

# Spice up your Greens with Variegations

Susan Norman of Conquest Plant Nursery on the science behind the beauty of colour foliage.

There's nothing wrong with green. Green, from spring's fresh young growth emerging from the soil and unfurling along the branches to late summer's dusky tones, is the colour of most plants foliage. This is due to the dominant green pigments present in the chloroplasts located in the cells of plants which absorb sunlight which then enables the process of photosynthesis. The sun's energy strikes the chlorophyll which starts a reaction producing carbohydrates that plants use for food. But, green, like life, can use a little spice. So, variegated foliage is the spice of life in any garden border. Then again we would say that being specialist growers of variegated and coloured foliage.



Variegated plants strike a mixed reaction amongst gardeners, some treating with complete disdain as they suffer with the outdated belief that all plants are supposed to be green. Plants which aren't green are somehow seen as sick or unworthy of cultivation. To the purists who comment "oh, look at all those lovely greens" as if unable to bring themselves to think that a plants foliage could possibly consist of naturally occurring colours of yellow, red, orange, purple, pink, black and white.

To most of us gardeners, and especially all of us variegated plant enthusiasts, variegation means anything but green, including foliage and stems that exhibit any combination of colours. To the scientist, variegation refers to distinctive patterns of green and white on any plant parts that normally contain chlorophyll. While we look at variegation as an enhancement to foliage, generally it means that some random mutation of DNA has resulted in imperfect or absent chloroplasts (the cellular bodies that produce and house chlorophyll). Variegation can also be caused by mineral deficiency, a viral infection or some environmental reason.

Whatever the cause, it means there is some obstruction to the plant's ability to create food for itself, hence most variegated plants are not as vigorous as their green cousins. This in itself can sometimes be an advantage with some genus that has a tendency to be regarded as thugs. In other cases it can be a disadvantage when you really want more of a particular plant and you are left willing it to have more vigour than it actually has!

Chlorophyll masks the other pigments - beta-carotene (red-orange), xanthophylls (yellow) and carotenoids (red-orange or orange) - contained in leaf cells, which are only apparent in most green leafed plants either as they unfold or as they fall into their autumn colour at the end of the growing season. Anthocyanins cause the red, purple or blue colour most commonly seen in flowers but also some leaves and their colour may also be intensified or affected by the acidity of soil.



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Variegated plants are most appreciated by serious plant collectors, probably because of their uniqueness. If everyone has a green form of plant X, then the plant collector naturally wants to have the variegated form, often simply to be different. To a certain extent that's how our nursery started as many places only stocked one or two variegated or coloured foliage plants for the gardening public. Many variegated plants are so unusual that they will forever be relegated to the status of collector plants. Being plant collectors, we value these plants some for their beauty of foliage, but most for their being something different from the average garden plant supplied in many garden centres. Gardeners with inquiring minds they want to know what qualifies as variegation. Variegation in plants is defined as the normal green portion of the plant leaf being replaced by white, cream, yellow, or occasionally other colours, which may be in the form of blotches or stripes. The variegations can occur on the edge of the leaves (marginate variegation), or in

the centre of the leaf (medio variegation.) Variegated plants which have a neat regular leaf margin of white or gold tend to be the most accepted by gardeners whereas those less accepted are where the foliage is streaked with uneven patterning.

These are usually the plants most highly valued by the variegated plant connoisseur although we must admit that in some cases some varieties resemble a classic case of micronutrient deficiency and even we have questioned whether it was worthy of purchasing or growing.

The biggest challenge to gardeners is how to blend large numbers of these plants into the garden. The Japanese who are keen variegated



plant connoisseurs suggest that once you can appreciate the beauty, subtlety and intricate patterning of variegated foliage are you a true gardener having made the full transition from a love of the conventional and superficial beauty of flowers! They should know having grown variegated plants for at least 150 years longer than we have in the West.

As with all brightly variegated plants, they show off best when contrasted against a dark background. Whether planted against a mostly green hedge, or a larger backdrop of deciduous trees, some background is needed to properly display variegated trees and shrubs. Others convince you they're blooming when they're not – an advantage over flowering plants with only short periods of bloom for 4-6 weeks on average.

Many gardeners use variegated and

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coloured foliage plants for different purposes in the garden, some for the patterning in the leaf; designers often like the ability of variegated plants to lighten up a normally dark or shady area. Varieties with the whitest leaves, for example, can do wonders for a dark alcove. Conversely, plants with mottled leaves seem dappled with shade, a visual relief in areas with full sun.

In a landscape design, variegated plants are often used as a specimen or as a focal point in the design as they can seemingly scream attention in the garden. Variegated plants bring structure, texture, and colour to small spaces. Plants need to be positioned carefully to ensure the eyes are not dazzled with a mix of all small leaf or conversely all large leafed variegations. Lighter colours of yellow, whites, silvers and pinks should be placed further away from the viewing point whilst darker reds, blacks and purples brought to the fore otherwise they have a tendency to create "black holes" or disappear into the background. Use leaf colour to emphasise colour combinations in the border with existing flowering plants.

The rule of thumb is that silvers and greys enjoy sunny, dry conditions, dark reds, purples and blacks prefer a sunny or open position above to gain the most light into the coloured pigments. White variegations work well in the shade as their white parts (lacking chlorophyll) are not scorched by the sun and they provide brightness in what can be a dull, dark place. Blues and yellows like a light open aspect and will work in part shade but not a dense shade as their leaves turn greener.

Over the years despite the prejudice against variegated plants as a group, the numbers of plants available have grown and breeders have introduced many new varieties that have become accepted mainstream landscape plants. So, if you are stuck for a New Year's Resolution why not add one or two variegated or coloured foliage plants to your garden collection and see the difference for yourself.

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