

## Leatherjackets - European Crane Fly (Tipula paludosa Meigen)

- marsh fly, leatherjackets
- complete metamorphosis
- larvae gray with leather texture
- one generation per year
- overwinters as 3rd instar larvae
- adults emerge from previously infested turf usually in late July or August
- mate and lay their eggs in one night
- females usually lay about 150 eggs but can lay up to 350
- Eggs hatch rapidly and 1st and 2nd instar larvae develop within 2 months.
- By November 3rd instar larvae prepare to overwinter in the turf
- If daytime temperatures remain above 10C larvae can remain active
- Larvae resume feeding in March and April
- They continue to mature into 4th instar larvae and feed into July
- Pupate in July before becoming adults
- prefer moist shady locations
- feed on root hairs, roots and the crowns of grass plants
- damage is most severe in the spring when larger larvae are present
- feed at night consuming stems and leaves
- damaged areas appear yellow or wilted
- destruction of roots allows turf to lift easily
- Control should be implemented in the spring and fall when larvae are present
- 20-25 larvae per square foot would warrant a control

