

A Beginners guide to managing pests and diseases.

Mark Hall FNVS, Midland Branch.

The vegetable plot usually gets off to a good start in the spring, then as we move into the summer months, pests can often be seen, followed by diseases later on in the season. This can be a big set back for anyone starting out in growing vegetables for the first time, caterpillars eating the brassicas and mildew on the peas, thought's go from what can I spray my vegetables with, to well I don't think I'll grow that again next year. But don't be too disheartened as things may not be as bad as you first think, if you take a few simple steps then a lot of problems can quite easily be resolved.

- 1) Identification. When something in the vegetable garden is not quite looking right the first thing to do is study what is happening and try to put it into a category, it could be a pest, disease, disorder or nutrient deficiency. Some pests like caterpillars on brassicas are quite easy to identify as they are large to see, although there are several different types of caterpillar associated with brassicas, other pests like red spider mite are almost impossible to see with the naked eye, in this case identification is usually done by assessing the damage that is being caused, a light speckling of the lower leaves gradually moving up the growing plant leaving the lower leaves bronze colour before withering and dying are typical of red spider mite. The important thing to remember here is that you gather as much information about the problem as you can. With the help of the internet or a good book you should be able to get a positive identification on the problem, this is very important because the wrong identification could lead to inappropriate treatment,



Identifying red spider mite on aubergines.

- 2) Understanding the life cycle. Once you have a positive identification, I always like to find out in detail how the pest or disease works, understanding this will help you to make decisions on how to deal with the problem. For example you may have identified the problem as Chocolate spot on broad beans, but where did it come from and where does it live and what can you do about it? Disease spores may well over winter on plant debris or in some cases on seed saved from infected plants. The disease favours damp, shaded and overcrowded conditions. So we now know a little about chocolate spot.
- 3) Action. Having correctly identified and having a little understanding of what is happening is the hard work. The rest is quite simple to work out. If left to nature is this problem is going to cause unacceptable damage to the end result/crop. For example a little bit of black fly on your runner beans is hardly like to reduce the end crop, so you may decide to take no action and leave the black fly (they often go as quick as they come in some seasons) however you may be wishing to save the seed off your runner beans and the risk of black fly, a sap sucking insect spreading a virus like yellow mosaic bean virus could be a problem as the virus would be carried in the seed saved.



Blackfly on runner beans.



Blackfly on Broad beans.

- 4) Treatment. There are many different ways of treating problems. Chemicals were widely used at one time, but with the reduction of products available to the amateur grower and the move to growing crops more organically, this is not always the favoured option. Cultural methods of growing vegetables tend to be the easiest and safest way of growing healthy crops. For example the broad bean chocolate spot problem could be reduced in a following season by first of all using certified seed, growing on an open site with good air circulation and no shading of the crop. With pests like caterpillars then it may be worth protecting the crop from attack. There are many types of plant protection materials available on the market for combating a large range of potential problems, Enviromesh is commonly used.



Cauliflower protection using enviromesh



Carrot fly protection using the same product

Red spider mite is a serious and often difficult pest to deal with. There are very few chemicals available that will successfully control red spider mite. Cultural controls like good hygiene winter cleaning, and maintaining a damp growing atmosphere all help, but because this pest is so small, it is difficult to control with a protective barrier, like a net or cover. Probably one of the more suitable ways to manage this pest is biological control; the introduction of *Phytoseiulus*, another spider mite that feeds on the problem red spider mite, but does not feed on the plant itself, this type of biological control is becoming more widely available to amateur growers. It's worth noting that when using biological control of red spider mites, the problem is not usually eliminated all together but merely kept to acceptable levels. Once biological controls are introduced the use of traditional chemicals must cease, otherwise the predator can also be destroyed.



Red spider mite on cucumbers.