

## What is pyrethrum?

**N**ext time you're out in the garden, spraying your precious plants to remove damaging insects - check to see if you're spray contains natural pyrethrin insecticides.

You may also be using it in your house to spray for flies and insects, in your pet's flea collar and in insect repellent creams and mosquito coils.

These natural insecticides - pyrethrins - are six closely related chemicals extracted from the flowers of a plant called pyrethrum.

Pyrethrum is a daisy like plant of the *Tanacetum* genus. It produces a yellow and white daisy flower which contains pyrethrins in its seeds as a means of protecting them from insect attack.

The pyrethrum bush grows to a height of 45-75cm (18"-30") with the flowers growing on long upright stems. It prefers a climate where the temperature is not greater than 30°C or 85°F, and it grows best on well drained soils.

As a perennial plant, pyrethrum grows for many years and in Australia it can still produce economic yields after seven years. Typically, however, it is grown for four years in Australia.

Products formulated from pyrethrins have been used for many years, becoming especially important during the Second World War in protecting troops from mosquitoes.

Billions of aerosols and other fly sprays and formulations have been used without any recorded harm to people or mammals.

Pyrethrum has such a long track record of safety and such a wide margin for human error that no other insecticide can come close to it.

Pyrethrins quickly break down to biologically inert materials when exposed to light or when eaten by mammals

At present, the world's main producers of pyrethrum are Kenya, Rwanda and Tanzania, with smaller producers in Ecuador and Papua New Guinea. Australia ranks second in terms of world production.

In Tasmania, Australia, the crop production system is fully mechanised and farmers are contracted by CIG Pyrethrum to produce the flowers for the company.



• The pyrethrum plant produces daisy like flowers which contain the pyrethrin insecticides

## First fully mechanised production system

**A** combination of vision, technology and determination has resulted in Australia developing a new world pyrethrum industry based on a fully mechanised, commercial production system.

The industry has been developed by CIG Pyrethrum, part of the world wide multinational company BOC Gases Ltd which has a strong technological base and philosophy oriented towards long term business developments.

The BOC group operates in some 60 countries around the world employing 40,000 people, with 3000 of those being in Australia. In 1993 BOC Gases had sales of more than \$A850 million in Australia.

CIG Pyrethrum is based in Australia's southern most state, Tasmania, an island state with an area similar to Malaysia.

The development of the pyrethrum industry came in the 1970s when it developed a speciality pest control product called "Pestagas" based on synergised pyrethrins.

At the same time the University of Tasmania commenced a pyrethrum breeding program with genetic material from India.

By 1980 it had produced several high yielding cultivars which produced one single flush of flowers suitable for mechanical harvesting and it sought commercial partners to finance the development of a pyrethrum industry.

In 1981 a three part agreement to develop a new world pyrethrum industry was signed between CIG Pyrethrum, the University of Tasmania and the Tasmanian State Government.



• CIG Pyrethrum manager, Ian Folder. Ian co-ordinates operations, production and marketing for CIG Pyrethrum.

Further trials by CIG Pyrethrum allowed it to develop a fully mechanised, commercial pyrethrum production system - the first and only one of its kind in the world.

The real push to commercialisation started in 1986 when planted area was increased and Manager Ian Folder was appointed.

BOC senior management had an unerring conviction that the pyrethrum industry would work

and less than 10 years later, their far sightedness has become reality.

CIG Pyrethrum now contracts 85 farmers in North West Tasmania, the Coal River Valley and the Derwent River Valley to grow pyrethrum on 1200 ha.

Since 1989 total production has increased from 300t of flowers to 2500 in 1993, giving CIG Pyrethrum a 10-20 per cent share of the world market.

The company employs a small core group of full time staff with a large seasonal work force employed during harvesting and processing.

Management and marketing activities are based in Tasmania's capital city, Hobart, with operations and laboratory activities run from Ulverstone and processing in Scottsdale.

Plant material is produced under contract to Hills Transplants of Don, and crops are harvested by independent harvesting contractors under the direction of CIG's field staff.

Research and development is undertaken by specialist research organisations.

To ensure that the results of the research is adopted by growers, CIG Pyrethrum has three industry development officers to liaise one to one with growers and organise meetings and field days to demonstrate the latest research results.

For the future, Mr Folder sees that it will be about continuous improvement to ensure an on-going sustainable business which will benefit producers, customers and growers.