

GOOD GARDENING PRACTICES

Interest in exploring alternative pest control measures has increased due to environmental and food safety concerns. A variety of "organic" pest control methods are available for many vegetables commonly grown in Kansas. These methods require regular observations, familiarity with the life cycle of the different pests, and timely, appropriate, and sometimes tedious action.

Remember, pesticides are just one of the many options available to effectively manage pests. Before resorting to use of any pesticide or control measure, consult the following checklist of good gardening practices. By first adopting these practices, you can greatly reduce or eliminate the need for pesticide and control measures.

Checklist of good gardening practices

* *Create a "healthy" soil*--In the rush to plant, this important step is often overlooked, yet it can make the difference between a productive and a so-so garden. Many insects are attracted to unhealthy, poorly growing plants. Poorly growing plants also recover more slowly from insect injury. Have a soil test and follow the recommendations to supply a full range of nutrients. Adding extra fertilizer won't create healthy soil, because excess nitrogen or phosphorus can promote insect and disease injuries. Add organic matter to the soil each year in the form of soil amendments or mulch.

* *Choose pest-resistant or tolerant varieties*--Nursery and garden catalogs often identify such varieties.

* *Start with quality seeds and healthy plants*--Purchase stocky, dark green transplants, and buy certified virus-free seed potatoes.

* *Eliminate competition*--Remove weeds and grass from the growing site because they compete for nutrients and water. Keep plants growing vigorously. Rapidly growing vegetables can better tolerate or outgrow insect and disease damage, but they also quickly use up available nutrients. Applying fertilizer and water at critical times during maximum plant growth is essential for producing pest- and disease-resistant plants.

* *Keep it clean*--Remove plants and debris after harvest to avoid harboring insects and diseases. Remove weeds which may provide shelter for pests. Dispose of or burn diseased plants, fruits, and vegetables. Composting is seldom thorough enough to eliminate disease-causing fungi and bacteria.

* *Rotate crops*--Planting the same crop in the same place year after year invites losses due to soilborne diseases and overwintering pests. Follow a crop rotation of at least 3 years for the four major vegetable plant families--Solanum (tomato, potato, pepper, eggplant); Cucurbit (melons, squash, cucumbers); Cruciferous (broccoli, cauliflower, cabbage, Brussels sprouts); and Allium (onion, garlic, leeks).

- * *Choose a sunny location away from large trees*-- Eight to ten hours of direct sunlight a day are necessary for proper growth, flowering, and fruiting of most vegetable crops. Sunlight also helps to dry foliage and reduce many fungal and bacterial diseases.
 - * *Water properly*--Plants receiving either too much or not enough water will be less vigorous and more susceptible to diseases and pests. Consider using a form of drip irrigation, which keeps foliage dry and helps prevent foliar diseases while using water more efficiently.
 - * *Use mulch*--Mulches help control weeds and reduce moisture evaporation from the soil surface. They also help to prevent rot caused when fruit is in contact with bare soil. When tilled under, organic mulches become valuable soil amendments.
 - * *Provide good air circulation*--Overcrowding plants can cause weak growth and an increase in foliar diseases. Stakes, cages, trellises, and pruning all help to increase air circulation.
 - * *Plant at the proper time*--Seeds planted too early are more susceptible to rot. Delay planting until the soil has warmed to allow rapid germination and growth of the young plants.
 - * *Get to know the major pests in your area*--Learn the weaknesses in their life cycle, their habits, and at which stages they are most easily controlled. Refrain from using any pesticide until you have correctly identified a pest.
 - * *Grow crops that have fewer pest problems*-- Plants that have few insect and disease problems include looseleaf lettuce, rhubarb, Swiss chard, garlic, cos lettuce, leeks, parsley, sweetpotatoes, okra, beets, snap peas, parsnips, carrots, onions, and kale.
 - * *Put up bird feeders and birdhouses*--Birds are the leading predators of insects. For instance, more than a dozen species of birds are known to feed on moth larvae.
 - * *Inspect the entire garden at least weekly*--Check the undersides of leaves. Discover any symptoms when they first develop so that they can be more easily controlled.
- * *Be realistic in your expectations*--Accept the fact that there may be some damage and even an occasional crop failure. This is also the case in many gardens using conventional pest control methods.

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