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## A TEN-YEAR FLOCK RECORD SUMMARY

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South Dakota State University  
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A computerized flock record keeping system has been in use at South Dakota State University since 1965. A report is computed and published monthly from data received from flockowners. The project started with a few flocks and expanded to 67 in 1972. However, in the spring of 1975, participation dropped to about 30 flockowners and has continued to drop down to a current level of about 15. The records of those flocks completing their laying cycle during the calendar years of 1969 through 1978 are summarized in Tables 1 and 2.

During the past 10 years the average laying cycle has varied from 13 months (396 days) in 1972 to 14.5 months (441 days) in 1977.

The average number of hens housed almost doubled increasing from 5,990 in 1969 to 9,872 in 1974. Since then, the size of the flocks participating has gradually decreased to 7,143 hens in 1978. The percent depletion has decreased from 1.12 to 0.92% per month. This reduction is probably primarily due to flocks now being vaccinated for Marek's disease. The 1978 depletion of 0.92% per month represents a 26% reduction of the 1970 depletion of 1.25% per month.

Percent hen-day production steadily declined for 5 years from 64.4 to 62.8 and then increased to 69.8 in 1978. Hen-housed production increased from 58.5 to 60.1% over the first 5-year period and in recent years increased to 65.4% in 1978.

Due to widely fluctuating egg prices, the average income per dozen eggs sold rose from 30.91 cents for those flocks closed in 1969 to 34.74 cents for those closing in 1970. It then dropped to 21.26 cents for those closed in 1972 and rose in 2 years to 46.73 cents for those closed during 1974. A dip in prices occurred during 1975 and 1976 and then increased to an all time high of 47.46 cents for those flocks closing in 1977.

The lowest feed cost per dozen eggs of 13.73 cents was attained by those flocks closed out in 1970 and the highest feed cost per dozen eggs of 26.47 cents was experienced by those flocks closing in 1977. The lowest income of 21.26 cents per dozen was received by those flocks closing out in 1972 and the highest income of 47.46 cents per dozen by those flocks closing in 1977.

The average income per hen housed over feed cost fluctuated from a low of \$1.27 in 1972 to a high of \$4.52 for those flocks closed in 1977.

Three figures were selected from the monthly data: feed cost per ton, pounds of feed per dozen eggs, and feed cost per dozen eggs for further study. These were studied to determine what happened to feed cost over two 5-year periods and also to learn if there was a pattern to feed cost and feed conversion over each 5-year period as well as during each year.

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Feed cost hovered around \$70 per ton until November, 1972, when it started up. It broke \$100 per ton in May, 1973, peaked at \$142 in October of 1974, settled around \$121 during 1975-76, peaked again at \$142 in April of 1977 and has come down to about \$113 in 1978. The average feed cost per ton was 103% higher in 1974 than in 1969. These data are shown in Table 3.

There was an annual pattern to the monthly average pounds of feed per dozen eggs. The two 5-year monthly averages showed the best conversion during the summer months and the poorest during the winter months. It took one pound or 22% more feed to produce a dozen eggs in January as compared to July during the last 5 years. These data are given in Table 4.

The annual average feed conversion improved with higher priced feed. During 1969 through 1972 a dozen eggs was produced with 4.3 pounds of feed when feed cost \$70 per ton. When feed went up to \$128 per ton in 1974, the feed conversion dropped to 4.1 pounds per dozen and has essentially remained the same with feed costs hovering around \$121 per ton.

As indicated in Table 5, the feed cost per dozen did not fluctuate consistently with the feed cost per ton. The high point in feed cost per dozen (31.1 cents) was in January, 1975, 3 months after the October 1974 high price per ton (\$142). However, in 1977, the high feed cost per dozen (30.9 cents) was in the same month, April, as the high price of feed per ton (\$142).

The second 5-year monthly average feed cost per dozen showed the highest feed cost during January (27.7 cents per dozen) and the lowest feed cost during July (22 cents per dozen). There was a difference of 5.7 cents per dozen or 26% in feed cost between the high and low months with gradual increments between them.

In summary, feed prices started an upward movement in November, 1972, and peaked at an all time high in October of 1974 and again in April of 1977. There was a monthly pattern to feed conversion, showing the best conversion during the summer months and the poorest conversion during the winter months. Feed cost per dozen followed the same basic pattern. Of particular note is the fantastic rise in the feed cost per ton since mid-1973. For the flocks closing out during the 5-year period of 1969 through 1973, the feed cost per ton fluctuated between \$63.78 and \$79.61, whereas those closing out during the second 5-year period of 1974 through 1978 experienced average feed costs of \$113.45 to \$123.92 per ton.

Table 3. South Dakota Laying Flock Record Program Summary, Averages for Flocks Closed During the Years 1969 Through 1973

	40 flocks closed during 1969	45 flocks closed during 1970	47 flocks closed during 1971	48 flocks closed during 1972	58 flocks closed during 1973
Days from 20 weeks	415	422	404	396	428
No. of hens housed (HH)	5,990	7,312	7,679	9,302	9,274
Percent depletion	15.3	17.3	15.4	14.7	10.9
Percent hen-day production (HD)	64.4	64.1	63.6	63.2	63.7
Eggs per hen (HD)	268.2	274.6	254.3	248.9	273.6
Percent HH production	59.4	58.6	58.6	58.5	60.1
Eggs per hen (HH)	247.6	250.8	234.7	230.6	258.6
Lb. feed per dozen	4.43	4.21	4.31	4.38	4.39
Percent Grade A large	65.35	63.92	63.84	60.93	69.44
Percent Grade A medium	18.06	18.54	15.50	15.69	14.12
Percent Grade A small	3.07	3.17	2.59	2.55	2.04
Percent total Grade A	86.48	85.63	81.92	79.17	85.60
Average income per dozen sold (cents)	30.91	34.74	26.18	21.26	29.55
Feed cost per dozen (cents)	14.14	13.73	14.82	14.75	17.49
Income per HH over feed cost (\$)	3.33	4.21	2.16	1.27	2.54
Feed cost per ton (\$)	63.78	63.80	68.73	67.35	79.61
Gross income for period (\$)	37,493	51,797	38,912	38,138	58,541

Table 2. South Dakota Laying Flock Record Program Summary, Averages for Flocks Closed During 1974 Through 1978

	47 flocks closed during 1974	27 flocks closed during 1975	18 flocks closed during 1976	18 flocks closed during 1977	10 flocks closed during 1978
Days from 20 weeks	415	410	432	441	408
No. of hens housed (HH)	9,872	8,984	8,372	7,265	7,143
Percent depletion	10.2	12.6	15.7	14.9	12.3
Percent hen-day production (HD)	62.8	66.1	67.6	66.8	69.8
Eggs per hen (HD)	261.5	271.9	291.6	287.8	284.9
Percent HH production	59.7	61.9	62.4	61.7	65.4
Eggs per hen (HH)	248.0	254.8	268.8	266.4	267.3
Lb. feed per dozen	4.35	4.20	4.26	4.52	4.13
Percent Grade A large	71.85	71.58	66.91	67.72	68.81
Percent Grade A medium	14.82	15.60	17.03	16.57	14.33
Percent Grade A small	1.86	2.31	3.08	3.17	2.84
Percent total Grade A	88.53	89.48	87.02	87.46	85.98
Average income per dozen sold (cents)	46.73	41.32	42.13	47.46	37.50
Feed cost per dozen (cents)	24.70	26.00	25.81	26.47	23.83
Income per HH over feed cost (\$)	4.50	3.14	3.47	4.52	2.92
Feed cost per ton (\$)	113.45	123.92	121.05	123.15	115.46
Gross income for period (\$)	94,884	76,644	77,455	75,515	58,780



Table 3. Feed Cost Per Ton (Dollars)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
1969	64	64	63	63	61	63	64	64	63	62	61	63	63
1970	65	67	65	64	65	64	67	67	69	69	69	69	67
1971	70	71	71	71	72	70	72	70	69	67	67	65	70
1972	67	73	67	68	70	71	68	70	71	69	72	77	70
1973	84	88	91	86	107	129	119	124	115	108	106	115	106
5 yr avg.	70.0	72.6	71.4	70.4	75.0	79.4	78.0	79.0	77.4	75.0	75.0	77.8	75.2
1974	118	120	117	111	111	111	118	138	139	142	140	135	128
1975	133	126	116	121	118	124	120	125	126	119	113	112	121
1976	111	114	113	112	118	126	133	129	130	122	121	124	121
1977	132	131	134	142	138	134	116	106	104	100	105	108	121
1978	106	105	112	119	120	118	115	109	110	110	116	116	113
5 yr avg.	120	119	118	121	121	123	120	121	122	119	119	119	121

Table 4. Feed Per Dozen Eggs (Pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
1969	4.5	4.8	4.5	4.4	4.1	4.2	3.9	3.9	4.2	4.4	4.4	4.6	4.3
1970	4.2	4.5	4.3	4.5	4.2	4.1	4.3	4.0	4.2	4.4	3.8	4.4	4.3
1971	4.3	4.3	4.5	4.3	4.1	4.1	4.3	3.9	4.5	4.2	4.4	4.8	4.3
1972	4.7	4.4	4.5	4.2	4.2	4.3	4.0	3.8	4.1	3.9	4.6	4.9	4.3
1973	4.6	4.8	4.4	4.4	4.7	4.1	3.9	4.0	4.2	4.5	4.9	4.4	4.4
5 yr avg.	4.5	4.6	4.4	4.4	4.3	4.2	4.1	3.9	4.2	4.3	4.4	4.6	4.3
1974	4.6	4.7	4.3	4.3	4.1	3.6	3.7	3.9	3.8	4.0	4.2	4.5	4.1
1975	4.7	4.1	4.3	4.4	3.8	3.9	3.7	3.7	3.9	4.2	4.3	4.8	4.1
1976	4.8	4.4	4.5	4.4	4.0	3.9	3.8	4.1	4.3	4.3	4.8	4.6	4.3
1977	4.4	4.3	4.2	4.3	3.8	3.9	3.6	3.9	4.0	4.0	4.3	4.5	4.1
1978	4.6	4.5	4.5	4.2	3.6	3.9	3.5	3.7	3.7	3.5	3.7	3.8	3.9
5 yr avg.	4.6	4.4	4.4	4.3	3.8	3.9	3.6	3.9	3.9	4.0	4.3	4.4	4.1

Table 5. Feed Cost Per Dozen (Cents)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
1969	14.3	15.5	14.1	14.0	12.9	13.3	12.4	12.4	13.3	13.7	13.5	14.4	13.7
1970	13.6	15.0	14.1	14.4	13.5	13.1	14.4	13.4	14.3	15.0	14.7	15.4	14.2
1971	15.0	15.4	15.8	15.4	14.9	14.4	15.5	13.5	15.4	14.1	14.7	15.5	15.0
1972	15.6	15.9	15.1	14.4	14.8	15.4	13.7	13.4	14.6	13.6	16.4	18.8	15.1
1973	19.2	21.3	19.9	19.1	25.2	26.5	23.0	24.8	24.1	24.4	25.9	25.3	23.3
5 yr avg.	15.5	16.6	15.8	15.5	16.3	16.5	15.8	15.5	16.3	16.2	17.0	17.9	16.3
1974	27.0	28.1	25.3	23.6	23.0	20.0	22.1	26.9	26.5	28.8	29.3	30.4	25.9
1975	31.1	25.6	25.1	26.5	22.6	24.3	22.2	23.3	24.5	25.1	24.3	27.2	25.1
1976	26.6	25.1	25.4	25.0	23.9	24.3	25.5	26.3	28.3	26.3	28.9	28.3	26.2
1977	29.2	28.2	27.8	30.9	26.0	25.8	20.3	20.6	20.7	20.1	22.7	24.5	24.7
1978	24.7	23.8	25.1	24.6	21.9	23.3	20.0	20.1	20.6	19.3	21.1	22.1	22.2
5 yr avg.	27.7	26.2	25.7	26.1	23.5	23.5	22.0	23.4	24.1	23.9	25.3	26.5	24.8