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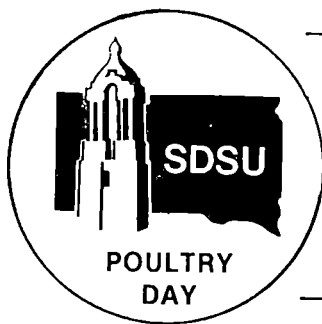
P. E. Plumart
South Dakota State University

C. W. Carlson

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AGNET COMPUTER ANALYSIS OF POULTRY FEEDS

P. E. Plumart[1] And C. W. Carlson[2]

DEPT. OF ANIMAL SCIENCE REPORT

POULTRY 81-3

AGNET was originally a pilot project funded by the Old West Regional Commission to extend the AGricultural computer NETwork developed in Nebraska to South Dakota, North Dakota, Montana and Wyoming. The states of Washington and Wisconsin joined AGNET in 1980. Pooling the resources of seven states makes programs from the other states available to South Dakotans.

AGNET has been operational in South Dakota for over three years and now has over 30 terminals located across the state for the use of the citizens of South Dakota. Contact your county extension agent or home economist or your state livestock or poultry specialist to use the AGNET system.

AGNET programs are designed for problem solving. They are designed to help you make better management decisions using your records and data but not to keep those records.

AGNET is a management tool that can help analyze many alternatives with rapid and accurate computational efficiency, using the assistance of extension and research specialists from seven states. AGNET provides low-cost access to a large reliable computer with over 200 separate agricultural and home management programs valued at over 4 million dollars.

Are you giving your poultry a balanced diet? Can you do it for less money? The feedmix program in AGNET can help to answer these and other questions. We have been using AGNET and the Poultry Feedmix Program in developing formulas to be recommended to poultrymen for grower and layer feeds for layer-type chickens. Formulas developed by typical hand calculation procedures were checked for nutritional adequacy by using the AGNET feedmix program and in turn using the program to develop similar rations on a least cost basis.

Based on prices prevailing in December, 1980, it was necessary to set minimums to force alfalfa meal (17%) and yellow grease into formulas in order to have them comparable to hand calculations. The AGNET derived formulas were then compared with the hand calculations to establish recommendations which are to be printed in a forthcoming fact sheet.

The use of AGNET has been very helpful. However, one must always examine the computer formulae very carefully to eliminate illogical solutions. Usually there is an explanation for the unusual solutions. One may not give enough choices of feedstuffs with a sufficient range of prices and/or nutrient composition for the computer to do the best job.

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[1] Extension Poultry Specialist.
[2] Professor and Leader, Poultry Research and Extension.

Introducing maximums for amino acids can create a problem that may take some care in order to resolve. For example, when restricting alfalfa or when forcing in yellow grease, we encountered a situation where a lysine supplement was introduced but at excessive levels, thereby causing a 73.3% increase in cost. One must always examine the computer results with the human mind to assure that the answers make logical sense and that some error was not introduced in putting in the original data.

Shown in Table 1 is the portion of the printout provided by AGNET for the normal least cost ration for laying hens that should be fed at the rate of about 24 lb per 100 hens per day. For subsequent formulations and in order to provide for more desirable yolk color, it was deemed necessary to force in alfalfa meal. Also, to improve feed conversion and cut down on dustiness, yellow grease or animal fat was forced in. The result of such minimum restrictions is shown in Table 2. In this case, the increased energy allowed for a theoretical reduction in consumption to 20 lb per 100 hens per day. The approximately 16% savings in total feed that only cost about 8% more per unit should be more economical to actually use.

Table 1. Normal least cost laying hen ration

Feed Name	Moisture % WB	Lb/ unit	Price/ unit	Ration (%) as fed	Pounds per ton
Corn – cwt	14.00	100	6.30	58.06	1161
Oats	11.00	32	1.90	17.34	347
SBM – 47.5%	10.00	2000	326.00	14.40	288
Limestone	0.00	2000	77.00	7.96	159
Dicalcium phosphate	4.00	2000	350.00	1.38	28
Salt	0.00	2000	132.00	0.33	7
Methionine	0.00	100	175.00	0.09	2
Vitamin premix	0.00	100	43.00	0.41	8
Trace mineral premix	0.00	100	140.00	0.04	1
			TOTALS	100.00	2000

Ration cost – as fed basis – $7.99/cwt – $159.78/ton
Moisture content – 11.53% (88.47% dry matter)

Table 2. Least cost laying hen ration forcing in 2%
alfalfa and 2.5% yellow grease

Feed Name	Moisture % WB	Lb/ unit	Price/ unit	Ration (%) as fed	Pounds per ton
Corn - cwt	14.00	100	6.30	71.25	1425
SBM - 47.5%	10.00	2000	326.00	14.40	288
Alfalfa dehy. 17	7.00	2000	191.40	2.00	40
Dicalcium phosphate	4.00	2000	350.00	2.00	40
Salt	0.00	2000	132.00	0.25	5
Limestone	0.00	2000	77.00	7.00	140
Methionine	0.00	100	175.00	0.10	2
Yellow grease	10.00	100	25.50	2.50	50
Vitamin premix	0.00	100	43.00	0.50	10
			TOTALS	100.00	2000

Ration cost - as fed basis - $8.69/cwt - $173.82/ton
Moisture content - 11.88% (88.12% dry matter)