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**3rd Annual Western Organic Dairy Conference
March 17 & 18
Eureka, California
(see insert)**

**Barbara Reed
Farm Advisor**

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Biological Risk Management Project

Are you interested in issues related to bio-security on your dairy? Would you like to contribute to a national project to assess on-farm risks to bio-security? I am looking for 5 dairy farms that would be willing to answer 15 general questions about your farm (herd size, housing type, etc.) and then 45 brief questions about various aspects of bio-security in your daily operations (access to dairy, animal contact, footwear, etc). I would need about 1.5 hours of your time to do the entire interview and it is completely confidential. The goal of this project is to identify what practices can be improved to reduce the risk of spreading disease on your dairy. Please call me on my direct line at 865-1156 if you are interested in participating.

Stable Flies and March Rains

April showers may bring May flowers, but March showers bring stable flies!

Recent research conducted by Brad Mullens (Veterinary Entomologist, UC Riverside) and Nyles Peterson (Director and Dairy Advisor, UC Cooperative Extension, San Bernardino) found that high springtime stable fly numbers on California dairies could be predicted by rainfall during the month of March. It was found that if significant rainfall (0.5 inch or more) occurred during the month of March, stable fly numbers would be higher from mid-May through mid-June (peak stable fly abundance period). For each 0.4 inches of March rain, biting stable fly numbers were raised by an average of about one fly per leg. Earlier winter rainfall did not have a statistical relationship with larger stable fly numbers in May and June.

What does this mean for California dairymen? High stable fly attack rates on cattle are known to reduce animal weight gain and may also have a negative affect on milk yield. Cattle react vigorously to the presence of excessive stable flies, and their protective behaviors (bunching, stamping, head throws) may impact feeding and resting, resulting in a shift of energy away from meat and milk production. The ability to predict a bad stable fly year will provide dairy operators with an opportunity to increase control measures for stable flies a month or more before stable fly numbers actually peak.

Significant March rains presumably increase stable fly numbers by wetting outside decaying manure and vegetation habitats that stable flies need for immature development. These development sites are typically widespread on a dairy and may require some effort for control. Common development sites include the old manure that accumulates within a dry pen (especially the manure beneath fence lines and watering stations), spilled feed, silage, and composting manure or green waste. The old, undisturbed manure under fence lines etc. is thought to be especially important as a stable fly habitat when wetted by late rains. In general, very dry winters overall are probably good news in terms of fewer stable flies, but

the later rains are critical. In the event of significant March (or probably late February) rains, efforts to reduce stable fly numbers should begin as soon as rains are no longer predicted (no later than mid-April). Efforts to control stable fly should include: 1) Check and repair all leaking watering stations and mister systems; 2) remove old manure that has accumulated beneath fence lines, watering stations, feeding areas, and other structures in or adjacent to cattle pens; 3) scrape pens to remove old manure; 3) old manure removed from pens and other structures may be composted (now that seasonal rains have ended) or placed into a mound in the center of the pen to which the animals have access – disturbance by the animals will help to prevent fly development; 5) remove all vegetation from the perimeter of cattle pens, flush systems, and feed lanes; 6) thoroughly clean all feed lanes and flush lanes of feed, manure, and soil; 7) replace all animal bedding used in calf pens and free stalls (use only wood shavings in free stalls during spring and summer months to reduce fly production) – removed animal bedding should be composted or moved off site into a landfill; 8) check silage and haylage for runoff and weeping – remove wet silage from base of pile every other week and use for feed or compost; 9) check open Ag-bags for the presence of fly larvae – remove silage or haylage from open end of bag each week to prevent fly development in this material.

The sanitation efforts listed above are the best means to reduce stable fly numbers on an individual dairy. Once stable flies have completed immature development and have emerged as adult flies, control options are quite limited. Traps such as the Olsen biting fly trap (<http://www.olsonproducts.com/index2.html>) may help reduce localized adult stable fly numbers, but the very large numbers on commercial dairies in late spring probably exceed the ability of such traps to control them on a farm-wide scale, especially in a wet year. Application of insecticides (principally pyrethroids such as permethrin) applied directly to an animal may provide some relief, but studies have not shown these insecticides to be particularly effective at reducing fly numbers on treated animals.

Reference: Mullens, B. A. and N. G. Peterson. 2005. Relationship between rainfall and stable fly (Diptera: Muscidae) abundance on California dairies. *J. Med. Entomol.* 42(4): 705-708.

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Organic Information

There were several producers at North Valley Dairy Day that expressed interest in learning more about the Organic Valley Cooperative. To find out more, you can contact the Procurement Manager Tim Griffen at Organic Valley Cooperative in Wisconsin.

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