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Drought Information

College of Agriculture
Extension and Agricultural Information, 1-98 Agriculture Bldg., Columbia, Mo. 65211, (314) 882-8237

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Effect of drought on flies

Robert D. Hall, Department of Entomology

Extremely desiccating environments are a hardship on most insects and allied arthropods. While the current drought being experienced throughout much of the U.S., including Missouri, may affect populations of many insect species, typical muscoid flies seem to handle such dryness very well.

Flies, including face flies, horn flies, stable flies, and house flies (all known as "filth flies" because of the sites where the larvae or maggots grow) require moist environments in order for the immature stages to develop successfully. Therefore, during drought, it is not uncommon to hear such hopeful predictions as, "Well, at least there won't be as many flies around." Practical experience shows that it may not be as simple as this.

Our field experiments on face and horn flies as well as stable and house flies indicate that populations of all are doing extremely well in central Missouri this summer. In fact, the numbers of face flies are somewhat higher than we are used to seeing in a "typical" Missouri summer season. Anyone who has traveled through North Africa knows that Musca sorbens, the common house fly in that region, is extremely numerous even in desert areas.

Some reasons that flies may be numerous, or seem to be numerous, under drought conditions include the following. Adult flies may aggregate and seek moisture on host animals, thereby appearing more numerous than usual when other sources of moisture are available. Although our moisture levels are lower than typical, muscoid flies can develop successfully in certain microenvironments where moisture is adequate.

The populations of face flies and horn flies, which develop only in cow pats on the pasture, point out that such microenvironments are adequate to sustain development even when the pastures are parched brown. The same holds true for house flies and stable flies developing near cattle watering tanks or other areas where water overflow may provide sufficient moisture.

Further, the extreme dryness may affect populations of some beneficial insects, such as parasites and predators, that normally hold muscoid flies in check. One factor that can reduce populations of these flies is extremely high temperature; however, as of June 21 we have not experienced temperatures sufficiently high or prolonged to reduce fly populations materially. Continued abnormally high temperature may prove important to fly populations later in the summer.

While prolonged drought may produce definite reductions in the number of some biting insects, such as some mosquitoes (which require water for their immature stages), generalizations are often meaningless. Floodwater mosquitoes such as Aedes vexans are fewer this summer because backwater and flood conditions did not occur widely. Other mosquitoes develop mainly in water troughs, tanks, and barrels, and may be locally numerous.

Most species of horse flies and deer flies are associated with ponds, streams, and other permanent watercourses, and continue to be noted throughout Missouri. If the drought continues, 1989 populations of these pests may be affected, but conditions will have to worsen considerably before this will happen; that is, the ponds and streams will have to dry up.

It is important for agriculturalists to remember that current conditions in Missouri are insuffcient to reduce populations of our common filth flies. Livestock producers therefore must continue to monitor these flies and apply control measures when required. House fly populations around barns and corrals may be extremely large and cause annoyance to neighbors.

Sanitation, application of residual insecticide to fly resting areas and selective use of insecticidal aerosols or fogs will reduce house fly populations. Severe drought may exacerbate some fly-associated conditions, such as pinkeye in cattle.

Intense UV light, rough, dry forage of less-than-optimum quality, and excessive dust combined with large populations of face flies may set the stage for more pinkeye cases than usual. Ear tags containing pyrethroid insecticide, forced-use dust bags containing pyrethroid or organophosphorous dust, or face mops containing insecticide labeled for use on beef or dairy cattle are effective in reducing face fly populations on cattle.