

Taryn's Sprays & Companion Planting Guide

Companion Planting

You can experiment with companion planting as a fun method of beautifying your organic garden. Providing herbs for your salads and meals, attracting beneficial insects and keeping pests away.

Companion planting recognises that some plants are beneficial in many ways to ultimately help each other in their growth and health, as well as deter pests or attract helpful animals like Bees etc. They show this in many ways, a few being:

- The smell of the volatile oils in the companion plant discourages certain pests;
- Nitrogen-fixing plants of the legume family supply nitrogen to other plants;
- Some plants have shapes which confuse the pest recognition ability;
- Some plants will attract beneficial animals like Bees, which consequently pollinate, insects which kill pests, or other birds or insects which spread seeds etc...
- Others simply enhance each other's growth by physical and energetic means. For instance, tomatoes and marigolds like each other, beans and sunflowers don't they compete for light and space.
- Another example is planting Tomatoes and Basil together, the basil is an insect repellent and they also enhance each other's flavour. A good rule of thumb for this one is if you eat them together plant them together.

Companion planting is based on common sense.

Companion Herbs

Calendula & Marigold – In companion planting, the first rule is; "marigolds with everything". I personally love Calendula however, so I leave it to self-seed itself all over the garden.



vegetables.

The roots of Marigold give off a substance which drives away the eel-worm. They are therefore good to plant near potatoes, tomatoes and roses – try planting them as borders. They look cheerful and bright. Dogs won't cock their legs against pots which contain Calendula. A clump is useful in every flower bed; an edging gives protection for the

Marigold – are stronger in power than Calendula, so will kill Twitch grass, couch grass, nematode and eel worm. It is another good companion for potatoes and general pest deterrence.

Chamomile – known as the “plant doctor” because of its ability to encourage other plants to increase their essential oil and so taste and smell even stronger and more vital...Chamomile is easy to grow, and looks beautiful anywhere, though keep it well trimmed to avoid a straggly look. Many other plants enjoy its company, especially mint, which will become tastier when grown next to Chamomile. Plant Chamomile next to ailing plants to help revive them. Cabbages and onions love chamomile, though keep it approx a meter away from



onions. Collect and dry the chamomile flowers, then make a tea by soaking in a handful of cold water for a day or two. This can then be used for any plant which is looking sickly or a young plant in need of assistance. And finally, Chamomile will help activate the composting process if added to your compost pile.

Basil – Another of my favourite herbs. Basil is generously scattered around my garden and pots. It is best planted next to tomatoes – after all everyone knows how well they go together in cooking. Used as a border for the tomato patch, the plants will find it easier to resist disease and the fruits will be tastier. Bees love Basil, while aphids, fruit-fly, white-fly, the house fly and mosquitoes hate it. Keep a pot near doors and windows to keep flies out of your home. Also very handy for medicinal and cooking uses if grown nearby. Keep Basil away from Rue they dislike each other.

Lavender – Everyone must have seen and admired the beauty of lavender... though it also has other good qualities. Lavender is a general insect repellent. Good to use as a border for the garden. It attracts many bees to the area, and can be used for cosmetic, liqueur, medicinal or perfume reasons. It also deters moths to great effect – hence the popularity of lavender bags in drawers and cupboards.

Nasturtium - Nasturtiums can have a tendency to grow abundantly, but are very easily controlled. They also possess many benefits for your garden plants... They are good companions for Radish, Cabbage & Cucumber. Orange coloured Nasturtiums will deter Aphids, Squash Bug & Striped Pumpkin Beetles, yellow ones tend to attract the beetles! So, plant orange Nasturtium close to your garden to deter insects, & plant yellow Nasturtium far away from the garden to attract the insects. Nasturtium is excellent in the Orchard & will control the Woolly Aphid if left to wander. And they look lovely as a frame for your Garden

Tansy - Tansy is a good all-round bitter Insect repellent. It is great planted near



Cabbages, Roses, Raspberries & Grapes. It concentrates Potassium in the soil, so benefits any plants nearby! Plant it for protection against Japanese Beetle, Striped Cucumber Beetle, Squash Bug, Cut Worms, Cabbage Worms, Ants, Flies, Mosquitoes & Fruit Moth. It is noticeably helpful under Peach Trees, which it assists greatly by warding off flying insects & keeping Borers away.

Rosemary - Rosemary is a favourite of older Cottage Gardens... I have it everywhere also Rosemary is a good companion to Cabbage, Bean, Carrot & Sage. It deters Cabbage Moth, Bean Beetles & Carrot Fly. It also improves the growth & flavour of vegetables. Rosemary & Potatoes do not like each other, so keep them

apart. It looks gorgeous planted as a hedge around the Cabbage patch... You can also use it as an insect repellent, as well as in a medicinal tea and of course when you are cooking your roast lamb.



Comfrey -People in general have lost some enthusiasm for Comfrey, however, when used in the correct way, Comfrey is a splendid plant to have in the Garden, contributing much to its general well-being, plus it looks lovely! It is very rich in Potassium, Nitrogen & Phosphates, so makes an excellent fertilizer... Soak a handful of leaves in water for a month, then strain & use as you would any liquid fertilizer. The sludgy mess left over is of great benefit also - tip it around your Tomatoes or Potatoes. Comfrey keeps surrounding soil rich & moist, & is very effective in Compost Making. Plant away from cultivated beds as it can spread in the right conditions... I have never had a problem with it Comfrey is also a good division for Kikuyu grass - a great pest in NZ. However, be careful when digging it out and make sure you get the whole root.

Using your kitchen cupboard for sprays

All pesticides are toxic to some degree. The following hints should assist you in dealing with garden pests organically, without the use of harmful pesticides.

Use your judgment and test some suggestions on a small problem area first before going ahead on a larger scale. Where the use of water is suggested you should keep in mind water conservation measures and any water use restrictions that may apply.

Organic sprays break down more rapidly than chemical pesticides. But please remember that although many sprays are made with "natural ingredients" they may never the less be toxic to humans and garden friendly creatures, as well as the organisms you seek to control.

You should always wear protective clothing, a facemask, long sleeves and gloves when applying sprays such as pyrethrum, wormwood and Dipel. Also label and store organic sprays as carefully as you would other chemicals. Keep them away from children and pets.

Recipes

Baking Soda Fungicide

This spray prevents fungal spores from establishing themselves and developing on your plants. It is effective in treating any mould or mildew problem on grape or passion fruit vines.

Simply combine 1 teaspoon of bicarb soda with a few drops of liquid soap, then dissolve in two litres of water. The soap helps the spray stick to the leaf surface.

During times of greatest risk (high temperature and humidity) spray twice weekly with this solution.

Vinegar Fungicide

Mix 3 tablespoons of cider vinegar in 3.7 litres of water. Spray during the cool part of the day for black spot on roses and other fungal diseases. Adding molasses at 1 tablespoon per 3.7 litres will again help.

Chamomile Spray

This easy to make spray acts against powdery mildew, rust, stem rot, brown spot, brown rot, leaf spot and other fungal diseases. It is the gentlest fungicide possible.

Simply make a pot of ordinary chamomile tea, and then leave it to brew for 10 minutes. Cool then spray every few days.

Clay Spray

This spray suffocates creatures such as mites, thrips, caterpillars, and aphids. However, remember that useful creatures such as ladybird larvae will be affected as well so restrict your spraying to creatures you can actually identify. The spray has residual effect, so it can be re-applied every few days.

Using pure clay, dilute the clay with sufficient water to make a spray.

Eucalyptus oil spray

Eucalyptus oil, like many essential oils, kills scale insects, aphids, earwigs, slugs, slaters, whiteflies, mites and many other pests. It is a non-residual spray, best applied around seedlings and at the base of plants.

To make the spray, combine 1 teaspoon of eucalyptus oil with 500ml of soapy water. Generally speaking, a solution of about 2% eucalyptus oil in water is considered a good general-purpose insect spray. You can repeat the spray every three days.

Hot Water Spray

Many soft-bodied insects are killed by a simple spray of hot water (between 45 and 55 degrees Celsius). This will not harm most foliage.

Milk Spray

Milk is lethal to red spider mites, fungi and mildew. A milk spray can be used on plants such as zucchinis, lettuces, cucumbers and tomatoes.

Use every couple of days until the problem is under control. If the mildew is out of control remove the affected leaves to avoid the mildew from spreading and do not water at night, try watering in the mornings.

To prepare your milk spray, mix equal parts full cream milk and water. The spray needs to be repeated every few days.

Soap Spray

A soap spray will kill caterpillars, thrips, scale insects, mites, whiteflies and aphids. IT does this by paralysing its victim, which then eventually dies of starvation.

By killing aphids and scale insects, soap spray also controls sooty mould.

For this spray start off with soft soap. That is soap that is neither detergent nor contains caustic soda. Mix together soap and water until you have a frothy milky solution. Allow the spray to dry on the leaves, then rinse the leaves clean the following day. Spray every 2-3 days for two weeks. If your plants are drought or heat stressed, or weakened in any way, use a more diluted solution.

Vegetable Oil

Mix 1 tablespoon of dishwashing detergent and 1 cup of vegetable oil together and store in an air tight bottle. When required add 1 - 2½ teaspoons of the brew to 1 cup of water in a spray bottle, spray on plants covering all leaf and stem surfaces.

Molasses Spray

Molasses is a good deterrent spray, (a sticky spray) ideal for cabbage moths and grubs on the Brassicas.

Blend 1 tablespoon of molasses with 1 litre of hot water until the colour of weak tea, then mix in one teaspoon of detergent, which will help the molasses stick to the leaves, spray top and under side of the leaves. You could also add vinegar to the brew to make it more potent.

Table of Spray Uses

Treatment	Crop	Disease/ Problem
Cider Vinegar	Roses, All Crops	Leaf spot, mildew, scab
Baking Soda Spray	Roses, All crops	Anthracoise, Early blight, leaf spots, powdery mildew
Chamomile Tea	All crops, seedlings	Damping off.
Chive Spray	Apple, Cucurbits	Scab and downy mildew
Compost and Manure Tea	All crops	Blight and pathogens
Garlic Oil Spray	All crops	Leaf spots and mildews
Horseradish Spray	Apple, Fruit crops	Brown rot, fungal diseases
Horsetail Spray	Peach, vegetables, roses, greenhouse crops.	Leaf curl, powdery fungi, mildew, damping off
Milk Spray	Aster, cucumber, squash, tomatoes, zinnia, lettuce	Mildews, mosaic virus diseases.

Pests

Aphids

Ants frequently nurture plant pests such as aphids, scale insects, and mealy bugs feed on their sweet honeydew. Sticky barriers made of non-drying organic glues can be used to protect trees and other ornamental plants, such as roses from ants.

If the infestation is slight you can squash them between your finger and thumb.

Or use a high-pressure jet of water to hose them off the plants. Alternatively, plant onions, garlic or nasturtiums beneath plants prone to aphid attack to deter this pest.

As a last resort use a soap spray, a eucalyptus oil spray or a vegetable oil spray. Or, dab with cotton wool soaked in methylated spirits.

Caterpillars

Hand pick them off and squash them. Or, lightly dust them with flour or white pepper. Or use a weak clay or hot water spray.

Mites and other tiny insects

For indoor plants, simply wipe the leaves with a soapy cloth. Outside in the garden, blast them off the foliage and stems with a high-pressure jet of water.

Use an old toothbrush to remove those clinging too tightly to be hosed off. Or, use a soap, milk, clay or pyrethrum spray.

Scale

Cut away badly affected foliage or scrub scale insects gently from twigs using a soft brush and soapy water.

Use a soap, vegetable oil, eucalyptus oil or clay spray to smother this pest. You can also use white oil to kill scale. White oil has a relatively short residual life, as well as low impact on beneficial insects.

Snails and slugs

Snail baits mostly consist of powders or pellets, which contain metaldehyde or methiocarb and are spread on garden beds. It is not known how metaldehyde works but methiocarb acts like all carbonates to interfere with the transmission of nerve impulses.

Snail baits are a hazard to pets, animals and birds and a safer alternative such as the one listed below should be considered.

A slug trap consists of a dish sunk level with the ground baited with equal parts of stale beer and sweetened water. This will trap the snails and slugs and they will die a happy death!!

Physical barriers to deter slugs can be made with soot, lime, sawdust, grit, eggshells or wood ash to protect seedlings. The grit will stick to the snail's slimy surface and deter it.

Containers

Remove stains that develop in clay flowerpots by filling them with $\frac{2}{3}$ cold water and $\frac{1}{3}$ vinegar. Let the pots soak until they look clean, then wash with soap and water, and rinse.

Plants: A squirt of vinegar may help invigorate a plant and make it more resistant to disease and pests. Mix 28.34 grams vinegar with 3.7 litres compost tea, use as a regular spray.

Roses: Mix 3 tablespoons natural apple cider vinegar in 3.7 litres water. Fill garden sprayer with the mixture, and spray the roses daily to control black spot or other fungal diseases.

Seedlings: If seedlings begin to mould while starting them in a damp medium, clean them with a solution of 1-part vinegar to 9 parts water, and transfer them to a new container.

Weeds: Boil 1 litre of water, then add 2 tablespoons salt and 5 tablespoons vinegar. While still hot, carefully pour mixture directly onto weeds between the cracks on sidewalks.

Test soil acidity or alkalinity

To do a quick test for excess alkalinity in the soil in your yard, place a handful of earth in a container and then pour in $\frac{1}{2}$ cup of white vinegar. If the soil fizzes or bubbles it is alkaline. Similarly, to see if it is acidic, mix with half water and half baking soda. To find the exact pH of you soil use a DIY kit from a garden centre, Bunnings, Mitre 10 etc or have it tested by the experts.

Sooty Mould

Sooty Mould is the common name applied to several species of fungi that grow on honeydew secretions on plant parts and other surfaces. The fungi's dark mycelium gives plants or other substrates the appearance of being covered with a layer of soot. Sooty moulds do not infect plants but grow on surfaces where honeydew deposits accumulate. Honeydew is a sweet, sticky liquid that is excreted by plant-sucking insects as they ingest large quantities of sap from the plant. Because the insect cannot completely utilise all the nutrients in this large volume of fluid (which is a dilute solution of carbohydrates, amino acids, minerals, and other substances), it assimilates what it needs and excretes the rest as "honeydew". Wherever honeydew lands (e.g. leaves, twigs, fruit, yard furniture, concrete, sidewalks, or statues) sooty moulds can become established.

Although sooty moulds do not infect plants, they can indirectly damage the plant by coating the leaves to the point that sunlight penetration is reduced or inhibited. Without adequate sunlight, the plant's ability to carry on photosynthesis is reduced, which may stunt plant growth. Coated leaves may also prematurely senesce and die, causing premature leaf drop. Fruits or vegetables covered with sooty moulds are edible. Simply remove the mould with a solution of mild soap and water.

A number of insects can produce the honeydew needed by sooty moulds to grow. Most of these are plant sucking insects of the order Homopterous, which includes aphids, mealy bugs, soft scales, whiteflies, leafhoppers, and psyllids (including eucalyptus lerp psyllid). Both the immature and adult stages of these insects feed by sucking sap and producing honeydew.

Management

Most plants will tolerate a small insect population and light amounts of sooty mould. When sooty moulds are present on any surface (plants, furniture etc.,) in the landscape, it indicates there is, or has been, a sucking insect population present in the vicinity. Control of sooty moulds begins with management of the insect creating the honeydew. For example, populations of aphids are usually highest on succulent, new growth. In some situations, they can be dislodged with a strong stream of water. Also fertilise and water to keep plants healthy but not excessively vigorous.

Another important consideration may be ant management. Ants are attracted to and use honeydew as a source of food. Because of this, they will protect honeydew-producing insects from predators and parasites in order to harvest the honeydew. In many cases, predators and parasites are sufficiently abundant and quickly begin feeding on and reducing populations of scale insects, aphids, psyllids, whiteflies or mealy bugs once ants have been eliminated. If populations fail to decline, apply horticultural oils, neem oil or insecticidal soap to suppress the problem insects. One or more applications may be needed.

Sometimes judicious pruning can be helpful in removing most of the infested plant parts. Also, keep ants out of trees and away from honeydew producing insects by applying a sticky compound around the trunk and trimming limbs touching buildings or other access points. Baits, such as ant stakes placed under trees and shrubs, may help reduce ant foraging in some cases.

Once the honeydew producing insects are suppressed, sooty moulds will gradually weather away. In some instances, if necessary, sooty moulds can be washed off with a strong stream of water or soap and water.

Organic Sprays

Methods of good Organic Garden & Plant management will usually keep pests & their damage to a minimum. However, if pest levels build up (for many reasons) & detrimental damage is occurring, Organic Sprays, made of natural ingredients can be used.

Garlic Spray 1 - Soak 85 grams of chopped Garlic bulbs in 2 tspn of Mineral Oil for 24 hours. Afterwards, add ½ litre of water in which 11 gms of soft Soap has been dissolved. Stir well & strain into a non-metallic container & store. To use, dilute 1 part of this mixture to 20 parts of water.

Garlic Spray 2 - Boil about 10 cloves of Garlic, 4-5 hot Chillies & 2-3 Onions for approx 10 minutes. Let the mixture stand overnight, then add a bit of liquid soap or milk to help the spray cling to the plant leaves. Store in a glass bottle & use as you need it. Dilute 1 small cup of Garlic mix to 7.57 litres of water. (Leaf Curl can be eradicated by spraying infected trees every day for 1 week with a mix made from 6 crushed Garlic bulbs soaked in 19 litres of water)

Nettle Spray - (Used for Aphids) To make a fermented extract which is a liquid Herb mixture, cut up 2lb of Nettle & leave in 1 litre of water for 24 hours. Sieve well. This liquid is an Aphid repellent. Apply very generously. Another application 5 days later will get rid of any persistent attackers.

Horse Radish Spray - Use young Horse Radish leaves at the beginning of the Brown Rot attack. Pour boiling water over the leaves & leave to infuse for 15 minutes. Dilute in 4 times as much water, spray over affected plants.

Chive Tea - (Black Spot on Apples): Most attacks of Black Spot are mild & should not cause panic - don't worry about some in the garden during wet weather. The first month of garden growth is very important in controlling Black Spot. Cleanliness in the garden right up to harvest is very important also. Chive Tea has been successfully used to combat Black Spot, so give it a go! Pour boiling water over dried Chives, infuse (leave to sit) for 15 minutes, and then dilute with 2-3 parts water & use immediately.

Wormwood Spray - (Used for Aphids, Natural Pesticide - Fly Spray) Pick some fresh leaves before the plant has reached flowering stage. Add water to cover & bring the boil. Leave to cool, sieve off liquid & dilute to proportions of 1:4. Do not use too often in tender vegetables as it may retard their growth. And make sure the mixture is properly diluted - it's a very strong brew!

Rhubarb Spray - (Used for Mildew & Aphids): Cut up 907gms of Rhubarb leaves, boil for 1/2 hour in 2.83 litres of water & strain. When cold, dissolve 28.34gms of Soap flakes in .94 litres of water, then mix the two thoroughly. Use in a general spray for any aphids. It can also be made with 1361gms of Elder Leaves - this mixture was made in the past as a spray for mildew on Roses.

Seaweed - (Good for the Soil) Seaweed is treasure from the Ocean, which those living near the sea can collect with very little labour or cost - it is a most welcome addition to any Garden! Seaweed, as well as being a useful compost material, can also be used as mulch. It has been found to be particularly beneficial to crops of Red & Silver Beet, as well as a tonic for Fruit Trees. One treatment which has proven to be of help to Trees & Fruit, especially Stone Fruit, is to scrape away 1-2 inches of soil without disturbing the roots, put down a thin layer of small type Seaweed (the sort you collect walking along the beach), & replace the soil. Water well, mulch on top with Sawdust, Straw or Shavings & leave to compost - fantastic.