

BITING MIDGE CONTROL MEASURES



Warm weather months will bring about biting midges, or “no-see-ums” as their tiny size has nicknamed them. While their bites can cause welts and intense itching, these small insects can also transmit diseases. To decrease disease risk to your livestock, it is important to understand where midges live and breed and the various control methods available.

- Biting midges progress through 4 life stages: egg, larva, pupa, and adult. For some species, these stages can take 2-10 weeks to occur in warm weather.
 - The eggs are white and tiny (smaller than the dot on an “i”).
 - The larvae feed on organic matter, must stay moist to survive and can take 6 to 12 months to feed and develop to the pupal stage.
- The adult (female) is the stage capable of spreading disease as they blood feed on livestock, carrying disease organisms in their gut.
 - Adult biting midges are smaller than the thickness of a penny or nickel, but they can spread bluetongue virus to cattle and sheep. In addition, some evidence suggests they can spread vesicular stomatitis virus to cattle and horses.
- Adult midges prefer to lay their eggs in wet organic matter, such as mud around settling ponds on livestock operations, decaying leaf litter, manure and other vegetation.
 - Moisture is needed to prevent the biting midge eggs, larvae and pupae from drying out; controlling this moisture is an important step in the reduction of biting midge numbers on your farm.
- Areas around waterers and settling ponds have the moisture and organic matter necessary for larvae to feed on once they hatch from the eggs. Minimize this area to decrease their habitat.
- House animals at least 2 miles from areas where biting midges lay eggs and develop to help keep biting midges from feeding on them.
 - Natural water sources (ponds, lakes, marshes) and moist areas around livestock operations are common biting midge egg laying sites.
 - Female adults can fly up to 1.25 miles from where they develop.
 - By increasing animal distance from the source of the eggs, you decrease the chance of biting midges flying in the area around your cattle.
- Area sprays are fine mists of insecticide that rely on contact with the adult biting midge to kill it.
 - They must be applied daily and do not last long in the environment; this makes them costly and less efficient.
- In some areas, removal trapping can be done using carbon dioxide as an attractant.

Animals

- There is no treatment for animal application that is effective against the biting midge.

It is a violation of state and federal law to use a pesticide in any manner that differs from the product label. Use only according to label directions to avoid meat or milk residue hazards, environmental damage, and animal or human injury.

Biting Midge References:

- Apperson C, Waldvogel M. Biting Midges and Their Control. Department of Entomology North Carolina Cooperative Extension. Insect Note ENT/rsc-17; last updated April 1999. Accessed January 5, 2006 at <http://www.ces.ncsu.edu/depts/ent/notes/Urban/b-midge.htm>
- Bliss RM. Making the Case Against the Biting Midge. *Agricultural Research* 2005;53:22. Accessed January 5, 2006 at <http://www.ars.usda.gov/is/AR/archive/apr05/midge0405.htm?pf=1>
- Brickle DS, Hagan DV. Common or Vernacular Names of Ceratopogonids. Georgia Southern University. Last updated January 2000. Accessed January 5, 2006 at <http://www.belmont.edu/Science/Biology/cienews/CommonNames.html>
- Cranshaw WS, Peairs FB, Kondratieff B. Biting Flies. Colorado State University Cooperative Extension- Horticulture. Publication number 5.582; last updated Feb 2005. Accessed January 5, 2006 at <http://www.ext.colostate.edu/pubs/insect/05582.html>
- Lyon, WF. Midges and Crane Flies. Ohio State University Extension Fact Sheet. Publication number HYG-2129-97. Accessed January 5, 2006 at <http://ohioline.osu.edu/hyg-fact/2000/2129.html>
- Rutledge, CR. Biting midges, no-see-ums, Culicoides spp. University of Florida Institute of Food and Agricultural Sciences, Department of Entomology and Nematology. Publication number EENY-349 May 2005. Accessed January 5, 2006 at http://creatures.ifas.ufl.edu/aquatic/biting_midges.htm

Environment

- Manage the environment to decrease the areas where biting midges can lay their eggs.
 - The areas where biting midges live can be vast, but controlling stagnant water sources on farm will help minimize how close they lay their eggs to your livestock.