Pests and diseases of broad beans are discussed on this page.

Pests and Diseases

Black aphid: This is also known to gardeners as black fly or plant lice and is a common pest of broad beans. Infestation is usually confined at first to the young, tender growth at the tops of plants. Spring-sown plants are affected worse than autumn-sown plants, as the growth on them is usually more tender than that on plants which have over-wintered.

If the plants are tall enough and aphid infestation is noticed when it is light, it can often be destroyed by pinching out the tender growth at the tops of the plants. Aphids can be controlled by lindane, HETP, or nicotine sulphate sprays. To be fully effective nicotine sulphate spray requires an alkaline substance, such as soap, dissolved in the water and to be applied on a hot, still day.

Chocolate spot: Broad beans have tender, easily damaged foliage which reacts by the development of reddish spots or stains to rubbing or similar superficial injury that may be caused by insect pests or diseases. Two parasitic fungi cause superficially similar chocolate-coloured spotting or "blight" on broad beans.

The commonest injury is caused by the fungous disease *Botrytis cinerea* Fr., which frequently attacks overwintering broad beans. Where conditions favour it botrytis may be very destructive and cause extensive spotting, blotching, or defoliation. The chocolate-coloured markings on the leaves, leaf stalks, and stems of plants may be superficial or may penetrate some distance. They are commonly found on plants that have been subjected to severe winter weather.

Botrytis is a common cause of nonsetting, as infected flowers usually rot and fall. Its spread is favoured by cool, moist weather. Lack of sufficient phosphate and potash in the soil makes plants more subject to the disease, particularly if the crop is dense and aeration poor and if the soil is poorly drained. A thiram, copper oxychloride, or bordeaux spray (4oz. of bluestone and 5oz. of hydrated lime to 4 gallons of water) is of value in combating the disease where it is likely to become serious.

However, spraying is rarely necessary, as the disease is largely influenced by the weather. As conditions improve the plants usually develop new, healthy growth and overcome most of the adverse effects of the disease.

The second type of spotting, commonly called bean blight, is due to the fungous disease *Ascochyta fabae*. It is characterised by the spots having greyish centres and minute pustular fruiting bodies in the central area. Control consists of the use of clean seed, good drainage, long rotations, and the destruction of rubbish.

Frost may also cause reddish discoloration of the stem bases.

Rust: The fungous disease rust is characterised by small, dark brown, dusty raised spots (pustules) on the leaves, leaf stalks, and on the stems. On the leaves the spots are often characterised by a halo of slightly lighter green than the remainder of the leaf. The dusty appearance of the spots is due to the production of large numbers of spores of the fungus.

Infection results, according to its severity, in reduced cropping, stunting, or, rarely, the death of plants. The disease is difficult to control, but its severity can be reduced by applying at 2- or 3-weekly intervals a spray made of 4 fl. oz. of lime sulphur, 1 fl. oz. of colloidal sulphur, and 4 gallons of water. Sprays of a fairly new fungicide zineb, at intervals of 7 to 14 days, depending on the weather, have proved effective.

Sclerotinia disease: Sclerotinia is a fungous disease characterised by the development of a copious white fluffy growth and later of comparatively large black resting bodies (sclerotia), often inside the stems. The disease commonly attacks the main stems, usually near the bases, causing them to rot and plants to wilt and die. Seriously affected plants should be removed and burnt; if they are left, the resting bodies which develop constitute a source of infection for subsequent crops. Crop rotation, good drainage, aeration, and hygiene are the most important factors in control of the disease.

Wilt disease: Wilt may cause yellowing of the leaves and wilting and death of plants due to blockage of the conducting tissues of the lower stems and main roots. Moisture assists the development of the disease and later dry conditions hasten the death of plants. There is no practical control of the disease in the home garden, as it will live indefinitely in the soil. Rotation should be practised and peas, which are also subject to the disease, should not be sown in infected areas.

Celery

Though it is useful for soups and stews, celery is most popular as a salad vegetable. Most home gardeners like to set out plants as early as possible and though plants can be set out earlier where temperatures are high enough, December and January are the preferred months for planting. Later planting is only practical where autumns are mild.

For good growth celery should have a continuous and fairly high supply of moisture. In most districts regular spraying is necessary to keep the plants free from leaf diseases. However, temperatures are of first importance and if they are not high enough while the plants are young, self-blanching varieties will fail.