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Rhus

Invasive Species Unit

Introduction

Rhus (*Toxicodendron succedaneum*, previously *Rhus succedanea*) is a highly toxic, allergy-causing tree. It causes severe dermatitis beginning with a rash, redness, itching and blisters wherever skin comes into contact with the plant or its sap. The rash is often accompanied by localised swelling of the face, arms and legs. Rhus was once commonly planted in Australian gardens because of its brilliant autumn foliage. It became problematic in the Sydney region in the 1980s, and is now declared a Noxious Weed across New South Wales (NSW).

Scattered plants still occur in domestic gardens and rhus also has invasive characteristics. Birds eat the fruit and spread the seed in their droppings, and many thousands of seedlings germinate in home gardens, public areas and urban bushland.

Fortunately, noxious weed programs and public education have resulted in a considerable reduction of rhus in most environments. Nurseries no longer sell rhus.

Rhus is a member of the Anacardiaceae family and is native to the areas from northern Pakistan to Japan and south to Indonesia.

Figure 1. Rhus has brilliant red foliage in autumn.

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Distribution

While rhus was planted widely in domestic gardens, it has been removed from most areas. The current distribution of wild rhus in NSW is in the Sydney and Central Coast regions.

Habitat

Rhus will grow in temperate regions on a wide range of soil types. It is invasive in disturbed areas of woodland and roadsides, and will also spread from domestic gardens into surrounding urban bushland.

Figure 2. Rhus was once a popular ornamental tree in suburban gardens.

Impact

The most severe impacts of rhus are the painful allergic reactions caused to people who come into contact with the plant, its sap, and even smoke made by burning the plant material. The sap is highly toxic and causes the worst reaction; however, contact with any part of the tree can result in the development of symptoms. All parts of the plant are poisonous and in highly sensitive people merely standing under a tree may be sufficient to produce a reaction.

Severe dermatitis can occur between 12 hours and 7 days after contact, often accompanied by localised swelling of the face, arms and legs. Symptoms can last 7 to 10 days. Chronic sufferers may have more extreme symptoms over a longer period of time. Some cases have required hospitalisation.

Rhus is closely related to North American poison ivy and poison oak. The allergic reaction is caused by a phenolic oily resin called toxicodendrol which has a complex active principle – urushiol. This resin will last for up to a year on shoes, tools or other items.

What to do if poisoning occurs

- If the patient is unconscious, unresponsive or having difficulty breathing **dial 000** or get to the emergency section of a hospital immediately.
- If the patient is conscious and responsive call the **Poisons Information Centre** on **13 11 26** or your doctor.
- If going to a hospital take a piece of the plant for identification.

The first contact with rhus usually does not produce a significant reaction. It is generally subsequent contact that results in a reaction. Almost everyone is potentially allergic to rhus, and people such as arborists and gardeners should not assume they are immune because they have not reacted to initial contact with the tree. Continued contact over time can result in delayed sensitisation.

Description

Rhus is a small, deciduous tree 5–8 m tall with smooth grey bark.

The leaves are divided into 9–15 leaflets (mostly 11) arranged in pairs, forming a leaf frond 20–35 cm long. The leaflets are 4–10 cm long and 2–3 cm wide. They are bright green above and often greyish beneath because of a waxy bloom on the leaf surface. In autumn they change to a brilliant red before they fall.

Small creamy-white to yellow flowers occur in large clusters (8–15 cm long) among the new leaves in spring and early summer. The hard fruits are 5–11 mm in diameter, and pale brown with a papery skin.

Similar looking species

Rhus may be mistaken for the similar looking Chinese pistachio (*Pistacia chinensis*) which is also planted for its brilliant autumn foliage. They are easily distinguished as rhus leaf fronds end in a single leaflet while the leaf fronds of Chinese pistachio end in a pair of leaflets. Other differences are that pistachio grows to about 10 m, has a less spreading crown, more upright leaf fronds and flatter leaflets.

Life cycle

Fruit hang in clusters on the tree throughout autumn and winter, falling in spring. Seeds are produced in large numbers and germinate readily. Seedlings grow vigorously in their early years and if unpruned, form spreading crowns on single erect trunks.

Figure 3. Chinese pistachio leaf fronds end in a pair of leaflets.

Figure 4. Rhus leaf fronds end in a single leaflet.

Spread

Seed is spread by birds. Seedlings will usually be found growing near a parent tree. The seed remains viable for many years and rhus can also be spread by movement of garden soil containing viable seed.

Control and management

Rhus management generally relates to either the removal of single ornamental trees, or the control of small outbreaks of seedlings or young trees in bushland areas. Extreme care must be taken in all rhus control situations as any contact with the tree is dangerous. Physical removal of trees has high associated risks of poisoning, and difficulties of disposing of the plant material. The safest method of control is probably by stem injection of herbicide (see *Chemical control* below).

Physical removal

Small plants may be dug out, taking care to dig out the entire stem to discourage suckering. When larger trees are cut down their remaining stumps need to be treated with herbicide to prevent regrowth. Tools such as chainsaws and mattocks need to be cleaned to remove sap. Personal protective equipment such as overalls, hats, protective eyewear or face shields, dust masks and gloves should be used by operators, even when dealing with small seedlings. The risk of contact with sap can also be reduced by waiting until after the leaves have fallen in winter before attempting to remove plants.

Disposal

Rhus branches should not be mulched or chipped for garden use. The toxic resin remains active for many months, even after weathering. Contact your local council for advice on disposal of rhus debris. Do not burn any part of the plant as the smoke from burning is also toxic.

Chemical control

Herbicides are registered for stem injection and cut stump application for rhus control. Refer to the *Noxious and Environmental Weed Control Handbook* 4th edition (see ‘Publications available’ below) for a list of registered herbicides and application methods. Precautions to avoid the sap should still be taken when carrying out chemical control methods.

Stem injections of herbicide should be carried out in summer when the tree is actively growing. The tree can then be left in place to die. The dead plant material should still be disposed of safely and not burnt.

Any live trees that are cut down should have their stumps treated with herbicide to prevent regrowth. If a brush is used to paint stumps it should be bagged and safely disposed of.

Legislation

Rhus is a Class 4 Noxious Weed across all of NSW. The growth and spread of Class 4 weeds must be controlled according to the measures specified in a management plan published by the Local Control Authority.

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Publications available

Ensbey, R. (2009), Noxious and Environmental Weed Control Handbook, 4th Edition, Industry and Investment NSW, Orange. Copies are available from the Industry & Investment NSW Bookshop, Orange. Phone 1800 028 374 or online at www.dpi.nsw.gov.au/weeds

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