



Cool Season Veggies

Hot weather means poor leaf and root vegetables in our gardens. Why?

It is counterintuitive – delicious salads fresh are not all that available from our gardens in the summer. We use the term “cool season vegetables” for plants you would start in late winter, the earliest part of spring, or in fall. Salad greens come under that heading. Those vegetables that can keep going through spring as long as they’re protected from frost, will suffer when temperatures exceed 90°.

Produce from the supermarket has been stored in a warehouse, often grown and shipped in from distant lands. Sadly, the salad greens we grow in **our** gardens become nearly inedible come June, and through July and August. Plants do not suffer from heat exactly; rather, hot weather induces a change from leaf production to bolting. This is unmistakable in lettuce: instead of a rounded shape, the plant starts to elongate into an inverted cone. In other words, when it gets hot, leafy greens like lettuce and spinach start to produce flowers.

If you think “so what?” perhaps you have never tried to eat bolted lettuce. Think of eye-crossingly bitter. Not so good for us, but very important for the plant.

Many leafy greens are annuals. An annual plant will flower and produce seeds once in its life, after which the plant dies. High temperatures are an environmental cue for annual plants to go into reproductive mode - flowering.

The plant is not interested in whether people think the flowers are attractive. In nature, flowers exist to be pollinated, which results in seed production. When it becomes hot, all resources go into creating enough seeds to keep the species going.

Fine, but why do they often become bitter?

The leaves of any plant are factories where carbon dioxide and water become converted into sugar, which ultimately becomes all the other components of the plant. When all those resources need to be directed toward reproduction, the plant needs to protect those valuable factories from predators.

We rarely talk about ourselves in these terms, but as far as the plant is concerned we **are predators**. If something comes along and eats the leaves, fewer resources are available for reproduction. Therefore, the plant’s best interest is to repel us, or any other grazing animal. Without spines or thorns on spinach or lettuce for defense, they have developed other tactics.

Seeds of some lettuce varieties won’t even germinate if the soil is too warm.

Bad taste is a more effective deterrent in the wild than in our gardens; people just pull out the plant as soon as it begins to take on that conical shape. Anyone who has tried to eat bolting lettuce has learned that hot weather and leafy annuals don’t mesh.

A few varieties of greens **can** handle warm temperatures. Two of them, New Zealand spinach and Malabar spinach (neither of which are actually spinach, by the way) can tolerate hotter conditions than traditional spinach *Spinacia oleracea*. It is good to be able to harvest some leafy greens from the garden.