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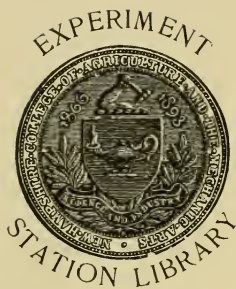
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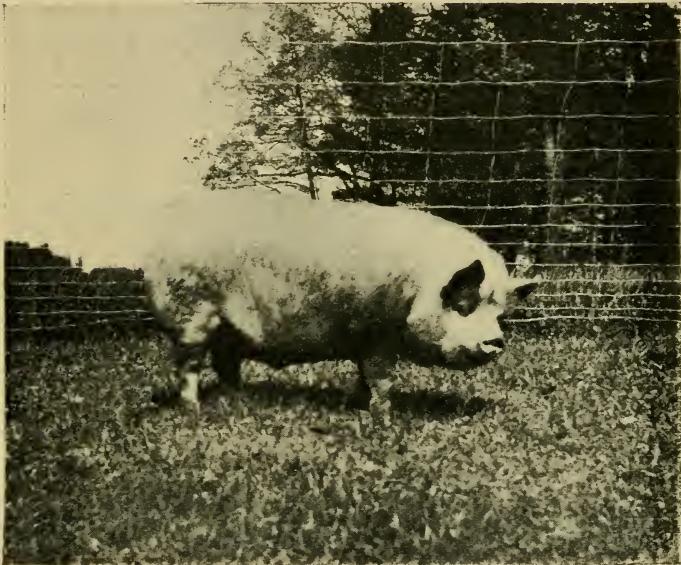
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NEW HAMPSHIRE COLLEGE
Agricultural Experiment Station

**CORN-MEAL, MIDLINGS, AND SEPARATOR
SKIM-MILK FOR FATTENING PIGS**



By EDWARD L. SHAW

NEW HAMPSHIRE COLLEGE
OF
AGRICULTURE AND THE MECHANIC ARTS
DURHAM

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OF

AGRICULTURE AND THE MECHANIC ARTS

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CORN-MEAL, MIDLINGS, AND SEPARATOR SKIM-MILK FOR FATTENING PIGS.

BY EDWARD L. SHAW.

This experiment was started December 1, 1903. The object was (1) to compare the feeding value of separator skim-milk when fed with corn-meal and with middlings, and (2) to compare the feeding value of corn-meal and middlings.

PLAN OF THE EXPERIMENT.

Twenty Yorkshire pigs, from twelve to thirteen weeks old and of uniform size, were selected and divided into four lots, five pigs in each lot. The pigs were all numbered with the Dana label, weighed every ten days, and the weight of each pig carefully recorded.

The pigs were fed on the experimental ration for a few days to become accustomed to the change before the initial weights were taken.

In selecting the twenty pigs for the experiment, ten sows and ten barrows were chosen, so as to compare the gains made by the sows with the gains made by the barrows.

The sows and barrows were divided in the four lots as follows:

- Lot I, two sows and three barrows.
- Lot II, two sows and three barrows.
- Lot III, three sows and two barrows.
- Lot IV, three sows and two barrows.

The experiment was divided into two sixty-day periods.

During the first sixty-day period the four lots were fed as follows:

Lot I, corn-meal and separator skim-milk; four pounds of skim-milk to one pound of corn-meal.

Lot II was fed corn-meal and water; enough water was added to the corn-meal to make a good slop.

Lot III was fed middlings and separator skim-milk; four pounds of skim-milk to one pound of middlings.

Lot IV was fed middlings and water; enough water was added to the middlings to make a good slop.

At the close of the first sixty-day period lot two had made a fair gain, but lots three and four had made rather small gains, and in order to get them in condition for market the rations were changed as follows for the second sixty-day period:

Lot I, fed the same as before.

Lot II was fed corn-meal and skim-milk.

Lot III was fed corn-meal, middlings, and skim-milk (half corn-meal, half middlings).

Lot IV was fed corn-meal and skim-milk.

The cost of the corn-meal, middlings, and skim-milk was as follows:

Corn-meal	.	.	.	\$1.10	per	hundred	pounds.
Middlings	.	.	.	1.20	"	"	"
Skim-milk	.	.	.	0.15	"	"	"

FIRST SIXTY-DAY PERIOD.

NO. OF LOT.	Weight of lot at beginning of experiment.		Weight of lot at the end of sixty days.		Total gain during the sixty days.		Average gain during the sixty days.		Gain per day.		Food consumed.		Food consumed per pound of gain.*		Cost per pound of gain.	
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Cents.
Lot I.....	241.5	623.	381.5	76.3	1.27	Corn-meal.....971.5	3.39	4.32								
Lot II.....	234.5	388.5	154.0	30.8	.51	Skim-milk.....3,886.	5.9	6.5								
Lot III.....	234.0	386.0	152.0	30.4	.506	Corn-meal.....510.	5.48	7.41								
Lot IV.....	229.0	311.0	82.0	16.4	.273	Middlings.....626.	7.86	9.43								
						Skim-milk.....2,504.										
						Middlings.....645.										

SECOND SIXTY-DAY PERIOD.

Lot I.....	623.	1,029.	406.	81.2	1.35	Corn-meal.....1,295.	4.24	5.42
Lot II.....	388.5	837.5	449.	89.8	1.49	Skim-milk.....5,180.	3.36	4.29
Lot III.....	386.	543.	157.	31.4	.52	Corn-meal.....1,134.	5.82	7.64
Lot IV.....	311.	658.5	347.5	69.5	1.15	Skim-milk.....4,536.	3.78	4.83
						Corn-meal.....343.		
						Middlings.....2,744.		
						Skim-milk.....988.		
						Corn-meal.....3,952.		
						Skim-milk.....		

* In estimating the food consumed per pound of gain, the milk solids in the separator skim-milk were reckoned as 8.3 per cent., as determined by the station chemist.

In looking over the table for the first sixty-day period, it will be seen that Lot I, receiving corn-meal and skim-milk, made an average gain of 35.5 pounds more and at a cost of 2.18 cents per pound of gain less than Lot II, which received corn-meal and water.

Lot III, receiving middlings and skim-milk, made an average gain of 14 pounds more and at a cost of 2.02 cents less per pound of gain than Lot IV, receiving middlings and water.

Lot II, receiving corn-meal and water, made an average gain of 14.4 pounds more and at a cost of 2.93 cents less per pound of gain than Lot IV, which received middlings and water.

During the second sixty-day period, the three lots receiving corn-meal and skim-milk made very good gains and at a moderate cost per pound of gain. It will be seen from the tables that it cost 1.1 cents more in Lot I during the second sixty-day period to produce a pound of gain, this lot having received the same ration during both periods.

Lot III, receiving half corn-meal and half middlings with the skim-milk, did not make a pound of gain as cheaply as when fed middlings and skim-milk.

TABLE SHOWING THE GAINS MADE BY THE SOWS AND BARROWS.

FIRST SIXTY-DAY PERIOD.

	Average gain of sows.	Average gain of barrows.
Lot I.....	83.2	71.8
Lot II.....	26.5	33.6
Lot III.....	33.	26.3
Lot IV....	16.	17.3
Total.....	158.7	149.0
Average.	39.6	37.2

SECOND SIXTY-DAY PERIOD.

	Average gain of sows.	Average gain of barrows.
Lot I.....	94.	72.6
Lot II.....	67.5	104.8
Lot III.....	38.	51.5
Lot IV.....	45.	105.7
Total.....	244.5	344.6
Average.....	61.1	83.6

From the above tables it will be seen that during the first sixty-day periods there was an average gain of 2.4 pounds in favor of the sows; and during the second sixty-day period there was an average gain of 22.5 pounds in favor of the barrows; but for the two sixty-day periods there was an average gain of 10.1 pounds in favor of the barrows.

CONCLUSIONS FROM THE EXPERIMENT.

1. The pigs receiving corn-meal and separator skim-milk were the most hearty feeders and made the best gains.
2. The cost per pound of gain was over two cents cheaper where skim-milk was fed with corn-meal and middlings.
3. Corn-meal produced much better gains and at a cost of 2.93 cents cheaper than middlings.
4. During the entire experiment the barrows made the best gains.
5. The cost per pound of gain increased with the age of the pigs.

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