



CHILLI GROWING TIPS
DARTMOOR CHILLI FARM

FREE DOWNLOAD

PESTS & PROBLEMS PART 1

Pests and Problems Part 1

Slugs & Snails

(Pic - Slugs)

We start our Pest and Problems pages with slugs and snails. These little critters can cause most damage to a fledgling batch of chilli plants.



Slugs and snails can be a problem at any time. However you are far more likely to lose new growth on young plants and such an attack can decimate your crop overnight.

There are many ways to deter such pests. We will assume for this page, that like us, you have your chillies in a polytunnel or greenhouse.

If you grow them inside your house on a windowsill, slugs and snails won't be an issue but you might get greenfly / whitefly problems - a topic we shall come to on a future "projects" page.

There are various ways of deterring slugs and snails which we will discuss below :

Please note - We grow our plants naturally - we do not and never will use any type of pesticide. We are fully aware that it is possible to buy such products but you have to think "what will this do to the taste of my chillies" aswell as any moral issues. Pesticides can often remove the good predators aswell. The little beasties you want to encourage!

- 1) Chervil - This is a herb related to Parsley. It is grown for its culinary use as it is more delicate flavour and tastes of aniseed. However we grow it for its slug repelling properties! We have a bank of chervil at the ends of the polytunnels. It does work but only to a limited degree.



(Pic - Chervil)

- 2) Beer Traps - We cannot comment on this because we do not wish to "kill" the slugs/snails. The idea of a beer trap encourages the slugs and snails towards it, so they eventually drown in the beer. We have had some success with lemons as an alternative. They are certainly attracted in the same way. Each morning on a damp spring day, we may find as many as 10-15 slugs in a single lemon half.

- 3) Barriers - Sand, salt egg shells, ash, pet hair - All these can be used to form barriers against slugs/snails. They are all scratchy and sharp and can clog up their mucus gland and therefore prevent them from moving freely. We do not tend to use barriers as they are unsightly as well as fairly ineffective. Pea-shingle is a good method though. It looks good and will deter or at least slow down, all but the hardiest of slugs!
- 4) Soil Condition - Slugs and Snails like heavy, wet soils - especially to lay their eggs, so we recommend growing your chillies in raised beds which improve the natural drainage of the soil. It is important to rotovate (or dig over by hand) the soil each season which grinds up and turns over and removes spaces and gaps in the soil.

- 5) Copper Strips - This comes in the form of a copper tape which is metal on one side and sticky on the other. This allows you to apply it to your plant areas to form a barrier which slugs will not penetrate. It is also possible to put a band of copper tape around the rim of each pot which deters the little blighters from crawling up the side. However we have found that whilst it deters small slugs and snails, the big slugs (which do the most damage), still slither across. It is possible to create bands of copper, widening the area from which they have to cross and this helps. One point though.. in time the copper fades rendering the strips inadequate.



(Pic - Copper tape)

- 6) Copper fleece - This seems to be a new idea and takes the form of a mat which is made up of strips/flecks of copper material. It expands on the copper bands idea and is very good. However it is quite expensive especially if you have lots of plants.
- 7) Geese - We know a few people who have geese in their polytunnels. This is a fantastic idea providing you do not have your plants on the same level as the geese! A goose will quite happily eat your young plants aswell as any passing slug.
- 8) Natural Predators - Slugs and snails have many natural enemies including birds, frogs, toads, badgers, foxes, hedgehogs, beetles and centipedes, so if you spot one in the polytunnel, this is a good thing. Hedgehogs will mainly eat beetles and caterpillars but they will also eat slugs and snails.



(Pic - Hedgehog)

- 9) Water Barrier - We use water barriers more than any other. For chillies in pots, we put them on shelving and put each leg of the shelf in a trough of water. This effectively stops any slugs/snails from climbing up the shelves to reach the chilli plants.
- 10) Biological controls - Nematodes are parasitic eel worms which live in moisture surrounding soil particles, they seek out slugs and enter them under the mantle. Once inside the slug, the nematodes release a bacteria. Infested slugs will stop feeding within five days and go underground to die. The nematodes reproduce inside the slug as it dies and are released back into the soil after the slugs death to infect more slugs. Nematodes are approved for use in Organic gardening.

We find the best way of controlling slug and snail numbers is to go out with a bucket late at night and first thing in the morning (especially a damp morning) and collect them by hand. We then take them for a holiday at the bottom of our lower field!

It is worth checking your pots and plant trays regularly as slugs can often be found hiding on the undersides ready to venture out at night to eat your chillies!

Pests & Problems Part 2 : Greenfly & Aphids

One of the most common questions we get asked is how to stop your chilli plants getting munched by Aphids. Whitefly are also a similar problem but we will deal with them in the next Pests and Problems article. (Greenfly are in fact a type of Aphid)

(Pic - Aphid attack)



There are lots of non organic sprays on the markets but we use the natural approach. The reason for this is twofold.

- 1) It goes against our ethos
- 2) Spraying your chillies and then eating the pods... not a good combination!

A lot depends on where you have your plants. Are they in a greenhouse or indoors on a windowsill?. We will try and address both using the tips below.

There are many species of Aphids and most work in the same way. They vary in colour from green, yellow, white, pink or brown. They measure between 2-5mm long. Aphids attack the plants by inserting their mouthparts into the tissue of the leaf and sucking out the sap. Excess sugars and water are excreted as a sticky substance called Honeydew and this causes a black mould. This black mould is unsightly but worse than that, it can interfere with the plant's ability to make sugars by photosynthesis .

Aphids move from plant to plant, infecting each one whilst feeding on the sap. They can reproduce at a phenomenal rate especially if there is a good food supply, warm humid conditions and are left alone by predators and us humans! Signs of aphid infestation are distorted leaves and shoot tips.

Firstly a plea.... don't hang those horrid yellow sticky traps in your greenhouse. You might catch a few aphids but you will certainly trap and kill all the good predators including Ladybirds, Lacewings and Hoverflies.

Dealing with Aphids

- 1) Companion planting - Planting Hyssop, Dill, Lavender, Nettles, Marigold, Calendula Thyme etc.. next to your chilli plants will encourage natural predators into your greenhouse. Garlic grown amongst your chilli plants will deter aphids. We use Pyrethrum - a large daisy, which has a natural insecticide in the flower



cases.

(Pic - Pythethrum flower)

- 2) Nettle feed. In an earlier article we suggested a liquid feed for your chilli plants. The beauty of this feed is that because it is made using Stinging Nettles, it will attract good predators onto the plants.
- 3) Squashing - Not something we do but an effective method. Just remove them from the stems and top & undersides of leaves from your plants and squish the little blighters.

4) Barriers - It is possible to get insect proof mesh to protect your plants. However if you can attract the good predators, you shouldn't need it.

5) Natural Predators - Many birds especially Blue Tits and Sparrows will eat masses of aphids so if you have a plant which is usually kept on a windowsill, try putting it in a warm sheltered place outside for a few days. Other good predators include Ladybirds, Lacewings, Hoverfly and earwigs. Ants on the other hand are not good news. Whilst ants wont damage your plants, they will protect the aphids as Honeydew is one of their main food supplies. A build up of ants around your plants is often a sign of aphid numbers building up.



(Pic - Hoverfly)

6) Biological controls - Great for controlling aphids in confined spaces such as a polytunnel or greenhouse. There are two main types which are both midges. If you have large numbers of greenfly try Aphidolytes whilst Aphidius is a small parasite which is good for hunting smaller amounts of aphids. There are lots of sources for Biological controls - try www.greengardener.co.uk and www.ladybirdplantcare.co.uk

They come in a tube are larvae which you position by infected plants. Take the lid off and they will come out and scoff the aphids. A Lacewing larvae will eat as many as 300 aphids and each adult Ladybird will eat as many as 5000, so well worth encouraging to your polytunnel. You can also collect Ladybirds from stinging nettle plants and then release them in your greenhouse. Once you have the good predators in your garden, encourage them to stay by companion planting. You can also get Ladybird houses which is a good way of making sure they stay in your garden! Ladybird larvae look very unlike the adults and can be mistaken for a pest. They are about 1/2 cm long and have dark grey, segmented bodies with yellow spots.. Make sure you know what they look like so you don't accidentally kill them.

7) Organic Sprays - ie SB Invigorator - Controls aphids and used regularly will reduce fungal diseases such as mildew PLUS it contains a foliar feed to help plants recover from pest attack. SB Invigorator is not only highly effective, but it is also biodegradable and non-toxic, which means it can be used in the garden, conservatory or in the greenhouse and on edible plants too - pick and eat straightway. It is suitable for use throughout the year and brilliant at clearing heavy infestations BEFORE introducing a natural control.



(Pic - SB Invigorator)

- 8) Smoke candles - Fumigating a greenhouse at the end of the season with a sulphur candle has been the traditional way of clearing pests. However we recommend Natural Garlic Candles instead.. They are used in the same way as a sulphur candle i.e. simply place in your greenhouse, light the fuse and leave overnight. HOWEVER, unlike sulphur candles you do NOT need to remove the plants before using and they are safe to use in aluminium greenhouses and polytunnels. Garlic candles will not taint any fruit and / or vegetables. Make a spray soap
- 9) Spray Soaps - Mixing a small amount of washing up liquid with water and spraying this onto the leaves of your chilli plants is a good way of reducing aphid numbers. The soapy water gums up their suckers. However it is difficult to get the balance. Too much washing up liquid will harm your plants. For a slightly different method try Rhubarb Soap - boil some rhubarb leaves in water in an old saucepan (not one you are using for food). Allow to cool and mix with some soap flakes or washing up liquid. The oxalic acid in the rhubarb leaves is a good deterrent for aphids. This method is often used on roses but works fine on your chilli plants aswell. Don't use on chilli plants which are podding though. The big disadvantage is that the leaves are toxic.
- 10) Garlic - Another traditional method. Crush garlic cloves and mix with soapy water to create a garlic spray which deters aphids.

If you have all your chilli plants inside, make sure to check your other house plants. You don't want the little blighters coming back!

Pests & Problems Part 3 - Sciarid Flies

Sciarid flies are also known as "dark fungus gnats". They live in and around the compost of your pots and like damp, moist conditions.

(Pic - Sciarid fly)



Whilst the adult flies are just an unsightly nuisance**, the young larvae can damage your chilli plants by attacking the root structure. Mature plants are unlikely to be affected but the larvae tunnel into the stems of seedlings and young plants. Lower leaves drooping onto the compost will also be eaten. This can cause plants to wilt or lead to poor growth. At worst, it will kill them off.

**The adult flies can transmit diseases so worth removing them all if possible.

The adult flies are about 5mm long, black with long antennae. They can be found around the compost surface. Their larvae around 1cm long, legless and translucent with dark, shiny heads. They are harder to spot but can be found just under the soil and around the roots

Each adult female can lay up to 300 eggs after mating, so if you have Sciarid flies, you need to control them.

The traditional method of controlling Sciarid flies is by hanging sticky traps. However as we said in our Aphids article, we would strongly suggest NOT using these traps as you are likely to trap and kill the very insects which you actually want to attract.

Basic control :

- Do not overwater your plants
- Remove any infected plants from your growing area
- Practice good plant hygiene by removing any old, dead leaves and fungal growth from the top of pots.
- Improve ventilation in your greenhouse

There are four main biological controls which can also be used :

- 1) *Hypoaspis miles* - A ground-dwelling predatory mite which feeds on Sciarid fly eggs and larvae. These are also known as flour mites. Whilst not great for your self-raising, they are brilliant for controlling larvae.



(Pic - *Hypoaspis miles*)

- 2) *Steinernema feltiae* - Normally used to control the larvae of the Crane Fly, these Nematodes are also effective in controlling Sciarid fly larvae. Water them into the soil of infected plants and they will infect the larvae with bacteria and kill them
- 3) *Coenosia attenuata* or 'hunter fly' is a predator of various pests, including Sciarid flies, Shore flies, Leaf Miners and Whiteflies.
- 4) *Atheta coriaria* or "Rove Beetle" is a predator of Sciarid fly larvae and thrips

(For biological controls we recommend www.ladybirdplantcare.co.uk)

Other ways of controlling Sciarid flies include :

- 1) Vermiculite - A layer of Perlite, Vermiculite or fine grit on the compost around the stems of susceptible plants will also help to reduce sciarid problems. It provides a dry barrier that prevents Sciarid flies from laying eggs into moist compost which is required for them to hatch.



(Pic - Vermiculite)

- 2) Garlic candles - Fumigating a greenhouse at the end of the season with a sulphur candle has been the traditional way of clearing pests. However we recommend Natural Garlic Candles instead.. They are used in the same way as a sulphur candle i.e. simply place in your greenhouse, light the fuse and leave overnight. HOWEVER, unlike sulphur candles you do NOT need to remove the plants before using and they are safe to use in aluminium greenhouses and polytunnels. Garlic candles will not taint any fruit and / or vegetables.
- 3) To deter Sciarid flies, Cedar wood chips can also be used. Fill your plants with a small layer at the top of the compost.

Pests & Problems Part 4 - Red Spider Mite

Red spider mite is one of the most troublesome pests of greenhouse and house plants. It is basically a sap sucking mite that attacks the foliage of plants which can lead to leaf loss and at worst, kill the plants.



(Pic - Red Spider mite)

It attacks many common houseplants and greenhouse plants, both ornamentals and edibles, including peppers, tomatoes, cucumbers, vines etc

During the spring and summer these pests are a yellowy-green colour with 2 black dots on their backs. They are also known as the "two-spotted spider mite". They become orange and red later in the season.

They overwinter in cracks in the soil and in nooks & crannies amongst the greenhouse paraphernalia. They become active in early spring and like warm/dry conditions. Spider mites emerge from hibernation during March and April and begin laying tiny, spherical eggs on suitable host plants. As autumn approaches, females stop laying eggs and begin to seek out places away from the plant to overwinter. They'll usually choose places, such as cracks in walls, fences and old plant material.

Webs formed in severe infestations

The mites are very small - only 1mm long and barely visible to the naked eye. However as infestation gets larger, the undersides of infected leaves become covered in a fine webbing, which the mites use to crawl from stem to stem. The web also acts as a blanket to protect the colony and its eggs.

The presence of spider mites will cause leaves to become mottled and curl downwards. Damage to plants is spotted more easily than looking for the mites themselves. Using their mouth-parts they pierce the leaves and suck out the plant sap.

Growth is restricted on infected plants and can lead to death of the plant if not treated.

Control

The most commonly used biological control is *Phytoseiulus Persimilis* which is a predatory mite. It feeds on the eggs and active stages of the red spider mite. They work very effectively and will clean up infested plants within a week or so, if conditions are right. Biological control

Another biological control is *Feltiella acarisuga* or "Predatory Gall Midge". This is a type of midge that works by laying its eggs amongst colonies of spider mites. When the eggs hatch the larvae will eat the spider mite eggs and adults. This control is not recommended for the hot dry conditions of mid summer but these predators work well in damp/humid conditions.



(Pic - *Feltiella acarisuga*)

There are many sprays available but a natural fatty-acid organic spray can be used. This suffocates the pests without damaging the plants. The problem with sprays is that you can also wipe out the good guys as well as the mites/aphids you are trying to control. Natural Rhubarb/Garlic sprays are also good for deterring mites without removing the beneficial predators.

Other biological controls include *Amblyseius andersonii* and *Amblyseius californicus*. Ladybirds and their larvae love aphids but will also munch on Red Spider mites, so well worth encouraging them into your greenhouse/polytunnels.

Prevention

Spider mites like dry, warm conditions. So misting a greenhouse or windowsill makes your plants a less desirable location. Make sure to spray under the leaves. Mites hate humid conditions. Also, always remove infested leaves, buds and stems because this will reduce numbers.

At the end of a growing season, make sure to clear away as much plant debris as you can and if possible disinfect the greenhouse. Garlic candles are a good way of doing this.

Pests & Problems Part 5 - Whitefly

If you grow chillies, you can be pretty sure you will run into the problem of Whitefly sometime in the future. These sap sucking pests affect indoor and greenhouse plants. Controls vary, depending on the number and location of your plants.



(Pic - Whitefly adults and larvae)

Whiteflies are moth-like insects with white wings which grow up to 2mm in length. They breed extremely quickly and affected plants will seem to have a white-cloud caused by the sheer numbers of pests swarming around. Female adults lay around 200 eggs on the underside of leaves, often in circular groups. They are a problem you need to address as these critters not only attack your chilli plants but also peppers, tomatoes, cucumbers and many ornamentals.

They thrive in sunny conditions and we tend to find they are a problem at the end of the growing season whereas greenfly/aphids tend to be a problem at the start of the season. Whitefly

The species we are specifically referring to is Glasshouse Whitefly or "Trialeurodes vaporariorum". Cabbage Whitefly "Aleyrodes proletella" are different. These are similar to glasshouse whitefly, but they have grey spots in the centre of each wing and attack only cabbages and other brassicas.

They are sap-sucking insects and excrete the sticky excess, called Honeydew, onto lower leaves where it encourages black sooty mould to grow. This mould stops the leaves from receiving sunlight, so they are unable to manufacture food via photosynthesis.

Symptoms

- * Yellowing and disfigured leaves caused by whitefly feeding on the plant cells. Swarms of small white insects appearing around your plants when the leaves are disturbed.
 - * Black sooty mould deposits forming on leaves
- On the underside of leaves, it is easy to spot the Whitefly eggs and scales.

Control

Whitefly do have a reputation for being difficult to control.

We do not use YELLOW TRAPS. These are sticky cards which are hung up around plants and attract insects to their sticky surface. Once stuck, they cannot move. Yellow traps are only good for one purpose in our opinion and that is to alert the gardener to a potential problem with their plants such as whitefly or aphid attack. The major drawback with these traps and the main reason we do NOT use them is that you are very likely to catch and kill the good predators aswell, the ones you want in your greenhouse.

Biological Control *Encarsia formosa*

If you are growing your chillies in a greenhouse or polytunnel you can use a biological control called "Encarsia formosa". This is a parasitic wasp which which lays its eggs in the scales where the larvae develop and so kill the nymph. The larvae hatch into adults, which find more scales to parasitise. It is important to introduce the parasite before plants are heavily infested as it cannot give instant control. Parasitised nymphs turn black so they are easy to spot. Encarsia need a temperature of around 18°C to survive, and will die out when all the whitefly have gone, so you may need several introductions throughout the season.



(Pic - *Encarsia formosa*)

Companion Planting

We grow Basil, Mint, Nasturtiums and Pot Marigold in our tunnels. Although there is no scientific proof, we have not experienced significant problems with whitefly in all years we have been growing chillies. Companion planting is a brilliant way of attracting the good predators into your growing environment.

Other controls

- Hand pick older leaves to remove young whitefly stages. If you have used *Encarsia formosa*, make sure not to remove leaves with black dots (as these are likely to be the larvae of the predator wasp)
- There are lots of sprays available. We have heard good things about SB Invigorator which is an environmentally friendly insecticide which can be used to control Whitefly, Aphid, Spider Mite and Mealybug attack.
- Using a nettle feed on your plants will attract good predators into your greenhouse such as Ladybirds and Lacewings. These beneficial predators love eating Whitefly adults and their eggs.
- Organic sprays which contain fatty acids and plant oils are a good deterrent. We've heard good things about Savona Fatty Acid Concentrate
- Dilute 1 capful of washing up liquid into a water spray gun and spray this onto your affected chilli plants. This is a good method for indoor plants where biological controls are harder to apply. If you do not wish to use washing up liquid then a spray made with infused rhubarb leaves or crushed garlic is a good alternative. We have heard from one chilli grower who swears by infusing hot chillies in water and using this on whitefly larvae (a test for the future we think!)
- If you have plants indoors, we recommend placing them outside in a sunny position on a summers day. You will be surprised with the difference this makes. Passing beneficial predators such as hoverflies will consume numerous amounts of whitefly without any real effort from you!
- Hang birdfeeders around your garden. So simple but this will attract insect eating birds into your growing environment.
- Avoid using a lot of nitrogen fertilizer, including manures, as succulent growth will increase whitefly populations.
- You can cover your plants with horticultural fleece to stop whitefly attacking them. Unfortunately this doesn't look to great!
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We know of at least one gardener who uses a hand-held car vacuum to suck up the clouds of whitefly adults and eggs from their chilli plants! This is a good idea if you have indoor plants. Once trapped, bag the little suckers and freeze for 24 hours.

Prevention

Check plants every day for signs of infestation and deal with them as soon as they appear. Remove leaves with large infestations of whitefly larvae.

Remove all weeds/plant debris around your cultivated plants.

Do not use standard insecticides as this will kill off beneficial predators and all biological controls

Whitefly can over-winter on crops or weeds so at the end of the season, it is important to clear and disinfect your greenhouse/tunnels.

OVERWINTERING CHILLI PLANTS

Overwintering your chilli plants

Our guide for overwintering chillies is available as a pdf. Please contact us if you would like to receive it by email. There is also a very good video on Youtube from the Clifton Chilli Club.

Chilli plants are not annuals. They are in fact short lived perennials which, given the right conditions will live for several years. Plants which have been successfully overwintered will produce pods far earlier in the year and have more vigorous growth than plants grown from seed at the start of the season. Harvests are also better for overwintered plants.

A plant over the winter goes into "hibernation mode". It effectively stops all growth phases and reduces its need for both light and food. For several weeks it can look like it has died. Once conditions improve in the spring, the plant will begin to sprout new growth.

We have been growing chillies commercially for 6 years and as a hobby for around 15. We have found plants overwinter better depending on the species. The only plants which are difficult to overwinter are *Capsicum annuum*. We have had excellent results from *Capsicum pubescens* (Rocoto) and *baccutum* (Aji) and mixed results from *Capsicum frutescens* and *chinense* (Hab/Scotch Bonnets/Naga).

The key is overwintering any chilli plants is location and warmth.

If you have chilli plants outside in unheated greenhouses or tunnels, you need to pot them up and bring them in. A plant will not survive outdoors in our british climate when the temperature drops below freezing.

If it is not practical to bring plants inside, try constructing an inner tent within your growing area. Use heavy duty bubblewrap or fleece and raise the plants off the ground onto benches. Use heated mats if possible underneath the pots. On warm days, you can always remove your plants from the tents to "hardy" them up. Make sure to place back on the heated mats as the temperature drops towards late afternoon.

Paraffin heaters can be used to warm unheated tunnels/greenhouses. Just be a bit careful about positioning.

Plants in heated tunnels can be kept in their current position if the temperature is to remain constant all year round.

We find it easiest to bring plants you want to keep indoors. If you keep them on a sunny windowsill, a piece of perspex or thick card behind the plant is a good idea. Keep plants away from cold draughts and not left behind the curtain next to a cold window, away from the central heating in the room.

Pruning...

Firstly, choose only your best looking, most healthiest plants to overwinter.

For plants in pots, we tend to repot, giving the plants new compost. You can use this opportunity to trim the roots if needbe to concentrate the plants energy. This is not mandatory so don't worry if you are unsure how much to trim back.

The general rule of thumb is to cut back any brown stems or leaves. If you have a plant which grows on a single stem, then cutting the stem about 8 inches from the top of the pot is a good idea. By pruning in this way, it means that the plant is not wasting any energy trying to maintain foliage or fruit. Remove any pods off the plants.

We find best success on plants which have a compact, bushy habit. For these varieties, simply remove any brown leaves and then treat it as a houseplant.

Feeding ...

We feed our plants over the winter with a diluted seaweed feed every week. We give them a high nitrogen feed to encourage growth towards the latter part of the winter as the temperature starts to rise.

Avoid over watering your chilli plants in winter. Because of the lower temperatures it will take much longer for them to use the water you give them. As a result, water much less frequently than in the summer to avoid mould building up, perhaps every week or so.

Varieties which we have successfully overwintered ...

Annuum species (We do not tend to overwinter annuums as we grow from seed every year).

- Apache, Aurora, Cayenne, Demon, Georgia Flame, Jamaican Red, Numex Twilight, Orozco, Prairie Fire, Red Missile, Riot, Superchilli, Thai Hot

Baccatum - Aji. No problems.

Frutescens - Tabasco, Bangalore Torpedo, Cobra, Firecracker, Naga Jolokia pc-1



(Pic - Aji Lemon)

Pubescens - Rocoto. No problems. However we have never had any real success with this variety due to poor harvests. We have not grown any Rocoto plants in the last 3 seasons.

Chinense - Patchy. We have had good success overwintering Habanero Fatali, Habanero Condors Beak, Bhut Jolokia, Habanero 7 Pot, Habanero Chocolate. We haven't had such great success with Scotch Bonnets.

Varieties with poor/no overwintering success rates : (basically, tall growing varieties with large fruits)

All sweet peppers, Jalapeno, Numex Big Jim, Anaheim, Bulgarian Carrot, Hungarian Hot Wax, Elephants Trunk, Fresno, Bishops Crown, Padron, Pasilla Bajio, Portugal, Cherry Bomb, Santa Fe Grande.

DEALING WITH DISEASES

Dealing with Diseases

Plant diseases do not just cause leaf disfigurement but often can be fatal to the plant, so need to be taken seriously. If you have multiple plants, sacrificing one to save many, may be the best solution.

We do not use pesticides or fungicides which are often used to control diseases. We recommend the method of spotting the symptom early and manual controls!

Plant diseases are rare to chilli plants. We just give you the information... just in case!

(Pic - Leaf Spot)

Leaf Spots :

Fungi and bacteria can cause leaf spots. Black spots on leaves are a sign of a spore - bearing fungus. Pick off any infected leaves. Avoid misting too frequently and improve ventilation around your plants.



Sooty Mould :

This fungus covers the leaves - usually the back, but sometimes spreads to the front with a black growth that resembles soot. It does not harm the plants but looks unsightly. It is caused by a fungus that lives on the honeydew left by aphids. Eliminate the aphids and this mould will not appear.

Mildew :

There are various kinds of mildew - powdery mildew being the most common. It is easily identified as white, flour like deposit on leaves. The problem can easily spread from infected leaves to the whole plant. To control, pick off any infected leaves and reduce the humidity around the plant.

Root Rot :

The first sign is collapse of a seemingly healthy plant. The leaves curl up and turn brown/black. The entire plant starts to wilt. A classic case of overwatering. It may be too late to save the plant. Take the plant out of the pot and wrap an absorbent paper around the root ball. It may be possible to suck some of the moisture out of the roots. Then repot the plant in new compost.

Viruses :

The symptoms of plant viruses are stunted or distorted leaf growth and yellow blotches. Viruses are transmitted by sap-sucking insects such as white or greenfly. Repotting may help but it may well be too late to save individual plants.

OUR FAVOURITE CHILLIES

Our Favourite Chilli Varieties

We are primarily chilli growers, so our favourite chillies are ones which grow well in our climate. We always get asked which chillies we recommend. However this list is subject to change as we grow new varieties every year.

On the sweet peppers, we have found best results with Large Red Cherry and Sweet Banana. Both of these peppers seem to be tolerant to attacks from pests. They are also very prolific. Another favourite is Yellow Wax which is similar to Hungarian Hot wax, but with no heat.

(Pic -Large Red Cherry)



Young plants fruiting

(Pic -Hungarian Yellow Wax)



On the mild varieties, our favourites are Numex Centennial which is a compact colourful variety. It can be a little erratic to germinate but once it does, it is a very pretty plant which is fine for both culinary and ornamental uses. We also like Bolivian Rainbow - another colourful and very unusual variety. The pods resemble mushrooms as they change colour from a pale yellow to purple.

(Pic - Numex Centennial)



Bolivian Rainbow)



(Pic -

Other prolific mild types are the humble Jalapeno, Bulgarian Carrot (very prolific/fruity flavour), Fresno and Cherry Bomb. All of which grow really well in the UK climate (in polytunnel/greenhouses - don't put them outside. It is just too wet)

(Pic - Bulgarian Carrot)

On the medium and hot varieties, our favourites are the Cayenne types such as Ring of Fire, Cayenne Red. These are extremely prolific and grow really well, producing thick bushes with masses of pods. Ring of Fire chillies are used in many of our sauces. They are also easy to dry and brilliant for smoking. They are also one of the most resilient varieties for pests and produce vast numbers of finger length green pods which mature to red. As for flavour, they have a superb heat with just the right balance.

(Pic - Cayenne Red)



If you want a stunning medium variety which is good to eat, you could consider Fairy Lights. This is a brilliant ornamental with multicoloured pods. In our opinion, this is a much better variety than the ever popular Twilight which although looks great, isn't the best for culinary use.

(Pic - Fairy Lights)



We also love the Apache chilli. Really easy to grow, produces massive numbers of pods and very hardy. A perfect window sill plant and great for beginners.

(Pic - Apache)



Also in the hot varieties, Aji Lemon is a cracker. It produces bright yellow pods with a citrus flavour. It is also quite unusual but grows well in an unheated polytunnel.

(Pic - Aji Lemon)

Three other hot varieties we love include Superchilli (a great all rounder and one of the earliest varieties to pod), Jamaican Yellow (which has a hint of pineapple but will blow your mind) and Jamaican Red (which looks like a large Scotch Bonnet and is very fiery).



On the superhots, our favourite is the Habanero Paper Lantern. Always a reliable cropper, we pick more of these each year than anything else. Great flavour and a lovely heat.

(Pic - Paper lantern pods)



(Pic - Dorset Naga)



We also love the Habanero Fatalli. (A superhot yellow variety from Africa) which although wasn't popular back in 2009 when we first grew it, is exceedingly popular nowadays. We also like the Habanero Paper Lantern (magnificent lantern shaped pods), the Habanero Chocolate and the extreme prolific Habanero Orange.

(Pic -Habanero Fatali)



(Pic -

Habanero Orange)

Overall.....

Phil's favourite chilli is the Paper Lantern.

Kay's favourite... Fairy Lights.

Both are medium / hot varieties. Extremely prolific, easy to grow.... say no more!!

INTRODUCTION TO CHILLIES

An Introduction to Chillies

What are chilli peppers ?

(Pic - Tepin)



Peppers have been cultivated for thousands of years by peoples in central and South America from times back to around 7000BC. There are now around 2500-3000 known varieties ranging from a bell pepper with no heat right up to the amazing Trinidad Scorpion, currently the hottest variety in the world.

Chilli, pepper, chili, chile.... are all spellings for plants and pots of the Capsicum (from the greek "kapto" meaning to bite) genus. Chilli peppers are closely related to tomatoes, eggplant and potatoes!

Spellings vary, although its usually chili in America and chilli in Europe. We tend to use chilli as its the easiest to remember and the most common in the UK.

There are five domesticated species which are as follows : Annum, Baccatum, Chinense, Frutescens and Pubescens. There are also 20+ wild species. As for varieties there are literally thousands as cross pollination is rife!

Capsicum Annum - Annum means "annual" which is a little incorrrect as chillies are short lived perennials. This is the most common species and includes the standard Bell Pepper, Cayenne, Cherry Bomb, De Arbol, Jalapeno, Numex (New Mexican), Paprika, Serrano, Squash and Wax pod types.

Most of the chillies grown in the UK are Annuums.

Capsicum Baccatum - *Baccatum* means “berry like” and includes varieties known as Aji's. Many of the *baccatum* varieties are tree like, tall plants with yellow spots on the flowers (corollas).

Capsicum Chinense - *Chinense* means “chinese” - However this species originated in South American. It includes the very hot varieties such as Scotch Bonnets and Habaneros. Very satisfying to grow but fairly temperamental as they are slow to germinate and take ages to fruit.

(Pic - Scotch Bonnet)

Capsicum Frutescens - *Frutescens* means “bushy”. These plants are compact and only grow to a few feet high so great for containers. Plants are extremely prolific and include varieties such as Tabasco, Bangalore Torpedo, Japonese, African Birdseye, Apache etc



Capsicum Pubescens - *Pubescens* means “hairy”. These species is the rarest as it has no wild form and the domesticated species cannot cross pollinate with other species.. They are vine like and sprawling plants with apple shaped pods. Common varieties include “Rocoto's” from Peru. Can be difficult to grow in our climate and not very prolific.

(Pic - Rocota pods)



How are chilli peppers measured for heat?

Chilli peppers contain a chemical compound called Capsaicin. Habanero chillies - one of the extremely chillies!

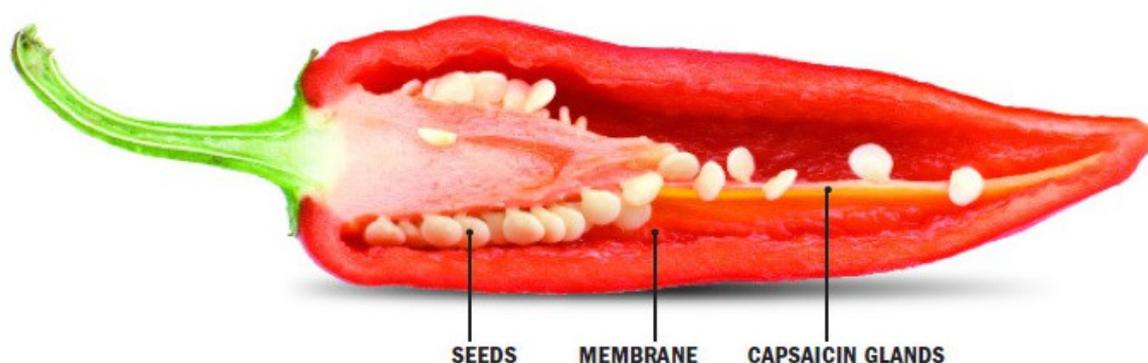
(Pic - Capsaicin compound)



When you eat a chilli this chemical binds with the pain receptors in your mouth and throat which are responsible for sensing heat! The brain responds by making you sweat and your eyes stream! The heat of chilli peppers is measuring using the “Scoville scale” which was developed in 1912 by an American chemist called Wilbur L Scoville. It basically measures the number of times a chilli extract must be diluted in water to effectively lose its heat. Bell peppers rank at 0, Jalapeno's around 4000, Cayennes at around 30000 right up to Habaneros and Scotch Bonnets around 300000. The hottest chilli pepper is the Trinidad Scorpion which measures over 1300000 on the scale.

On the different species *Annuum* measure up to 100000 Scoville units, *Baccatum* - up to 35000 units, *Chinense* - Up to 1000000!, *Frutescens* - up to 150000 and *Pubescens* - up to 50000 units. Pure Capsaicin measures about 15000000 units and is used in police pepper sprays! It has no flavour, no colour, odour and is extremely powerful. In India, pods are sliced in half and rubbed on the tops of fences to keep wild elephants at bay!! Capsaicin does not effect birds though, only mammals.

The Capsaicin in a chilli is found not in the seeds but in the membrane or placental tissue that holds the seeds in place.



(Pic - chilli pod)

When preparing chillies (cutting/dicing etc), we would advise wearing gloves and preferably some form of eye protection. Cutting chillies with barehands will result in a feeling which can be best compared to sunburn on your fingers. Whoa be tide anyone who tries to touch sensitive areas such as the eye! (ouch).

Chilli tips!

If you have a mouthful of chilli fire - forget water/lager.. you need something containing fats such as milk, yoghurt etc. If you are vegan try Soya Milk, coconut milk or Cashew nuts. Capsaicin does not dissolve in water!

If you get chilli-hand then try scrubbing your hands with sea-salt and then wash them with milk or vegetable oil. You can also try using a comfrey / chickweed / Witch hazel lotion or cream which also dissipates the burn. Aloe Vera lotion/gel is by far the best thing we have ever tried but even then, it's not an instant fix! If you get chilli eye, this is far worse with no fast cure!

We recommend eating custard creams. That's what we use at markets and events when our customers are suffering!



(Pic - custard creams)

What other uses do chillies have?

Apart from their culinary uses, chilli plants are also grown for their ornamental uses ie. the beautiful Numex Twilight which has vertical growing pods in a variety of colours and is brilliant for livening Chilli muscle rub up a dull border or container.

Red chilis contain high amounts of vitamin C and carotene. Yellow and especially green chilis (which are essentially unripe fruit) contain a considerably lower amount of both substances. In addition, peppers are a good source of most B vitamins, and vitamin B6 in particular. They are very high in potassium and high in magnesium and iron.

Pods are also dried and ground up and used in homeopathy to make a muscle rub for athletes as well as used for treating arthritis and headaches etc

Pods should not be eaten whole and not by people suffering from IBS or similar conditions.

Chilli pods are supposedly used to ward off evil spirits. Don't hold us to that last one though - (otherwise our chilli farm must be one of the safest places in the country!!)

Why are chillies addictive?

To put it simply, when you eat a chilli, your brain releases endorphins into your bloodstream (to combat the pain receptors). When it realises that you haven't lost an arm or leg, the pain subsides leaving the endorphins. This is known as the chilli high. Unfortunately as you get used to chillies, you need more and more heat to get the "kick". This is largely the reason why chillies are addictive. It works in the same way as chocolate - another stimulant. This is probably why chilli chocolate works so effectively.

GROWING IN HARMONY WITH NATURE

This is a transcript of the talk that Phil presented at the Upton Cheyney Chilli Festival and at Plympton Gardening Club.

Growing chillies in harmony with nature

Hello.

My name is Phil Palmer and together with my wife Kay, we own and run the Dartmoor Chilli Farm.

We are based in Ashburton, a small town within the confines of the Dartmoor National Park. We have an 8 acre smallholding and have been growing chillies commercially since 2007. Before switching almost exclusively to chillies, we specialised for some years in medicinal herbs.

We are effectively "off the grid". Our nursery runs almost exclusively on solar power. We also have a small wind turbine, a borehole for our drinking water and we collect rainwater for our plants.

Our ethos is growing chillies "Naturally". This is largely the way your grandparents may have grown their vegetables 50 years ago before terms such as "organic" were invented. It also means we do not use any artificial pesticides, herbicides or fungicides.

We grow our chillies with the help of nature. Some of the methods we use, can easily be used by other growers - whether it be commercially or just a hobby grower with a few plants in their greenhouse.

Ladybirds - one of the best pest controllers in the garden!

Ladybird

Believe it or not, we are all wildlife gardeners. We all share our gardens with hundreds, if not thousands of different beetles, spiders, wasps, beetles and numerous mice, shrews and birds. You can either assume all these creatures are out to eat your crops OR you can embrace the fact that these creatures share your garden. In doing so, you are helping to conserve Britain's native species and you learn to appreciate the living, breathing eco system outside of your back door!

Try to think of your garden as a pyramid with a few species at the top and many more as you get to the bottom. Insects are not at the bottom. Below these are creatures such as nematodes and bacteria.

Garden wildlife is mostly about creepy crawlies which outnumber the most obvious things in your garden by about a million to one.

In 2003, the RHS commissioned a poll to explore gardeners' attitudes to wildlife. The results showed a massive interest in wildlife gardening. 70% said they tried to consider wildlife when maintaining their gardens and a third actually spent time in their gardens watching wildlife.

Nearly half provided food, nest boxes, birdfeeders and water but only 16% deliberately used plants to attract wildlife.

Most programmes on garden wildlife tend to concentrate on the three b's. Bird, butterflies and bees and the recommendations tend to be pretty obvious - ie dig a pond, put up a birdfeeder and grow nectar rich flowers. However most advice aims at the very tip of a very large iceberg. The real state of the wildlife in your garden depends on creatures further down the food table such as spiders, wasps, beetles and bugs.

Bees are wonderful pollinators

Bees are in decline mostly to the use of pesticides. We try to encourage bumblebees to nest by using upturned terracotta pots. However so far we haven't had much luck - although hibernating newts and spiders tend to appreciate them. The most likely nesting spots for bumblebees are hedge bases, holes in walls or even patches of long dry brittle grass. Dried decaying wood makes a great attraction for solitary nesting bees.

Alternatively you can make your own nesting sites by with an old tin can, painted green and filled with paper straws or drilling holes into a wooden block and positioning in a sunny, dry place.

These will also encourage solitary bees and wasps. These are much smaller than their social cousins and are quite harmless to humans. However they are not harmless at all to a wide variety of garden pests which they catch and paralyse for the next generation of wasp. They are one of the best pest controllers in the garden and therefore should be encouraged!

A garden good for wildlife will incorporate many different plants and vegetation such as lawn, flower beds, vegetables, shrubs and trees . Other important wildlife attractors are pods, compost heaps, hedges and walls.

Gardens bad for wildlife are those which include large areas of paving, decking, extreme tidyness and liberal use of slug pellets! Spraying chemicals to kill aphids and caterpillars will also kill many innocent bystanders of the insect world or encourage those which eat them to forage somewhere else.

Visitors to the nursery are often surprised that it is not like a regular garden centre with bedding plants and nicely mown areas around the tunnels. Long grass is great for wildlife as are patches of stinging nettles.

Our chilli farm



Whilst traditional bedding plants are pretty they are usually annuals and therefore have to be replaced every year.

Instead we try and create wildlife corridors for pollinating insects by planting lots of native wildflowers. Not only is this more sustainable (as most wild flowers are perennials) but also is a great way of attracting bees, hoverflies and a whole host of other good predators into the nursery.

We also various small ponds at the nursery which can easily be dug into the ground or raised by building dry stone walls. In the ponds we try to encourage newts and frogs. Newts largely because they are rare and a protected species and frogs because they are a good slug eater in the tunnels. Ponds also attract dragonflies and adult hoverflies . The latter is one of the most important creatures beneficial to chilli growers! Hoverfly larvae can be aquatic so a pond or even a large pot of water can help. Distinguishing hoverflies from wasps is pretty easy as hoverflies genuinely hover whereas wasps tend to lurch from area to area like our son coming back from the pub. Hoverflies also have short antennae. Wasps have long antennae.

Pond size isn't very important but the ideal wildlife pond should ideally be in an open sunny spot and contain plenty of plants but no fish.

Fish may be very nice to look at but they will have a devastating impact on the number of larvae. Ponds with fish tend to have a less diverse range of creatures whereas ponds without fish will have a larger, more varied eco system.

We also plant trees.. We have planted 80 apple trees so far and about 200 ash saplings. In time these will be an important draw for wildlife to the nursery. For example bark - which is an insect habitat in its own right, also provides space for lichens and moss and thus for the animals that eat or live in them.

Dead or decaying trees prove food and homes for a huge number of creatures. A hole in an old tree may attract hole nesting birds such as tits or rarities such as bats.

Trees also have an indirect role in a garden. Gardens without them tend to be dry and sunny. However some creatures appreciate a damp, shady environment provided by trees and large bushes. If you only do one thing, plant a tree sapling. You will in turn be giving life to millions of creatures.

We also have areas around the nursery with low growing dense shrubs in the hope of attracting hedgehogs. We have numerous birdfeeders and boxes and woodpiles for attracting beetles. All of these are good predators which I will come onto in a little while.

Hedgehogs are great "if you can attract them"

At the start of the season, we prepare our polytunnels by hand. It would be nice to have a rotovator but budgets are pretty tight. We remove any old pots and trays. Anything in fact that can be used for pests to hibernate in!

We remove the previous seasons plants (except those we are overwintering) and compost the stems and any remaining pods. We then pull back the mipex (a waterproof breathable membrane which we use in the tunnels for weed control). We dig over the tunnels and make trenches which we fill with horse manure and chicken pellets. We then add compost from our compost bins and then cover the lot with the mipex. By the time our chillies are ready to go into the ground, we have a great medium which gives them an immediate boost!

(Pic - composting)

Composting is easy to do and we really encourage it. You can easily make composting areas using old pallets or a stack of old tyres.

We have an article on the website about making compost so I won't go into this here but adding compost to clay soils makes them easier to work and plant. In sandy soils, the addition of compost improves the water holding capacity of the soil. By adding organic matter to the soil, compost can help improve plant growth and health. Providing composting areas is the easiest form of recycling you can do. If



more people did it then a lot less waste would be heading to landfill. The estimate from a survey in Sheffield shows 5300 tonnes of food and garden waste went directly to landfill.

By having a compost heap, not only do you get to reap the rewards with a fantastic soil improver "or black oil" as it is known by gardeners but also you will have your own little eco system with vast numbers of creatures living their entire lives inside the heap. Such creatures may include snails, insects and beetles but also slow worms and grass snakes.

We also have a wormery which is a great way of creating a natural liquid feed from kitchen scraps and waste material with the help of our wiggly friends.

At the nursery we use natural feeds on our chilli plants. We use a mixture of seaweed feed and natural home made feeds which we make using comfrey and stinging nettles.

It is easy to make your own stinging nettle feed.

Stinging Nettles (*Urtica dioica*)

(Pic - Stinging nettles)

Firstly find a healthy patch of stinging nettles and wearing gloves, cut the first 12 inches of the plant. Fill an onion bag and then place this bag into a dustbin or closed container of water. Weigh down with a large stone and cover. Give everything a good stir every few days using a large stick.



In approximately 2 weeks, you will have a great natural feed which you can use on your chilli plants, tomatoes and sweet peppers. In fact, we use it on all our vegetable plants we have in the tunnels.

You know when it is ready by removing the lid. It absolutely honks! Drain off the liquid and funnel into any old water bottles. Dilute it to about 1 part feed and 10 parts water before using. You can use any remaining leaves/stems either as a mulch or put them on your compost heap.

One added bonus of using a nettle feed on your plants is that nettles by their very nature seem to attract ladybirds - one of the best predators in your polytunnels! Comfrey feed is made in the same way. We just tend to have a lot more nettles!

For other feeds we also use wood ash and a liquid seaweed. Both a source of potassium (for encouraging flowers and fruit) . Seaweed also contains phosphate (for root development) and nitrogen (for encouraging strong healthy foliage)

In seven years of growing chillies, touch wood, we haven't yet had a problem with aphids. The main reason for this is our use of companion planting.

(Pic - Pyrethrum flowers)



Between our chilli plants we grow Pyrethrum (py-ree-thrum) which is a type of Chrysanthemum. The dried heads of which are used to create a range of organic pesticides. Organic flea spray for cats and dogs is also made using these flowers - so if you are under aphid attack, we have heard stories of people who have successfully used this method! Pyrethrum spray is harmless to mammals.

If you are growing singular plants on a windowsill and are suffering from aphid attack, try growing garlic alongside your chillies to deter aphids. Alternatively boil up some garlic in some water and then use this water (when cold) on your plants. Use the garlic for any resident vampires.

Between our chilli plants we also grow dill, tansy, chives, mint, coriander - all of which are great for deterring aphids and bugs.

We grow colourful native varieties in the tunnels such as Cornflower, Pot Marigold, Campanula and Yarrow which attract the good predators - in particular hoverflies. These little critters, along with ladybirds are fantastic for pest control. They also are great alongside bees for pollination.

Chillies as you probably know are self pollinating. However when the male and female parts of the flower fail to touch, this is when you get flower drop and you realise the plants haven't pollinated. By having lots of natural pollinators in the tunnels, this is not a problem we have encountered.

A hover fly can lay several hundreds of eggs on a plant and each larvae will eat up to 400 greenfly during its life time. The larvae is easy to mistake with something else. Larvae are flattened, legless and maggot like. Not particularly lovely to look at but they look far worse to aphids

Ants are a good sign of aphid infestation as they can feed on honeydew which is secreted by greenfly. If you have lots of ants, check your leaves and plant stems for signs of infestation. Pick off pests or diseased leaves regularly to prevent problems spreading to other plants. Dispose of pests well away from your growing environment. Burn diseased leaves and perhaps a bird table for any captured aphids. Wood ants however are actually good for trees by recycling garden waste. They are also predators for a vast number of plant eating bugs and caterpillars.

Problems you may encounter are greenfly, whitefly, earwigs, vine weevil, red spider mite and plant diseases such as leaf spot, rust or viruses.

The most common pest that we encounter are slugs and snails. This year with the hot summer we haven't seen many but last year, we collected thousands. We use frogs (from our ponds), toads, birds and the odd hedgehog to help us with the slug and snail problem. We also manually collect slugs and snails using a bucket and a headtorch, last thing at night on spring and summer evenings and depending on the weather, first thing in the mornings.

Copper tape which is laid on the ground and around the top of plant pots do deter some smaller slugs and snails but not the huge ones. They just tend to ignore the tape! You can use slice potatoes or lemons to attract passing slugs and snails so they eat these instead of your chilli plants.

We do not kill slugs or snails. We have heard about the stomp method but our ethos is that everything has a place in the food chain. Instead we give them a one way, all expenses paid trip to the bottom corner of our lower field.

(Pic - wasps)

One note about slug pellets. We do not use or recommend them. Even organic pellets which just target slugs tend to affect creatures higher up the food chain such as small birds, frogs and toads.

The only natural predator we do not actively encourage are wasps. However wasps and hornets are both welcome at the nursery. They may be a pain at a chilli show or at a bbq, flying around your stall and annoying the customers but wasps are known as “the guardians of the garden” and great for gardeners and growers.



Why do I say this? Wasps and hornets pack a sting but without them, there would be a lot more flies.

When a wasp is feeding on our blackcurrant chilli sauce, it is only feeding and can be deterred by burning incense sticks or essential oils such as Tea tree or mint. Wasp traps are pretty ineffective. Wasps are aggressive and the pheromones of their dying wasp friends drowning in sugar tend to only annoy them further.

A fly is far worse and feeds by dissolving the food into a liquid using its saliva which it then sucks back through its mouth which is a type of funnel. Flies have padded feet, a body covered with sticky hairs and a tongue covered with a sticky glue. They will look for their food everywhere including rubbish bins and sewage, so not particularly great when they land on your cupcakes!

Wasps are pest controllers and we often see them around the chilli plants. So remember before you swat, they do have lots of benefits!

Another beneficial insect to attract to your greenhouse are lacewings. Both the adults and larvae will consume many times its own body weight in greenfly each day so a good friend in the garden. However, the larvae can actually look a little bit like an 'enemy', so make sure you identify exactly your pest problem before you act.

We try and make lacewing, hoverfly and ladybird friendly boxes so they can hibernate over the winter. These are easily made by bundling together 20cm pieces of bamboo cane and then jamming them into a large plant pot.

While some gardeners use sticky traps to catch pests, we would not recommend using them as they will also catch the good predators such as ladybirds and hoverflies.

Another beneficial insect, frequently trodden on is the ground beetle. Nearly all are predators and feed on a number of pests especially slugs, snails and caterpillars. Beetles feed mainly at night but during the day appreciate cover of logs, stones and dense vegetation.



(Pic - ground beetle)

Birds can cause mixed emotions. Most are predators. Robins, thrushes and blue tits will take fruit but mostly feed on invertebrates. Wrens, dunnocks and blackcaps feed on little else than insects.

Blue tits can eat a large number of overwintering aphids and moth larvae. It is estimated that a pair of blue tits needs 10000 insects to raise a brood of young.

We encourage birds with roosting boxes and feeders. We have lots of climbing plants which encourage birds to build nests and give them the material to easily do so. However we also cover vulnerable crops which they also have a liking for! Using a small bit of hose in your seedlings can resemble a snake and can act as a bird deterrent. We tend to use large plastic cloches to cover seedlings which keeps them safe from birds and slugs. You can also cover individual plants by cutting a water bottle in half and placing over the growing plant.

Bats if you have them in residence will feed on aphids, craneflies and moths. You can encourage bats with bat boxes and we occasionally see them swooping around on summer evenings.

Other beneficial creatures include spiders which feed on various insects, as do centipedes. Do not confuse with centipedes with millipedes which are a pest and will munch on your plants!

Think of your garden as a nature reserve on your doorstep. Wander about and appreciate it. You'll see the obvious creature such as birds and butterflies but closer inspection will reveal the less obvious animals such as hoverflies, solitary wasps or ladybird larvae munching on some aphids. You might see animals eating your plants but you can learn to understand or tolerate them. For example slugs are a real problem, so try to grow plants which deter them such as garlic, chervil or wormwood.

We encourage people to create their own native wildlife habitats but do not despair if you cannot manage everything I have covered. If you haven't got a pond, then chances are there is one next door. If you haven't room for a wildlife meadow, it doesn't matter. Try and provide something your neighbours don't even if it is just a patch of long grass or some stinging nettles! The only golden rule is not to use pesticides. Beyond that, it is up to you. All gardens are wildlife gardens, you simply might not be aware of it!