



# CABBAGE WHITE GARDEN TECHNIQUES

The cabbage white.... *Pieris rapae*: This butterfly is the scourge of gardeners' gardens. The caterpillars are green, slightly furry, and are usually unnoticed. However, when they get bigger, they have a voracious appetite and will strip a plant of leaves in a few days.

Female butterflies seek out plants to lay their eggs on, usually brassica crops (turnip, kale, swede, chou, mustard, rape, radish, broccoli, cabbage) but any plant with mustard oils in the leaves will do and are quite edible for the caterpillars. Other favorite hosts are nasturtium *Tropaeolum spp.*, and mignonette *Reseda spp.*

The best avoidance method is to grow your crops under netting. However, you can also use the natural biological balance in your garden to manage the cabbage white, which will make it become something less invasive.

## 1. GROW FOOD CROPS UNDER NETTING

There is no other 100% effective technique. Use a fine meshed netting as cabbage whites can easily slip through bird netting. The only drawback is that netting will shade out your plants, so check on the percentage of sunlight that makes it through the mesh when purchasing netting.

There is also another benefit often overlooked with using mesh.... two crepuscular moths get screened off, the slender burnished brass *Thysanoplusia orichalceca* and the green looper *Chrysodeixis eriosoma*. Their caterpillars are often confused for cabbage whites. They are very common, and they love vegetable crops!

## 2. KNOW YOUR GARDEN AS AN ECOLOGICAL SYSTEM

Entomologist Peter Maddison listed several reasons for insect scarcity in our gardens in The Aucklander newspaper (27/8/2009), '*low maintenance gardens, few nectar-producing flowering plants, introduced wasps, neat tidy gardens, use of pesticides, fences, tidying up empty places, concrete jungles, varroa mites killing wild bee colonies, lack of connectivity, cats,*

*rats, and water balance*'. This is ecology, the interrelationships of life in our backyard. Peter is saying a low maintenance garden is a well-manicured lawn or rockery, and fences are not hedges which harbour life, and loss of connectivity is the fragmentation of the ecosystem. Take for instance a pile of leaves on top of your soil. A pile of leaves is like a living layer of soil. Move those leaves and underneath will be a myriad of insects and micro-organisms all living out their lives. Remove the leaves and the bare dirt will dry out and the mini ecosystem breaks down with all its associated activities and benefits.

## 3. FEED THE SOIL/ FEED THE PLANTS

Soil is a living system. A healthy soil is dark, rich, loose and drains easily. This soil feeds your plants. It begins under that pile of leaves with all those biological processes. Maintaining a healthy soil means plants that will resist infection, disease and all those nasty bugs and things, and they will. To achieve this dig in organic matter, rotted leaves, tree bark, ashes, fish emulsion, chicken manure, blood and bone, dried blood, dried seaweed, even entire dead animals or whole eggs. This is all good biodegradable plant food.

You can also use organic fertilisers, as these have no detrimental side effects.

Practise composting. Anything that is organic can go into the compost bin.... the carbon nitrogen cycle happens in the compost bin, and worms thrive there. Worms aerate the

soil/compost and add nutrients essential to plant health.

There is also an interesting compost tea technique. To grow compost tea (the growing of aerobic soil bacteria), use a 10-litre bucket of water at no hotter than 60°C and add a tablespoon of molasses, a couple of handfuls of worm castings (bacteria) and a handful of mature compost (more bacteria). Stir every 20 minutes for the next three hours using a whirlpool stirring motion to pull oxygen down to the bottom. Finally pour this over your soil as a soil bacterial life booster.

#### 4. NATURAL PESTICIDES

Eucalyptus, sweet basil, orange and bergamot essential oils are also all-purpose insecticides. These oils will not damage the ecosystem. Here's a simple recipe for an emulsion... to every litre of water add 1 tablespoon of oil, 1 tablespoon of vinegar, 1 teaspoon of soap and 1 teaspoon of essential oil. The soap is a spreading and sticking agent, it sticks the emulsion onto the leaves. Vinegar is a fungicide. The oil smothers insects' breathing mechanisms.

#### 5. BIOLOGICAL CONTROL

*Bacillus thuringiensis* var *kurstaki* is an excellent bacterial biological control for killing caterpillars. The KiwiCare product Organic Caterpillar Bio Control can easily be purchased at garden centres for this bacterium.

#### 6. COMPANION PLANTING

The companion garden number one technique is "marigolds with everything". Marigolds emit a scent that repels aphids, nematodes, and eelworms. Now these might relocate to another area, but the issue here is one of quality and quantity. When you work on ecology the balance of organisms becomes something good and valuable, and nasties reduce and become something of a benefit and not a negative.

Now I am not a guru when it comes to companion planting, but I wouldn't overlook it. Take the larval stage of lacewings and hoverflies. They eat aphids and caterpillars. Now, how cool is that! The adult lacewings and hoverflies will seek nectar too, so feed them with tiny flowers. The best are those of the Apiaceae family... carrots, parsnip, anise, celery, chervil, coriander, caraway, cumin, dill, fennel, and parsley.

#### 7. INFUSED SCENT SPRAYS

Spray plants with an unfavourable scent. Cabbage white butterflies will then avoid that spot. 10% diluted sprays made from sour milk, rhubarb, garlic or fish will work best.

#### 8. A WILD PATCH

The cabbage white butterfly is a weak flyer and will not travel far, maybe a 10-20 km home range. It is totally out of your control in terms of all its available breeding grounds or

hosts. But if you have an especially large property, you can plant favourable host plants for the cabbage white in a wild patch far away. This will attract your undesirable butterflies to an area away from your vegetable patch. This way you are working with nature by working with the characteristics of the adult stage of the butterfly life cycle.

Some good butterfly nectar plants to use in a wild patch... dandelions, buttercups, thistles, clovers, goldenrods, false valerian, Ironweeds, *Verbena bonariensis*, chaste tree and Joe Pye weed.

Courtesy of Rob Herd  
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