

THE EXTENSION LINE

By Bob Mugaas
Minnesota Extension Service



This past late spring and summer we have seen a significant amount of injury to garden and shrub roses caused by rose midge. The symptoms include a curling of the flower stalk [peduncle] downward, death of the terminal growing points on the shoot often resulting in blind wood [i.e. shoots that terminate in only a cluster of leaves with no flower bud], or the very small rose bud which is just beginning to develop turns brown and dries up, also resulting in a non-flowering shoot.

It has been my experience that symptoms can occur throughout the growing season but is usually more prevalent on the rose shoots destined to bloom in late June or early July.

The rose midge, *Dasineura rhodophaga* [Coquillett], belongs to a group of insects known collectively as gall midges, although the rose midge itself is not a gall-producing insect. The adult midge is a very small [about 1/32 inch], yellow-colored fly, which does not feed and lives for only 1 to 2 days.

The insect overwinters as a pupa in loose soil under plants infested during the previous season. Adult emergence occurs as the soil warms sufficiently during late May and early June. Female midges lay their eggs under the sepals of flower buds, or in opening leafbuds and elongating shoots.

The eggs will hatch in about two days during warm weather.

The little larvae begin feeding by making numerous slashes in the plant tissue near where they hatched. From these cuts they extract sap, and ultimately the wounded plant tissue dies, turns brown and then black. Depending on the size and development of the plant tissue, it is this wounding activity which can destroy vegetative shoots, kill small flower buds and/or cause abnormal flower development.

The creamy white larvae mature in about 5 - 7 days, depending on weather conditions, and reach a length of about 1/16 of an inch at maturity. Most of the time they normally drop to the ground where they pupate. However, during the summer months they will occasionally pupate in the injured rose tip. The entire life cycle takes about 12 - 16 days. Multiple generations are possible over the course of the summer. There are no cultivated or wild roses immune, although some may escape serious infestation because of a lack of simultaneous development of the plant and the insect.

The insecticide diazinon has been the pesticide of choice over the years. However, control can be somewhat inconsistent. Part of the reason for this is the critical timing needed to be successful in hitting the vulnerable periods in the insect's life cycle. Also, the larvae are very small and can be protected from contact insecticides by the newly-developing leaves and flower buds which help protect them. It would probably be best to alternate insecticides, being sure to include one or two systemic insecticides so that the material can get to the points of larvae feeding. When using insecticides, or any pesticide for that matter, be sure your roses are not under any water stress. Drought-stressed rose plants are much more susceptible to spray

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Wilbur-Ellis

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Extension Line—

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injury when stressed than when there is sufficient water in the plant. This is especially true for pests, such as midge, which require that contact pesticides be sprayed directly into the new shoot areas which contain succulent plant tissue. This new growth is much more susceptible to spray injury than older mature tissue.

Damaged shoot tips or flower buds should be removed to help eliminate the maggots before they complete their life cycle and drop to the ground. However, careful, regular observation is essential for this practice to be helpful. In the case of rose midge, a more preventive approach with a systemic insecticide combined with early removal of infected tissue will usually provide satisfactory control.

Life cycle information adapted from "Insects That Feed on Trees and Shrubs" by Warren T. Johnson and Howard H. Lyon.]

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The Minnesota Extension Service has recently published a booklet, *Pesticides: Surface Runoff, Leaching, and Exposure Concerns*.

While the information concerns itself mostly with pesticides applied to bare soil surfaces rather than turfed areas, it is an excellent review of fate of many of the pesticides used in agriculture as well as the turf industry. I would highly recommend the publication as one more piece of information to help you address these kind of pesticide issues.

It is available for \$1.00 from:
Minnesota Extension Service
Distribution Center
3 Coffey Hall
University of Minnesota
1420 Eckles Avenue
St. Paul, MN 55108

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The iris borer is the most destructive pest of Iris. As an adult the iris borer is a drab, colored moth with a wing span of about one inch. However, it is the caterpillar stage that does the injury.

The borer winters in the egg stage on old iris leaves and debris at the base of the iris stalks. After hatching in early spring, the caterpillar crawls up and enters into the leaf tissue. During feeding, the tiny caterpillar works its way down the leaf, causing water-soaked, brown streaks. In late summer it reaches the base of the iris and begins feeding on the rhizome.

It is a small, slender caterpillar at first, but by the time it reaches the rhizome, it has grown to 1-1/2 to 2 inches in length. In addition to the feeding injury, the borer introduces a bacteria into the tissue which causes a soft rot. At the end of the summer the iris borer pupates in the soil at the base of the plants, then emerges as a moth in the fall. The female moth lays eggs which overwinter on the old iris plants and the cycle repeats.

Control is difficult. Sanitation and insecticides are both important in the control of iris borer. Remove old leaves and stalks and dispose of any infested or rotting rhizomes. Cleaning up old iris plants in the fall removes the eggs and minimizes the number of iris borers that will be present next year. One application of an insecticide is necessary in the spring.

The timing is very important because the damage is usually

not noticed until it is too late for effective control. Dimethoate, the recommended insecticide, should be applied when the iris is four to six inches above the ground. Mix two teaspoons of the 23.4% liquid insecticide per gallon of water [do not mix more insecticide than you plan to use] and spray the iris leaves.

Diamethoate [23.4%]	Water
2 teaspoons	1 gallon
1/2 teaspoon	1 quart

Remaining 1990 MGCSA Meeting Site

Date	Site	Event
October 8	Stillwater C.C.	

How to Care For Birch Trees

By Deborah Brown
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Many paperbark birches around the state are looking a bit thin and raggedy. Despite decent rainfall this year, they're still suffering the after effects of the past two summers' drought. Many lost branches to winter kill; others may have been attacked by the bronze birch borer, an insect that moves in when trees are under stress.

Even though birch trees shouldn't be pruned any more than is necessary for health and safety, all dead or dying limbs should be removed or cut back to healthy tissue. August is the best time of year to prune them, regardless of what actually damaged the branches. Wounds will heal rapidly, and the bronze birch borer is no longer active this late in summer.

Pruning paint or wound dressing is not needed. Much research has been conducted over the past ten years, showing that these paints and dressings really don't help the tree—although they may offer some psychological aid to the tree owner. For paperbark birch there's another reason not to put anything over the pruning cuts: paint or dressing will contrast with the white bark quite obviously. The wounds will be less visible if left to heal on their own.

If the soil your birch is growing in seems light, sandy or somewhat poor, plan to fertilize it next spring. You might also wish to remove a circle of grass growing right up to the trunk, and replace it with four inches or so of woodchip mulch. This not only helps hold moisture, it keeps the shallow roots cooler in summer. And when we go over a week without rain, by all means, get a soaker hose or sprinklers out under the branches and several feet beyond, to give it a really thorough soaking every 10 to 14 days.

Finally, if all fails and the tree appears doomed, have it taken down. But don't be afraid to plant birch again. River birch, with peeling, cinnamon-colored bark is a tougher tree than the paperbark birch. But even the paper birch is worth replanting. It grows fast, and with some additional babying will usually be more than worth the effort.