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Grazing Peanuts With Hogs versus Marketing A Crop of Peanuts

By

GEO. S. TEMPLETON

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GRAZING PEANUTS WITH HOGS
VERSUS
MARKETING A CROP OF PEANUTS*

By

GEO. S. TEMPLETON*

INTRODUCTION.

With the rapid increase in the acreage of peanuts in Alabama during the past two years, the question of the best way to market the crop has been a problem for a large number of farmers. The shortage of labor this season and last has made the harvesting of a large acreage, in some sections of the state, very difficult. Occasionally rainy weather during the harvest season damages a large percent of the crop, or the nuts sprout and are unfit for the market. Growing the same crop year after year on the same field is a bad practice from the standpoint of soil fertility and plant disease. The author of this bulletin has several letters from the peanut growing sections of Virginia and North Carolina stating that in those sections large acreages of land have reached the stage where a profitable crop of peanuts cannot be produced, due to the one crop system that removes all of the peanuts and the hay from the soil year after year.

As the peanut crop has grown to be such an important one in Alabama, the Animal Husbandry Department of the Experiment Station planned an experiment to throw as much light as possible on the question as to which is the more profitable,—to sell a crop of peanuts, or graze the crop with hogs?

OBJECT OF THE EXPERIMENT.

1. The object of this experiment was to determine which is the more profitable,—to market a crop of peanuts or to graze the crop with hogs?
2. To determine the carrying capacity of one acre of peanut pasture.
3. To determine the cumulative effect of both sys-

*Credit is due Mr. V. W. Crawford for the accurate records and the careful supervision of the test for 1917, and to Mr. G. L. Burleson for the similar work for the 1918 test.

tems of marketing the crop on the fertility of the soil.

PLAN OF THE EXPERIMENT.

The two tests reported for this experiment were conducted on the farm of T. R. Martin at Union Springs, Alabama. Mr. Martin furnished the hogs, the equipment, and the crops, and the Experiment Station furnished a trained man to personally supervise the tests and keep accurate records. Funds were provided for this test by the State Local Experiment Law.

Mr. Jno. T. Williamson of the Agronomy Department assisted the author in measuring the areas of peanuts and in collecting the data on the cost of harvesting the crop.

In selecting the area for the test each year a uniform area was chosen as to soil character and stand of peanuts.

The small white Spanish peanut was used both years. On September 4, 1917, one acre of peanuts was measured off and every third row harvested to determine the yield of nuts and hay. The peanuts from the one-third acre were hauled to the barn, stacked in the open, cured, and later thrashed and weighed. The acre was then fenced in and seven high grade Duroc-Jersey and Berkshire pigs were weighed individually and placed on the two-thirds of an acre of peanuts. The similar area harvested yielded at the rate of 39.5 bushels of peanuts per acre. When the crop was consumed by the hogs individual weights were taken.

In the early part of August, 1918, another area of one and one-half acres was measured off for the test. This time one acre was fenced in and on August 23 seven high-grade Duroc-Jersey pigs were weighed individually and turned into the field. The one-half acre of peanuts was harvested as in the previous year. Careful records were made as to the labor required to harvest the crop. The acre yielded 30.2 bushels of peanuts. When the crop was consumed by the hogs individual weights were again obtained.

The following table shows the amount of pork or of peanuts and peanut hay produced on one acre for each of the two year's tests:

TABLE I.—*Showing Amount of Pork, or Peanuts and Peanut Hay Produced on One Acre.*

Year	No. Hogs	Total initial weight of hogs	Total final weight of hogs	Total pork produced on one acre	Peanuts produced one acre	Peanut hay produced one acre
		<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>
1917	7	(2-3 acre) 445.5	(2-3 acre) 891	668.2	1107	1320
1918	7	(1 acre) 504.	(1 acre) 920	416.	846	732

The hogs used in the two tests were not finished well enough for the market at the close of the test, so they were put in with other hogs on peanut pasture and finished for the market. They were later shipped to the Birmingham Packing Company at Birmingham, Alabama.

FINANCIAL STATEMENT.

The hogs used in the test in 1917 were valued at 15 cents per pound when the test was finished, as that was the price on peanut hogs at that time. The local price for peanuts was 6 cents per pound, peanut hay, \$15.00 per ton. Local prices for labor are used in the financial statement. The same values are used in making the 1918 financial statement.

MARKETING PEANUT CROP VS. GRAZING WITH HOGS, 1917.

2-3 acre grazed produced at rate of 668.2 lbs. pork per acre, @ 15 cents per lb. -----	\$100.23
1-3 acre harvested produced at rate of 1107 lbs. peanuts per acre @ 6 cents per lb. -----	\$66.42
1-3 acre harvested produced at rate of 1320 lbs. peanut hay per acre, @ \$15.00 per ton ----	9.90
	<u>\$76.32</u>

Cost of plowing up peanuts, gathering, hauling, stacking and threshing (1 acre):

69 man hours @ 50 cents per day -----	\$3.45
25 woman hours @ 40 cents per day ----	1.00
6 hours one mule and plow @ \$1.25 per day -----	.75
9 hours one two-horse team @ \$2.00 per day -----	1.80
7½ hours one one-horse wagon @ \$1.50 per day -----	1.11
4½ man hours threshing @ 50 cents per day -----	.22
39½ bushels threshed @ 10 cents per bu. -----	3.95
	<u>\$12.28</u>
Sales from one acre minus cost of harvesting --	\$64.04
	<u>64.04</u>
Profit in favor of grazing crop with hogs (fertilizer removed by crop not considered) -----	\$ 36.19

MARKETING PEANUT CROP VS. GRAZING WITH HOGS, 1918.

One acre grazed produced 416 lbs. pork @ 15 cents per lb. -----	\$ 62.40
One-half acre harvested at rate 846 lbs. peanuts per acre @ 6 cents per lb. -----	\$50.76
One-half acre harvested at rate of 732 lbs. hay @ \$15.00 per ton -----	5.49
	<hr/>
	\$56.25

Cost of harvesting and threshing (1 acre) :

Man hours:	
Plowing up peanuts, 5½ hrs. @ 50 cents per day -----	.27
Gathering peanuts 22 hrs. @ 50 cents per day -----	1.10
Hauling peanuts, 10 hrs. @ 50 cents per day -----	.50
Fixing poles for stacking, 2 hrs. @ 50 cents per day -----	.10
Stacking, 10 hrs. @ 50 cents per day ----	.50
Threshing, 6 hrs. @ 50 cents per day --	.30
Horse hours:	
Plowing up peanuts, 5½ hrs. @ \$1.25 per day -----	.68
Hauling (team) 5 hrs. @ \$2.00 per day --	1.00
30.2 bushels threshed @ 10 cents per bu.	3.02
	<hr/>
	\$ 7.47

Sales from one acre, minus cost of harvesting.. \$48.78 \$ 48.78

Profit in favor of grazing a crop of peanuts with hogs, (fertilizer removed by crop not considered) ---- \$ 13.62

From the above financial statements it is seen that in 1917 *grazing the acre of peanuts returned \$36.19 more than was received for the crop of peanuts and peanut hay.* In other words, the hogs paid their owner the market price for the crop, harvested the crop, and returned a net profit of \$36.19 per acre more than the crop would have sold for on the market.

The financial statement for the 1918 test shows that there was a *balance of \$13.62 per acre in favor of grazing the crop with hogs.*

The above statements do not give all of the results that are to be derived from the two systems of marketing the crop.

A permanent system of agriculture is an ideal to strive for. The removal of all of the plant food from the soil year after year, by selling the entire crop, can lead to but one result, and that is depletion of the soil.

In marketing the crop by grazing or selling it is only fair in making a financial statement to debit or credit the field on which the crop was raised with the amount

of plant food removed or added to the soil as a result of the two systems being tested by the experiment.

It is planned to make more tests in the future on this question, and the cumulative effect of both systems on the productive quality of the soil will be reported later.

AMOUNT OF PEANUTS REQUIRED TO PRODUCE ONE POUND OF PORK.

One of the striking results in both years' tests is the small amount of peanuts required to produce one pound of pork. The 1917 crop yielded 1107 pounds (39.5 bu.) of peanuts to the acre and produced 668.2 pounds of pork. One pound of pork was produced on 1.65 pounds of peanuts plus forage. The 1918 crop yielded 846 pounds (30.2 bu.) of peanuts to the acre and produced 416 pounds of pork. One pound of pork was produced on 2.03 pounds of peanuts plus forage. The average amount of peanuts for the two tests to produce one pound of pork is 1.84 pounds. As the entire crop was grazed by the hogs the peanuts were a supplement to the forage crops, as the hogs ate a considerable amount of peanut vine, Florida pursley, and weeds.

In Bulletin No. 93 published by this Station, Prof. J. F. Duggar states as the result of an experiment conducted by him in 1897 that: "When fed to pigs in pens only 2.8 pounds of unhulled Spanish peanuts were required to produce each pound of increase in live weight."

CARRYING CAPACITY OF ONE ACRE OF PEANUT PASTURE.

The length of time one acre of peanuts will carry a certain number of hogs will depend on the size of the hogs and upon the yield of the crop. The following table shows the average initial and average final weights of the hogs and the yield of peanuts in the two tests:

TABLE II.—*Number of Days One Acre of Peanuts Carried Seven Pigs.*

Year	Yield of peanuts to acre	Average initial weight of each pig	Average final weight of each pig	Average daily gain	No. of days 1 acre carried seven pigs
	<i>Bu.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Days</i>
1917	39.5	63.5	128.7	1.67	57
1918	30.2	72.	131.4	1.60	37

With the information contained in the above table it is possible for the farmer to determine what acreage of peanut pasture will be required to accommodate a definite number of shoats of the above weights.

SUMMARY STATEMENTS.

1. An acre of peanuts in the first test (1917), yielding 39.5 bushels, returned a net profit of \$36.19 in favor of grazing the area with hogs over selling the crop on the market, when pork was 15 cents a pound, peanuts 6 cents a pound, and peanut hay \$15.00 per ton.

2. In the second test (1918) the hogs gathered an acre of peanuts yielding 30.2 bushels and paid their owner the market price for the nuts and hay, saved the labor of harvesting, and returned him a net profit of \$13.62 above what the crop would have netted him if it had been sold on the market.

3. When the hogs grazed the entire crop of peanuts yielding 39.5 bushels to the acre, the acre produced 668.2 pounds of pork.

4. A crop of 30.2 bushels of peanuts to the acre produced 416 pounds of pork.

5. In the two tests reported in this bulletin 1.65 pounds of peanuts in the first test (1917), and 2.03 pounds of peanuts in the second test (1918) produced one pound of pork: or, an average of 1.84 pounds of peanuts, plus the forage furnished by the crop of peanuts and other vegetation, produced one pound of pork.

6. An acre of peanuts yielding 39.5 bushels furnished grazing for seven pigs weighing 63.5 pounds (average weight at beginning of test) for 57 days.

7. An acre of peanuts yielding 30.2 bushels furnished grazing for seven pigs weighing 72 pounds (average initial weight) for 37 days.