Crane Flies - those funny-looking insects that might (or might not) be lawn pests

Although fall is when we see crane flies, March and April are the months for managing them. This fact sheet, based on an article by Mary Robson, draws on information developed in 2001 by a crane fly study group from Washington State University, the WA State Department of Agriculture and the water quality section of the EPA. The group convened because one common management method requires using toxic pesticides with dangers to birds, water quality, fish life and beneficial insects.

Because of environmental toxicity, the EPA has withdrawn from distribution the two organophosphate insecticides most commonly used for crane fly. Dursban (chlorpyrifos) cannot be sold after 2001. Diazinon, implicated in killing ducks and other waterfowl as well as toxicity to people, will be off the residential market soon. Indoor uses will be cancelled during 2002 and outdoor uses cancelled in 2003.

Studies of streams in King County revealed diazinon in nearly all streams studied; Dursban was present, though in fewer streams. These pesticides are powerful insect-killers and wipe out the aquatic insects that fish eat. When they occur in measurable quantities in water, they imply over-application or misapplication.

Crane flies get a lot of publicity and are extremely visible as adults when they emerge in late August and early September. However, few people can identify different crane flies or know about management options other than pesticides.

Crane Fly ID

Most people think that all crane flies are bad and crane flies are all bad. That is not so. They're tasty and necessary as food sources for many creatures. Birds, fish, other insects like yellow jackets munch adults. Starlings and robins poking into a lawn pick out the larvae for food. A good way to check for crane fly larvae is to watch birds and monitor that site. Even pest crane flies get munched by birds. Sharon Collman, entomologist for the EPA, suggests we "think of crane flies as bird food that won't attract rats." Plus, some crane fly species recycle and decompose forest waste when the larvae feed on dead organic matter and wood.

The two pest species, called European Crane Fly (*Tipula padulosa*) and Common Crane Fly (*Tipula oleraceae)* have dozens of relatives that are great fish food and recyclers, but don't become lawn pests. It's possible, with a little close observation, to tell the difference between the crane fly species. The "good guy" species have distinct patterns on their wings; the lawn pests do not. Wings of the European crane fly are smoky brown or tan with a dark area at the front wing edge. No patterns.

Whatcom County Cooperative Extension http://whatcom.wsu.edu/cranefly has a great web site with lots of information about crane flies. It has photos, which clearly illustrate how to tell the differences. (Look under 'information' when you open the site. This section will take you to 'identification'.)

Management Options

Crane flies can severely damage a lawn, but too often craneflies get the blame when they

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are not responsible. Lawns can look pitiful as a result of many other things including compaction, lack of necessary nutrients, thatch build up and lack of water.

Verify the pest presence first. If you see bare or dying spots in the lawn, with holes near the bare spots, check for larvae. In late winter or early spring, the larvae may even be out of the ground lounging around on the top of the soil or sod. Birds may be feeding in flocks.

If you see these signs in late winter, cut up a square foot of lawn and count the larvae. Healthy turf can withstand dozens of larvae, over 40 per square foot. Dr. Gwen Stahnke, Turf Agronomist at WSU Puyallup reports "I've seen healthy turf on our deep Puyallup soils withstand as many as 80 crane flies per square foot." Good soils allow lawns to survive crane fly attacks because the roots grow deep and regenerate grass effectively. Install your lawn over a good base of 6-8 inches of soil. Keep the lawn healthy and well-fertilized (mulching the grass clippings helps).

Never use pesticides in the fall to go after the adults. This is totally ineffective. The adults you see have probably mated and laid eggs and are just wandering around before dying or being eaten. Adults emerge from the ground at dusk after finishing their pupating underground. They have no mission other than mating and mating can last 4 hours. The females then choose a soft, well-watered lawn spot, lay eggs immediately and have laid most of their eggs by morning.

New adults hatch daily and often irregularly. The adults are scattered through a landscape and can't all be reached with pesticide. Spraying the whole area contaminates play areas, air, water, and kills too many non-target species. Also, new adults can fly in after you spray.

If your lawn is dry and dormant, the female crane flies may go elsewhere to choose a well-watered lawn because it's easier to deposit her eggs. (The European crane fly likes moist spots; the common crane fly will lay eggs in drier soil.) Eggs will hatch into larvae that live underground, feed, and grow, usually not doing much damage until spring.

Key points:

- Monitor during spring to be certain your lawn problems are actually caused by pest crane fly.
- Tolerate crane fly presence and expect birds and weather to reduce the pest population.
- Do good soil preparation when planting turf and give it good care. Healthy turf can support a large number of crane flies per square foot without control being necessary. Increasing fertility may allow the grass to outgrow the damage.
- Crane flies are not all bad. Learn to identify adult crane flies.
- Do not use toxic pesticides in the fall on adults.