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DFG News Release

Preliminary Research Results Find Less Than One Half of One Percent Occurrences of E.coli 0157:H7 in Wildlife in California Central Coast Counties

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Preliminary results from a joint E. coli environmental study found less than one half of one percent of 866 wild animals tested positive for Escherichia coli O157:H7 in Central California. The study of water, soil, livestock and wildlife is being conducted by the University of California, Davis, the California Department of Fish and Game (DFG) and U.S. Department of Agriculture (USDA). It investigates the occurrence of the strain of E. coli that caused the disease outbreak in California agricultural fields in 2006.

Preliminary results from the wildlife portion of the study suggest less than one half of one percent of the wildlife tested positive for E. coli O157:H7. The finding is based on environmental sampling done over a two year period by government and university scientists from wild animals in the central coast region of California. Preliminary results from water, soil and livestock samples are not yet completed and may be reported separately.

Robert Mandrell, the principle investigator of the study and team leader of the Produce Microbiology and Safety Research Unit, U.C. Davis said, "We are less than halfway through the study, so these results should be considered preliminary; finding a low level of E. coli O157:H7 occurrence in some local wildlife in the central coast is not surprising. The small number of positive animals suggests the risk for produce contamination by wildlife is probably low, and following good agricultural practices should minimize the public health risk."

The multi-agency study was prompted after state and federal investigators reported E. coli O157:H7 in 13 wild pig fecal samples tested during the 2006 spinach outbreak investigation in California. These findings led to concerns that wild animal feces may be one of several ways that produce fields or water sources are contaminated with E. coli O157:H7 or other harmful bacteria.

From 2007 through 2008, the research team collected 866 wildlife samples, including 311 black-tailed deer, 184 wild pig, 73 birds, 61 rabbits, 58 tule elk, 52 ground squirrels, 51 coyotes, 24 mice, 19 raccoons, 17 opossums and 16 striped skunks. Of the 866 animals sampled, 862 tested negative. The four positive samples included: one wild pig, one coyote and two tule elk. These findings are preliminary and the research team will continue to collect and test a total of 2,400 wildlife samples from this region.

Eric Loft, DFG Wildlife Branch Chief said, "We are very interested in the preliminary findings in 311 deer samples which indicate no positive E.coli findings. This may help relieve some of the concerns farmers and buyers have expressed about keeping deer out of the fields."

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Scientists are seeking to understand if certain species of wildlife are sources of E. coli O157:H7. These preliminary results indicate wildlife is not a primary source of E. coli 0157:H7. The study findings will assist resource agencies and growers in developing strategies, and management plans and policies for preventing crop contamination in the fields to protect the public health and to protect wildlife and their habitats.

A previous study on free-ranging deer reported in the Journal of the American Veterinary Medicine Association estimated the fecal prevalence of E. coli O157:H7 to be similar to the prevalence in water and cattle fecal samples from the same region (Sargeant et al., 1999). All three of these sources are being investigated separately in this study.

The study is funded by research grants from the National Research Initiative of the USDA-Cooperative State Research, Education and Extension Service. In 2007, DFG provided additional funding for an E. coli O157:H7 wildlife study in the central coast.