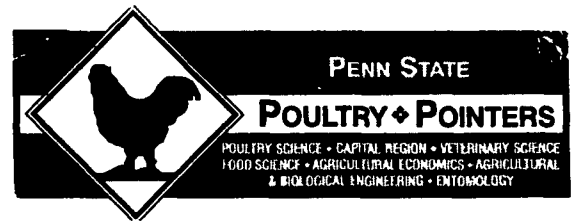


For Female Turkeys, Age Makes Difference



WOOSTER, Ohio — Older turkey hens produce better offspring, but no one knows exactly why, said Michael Lilburn, associate professor of animal science at Ohio State University's Ohio Agricultural Research and Development Center in Wooster.

Baby turkeys, called poults, from younger hens are not as robust as those from older hens, Lilburn said. Poults from young hens are typically smaller than normal and are more likely to grow more slowly during the first two or three weeks after hatching.

Lilburn and Todd Applegate, a graduate research assistant, studied the eggs and poults of hens from 36 to 55 weeks of age to learn the difference caused by hen age. The average poult weight at hatching increased from 62.6 grams (2.19 ounces) from 36-week-old hens to 64.9 grams (2.27 ounces) from 55-week-old hens.

Younger hens usually produce smaller eggs, but egg size doesn't

seem to cause smaller poults. Eggs from older hens that are the same size still hatch larger poults. So some biological advantage within the egg, rather than its size, causes the difference in poult weight, Lilburn said.

"If we can understand what causes the physiological difference between poults from older and younger hens, we can enhance the hens to try and eliminate the difference," Lilburn said.

Egg yolks size could be the answer. The yolk of an egg, whether it be chicken, turkey or any other bird, is the main nutrient supplier for a developing embryo. Nearly 95 percent of the nutrients an embryo receives comes from the yolk. Lilburn found that as hens age, they begin to deposit more yolk in eggs. The percent yolk weight of turkey eggs increased with hen age from 28.2 percent from 36-week-old hens to 34 percent from 55-week-old hens. The larger yolks could provide more nutrients to the embryo, increasing eventual poult size, Lilburn

said.

Fat or lipid content in the egg also could have some impact. Lipids within the egg allow for more efficient transfer of nutrients from the yolk to the embryo. Lipid content was considerably lower in the eggs of the youngest hens, he said.

Most egg content and poult size differences occurred from the youngest hens of 36 weeks. Once the hens got to 41 or 42 weeks and beyond, no real differences existed. Scientists at the research center are continuing studies to understand the exact reason why younger hens produce smaller poults, Lilburn said.

Turkey hens raised for commercial use generally lay their first eggs at 34 weeks. They continue to lay eggs up to 60 weeks, when they are either sent to market or allowed to go out of production for three months. After the three months layoff, hens can produce eggs for another 12 to 20 weeks. Hens in peak egg production lay seven or eight eggs every 10 days.

(Continued from Page C4)

there could be some changes before they are enacted. The regulations are quite lengthy so this article does not cover all the details in the regulations.

Computer programs are available which can greatly reduce the record keeping workload. Programs are available commercially and from public institutions.

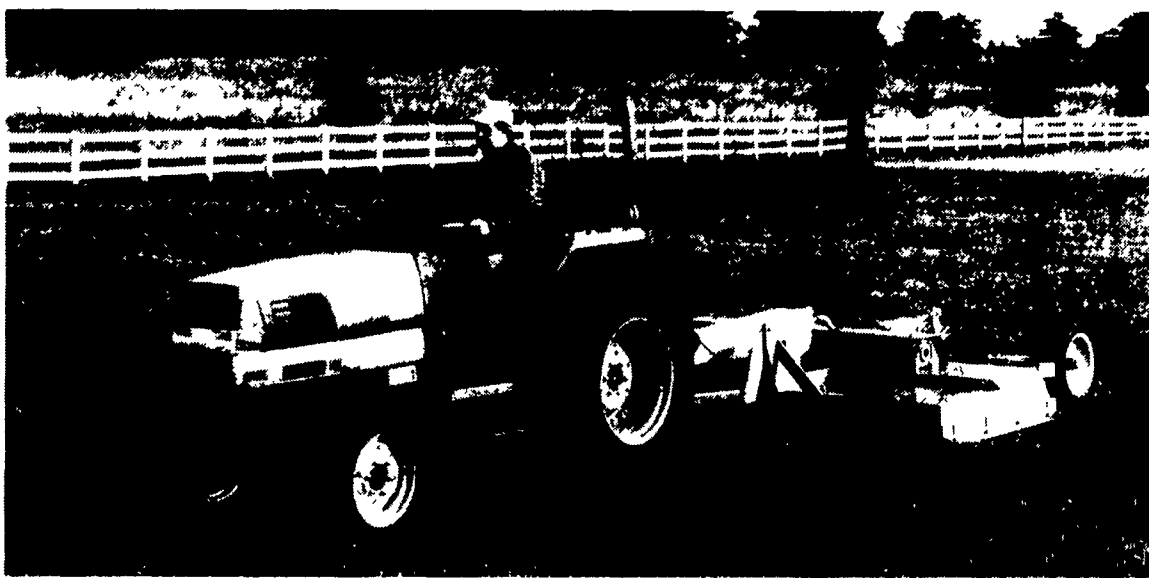
Penn State has developed a computer program to assist farmers in nutrient management planning. The Penn State Nutrient Management Program was written using FOXPRO 2.6 and then compiled, resulting in a standalone relational database program. The program estimates manure resources, field and crop requirements, determines manure allocation, and publishes reports. The reports available include farm nutrient balance, manure group summary, field/crop summary, manure allo-

cation scheme, and field-by-field nutrient balance.

The program is only available in the DOS environment and DOS 3.3 or higher is needed. A 386 computer or above is recommended with standard or extended memory and one high density floppy disk drive. The program cost is \$50. It is available from Dr. Peter Bohn, Department of Agronomy, Penn State University, 116 ASI Building, University Park PA 16802.



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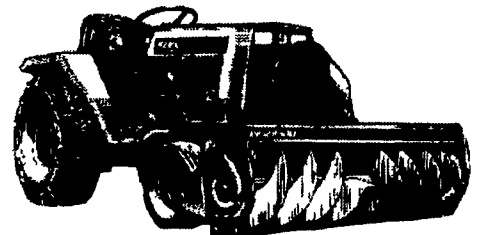
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