

Trouble Shooting in the Home Garden

Problems may involve a direct injury, abnormal growth, or both. Possible causes are numerous and varied, may be obvious or obscure. There may or may not be a remedy. Some problems may affect all vegetables, others one crop, one variety or sometimes just one or two plants.

Main Causes of Crop Injury, Poor Growth or Low Yields

1. Pests

Diseases (fungal, bacterial or virus), insects, nematodes, mites, slugs, animals, birds.

2. Environmental Factors

Temperatures (hot, cool or freezing), sunlight (intensity and day length), rainfall (low or high), humidity, winds, hail, smog.

3. Soil Conditions

Depth, texture (sandy or clay), drainage, structure, acidity (pH), fertility.

4. Human decision, errors or mistakes

a. Pre planting considerations

Crop and variety selection, planting dates, transplants and seed.

b. Culture

Soil preparation and tillage, seeding techniques, plant spacing and arrangement, weed control, root pruning, foliage pruning.

c. Chemicals

Spray damage, herbicides, fertilizer burn.

d. Harvesting

Timing, techniques.

5. Natural

Lack of insect activity for pollination, heaving due to alternate freezing and thawing, genetic (variety) – environmental interactions, multiple factor problems or unknown.

Some Common Problems with Causes

1. Failure of tomatoes, peppers, eggplant to set fruit (blossom-drop): If the plants are growing well, this is frequently due to adverse night temperatures below 60 degrees Fahrenheit and above 75 degrees Fahrenheit. Seldom does heavy use of nitrogen fertilizer or sprinkler irrigation cause blossom-drop.
2. Blossom-end rot of tomatoes: Caused by insufficient calcium when fruits are forming, rot is characterized by a large dry brown to black and often depressed leathery area at the blossom end of fruit. Calcium deficiency usually results from improper soil pH, excessive nitrogen fertilization, rapid plant growth, drastic fluctuations in moisture caused by heavy rainfall, drought and root pruning during cultivation.
3. Poor plant growth and/or small fruit size of tomatoes: Often a result of using old, large or overly hardened transplants. Young transplants (5-6 weeks from seeding to planting in the garden) with 5-7 true leaves and just slightly hardened (toughened) normally produce the best yields and fruit size.

4. Cucumber plants suddenly start wilting, leaves may show dead areas and fruit may be mottled: cucumber mosaic virus, a common disease problem in New York State. Select mosaic-resistant varieties. Sudden rise in temperature or depleted soil moisture can cause wilting too, but plants will recover.
5. Poor or slow germination of seed: Can be several causes, like soil temperatures too low or too high, poor seeding techniques (too deep- lack of firming), maggots feeding on the seed, birds, lack of moisture, too much moisture, soil surface becomes crusty etc.
6. Generally slow or poor growth of all crops: low pH, low fertility, cool weather, lack of sunlight, poor drainage, too little/too much moisture, poor soil structure.
7. Lettuce and spinach going to seed: This is normal for these crops under warm temperatures and long days. Spring and fall planting and proper variety selection are remedies.
8. Radishes do not form good roots: High temperatures and long days tend to stimulate vegetative growth and seedstalk development at expense of roots.
9. Onion bulbs fail to reach desirable size: wrong planting date, non-adapted variety, crowding of plants or lack of moisture, especially early in growing season.
10. Irregular kernel development on sweet corn ears: May be due to inadequate pollination. Planting sweet corn in blocks of several short rows rather than in long single rows may help.
11. Sunburning (greening) of potato tubers: lack of covering over developing potatoes is a common cause. Hilling soil along row as a plant grows helps to keep tubers covered.
12. Garden peas cease flowering: A natural occurrence when summer temperatures arrive. Peas perform best when planted in the spring.
13. Off-shaped cucumbers (crooked, nubbins, etc.): Often due to a shortage of soil moisture. Cool temperatures at time flowers are developing can be a cause. Poor pollination due to lack of bees or low number of male flowers in another possibility.
14. Rough, misshapen tomato fruits and blossom tear: Often associated with low temperatures (50-65 degrees Fahrenheit) while flowers are forming. Some varieties are worse than others. First fruits are often the most misshapen. Blossom tear occurs when pollination takes place during cool, moist weather and the petals don't dry and fall off (tearing the enlarging fruit).
15. Rain or irrigation water standing long in the garden: the water is not penetrating down to the roots. Poor soil structure may be the problem.
16. Fruit of summer squash reaches a length of about 3" and the top rots: Although it can be caused by a wet rot fungus, the cause is probably due more to insufficient amounts of pollen deposited on the female flowers (they are usually many more of these than male ones) or inclement weather and poor bee activity. Removing some of the dense stand of leaves may help. You may also try and pollinating with a small paint brush (the size of a pencil).