

Poultry Patter



Volume 18, Number 3—November 1980

ITEMS OF INTEREST TO MINNESOTA'S EGG INDUSTRY

Melvin L. Hamre

Melvin L. Hamre, extension poultry specialist

FEED RESTRICTION IN LAYING HENS

The influence of feed restriction on performance of recycled White Leghorn hens 104 weeks old was studied in an experiment at Iowa State University. Reduction of feed intake was accomplished both by restricting the quantity of feed offered to the bird and including a bulky ingredient in the diet to dilute nutrient concentration and decrease feed intake. Table 1 shows the composition of the corn-soybean meal control diet and the corn-sunflower meal high-fiber diet used in the study. Four treatments were arranged factorially in the experimental design involving 224 hens. There were the two diets and two systems of feeding (free choice and restricted to 93 percent of the voluntary intake). The experiment ran 8 weeks—July and August.

Table 1. Composition of the diets, percent

	Control	High fiber
Ingredients		
Corn	69.33	61.54
Soybean meal, 48.5%	20.69	4.20
Sunflower meal, 28%	—	25.00
D-L-Methionine	.08	.01
Lysine	—	.08
Calcium carbonate	7.50	7.07
Dicalcium phosphate	1.60	1.30
Salt	.30	.30
Vitamin premix	.50	.50
Calculated analysis		
Metabolizable energy (kcal/kg)	2890	2599
Crude protein	16.15	14.55
Total sulfur amino acids	.62	.55
Available phosphorus	.40	.37
Calcium	3.26	3.07
Lysine	.83	.61

Although hens fed the sunflower meal diet ate more than hens on the control diet, the average daily intake (energy, protein, calcium, phosphorus) was lower (table 2). Daily nutrient intakes of hens on the restricted diets were usually below the National Research Council recommendations.

Performance was not apt to be affected by the type of diet fed. Hens fed the sunflower meal diet laid larger eggs than hens on the control diet (64.3 vs. 63.3 g). Feed efficiency was slightly better for those birds on the control diet (1.77 vs.

1.63 kg feed/dozen eggs). This difference in feed efficiency was expected because of the difference in energy concentration of the diets. Feed restriction improved feed efficiency (1.66 vs. 1.75 kg feed/dozen eggs) without adversely affecting egg production (66.2 vs. 66.6 percent). Both feed restriction and diet had little influence on egg quality, although birds fed the sunflower meal diet on the restricted program produced eggs with slightly thinner shells than other birds did.

This experiment shows that hens in the last stage of production can perform adequately when fed below levels recommended by the National Research Council. Sunflower meal given at a high dietary level of 25 percent is apparently well used by the laying hen and this can be considered when this feedstuff is available and priced competitively. Moderate feed restriction at 93 percent of normal intake can effectively cut costs and still provide adequate nutrition.

Table 2. Influence of type of diet and feed restriction

	Corn-soybean meal		Corn-sunflower meal	
	Free choice	Restricted	Free choice	Restricted
Daily intake of nutrients per hen				
Feed intake, g	92.9	87.4	100.8	94.6
Metabolizable energy (kcal)	268	253	262	246
Crude protein, g	15.0	14.1	14.6	13.7
Lysine, mg	771	725	615	577
Total sulfur amino acids, mg	576	542	554	520
Calcium, g	3.03	2.85	3.09	2.90
Available phosphorus, mg	372	350	373	350
Performance characteristics				
Body weight change, g	-28	-123	-89	-174
Egg production, %	65.4	67.6	67.8	64.8
Egg weight, g	64.0	62.6	64.8	63.8
Kg feed/dozen eggs	1.71	1.56	1.79	1.76
Shell thickness, mm	.369	.372	.368	.355
Haugh units	71.2	74.6	72.1	72.7

MIDWEST POULTRY CONVENTION

Upper Midwest poultry industry members should circle February 25, 26, and 27, dates of the annual Midwest Poultry Federation Convention in St. Paul.

Many egg industry members have attended prior Midwest Conventions which have been planned to provide an all-industry show for the entire poultry industry of the Upper Midwest. Mark your calendar now and plan to join in the educational sessions, business meetings, exhibits, and social events. Look for program details in the next issue of *Poultry Patter*.



BE READY FOR WINTER

Between now and spring, most operations' facilities and management will be challenged by severe weather a number of times. Planning ahead for weather emergencies before they arrive can often prevent losses. These preparations can also make caring for the poultry flock much more pleasant during bad weather periods. Even slight drops in production can be costly!

Ventilation systems need attention. Be sure louvers and other ventilation openings close properly to keep out excessive cold air.

You and your feed supplier should make plans to assure an adequate feed supply: drifting snow and icy conditions can isolate farms for 3 or 4 days. A 3- or 4-day feed supply should get you through most emergencies and allow time for other arrangements if the isolation is extended.

Each operation has some other pre-winter chores that need attention, such as protecting the manure auger from freezing, checking heaters in workroom and cooler areas, and sealing around doors and other locations where drafts will blow into the building. Compacted snow and ice will be a hazard around building entrances and loading areas. Have sand or other material available to help assure safe footing for you, your employees, and delivery people.

POULTRY SCHOLARSHIPS

Three achievement awards are available to young people involved in poultry projects through the Midwest Poultry Federation (MPF). One award, provided by Jerome Foods, Inc. of Barron, WI, will give slight preference to turkey projects but is open to any young person carrying a poultry production project in the 8-state MPF area. Gillis Agricultural Systems, Inc., Willmar, MN, provides an award open to any young person from Iowa, Minnesota, or South Dakota with a poultry production project. Jennie-O Foods, Inc. of Willmar, MN, is providing an award for Minnesota youth carrying turkey production projects.

The award winners will each receive an appropriate plaque at the Federation Convention banquet. On enrollment in college, technical school, or vocational school beyond the high school level, each will receive a \$500 scholarship. It is anticipated that three awards will be given, but the MPF Youth Activities Committee reserves the right to limit awards to worth entries only.

Any boy or girl regularly enrolled in 4-H, FFA, or other organized or adult supervised poultry project in a state eligible for competition can participate. Entrants must be age 15 but not age 20 by January 31, 1981 and not beyond the freshman level in college.

Entries will consist of a completed personal information form, record books pertaining to the projects, completed project summary forms showing costs, income and performance, a supporting story written by the entrant, and other supporting materials desired by the entrant. For entry forms and further information, contact Mel Hamre, extension poultry specialist, 202 Peters Hall, 1404 Gortner Ave., University of Minnesota, St. Paul, MN 55108. January 1, 1981 is the deadline for entries to be received.

Poultry industry members should encourage young people with poultry projects to apply for these scholarships. Young people trained in a wide variety of fields are needed to fill positions in the poultry industry. A scholarship can encourage further education.

The University of Minnesota, including the Agricultural Extension Service, is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, creed, color, sex, national origin, or handicap.

ST PAUL CAMPUS LIBRARY
ST PAUL CAMPUS
DOCUMENT DIVISION
PP

BULK THIRD CLASS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101



AGRICULTURAL EXTENSION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
UNIVERSITY OF MINNESOTA
ST. PAUL, MINNESOTA 55108
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE - \$300
11/80 - 1/450