

Cultural Control of Poultry Ectoparasites  
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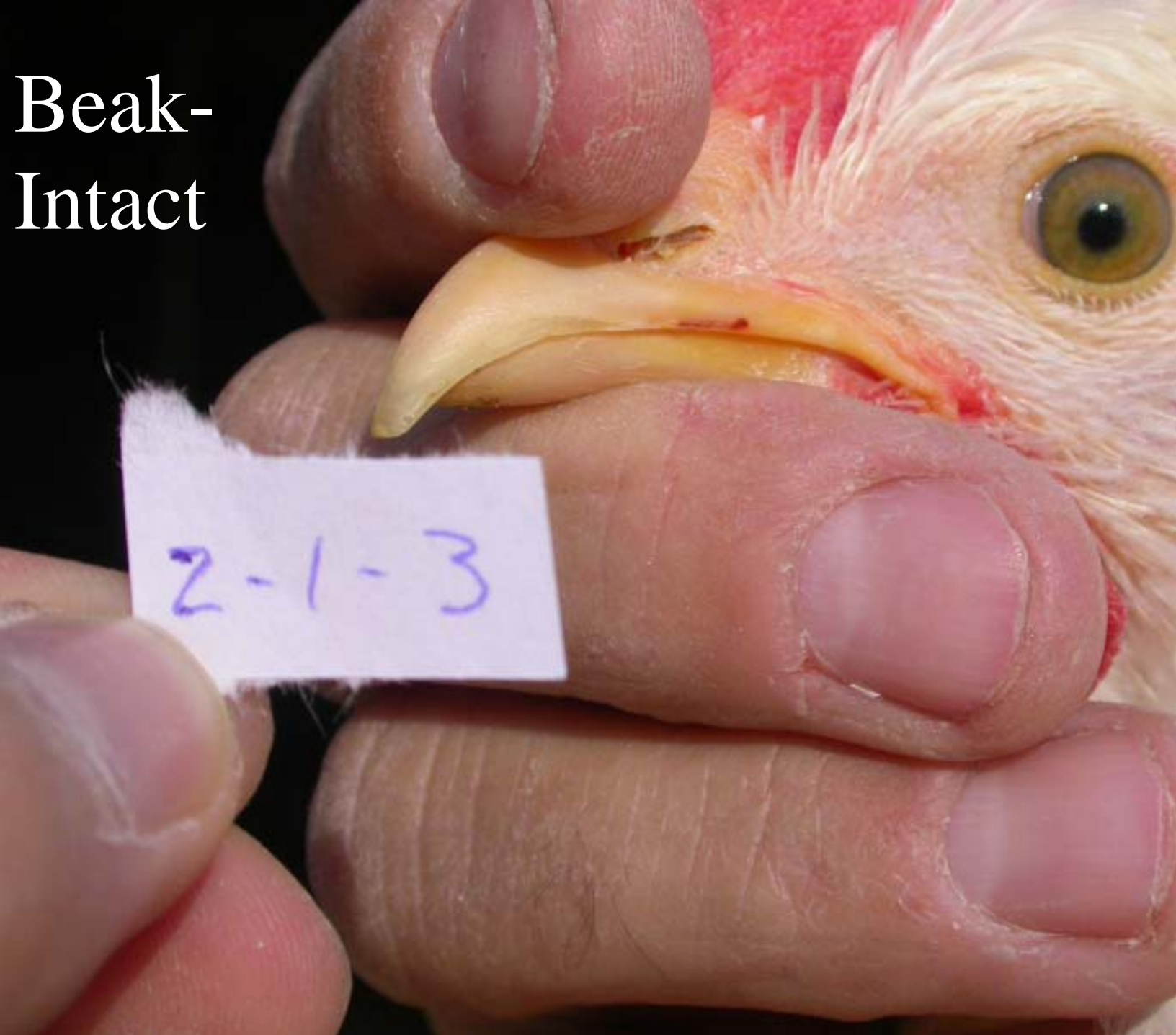
Lay Summary:

Caged egg-laying hens have two primary ectoparasites of economic importance in the USA. These are the northern fowl mite, *Ornithonyssus sylviarum*, and the body louse, *Menacanthus stramineus*. Both complete their entire life cycle on the bird, and the mite (a blood feeder) is considered to be the more severe and widespread pest. Infestations of mites cause reductions in feed conversion efficiency and some aspects of direct production such as egg size. Both species, especially the mites, also can be pests of people working with or around the hens. Both species are controlled by exclusion (e.g. only using clean pullets, avoiding use of contaminated equipment) or by treatment of the hens using pesticides. Few materials are available for control, and we have shown that mite resistance to available pesticides is severe in California.

Animal welfare issues are an increasingly important concern in animal production systems. One issue in laying hens is beak-trimming. In order to hold hens together in cages without pecking damage, and to help reduce feed waste, the young birds have the tips of the beaks cauterized. The beak quickly heals, but the tip is blunt. We conducted trials using the one commercial strain of white leghorn that has been bred to be docile enough to hold together in cages without beak-trimming. Hens with intact beaks were able to maintain both mite and louse populations at a level 3-10 times lower than their beak-trimmed counterparts. The effect almost certainly is due to more efficient grooming of the ectoparasites by beak-intact hens, and we are investigating this. If more docile strains of hens can be developed that have intact beaks but still possess desired production characteristics, the vastly lower ectoparasite numbers they harbor may be below economic damage levels. This is currently being investigated as well. If true, the problem with mites and lice may be manageable by the hens themselves. This information should help stimulate breeders to develop more and better docile strains available to producers for egg production. The subsequent savings would be in beak trimming costs, pesticide application control costs, worker and animal exposure to pesticides, and possible welfare benefits as well.

Beak-  
Intact

2-1-3



# Beak-Trimmed Hen

