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Troubleshooting In the Home Vegetable Garden

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

Main Causes of Crop Injury, Poor Growth, or Low Yields

1. Pests - diseases (fungal, bacterial, viral), insects, nematodes, mites, slugs, animals, birds.

2. Environmental factors - temperatures (hot, cool, freezing), sunlight (intensity and day length), rainfall (low, high), humidity, winds, hail, and smog.

3. Soil conditions - depth, texture (sandy, 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, unknown.

Some Common Problems with Causes

1. Failure of tomatoes, peppers, eggplant to set fruit (blossom-drop). If the plants are growing well, this frequently is due to adverse night temperatures, such as below 60°F. and above 75°F. Very seldom does heavy use of nitrogen fertilizers cause blossom-drop, nor does sprinkler irrigation.

2. Blossom-end rot of tomatoes and peppers. Occurs when soil becomes very dry. Proper irrigation usually prevents it. Some varieties are more susceptible than others.

3. Poor plant growth and/or small fruit sizes 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. Same principle applies to other transplanted crops, with some variations.

4. Cucumber plants suddenly start wilting, leaves may show dead areas and fruit may be mottled. Likely 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), no seed treatment (peas, beans, sweet corn), maggots feeding on the seed, birds, lack of moisture, too much moisture, etc.

6. Generally slow or poor growth of all crops. Can be several causes like low pH, low fertility, cool weather,

and lack of sunlight, poor drainage, too little or too much moisture, and 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 root development. Best roots are formed under moderate to cool temperatures. Avoid summer plantings.

9. Onion bulbs fail to reach desirable size. Several possible causes such as 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) or 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. Snap bean flowers fail to develop. High daytime temperatures (above 90°F) often are the cause. Setting usually resumes when temperatures drop.

13. Garden peas ceased flowering. A natural occurrence when summer temperatures arrive. Peas perform best when planted in the spring.

14. Off-shaped cucumbers (crooked nubbins, etc.). Often due to a shortage of soil moisture. Rather cool temperatures at time flowers are developing can be a cause. Poor pollination due to lack of bees or low number of male flowers is another possibility.

15. Rough, misshapen tomato fruits. Often is associated with low temperatures (50-65°F) while flowers are forming. Some varieties are worse than others. First fruits often are the most misshapen.

16. Small pinholes in leaves on young plants of eggplant, tomatoes, cabbage, potatoes, and sometimes other vegetables. Should check for flea beetles, which are small, black jumping insects.

17. Rain or irrigation water standing long on the garden means the water is not penetrating down to the roots. Poor soil structure may be the problem.

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