



BUGS EAT BUGS

We were pleased to welcome Steve Bradley to Hayling Island Horticultural Society on 27.03.2019 and hear his presentation on how we can use biological methods of garden pest control and avoid the use of harmful chemicals.

Steve described himself as a career horticulturalist, presents on radio and writes for newspapers on this subject. He has written over 50 books, together with his wife and the audience were amused when he joked he had "*even sold one once!*"

More gardeners are turning to biological methods as the number of chemical products diminishes due to the high cost of testing products for the commercial market. Steve calculated the cost of the compulsory testing for one chemical product for use on one specific plant would be in the region of £250,000.

Biological controls cause no damage to plants. Pests do not develop resistance. These natural enemies can establish and introduce balance. Being usually specific to certain pests they do no harm to non target species. They offer a solution where pesticides cannot be used. Generally they do not interfere with normal gardening.

As living organisms to be most effective the timing of their use must be as quick as possible following delivery and the initial infestation. Controls for greenhouses need warm temperature and often die out in winter.



Biological control falls into three categories;
Parasites or predators: Traps and Monitors.

Red Spider Mite (*Tetranychus urticae*) can be controlled by the introduction of a tiny predatory mite, Phytoseiulus persimilis another mite is Amblyseius. Other options are a midge Feliella acarisuga and a beetle Atheta coriaria.

The tiny parasitic wasp, Encarsia formosa can be used to eradicate whitefly infestations which lays its eggs in young whitefly scales.

Nematode Phasmarhabditis can be used to help eliminate slugs and nematode Steinernema carpocapsae for the '*SAS of garden pests*' the vine weevil.



Nematodes are microscopic important components of soil ecosystems however some species can cause problems to specific plants. Nematodes come in packs that are mixed with water. As living organisms use as soon as received and carefully follow the suppliers instructions.

Cryptolaemus montrouzien (Mealybug ladybird) is effective in containing mealybug (*Pseudococcus* and *Planococcus*) accessing the places on plants insecticides miss. Parasitoid wasps, *Leptomastix* and *Leptomastidea* when used with *Cryptolaemus* are effective.

Parasitic wasps *Metaphycus helvolus*, *Encyrtus* and *Encarsia citrina* can control the glasshouse species *Coccus hesperidum* (*soft scale*) and *Saissetia coffeae* (*hemispherical scale*). Nematode *Steinernema feltiae* is sometimes used.

There are a wide range of biological controls for aphids many native to our gardens. The small midge *Aphidoletes aphidimyza*, the green lacewing larva *Chrysoperla carnea*, two spot ladybird *Adalia bipunctata*, parasitic wasps *Aphidius*, *Praon* or *Aphelinus*, the brown rove beetle *Atheta coriaria*, the larve of hoverfly *Sphaerophoria*.

He also gave some useful tips for other natural methods of pest control such as leaving out half a grapefruit to act as a slug trap. He was not willing to advise on a method to subsequently dispose of the slugs!

Steve's talk was highly informative and was delivered in an interesting and humorous way which prompted lots of questions at the end from the audience.

Chairman Bill led the vote of thanks with the traditional round of applause.

END