What is Variegation?
In the simplest terms variegation is the different colouring that sometimes occurs in plants. This most often is the presence of a mix of whites, yellows or paler green colours often accompanied by some arrears of the normal green colour of that plant. Sometimes the leaf is so deficient in green pigmentation that it looks almost yellow (aureate forms) but most of these never survive.

Variegated foliages are so coloured because they lack some or all chlorophyll in parts of the foliage. This often provides plants that a quite striking visually. Unfortunately the shortage of chlorophyll creates some problems for the plant.

Chlorophyll is bright green photoreceptor in the leaf that is essential for photosynthesis. Chlorophyll is very efficient at absorbing light in the red and blue spectra but reflect light in the green spectra. This is what gives the leaves their green colour.

Purple Foliages
Some plants also have red to purple coloured foliage. This is caused by an excess production of a pigment called anthocyanin. This pigment acts like a sunscreen, helping to protect the leaves from photo damage by absorbing UV light. This pigment is often apparent as a red colour in young leaves and also gives autumn leaves their red shades.

Unfortunately excess production reduces the effectiveness of photosynthesis in the red spectrum. Whilst this is not the most important colour range it is still significant in the photosynthetic process.

The Energy Problem
Photosynthesis is the process that converts sunlight into carbohydrates. These carbohydrates are the plants source of food. When there are lower levels of chlorophyll in a leaf or its effectiveness is blocked, reduced levels of carbohydrates are produced. Plants use these carbohydrates and energy (food) for all their functions.

As a result of the shortage of carbohydrates produced, variegated plants usually grow slower than the green form and additionally do not have the energy reserves that they need to deal with various problems. As a result variegated plants are often prone to greater insect and disease problems.

Young plants, like young children, are often more robust and quick growing. This means that often the problems with a variegated plant do not start until the plant is a number of years old. Providing extra care to the plant can lessen the onset and extent of insect and disease problems.

Reverting
Many variegated forms are not stable and as a result they will sometimes produce normal green shoots. These green shoots grow quicker and with more vigour. As a result they will become the dominant foliage in time if they are not removed.

Water
By far the easiest and also the most important area of care is ensuring that soil moisture levels are optimal for the plant. Absorption of water from the soil can be likened to a carbohydrate powered pump; the lower the moisture levels the harder that pump has to work in order to remove the moisture from the soil.

In fact the soil is highly efficient at holding onto the water, so much so that in some soils, the plant cannot extract almost 30% of the water from the soil. The point at which this occurs is called the ***wilt point*** because at this point the foliage on some plants starts to wilt.

Nutrients
The next easiest way to assist these plants is to ensure that there is an appropriate balance of nutrients available in the soil. Most soils have appropriate levels but rather than testing which can be expensive it is just as easy to mulch or fertilize.

The regular use of good quality leaf mulch will assist the microorganisms in releasing the required nutrients to the plant through the decomposition process. The alternate option is to use a slow release fertiliser with trace elements, which can be of assistance.

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