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Crane Flies Where are They Now?

The European crane flies Tipula paludosa Meigen and Tipula oleracea L. (Diptera: Tipulidae) are natives of the West Palearctic Region and are injurious to turfgrass and other horticultural crops in three geographic areas of establishment in North America. In the eastern Canadian Maritimes, T. paludosa was first detected in Nova Scotia in 1955, but was likely established as early as 1880 in Newfoundland. In Quebec, it was detected in 2002 followed by T. oleracea in 2003. In the Pacific Northwest, both species were first detected in British Columbia, T. paludosa in 1965 and T. oleracea in 1998. Both species are now established in Washington and Oregon, primarily along coastal areas west of the Cascades, and have been detected as far south as northern (T. paludosa) and central coastal (T. oleracea) California. In the geographic area of the eastern Great Lakes, T. paludosa was first detected in southern Ontario (1998), followed by New York (2004). The first detection of T. oleracea was coincident with T. paludosa in New York (2004), followed by eastern Michigan (2005) and southern Ontario (2007).

Known as "leatherjackets" for the tough pupal exuvia left behind by the emerging adult, larvae of T. paludosa and T. oleracea can be problematic in any grass-based ecosystem. They inhabit the top layer of the soil where they feed on root hairs, roots and crowns of their hosts. By pruning and disrupting belowground portions of the plant, they cause damage that leads to severe thinning of the sward and extensive dieback when damaged turf is drought stressed. Larvae will also reside in the thatch, emerging at night to feed on aboveground portions of the stems and foliage.

Beyond turfgrass, there is concern about the pest status of invasive Tipula in other horticultural systems of the United States. In the Pacific Northwest, affected production crops include peppermint, turnips and winter wheat, seedling nurseries, grass seed production and pastures and hayfields. In native habitats of Europe, larvae of T. paludosa damage pastures and cereals while those of T. oleracea are reported primarily as pests of winter cereals planted after oilseed rape crops. Other crops reported as food plants in Europe include brassicas, clover, corn, lettuce, sugar beets, strawberries, turnips, other vegetables, and ornamentals.

One reason for alarm about the spread of these invasives in the eastern United States is that the potentially susceptible landscapes are vast. In New York alone, there are 1.4 million acres of managed turf in the form of home lawns, golf

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