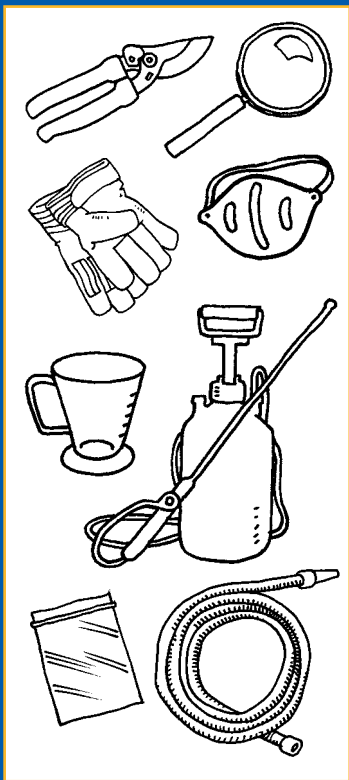


Tools for the job



Hand Lens or
Magnifying Glass
Self Seal Plastic Bags
Secateurs
Protective Clothing
Spray Equipment
Chemical Measuring
Glass
Garden Hose & Fittings

All the help you need

✓ Your Materials Checklist

		PRICE
	Insecticides	
	Baites	
	Other materials	

Verbal quotes are indicative only. Written quotes on materials are available upon request from your Mitre 10 store.

Safety Rules for Chemical Use

1. Always read the label.
2. Always follow safety precautions on the label.
3. Always use the recommended rates for the purpose.
4. Always mix only the amount needed for the job to prevent unnecessary disposal of the chemical.
5. Always store chemicals in a safe place away from children.
6. Always dispose of chemicals and containers properly.
Check you local council for advice.
7. Always spray on calm days.
8. Always use protective equipment.
9. Always clean spray equipment and protective equipment after use.



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*10/10 handy
hints to make
the job easier.*

■ To prevent re-spraying too soon, record the date of the first spray on your calendar.

■ Snails can be killed using beer in a small container where they are attracted and drown.

■ Prevent mistakes by keeping spray equipment separate from fertiliser sprayers and herbicide sprayers.

■ For small spray jobs, use an old window cleaner spray bottle. Clean thoroughly before use.

■ When mixing powder chemicals, mix in a small amount of water first, then add the balance of water and mix thoroughly.

■ If you can't diagnose the problem, get a second opinion – take a sample sealed in a clear plastic bag to your Mitre 10 store for help.

Mitre 10 gratefully acknowledges the assistance of:

Mr Robert McMillan, SDH, Cert Public Parks Hort (Scotland), Dip TT, and Mr Ronald Barrow, Dip Hort Sci, Cert Sprinkler Design, DTT, MAIH in the preparation of this MitrePlan.

MITREPLAN



Control common garden pests

IMPORTANT: This project planner has been produced to provide basic information and our experienced staff are available to answer any questions you may have. However, this information is provided for use on the understanding that Mitre 10 is not liable for any claim, cost, expense, loss or damage which is suffered or incurred (including but not limited to indirect or consequential loss), for any personal injury or damage to property suffered or sustained as a result of or arising out of or in any way connected with using the information contained in this MitrePlan Project Planner. Mitre 10 advises you to call in a qualified tradesperson, such as an electrician or plumber, where expert services are required, and to independently assess any safety precautions that will need to be followed prior to using the information in this MitrePlan Project Planner.

WARNING: There may be by laws or regulations of councils or other statutory bodies that you must comply with when following this MitrePlan Project Planner.



Your local MITRE 10 Store is:

MITRE 10
All the help you need

MITREPLAN

Control common garden pests



PROJECT PLANNER

An easy-to-follow guide to achieving a 10/10 result.

Outlines all the tools you will need for the job.

Including materials checklist.

PLEASE NOTE:

Before starting this project or buying any materials, it is well worth your time to read through all steps first to be sure you understand what is required.

Mitre 10 is proudly Australian owned.

No. 49

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MITRE 10 *All the help you need*

Identifying and controlling garden pests – with a little help from Mitre 10.

All dedicated gardeners no doubt long for a garden free of pests so that carefully nurtured flowers bloom big and beautiful, and vegetables reach the table plump and without blemish. But, alas, it is not nature’s way.

Many organisms, such as fungi and insects, live happily on and in our plants and are actually an important part of the garden environment. Under natural conditions they are controlled by their own natural predators, providing food for birds, animals and other insects, and helping to break down organic matter that feeds the plants.

It is only when some organisms reproduce and grow in numbers far beyond the natural balance that they become a pest and damage the very plants they depend on and which we cherish.

That’s where this MitrePlan can help by enabling you to more easily identify and treat a range of pest problems.

FRONT COVER: Webbing Caterpillar. This fellow protects himself inside a mass of web and droppings. Best control is to pull the web out by hand and squash the caterpillar between the fingers. This is probably a job for gloves!



Step 1: Identify your problem

Flowers, foliage stems and roots can all be affected by some pest, reducing crop size, quality and the vigour of the plants. The plant may even die if the problem is too severe. And simply buying an all-purpose spray when you don’t really know whether it will do the job will not only cost you money but may harm the environment.

So the first, and most important step is to identify the problem. Pests on plants display recognisable symptoms, just as humans do when we get sick. With a little investigative work, using a hand lens or magnifying glass if required, you can usually identify most common pests.

There are two main kinds of pests to worry about:

Chewing Insects are probably the easiest to identify, leaving large holes and severe damage to the leaves and stems of plants. Complete defoliation is common. Many of these pests are to be found hanging around or hidden close to the damaged plant, particularly at night. They include borers, caterpillars, snails, slugs, fruit fly and grass hoppers.

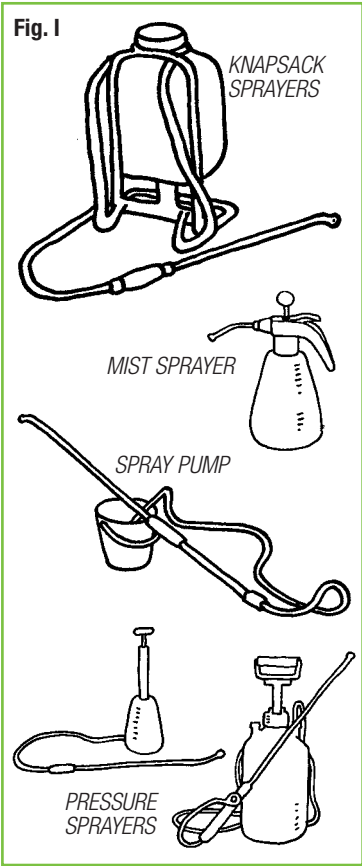
Piercing and Sucking Insects cause less noticeable damage. Their long straw-like mouth allows them to penetrate the plants and suck out the juices. So check plants regularly – the usual signs of attack from these insects are discolouration or deformity of plant parts, particularly leaves and new growth. Look for bugs, aphids, mealy bugs, scale, thrips and lerps. The spider mite, although technically not an insect, is also in this group.

But insects may not be your problem. Like people, plants are also prone to a variety of diseases which can cause damage to leaves, stems and roots. So if no insects can be found, check the affected plant for evidence of a fluffy or powdery appearance, soft, dead patches of tissue, deformity or yellowing. All can indicate disease.

Or is it some other problem?

If neither pest or disease is present, then also check if the problem is nutritional, environmental or chemical. If the plant has turned an overall yellow colour, it could indicate a Nitrogen deficiency, the most common nutritional problem. Or, if the plant displays yellow new growth with the older leaves yellow between the veins which remain green, it may be suffering from iron deficiency, particularly if the soil is Alkaline. In both cases, the quickest cure is to add fertiliser.

Wet soil, dry soil, exposure to wind or frost damage are common environmental problems. While in some cases, chemicals from pollution, herbicides and household refuse can cause contamination of the soil or around the foliage. These problems are more difficult



There is also a wide variety of spraying equipment on the market and your choice will depend on the size of your garden and your plants (Fig. 1.)

to correct so it is important that you use herbicides and dispose of household chemicals properly and not dump in the garden.

The chart of garden pests on the following page is not completely comprehensive but it does detail most of the common problems you are likely to encounter.

Step 2: Assess the problem

Once you've identified the problem, the next step is to decide just how bad it is. Consider whether it is a mild or severe infestation. If only mild, there may be no need to take any action at all and you simply let nature take its course. On the other hand, if it appears bad with the possibility of it spreading to other plants, then control measures need to be taken.

Step 3: Control the problem

Prevention is the best strategy. Each pest can be controlled using good, simple cultural techniques, such as encouraging natural predators like birds, increasing drainage, and keeping plants properly fed and watered to reduce their susceptibility to attack. But even this may not be enough and stronger methods must be used.

In controlling the problem, consider using the least hazardous method possible to achieve results. Many of the old methods are still useful, such as hosing off offending insects, picking off caterpillars by hand, inspecting the plants at night to catch slugs and snails, or capturing nocturnal insects in traps when they look for hiding places early in the morning. Consider also experimenting with herbs grown with other plants to deter pests (refer MitrePlan No. 50 on Garden Vegetables). This is known as “Companion Planting”.

Chemical treatments today make control in the garden a lot easier. A range of chemical insecticides are available which either control one particular insect or group of insects, or more than one. For general garden use, multi-purpose sprays are convenient, but check the label before you buy – no insecticide will control every pest. Look for sprays low in toxicity, such as those made from plant extracts of pyrethrum, eucalyptus, garlic, etc. Remember, rain or watering will wash off any residue from the plants, so frequent application may be necessary with these sprays.

Step 4: Check results

After treating, check your plants regularly. Watch for any re-occurrence that may need to be treated again before it becomes a problem. Be sure to let your first spray have enough time to work – the chemical label will recommend the time before re-spraying.

INSECT	DESCRIPTION	PLANTS AFFECTED	CONTROL
Caterpillars	The larvae of moths or butterflies feeding on leaves and stems.	Most plants can host caterpillars, and grubs are often specific to plants, e.g. green Cabbage white butterfly caterpillar, Emperor Gum noth caterpillar on Eucalypts, Banana caterpillar, Light Brown apple moth (feeds on fruit).	Light infestations can be controlled by hand removal. DIPEL is excellent as it is a biological insecticide. Useful chemicals are Carbaryl, Derris Dust or Malathion.
Snails and Slugs	Nocturnal pests very common in all gardens. Easily recognised by the slime trail left behind on damaged leaves. Can cause great damage to soft leaves.	Most vegetables and plants with soft foliage such as Kangaroo Paw, Agapanthus, Cabbage, Lettuce, Petunias, etc.	Best control is to capture and dispose of by hand. Clear debris under which they hide. A variety of Slug and Snail pellets are available but take care around pets.
Fruit Fly	A pest in warmer areas. The adult fly lays eggs just under the skin of fruit. Small larvae or maggots soon appear and feed on the inside of the fruit.	Most fruit species, including Pome fruits, stone fruits, most tropical fruits, tomatoes, grapes and citrus.	Southern States have few problems in cooler areas. Control can be achieved using Lebaycid, Rogor, or Diptrex. You are required to notify the Agricultural depts of infestation in some states. Infected fruit should be removed and burned – do not bury or compost.
White Fly	Small clouds of white insects emerge when you brush against the plants. Tiny eggs and larvae are found on the under side of the leaves.	Many garden plants are affected, annuals and perennials with soft fleshy leaves. May infect plants indoors and in greenhouses. Very common on beans.	There are a few natural predators and parasites that feed on white fly. When infestation is severe spray with Rogor or Metasystox will help. In less severe cases use Pyrethrum sprays. Be sure to spray well under the leaves.
Aphids	Small, green, yellow or black insects clustered at the ends of new tips.	Most garden plants, especially roses, carnations, cabbages, ferns and citrus.	Mild infestations can be hosed off or left to natural predators. Use Pyrethrum or Malathion for severe infestation. Roses can be sprayed with soapy water to deter attack.
Scale	Small insects that live in protective shells, in colonies. Ants are often found using scale for honey dew.	There are a great many varieties, affecting many plant types, including ferns, citrus, indoor plants and many natives.	Control usually only needed in severe cases on outdoor plants with White Oil, Malathion or Rogor.
Mites	Tiny webs and a discolouration of the foliage often indicates this problem. Use a magnifying glass to spot these small pests on the underside of leaves.	Affects many plants, notably species of Rhododendron, Azaleas, Roses and fruit trees.	Has many natural predators but can cause severe damage before natural control. Spray with Dormant Oil, Kelthane, Malathion, depending on time of year.
Thrips	Only about 1mm long with very slender bodies and ranging in colour from yellow to black, depending on species. They hide under leaves and damage to new growth can be very severe on many plants.	Affects many plants from woody trees and shrubs to more soft stemmed annuals and perennials. Feeds on flowers and new growth causing severe distortion of growth. Gladiolus flowers, native plants, Rhododendrons and bedding plants can all be affected.	Thrips are most active during warm weather. Check plants regularly and control with Malathion.