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THESIS
Value of Skim Milk
for
Fattening Swine
N.A. McCune
1901

THESIS

Swine
Feeding + feeding stuffs

General Austrius

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N. A. McCune.

Michigan Agricultural College.

1901.

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THESIS

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THE VALUE OF SKIM-MILK
for
FATTENING SWINE.

Skim-milk, being a commodity which is usually abundant on many farms at certain seasons of the year, its most economical use becomes a subject of permanent importance. Whether it may be best used as a single feed, or in combination with one or more grains, seems to have been a topic of controversy among farmers and feeders for some years past. The relative value of skim-milk and shelled corn is as 1:3, approximately, each being fed singly; and the gains resulting from varied combinations of milk and corn, have been as widely varied as the rations. Whether skim-milk will produce the most economic gains when alone or in combination with corn, is the question before us.

Under the supervision of Prof. Mumford, the writer placed sixty swine in five pens of twelve each, arranged according to size, for a feeding trial with separator milk. The swine had been purchased of neighboring farmers, and ranged in size from 107 $\frac{1}{2}$ –159 $\frac{1}{2}$. 48 were grade Poland Chinas; 12,

grade Chester Whites. The pens were located in the basement of a large grain barn, somewhat damp and ill-ventilated, but withal very warm quarters and maintaining an even temperature.

The milk was separator-skimmed, and when fed was about two days old.

A table, showing the amounts of feed given each pen, the quantity of milk fed in proportion to the corn, the respective gains of the various pens, and the cost per pound, is as follows:

Feed				Cost				Size													
Milk		Corn		Milk		Pen		Log		Cost		Per hog									
										At											
Amount		Cost		Amt.		Cost		Per #		Per day		Per day		Total		Per #		begin- ning		At end	
Pen I	4384.5	5.2614	920	56.64	4.71	14.16	1.18	9.5	.0376	178	208										
Pen II	5095.5	3.7146	748	5.32	4.13	12.55	1.046	26	.0287	132	158										
Pen III	5095.5	3.7146	748	5.32	4.13	10.76	.897	124	.0536	107	130										
Pen IV	4998.	5.1576	885.5	5.15	4.30	14.48	1.20	301	.0517	119	149.75										
Pen V	3697.	4.7364	675	5.28	4.48	13.6	1.13	19	.0524	116	145.5										

This shows that for the entire lot the cost of feed was \$51.59,- producing a gain of 1639#, or an average cost of \$.0316 per pound gain, and an average gain of 1.0983# per animal per day, resulting in a total average gain of 25.45# per animal.

In noting the gains of the several pens, we will observe that the greatest total gain was attained by a lot of medium large swine averaging 159#; whereas the smallest pen of the lot made the second smallest gains. This indicates that neither the size of the animal, nor his age, necessarily stamp him as a good feeder:- a smooth, moderately active pig, of good length, is usually a better feeder than a younger, though less "growthy" one.

It may be noted, also, that of the two pens receiving precisely the same amounts of feed, the larger swine, which were the Chester Whites, made the better gains. Doubtless this pen would have made much better gains had it not been for two of their number which rather lost in weight than gained, because they were so tormented by the others. One was nearly killed by his persecutors, and his colleague only escaped dire punishment by a vocif-

erous and repeated use of his legs. Finally, the two were separated from the others, and the trouble ceased.

Pen V, which made the lowest gains, was one-what of a disappointment to the writer. They were a very even lot, rather small, yet not scrubs, with predominating blood of the Poland China. However, many of the animals seemed victims of a peculiar malady, for which there is no definite name. A pig would suddenly lose control of his posterior extremities, and would remain so paralysed for some days, eating little the while, but finally recovering and resuming his feed. The disorder has been ascribed to a too liberal feeding of corn. However correct this theory may be, it may be said that these swine received as little grain in proportion to their weight as any pen in the lot.

A synopsis of the cost and profit of these swine is shown in the following table.

	Cost		Sale		Profit
	" Per Hog "	" Of Feed "	" Per Animal "	" Per Animal "	
	" at \$5.10 "	" per Hog "	" at \$5.45 "	" "	
	" per cwt. "	" "	" per cwt. "	" "	
Pen I	" \$9.10	" \$1.05	" \$11.34	" "	\$1.18
Pen II	" \$6.73	" \$.746	" \$ 8.61	" "	\$1.13
Pen III	" \$5.43	" \$.711	" \$ 7.085	" "	\$.88
Pen IV	" \$6.47	" \$1.03	" \$10.34	" "	\$.84
Pen V	" \$6.45	" \$.634	" \$ 7.92	" "	\$.84

By this means we note that the pen making the poorest gains made the most clean profit, so that their repeated heartiness and convalescency was not utterly in vain, after all.

The second pen in amount of profit was Pen I. These were the largest swine in the lot, ate the most, and were the quietest. No pig in this pen, throughout the experiment, missed a single feed.

With corn worth \$.40 per bushel, the skim-milk assumed a value of about \$.19 per cwt., fed as it was, about 4.5¢ per 1¢ of corn. By this we see—

I. That skim-milk is a valuable food stuff for swine, and that its value increases in proportion to the increase in the value of corn.

II. That it should not be fed alone because it produces flesh too slowly, and the height of the market may arrive before the animals are in prime condition. However, skim-milk makes the best quality of pork, when fed judiciously, with perhaps the exception of rye.

III. That skim-milk should be fed carefully when prices of grain are high, as a substitute for a portion of the grain, or, it may be considered as displacing a part of the grain, and thereby assuming

a value proportional to the value of the grain,
and in accordance with its own worth, of reducing
one-third as much flesh in a given time, as corn.

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