

**PROJECT TITLE: Development and Implementation of a Cost-effective Integrated Pasture Fly Management Program for the Eastern US**

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The face fly and horn fly are the predominant arthropod pests of pastured cattle in the US. In recent years, the stable fly has emerged as a serious threat as well. These flies as well as the horse flies form a diverse and difficult to manage pest complex that impacts pastured dairy and beef cattle. These flies vector diseases, are extremely annoying and painful blood-feeders and reduce economic profitability to producers. The fly complex is difficult to control with current pesticide technology. However, the pending removal of several of the handful of remaining products registered for pasture fly control will create a crisis for the U.S. dairy and beef industry. An effective integrated approach to address this pest complex is crucial.

We will address this challenge using a multi-state, multi-regional project (New York, North Carolina) that will deliver critically needed management solutions to U.S. dairy and beef producers. In Objectives 1 and 2, we will evaluate new trapping technologies against stable and horse flies and a recently developed face and stable fly targeted-application automatic sprayer utilizing a pyrethroid formulation. Through Objective 3 we will develop effective rearing techniques for the beetle parasitoid, *Aleochara tristis*, and evaluate its impact on pasture fly populations. These proposed solutions are cost-effective and easily incorporated into existing production systems. We anticipate that implementation, facilitated through proposed Extension outreach activities and web site development, will be rapid and widespread.

During 2004, NZI traps were placed on four farms, Epps Traps were placed on three farms and Horse Pal™ traps were placed on three farms to capture horse flies and stable flies. Flies captured by these traps were removed weekly and await identification. Additionally, horse fly and stable fly presence on animals was monitored weekly. All traps will be utilized in 2005 and 2006. A self-contained, automatic pesticide sprayer was operated on three farms in 2004 in an attempt to reduce face fly pressure on the pastured cattle. Weekly counts of face flies and stable flies were performed on sprayed cows, same farm unsprayed heifers and on unsprayed cows on three additional farms. In 2005, nozzles will be added to spray animal legs in an effort to reduce stable fly feeding. The parasitoid *A. tristis* was recovered and a small colony is being maintained at Cornell University. We plan to expand the colony with additional field collections in 2005 and begin searching for alternative hosts to aid in rearing.

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