**Pests**

What is or isn’t a pest?

A wide range of insects and other animals inhabit gardens, but only small proportions are now considered plant pests. Most are neither helpful nor harmful to the gardener but all form part of the great food chain.

There are, however, some, which are especially useful, as they feed on pests, pollinate flowers or improve soil. It is important to create conditions in your garden that are favourable to all these creatures and also to be aware that indiscriminate or careless use of chemicals can destroy many of the creatures and upset the fine balance of nature essential to us all.

Useful creatures in the garden

1) Honeybees, Bumblebees, Wasps – Pollinate flowers

2) Ladybirds and Hoverflies (adult and larval forms) – Feed on aphids (Greenfly/Black fly)

3) Earthworms – ‘Soil processors’. Aerate and enrich soil,

4) Centipedes - prey on variety of soil pests at night

5) Beetles - many ground beetles (black/brown, or green) prey on pests.

6) Hedgehogs – Eat slugs, worms and insects.

7) Frogs/Toads – Eat slugs, insects, worms and spiders

8) Shrews – eat insects, slugs, and earthworms

9) Song Thrush – Love snails!

10) Lacewings - larval stages are voracious predators of aphids

11) Woodlice – these are detritus feeders and recyclers, contrary to previous arguments that they eat roots, and help break down organic matter.

12) Birds – feed on insects, slugs, snails, and other invertebrates.

Creatures described as ‘pests’

Most so called ‘pests’ are going about their business and in the process cause us problems, just as humans have caused immense harm to the natural environment. Some are merely a nuisance whereas others create greater problems for us as growers.

Nuisances include: Ants, Gall mites, Gall wasps, ‘Cuckoo spit’, Fungus gnats, leaf miners, Leaf cutter bees, Leatherjackets, Pollen beetles, birds

‘Pests’ that cause greater problems to plant growers include the following groups:

Sap feeders, eg Aphids, whiteflies, scale insects, thrips, mites, adelgids, leafhoppers, capsid bugs, mealybugs. Symptoms of sap feeders include shrivelled/distorted foliage, yellowing sickly looking foliage, sticky honeydew substance excreted by the sap feeder on which black sooty moulds can grow.

Root munchers, eg Beetle and Weevil larvae (chafers), some Butterfly and Moth caterpillars. Carrot fly larvae. Symptoms of root damage range from stunted and sickly growth to sudden wilting and collapse of top growth.

Other pests of roots, Eelworms, root mealybugs and aphids,

Leaf and stem munchers, eg sawflies, adult Vine Weevil, some beetle larvae, Caterpillars, Pigeons, grazing animals. Seed eaters eg mice

Flatworms – imported problem that is causing decimation to earthworms who have no means to protect themselves.

**Diseases**

Fall into the following categories:

Fungal, eg Mould, Blight, Rust, Downy and Powdery Mildew, Botrytis (grey mould), Black spot, some Cankers, Mildew, Scab, Wilt, Stem/Root rot, Leaf spot or blotch, bulb or corm dry rot, dry rots, crown rot, ‘black leg’ of cuttings/seedlings, club root

Bacterial, eg some cankers, fireblight, leaf spot, bacterial root rot and soft rot,

Viral, there are very many different viruses which are commonly transmitted by sap feeding insects. Other modes of transmission can be from soil inhabiting nematodes or fungi, also by handling and propagating. Symptoms include stunted growth of the whole plant, distortion, also markings on the foliage, often yellow, as streaks, mosaic patterns, flecks, mottles or ring spots. No treatment is available so affected plants need to be removed and disposed of.

Environmental factors, eg Calcium deficiency (blossom end rot and bitter pit), common on acidic soils. soil quality, depth, texture and fertility, aspect, exposure, light availability. If planted in pots, compost quality, overwatered, underwatered, overfed, underfed.

**Remedies, treatments**

Pests

1. Physical barriers – eg mesh, fleece, brassica collars, fruit cages,
2. Biological controls – nematodes, pheromone traps,
3. Chemical treatments – systemic and contact
4. Benign treatments – eg repellent sprays, humming tapes to deter birds. Vary to prevent the target becoming familiar with the sound/smell/taste.
5. Husbandry techniques – ensuring good soil fertility, crop rotation (Potato – legumes – brassicas – roots). Disruption of the life cycle of the pest, eg Sawfly larvae.

Diseases

1. Treatments – liming prior to vegetable planting in acidic soil and clay soil. Fungicide sprays for some forms of fungal attack. For rose black spot and powdery mildew
2. Husbandry techniques – use cleaned pots, keep tools clean, use good compost, water at the right time, ensure good air circulation, planting correctly, mulching,