Quick guide to plant disorders

Nitrogen deficiency is recognisable as stunted plants and yellowing of the leaves. Nitrogen is quickly washed out of the soil, so it is important to hang onto what you have got by growing winter cover crops such as grazing rye. Growing green manures or applying nitrogen rich substances such as manures, home compost or feeding with nettle liquid will all help.

Excessive nitrogen leads to copious lush leaf growth. Such growth restricts airflow leading to plant disease and is also much more attractive for insect pests. Stick to recommended doses of muck and compost rather than piling on huge amounts – have a look at Garden Organic's factsheet on use of compost and manures in the garden.

Potassium deficiency starts off as yellowing of the leaf margins, which eventually turn brown. It is common in potatoes which have a high demand for it. Good sources of potassium include home compost, green waste compost wood ash and comfrey liquid. It is usually more of a problem on lighter soils than on clay soils.

Phosphorus deficiency shows up as leaves take on a purple tinge and start to feel leathery. Brassicas are particularly susceptible as they are not so good at taking up phosphate. Green waste compost and compost can be a good source of phosphate as can diluted urine. Plants such as buckwheat are good at mobilising phosphate which is often bound up in insoluble forms.

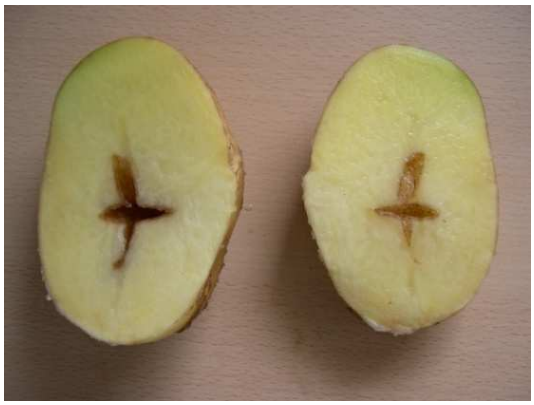
Magnesium deficiency is manifested as brown areas on the leaves between the veins. It is common in dry weather but can also be caused if the potassium levels in the soil are too high – be careful when applying materials rich in potassium such as green waste compost or wood ash.

Iron deficiency looks almost identical to manganese deficiency. It shows up as yellowing between the veins that can turn almost white. This is generally a problem when the soil is too alkaline and the iron becomes bound into an insoluble form. It is common in fruit bushes.

Internal rust spots in potatoes are little pieces of dead tissue that have run short of calcium. Calcium is not very mobile in plant tissues so often has trouble distributing to all parts of a large structure like a potato. Deficiency is common in dry conditions or when the soil is acidic so the calcium is not so mobile.

Bitter pit in apples is also caused by lack of calcium. It leads to patches of dead brown tissue which have a bitter flavour. Again it can be caused by insufficient watering or low soil pH.

Blossom end rot is also caused by a lack of calcium. This is most often as a result of lack of watering although it could be that the soil is too acidic. Be careful when liming the soil as excess amounts can lock up other nutrients.



Hollow heart is a disorder caused by irregular watering in potatoes. Alternating periods of dry and moist weather cause the plant tissue in the tubers to grow erratically and rupture during rapid periods of growth.

Soil compaction restricts root growth leading to stunted growth above ground. Maize or sweetcorn exhibits this very clearly with different plants growing at different rates according to the condition of the soil. The best way of dealing with soil compaction is to avoid creating the problem in the first place: minimise treading and digging especially when the ground is wet. Some green manures such as alfalfa or chicory can break through compacted soil.

Bruising – there are two types of bruises. Slow pressure bruises are dark and less distinct whereas impact crush bruises have a more distinct corky appearance. Potato tubers are more susceptible to bruising at lower temperatures, so it is best to harvest them on a warmer day where possible.

Frost damage – listen to the weather forecast, and get to know where local frost pockets exist then cover with fleece or bring indoors as necessary. East facing aspects that cool down over night then receive the morning sun cause the most damage to plants.

Cold damage can occur above freezing temperatures in less hardy plants. Wind chill and cold damp conditions especially when there are sudden changes can all cause damage leading to patches of dead tissue.