HOME GROUNDS FACT SHEET

Cornell University
Cooperative Extension
Nassau County

Horticulture Center
Demonstration & Community Gardens
at East Meadow Farm
832 Merrick Avenue
East Meadow, NY 11554
Phone: 516-565-5265

Geraniums

Geraniums have long been popular bedding plants due to their versatility. Whether used in massed bed plantings, window boxes, urns or planters, geraniums will continue to put forth a strong show of color from mid-May through October and the approach of frost weather. The variety of flower colors, leaf shapes, color patterns and compatibility with other plants make them a sure winner with consumers. Their ability to tolerate both hot and cold conditions, handle complete dryness, and be resistant to most pests make them a real winner.

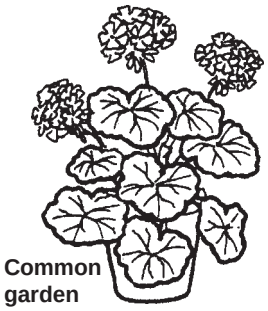
There are two main categories of geraniums, the "Bedding" geraniums, *Pelargonium zonale*, and the trailing "Ivy" geraniums, *Pelargonium peltatum.*

The two types of "Bedding" geraniums are:

A. Seed produced geraniums, often referred to as "Hybrid" geraniums. These have single flowers, smaller flower heads and shatter easily. They are usually used in mass plantings and do not have to be dead-headed.

B. Cutting produced geraniums, often referred to as "Zonal" geraniums. They are genetically advanced with sturdy, stronger "zoned" leaves, large shatter resistant flower heads with semi-double florets, great variety of colors and excellent display throughout the summer for specimen plantings in flower beds, patio pots and containers.

Ivy geraniums, *Pelargonium peltalum*, derive their name from their ivy-shaped leaves and trailing habit. They are excellent choices for hanging baskets.



Common garden

Ivy-leaf

Other popular geranium varieties include:

Lady Washington or Martha Washington geranium, *Pelargonium domesticum*, are seasonal rather than year 'round bloomers. Their pansy-like flowers are only seen for a few weeks in the spring, making them popular gift choices for Easter or Mother's Day.

Scented geraniums, *Pelargonium fragrans, Pelargonium gravedens, Pelargonium tomendesum*, are grown primarily for their fragrant leaves. Check the herb section of your local nursery or garden center for scents. Use in potpourri or as flavorings when cooking (peppermint). Scented geraniums make nice additions to your flower or herb border.

Plant Maintenance

Preparation: If using plants in a container, make sure the container is thoroughly cleaned and disinfected before use. Rinse well. The pot size should be approximately 1.5 to 2 times the diameter of the pot size purchased. Make sure there is adequate drainage.

Location: Choose a site where the geraniums get a minimum of 6 hours of full sun. Geraniums generally grow best with day temperatures of 70° to 85°F and night temperatures of 55° to 65°F.

Watering: Geraniums perefer soil that is moist. After receiving a good watering (this is very important!), the soil should become dry to the touch before the next watering. Avoid watering over the tops of the plants. Overwatering results in root rot. For best results, water well and wait until the soil is dry to the touch before the next irrigation.

Fertilization: Geraniums need to be fertilized heavily and frequently. Slow release granular fertilizers are good, but timing is important. Don't wait until leaves begin to yellow. Follow directions on label for best results. Water soluble complete fertilizers may also be used.

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Overwintering Geraniums

There are several techniques you can try.

1. **Hang geraniums by the roots in the basement for the winter.** This technique has little success if your basement is warm; plants tend to dry out too much. However, if temperatures can be kept in the 40-50°F range, consider digging up your plants and hanging them by the roots. Cut plants back 1/3 to 1/2 of their height and hang from beams or rafters. Replant in the spring.
2. **Indoor Houseplant Culture.** This method treats your geranium as part of your regular houseplant collection. Geraniums are carefully lifted from flower beds or urns in October (before frost), removing 1/3 of the top growth. Pot them in clean flower pots and place in a sunny, cool (50-60°F) window. Water thoroughly, allowing the soil to dry slightly between waterings.
3. **Storage of plants.** Geraniums are lifted and cut back to approximately 6" in height. Root prune any long roots and pack all plants together in deep wooden crates or boxes. Cover the roots with moist peat moss. Boxes should then be placed in a well-lit and ventilated location. Water sparingly - only when the peat moss is thoroughly dry.
4. **Propagation of new plants.** If you choose to elect methods 2 or 3 for overwintering, you will be providing yourself with some propagating material. Using only healthy terminal tips, cuttings should be approximately 4-5" in length. (Strip off the bottom leaves if possible.) Allow cuttings to sit on a countertop for several hours to start the callousing process. Dip the cut end of the shoot into a rooting hormone and carefully insert into a prepared soil pot or flat of perlite or coarse sand. Keep media moist (not wet) during the rooting process. Cuttings should root within 4 to 6 weeks. Any that show signs of rooting should be removed immediately. When rooted, cuttings can then be repotted into individual containers for further growing. Pinch out the terminal shoot of your cutting to stimulate a better branching habit for the plant. Water when the soil starts to dry out. A monthly application of a 5-10-5 or other low-nitrogen fertilizer is a plus. Regardless of the method you select for overwintering, do not set your plants outside until May 15.

Plant Problems

Integrated Pest Management (IPM) Considerations

IPM is a common sense approach to pest control and plant care. It employs a number of measures to prevent, control or reduce plant problems. These include using resistant plant varieties, proper plant selection and placement, good aftercare and biological and/or mechanical controls. As a last resort, after all other remedies have been explored, a pesticide* that is least toxic to people and natural predators, can be considered. Prior to using any pesticides, plants should always be monitored for the degree of infestation and a sensible control measure considered.

* A pesticide is a substance that kills, or attempts to kill, a particular pest, e.g. **insect**icide, **fung**icide, **herb**icide, etc.

Insects

Geranium Budworm. This small (1/4 - 1/2" long) green worm enters the unopened bud of geranium flowers and feeds on the petals. Because of their size and coloring, the only indication of their presence are the black droppings on leaves below the flower buds. This insect can cause a great reduction in the number of flower heads. Monitoring of the plants is essential. The worms should be hand picked and destroyed.

Aphids. A forceful stream of water may help with this pest. Regular inspections may keep any insect populations to a minimum. Spray as needed with insecticidal soap.

Diseases

Botrytis. A fungus favored in hot, humid weather followed by cooler nights and cloudy wet days. A symptom of bud blast is early discoloration of the small buds, possibly just after they have emerged from the terminal shoot. In other cases, the buds have already enlarged and turn a mustard-like color overnight. The third stage of Botrytis is at flowering, when portions of the petals turn a greyish color and are mushy in appearance. Early morning inspection of the plants will show web-like strands of this fungus on the damaged parts.

Good sanitation practices should be followed. Carefully remove and discard any affected plant parts, avoid overhead irrigation (irrigate at the surface) and allow for good air circulation, if possible. Remember to thoroughly clean up and discard all plants in the late fall, eliminating the opportunity for the fungus to overwinter on plant parts.

Bacterial Blight. Caused by a bacteria that produces an overall tiny spotting or wedge-shaped yellow area on a geranium leaf. Wilting leaves and a black dieback of growing plants results. Severely affected plants should be tossed out. Avoid splashing water onto healthy plants, and provide adequate ventilation and proper spacing. Do not propagate from affected plants. If possible, locate new plants in a different part of the garden the following year.

Oedema. A physiological disorder caused by overwatering and poor lighting. Watersoaked spots that turn black and corky can be found on the undersides of affected geranium leaves, especially the ivy-leaved varieties. Regulate watering practices and allow for ample sunlight to correct this disorder.

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