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A PRELIMINARY REPORT ON
FEEDS FOR FATTENING PIGS

COMPARING PROTEIN SUPPLEMENTS FOR
FATTENING PIGS, AND
COMPARING CORN, KAFIR AND DARSO AS A
FATTENING FEED FOR PIGS

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COMPARING PROTEIN SUPPLEMENTS FOR FATTENING PIGS, AND COMPARING CORN, KAFIR AND DARSO AS A FATTENING FEED FOR PIGS

BY J. S. MALONE

Former tests at this Station have proved, and it is now quite generally understood, that kafir grain and the grain of other sorghums is like corn in that it does not make a well-balanced ration for fattening pigs. It contains the starches and the fats, but lacks protein. A number of feeds rich in protein are being used as supplements for the kafirs and for corn. Among these are tankage, cottonseed meal, alfalfa hay, shorts, peanuts and peanut meal. The first two mentioned are most extensively used. The question naturally arises, which of these supplements is the most desirable. In order to answer this question, the test reported herein was undertaken by the writer. A former test similar in nature was undertaken a year before by Professor W. L. Fowler, this test beginning November 29, 1916, and ending February 28, 1917.

Seven hogs were used in each lot, the average weight of the hogs in the beginning was 119 pounds.

Self-feeders were arranged so that the pigs could have easy access to each variety of feed given them, and could eat it at their own pleasure. They could choose the kind and amount of feed they wanted.

The essential results of the first test are given in the following table:

| Rations in Self-Feeder | Lot I | Lot II | Lot III | Lot IV |
|---|-------------------|-----------------------|----------------------|---|
| | Kafir and Tankage | Kafir and Peanut Meal | Kafir and Cottonseed | Kafir, Tankage, Peanut Meal Cottonseed Meal |
| | Free Choice | Free Choice | Free Choice | Free Choice |
| Total weight at beginning in lbs..... | 835 | 825 | 835 | 835 |
| Average weight at beginning in lbs..... | 119.3 | 117.5 | 119.3 | 119.3 |
| Total final weight in lbs. | 1,705 | 1,475 | 1,460 | 1,810 |
| Total gain in lbs..... | 870 | 650 | 625 | 975 |
| Average gain in lbs.... | 124.3 | 92.9 | 89.3 | 139.3 |
| Average daily gain in lbs. | 1.35 | 1.01 | .97 | 1.51 |
| Kafir consumed | 3,640 | 3,215 | 3,240 | 3,751 |
| Tankage consumed | 400 | ..... | ..... | 200 |
| Cottonseed meal consumed ..... | ..... | ..... | 475 | 150 |
| Peanut meal consumed ..... | ..... | 600 | ..... | 525 |
| Feed for 100 lbs. gain | 473 | 587 | 594 | 474 |
| Pounds of grain for one lb. of protein supplement | 7.5 | 5.4 | 6.7 | 4.2 |

It will be noticed from the table above that the lot getting kafir and three supplements made better gains than any of the other lots. This would seem to indicate that a variety of supplements is better than one. However, the amount of grain consumed for 100 pounds of gain is practically the same in the lot getting the three supplements and the lot getting just tankage as a supplement for kafir. Neither peanut meal nor kafir meal gives as good results as the supplement in this test, as tankage or all of them combined. It will be noticed from the above table that the lot getting three supplements used a larger percent of supplements than the other lots. The lot making the most economical use of the supplements was the lot getting kafir and tankage.

No attempt has been made in the above table to give the cost of production or the profit, because the prices are changing so rapidly that they would probably not mean anything by the time this is printed.

SECOND-YEAR TEST

In order to verify the results of the test recorded above, the same rations were fed again in 1918. This test began January 29 and lasted until April 9, or a period of seventy days. In both of these tests the usual method of weighing the pigs at intervals and averaging three days weights to get the initial and final weight, were used. Care was exercised in weighing the feed and weighing the pigs. Mr. Charles Tillion deserves credit for the careful execution of the plans of the second test.

Thirty-two pigs weighing about 100 pounds each and about eight months of age were divided as equally as possible into four lots with eight pigs in each lot. These pigs were purchased from Mr. Ed Thatcher and were all sired by a purebred Duroc Jersey boar, and were out of practically purebred Duroc Jersey sows. They had been pastured on alfalfa and other forage crops, and had made the first 100 pounds on very little grain. Consequently they were thin in flesh.

Before starting the test the pigs were each given the double treatment for cholera, and were given about three days preliminary feeding before putting them on full feed. Self-feeders were used for both the grain and the supplements. The pigs were stationed in a good hog house which gave them good protection during the unusually cold days of winter. Undoubtedly the good gains made by these pigs could not have been secured during this severe weather without protection from the cold, such as this good hog house afforded.

Self-feeders were used in this test the same as the year before, and they were arranged in such a way that the pigs had a free choice of the feeds given them.

The pigs had access to plenty of clean water at all times, and they were also given bedding on the brick floors of the pens. The runs outside are floored with cement.

The following table gives the daily gain per head and the number of pounds of feed for each 100 pounds of gain made.

| Rations in Self-Feeder | Lot I Kafir and Tankage | Lot II Kafir and Peanut Meal | Lot III Kafir and Cottonseed Meal | Lot IV Kafir, Tankage, Peanut Meal and Cottonseed Meal |
|---|-------------------------------|------------------------------------|--|--|
| Daily gain per pig | 1.97 | 1.54 | 1.34 | 1.97 |
| Pounds of feed eaten for 100 lbs. gain.. | 361 | 430 | 430 | 413 |

Taking the first item in the table, the daily gain per pig, it will be noted that the best average daily gain was made by the pigs getting tankage in addition to their kafir, and the lot getting all the supplements. The lot that had access to peanut meal and kafir meal made slightly better gains than the cottonseed meal lot.

The next part of the table shows the amount of feed eaten for each 100 pounds of gain made. It will be seen that the lot getting tankage and kafir made 100 pounds of gain on 361 pounds of grain, while the next best lot required 413 pounds of grain; the lot that ate peanut meal as a supplement and the lot that ate cottonseed meal as a supplement required the same amount of feed for 100 pounds of gain.

It may be of interest to the reader to look over the figures showing the amount of each kind of feed eaten, the initial and final weights and gain per lot. The following table gives this data:

| Rations in Self-Feeder | Lot I Kafir and Tankage | Lot II Kafir and Peanut Meal | Lot III Kafir and Cottonseed Meal | Lot IV Kafir, Tankage, Peanut Meal and Cottonseed Meal |
|--------------------------|-------------------------------|------------------------------------|--|--|
| Initial weight per lot.. | 839 | 825 | 829 | 827 |
| Final weight per lot.... | 1,948 | 1,681 | 1,590 | 1,933 |
| Gain per lot | 1,109 | 856 | 761 | 1,106 |

Feed Eaten

| | | | | |
|-----------------------|-------|-------|-------|-------|
| Kafir | 3,734 | 3,271 | 3,202 | 3,601 |
| Tankage | 375 | ..... | ..... | 248 |
| Cottonseed meal ..... | ..... | ..... | 464 | 232 |
| Peanut meal ..... | ..... | 414 | ..... | 398 |

The money value of the feed and the hogs is not given because there is such a great fluctuation in the price of both feeds and hogs that these figures would be meaningless. The reader can easily attach to the various items the market value that exists at the time he cares to use the figures.

The test in 1917 and the test in 1918 gave practically the same results, except that the pigs in 1918 made a little better use of their feed. This is accounted for by their previous treatment, and also by

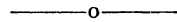
the condition of the feed. In 1918 the kafirs were at their best, and the pigs were in very thrifty condition, but were thin in flesh and were able to make extra good gains on feeds given them.

CONCLUSIONS

Of the three protein supplements tried in connection with kafir, tankage gave the best results.

The pigs getting tankage ate more feed, made faster gains, made greater gains per 100 pounds of feed, and made more economical gains than those getting cottonseed meal or those getting peanut meal.

The lot getting three supplements made as rapid gains, but ate more feed per 100 pounds of gain than the tankage lot. They also made less profit.



**COMPARING CORN, KAFIR AND DARSO AS FATTENING
FEED FOR PIGS**

Kafir and corn have been fed so much, and so many tests have been made comparing these two feeds, that their value is pretty well understood. Darso is a newer plant, and the grain is being used to take the place of kafir and corn in some parts of the State. So many good reports have been made of it that its relative feeding value should be known. In order to compare it with these other feeds, a test was made with 100-pound pigs. Twenty-four pigs, all sired by the same Duroc Jersey boar, and out of uniform sows of the same breed, were divided into three lots as equally as possible.

These pigs were from the same herd and were the same kind as those described in the test reported elsewhere in this article. These pigs were purchased from Mr. Ed Thatcher. They had made most of their growth up to the time they were put on this test on alfalfa and other forage crops. They showed the effect of grazing, were thin in flesh, and had large frames when purchased from Mr. Thatcher.

They were put on feed January 29 and fed until April 9, 1918. Before the test began they were all given the double treatment for cholera.

Self-feeders were used, and they were so arranged that the pigs could easily get either kind of feed they wanted.

The following table gives the daily gain per head, and the number of pounds of feed required for each 100 pounds of gain:

| | Lot I Corn and Tankage | Lot II Darso and Tankage | Lot III Kafir and Tankage |
|------------------------------|------------------------------|--------------------------------|---------------------------------|
| Daily gain per pig | 2.01 | 1.97 | 1.97 |
| Feed for 100 lbs. gain | 348.7 | 423 | 370 |

It will be noticed that the daily gain per pig was practically the same in each lot.

In the amount of feed for 100 pounds of gain, the lot getting corn required only 348 pounds of feed, while the kafir lot required 370 pounds, and the darso lot 423 pounds of feed for 100 pounds of gain. This seems to indicate that corn is most efficient, kafir next, and darso next in efficiency.

Let us now notice the amount of each kind of feed eaten:

| Feed Eaten | | | |
|--|---------------------|----------------------|----------------------|
| | Lot I | Lot II | Lot III |
| | Corn and Tankage | Darso and Tankage | Kafir and Tankage |
| Tankage | 418 | 535 | 375 |
| Corn | 3,513 | ----- | ----- |
| Darso | ----- | 4,138 | 3,734 |
| Relative amount of grain and supplement when supplement is 1.0 | 8.4 | 7.7 | 9.9 |

It will be seen from the last item that the lot getting darso ate more tankage in proportion to the grain, while the lot eating kafir as a base required less tankage. The grain was all ground to the same degree of fineness, and the kafir and darso were of very good quality, as there were no heavy rains during the harvesting season to damage it. While the corn was not extra in quality, it was northern corn, and was not real hard. It was ripe enough, however, that similar corn did not become damaged in the bin later on.

CONCLUSIONS

This test indicates that corn is more efficient as a fattening feed for hogs than either kafir or darso, and that kafir ranks ahead of darso in feeding value.

When ground and fed in self-feeders, kafir and darso will make as rapid gains and as good pork as corn.

More supplement is required for darso than for kafir, and less for kafir than for corn.

Further work in this line will follow.

