

## Five weird things that happen to Tomatoes

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Tomatoes are the most popular of all vegetables grown by home gardeners. About three quarters of the veggie growing public include tomatoes in their home-grown lineup. There's no doubt that people prefer the flavor and freshness of tomatoes fresh from the garden compared to those that must travel long distances, requiring harvest before peak ripeness.

In the Klamath Basin, growing tomatoes, which like it warm, can be especially challenging. Late June frosts aside, other aspects of our climate and soils affect tomato growth in less obvious ways. Gardeners recently transplanted to Klamath are often perplexed that tomato growing success seems to diminish compared to their previous gardening location. And sometimes, plants just do strange things.

**Blossom End Rot.** One of the most common of all tomato disorders, blossom end rot is the result of the plant not accessing calcium properly. To be clear, that's inadequate access to calcium- not necessarily a lack of calcium. Several factors can make calcium unavailable to the plant, even when in the soil. These include very high or very low soil pH, and large differences between daily highs and nightly lows. Night lows below 55F can drastically reduce calcium uptake, especially when watering the plants occurs late in the day. The low night temps and their effect on calcium uptake is a major contributor to blossom end rot in the Klamath Basin. Try watering early in the day, or keeping tomatoes in wheeled containers that can be moved inside at night to keep the plants warmer. Fruit sprays do not correct calcium deficiency.

**Blossom Drop.** A survival mechanism that also occurs in peppers and many fruit trees, tomatoes will abort blossoms in times of stress. Since tomato fruit are the result of pollinated blossoms, aborted blossoms mean no or fewer fruit. Blossom drop can happen when night temps drop below 55F, when day temps exceed 95F, or during drought conditions. All of these are conditions familiar to the Klamath gardener. Blossom drops is one factor that contributes to few fruit for some Klamath gardeners.

**Failure to ripen.** Warm temperatures and sunshine, are needed for good tomato ripening. Our short growing season means that fall is often approaching by the time some of us have fruit near ripening. As days shorten drastically and night temperatures dip, ripening can be much delayed. If a plant is heavy with lots of unripened fruit, sometimes removing some fruit for indoor ripening can be helpful to the plant, which may lack the vigor to ripen so many fruits at once. Plants should NOT be fertilized to induce ripening- plants will actually ripen faster if fertilizer is withheld.

**Catfacing.** Lumpy, bumpy fruit with small brown dots, strange swellings, and disfigurement is "catfaced". The strange fruit shapes associated with catfacing are due to the feeding of particular insects like squash bugs and stinkbugs, which insert mouthparts like needles into the fruit and draw out juices. Each place where the mouthparts are inserted, the plant may have a reaction, leading to mis-shapen fruit as the cells expand around the insertion spot. Too much feeding by these insects leads to unattractive, unappealing fruit with undesirable texture.

**Vivipary.** Meaning "live birth", this phenomena is when the seeds of the tomato sprout while still inside the fruit! Occasionally, this happens in other fruit, but is most common in tomatoes. It can be quite a

shock to slice open a seemingly ripe tomato to find dozens of tiny plants inside, but this is not a disease—just a biological quirk. Vivipary may be associated with too much nitrogen, another reason to cut down on fertilizing as fruit are ripening. It is also more common in some tomato varieties than others.

Given the investment of time and patience it takes to grow tomatoes in the Klamath Basin, utilization of season extension techniques is often worthwhile to protect the investment. The chances of getting a tomato plant to maturity, and fruit almost ripe, only to have them ruined by a freeze, is one possibility. More likely, cool nights will lead to problems that are less obviously connected to temperature, but still result in few ripened fruit. Keeping plants warm (including roots) and watering early in the day can help.