

NSW VEGETABLE IPM NEWSLETTER

Integrated Pest Management for Insects and Viruses in Sydney Vegetables



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Your Levy at Work

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Montdorensis predatory mite feasting on larval thrips.



Image courtesy of NSW DPI

Winter Disease Issues

Sandra McDougall

In the Sydney Basin Turnip mosaic virus (TuMV) had emerged this winter as a serious problem in brassica vegetables such as cabbage, cauliflower and broccoli, with disease levels on some farms over 90%. In a recent survey by Sylvia Jelinek, Tehgan Crowe, Leanne Forsyth and Len Tesoriero, the virus was also recorded in lettuce, and the weeds sowthistle and wild radish. TuMV is spread by aphids and causes dark ringspots and mosaic on the outer leaves of the plants, high levels can lead to the failure to form heads in cabbage and lettuce. The symptoms are temperature dependent and in warmer weather there is only chlorosis on the outer leaves.

Welcome to the Montdorensis Predatory Mite "Monties"

Sylvia Jelinek

The mighty 'Montie' mite has finally arrived and is available for purchase as a highly effective biocontrol against a wide range of thrips larvae. Those included are; western flower thrips, onion thrips, plague thrips, tomato thrips and melon thrips (but not

greenhouse thrips). Monties also feed on some mites including; tomato russet mites, broad mites and spider mites.

Montdorensis predatory mite *Transiueus* (= *Typhlodromips*) *montdorensis* has passed the vigorous process of scientific research and is now commercially available to growers. As we are coming into spring, now is a good time to order some mites as an inoculation in your crop against the listed pest species. Monties are known for their predatory activity and kill up to as many as 20 thrips larvae a day, and when their food source is scarce they will feed upon pollen in flowers until the pest pressure increases. This predator performs best at temperatures between 20°C and 30°C.

They are commercially available from Andy Ryland at The Beneficial Bug Co. 02 4570 1331. Contact Sylvia Jelinek (NSW DPI) 02 4588 2135 for further information and advice on how you can make this feisty predator work for you. Sylvia will also be able to locate IPM consultants in your area.

Weeds as Plant Virus Hosts

Sylvia Jelinek

A lot of common farm and roadside weeds are also plant virus hosts. These viruses affect crops on vegetable farms and without sufficient weed control plant viruses can become a problem very quickly. One of the most significant viruses is tomato spotted wilt virus (TSWV). As we are now coming into spring and approaching the summer cropping period it is important to keep in mind the basic cultural controls that reduce virus incidence on vegetable farms.

The basic preparation for farm hygiene is weed eradication, either through; frequent herbicide applications, chipping out weeds prior to flowering, the use of weed matting in greenhouses, or laying down road base for example crushed gravel between cropping areas or greenhouses. If you remove the weeds with haste the weed seed bank will be reduced on the farm and weed eradication will begin to ease as the years go by.

'Capeweed' infected with tomato spotted wilt virus.



Image courtesy of Len Tesoriero

Some weeds that can be infected with TSWV and are feeding hosts for the western flower thrips (WFT) are 'capeweed' (*Arctotheca calendula*), 'purple-top verbena' (*Verbena bonariensis*) and 'sowthistle' (*Sonchus* spp).

Capeweed can be found already in flower on most Sydney vegetable farms. Since it is a host to both TSWV and WFT, it is important to manage this weed before the warmer weather.

Purple-top verbena is another weed that is widely distributed along road sides, pastures and fallow land that is a strong host for

TSWV. Although this weed is widely dispersed it is still ideal to remove this weed from the farming area to avoid further infestation and a close at hand host plant for western flower thrips.

'Purple-Top verbena' infected with tomato spotted wilt virus.



Image courtesy of Len Tesoriero

'Sowthistle' infected with TSWV has in recent weeks been found on farms in the Sydney Basin, which is an indication that there is already a virus source on some farms for WFT to feed on and transmit to vegetable crops and other host weeds. Eradicating these weeds immediately decreases the chance of early season plant infection, which could go onto reducing crop yield.

'Sowthistle' infected with tomato spotted wilt virus.



Sylvia Jelinek

For a successful summer crop that is free of virus or at least low in virus incidence, it is recommended to start controlling weeds as soon as possible around farms, cropping areas and farm boundaries. This will decrease any virus hosts for western flower thrips before the temperature rises and the westerly winds blow them in or awaken them from over-wintering. Farm hygiene is an essential part of a successful IPM program.

Greenhouse Cucumber Farm Walk

Sylvia Jelinek

NSW DPI held a Greenhouse cucumber farm walk in May at one of the largest tomato and cucumber greenhouse farms in the Sydney Basin, owned by Raymond Helou at Kemps Creek.

Over 40 greenhouse vegetable growers attended to learn the key factors behind a successful greenhouse cucumber crop using an IPM program. The growers experienced a rare opportunity to speak face to face with some of Australia's expert researchers and extension officers. The professionals that attended from NSW DPI included; Len Tesoriero, Leigh Pilkington, Leanne Forsyth, Sophie Parks, Stacey Azzopardi, Jeremy Badgery-Parker and Sylvia Jelinek. From SARDI Barbara Hall joined us as well as Denis Persley from QDPI&F.

A healthy cucumber crop, that was inspected by the field day attendees in May.



Images courtesy of Tehgan Crowe

Stacey Azzopardi (NSW DPI) discusses good greenhouse practices with local growers.

The day was highly invaluable for the growers that attended, as good farm practices were demonstrated by using hygiene mats on entry and exit of all greenhouses on the day, wearing disposable gloves when inspecting crops and observing clean growing environments.

The highlight of the day was providing growers access to the latest information directly from a range of horticultural researchers and being able to have their questions answered instantaneously.



Sylvia Jelinek (NSW DPI) demonstrates pest and beneficial scouting technique.

Barbara Hall (SARDI) and Leanne Forsyth (NSW DPI) examine the cucumber crop.



Images courtesy of Tehgan Crowe

If you would like further information on IPM adoption in greenhouses please contact Sylvia Jelinek or Stacey Azzopardi your (NSW DPI) IPM Project Officers on 02 4588 2135.

Greenhouse Vegetables NSW Association Meetings

Sylvia Jelinek

Over the last few months the association of Greenhouse Vegetables NSW Inc members have been meeting regularly at Joe Boustani's Rossmore farm to create a united front and begin a process of being a proactive association. The next meeting is being held on Monday September 29th, from 1pm. For more information please contact Jeremy Badgery-Parker (NSW DPI) Greenhouse Vegetable District Horticulturist on 02 4348 1920 or 0412 819 465

Joe Boustani addressing attendees at the August meeting.



Image courtesy of Len Tesoriero

Sydney's Field Vegetable Demonstration Farm Launch

Sylvia Jelinek

NSW DPI launched Sydney's field vegetable demonstration farm on the 30th of May to a whopping 300 plus growers and horticultural industry representatives, making this field day one of the most successful ever held in the state. The two hectare demonstration farm, which is located on the grounds of the University of Western Sydney – Hawkesbury campus was officially opened by Ms Renata Brooks, Deputy-General for Agriculture within NSW DPI.

The purpose for this farm is to demonstrate sustainable vegetable farming and trial vegetable varieties and products. Most of the seeds, seedlings, chemicals, machinery and irrigation equipment have been donated. For further information on upcoming events at the field vegetable demonstration farm please contact Leigh James at the NSW DPI Hawkesbury Advisory Office on 02 4588 2100.

Andy Ryland conducting an outdoor seminar on IPM and insect monitoring in a zucchini crop at the Demo Farm Launch.



Sylvia Jelinek

Andy Ryland from the Beneficial Bug Co. in Richmond carries out the weekly crop scouting for the vegetable trials being held at the demonstration farm. For further information on IPM consultancy or crop monitoring contact Andy Ryland at The Beneficial Bug Co. 02 4570 1331.

Adopt an IPM Consultant

Sylvia Jelinek

As summer is approaching, now is a good time to recruit an IPM consultant to monitor your vegetable crops weekly and advise you on the best action to take on growing a healthy crop and generate the highest possible yield using IPM practices. For a list of IPM consultants in your area please contact Sylvia Jelinek (NSW DPI) 02 4588 2135.

Greenhouse Vegetable ID Guide

Sylvia Jelinek

'Pests, Beneficials, Diseases and Disorders in Greenhouse Vegetables: Field Identification Guide' is currently being revised and updated. This publication is a must for any greenhouse vegetable grower, but can also be invaluable to most vegetable farmers. It is due to be released in the next coming months, so keep an eye out for it. It will be available through the DPI bookshop on 1800 028 374 or email: bookshop@dpi.nsw.gov.au

Further Information

www.dpi.nsw.gov.au for pest and disease management information

www.apvma.gov.au for chemical permits and registrations

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Growers interested in IPM demonstrations or pest and disease surveys are encouraged to contact Sylvia Jelinek on 0437 977 263