

Current Crane Fly Study for Fall 2000

The European crane fly, Tipula paludosa, has been found in western Washington since 1965. Over the years, they have migrated down the coast and are now found in pasture areas in northern California. Up until 1998, we thought that the European crane fly was the only crane fly causing damage to turfgrass areas. In 1998, we had reports from our Canadian counterparts that a new crane fly was identified in Vancouver, British Columbia. This new crane fly is the common crane fly or Tipula oleracea. The adult crane flies look very similar to the adult European crane flies. However, the wings of the adult female common crane fly are longer than her abdomen. In a close-up look at the underside of the head of both crane flies, the European crane fly has 3 antennae widths between its eyes and the common crane fly has only 1 antenna width between its eyes.

Life Cycles of the Two Crane Flies: The common crane fly has 2 generations per year, whereas the European crane fly has only one generation per year. The European crane fly adults emerge in the fall (August through October), mate, lay their eggs, which hatch into larvae and feed throughout the fall and winter on roots and crowns of the grass. They go through 3 instars before finally transforming into pupae in May and June and then emerging as adults again in August through October. The common crane fly adults emerge in March-April and in August-September. They also lay eggs immediately after mating.

The eggs hatch into larvae which feed on the roots and crowns of turfgrass from September through February and then again from May through September. The two crane fly life cycles overlap in the fall. At this point, we are thinking that if both crane flies are present on the site, that a late fall treatment (late October through early December) would be the best timing to take care of both crane fly larvae at the same time. Another treatment should not be necessary in the spring if the timing is right.



Close up of Common (large larvae) and European (small larvae) larvae on soil core.

Initiating New Study: On November 17, 2000, a new study was initiated to evaluate



Tearing soil core apart to find larvae.

potential control measures for crane fly larvae. Several local golf courses were evaluated for their larval population levels by pulling sample 4-inch cores and counting the number of tiny crane fly larvae present. An adequate site was found with the help of the crew at the TPC at Snoqualmie Ridge.



Boss helps Clarence with Crane fly sampling.

There are a total of 20 treatments, which include some older chemistry products such as Orthene, several synthetic pyrethroids, an insect growth regulator, Naturalis T&O, a naturally occurring soil fungus and several other products. The exact treatments will be discussed this spring after the results have been evaluated. The treatments were replicated 5 times in 5 ft. by 10-ft. plots. This required about 5,000-sq. ft. of area for the trial. After the plots were marked out, 6, 4-inch diameter cores were pulled from along the edges of each plot using a standard golf course cup cutter.



The crew at the TPC Snoqualmie Ridge helps sample an area in front of #5 tee for Crane fly trial.

These cores were bagged and brought back to WSU-Puyallup to be evaluated for the number of crane fly present on the site before treatment. The crew at the TPC at Snoqualmie Ridge was invaluable in their help in pulling the cores and filling all 600 holes. This process took one day and the treatments were applied on the following day.

The efficacy of the treatments will be evaluated in January by returning to the plots and pulling another 6, 4-inch cores from the center of the plots. These cores will be bagged and brought back to WSU-Puyallup to again count the number of larvae present and compare these values with the numbers counted before treatments were applied. Results of the treatments will be available this spring.