

Help! My Vegetables are Bolting!

UCONN HOME AND GARDEN EDUCATION CENTER

ARTICLE BY DAWN PETTINELLI

About this time of year, the Center starts getting calls from vegetable gardeners concerned that their radishes are blooming and have not formed those nice, crisp, colored roots. The petite white, pink or purple blossoms are pretty but they indicate the plant is bolting or going to seed.

Radishes are cool season crops. For a quick harvest, they require cooler growing temperatures – 50 to 70 degrees F and moderate moisture. Plants stressed by high temperatures and drier conditions will bolt as will those too closely planted together. Instead of being dismayed by bolting radishes, think of this as an opportunity for a second crop. I always allow a few radishes to send up their flower stalks and go to seed. Long, thin seedpods will form which taste just like radishes and I pick them and add them to my salads. If you leave a few seed pods to ripen, the seeds will fall to the ground and if they come in contact with moist soil, they will germinate and you will have a second, somewhat scattered crop of radishes in the fall.

The same bolting phenomenon occurs with many other cool season crops including spinach, lettuce, arugula, mustard greens, Oriental greens, tetragonia and cresses. Many of these plants are members of the mustard family and the flowers will have 4 petals and are attractive to many pollinators. As with the radishes, I try to position

them in areas of my garden where I can leave a few plants to flower and produce seed for a fall crop.

While the bolting of some of these vegetables can be attributed to heat and drought stress, in the case of lettuce, it is also related to total daylength or rather cumulative periods of exposure to light. Studies done in California in the 1990s by a USDA scientist showed that lettuce plants would start producing their flower stalks after being exposed to a certain number of hours of light regardless of the temperature. This response is genetically controlled so breeders of many of these cool season vegetables have been attempting to develop slow to bolt hybrids, like 'Buttercrunch' lettuce. Romaine types are also usually take longer to send up flower stalks.

Many of us gardeners would not begrudge a plant wanting to bloom and set seed as that is the mission of annual plants. Germinate, grow, flower and set seed for your lineage to continue. The problem is that especially when lettuce blooms, and to a lesser degree, spinach, the plants become bitter and unpalatable, even for those of us who like some bitter greens in our salads.

When harvesting heads of lettuce that are starting to bolt, you will notice a lot of milky white sap when you cut the plant at ground level. This usually means the leaves will be bitter



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but you can sample them to see if they are still tolerable to your palette. There are specific compounds in lettuce that are responsible for this bitterness. For whatever reason, they increase in the plant when it starts to bolt or flower. Some have attributed this as a natural deterrent to insects but thinking about it, I have to admit, I have not had rabbits or woodchucks feeding on lettuce that is sporting flower stalks.

So what is a gardener to do? In the case of many of these cool season crops, accept the fact that they can be grown in the spring and resown for fall harvests but they will not be around for summer harvests, at least in many parts of Connecticut. Of course, when we can get into the garden and plant depends on the capriciousness of Mother Nature. So hedge your bet and select varieties of all these early cool season crops that are slow to bolt or heat tolerant.

Plant them as early as possible considering temperature and moisture conditions. Late March snowstorms can set many gardeners a few weeks behind. April and May often have large temperature variations – one night it might be 40 F and a few days later day temperatures soar in the 80s. Young plants exposed to harsh temperatures, either on the warm or cold side, when they just emerge from seeds or when just set in as young transplants, can induce the

formation of flower buds. These will lay dormant until triggered by heat stress to emerge.

Come late August, many of our cool season crops can be replanted. I have found that when planting seeds or radishes, lettuce or Asian greens in the late summer to be sure the planting area has been thoroughly watered for 2 or 3 days prior to planting the seeds. I often cover the area with cardboard after watering to help cool the soil a bit. Then I remove the cardboard and plant the seeds. Depending on the air temperature, I might try to shade the seedlings with some type of netting or row cover. Or, seedlings of lettuce and other short, cool season greens can be started inside and are sometimes available at local garden centers.

If you have questions about your vegetable plants bolting or any other home or garden topic, feel free to call the UConn Home & Garden Education Center at (877) 486-6271, visit their web site at www.ladybug.uconn.edu or contact your local Cooperative Extension Center.



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