



Spider Mites

Data Sheet

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Types

Tetranychus Urticae, often called the Red Spider Mite. This eight legged spider mite is usually a translucent shade of green, cream or brown in colour, only the older females reaching a red shade. Eggs are about 0.15mm long and laid on the underside of the leaves. Adults are about 0.4mm long and are also found on the underside of the leaves.

This little fellow is by far the most common form of spider mite, other forms are out there like *Tetranychus Cinnabarinus* (plum red, same size) but are less common and treated the same way.

Lifestyle

The spider mite likes to eat your plant leaves, and live and breed on the underside of the leaves. They will generally look for a place away from oscillating fans or draughts and often start on the mid and upper sections of the plant where it's still quite hot and dry.

Once they start to take a hold (which can take as little as 5 to 10 days from first introduction) they will begin producing large amounts of webbing and will spread at a devastating rate as they look for new breeding and feeding grounds using the webbing as a transportation system. Because of the spider mites predominantly female population and their rapid breeding rate they can destroy whole crops in a matter of weeks.

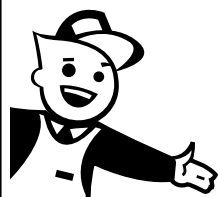
Breeding rates

An adult female can lay up to 100 eggs, the eggs take about 4 or more days to hatch dependent on conditions (they like it hot and dry). Once hatched they take about 4 days to reach adulthood although again this can be dependent on conditions.

To slow down their breeding rate, cool your growroom down and raise the humidity until you have eliminated the problem or at least have it under control. (Keep temperatures below 30°C and humidity above 50% relative humidity)

Identification/damage

Checking for tell tale signs of damage is easier than looking for the mite itself. The mites will suck the juice from the leaves leaving pin size white/colourless dots on the top surface of the leaf. These spots usually occur in clusters. If you see these spots then turn the leaf over and look for the tiny mites or eggs which may be hard to see. To help confirm you have mites mist the underside of suspected leaves with water and this should show up any webbing. After a few days leaves will start to fade in colour and and large amounts of webbing will follow.



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The Key: prevention and identification

The key to being mite free is a combination of preventative measures and early identification of any possible problem. The following guidelines should help with containing potential spider mite problems.

Clean garden

Cleanliness is the key to prevention. Growing environments should be enclosed and controlled. Floors should be clean and free from bits of soil, dirt, rubbish and bacteria.

You should clean your growroom on a regular basis and also keep pets away as well as other gardeners who may introduce bacteria or a mite infection.

If you have been in an infected area or even out in the country, change clothes before entering the growroom.

Healthy Plants

Ideal conditions for healthy plants are not ideal for spider mites. The hotter and drier it is in your growroom, the more your plants will struggle with health. If you have a mite infection under these conditions, the mites will reproduce up to 3 times faster than at cooler more humid conditions, thus compounding your problem.

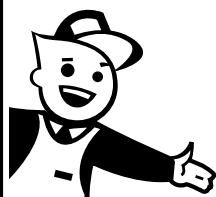
Therefore in summer keep your light high, maybe use a heat shield, keep the air moving and try and keep 'Lights On' temperatures down. This will not only to keep your plants as healthy as possible during difficult hot weather, but will also keep the spread of any infection to a minimum until it is identified and eliminated.

If your room is clear and clean and your plants healthy then any kind of infection will hopefully be identified early and dealt with effectively.

5 day Bug check

To aid with early identification and prevention we at Growell have given you below a 5 day check to do in the indoor garden that will give you control over this aspect of your gardening. Incorporated into the list are checks for other bugs too!

- When entering the growroom scan from left to right across the area. Primarily you are looking for flying bugs but should also check that everything looks normal and healthy.
- Now you should check individual plants. Check all of them or select a few plants in different parts of the garden.
- Look over the whole plant briefly to see if any damage is immediately apparent. Then look over individual leaves on the top, middle and bottom of the plant. Remember, often the damage is easier to see than the bug itself.
- Now check around the root zone for pests. Often root zone pests can be tiny larvae waiting to develop in to scarid flies or fungus nates.
- If you see spider mite damage on one of these 5 day checks, it will not have spread to more than a few leaves. These leaves can be manually removed over and into a bag. The plant in question should be then be separated from the main crop and sprayed.



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Control

Early I.D. and manual removal of infected leaves followed by three applications of a good spray like 'Buzz Off' with a few days between applications is the best form of control. Predator mites can then be added after a few days if you wanted to be really thorough.

Make sure you adjust the environmental conditions in your favour as this will significantly slow the infection while you are treating it. Keep humidity above 50%, or if possible 60% to 80% while you are eliminating the mite. Keep light up and temperatures down.

Sprays

Unfortunately, Hot Pepper Wax which has been a consistent growers favourite for treating spider mites is no longer available in the UK but there is an equally effective alternative available.

Buzz Off - Comes in 100ml, 250ml and 1 Litre bottles of concentrate that you dilute with water.

Like pepper wax it completely natural and works extremely well. This spray is highly effective and should clear any infection. Like all good sprays, at least three applications will be needed with a few days left between treatments. We highly recommend this product.

Natural Predators

Phytoseiulus is a very effective natural spider mite predator. They are red and about the same size as the red spider mite. Adults eat about 8 adult red spider mites a day and the egg to egg cycle is faster than the spider mite.

They reproduce at temperatures below 30°C, so don't let your growroom get too warm.

How effective they will be may depend on how big a spider mite problem you have and how many predators you introduce as well as other factors. Predators will inevitably take time to deal with the situation, saying that in 18 hour vegetative rooms they are very effective, 100% usually. If you have a bad mite problem it may be best to spray first to get the mite numbers down and then add the predators 5 or 6 days after the last spray.

Effectiveness in short and long light cycles

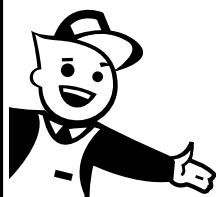
Although Phytoseiulus is very effective in 15 hours plus of light, it is not as effective in 13 hours of light or less.

In short day cycles when your plants are flowering they can still be used as a good maintenance measure until harvest.

Application

The predator mites usually come in vials of 500 or 2000 usually suspended in vermiculite. Keep the vials horizontal until use. Use immediately or store at 5°C until use.

Take the lid off a vial of 500 and gently shake the contents over 5 to 10 plants, pouring the contents on to one or two of the larger leaves in the middle area of the plant next to the infected area, leaving the cap and vial in the pot or plant.



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Recommended Action

The best way in which you should deal with a spider mite problem depends on what stage in the growth cycle you are at. Below are precise directions on what you should do to eradicate your problem.

In vegetative stage

Young plants. Younger plants can be effectively treated with a good spray like 'Buzz Off'. You can follow through with a course of predator mites if you want to be thorough, although it may not be needed.

If you have a bad problem then another option is to dunk the whole plant upside down in a bucket full of 'Hot Pepper Wax' solution. Keep it submerged upside down for a few seconds, do not submerge the root zone. After a few days introduce some predator mites to finish the job.

Big plants. On bigger plants, identify any badly infected leaves and remove them. You can remove up to 50% of the leaves if the infection is bad. Then spray the plant thoroughly with 'Buzz Off'. Three applications a few days apart followed by the introduction of predator mites should eliminate the problem.

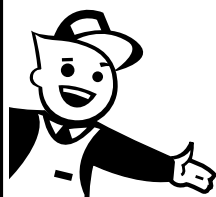
In flowering stage

As spider mites are hard to control in 13 hours of light or less, it is important that any problem is identified and dealt with before you shorten your light cycle!

Once in flowering on short light cycles, the Phytoseiulus predator mite is much less effective and spraying large flowering plants thoroughly is not easy.

Control your problem through manual removal of leaves, creation of environmental conditions to slow the spider mite down, regular introduction of predator mites and regular spraying.

Elimination may have to wait until the room is empty, or until your growroom is full of smaller plants in more than 15 hours of light. Sprays and predators are more effective at complete elimination in these conditions.



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