



Fasciation

FASCIATION, IT CAN BE FASCINATING

Occasionally, the shape of a plant – a tree, cactus, flower or a vegetable – looks **odd**, different from normal. It might not look damaged or diseased, but more like it was taken over by space aliens.

When sections of the ash tree in my back yard produced dense proliferation of normal leaves, I was afraid something terrible occurred. When I removed those areas, smaller, younger branches looked melted into each other, but the tree itself seemed fine. This is called “fasciation”, one of the interesting and strange marvels you can sometimes see with plants. The stems became flattened and fused.

Fasciation in tomato flowers was described first in the 1920’s; a 1948 paper from the National Institutes of Health described the genetics of fasciated beefsteak tomatoes. In botany, fasciation is an event out of the ordinary, yet somewhat common.

The botanical garden in Phoenix has a big saguaro cactus (the tall columns with arms) where one arm looks like a pleated crest. In fact, the term for that is “cristation”. I saw a photo where the stem of a sweet potato vine, which is regularly round and slender, looked like a broad red ribbon! I also saw a picture of a **daisy** where the yellow center was not round, but quite elongated, surrounded by normal looking white petals. It shows up in lilies and a Japanese willow.

You have probably encountered this phenomenon already, especially if you have ever grown celosia, known as “cocks comb”. That crested flower is an example of fasciation.

Why would a plant grow a fasciated segment? And why does it always appear on some plants, like the celosia, but only rarely on others? A plant frequently drops mutant tissue before it has the chance to interfere with survival. Fasciation seems not to give the plant a survival advantage, but it does not do much harm either.

When you look at the literature, there are several explanations. The first is genetics. Somewhere along the line, a mutation occurred. Not being lethal, the seeds carried the mutation to the next generation, where it could appear in up to one fourth of the offspring.

People have identified bacteria that cause it. Similarly, if an insect or another animal takes a nibble of succulent tissue, **that** can stimulate fasciation; herbicides too. Researchers are looking for a viral cause. Perhaps the environment stressed the plant and it responded by developing fasciated stems. When conditions promote fast growth, it tends to show up more often.

It could be that different plants, at different times in their lives, produce flattened, thickened stems or flowers for any number of reasons. And of course, it could be just pure chance – a random set of events.

What is important to us, masters of the universe that we are, is: do we like this? Can we eat it? Do we like looking at it? We frequently do. We have selected celosia, and crested cactus, and the fasciated Japanese willow. At the Cooperative Extension office, we are collecting examples. Please call if you find one.