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FARM ECONOMIC NOTES

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TURKEYS FOR CHRISTMAS

The principal demand for turkey in this country is limited to
the Christmas season, when there is a tendency to luxury spending.
In view of this, it should pay turkey raisers to study the special
requirements of the turkey market.   There is clearly scope for the
expansion of the industry provided producers set out to supply the
type of bird the housewife wants.

From the consumer's point of view, it is not so much the price per
pound of turkey meat, but the total cost of the bird which is the deciding
factor.   Consequently, the bird must not be too large, for very few
turkeys are wanted above 16 lb. in weight; nor too small, certainly not
less than 8 lb.   Of course, the hotels and restaurants provide the market
for the heavier turkeys, weighing 18 to 20 lb. and over, for which, however,
the price obtained per lb. is always lower than that of those sold to the
housewife.

In the past, there has been a price differential in favour of hen
turkeys, mainly because they are a good deal lighter in weight and therefore
more suited to the housewife's pocket than stag turkeys.   But in view of
the fact that the latter can now be marketed at an early age, 20 to 22
weeks, instead of 26 to 30 weeks, producers should expect them to get their
full price.

Since the demand for turkeys is a seasonal one, the financial
prospects facing the turkey producers, especially those who fatten turkeys
as a sideline on the general farm, are liable to severe fluctuations.
Bearing in mind the generally low prices which turkeys fetched last
Christmas, there must be many farmers who are at the moment seriously
considering whether or not to fatten turkeys this year.

This article endeavours to outline some of the financial aspects of
turkey rearing for the general farmer.   It is intended to help those who
are thinking of rearing a small number of turkeys as a sideline.

SYSTEMS OF PRODUCTION

Normally, turkeys require from 20 to 28 weeks to reach their best
condition.   This period will naturally vary according to the strain, date
of hatching and the standard of feeding and management.   The smaller
strains mature earlier, and the hens may be ready for market some 2 to 3
weeks before the stags.

The turkey producer has the choice of breeding his own turkeys,
buying hatching eggs, day-old poults or part-grown turkeys.   His selection
will be largely determined by circumstances on his own farm.   Most turkey
rearers prefer to purchase either day-old poults or growers at about 8
weeks of age.

The choice whether to rear turkeys on an extensive system, such as the free-range, or an intensive system will depend on the housing equipment and land available. But the intensive system of rearing has become much more common over the past 20 years or so. Most producers claim that this system reduces losses from disease; that a more even rate of growth can be maintained, resulting in a better finished carcase. Although labour requirements may be greater than with the extensive systems, this disadvantage may be compensated by the saving in time spent on locking up the turkeys on a free range. It is therefore proposed to limit the following discussion to those enterprises in which the young turkeys are bought and reared under an intensive system.

COSTS AND RETURNS

There is naturally considerable variation in the costs of production, according to breeds and husbandry methods. Nevertheless, the figures given in Tables I and II provide a useful guide.

Table I

Estimated Costs of Rearing Broad Breasted Bronze Turkey Stags

Live Weight	COSTS				Cost per Additional pound gain
	Day-old Poult plus 10% for loss (1)	Feed (2)	Other Costs (3)	Total	
lb.	s. d.	s. d.	s. d.	s. d.	s. d.
3	8 4	2 8	2 9	13 9	1 9
4	8 4	3 9	3 5	15 6	1 9
5	8 4	5 1	3 10	17 3	1 9
6	8 4	6 1	4 7	19 0	1 9
7	8 4	7 6	4 11	20 9	1 9
8	8 4	8 6	5 8	22 6	1 9
9	8 4	9 6	6 5	24 3	1 9
10	8 4	10 8	7 0	26 0	1 9
11	8 4	11 10	7 7	27 9	1 9
12	8 4	13 1	8 1	29 6	1 9
13	8 4	14 4	8 7	31 3	1 9
14	8 4	15 5	9 3	33 0	1 9
15	8 4	16 7	9 11	34 10	1 10
16	8 4	17 8	10 8	36 8	1 10
17	8 4	19 1	11 2	38 7	1 11
18	8 4	20 6	11 8	40 6	1 11
19	8 4	21 9	12 5	42 6	2 0
20	8 4	23 5	12 11	44 8	2 2
21	8 4	24 11	13 8	46 11	2 3
22	8 4	26 8	14 3	49 3	2 4
23	8 4	28 6	14 10	51 8	2 5
24	8 4	30 4	15 6	54 2	2 6
25	8 4	32 3	16 2	56 9	2 7

(1) Growing mortality must be added to either the total cost or per pound. This is estimated to be approximately one penny in the shilling.

(2) The average feed cost was 4d per pound.

(3) Housing, labour, management and sundries.

Source: Paper on Turkey Production read by W.A. Motley at the Lackham School of Agriculture, Lacock, 1956.

Table II

Estimated Costs of Rearing Broad Breasted Bronze Turkey Hens

| Live Weight | COSTS | | | | Cost per Additional pound gain | |
| | Day-old Poult plus 10% for loss (1) | | Feed (2) | | Other Costs (3) | | Total | | | |
lb.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
3	8	4	2	8	2	9	13	9	2	0
4	8	4	4	0	3	5	15	9	2	0
5	8	4	5	7	3	10	17	9	2	0
6	8	4	7	0	4	5	19	9	2	0
7	8	4	8	6	4	11	21	9	2	0
8	8	4	9	9	5	8	23	9	2	0
9	8	4	11	0	6	5	25	9	2	0
10	8	4	12	8	7	0	28	0	2	3
11	8	4	14	4	7	7	30	3	2	3
12	8	4	16	1	8	1	32	6	2	3
13	8	4	18	1	8	7	35	0	2	6
14	8	4	20	5	9	3	38	0	3	0
15	8	4	24	9	9	11	43	0	3	0
16	8	4	27	3	10	8	46	3	3	3
17	8	4	28	9	11	2	48	3	4	0
18	8	4	33	4	11	7	53	3	5	0

These tables show the costs of rearing Broad Breasted Bronze turkeys from eight weeks of age to maturity under the intensive system followed by Mr W.A. Motley. It should be borne in mind that these figures refer to a specialised turkey enterprise where labour, management and depreciation on housing and equipment have been debited in full. In the case of the general farm, where surplus labour and housing can be used, it is likely that the additional outlay will merely comprise variable costs such as food.

It will be noted that the cost of producing turkey hens is higher than the cost of rearing stags. This is due to the fact that the cost of each additional pound of weight gained rises more rapidly for hens than stags. Hens should therefore be sold earlier than stags if the highest profit per bird is to be obtained.

If farmers are able to estimate their costs of rearing they will be able to calculate the profit to be anticipated by reference to Table III which is a ready-reckoner for conversion of market prices per pound to values per bird. Thus, a stag sold at 16 lb. plucked weight at 4s 0d per pound would realise 64s 0d, giving a margin of 23s 6d over the cost of rearing; or a margin over feed costs of 43s 6d.

Table III

Values of Turkeys Sold at Different Weights and Prices

Weight		Market Price (per pound, plucked weight)																
Live	Pluc-ked*	2/-d		2/6d		3/-d		3/6d		4/-d		4/6d		5/-d		5/6d		6/-d	
lb.	lb.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
10	9·0	18	0	22	6	27	0	31	6	36	0	40	6	45	0	49	6	54	0
12	10·7	21	4	26	8	32	0	37	4	42	8	48	0	53	4	58	8	64	0
14	12·4	24	10	31	1	37	4	43	5	49	9	56	0	62	2	68	5	74	8
16	14·2	28	5	35	5	42	8	49	9	56	10	64	0	71	1	78	1	85	4
18	16·0	32	0	40	0	48	0	56	0	64	0	72	0	80	0	88	0	96	0
20	17·8	35	6	44	5	53	4	62	2	71	1	80	0	88	10	97	9	106	7
22	19·5	39	1	48	10	58	8	68	5	78	2	88	0	97	9	107	6	117	3
24	21·3	42	8	53	4	64	0	74	8	85	4	96	0	106	8	117	4	128	0
26	23·1	46	3	57	9	69	4	80	10	92	5	104	0	115	6	127	1	138	8

* 8/9th of Live-weight.

POULT COSTS AND MORTALITY

As the outlay for poults accounts for 20 to 30 per cent. of the cost of producing Christmas turkeys, it is important to ensure that the price of the poults bears some relation to their quality. If a higher price is paid for well-bred poults, the difference in cost will probably be offset by a better food conversion ratio, reduced mortality and earlier marketing. However, these gains should not be over-estimated.

The possibility of effecting savings by careful buying of poults is indicated in Table IV. A day-old poult bought at 10s 0d immediately contributes 8·6 pence per pound to the cost of rearing to 14 lb. live-weight. If, however, the day-old could be bought at 7s 0d, a saving of 2·6 pence per pound, or 3s 0d per bird, would be achieved.

Table IV

Contribution of the Cost of Day-old Poults to the Cost of Turkey Production
(per pound live-weight)

Live Weight when Marketed	Cost of Poults Per 100 (each)					Additional Cost for each £5 per 100 increase in cost of Poults
	£30 (6/-)	£35 (7/-)	£40 (8/-)	£45 (9/-)	£50 (10/-)	
lb.	pence					pence
10	7·2	8·4	9·6	10·8	12·0	1·20
12	6·0	7·0	8·0	9·0	10·0	1·00
14	5·1	6·0	6·9	7·7	8·6	0·86
16	4·5	5·3	6·0	6·8	7·5	0·75
18	4·0	4·7	5·3	6·0	6·7	0·67
20	3·6	4·2	4·8	5·4	6·0	0·60

Source: Paper on "The Economics of Turkey Production" by Dr. H. Temperton. 9th February, 1954.

Of equal importance is attention to the mortality rate. Despite the fact that great advances have been made in the treatment of turkey diseases, the mortality rate is often unduly high. A death rate of 5 per cent does not seriously influence the cost of production, but at the higher levels of 20 to 30 per cent, which sometimes occur, the effect is considerable. With a total production cost of 3s 6d per pound live-weight, for example, the difference between 10 and 20 per cent. mortality adds 3d per pound to the cost of the survivors.

FOOD CONVERSION

Efficiency of food conversion obviously depends upon the quality of the feed, turkey management and genetic ability of the birds to convert feedstuffs to meat. Food conversion ability is usually expressed as a ratio of pounds of food required to produce one pound of turkey meat. For example, a ratio of 1:7 is a low conversion rate, whereas 1:3.5 is very satisfactory. An improvement of half a pound in the conversion rate can mean a saving of over £40 in a flock of 500 turkeys.

The importance of efficient food conversion can be seen from Table V.

Table V

Effect of Efficiency of Food Conversion
on Feed Costs
(per pound live-weight)

Feed Required per lb. Live-weight gain	Cost of Feed per Ton							Saving in cost of food per lb. live-weight for each £2 per ton decrease in food cost
	£46	£44	£42	£40	£38	£36	£34	
lb.	pence							pence
7.0	34.5	33.0	31.5	30.0	28.5	27.0	25.5	1.50
6.5	32.1	30.6	29.3	27.9	26.5	25.1	23.7	1.39
6.0	29.6	28.3	27.0	25.7	24.4	23.1	21.8	1.29
5.5	27.1	25.9	24.8	23.6	22.4	21.2	20.0	1.18
5.0	24.7	23.6	22.5	21.4	20.4	19.3	18.2	1.07
4.5	22.2	21.2	20.3	19.3	18.3	17.4	16.4	0.96
4.0	19.7	18.9	18.0	17.1	16.3	15.4	14.6	0.86
Saving in cost of food per lb. live weight with each reduction of ½ lb. feed per lb. live-weight	2.47	2.36	2.25	2.15	2.03	1.93	1.82	

Source: As for Table IV.

For each half-pound reduction in the food required per pound of live-weight gain, food cost is reduced by amounts varying from 1.82 pence per pound live-weight (or 2s 9d per bird at 18 lb. live-weight), with food at £34 per ton, to 2.47 pence per pound, or 3s 8d per bird, with food at £46 per ton. Clearly, the higher the feed price, the greater the benefit of improvements in the conversion ratio.

THE AGE TO MARKET

Experiments have shown that the greatest efficiency of food conversion occurs up to 20 weeks of age, after which more food is needed per lb. of weight gained.   By the 20 week stage, the turkey will have reached 70% of its market weight from about 40 lb. of food, whereas a further 46 lb. of food is needed to add 6 lb. in body weight.   Hence, retaining turkeys after they have reached the best market condition is rarely advisable.

It is equally important that turkeys should not be killed in an unfinished condition.   Otherwise a reduced price per pound of flesh will be realised and the sale of improperly finished turkeys can only result in unsatisfied consumers.   Thus, from his own and the customer's point of view, the aim of every turkey producer should be to market his birds as soon as a properly finished condition is reached.

As an aid to marketing, Table VI below shows the equivalent prices for live, plucked and trussed turkeys.

Table VI

Approximate conversion of live-weight prices per lb. to prices for plucked and trussed turkeys.   Average for stags and hens, all weights.

Price per lb. live	Killed, plucked	Trussed
2/-	2/2½	2/7¼
2/3	2/6	2/11½
2/6	2/9¼	3/3¾
2/9	3/0½	3/7
3/-	3/4	3/11½
3/1	3/5¼	4/0¼
3/2	3/6¼	4/1¾
3/3	3/7¼	4/3
3/4	3/8½	4/4½
3/5	3/9½	4/5¾
3/6	3/10½	4/7
3/7	3/11¾	4/8¼
3/8	4/0¾	4/9½
3/9	4/2	4/11
3/10	4/3	5/0¼
3/11	4/4¼	5/1¾
4/-	4/5½	5/2¾
4/1	4/6½	5/4¼
4/2	4/7½	5/5½
4/3	4/8½	5/6¼
4/4	4/9¾	5/7¼
4/5	4/10¾	5/9¼
4/6	5/-	5/10¾
4/7	5/1	6/-
4/8	5/2¼	6/1¾
4/9	5/3¼	6/2¾
4/10	5/4½	6/4
4/11	5/5½	6/5½
5/-	5/6½	6/6½
5/1	5/7¾	6/8
5/2	5/8¾	6/9¼
5/3	5/10	6/10½

8th August, 1957.

<u>REFERENCE MATERIAL</u>

The following publications can be recommended.

TURKEY FARMING, 1953

By Ray Feltwell
Published by Faber and Faber, London.   Price 36s.

TURKEY PRODUCTION

By W.J. Lintin, N.D.P. (Hons)
Issued by Shell and B.P. Farm Service

TURKEYS

Published by Poultry Advisory Dept.
The British Oil & Cake Mills, ltd.