

**"The Bacon Pig and How to Feed Him."**

Paper read before the Farmers' and Dairy-men's Association meeting by F. W. Hodson.

(Continued from last week)

**Whey, Skim Milk and Butter Milk.**

Numerous experiments and practical work done by individual feeders have proved the great value of dairy by-products as part of the rations for fattening swine. There is little difference in the feeding value of skim milk, butter milk or whey when all three are fed in prime condition except that of course skim milk will be richer or poorer according to the care taken to remove the butter fat in the separator. Five pounds of skim milk per head a day is an economical allowance in fattening swine over one hundred pounds in weight when mixed grains are fed. Where corn was fed as in Wisconsin the best returns were secured with not more than three pounds of milk to each pound of meal. Experiments have shown that one pound of mixed peas, barley and rye is equivalent to 6.65 pounds of skim milk. The protein and ash in the milk are what are needed to give strength to the bones and develop the muscles sufficiently. Whey and skim milk produce rapid and economical gains and a fine quality of bacon even when no exercise is given to the fattening stock and counteract the tendency to softness produced by too lavish feeding of shorts. The average results of experiments at the Guelph and Wisconsin stations show that 785 pounds of whey are equal to 100 pounds of grain. Danish experiments have proven that 1253 pounds of unskimmed milk, 1613 pounds of sweet skimmed milk, and 1545 pounds of sour skim milk will each produce 100 pounds of gain. Experiments at the Wisconsin experiment station go to prove that 327 pounds of skim milk equal 100 pounds of corn meal when not over three pounds of skim milk are fed with each pound of meal; 446 pounds of skim milk equal 100 pounds of meal when from 3 to 5 pounds of skim milk are fed with each pound of meal; 574 pounds of skim milk equal 100 pounds of meal when from 5 to 7 pounds of skim milk are fed with each pound of meal; 552 pounds of skim milk equal 100 pounds of meal when from 7 to 9 pounds of skim milk are fed with each pound of meal. Average of all 475 pounds of skim milk equal 100 pounds of meal. Danish experiments show 6 pounds of skim milk to be equal to one pound of grain.

Value of skim milk in combination with corn meal for pig feeding with corn at varying prices.

Value of Corn.	Value 100 lbs of skim milk.	
	When feed- ing 1 to 1 1/2 lbs milk to 1 lb corn meal.	When feed- ing 7 to 9 lbs milk to 1 lb meal.
\$10 ton (28c per bus)	15	9
\$12 ton (33.6c per bus)	18	11
\$14 ton (39.2c per bus)	21	13
\$16 ton (44.8c per bus)	24	15
\$18 ton (50.4c per bus)	28	16
\$20 ton (56.0c per bus)	31	18
\$30 ton (84.0c per bus)	46	27

The average of the trials is 11 cents. Experiments show that there is practically no difference between sweet and sour milk for pig feeding, providing however that the utensils are kept clean and not allowed to become foul. Regarding butter milk in general it may be assumed that when no water has been added to it, it has a feeding value equal to skim milk.

As the result of experiments conducted at Guelph and in Wisconsin it has been found that 784 pounds of whey is equal to 100 pounds of grain, the grain in this case being a mixed ration which would probably equal corn as a grain ration, when fed with the by-products of the dairy. The average products of dairy as determined by Canadian and American experiments are as follows:—475 pounds of skim milk, or butter milk free from water, equals 100 pounds of corn meal. Danish experiments show that:—600 pounds of skim milk equal 100 pounds of corn meal; 785 pounds of whey equals 100 pounds of corn meal. Fjords' (Feords') experiments in Denmark show 6 pounds of skim milk to be equal to one pound of grain, and 1200 pounds of whey to be equal to 100 pounds of corn meal. The whey used by this investigator was a by-product from the manufacture of skim milk cheese, and it was necessarily poorer in fat than that used by the American feeders.

CLOVER HAY.—Stewart fed pigs averaging seventy-five pounds each with corn meal, two quarts of short cut clover being added to each day's allowance, and the whole wet with hot water, and allowed to stand ten to twelve hours before feeding. Another lot received meal prepared in the same way but without the clover mixture. This lot getting clover hay showed the best appetite, the greatest thrift, and made the steadiest gains. The pigs getting meal gained 110 pounds each in

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**TO THE MEMORY OF MORRIS ROBINSON A CANADIAN**

BORN IN NOVA SCOTIA, SEPTEMBER, 1784. CASHIER OF THE BANK OF THE UNITED STATES WHO WAS THE FIRST PRESIDENT OF THE MUTUAL LIFE INSURANCE COMPANY OF NEW YORK ESTABLISHED ON THIS SPOT THE BUSINESS OF MODERN LIFE INSURANCE ON THE AMERICAN CONTINENT, FEBRUARY 1st 1843

THIS TABLET ERECTED BY THE CANADIAN SOCIETY OF NEW YORK FEBRUARY 1st 1903

The above tablet was unveiled on Monday, February 2nd, at 56 Wall street, New York, in memory of Morris Robinson, a Canadian.

120 days, while those having the cut clover hay mixed with their meal gained 143 pounds or 30 per cent. more. The possible value of moistened clover hay as a by-feed with pigs is well illustrated by this trial.

PASTURE.—Results of experiments in America show with one exception, that pigs will maintain themselves on pasture without making any appreciable gain. It is more economical to feed a 1/2 ration of grain each day than a larger or smaller quantity. The pasture will maintain the animals, while the grain given them will be entirely utilized in increasing the weight. The best pasture plant for pigs is alfalfa, where it will grow, white red clover, white clover, blue grass and rape are good pastures in about the order named. A pasture to be satisfactory for swine must be short and tender. Experiments show that one acre of rape or other suitable pasture is equivalent to 2600 pounds of grain in feeding pigs.

POTATOES.—Potatoes should always be cooked, and may be profitably fed with grain for the production of bacon without fear of injuring the meat. This has been proven by both Danish and American experiments. From 4 to 4 1/2 pounds of potatoes are equal to one pound of grain in pig feeding.

ARTICHOKES.—These are said to have the same feeding value as potatoes, but they may be fed without being cooked, and while the average crop of potatoes will be 200 to 250 bushels per acre, Artichokes will range from 800 to 1200 bushels. They may be planted and cultivated the same as potatoes, but it would be better to reserve a field for the purpose as they are very difficult to get out of the ground. I have found it a good plan to plant them in the fall of the year, or very early in the spring. As soon as the ground freezes up cut off the tops even with the ground, and burn them. As soon as the frost is out of the ground in the spring, turn the pigs on the artichoke field, putting in a moveable pig pen for each eight or ten pigs, according to their size. Dig up a few hills of the artichokes here and there to start the pigs looking for food, and as soon as they find the artichokes are in the ground they will dig them readily. In this case any rings should be removed from the noses of the pigs. They will in this way do very well with a small grain ration each day, if they have free access of water. They should be left in the field until about the first of June, when the land should be thoroughly worked over and the remaining artichokes dug out, and the field immediately sown with rape which in six or eight weeks will be ready to turn the pigs on again. By this method two crops can be obtained from the field one year and none the next, as it requires a long season to mature a crop of artichokes. I know of no method that will produce more pork per acre of land than this. If fed to pigs in pens the artichokes should be cooked, otherwise they

are likely to get spread over the farm by small ones getting among the manure and being planted in the fields.

ROOTS.—Eight pounds of mangels or carrots and about the same weight of a little less of sugar beets equal in value one pound of grain. This is the consensus of opinion of the Ottawa, Copenhagen and several American stations. At Copenhagen the mangels were fed finely cut and raw and even when 1/4 of the daily feed was given in the form of roots no injuries effects were noticed on the quality of the pork. The increase per head in ten days on a ration half grain and half whey or milk was 7.6 pounds, whereas when the grain was replaced by roots after the proportion of 1 to 10, the increase was found to be 8.3 and 8.6 pounds. When half the grain was replaced by roots in the proportion of 1 to 8 the growth of the different lots was very nearly the same, viz:—8.5 pounds for the grain fed pigs, and 8.6 pounds for these fed roots, thus showing a small difference in favor of the latter. It must be noted that pigs in this experiment had been fed roots previously and consequently took them readily.

BONE MEAL AND WOOD ASHES.—In experiments conducted by Prof. Henry as to the advantage of feeding bone meal and wood ashes to fattening pigs in combination with corn meal, it was found that the effect of the bone meal and wood ashes was to save about 28 per cent. of the total amount fed to produce 100 pounds of gain live weight. Bone meal doubled the strength of the thigh bones while ashes were only slightly inferior in value in this respect. The results show the great usefulness of bone meal and ashes, especially where much corn is fed to hogs. In these experiments the pigs had been well started in their development when the trial began. They were divided into three lots of two each. Lot one received corn meal with salt and water. Lot two received in addition hardwood ashes, while lot three was fed a spoonful of bone meal at each feed in place of ashes. In one of the trials which lasted 112 days, two pigs consumed 10.5 pounds of bone meal, and 7.5 pounds of salt, and during the same time two other pigs consumed 33 pounds of wood ashes, and 8 pounds of salt. The earth in the yard in which the pigs exercised was covered with boards to prevent the animals rooting in it and eating it, as they would otherwise have done, especially those which had no bone meal or ashes to resort to, and consequently would have impaired the results of this experiment.

When bone meal was fed 487 pounds of corn produced 100 pounds of gain; when ashes were given, 491 pounds of corn were required, while 629 pounds had to be fed to obtain the same gain when either bone meal or ashes were given.

COTTON SEED.—Cotton seed has been fed in some parts of Canada, but it has not been

found a desirable feed, and should not at any time be used.

SOAKED MEAL VS. DRY MEAL.—The result of tests at the Wisconsin, Minnesota, Oregon and Missouri Stations show that on the average 451 pounds of grain or meal when wet or soaked were equal in feeding value to 483 pounds of dry grain or meal a difference of 7 per cent. in favor of using wet or soaked meal. This would indicate that the soaking of grain is about as useful in increasing its feeding value as grinding.

Relative weight, gain, and feed consumed by pigs.

Weight of pigs in lbs	Feed eaten daily per 100 lbs live weight	Feed for 100 lbs gain
15 to 50 lbs	5.35 lbs	293 lbs
50 to 100 lbs	4.32 lbs	400 lbs
100 to 150 lbs	3.75 lbs	437 lbs
150 to 200 lbs	3.43 lbs	482 lbs
200 to 250 lbs	2.91 lbs	498 lbs
250 to 300 lbs	2.74 lbs	511 lbs
300 to 350 lbs	2.35 lbs	535 lbs

**Proof of Underlying Virtue.**  
(New York Times.)

President Edwin A. Alderman, of Tulane University, in New Orleans, used to do much speechmaking for educational causes when he was a citizen of North Carolina, and tells this story of an experience in the home of a mountain woman, to whose house he had been invited to take dinner.

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11.35 P. M.—EXPRESS—Week days—for Presque Isle, Carleton Place, Edmundston, and all points North.

1.35 P. MIXED—Week days—for Perth Jct. M and intermediate points.

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12.10 P. M.—MIXED—Week days, from Perth Jct.

12.25 P. M.—MIXED—Monday, Wednesday and Friday from Fredericton, etc., via Gibson Branch.

12.20 P. M.—MIXED—Tuesday, Thursday and Saturday from Fredericton, etc., via Gibson Branch.

5.38 P. M.—EXPRESS—Week days from Presque Isle, Carleton Place, Edmundston, etc.

7.46 P. M.—MIXED—Week days, from Aroostook Jct.

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