

U. of Del. seeks black fly data

By Doris Crowley
NEWARK, Del. — Delaware's annual black fly season has begun. If anyone in the state has a serious problem with this pest, entomologist Bob Lake, of the University of Delaware Agricultural Experiment Station, would like to hear about it. He's collecting information on black flies for a regional experiment station research project funded by the U.S. Department of Agriculture. Besides Delaware, other states involved in the study are Maine, Maryland, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, West Virginia and Michigan.

information as possible on the biology, behavior and distribution of the black fly, in hopes of finding more effective ways to control this troublesome, sometimes destructive pest. Also known as buffalo gnats or turkey gnats, black flies are small, dark insects ranging in size from 1/16 to 1/8 inch or a bit larger. "Don't confuse them with much smaller no-see-ums, punkies or sand flies," Lake says. Those generally bite at dusk. Black flies are active during the day. Anyone outdoors near running water in spring and early summer is fair game to this pest. Even when it doesn't bite, it can drive its human victims to distraction as it swarms around heads and shoulders, crawling in hair, ears

and nose and inside clothing. Its bite causes a severe allergic reaction in some people, but even without this, Lake says a black fly bite is quite unpleasant. It itches madly and doesn't heal as fast as a mosquito bite. Young children are bitten more often than adults since they tend not to slap or drive away the flies as effectively. The insect is notorious in parts of New England where it severely curtails tourism, fishing and other outdoor activities in May and June. Not all species of black flies feed on humans. Some feed on large mammals such as deer, horses and cattle. Others attack birds. As with the mosquito, only the female bites. Because of its feeding habits, the black fly is a serious livestock problem in some parts of the U.S.

and Canada, weakening cattle, reducing milk production, pestering horses (by biting inside their ears) and interfering with poultry egg production. One Canadian specie actually kills young cattle. The black fly also is the vector of certain diseases, including a blood parasite of birds. In some parts of the U.S. severe outbreaks of this parasite occasionally occur in turkey flocks - hence the name "turkey gnat." Wild waterfowl are also affected in some states, though probably not much in Delaware, Lake says, since the fly breeds in fresh water and most local waterfowl species live on salt marshes. Fortunately this disease does not affect chickens. Black flies are attracted to their human and animal victims by the carbon dioxide and moisture present in exhaled breath, by dark colors, convection currents and perspiration. Immature stages of the insect

(larvae and pupae) can live only in running water. When the adult fly emerges from the pupa, it is encased in a bubble of air, ready to fly when the bubble rises and bursts at the water's surface. Lake is an aquatic entomologist, that is, a scientist who studies insects which spend part of their life cycle in water. For the past eight years he has searched likely parts of Delaware for the black fly. So far, he has identified 17 species, including one never before described which appears to live only in Ellendale State Forest. At one time it may have been more widespread, he says, speculating that pulpwood cutting and farming pressures may have changed the environment enough to restrict the specie to its present habitat. Only four of the species he has found in Delaware bite humans and animals, Lake says. Of these, the most troublesome, *Simulium venustum*, causes some localized problems in Sussex County. This specie also occurs in smaller numbers in Kent and New Castle counties.

Lake is secretary of the

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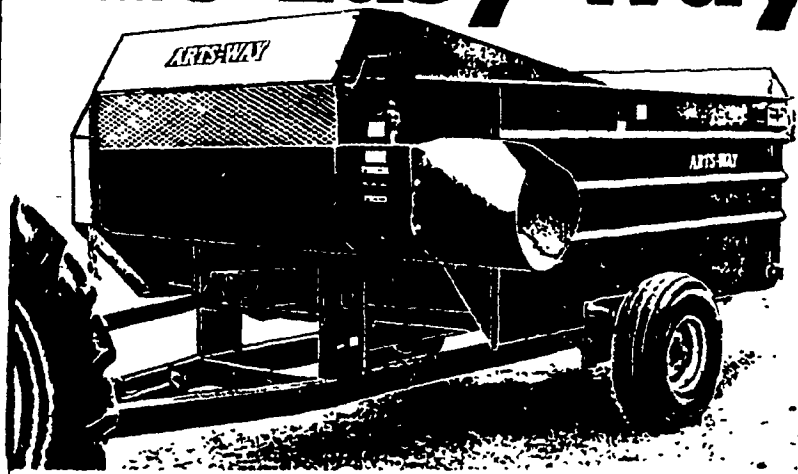
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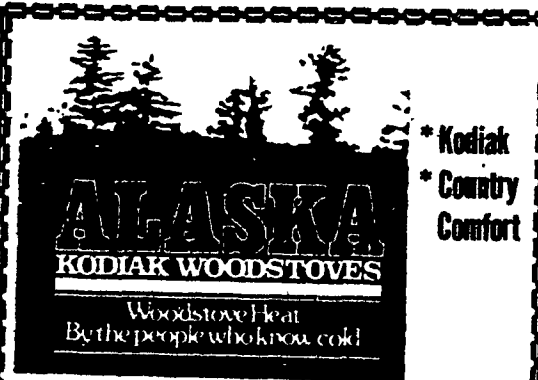
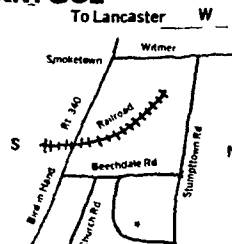


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