



Plants Reverting? What's a Gardener to Do?

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Now that most folks' soils have been tested and gardens planted, there's been time to peruse and spiffy up the perennial and shrub beds, and invariably plant questions arise. A not uncommon query is regarding variegated plants that send up all green shoots.

It seems gardeners either really love variegated plants or really do not care for them. Personally, I find many variegated plants quite attractive especially when trying to dress up a dull corner or bring a glimmer of light to a shaded area. The uniquely patterned foliage worn by some of our most popular variegated plants is one of Mother Nature's marvels. So, why oh, why are stems of variegated plants turning green?

An understanding of how variegation in plants occurs might help. Natural genetic mutations are occurring all the time in people, animals, and plants. Plant enthusiasts take note of those happening in plants. Maybe a shoot or branch or flower is produced that is different from the rest of the plant. The color, size, growth habit or bloom type may vary. This is often referred to as a sport. Occasionally, intriguing growth characteristics are caused by insects or diseases. Only sports caused by genetic mutations can be propagated.

Not only are variegated plants the result of genetic mutations but many of our dwarf conifers and weeping versions of trees and shrubs are as well. Witches brooms, which are congested collections of multiple shoots on one part of the plant, are good natural mutations that have given rise to many types of dwarf conifers. Once that most people are familiar with is the dwarf Alberta spruce (*Picea glauca* 'Conica').

If deemed interesting enough (i.e. a marketable commodity), it will be propagated by divisions, cuttings, or tissue culture. Vegetative propagation, as opposed to seed cultivation, is required to

maintain the unique coloring or growth characteristics. If seeds are sown, more interesting variations may or may not occur.

Gardeners delighted by these unique variegated, dwarf and weeping plant forms are often dismayed to notice solid green leaves or full-size branches or even upright growths on their prized specimens. This is known as a reversion and is a natural process by which the cultivar reverts back to the original form found in its parentage.



Variegated sedum with green shoots that should be removed. Photo by dmp2021.

Reasons that reversion might occur vary. Perhaps there are unstable changes in cell mutations. Maybe the environmental conditions that the plants are exposed to are not a good fit for the plant in terms of light availability. Cold or other injuries may stimulate latent buds. No one cause for all reversions likely exists.

When variegated plants start sending out all green shoots, the explanation may be the most straightforward. Some common variegated perennials include brunnera, phlox, sedums, obedient plants and heliopsis. The leaves of these plants may be edged, striped or frosted with cream or white areas. Where there is no green on the leaf, there is no chlorophyll and it is this pigment that is able to absorb energy from the sun that the plant can use for photosynthesis. More variegation, less chlorophyll, often resulting in weaker, less vigorous plants with smaller leaves.

Of course, we gardeners have a tendency to tuck these illuminative plants in shadier areas to brighten them up. This means even less light reaching the leaves so plants may send out solid green leaves to give themselves a better chance of capturing more sunlight ensuring their survival. Even variegated plants in sunny sites may produce solid green shoots, however, so just lack of adequate amounts of sunlight does not account for all reversions.

Stranger looking are the growth reversions in trees and shrubs, especially dwarf evergreens, like the Alberta spruce. It is quite a sight to see what looks like a regular size spruce branch arising from the dwarf Alberta spruce.



Alberta spruce with a white spruce parent stem. Photo by dmp2010.

Since the solid green growth or full-sized leaves or needles on herbaceous and woody plants can photosynthesize more efficiently, they will prevail unless we remove them. If not pruned out in a timely fashion, they will often overtake the weaker variegated or dwarf plant parts and once they do, their effects typically cannot be reversed.

Inspect your variegated plants on a regular basis and remove any solid green shoots when young. Keep an eye on dwarf evergreens and weeping forms as both are often grafted and may send out full sized parental shoots or upright shoots, respectively. Remove these to keep your plants attractive and growing in the desirable form.

Don't let the possibility of reversions deter you from selecting variegated plants for your gardens. Many remain stable for a good long time and serve as attractive accents, complements or contrasts to existing plantings.

If you have questions on reversions or on any home or garden topic, contact the UConn Home & Garden Education Center, toll-free in CT, at (877) 486-6271, visit us at www.ladybug.uconn.edu or call your local Cooperative Extension Center.