Elk County study examines egg damage

RIDGWAY — A three-year study of egg damage in Elk County has shown a cracking percentage of 8.76 percent, which amounts to an annual loss of \$38,609 in a 70,000layer operation.

The study was conducted by C.M. Skillington, Director of the Elk County Extension Service, and H.C. Jordan, Penn State Extension Specialist in Poultry Science.

A total of 3,800 eggs were gathered in the study in 100-egg samples each month from each of four flocks of SCW Leghorns in cages in two large cage houses Each egg was measured for several quality parameters and total number of cracked eggs were calculated into a percent for each handling of the egg starting with

percent as laid, percent after gathering, percent after cooling, after washing, after being weighed and candled, and total cracked

Surprising results show that the largest percent cracks occurred after cooling overnight. A total of 2.45 percent of all eggs observed cracked after holding in a standard farm cooler at 55 degrees temperature and 75 percent humidity over one, two or three nights. There is no apparent explanation for this cracking of eggs occuring when eggs were kept perfectly still in pulp filler flats inside a cooler.

The study further showed that 2.15 percent of all eggs were cracked while being laid. These eggs were gathered at the cage roll-out tray off the belt before it moved. This was the second largest percentage cracks for the entire study.

The third and fourth greatest areas of egg damage were quite similar with 1.66 percent damaged during washing and 1.64 percent cracked during belt gathering.

The lease amount of egg damage .855 percent occured during candling and weighing. This was virtually the same for the first sixmonth of lay as well as the second six-month of lay.

Total egg damage was 8.76% for 3800 eggs from all four flocks over three years.

Noticeable differences occurred between the first six months and the second six months of lay Nearly twice as many eggs were

six months of lay compared of the first six months of lay. Three times as many eggs were damaged during gathering the second six months compared to the first six months of lay. A total of .67 percent fewer eggs were shown to open or become damaged in the cooler during the second six months compared to the first six months of production. Twice as many eggs showed damage during washing the second six months compared to the first six months of lay.

If a 30-cent per dozen lower price is paid for cracked eggs compared to Grade A eggs from these 70,000 layers, the normal production of 21 dozen marketable eggs per bird housed or 1,470,000 dozen total times the 8.755 percent eggshell damage means 128,698.5 dozen

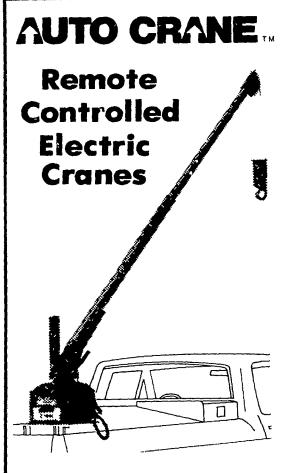
damaged at point of lay the second cracked eggs produced annually or a loss of \$38,609.55.

This cracked egg problem has been reduced about two percent per year for an annual savings of 29,400 dozen at \$.30/doz or \$8,820 increase in income each year. However, egg production and egg quality have also been increasing.

This study indicates efforts may be necessary to slow machinery down and/or use cage plastic floor inserts in cages the second six months of lay to bounce-em-easy when eggs are laid.

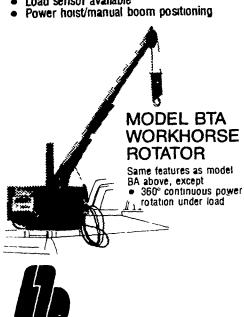
Also needed are further studies of feed quality from home-mix feed mills as it relates to eggshell

Strain of bird and how pullets are raised along with health records need more study to prevent excessive eggshell damage.



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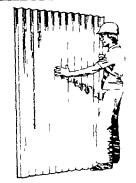
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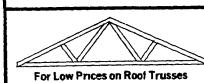
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