parts of this widespread weed and garden plant are very poisonous.

Gloriosa lily(*Gloriosa superba*). All parts of this beautiful climbing plant are poisonous. The tuberous roots are especially dangerous and most reported cases of human poisoning have been caused by eating these.

Hairy nightshade (*Solanum physalifolium*). This plant has mottled green and white fruits which should be treated as poisonous. It is increasingly found in vegetable gardens, mainly in the Bay of Plenty, but is spreading elsewhere.

Hellebores (*Helleborus* species). These plants are often grown close to houses and all parts are very poisonous. [see **winter rose** and **Corsican hellebore**.]

Hemlock (*Conium maculatum*). One of our most poisonous plants; all parts should be avoided, especially young plants and seeds. The unpleasant smell and purple markings on the stem easily distinguish this from parsley.

Holly or **English holly** (*Ilex aquifolium*). The scarlet berries should not be eaten because, like most parts of the tree, they are poisonous. This well-known tree is mainly grown in colder areas from the Volcanic Plateau southwards.

Horse chestnuts (*Aesculus* species). The seeds, commonly called conkers, are mildly poisonous. These should not be confused with the edible, but unrelated, sweet chestnut. It is mainly grown in colder areas from the Volcanic Plateau southwards.

Iceland poppy (*Papaver nudicaule*). All parts of this common garden plant are very poisonous. It has coloured sap like many other types of poppy but is much more harmful than the other common species found in New Zealand.

Inkweed (*Phytolacca octandra*). All parts of this plant should be treated as being poisonous, but it is the erect spikes of poisonous black berries which children might find attractive. Rarely found in the southern half of the South Island.

Italian arum (*Arum italicum*). All parts are very poisonous, including the orange berries.

Ivy (*Hedera helix*). Most parts are poisonous, including the black berries.

Japanese spindle tree (*Euonymus japonicus*). This commonly cultivated evergreen shrub has attractive but poisonous pink spindle berries and orange-red coated seeds. Unlike the spindle tree the Japanese spindle tree is evergreen and produces fruit mainly in warmer areas.

Jerusalem cherry (*Solanum diflorum* and *S. pseudocapsicum*). For practical purposes these very similar species can be regarded as one. Their orange-red berries are very poisonous.

Karaka (*Corynocarpus laevigatus*). The attractive orange fruits are poisonous. However, the situation is not straightforward because the fleshy outer part of the fruit can be eaten raw but the kernel containing the seed has to be detoxified before it can be eaten, the latter being the part prized by Māori people. This traditional food was only safe to eat after a long and complicated process. The trees mainly grow in warmer coastal areas, at least as far south as Banks Peninsula.

Kōwhai (*Sophora microphylla* and *S. tetraptera*). The yellow seeds are very poisonous if eaten, but only if they are ground or crushed before swallowing. Otherwise, they pass through the digestive system and cause no harm.

Laburnum (*Laburnum anagyroides*). The black seeds are very poisonous if they are chewed or crushed before swallowing, as with kōwhai. It mainly grows in the southern half of the North Island and in the South Island.

Lantana (*Lantana camara*). It is more common for children to be affected by eating the small blue-black berries, although stock have been poisoned too. In New Zealand there are several forms with different coloured flowers and differing degrees of toxicity, but to be on the safe side none of them should be eaten. A commonly cultivated shrub in warmer areas but which also grows wild north of Auckland.

Larkspurs (*Consolida* species). These ornamental annuals are closely related to delphiniums, and all parts are poisonous. Although larkspurs and delphiniums have no fleshy fruits, they are so poisonous that even the pretty flowers could cause illness if eaten. Commonest in colder areas.

Lily of the valley (*Convallaria majalis*). All parts are poisonous if eaten, but the orange berries

are most likely to attract young children. Although uncommon, it is presently available in nurseries in the North Island.

Lily of the valley shrubs (*Pieris* species). Like most members of the heather family, these plants are poisonous. The little white flowers should not be eaten.

Lupins (*Lupinus* species). All the species commonly grown have poisonous seeds which, if crushed or chewed before being swallowed, result in the release of toxins.

Monkshood (*Aconitum* species, especially *Aconitum napellus*). All parts of these herbaceous perennials are very poisonous. It is even dangerous for children to play with the attractive hooded delphinium-like flowers because it seems that toxic substances can be absorbed through the skin, especially delicate areas such as around the mouth. Monkshood grows in all parts of the North Island, and generally through the South Island, especially seen in colder areas, but is rarer than delphiniums.

Morning glories (*Ipomoea* species). The seeds of some species contain very powerful hallucinogenic drugs. As with other hard seeds, the effects are only evident if they are crushed or chewed before being swallowed.

Moth plant or **cruel plant** (*Araujia sericifera*). The white latex in all parts of this plant is poisonous, so the green choko-like fruits of this climber should not be put in the mouth. Mainly grows in warmer areas where it is sometimes naturalised.

Ngaio (*Myoporum* species). These very poisonous plants mainly grow near the sea, either wild or in cultivation. They are easily identified by the numerous pale leaf spots seen when held to the light, and by the purple berries. Both the native ngaio (*M. laetum*) and Australian ngaio (*M. insulare*) should be regarded as equally harmful.

Nightshades (some *Solanum* species). Species of *Solanum* should be treated with great caution since they all contain poisonous compounds to some extent, particularly in any green parts. The main species of concern for children are: poroporo, potato, bittersweet, Jerusalem cherry and

hairy, woolly and black nightshades.

Oleander (*Nerium oleander*). All parts are extremely poisonous. Fortunately, the bitter taste deters children from swallowing it. Does not thrive in cold inland areas of both islands.

Opium poppy (*Papaver somniferum*). Although not as poisonous as Iceland poppy, the opium compounds in this plant make it one to be avoided, particularly by children.

Peach (*Prunus persica*). The kernels are poisonous but the very hard corrugated stone around them is not easily broken, so they are unlikely to be eaten by children.

Pepper tree (*Schinus molle*). The strings of little pink berries hanging on this attractive ornamental tree seem to be moderately poisonous, particularly the seed. Note: the native pepper bush or kawakawa (*Macropiper excelsum*) has non-poisonous, but peppery-tasting, orange, fleshy fruiting spikes. Neither species thrives in cold inland areas of both islands.

Persian lilac or **white cedar** (*Melia azedarach*). Persian lilac is deciduous and when the leaves fall the bunches of poisonous yellow fruits are very conspicuous. A common street tree in the Auckland and Bay of Plenty areas.

Poinsettia (*Euphorbia pulcherrima*). This plant is a spurge, all species of which are poisonous. The milky sap can burn the delicate lining of the mouth. It is often grown as a pot plant for the Christmas trade and in the warm northern part of the North Island it is a typical garden shrub. See other *Euphorbia* species under spurges.

Poroporo (*Solanum laciniatum* or *S. aviculare*). The poisonous green or yellow berries should not be eaten, although when orange and fully ripe they are scarcely toxic when fresh, and not at all when cooked. The two species of poroporo are very similar and are only easily distinguished by the flowers. For practical purposes the two species can be regarded as one.

Potato (*Solanum tuberosum*). The parts most likely to poison children are the green or whitish berries produced on some varieties. Potato tubers which are green from light exposure are also poisonous.

Privets (*Ligustrum* species). All species have poisonous black, blue-black or dark purplish berries, which might be eaten by children. Tree privet (*L. lucidum*), privet (*L. ovalifolium*), and most abundantly, Chinese privet (*L. sinense*), are the usual species from the Waikato and Bay of Plenty northwards. In colder areas southwards the main species are the last two, as well as the abundantly fruiting deciduous common privet, *L. vulgare,* in the South Island.

Rhododendron species and varieties. The tree-like, pink-flowered *Rhododendron arboreum* hybrids, common over most of New Zealand, have poisonous flowers, and honey made from them is also toxic. However, all rhododendrons should be regarded as poisonous.

Rhubarb (*Rheum rhabarbarum*). The leaf blades are poisonous on this common vegetable plant.

Snowberry bush (*Symphoricarpos albus*). The white marble-sized berries of this deciduous garden shrub are poisonous and are particularly conspicuous after the leaves fall. Mainly grown in colder parts of the country, especially in the South Island. Note: It is not to be confused with the native snowberry (*Gaultheria depressa*), a prostrate evergreen shrub with similar, but edible, berries.

Spindle Tree (*Euonymus europaeus*). The pink fruits with their orange seeds are attractive but poisonous, as are all parts of the tree. It is the spindle berries that are most likely to be eaten. Mainly seen south of the Volcanic Plateau in colder areas.

Spurges (*Euphorbia* species). All species are poisonous [see also 3. skin irritants]. The milky sap can burn the delicate lining of the mouth [see also the unrelated swan plants]. Beware especially of caper spurge (*E. lathyris*) which should not be confused with the unrelated true edible capers (*Capparis spinosa*). Note: not all plants with milky sap are poisonous, for example, the unrelated dandelions (*Taraxacum* species) which are harmless.

Stinking iris (*Iris foetidissima*). Many irises are poisonous but the main parts likely to be eaten in this species are the prominent orange seeds that are displayed when the fruits open, a feature lacking in other irises.

Swan plants (*Gomphocarpus fruticosus* and *G. physocarpus*). These two shrubby plants are so similar that they can be regarded as the same for all practical purposes. Like all members of the asclepias family the tissues are full of poisonous white milky latex, so even the bladder-like fruits should not be eaten.

Taro (*Colocasia esculenta*). All parts of this popular Polynesian food crop are poisonous, so the root and leaves must be cooked properly before being eaten. Even if eaten when only partly cooked, it will burn the throat. It is a member of the poisonous arum lily family.

Thornapple or **datura** (*Datura stramonium*). The black seeds are sometimes eaten and contain a powerful, dangerous drug, as do other parts of the plant. This weed has white trumpet flowers and appears in gardens and waste places in summer. The name thorn apple is sometimes wrongly applied to angel's trumpet, which belongs to the same section of the nightshade family, although it looks quite different.

Tītoki (*Alectryon excelsus*). The round black seeds in their scarlet cup are a familiar sight in many areas, but especially in the Auckland region and northwards, and this striking colour contrast appeals to all ages. Tītoki is included because of its attractive fruits and the uncertainty as to whether or not they are toxic. It is sensible to avoid it because many members of the soap tree family are poisonous.

Tropical periwinkle (*Catharanthus roseus*, commonly known as *Vinca rosea*). An annual with pink or white flowers. Although an important medicinal plant, tropical periwinkle is very poisonous. It is a member of the oleander family that is mainly grown in warm northern areas.

Tūrutu or **blueberry lily** (*Dianella nigra*). This native plant in the flax family has attractive violet berries reported as being poisonous. Australian species are sometimes grown, especially in Auckland, and their berries may also be poisonous. Tūrutu grows mainly in parts of the North Island and western and southern parts of the South Island.

Tutsan (*Hypericum androsaemum*). This small shrub is often seen in bush remnants and plantations. Although not as poisonous as some other *Hypericum* species, such as the well-known St. John's Wort (*H. perforatum*), the black berries should not be eaten.

Tutu (*Coriaria* species). All species are very poisonous. The fleshy black berries should be avoided, because the seeds inside them are poisonous. It grows in bush remnants and margins, in scrub, and often in places modified by humans, like plantations. The usual lowland species is *C. arborea*, and in mountains this species grows with the smaller *C. sarmentosa*.

White cedar [see **Persian lilac**]

Winter rose (*Helleborus niger*). This plant is often grown close to houses in private gardens, and all parts are poisonous.

Wisteria (*Wisteria* species, usually *W. sinensis*). This beautiful climber is grown around many houses for its hanging clusters of mauve, or less commonly, white flowers. The pods and seeds of this legume are poisonous, but fortunately they are not nearly as common as the flowers.

Woolly nightshade (*Solanum mauritianum*). This very familiar shrub or small tree has little globular dull yellow berries. These are probably not as poisonous as in many other *Solanum* species, but they should not be eaten.

Yew (*Taxus baccata*). Although nearly all parts are poisonous, only the soft red berry with its poisonous green seed is likely to be eaten by children.

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Appendix A: Plants listed as noxious or as pest plants in 1973, 1993 and 2000

		Pest plants/noxious in regions out of 14 in 2000, 15 in 1973						Pest plants/noxious in regions out of 14 in 2000, 15 in 1973					
National Surveillance Plants 2000		**2000**		**1993**	**1973**	**National Surveillance Plants 2000**		**2000**		**1993**	**1973**
NOTIFIABLE ORGANISMS		V				**PEST PLANTS (continued)**		V			
Eichhornia crassipes	water hyacinth		x	x	15	*Ipomoea indica*	blue morning glory	x	2		
Homeria collina	Cape tulip		x	x	11	*Iris pseudacorus*	flag	x	2		
Pistia stratiotes	water lettuce		x	x		*Jasminum polyanthum*	jasmine		4		
Salvinia molesta	salvinia		x	x		*Juglans ailantifolia*	Japanese walnut		1		
Sorghum halepense	Johnson grass		x	x	8	*Lagarosiphon major*	lagarosiphon	x	10	x	
PEST PLANTS						*Lantana camara*	lantana	x	4		5
Acaena agnipila	Australian sheep's bur	x	1			*Leycesteria formosa*	Himalaya honeysuckle	x	2		9
Acroptilon repens	Russian knapweed				x	*Ligustrum lucidum*	tree privet	x	6		
Acmena smithii	monkey apple	x	2			*Ligustrum sinense*	Chinese privet	x	6		
Ageratina adenophora	Mexican devil		1			*Lonicera japonica*	Japanese honeysuckle	x	6		
Ageratina riparia	mist flower	x	3		9	*Ludwigia peploides*	primrose willow	x			
Ailanthius altissima	tree of heaven		1			*Lupinus arboreus*	tree lupin				
Alternanthera	alligator	x	3	x	4	*Lycium*	boxthorn	x	4	x	11

philoxeroides	weed					*ferocissimum*					
Andropogon virginicus	broomsedge	x				*Lythrum salicaria*	purple loosestrife	x			
Anredera cordifolia	mignonette vine	x	4			*Marsilea mutica*	four-leaved water clover	x			
Aponogeton distachyus	Cape pondweed		1			*Melianthus major*	Cape honey flower	x			
Araujia sericifolia	moth plant	x	3			*Menyanthes trifoliata*	bogbean	x		x	
Anthemis cotula	stinking mayweed				9	*Myriophyllum aquaticum*	parrot's feather	x	5	x	
Arctium minus	burdock	x	1		12	*Nassella neesiana*	Chilean needle grass	x	3	x	
Artemisia verlotiorum	Chinese mugwort		1			*Nassella trichotoma*	nassella tussock		8		15
Arundo donax	giant reed		1			**Navaretia squarrosa**	Californian stinkweed		1		
Asparagus asparagoides	smilax	x	4			*Nephrolepis cordifolia*	ladder fern	x	3		
Asparagus scandens	climbing asparagus	x	4			*Nuphar lutea*	yellow water lily	x	1	x	
Aster subulatus	Sea aster			x		*Nymphoides geminata*	marshwort	x	6	x	
Avena fatua	wild oats		2	x		*Nymphoides peltata*	fringed water lily	x	1	x	
Avena spp.	wild oats			x		*Onopordum acanthium*	cotton thistle		1	x	
Baccharis halimifolia	baccharis	x	x	x		*Onopordum tauricum*	Taurean thistle		1	x	
Bartlettina sordida	bartlettina	x	x			*Opuntia vulgaris*	prickly pear				11
Berberis darwinii	Darwin's barberry		3		12	*Osmunda regalis*	royal fern		1		
Berberis glaucocarpa	barberry	x	3	x	13	*Oxylobium lanceolatum*	oxylobium	x	2		7
Brassica rapa	wild turnip				7	*Paraserianthes lophantha*	brush wattle		1		
Brugmansia candida	angel's trumpet	x	1			*Paspalum distichum*	Mercer grass			x	
Buddleja davidii	buddleia	x	3			*Passiflora caerulea*	blue-crown passion flower	x			
Calicotome spinosa	spiny broom	x	1	x	9	*Passiflora mollissima*	banana passion fruit	x	6		
Calluna vulgaris	heather	x	2			*Pennisetum alopecuroides*	Chinese pennisetum	x	3	x	
Calotis lappulacea	bur daisy	x	2	x		*Pennisetum clandestinum*	Kikuyu grass				
Calystegia sepium	pink bindweed				7	*Pennisetum macrourum*	African feather grass	x	11	x	10
Calystegia sylvatica	great bindweed				7	*Phragmites australis*	phragmites	x	1	x	
Cardaria draba	hoary cress				6	*Phytolacca octandra*	inkweed			x	8
Carduus acanthoides	plumeless thistle		4	x	7	*Pinus nigra* ssp *laricio*	Corsican pine			x	
Carduus nutans	nodding thistle	x	14	x	15	*Plectranthus* spp.	plectranthus	x	2		
Carduus tenuiflorus	winged thistle				11	*Pinus contorta*	lodgepole pine	x	3	x	
Carex longebrachiata	Australian sedge	x	7	x	12	*Polygala myrtifolia*	sweet pea shrub	x	3		
Carthamus lanatus	saffron thistle	x	5	x	15	*Populus alba*	white poplar				9
Cassinia leptophylla	tauhinu				9	*Potamogeton perfoliatus*	clasped pondweed	x			
Celastrus orbiculatus	climbing spindleberry		2			*Potentilla recta*	tall cinquefoil				5
Centaurea calcitrapa	star thistle				12	*Ptilostemon afer*	Grecian thistle			x	6
Centaurea	Malta thistle				6	*Prunus*	Taiwan		1		

melitensis						*campanulata*	cherry					
Centaurea nigra	knapweed				6	*Prunus laurocerasus*	cherry laurel					
Centaurea solstitalis	yellow star thistle				9	*Psorolea pinnata*	Dally pine					7
Ceratophyllum demersum	hornwort	x	3	x		*Pulicaria dysenterica*	fleabane			x		
Cestrum elegans	red cestrum		1	x		*Pultenaea daphnoides*	pultenaea					7
Cestrum parqui	green cestrum	x	1	x		*Racospererma longifolium*	Sydney golden wattle		1			
Chamaemelum nobile	chamomile				8	*Racosperma mearnsii*	black wattle		2			
Chondrilla juncea	skeleton weed	x		x		*Racosperma spp*	wattles					7
Chrysanthemoides monilifera	boneseed	x	6			*Ranunculus acris*	giant buttercup		2	x		4
Cirsium arvense	Californian thistle				11	*Reynoutria spp.*	Asiatic/giant knotweed					
Cirsium vulgare	Scotch thistle				8	*Rhamnus alaternus*	Italian buckthorn	x	4			
Clematis vitalba	old man's beard	x	13	x		*Rosa rubiginosa*	sweet brier	x	2	x		15
Cobaea scandens	cathedral bells	x	4			*Rubus caesius*	dewberry					4
Conium maculatum	hemlock	x	4	x	15	*Rubus fruticosus*	blackberry	x	9	x		15
Cortaderia jubatum	purple pampas	x	10	x		*Rubus phoenicolasius*	Japanese wineberry					8
Cortaderia selloana	pampas	x	8			*Sagitarria graminea*	sagitarria	x	2	x		
Cotoneaster franchetii	Franchet cotoneaster	x	2			*Salix cinerea*	grey willow					7
Cotoneaster glaucophyllus	bright bead cotoneaster	x	3			*Salix fragilis*	crack willow					8
Crataegus monogyna	hawthorn	x	2	x	13	*Salix x reichardtii*	pussy willow					10
Crocosmia x crocosmiiflora	montbretia		1			*Salpichroa origanifolia*	lily of the valley vine					6
Cyperus esculentus	yellow nutsedge		1			*Sambucus niger*	elder		1			
Cyperus rotundus	purple nutsedge	x	4			*Selaginella kraussiana*	selaginella		2			
Cytisus multiflorus	white broom		1	x		*Senecio angulatus*	Cape ivy	x	2			
Cytisus scoparius	broom	x	11	x	15	*Senecio glastifolius*	holly-leaved senecio		1			
Datura stramonium	thornapple		1		11	*Senecio jacobaea*	ragwort	x	14	x		15
Digitalis purpurea	foxglove				11	*Senecio mikanioides*	German ivy	x	2			
Dipogon lignosus	mile-a-minute	x	2			*Senecio petasitis*	velvet groundsel	x	1			
Dipsacus sylvestris	teasel				10	*Setaria palmifolia*	palm grass	x				
Echium vulgare	viper's bugloss				10	*Silybum marianum*	variegated thistle	x	10	x		13
Egeria densa	egeria	x	6	x		*Sinapis arvensis*	charlock					7
Eleagnus x reflexa	eleagnus	x	3			*Solanum carolinense*	horse nettle	x	2	x		
Emex australis	spiny emex		2	x		*Solanum marginatum*	white-edged nightshade	x	7	x		
Equisetum arvense	horsetail	x			6	*Solanum mauritianum*	woolly nightshade	x	7	x		10
Eragrostis curvula	African love grass	x	1	x		*Sorbus aucuparia*	rowan					
Erica lusitanica	Spanish heath	x	1	x	8	*Spartina spp*	spartina	x	7	x		
Erigeron karvinskianus	Mexican daisy	x	3			*Stipa rudis*	needle grass		1			
Euonymus japonicus	Japanese spindle tree		2			*Stipa spp. - all*	needle grass	x	2	x		7
Euphorbia lathyris	caper spurge				11	*Teline monspessulana*	Montpellier broom	x	4	x		12

Ficus rubiginosa	Port Jackson fig	x	1			*Tradescantia fluminensis*	wandering jew		2		
Foeniculum vulgare	fennel				13	*Tropaeolum majus*	nasturtium				
Galega officinalis	goat's rue	x	3	x	10	*Tropaeolum speciosum*	Chilean flame creeper		2		
Galeobdolon luteum	artillery plant	x				*Tetrapan papyrifera*	rice paper plant				
Glyceria maxima	reed sweet grass		1			*Tripleurospermum inodorum*	scentless mayweed				
Gymnocoronis spilanthoides	Senegal tea	x	3	x		*Tussilago farfara*	coltsfoot	x	1	x	
Hakea gibbosa	downy hakea				8	*Ulex europaeus*	gorse	x	14	x	15
Hedychium flavescens	wild ginger	x	8	x		*Urtica dioica*	perennial nettle	x	2	x	
Hedychium gardnerianum	wild ginger	x	6	x		*Utricularia gibba*	bladderwort	x			
Hieracium spp	hawkweed		2			*Vallisneria gigantea*	eel grass	x	4		
Hordeum jubatum	squirrel tail grass				5	*Vallisneria spiralis*	eel grass	x	2	xa	
Hordeum murinum	barley grass				12	*Vinca major*	periwinkle		1		
Houttuynia cordata	houttuynia	x	1			*Watsonia bulbillifera*	watsonia				7
Hydrilla verticillata	hydrilla	x	4	x		*Xanthium spinosum*	Bathurst bur		1	x	
Hydrocleys nymphoides	water poppy	x	3	x		*Xanthium occidentale*	Noogoora bur	x	1	x	x
Hydrodictyon reticulatum	water net		1			*Zizania aquatica*	annual wild rice				3
Hypericum androsaemum	tutsan	x	2		13	*Zizania latifolia*	Manchurian wild rice	x	4	x	9
Hypericum perforatum	St. John's wort	x			15						

Contact for Enquiries

MAF Information Services
Pastoral House
25 The Terrace
PO Box 2526
Wellington, NEW ZEALAND

Fax: +64 4 894 0721
Contact this person

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Environment Canterbury rules for controlling plant pests

Environment Canterbury has determined that different types of plant pests warrant different "control regimes." These regimes take into account the most appropriate means of addressing the present and potential adverse impacts of these plants.

On This Page

The Regional Pest Management Strategy 2005 lists 4 different groupings of plant pests associated with different control regimes. They are:

- Total Control plant pests
- Progressive Control plant pests
- Containment Control plant pests
- Surveillance plant pests

For plant pictures and control methods, visit the Weeds in NZ website.

4.1.2 Affected Parties and the Necessity to Act

In accordance with Section 6(1) of the Act, land includes, for the purposes of this Strategy, all or any of the portions of road bounded by:

The boundary of that land abutting that road; and

Lines extended from the end of that portion of boundary to the middle line of the road; and

The middle line of the road connecting those extended lines.

Total Control Plant Pests

Plant Pests:

African Love Grass (Eragrostis curvula)

Baccharis (Baccharis halimifolia)

Bur Daisy (Calotis lappulacea)

Coltsfoot (Tussilago farfara)

Entire Marshwort (Nymphoides geminata)

Saffron Thistle (Carthamus lanatus)

Taurian Thistle (Onopordum tauricum)

White-Edged Nightshade (Solanum marginatum)

Strategy Rule for Total Control Plant Pests

Rule 4.1:

Land occupiers and other persons shall not sell, propagate or distribute any Total Control Plant Pests.

A breach of this rule creates an offence under Section 154(r) of the Biosecurity Act 1993.
Technical Method The Regional Council will carry out control operations to eradicate Total Control Plant Pests prior to seeding in an efficient and cost effective manner. Appropriate physical or chemical means will be utilised.

Progressive Control Plant Pests

Plant Pests:

- Nassella Tussock (Stipa trichotoma)

Strategy Rules for Progressive Control Plant Pests
In relation to the following rules, land occupiers must also comply with these rules on any adjoining roads as described in Section 6 of this Strategy.
Nasella Tussock
(a) Land occupiers shall, on all the land they occupy, complete a control programme to prevent nassella tussock plants from seeding by:

- 31 October every year within the area delineated on Map 1 contained in Appendix 3; or
- 30 September each year in all other parts of the Canterbury region.

(b) Land occupiers and other persons shall not sell, propagate or distribute any nassella tussock plant or part thereof.
A breach of any of these rules creates an offence under Section 154(r) of the Biosecurity Act 1993 and may initiate the regulatory procedures set out in Chapter 12. An exemption to any of the above rules may be soughtby any person in accordance with the procedures set out in Chapter 12 of the Strategy.

Containment Control Plant Pests

Plant Pests:

- Broom (Cytisus scoparius, C. multiflorus, Teline monspessulana)
- Gorse (Ulex europaeus)
- Nodding Thistle (Carduus nutans)
- Ragwort (Senecio jacobaea)
- Variegated Thistle (Silybum marianum)

Strategy Rules for Containment Control Plant Pests
In relation to the following rules, land occupiers must also comply with these rules on any adjoining roads as described in Section 4 of this Strategy.

Broom
(a) Land occupiers shall eliminate broom infestations that cover up to 50 square metres in area and are greater than five metres from other broom infestations exceeding 50 square metres in area on the land that they occupy. For the purpose of this rule, eliminate means the permanent preclusion of the broom plant's ability to set viable seed.

(b) Land occupiers shall eliminate broom infestations on the land that they occupy within 10 metres of any adjoining property occupied by another land occupier where that adjoining property is clear of, or being cleared of, broom infestations within 10 metres of the boundary between the properties. For the purpose of this rule eliminate means the permanent preclusion of the broom plant's ability to set viable seed.
(c) Land occupiers and other persons shall not sell, propagate or distribute any broom plant or part thereof. A breach of any of these rules creates an offence under Section 154(r) of the Biosecurity Act 1993 and may initiate the regulatory procedures set out in Chapter 12. Land occupiers are exempted from the provisions of these rules for the following:

- the requirement to eliminate broom when present as a hedge within a property; and
- the requirement to eliminate broom when present as a hedge on a boundary provided that the top and sides of the hedge are trimmed each year after flowering but before seed set to minimise seeding.

Land occupiers may apply for an exemption from any of the above rules in accordance with the procedures set out in Chapter 12.

Gorse

(a) Land occupiers shall eliminate gorse infestations that cover up to 50 square metres in area and are greater than five metres from other gorse infestations exceeding 50 square metres in area on the land that they occupy. For the purpose of this rule eliminate means the permanent preclusion of the gorse plant's ability to set viable seed.
(b) Land occupiers shall eliminate gorse infestations on the land that they occupy within 10 metres of any adjoining property occupied by another land occupier where that adjoining property is clear of, or being cleared of, gorse infestations within 10 metres of the boundary between the properties. For the purpose of this rule eliminate means the permanent preclusion of the gorse plant's ability to set viable seed.
(c) Land occupiers and other persons shall not sell, propagate or distribute any gorse plant or part thereof. A breach of any of these rules creates an offence under Section 154(r) of the Biosecurity Act 1993 and may initiate the regulatory procedures set out in Chapter 12. Land occupiers are exempted from the provisions of this rule for the following:

- the requirement to eliminate gorse when present as a hedge within a property; and
- the requirement to eliminate gorse when present as a hedge on a boundary provided that the top and sides of the hedge are trimmed each year after flowering but before seed set to minimise seeding.

Land occupiers may apply for an exemption from any of the above rules in accordance with the procedures set out in Chapter 12.

Nodding Thistle

(a) Land occupiers shall eliminate nodding thistle infestations:

- on the land that they occupy within 40 metres of any irrigation race or stockwater

race; and
- on the land that they occupy within 40 metres of any adjoining property occupied by another land occupier where that adjoining property is clear of, or being cleared of, nodding thistle within 40 metres of the boundary between the properties.

For the purpose of this rule eliminate means the permanent preclusion of the nodding thistle plant's ability to set viable seed.

(b) Land occupiers and other persons shall not sell, propagate or distribute any nodding thistle plant or part thereof.

A breach of these rules creates an offence under Section 154(r) of the Biosecurity Act 1993 and may initiate the regulatory procedures set out in Chapter 12.

Ragwort

(a) Land occupiers shall eliminate ragwort infestations:

- on the land that they occupy within 40 metres of any irrigation race or stockwater race; and
- on the land that they occupy within 40 metres of any adjoining property occupied by another land occupier where that adjoining property is clear of, or being cleared of, ragwort within 40 metres of the boundary between the properties.

For the purpose of this rule eliminate means the permanent preclusion of the ragwort plant's ability to set viable seed.

(b) Land occupiers and other persons shall not sell, propagate or distribute any ragwort plant or part thereof. A breach of these rules creates an offence under Section 154(r) of the Biosecurity Act 1993 and may initiate the regulatory procedures set out in Chapter 12.

Variegated Thistle

(a) Land occupiers shall eliminate variegated thistle infestations:

- on the land that they occupy within 40 metres of any irrigation race or stockwater race; and
- on the land that they occupy within 40 metres of any adjoining property occupied by another land occupier where that adjoining property is clear of, or being cleared of, variegated thistle within 40 metres of the boundary between the properties.

For the purpose of this rule eliminate means the permanent preclusion of the variegated thistle plant's ability to set viable seed.

(b) Land occupiers and other persons shall not sell, propagate or distribute any variegated thistle plant or part thereof. A breach of these rules creates an offence under Section 154(r) of the of the Biosecurity Act 1993

and may initiate the regulatory procedures set out in Chapter 12.

Surveillance Plant Pests

Plant Pests:

Common Name (Scientific Name):

* All Stipa (except natives)* (Stipa spp.)
* Alligator Weed (Alternanthera philoxeroides)
* Artillery plant* (Galeobdolon luteum)
* Australian sedge (Carex longebrachiata)
* Banana Passionfruit (Passiflora molissima, Passiflora mixta)
* Barberry* (Berberis glaucocarpa)
* Bartlettina (Bartlettina sordida)
* Bathurst Bur* (Xanthium spinosum)
* Blackberry (wild aggregates)* (Rubus fruticosus agg.)
* Bladderwort (Utricularia gibba)
* Blue Morning Glory*(Ipomoea indica)
* Blue Passion Flower* (Passiflora caerulea)
* Bog Bean (Menyanthes trifoliata)
* Boneseed* (Chrysanthemoides monilifera)
* Boxthorn* (Lycium ferocissimum)
* Broomsedge (Andropogon virginicus)
* Buddleia* (Buddleia davidii) (excluding hybrids)
* Burdock* (Arctium minus)
* Cape Honey Flower* (Melianthus major)
* Cape ivy* (Senecio angulatus)
* Cathedral Bells* (Colbaea scandens)
* Chinese (Pennisetum Pennisetum alopecuroides)
* Chilean Needle Grass (Stipa neesiana)
* Clasped Pondweed (Potamageton perfoliatus)
* Climbing Asparagus (Asparagus scandens)
* Eel Grass (Vallisneria) (Lake Pupuke, Meola Creek varieties)
* Egeria Oxygen Weed (Egeria densa)
* Fountain Grass (Pennisetum setaceum)
* Fringed Water Lily (Nymphoides peltata)
* German Ivy* (Senecio mikanioides)
* Goats Rue* (Galega officinalis)
* Green Cestrum (Cestrum parqui)
* Hawthorn* (Crataegus monogyna)
* Heather* (Calluna vulgaris) (excluding double flowered cultivars)
* Hemlock* (Conium maculatum)
* Himalayan Honeysuckle* (Leycesteria formosa)
* Hornwort (Ceratophyllum demersum)
* Horse Nettle (Solanum carolinense)

* Horsetail* (Equisetum arvense)
* Houttuynia (Houttuynia cordata)
* Hydrilla (Hydrilla verticillata)
* Italian Buckthorn* (Rhamnus alaternus)
* Japanese Honeysuckle* (Lonicera japonica) (including cultivars but not hybrids)
* Japanese Spindle Tree* (Euonymus japonicus)
* Lagarosiphon Oxygen Weed* (Lagarosiphon major)
* Lodgepole Pine* (Pinus contorta)
* Manchurian Wild Rice (Zizania latifolia)
* Mexican Daisy* (Erigeron karvinstianus)
* Mignonette Vine* (Anredera cordifolia)
* Mile-a-Minute (Dipogon lignosus)
* Mistflower (Ageratina riparia)
* Moth Plant* (Araujia sericifera)
* Nardoo* (Marsilea mutica)
* Noogoora Bur (Xanthium occidentale)
* Nutgrass (Cyperus rotundus)
* Oxylobium (Oxylobium lanceolatum)
* Palm Grass (Setaria palmifolia)
* Pampas Grass* (Cortaderia selloana, Cortaderia jubata)
* Parrots Feather (Myriophyllum aquaticum)
* Perrenial Nettle* (Urtica dioica)
* Phragmites* (Phragmites australis)
* Plectranthus* (Plectranthus ecklonii, Plectranthus ciliatus, Plectranthus grandis)
* Plumeless Thistle* (Carduus acanthoides)
* Port Jackson Fig (Ficus rubiginosa)
* Privet Chinese* (Ligustrum sinense)
* Privet tree* (Ligustrum lucidum)
* Sagittaria* (Sagittaria graminea ssp. platyphilla)
* Senegal Tea* (Gymnocoronis spilanthoides)
* Sheeps Bur* (Acaena agnipila)
* Skeleton Weed (Chondrilla juncea)
* Smilax* (Asparagus asparagoides)
* Spanish Heath* (Erica lusitanica) (excluding double flowered cultivars)
* Spartina* (Spartina spp.)
* Spiny Broom (Calicotome spinosa)
* St Johns Wort* (Hypericum perforatum)
* Sweet Briar* Rosa (rubiginosa)
* Sweet Pea Shrub* (Polygala myrtifolia) (excluding cultivar "Grandiflora")
* Tuber Ladder Fern* (Nephrolepis cordifolia)

* Tutsan* (Hypericum androsaemun)

* Variegated Thistle* (Silybum marianum)

Strategy Rule for Surveillance Plant Pests

Rule 7.1

Land occupiers and other persons shall not sell, propagate or distribute any Surveillance Plant Pests.

A breach of this rule creates an offence under Section 154(r) of the Biosecurity Act 1993.

Related Documents

Regional Pest Management Strategy

Quick Answers

What are total control pests?

What is the Canterbury Regional Pest Management Strategy 2005-15?

Who do I report the discovery of a pest plant to?

APPENDIX 48.17

Biosecurity Act 1993

MAF administers the Biosecurity Act. It provides a legal basis for excluding, eradicating and effectively managing pests and unwanted organisms, and its powers can be variously used by MAF Biosecurity New Zealand, other government agencies, regional councils and pest management agencies. It is an enabling tool that provides a range of functions, powers and options for the management of risk organisms.

- Biosecurity Act 1993

Management options under the Biosecurity Act are:

- import and border controls aimed at effective management of risks associated with the importation of risk goods, including treatment of contaminated goods and craft;
- access to Part VI powers for organisms declared unwanted organisms;
- exigency actions where other options are not adequate or available;
- national pest management strategies that provide access to powers and rules by any organisation that is declared a pest management agency. Any response must be undertaken within those powers or rules, unless the strategy is subsequently amended or revoked in accordance with the Biosecurity Act;
- regional pest management strategies (mainly administered by regional councils);
- access by regional councils to powers in the Biosecurity Act for small-scale management programmes under section 100 of the Act without needing to have a pest management strategy; and
- enforcement of section 52 and 53 prohibitions (which make it an offence to sell, propagate, breed, release or display an unwanted organism or pest)

Where possible voluntary support for response actions will be sought, however response actions may invoke use of powers under the Biosecurity Act where needed.

Page last updated: 28 May 2008

BIOSECURITY NEW ZEALAND

Biosecurity Council - Policy Statement on the Development of National Pest Management Strategies by Departments

1. Introduction

1.1 This statement sets out the Biosecurity Council's policy on the development, by Government departments ('departments') of national pest management strategies (NPMSs) under Part V of the Biosecurity Act 1993.

1.2 This policy serves as a guide to departments when considering whether to initiate the development of a NPMS.

1.3 This policy will be reviewed in light of any amendment to the Biosecurity Act 1993 or at such other time as is considered necessary by the chair of the Biosecurity Council.

2 Interpretation

2.1 The terms in this policy have the same meaning as those in the Biosecurity Act 1993 unless the context indicates otherwise; and

- "endemic organism" means an organism that is established throughout, or in any part of, New Zealand (other than in containment) and includes native and introduced organisms;
- "exotic organism" means an organism that is not established in any part of New Zealand;
- "established" means perpetuation, for the foreseeable future, of an organism within an area after entry;
- "region" means a region in respect of which -
  a. A regional council is constituted; or
  b. A territorial authority has, pursuant to section 37N of the Local Government Act 1974, authority to exercise the functions, duties, and powers of a regional council.

3 Background - Ministerial Roles and Responsibilities Statutory Roles and Responsibilities

Statutory roles and responsibilities

3.1 The 'responsible Minister' (s.2, 8 & 9) is the Minister who, by authority of a warrant or with the authority of the Prime Minister, is responsible for the administration of the Act. Amongst other things, the responsible Minister must provide for the co-ordinated implementation of the Biosecurity Act 1993.

Note: The Minister for Biosecurity is the responsible Minister by virtue of a letter of authorisation from the Prime Minister dated 17 December 1999.

3.2 A Minister or any person may prepare a NPMS proposal (ss.56, 60 & 61).

3.3 Only a Minister whose responsibilities might be adversely affected by the organisms (the 'affected Minister') may be requested to notify a NPMS proposal (s.58).

Explanatory comments: There must be a clear relationship between the adverse effects of the organisms (e.g., on agriculture, forestry, fisheries, conservation estate or public health) and the responsibilities of the 'affected Minister'. Accordingly, it is likely that the 'affected Minister' will often not be the Minister for Biosecurity.

The affected Minister may:

a. Publicly notify, or refuse to notify, the NPMS (ss.57, 59 & 62).
b. Decide on the need for a board of inquiry and determine the composition of the board of inquiry (s.63)
c. Recommend the making of Orders in Council making a NPMS or imposing NPMS levies (s.68 & 90). Other possible non-statutory considerations

3.4 The responsible Minister may consider proposing a NPMS as an effective means of ensuring inter-departmental co-ordination. This may occur where:

a. Organisms of concern affect the responsibilities of a number of departments, but responsibility is not clearly defined; or
b. The organisms clearly affect the responsibilities of more than one department.

3.5 Ministers may also consider directing a department to co-ordinate the development of a private sector NPMS.

4 Role of the Affected Parties

4.1 Where a NPMS is to be proposed, affected parties should be involved in or consulted about the development of the strategy proposal.

4.2 An affected party may have specified roles and responsibilities under a NPMS.

5 NPMS Development by Departments

5.1 A department may initiate the development of a NPMS only where:

a. It considers the prerequisites for developing a NPMS under section 57 of the Biosecurity Act 1993 can be met; and
b. The organisms of concern are deemed to be of national significance by a Minister; and

Explanatory comment: In considering whether to deem organisms 'nationally significant' a Minister will have regard to any relevant factor including whether the organisms:

- have or are likely to have a significant effect on economic well-being
- have aroused widespread public concern or interest; or
- are unlikely to be eradicated or effectively managed without significant use of Crown resources; or • affect or are likely to affect any structure, feature, place or area of national significance; or
- affect or are likely to affect more than one region; or
- affect or are likely to affect or are relevant to New Zealand's international obligations.

c. Private sector beneficiaries of action to manage or eradicate the organisms are not able to undertake the task of developing a NPMS proposal; and
d. Eradication or management of the organisms through a NPMS is expected to be more cost-effective (e.g., by reducing compensation requirements) than the exercise of Part VI powers without a NPMS.

5.2 A department should develop a NPMS where:

1. (a) The criteria in 5.1 are met; and one or more of the following apply:
    i. Management options other than Part VII exigency actions (i.e., enforcing ss.52 & 53, small-scale management programmes, regional pest management strategies and the exercise of Part VI powers without a NPMS) are not adequate to enable cost effective

eradication or management of the organisms of concern.

ii. It considers that it is essential to: - establish formal long-term funding arrangements (e.g., by way of s.90 levy); or - secure a commitment from affected parties to act (e.g., in a particular way or at a particular time); or - develop the management approach through the statutory consultation process.

Explanatory note:

The case for a NPMS will also be stronger where one or more of the following applies:

- It is necessary to provide for compensation other than provided for by s.162A of the Biosecurity Act 1993.
- Pest management strategy rules are required and it is necessary for the rules to apply throughout New Zealand (or parts of New Zealand).
- Funding by way of s.90 levy is required (although, this must be weighed against the options of s.135 cost recovery and/or a s.137 levy).
- It is necessary to impose obligations or costs on the Crown (s.87).
- The management agency is likely to be a body other than a department.

5.3 A department should only consider developing a NPMS proposal for exotic organisms where:

a. 5.1 and 5.2 apply; and
b. There is a reasonable likelihood that an incursion will arise.

5.4 NPMSs will not be able to be developed to cover all potentially harmful exotic organisms. Therefore contingency plans will need to be developed to ensure that appropriate action can be taken to prevent the spread of organisms prior to any decision to pursue longer-term management or eradication.

6 Scope of a NPMS

6.1 A NPMS may be developed for either endemic or exotic organisms, although it is anticipated that in most instances a department will be involved in the development of a NPMS for organisms that are exotic, or very recently detected in New Zealand.

6.2 A NPMS may contain one or a number of pests. Where a number of pests is included, the pests should:

a. Be of a similar kind or description; or
b. Require similar actions to be taken; or
c. Affect a similar range of organisms or other natural resources; or
d. Cause a similar effect on organisms or other natural resources.

John Hellström Chair,
Biosecurity Council

12 December 2000

Page last updated: 12 June 2008

APPENDIX 48.18

BIOSECURITY NEW ZEALAND

MAFBNZ to discontinue funding national Dutch Elm Disease programme

5 June 2008

MAF Biosecurity New Zealand (MAFBNZ) will discontinue funding national management of the Dutch Elm Disease programme.

This follows a decision that national management of the disease is not a priority when compared to other organisms that threaten the health and lifestyle of New Zealanders, our environment and our cultural and economic wellbeing.

"This decision was not taken lightly. It followed evaluation of 20 of the worst pests established in New Zealand to decide which can and should be eradicated from New Zealand or contained to localised areas" said Andrew Harrison Manager Pest Management Group, MAFBNZ.

"National programmes are being established or strengthened for 11 of the 20 pests, including eradication of pests such as salvinia (Kariba weed), which completely smothers waterways and impacts on public safety, water quality, native plants, power generation and irrigation schemes. However, Dutch Elm Disease is not among these.

"In reaching its decision MAFBNZ accepted the recommendations of a joint central and regional government advisory group, with input from a separate panel of technical experts" said Mr Harrison.

Instead of immediately discontinuing the programme MAFBNZ has offered assistance to territorial authorities, which are collectively the single biggest group of elm owners in New Zealand. Elms have been a significant amenity species used in local council plantings.

MAFBNZ approached chief executives and mayors of all (86) territorial authorities and proposed three options. If they collectively committed:

- a) Greater than $200,000 per annum over the next ten years; MAFBNZ would assist by coordinating delivery of the programme and contribute 1/3 of programme costs (the minimum cost of a full programme is $300,000 per annum).
- b) Between $100,000 and $200,000; if requested, MAFBNZ would act as a facilitator for a limited time to enable councils to maintain the programme, but would not provide further financial contribution.
- c) Less than $100,000; MAFBNZ would quickly transition out of the programme and allow regional or local authorities to manage or react to Dutch Elm Disease as they wish.

"Thirty-three territorial authorities responded to MAFBNZ's proposal. A total funding commitment of $99,500 was received from 14 territorial authorities. This was considered close enough to the $100,000 trigger point to invoke the second option" said Mr Harrison.

Mr Harrison said MAFBNZ is now actively working to transfer the programme to interested councils over an 18-month period.

"Until any new arrangements are in place, the public should continue to report potential cases of Dutch Elm Disease to MAFBNZ on 0800 80 99 66. Calls will be forwarded to the relevant Territorial Authority."

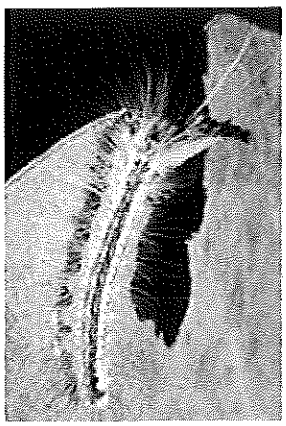
Dutch Elm Disease (*Ophiostoma ulmi*) is a fungal disease spread by bark beetles, but can also spread directly through root grafting between neighbouring trees. The symptoms of infection include firstly; wilting, curling, or yellowing of the leaves and secondly dying or dead branches and trees.

It has no human health impacts nor does it affect native plants. Elms are not a significant commercial forestry species in New Zealand.

It is currently contained in the Auckland area where it was found in 1989. An earlier outbreak in Napier was eradicated.

Media contact:

- Matthew Thorpe, Communications Adviser Ph 04 894 0276 or 029 894 0436


Caterpillar

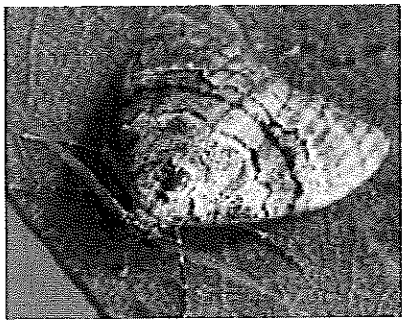
Gum leaf skeletoniser caterpillars damage gum trees as they feed on their leaves. The moth's name derives from the young caterpillar's feeding habits. When young caterpillars feed they 'skeletonise' gum leaves by eating the softer parts of leaves, avoiding the veins. Older larvae are capable of eating whole leaves thus increasing damage. This damage can slow tree growth or, in severe cases, even kill younger trees.

Despite its reputation as a eucalypt specialist, gumleaf skeletoniser can also live successfully on other related Australian trees. For more details on its likely impact, see the Factsheet (181 KB).

Gum leaf skeletoniser is found in sub-tropical, Mediterranean, and temperate climates in Australia indicating that it could also be capable of surviving throughout New Zealand, with the exception of alpine areas.

What does gum leaf skeletoniser look like?

Gum leaf skeletoniser goes through four different life stages, each looking very different from the other:

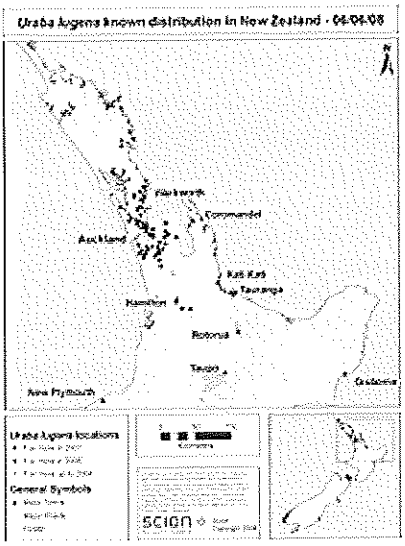

Moth

- **Eggs** are about 1 mm in diameter and are laid in groups of 100 to 200 in parallel rows on young leaves. The eggs are yellow-green at first and turn brown as they develop.
- **Caterpillars** are hairy and coloured pale yellow with black and grey markings. Older caterpillars have a distinctive 'hat' on their heads.
- **Cocoons** are usually formed under bark or in leaf litter and are rarely seen.
- **Moths** are dull grey with silver-grey forewings and a wingspan of 20-30mm.

Two gum leaf skeletoniser life cycles are completed each year, one in summer and one in winter. For more information on the biology of this insect, see the *Uraba lugens* Factsheet (175 KB).

Chemical Control Options

How can you protect your trees?



- View interactive map of the distribution

Frequently Asked Questions

Is it dangerous?

The gum leaf skeletoniser caterpillar is covered with protective spines that sting and may cause irritation. The stiff spines are hollow and contain venom, which can be injected into the human skin upon contact. This often results in local pain (sometimes severe) and welts (swollen patches on the skin) that tend to become itchy. The reaction to gum leaf skeletoniser may last for many days. Note that the spines of dead caterpillars or on shed skin retain their ability to sting.

In case of reaction to gum leaf skeletoniser caterpillars, the following first aid is advisable:

1. Apply ice packs to the exposed area.
2. In case of eye contact, wash area thoroughly and seek medical attention.
3. If ingestion of caterpillar occurs, seek medical attention immediately.
4. If symptoms develop beyond the immediate area of the sting (e.g. widespread rash, shortness of breath or collapse) call an ambulance straight away.

Biosecurity NZ has prepared fact sheets providing more specific public health information:

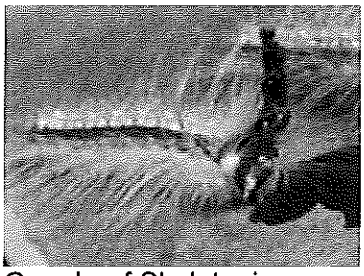
- Information for schools, kindergartens and childcare facilities (203 KB)
- Information for medical practitioners and other health professionals (105 KB)

For further information, see Derraik JGB. 2006. Erucism in New Zealand: exposure to gum leaf skeletoniser (*Uraba lugens*) caterpillars in the differential diagnosis of contact dermatitis in the Auckland region. New Zealand Medical Journal 119 (1241)

What damage can it do to trees?

Gum Leaf Skeletoniser

Uraba lugens


Gum Leaf Skeletoniser

Legal Status: Notifiable Organism
Status in New Zealand: Controlled
Organism: Insects, worms and other land invertebrates

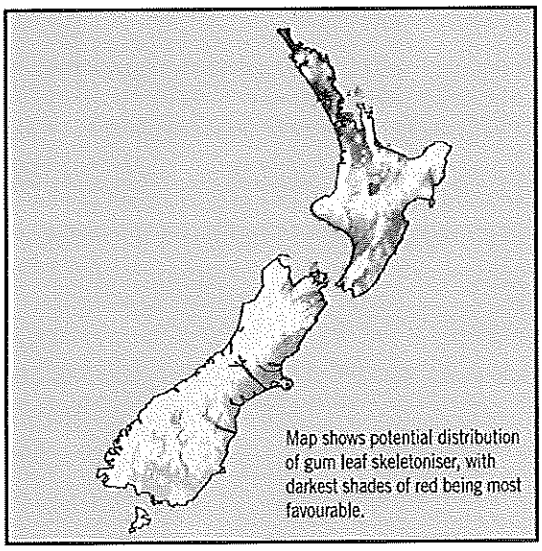
Gum leaf skeletoniser (*Uraba lugens*) is a native Australian moth, first discovered in New Zealand in 1992 at Mount Maunganui. This first population was eradicated, but it was found again in Auckland in 2001. Gum leaf skeletoniser is now widespread in the greater Auckland region, and has now been recorded from a number of locations in the Waikato. Recently larvae have been found at Mt Maunganui, where the original population was eradicated from. This pest has the potential to spread through much of the country. Researchers would be interested to know if you find gum leaf skeletoniser in areas outside the locations indicated on the map (below) (contact Lisa Berndt at Scion - lisa.berndt@scionresearch.com).

Gum leaf skeletoniser is a pest in both Australia and New Zealand, mainly because of the damage it causes to gum (Eucalyptus) trees. The caterpillars have poisonous spines which can sting. Research is currently underway into biological control (supported by the Sustainable Farming Fund) and chemical control of this pest.

- Gum Leaf Skeletoniser: A Guide to Managing the Pest in New Zealand (5514 KB)
- Report: Economic Assessmenton the Impact of the Gum Leaf Skeletoniser, Uraba Lugens in New Zealand

Current Distribution of the Gum Leaf Skeletoniser

Click map to view high resolution version



Map shows potential distribution of gum leaf skeletoniser, with darkest shades of red being most favourable.

How much damage will it do?

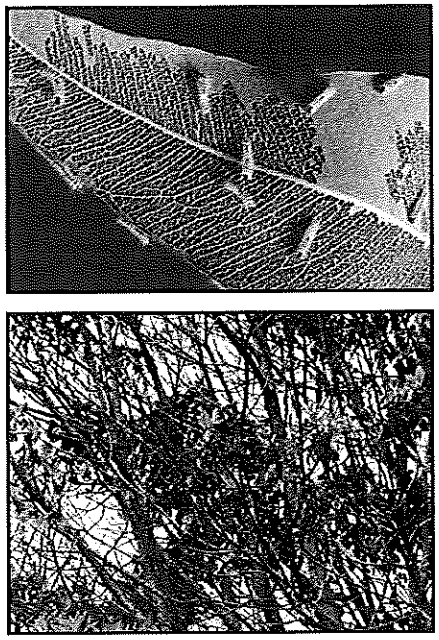
Gum leaf skeletoniser is a pest mainly to eucalypt trees.

In its native habitat of Australia, gum leaf skeletoniser is considered to be an outbreak species, generally surviving in the landscape in low numbers but occasionally causing severe damage to plantations.

Populations of gum leaf skeletoniser are expected to behave in a similar manner in New Zealand. Insect populations within hardwood plantations could increase to damaging levels following two good seasons for larval survival, for example a moderate winter, combined with a calm, dry summer. In an outbreak situation, caterpillar numbers could increase rapidly, since the New Zealand environment is relatively free from natural enemies.

Field surveys in Australia suggest that the pattern of damage caused by gum leaf skeletoniser will largely occur around the edge of plantations (approx. a 50 m zone). Young eucalypt plantations up to the age of 7 years appear most suitable for the insect. Repeated defoliation of very young trees can have a significant impact on wood production at the end of the rotation.

In older stands where there is canopy closure, the incidence of gum leaf skeletoniser is markedly reduced. Because of the usual open habit of amenity (street) plantings, trees older than 7 years may be defoliated.



Trees under attack show distinctive damage patches in the canopy, with skeletonised leaves visible on closer inspection.

How can you protect your trees?

Forest managers are advised to monitor for the presence of gum leaf skeletoniser in hardwood plantations. Signs of chewing damage will become visible when the larvae are feeding, between the months of January-March and May-September. If you find caterpillars, avoid touching them, as their hairs can cause a skin reaction.

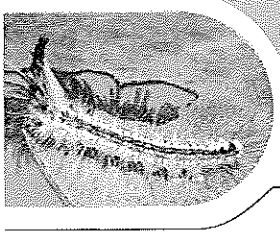
If trees are suffering defoliation, chemical control methods can be used. In plantation forestry areas, spraying with Btk, or synthetic pyrethroids will provide effective control. Where overall foliar spraying is not appropriate, such as in some urban situations, individual trees can be successfully treated using stem injection methods.

The spread of gum leaf skeletoniser can be minimised by avoiding transportation of all bark or leaf material, particularly during October/November or February/March when the pupae are living in the bark.

THE THREAT

Gum leaf skeletoniser defoliates eucalypt trees. The caterpillars' hairs can cause itching or a rash on skin if touched. People handling affected plants should wear portective clothing.

March 2006



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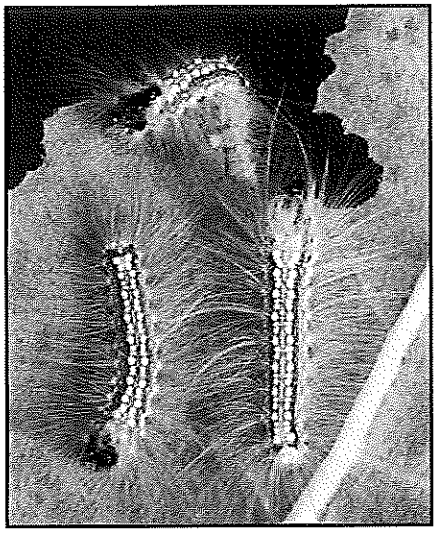
GUM LEAF SKELETONISER
WHAT RISK DOES IT POSE?

What is gum leaf skeletoniser?

Gum leaf skeletoniser is an Australian insect (*Uraba lugens*) that causes damage mainly to gum (eucalypt) trees by eating the foliage. This accidentally-introduced insect is now widespread in the greater Auckland region, and has the potential to disperse throughout all areas of New Zealand where eucalypts will grow. For this reason, it is important to minimise the spread of the pest.



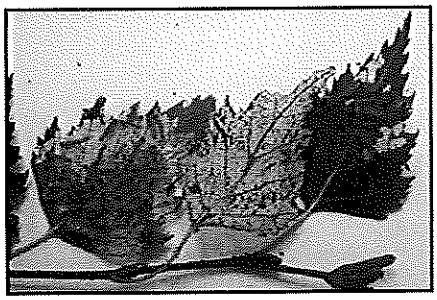
Gumleaf skeletoniser caterpillars have hairs that can cause itching or a rash on skin contact. If you find gumleaf skeletoniser caterpillars, avoid touching them.

Which tree species does it eat?

Gum leaf skeletoniser caterpillars have been recorded to feed on many of the eucalypt species growing in New Zealand. Some of the eucalypt likely to be attacked the most severely are *E. nitens, E. globulus, E. nicholii, E. obliqua* and *E. cinerea.*

Despite its reputation as a eucalypt specialist, gum leaf skeletoniser has also been found to live successfully on other related Australian trees, such as *Lophostemon.* The insect also thrives on silver birch (*Betula pendula*), and can damage some oak species, copper beech, and plum.

Gum leaf skeletoniser is not generally attracted to New Zealand native plants, but can feed on them when they are growing in very close proximity to eucalypts. In the rare case that caterpillars may occur on native species, damage is not usually significant. The majority of larvae hatching on the leaves of native plants will die within 2 weeks of feeding on the plant, or will attempt to move off in search of a more suitable host.



Gum leaf skeletoniser feeding on silver birch leaves

How far is it likely to spread?

Gum leaf skeletoniser has the ability to survive throughout the North Island, up to the tree line, and in most of the South Island. The insect is unlikely to thrive in dry areas of Otago, and the Southern Alps, which are too cold. Areas of New Zealand that experience high levels of rainfall are unlikely to support gum leaf skeletoniser in significant numbers.

THE THREAT

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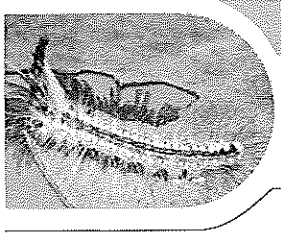
March 2006



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APPENDIX 48.19

If gum leaf skeletoniser is present in your area, signs of chewing damage will become visible when the larvae are feeding. This is most likely between the months of January-March and May-October. Chemical control methods can be used to manage the pest.

Stem injection

In urban areas where spraying is not appropriate, individual trees can be treated using stem injection methods. An insecticide injected directly into the stem is transported rapidly to the leaves through the sap of the tree, where it is ingested by insects feeding on the leaves.

Stem injection of individual trees has proven to be a safe and highly effective method of achieving prolonged protection. Researchers have determined that the insecticides acephate and methamidophos are effective in the control of gum leaf skeletoniser on trees by direct stem injection.

Both the above insecticides are systemic organophosphate insecticides that are rapidly transported through the tree's vascular system. They can remain active within the tree for months. The active period is determined by tree phenology, active ingredient and injected rates. Although these products are formulated and registered for spray applications, research has shown that they can be successfully injected into the stem using standard chemical injection apparatus.

Techniques for stem injection are still under investigation, so manufacturers' recommendations are currently unavailable.

Pesticide sprays

In plantation forestry areas, spraying with Btk, Spinosad or synthetic pyrethroids will provide effective control.

Btk stands for *Bacillus thuringiensis* var. *kurstaki*, which are naturally occurring bacteria. When used at the recommended rates for lepidopteran (such as moths) control, *Btk* will kill a limited range of insects, including gum leaf skeletoniser. Young larvae are the most susceptible to *Btk*, therefore it should be applied when the caterpillars are small in January or May/June.

Broader spectrum control can be achieved using a synthetic pythrethroid, such as deltamethrin. Like *Btk*, these chemicals must contact the insect in order to kill them, so the timing and deposition of the spray operations are critical to achieve maximum effect.

For advice on how to control gum leaf skeletoniser contact Stefan Gous at Scion (07 343 5518, email stefan.gous@scionresearch.com).

Page last updated: 19 June 2008