

ANNUAL REPORT
OF THE
OFFICE OF SWINE EXTENSION
NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
Fiscal year ending November 30, 1927.

W. V. Hays, Field Agent

W. W. Shay, In Charge

There has been no change in the organization of the Office of Swine Extension during the last year. The connection between the Experimental, Teaching and Extension work in this subject is perhaps closer than ever before.

"The chief problems to cope with in Swine Extension work in North Carolina are to meet and overcome a fixed, mistaken belief on the part of farmers that:

First, cheapness of gain results in maximum profit.

Second, maximum use of pasture results in maximum profit.

Third, the use of soybeans for fattening hogs is profitable.

Fourth, the cost of gain on full hand-fed or self-fed hogs is much greater than it really is.

Fifth, the seasonal price trend of hogs has no material affect on profit.

These problems can be adequately met only by carefully conducted demonstrations, the results of which are thoroughly explained; such demonstrations being repeated until the method advocated, which is radically different from that customarily practiced, becomes, in a sense, a fixed habit of the demonstrator, and his understanding of the result is clear."

It is extremely important that a clear understanding of the results be acquired by the demonstrator, otherwise at the first serious drop in the price of hogs he will discontinue feeding.

The thoroughness with which the Swine Extension work of a county is conducted may be measured by its stability during a period of low prices. Discontinuance, as a general rule, may be expected to result

from a lack of knowledge of the cost of production; and such knowledge can be obtained only by keeping accurate records of feed consumption and gains.

Our method of doing this is extremely simple, and requires the use of very little time on the part of demonstrator and county agent, as all the figuring is done by this Office.

Merely keeping hogs on a farm without knowledge of or practice of proper methods of feeding, as specified by (1), (2), (3), and (4) above, will usually be done with little or no profit when hog prices are about the average of prices since 1910.

A combination of the two mistakes: (4) the use of soybeans for fattening hogs, and (5) a disregard of the seasonal price trend, will invariably result in serious loss of potential profit; and during a period of low prices, the actual loss reaches an amazing total when the result of this common practice is considered from a statewide standpoint--it runs up into the millions!

As already stated, these conditions can be corrected only by a knowledge of the truth; and the truth can be made clear only through demonstrations, the results of which plainly disclose the facts in a convincing form, easily understood by anyone sufficiently interested to study them.

The Ultimate Goal

The ultimate State goal for which we are striving is a general knowledge of the profit possible from the proper feeding and seasonal marketing of hogs; the comparative exemption of such feeding from risk of financial loss, other than that due to disease; and the fact that the profit over the cost of producing corn is frequently multiplied by ten through its conversion into pork, as compared with the profit from selling the corn at the local market price.

For seven years this has been our goal.

There has been no yearly goal set; had this been done, last year it would have been beaten, for there was more progress made during the twelve months than during the preceding five years.

Had a goal been set for this year's work, it would have also been beaten, for the work done this year has been, in dollars, more than double that done last year--but from the educational standpoint, progress is not so easily measured.

Our knowledge of what affects profit has increased materially during the last year, as may be seen from attached material, much of which has been sent out in circular letters, as well as being made subjects of copy for the press. The graphs are copies of large charts, which are used at meetings of farmers.

Organization

An examination of the material attached to this report will, I believe, show that in order to avoid sending out misinformation, considerable time must be devoted to research.

A study and comparison of the results of a sufficient number of similar experiments to establish a basis, which may in turn be compared with another basis arrived at by the same process, for the purpose of comparing the profit from different methods, requires much time, but it is believed that the results of such research amply justify all the time devoted to it.

The subjects studied include not only various methods of feeding concentrates, with regard to both variety and amount, as well as the utilization of pastures and grazing crops, but also the results of various phases of the subject of marketing, as regards: (a) the time of year; (b) best market for a given locality (in this study length of haul, weight of hogs, quality of hogs, and the comparative discrimination of the markets must be considered).

Information regarding these matters can be acquired only through the study and analysis of the net returns from the sale of many cars of

hogs at the markets under consideration.

Such a study has been made of over 300 cars shipped during the first six months of 1926.

Net Profit is the yardstick with which the value of various methods and practices is measured and compared. The results arrived at by this method are sometimes very striking in their contrast with what is common belief regarding the subject.

Having acquired information such as that referred to above, it is of little value unless made use of by the farmer. How to present it in a manner that will cause the adoption of the more profitable methods and practices which are recommended, becomes another problem.

A mere statement of the facts, either briefly, or supplemented with substantiating figures, fails, in a vast majority of cases, to make an impression of sufficient depth to result in a change of methods.

Our job, therefore, is only half done when the truth regarding these matters is learned.

Assimilation, first by the county agent, then by the farmer, is necessary before lasting results may, with reasonable assurance, be expected.

For this purpose, material presenting the facts in a striking manner, appears necessary, and its preparation requires further study and time.

Under our plan of organization most of the time of one man is devoted to office work, which embraces the work described above, in addition to answering correspondence, and preparing copy for the press.

It is highly desirable that rather close contact between this Office and the county agents be maintained, as without their co-operation very little or nothing can be accomplished. For this purpose a field agent is necessary.

The field agent is charged with the responsibility of presenting the work to the county agents and assisting them in establishing the more profitable methods of feeding and marketing as a general farm practice.

This is usually accomplished through the medium of feeding demonstrations, the results of which are learned by weighing both the hogs and the feed each four to five weeks; the feed, when given by hand, being designated, weighed and mixed in advance in quantity sufficient for the animals during the period until the next date of weighing, usually five weeks.

At the expiration of the period, the hogs are again weighed, and their weight reported to this Office, together with the amount of feed remaining from the first mixing. This is done on forms issued for the purpose.

Promptly upon receipt of this information, a new feeding schedule for the next period is mailed to the agent and demonstrator, and the result of the last period, analyzed, tabulated, and mailed to both as soon as possible.

On request by the agent, the results are mimeographed for distribution in the neighborhood where the demonstration was conducted. This, being local history, is effective, and though it is seldom given, local publicity of such results is highly desirable.

When the hogs are sold, a final and complete financial statement covering the entire transaction from every standpoint is issued.

In this connection we are deeply indebted to the nine Commission Firms who, during the fiscal year covered by this report, handled about 400 cars valued at \$600,466.25, for which they mailed copies of individual sales accounts to this Office.

This fine co-operation on the part of these firms enabled us to secure information not otherwise obtainable.

Familiarity with conditions in the field on the part of the office man is obtained by occasional attendance at meetings, and visits to agents and farms; and a clear understanding of what is going on in the office is enjoyed by the field agent owing to the fact that while in the office he assists in the computation of the results of demonstrations, and the tabulation of same on a countywide or statewide basis.

THE ECONOMIC IMPORTANCE OF THE WORK

About one-third of the cultivated area of the State is devoted to the production of corn.

The profit on corn is increased about 500% by converting it into pork, as compared with the profit from selling it at the average market price.

An acre of land that will produce 500 pounds of lint cotton, will, if planted to corn, and the corn properly supplemented, produce 500 pounds of pork.

Corn converted into pork, while only about half as profitable per acre as cotton, is very much more profitable per day of labor devoted to its production than cotton.

There are about 60,000 acres of soybeans planted annually for grazing in North Carolina. Owing to the average seasonal variation in prices and the depreciation in their quality, hogs sold out of the soybean fields during the winter return less than nothing for the soybeans with a consequent loss to the farmer greater than the cost of producing the beans.

The loss of potential profit due to the mishandling of 25% of the corn crop, and the acreage of soybeans grazed, would doubtless average \$8,000,000 per year during the last three years.

The economic importance of Swine Extension work is shown by the attached graphs. The extent to which it has been adopted is indicated by the map which illustrates the activities of the various counties during the first six months of the calendar year. In this connection it is significant that the two counties which were outstanding in total value of sales, and with net returns among those most satisfactory, are the two oldest counties from the standpoint of continuous Swine Extension work in co-operation with this Office. When considered in the light of the economic importance of the work, the large number of white counties on the map, and the proportion of those showing red, would appear to justify the employment of an additional Field Agent.

THE OBJECTIVE

The object of this work is:

To bring about an adjustment of the number of hogs raised on a farm to the ability of that farm to supply sufficient corn to full feed daily those intended for pork until they are sold at the age of seven to eight months. (For this purpose there should be about 140 bushels of corn for each brood sow kept.)

To so adjust breeding dates that full advantage may be taken of the average seasonal price trend, as shown on the chart.

To establish the practice of full feeding a properly balanced ration wherever hogs are kept in the State, regardless of whether they have pasture or not, but to encourage the use of pasture.

To make the farmer understand that, assuming that he has adopted the above recommendations, his profit will be governed by the fertility of his land rather than by the market price of corn; that pork produced on land yielding 20 bushels of corn per acre will cost, under the best practice, about \$8.00 per 100 pounds, while on land yielding 40 bushels of corn, the cost of producing pork will be about \$5.00 per 100 pounds, and about \$4.00 per 100 pounds on land yielding 60 bushels of corn.

To stabilize the business of pork production as a safe and important source of income.

This objective, as already stated, can be accomplished only through a widespread knowledge of the truth, and such knowledge can be attained by the farmer only through accurate records. The continuation of demonstrations of the most profitable methods of feeding and marketing appears to be justified by the economic importance of the work.

MOST PROFITABLE WEIGHTS AT WHICH TO SELL HOGS

Hog prices fluctuate constantly, going a little higher one day and a little lower another day; nevertheless there is a more or less pronounced average seasonal trend, either upward or downward. There is also a variation in the weight which brings the top price.

While the individual farmer is helpless so far as controlling the market price of hogs is concerned, he can, by forethought, govern the quality, and to an extent, the weight at which he sells, and it will pay him to do so.

The price figures in the following tables are \$1.00 lower than the average prices during the five months, March, April, May, August, and September from 1910 to 1926 inclusive, the top price weight being 192 pounds, which is the average of the class "175 to 210 pounds". There is a variation of 25¢ between price classes.

PROFITS AT VARIOUS WEIGHTS

TABLE NO. 1

Market classes	Average of class weight	Price of class	Value	Approximate cost	Profit
175-210	192	\$10.25	\$19.68	\$14.86	\$4.82
210-250	230	10.00	23.00	17.43	5.57
250-300	275	9.75	26.81	20.58	6.23
130-165	147	9.50	13.96	11.93	2.03
110-120	115	9.25	10.64	9.93	0.71

HOW PROFIT INCREASES WITH ADDITIONAL WEIGHT EVEN THOUGH GAINS ARE MADE AT INCREASING COST, AND THE PRICE DECLINES AFTER THE TOP PRICE CLASS WEIGHT IS PASSED.

TABLE NO. 2

Approximate cost of producing hogs of various weights, and of additional gains.	Cost of hog	Price and Value	Profit per hog	Profit increased 77.7% by adding 160 pounds
Cost of pig, 30# @ 16.1¢	\$4.83	@9 1/4¢		Profit on 115 # hog, \$0.71
Add 85# @ 6¢	5.10			
Sell at 115# costing	9.93	\$10.64	\$0.71	
Cost of 115# @ 8.63¢	9.93	@9 1/2¢		Profit increased 186% by adding 32#
Add 32# @ 6.25¢	2.00			
Sell at 147# costing	11.93	\$13.96	\$2.03	
Cost of 147# @ 8.12¢	11.93	@10 1/4¢		Profit increased 137% by adding 45#
Add 45# @ 6.5¢	2.93			
Sell at 192# costing	14.86	\$19.68	\$4.82	
Cost of 192# @ 7.74¢	14.86	@ 10¢		Profit increased 16% by adding 38#
Add 38# @ 6.75¢	2.57			
Sell at 230# costing	17.43	\$23.00	\$5.57	
Cost of 230# @ 7.58¢	17.43	@9 3/4¢		Profit increased 12% by adding 45#
Add 45# @ 7¢	3.15			
Sell at 275# costing	\$20.58	\$26.81	\$6.23	

HOW THE PRICE TREND OPERATES

On the last day of November there came to my desk, from Richmond, Virginia, carbon copies of sales accounts of two car-loads of hogs.

There were 72 hogs in each car.

The hogs in one car weighed 16,735 pounds, and all sold for \$9.25 per 100 pounds, bringing their owner, a lady, \$1,456.14 net, after freight and commission, amounting to \$91.85, were deducted.

The price of such hogs averaged \$12.25, or \$3.00 more per 100 pounds last September; had these hogs been ready for sale at the same weight and condition during September, this lady's check for them would have been \$502.05 more than it was, or \$1,958.19.

The other car of 72 head were shipped from another county by a man. They sold at prices all the way from \$7.50 to \$9.25, subject to their killing "hard", only eight of them, which averaged 236 pounds, bringing the latter price. There was, in addition to the freight and commission, a dockage of \$18.00 for "soft" condition. The man's check called for \$973.42--\$11.38 less than half the value of 72 prime hogs last September.

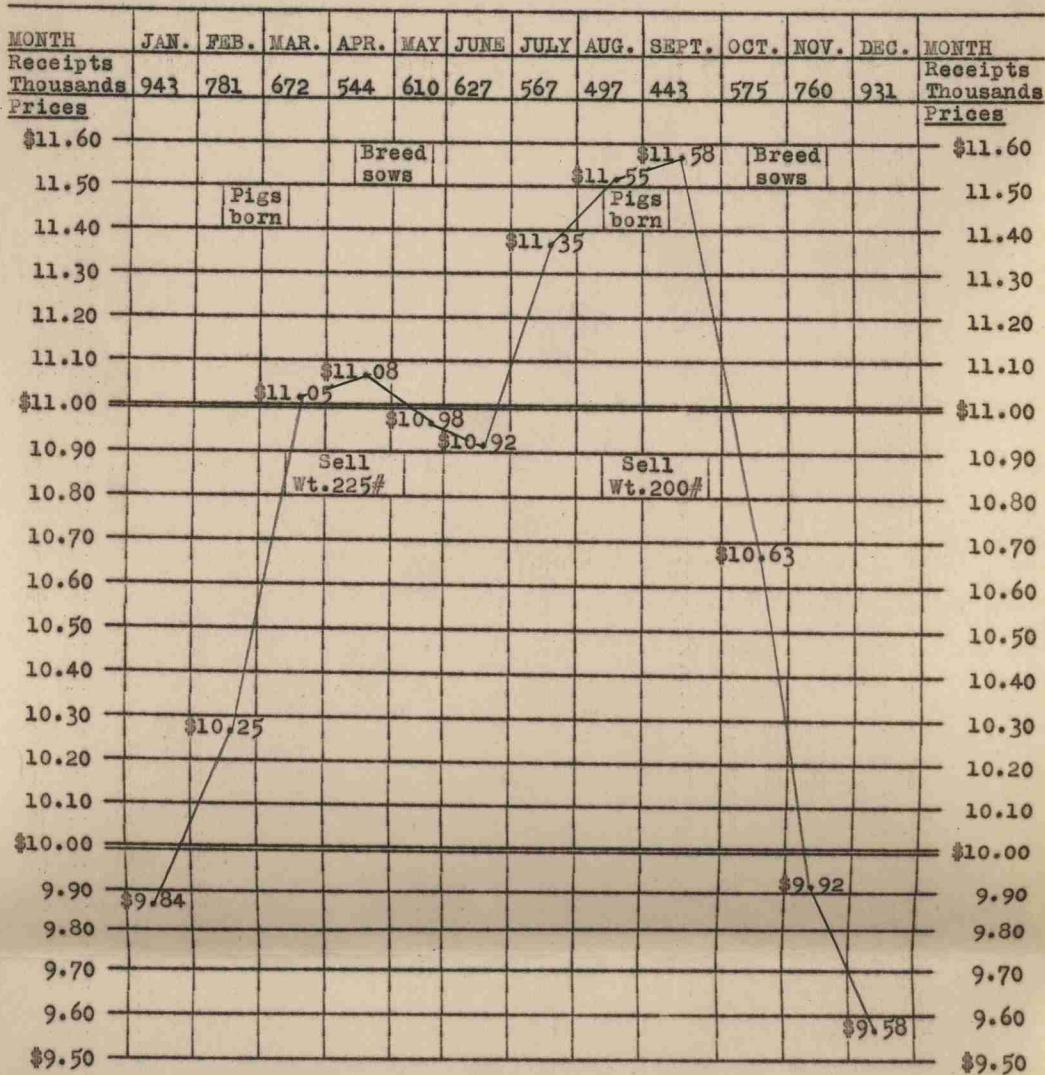
That is a difference of \$984.77 in the net receipts from 72 hogs, \$970.77 of which is due to selling nondescript hogs during the late fall and winter, instead of prime hogs during September this year; the average decline in price from September to December is about \$2.00 per 100 pounds.

Had all of this man's hogs been "oily", his check would have been \$225.10 less than it was, or \$748.32, which is certainly \$100.00 less than the cost of production, and \$1,209.87 less than 72 prime hogs were worth last September. The semi-annual penalty paid for ignoring facts!!

SEASONAL MARKET TREND OF HOGS

Average Price and Receipts of Hogs by Months

17 Year Period, 1910-1926 inc., Chicago Market.
Eastern Market Price about \$0.75 Higher.



OFFICE OF SWINE EXTENSION

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING

HOW THE PRICE TREND OPERATES

ON ONE CAR OF 72 HOGS.

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<u>MONTH</u>	<u>PRICE</u>	<u>NUMBER</u>	<u>WEIGHT</u>	<u>VALUE</u>
Sept.	\$11.58	72	16,000 lbs.	\$1,852.80
			Cost to produce @ 7 3/4¢	1,200.00
			Gross return <i>above cost</i>	\$ 652.80
			Selling cost @ 7 3/4¢	116.80
			Net return <i>above cost</i>	\$ 536.00

Profit Per Pig \$7.44

Oct. \$10.63

Nov. \$9.92

Dec. \$9.58

<u>NUMBER</u>	<u>WEIGHT</u>	<u>VALUE</u>
72	16,000 lbs.	\$1,532.80
	Cost to produce @ 7 3/4¢	1,200.00
	Gross return <i>above cost</i>	\$ 332.80
	Selling cost @ 7 3/4¢	116.80
	Net return, if "hard"	\$ 216.00
	If "soft", dockage @ \$1.00	160.00
	Net return if "soft"	\$ 56.00
	If "oily", another \$1.00	160.00
	<u>Loss</u>	\$ 104.00

Loss Per Pig \$1.44

The Difference In Net Returns { Per car \$640.00
 { Per pig \$8.88

During 1927 the price declined \$3.00 instead of \$2.00.

Average of 17 years' hog prices 1910-1917

12

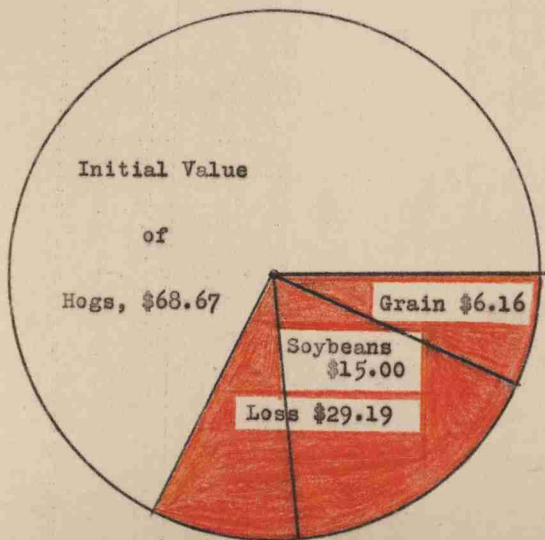
HOGGING SOYBEANS

What Actually Occurs at the Average of 17 Years' Prices

When hogs weighing around 150 pounds each are turned on soybeans during September, fed a limited amount of concentrates, and sold during December, the financial result is about as shown below.

There will be variations, of course, according to changes in the price of hogs, but at the average of 17 years' prices, a hard 200 pound hog will sell for more money during September than a 300 pound "oily" hog will sell for during December.

The gains and feed consumption per acre of soybeans shown below are the average of 13 trials covering four years, by Hostetler.



FINANCIAL STATEMENT

	<u>Debit</u>	
Sept. 25,		
To 4 hogs, 593# @ \$11.58	\$68.67	
To 1 acre soybeans	15.00	
To 352 # concentrates	6.16	
Total investment	<u>\$89.83</u>	
		<u>Credit</u>
Dec. 8		
By 4 hogs, 800# @ \$7.58		\$60.64
Loss on 1 acre		<u>\$29.19</u>

Cost per 100 pounds gain, \$10.22.

Mr. Farmer: Are you one of the many who are too busy handling hogs in the above manner to spend the little time necessary to find out what your hogs are doing to your pocketbook? When properly managed, hogs are just about as profitable as the above method is shown to be unprofitable. During the first six months of 1927, the farmers of North Carolina were docked over \$8,000.00 for the "soft" and "oily" condition of hogs shipped out of the State.

HOGGING DOWN CORN

13

Hogs at the Average of 17 Years' Prices.

The yield of corn, and the pork produced per acre, as shown below, are the average of the results of five years' experiments conducted by the Missouri Experiment Station.

At the average of 17 years' prices during September, the return per bushel of standing corn was \$1.56.

Good pigs, farrowed during February, and kept on self-feeders, can be turned on a good variety of early maturing corn in North Carolina about August 1, weighing around 120 pounds, and sold out of the corn fields during late September weighing 200 pounds.

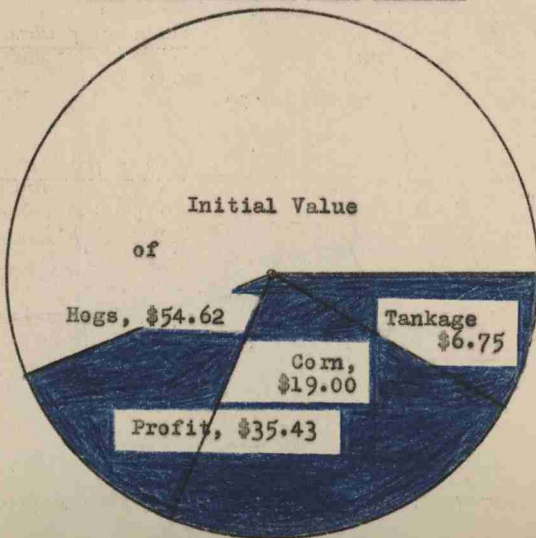
Fish meal or tankage should be kept before them in a self-feeder.

Corn Supplemented With Tankage

Value of gains per acre, \$60.07.

Pork produced per acre, 518.8 pounds.

Yield, 34.82 bu.



Cost per 100 pounds, \$4.96

FINANCIAL STATEMENT

Credit

Sept. 21, By 5 hogs, 1000 lbs. @ \$11.58 \$115.80

Debit

July 25, To 5 hogs, 481.2 lbs. @ \$11.35	\$54.62	
To 1 acre of standing corn	19.00	
To 193 lbs. tankage @ \$3.50	6.75	\$ 80.37
Profit on 1 acre of corn		<u>\$ 35.43</u>

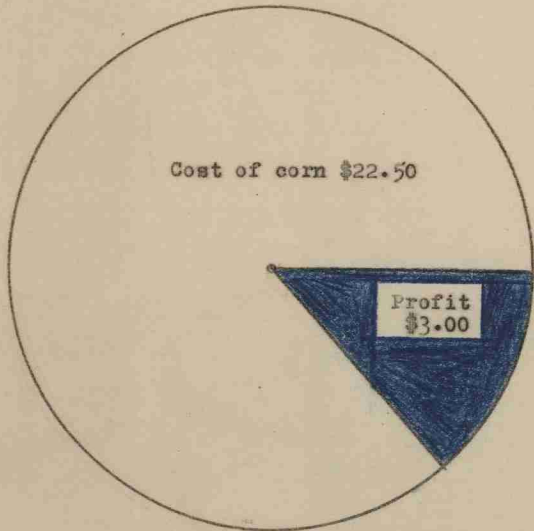
14

ONE ACRE OF CORN-THIRTY BUSHELS

HARVESTED AND SOLD

AS CORN

@ \$0.85 per bushel

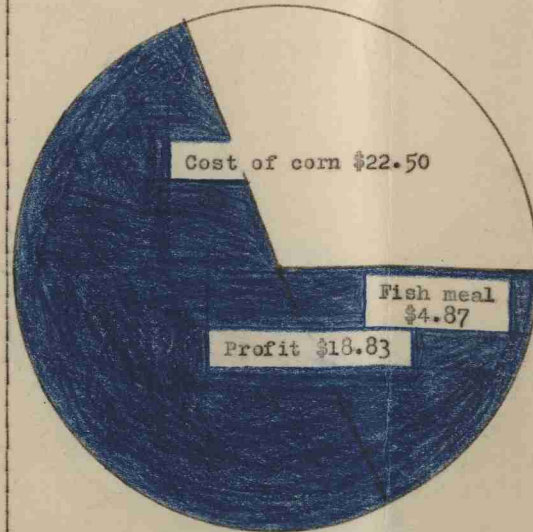


Profit
per
bushel
\$0.10

<u>Return per acre</u>	\$25.50
<u>Cost per acre</u>	22.50
<u>Profit per acre</u>	\$ 3.00

AS PORK

@ 10¢ per pound



Profit
per
bushel
\$0.63

<u>Return per acre</u>	\$46.20
<u>Cost of corn</u>	\$22.50
<u>Cost of fish meal</u>	4.87
<u>Profit per acre</u>	\$18.83

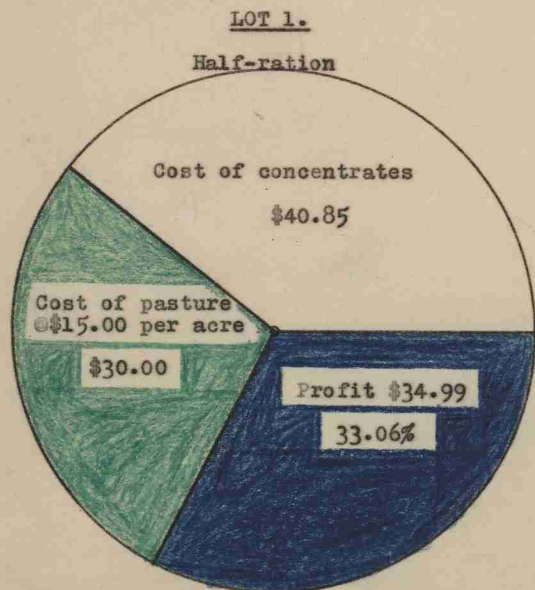
PROFIT INCREASED 5 27% BY FEEDING

15

COMPARISON OF FULL FEEDING WITH LIMITED FEEDING OF HOGS ON ALFALFA PASTURE.

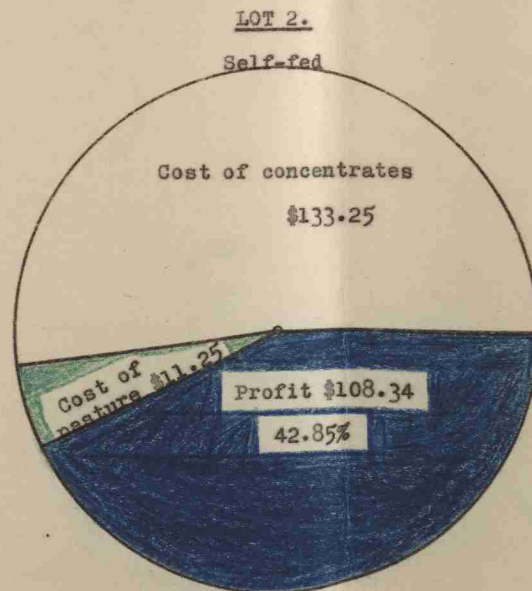
Fifteen Pigs 98 days. Charges: Corn \$0.75 per bushel; tankage \$70.00 per ton.

Pasture \$15.00 per acre.



Value of gain @ 10¢ \$105.84

Cost per 100 lbs. gain \$6.69. Profit per pig \$2.33



Value of gain @ 10¢ \$252.84

Cost per 100 lbs. gain \$5.72. Profit per pig \$7.22

Limited-fed pigs require about three times as much pasture as full-fed pigs, and gain about half as rapidly; nevertheless it is not customary to charge for pasture. Please study the next graph.

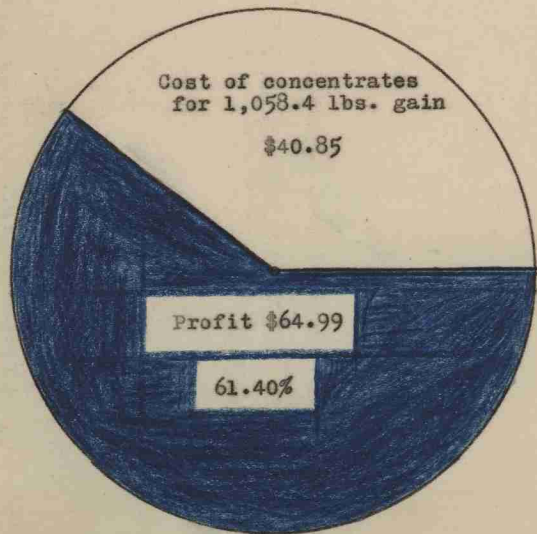
16
11

COMPARISON OF FULL FEEDING WITH LIMITED FEEDING OF HOGS ON ALFALFA PASTURE.

Fifteen Pigs 98 days. Charges: Corn \$0.75 per bushel; tankage \$70.00 per ton.

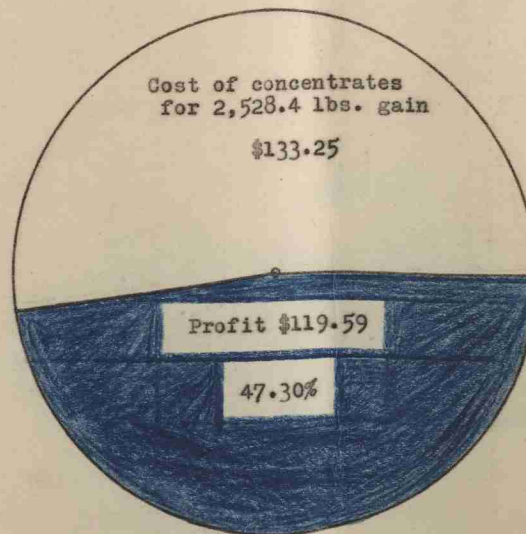
Pasture not charged.

LOT 1.
Half-ration



Value of gain @ 10¢ \$105.84
Cost per 100 lbs. gain \$3.86. Profit per pig \$4.33

LOT 2.
Self-fed



Value of gain @ 10¢ \$252.84
Cost per 100 lbs. gain \$5.27. Profit per pig \$7.97

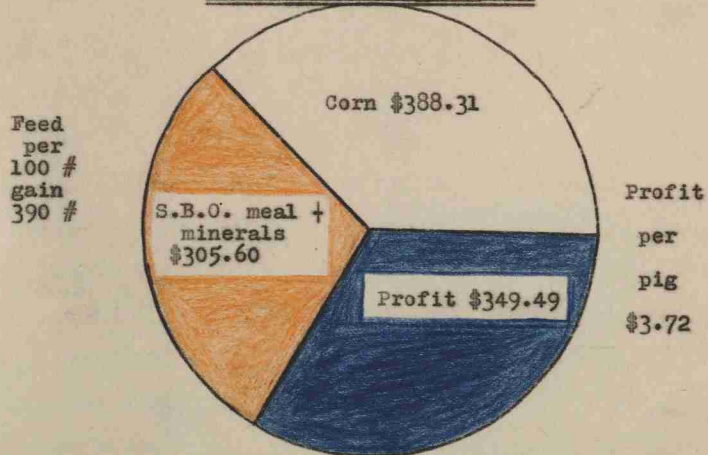
Note the absence of relationship between the Cost of Gain; Percentage of Profit, and Amount of Profit

SOYBEAN OIL MEAL COMPARED WITH FISH MEAL AS A SUPPLEMENT TO CORN IN SELF-FEEDERS

Ninety-four hogs, 63 days in dry lot.

Average of three trials at the Blackland Branch Station, by Hostetler.

LOT 1.
Soybean oil meal and corn.

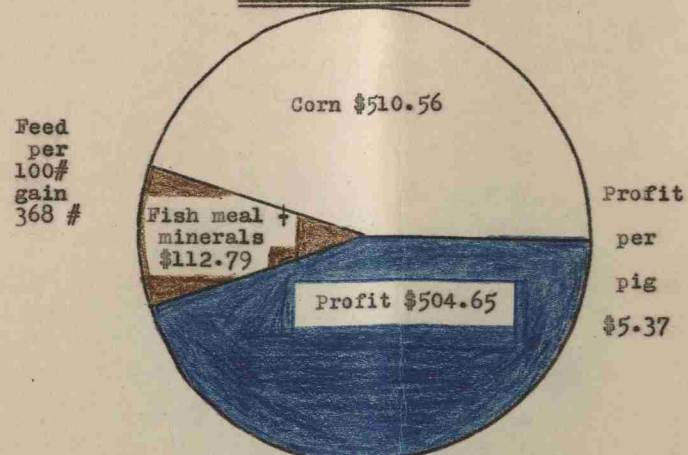


Value of gain @ 10%.....\$1,043.00

FINANCIAL STATEMENT

	<u>Credit</u>	
By 94 hogs, 20,210 lbs. @ 10%	\$2,021.00	
	<u>Debit</u>	
To 94 hogs, 9776 lbs. @ 10%	\$977.60	
" corn, 517.75 bus. @ 75¢	388.31	
" S.B.O. meal, 12099 lbs. @ \$2.50	302.47	
" minerals, 313 lbs. @ 1¢	3.13	
	<u>\$1,671.51</u>	
Returns over feed cost,	\$ 349.49	

LOT 2.
Fish meal and corn.



Value of gain @ 10%.....\$2,133.80

FINANCIAL STATEMENT

	<u>Credit</u>	
By 94 hogs, 21,338 lbs. @ 10%	\$2,133.80	
	<u>Debit</u>	
To 94 hogs, 10,058 lbs. @ 10%	\$1,005.80	
" corn, 680.75 bus. @ 75¢	510.56	
" fish meal, 3158 lbs. @ \$3.50	110.53	
" minerals, 226 lbs. @ 1¢	2.26	
	<u>\$1,629.15</u>	
Returns over feed cost	\$ 504.65	

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REPORT OF TON LITTER CONTEST DURING 1927

There were 15 entries in this project completed during the calendar year.

Rank	Name of owner	Address	County Agent	Boar	Sow	No. pigs raised	Date weighed	Total weight	Average weight
1	Sam Raper	Linwood	C.A.Sheffield	Gr.	Gr.	14	12/7/27	3165	226
2	R.E.Corbette	Greenville	R.B.Reeves	Gr.	D.J.	10	2/26/27	2483	248
3	E.T.Batson	Burgaw RFD	W.H.Robbins	D.J.	Gr.	12	8/13/27	2480	206
4	Roscoe Herring	La Grange	C.M.Brickhouse	D.J.	D.J.	12	11/27/27	2467	205
5	J.W.Younts	Lexington Rt. 2	C.A.Sheffield	Gr.	Gr.	9	9/1/27	2417	269
6	J.W.Younts	Lexington Rt. 2	C.A.Sheffield	Gr.	Gr.	10	1/14/27	2371	237
7	R.C.Ratledge (2 litters)	Advance	George Evans	Tam.	Tam.	10	8/17/27	2320	232
8	Clyde Zimmerman	Lexington Rt. 4	C.A.Sheffield	Gr.	Gr.	23	4/14/27	5280	229
9	R.E.Corbette	Greenville	E.F.Arnold	D.J.	D.J.	10	9/21/27	2214	221
10	B.S.Orrell	Advance	George Evans	Gr.	Gr.	8	8/25/27	2208	276
11	M.L.Hanes	Lexington Rt. 4	C.A.Sheffield	Gr.	Gr.	8	8/12/27	2197	274
12	Henry Moore	Winterville	R.B.Reeves	Gr.	Gr.	10	2/26/27	2109	210
13	Pinehurst Farms	Pinehurst	E.H.Garrison,Jr.	Berk.	Berk.	11	9/1/27	2104	191
14	Pinehurst Farms	Pinehurst	E.H.Garrison,Jr.	Berk.	Berk.	11	9/1/27	2010	182
<u>Totals and averages</u>									
15	11 owners		6 counties			158		35825	226

OFFICE OF SWINE EXTENSION

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING

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STATISTICAL RECORD OF TRAVEL, MEETINGS AND PUBLICATIONS

For the Fiscal Year ending November 30, 1927

Individual	Visits		Meetings		Letters written	Circular letters	Publications	Articles for press	Miles traveled	
	To agents	To demonstrations	No.	Attendance					Auto	Rail
W. W. Shay	31	74	39	2719	864	8	* 2	37	2566	6095
W. V. Hays	144	273	26	1185	487			12	7325	11977
Total	174	347	65	3904	1351	8	2	49	9891	18072

It is a practice of the Office to assemble information regarding the results of one or more methods of handling a certain phase of the business of feeding and marketing hogs, arrange it in the form of a table, chart or graph, sufficiently condensed to go on one sheet, then have it mimeographed for distribution under a form number.

Subjects treated in this manner during the last year are: Form 35, "One of Several Reasons Why North Carolina Hogs do not Pay--Poor Feeding"; Form 36, "Hoggind Down Corn and Soybeans"; Form 37, "Three Reasons Why North Carolina Hogs do not Pay"; Form 38, "Profits at Various Weights" (copy attached); Form 39, "Feeding the Pig for Growth"; Form 40, "List of Breeders with Stock for Sale"; Form 41, "Selling Corn as Pork". Publications: * Extension Folder No. 26, "Corn and Hogs Vs. Cotton for Profit"; Extension Circular No. 151, "Care of the Brood Sow".

Corn and Hogs vs. Cotton for Profit

By W. W. SHAY, Swine Extension Specialist

HOW DO YOU FIGURE PROFIT, PER ACRE OR PER DAY OF LABOR? THERE'S A DIFFERENCE

In Table No. 1 is given a statistical review of the averages of yields and prices of cotton, corn, and pork in North Carolina for a period of sixteen years.

If it is assumed that it cost \$1.00 per bushel to produce such a small yield of corn per acre, the market price of corn was below the cost of production eight of the sixteen years covered by the above table, and, at the average of prices for the entire period, the profit per bushel was only nine cents.

When the corn, properly supplemented, was converted into pork and the hogs sold at the average market price during April and September, the return per bushel of corn was above cost of production fifteen of the sixteen years, and at the average of prices for hogs during the entire period, the profit per bushel of corn so converted was \$0.54, or six times the profit per bushel from selling it as corn.

Table No. 2 shows the results of a survey of higher yielding farms than the average of the State, and gives valuable data which is made use of in Table No. 3, which clearly shows that a fair yield of cotton returns more per acre, both gross and net, than corn. It also shows that corn, properly supplemented, and converted into pork, and the pork sold during April or September, is more profitable per day of labor than cotton.

AVERAGE YIELD, AVERAGE PRICE AND AVERAGE VALUE PER ACRE OF LINT COTTON, AND OF CORN CONVERTED INTO PORK, AND COMPARATIVE VALUE OF CORN AT THE MARKET PRICE OF CORN, AND OF THE CORN CONVERTED INTO PORK AT THE MARKET PRICE OF PORK.

TABLE NO. 1

YEAR	COTTON			CORN						
	Average Yield Lint Per Acre (Pounds)	Average Price (Cents)	*Average Value of Lint Per Acre	Average Yield Per Acre (Bushels)	Average Price Per Bushel	Pork Produced from Average Yield (Pounds)	Average of April and Sept. Hog Prices (Per 100 lbs.)	Average Value Pork Per Acre of Corn	Cost of Supplement Per Acre of Corn	Returns Per Bushel of Corn
1910	227	14.1	\$32.01	18.6	\$0.76	286	\$ 9.40	\$26.88	\$3.40	\$1.26
1911	315	8.8	27.72	18.4	.82	283	6.75	19.10	3.37	.85
1912	267	12.2	32.57	18.2	.83	280	8.17	22.87	3.33	1.07
1913	339	12.6	30.11	19.5	.88	300	8.92	26.76	3.57	1.19
1914	290	6.9	20.01	20.3	.86	312	8.87	27.67	3.71	1.18
1915	260	11.2	29.12	21.0	.77	323	7.45	24.06	3.84	.96
1916	215	19.4	41.71	18.5	1.10	285	10.20	34.20	3.39	1.66
1917	194	27.7	53.74	20.0	1.70	308	16.82	51.80	3.66	2.40
1918	268	26.4	70.75	21.0	1.77	323	18.75	60.56	3.84	2.70
1919	266	35.2	93.63	19.0	1.85	292	19.15	55.91	3.47	2.76
1920	275	14.5	39.87	22.5	1.13	346	15.95	55.18	4.12	2.27
1921	264	16.4	43.30	19.3	.78	297	8.55	25.39	3.53	1.13
1922	250	24.5	61.25	20.0	.89	307	10.17	31.22	3.65	1.37
1923	290	30.8	89.32	22.5	1.02	346	8.65	29.93	4.12	1.14
1924	196.7	22.0	43.27	18.2	1.24	280	8.65	24.22	3.33	1.14
1925	255	19.0	48.45	18.5	1.10	285	12.92	36.82	3.39	1.80
16 Yrs. Aver.....	254.5	18.86	\$48.00	19.7	\$1.09	303	\$11.21	\$33.97	\$3.60	\$1.54

(Prices and yields of cotton and corn are taken from the Farm Forecaster; hog prices, Drovers' Journal Year Book.)
In the above table, 6½ bushels of corn and 34 pounds of fish meal are equivalent to 100 pounds of pork. 398 pounds of feed per 100 pounds gain on hogs.
(Above the average of many experiments.)
(*Value of seed should be added.)

RESULTS OF A FARM SURVEY

A survey of 50 farms in eastern North Carolina, conducted during 1916, showed the following average number of acres per farm, yield per acre, cost per acre and number of days of man labor involved in the production of cotton and of corn:

TABLE NO. 2

No. of Farms	COTTON				No. of Farms	CORN				
	Acres in Cotton	Yield of Seed Cotton	Cost Per Acre	No. Days Man Labor		Acres in Corn	Yield of Corn (Bus.)	Cost Per Acre	Cost Per Bushel	No. Days Man Labor
48	18.2	1149	\$54.42	15.15	50	34.3	29.7	\$22.41	\$0.755	3.73

COMPARATIVE RETURNS FROM THE ABOVE YIELDS

The application of the prices paid for cotton and hogs during 1916 (see Table No. 1) to the above yields of cotton and corn which were made during 1916, shows the following result: 6½ bushels of corn and 34 pounds of supplement (the latter charged at \$70.00 per ton), make 100 pounds of pork when hogs are full fed.

TABLE NO. 3

COTTON		CORN	
Credit		Credit	
By cotton, 414 lbs. lint @ 19.4¢	\$80.32	By pork, 447 ⁴⁵⁷ lbs. @ \$10.20	\$46.61
By cotton, 735 lbs. seed @ 1.5¢	10.25		
Debit		Debit	
To cost of production (Cost of ginning not included)	54.42	To cost of producing corn	\$22.41
INCLUDING 15.15 DAYS MAN LABOR		To cost of supplement	5.44
Profit per acre	\$36.15	INCLUDING 3.73 DAYS MAN LABOR	27.85
PROFIT PER DAY OF MAN LABOR, \$2.39.		Profit per acre	\$18.76
		PROFIT PER DAY OF MAN LABOR, \$5.02.	

The LABOR devoted to the production of ONE acre of cotton was sufficient to produce FOUR acres of corn. The value of the manure (\$7.42) is considered ample return for the labor of feeding the hogs.

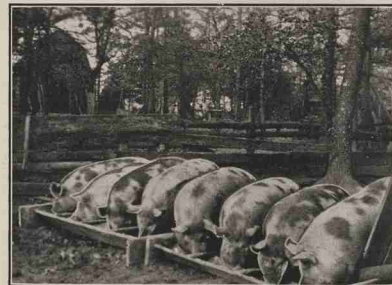
To the Farmers of the Cotton Growing Area of the State:

At this time, when the farmer who raises cotton is contemplating various other crops from which revenue may be derived as substitutes for cotton on some of the acreage formerly devoted to that crop, the information regarding the profit which it is possible to make from the corn and hog combination when the work is efficiently done, as shown by the examples of *net* revenue from the two crops when measured by the returns *per day of labor*, is interesting; it may be made use of to advantage on those farms where a lack of sufficient labor is one of the problems to be met.

The reliability of the data regarding pork production in the State has been proven again this year on over 200 farms by over 4,000 hogs on which records have been kept by the county agents; the average feed consumption was 372 pounds per 100 pounds gain, and the average returns on 27,703 bushels of corn was over \$2.00 per bushel.

Advance information regarding the Government Pig Survey indicates less hogs for slaughter this year than during any year since 1920-21.

Corn and Hogs VS. Cotton FOR PROFIT



DEMONSTRATION-FED HOGS READY FOR MARKET

NORTH CAROLINA
STATE COLLEGE OF AGRICULTURE AND ENGINEERING
AND
U. S. DEPARTMENT OF AGRICULTURE, COOPERATING
N. C. AGRICULTURAL EXTENSION SERVICE
I. O. SCHAUB, DIRECTOR
STATE COLLEGE STATION
RALEIGH

RECORD OF SALES OF HOGS IN NORTH

BY DISTRICTS AND COUNTIES

Owner	No. hogs	Weight	Price	Amount	Freight	Com.	Grade deduction	Check	Net price	Sel-ling Cost	Average weight	Misc. exp.
MOUNTAIN DISTRICT, J. W. GOODMAN, JR., ASHEVILLE												
Clay, sold locally	67	14849	10.79	1602.15				1602.15	10.79		221	
PIEDMONT DISTRICT, E. S. MILLSAPS, STATESVILLE												
Davidson, sold locally	481	106536	11.66	12418.34				12418.34	11.68		221	
Mecklenburg "	36	5276	15.65	825.60				825.60	15.65		146	
Iredell "	52	9689	11.78	1141.36				1141.36	11.78		186	
Totals	569	121501	11.84	14385.30				14385.30	11.84		213	
CENTRAL DISTRICT, O. F. MCCRARY, RALEIGH												
Alamance	59	10485	11.48	1203.59	68.20	24.04	Hard	1089.35	10.39	1.09	178	\$22.00
Granville	317	61615	10.44	6431.57	254.60	136.19	Hard	6040.78	9.80	.64	194	
Vance	87	15390	11.38	1752.15	63.35	39.00	Hard	1649.80	10.72	.67	177	
Moore, sold locally	2	427	12.40	52.95				52.95	12.40		213	
Wake	60	13110	9.75	1278.23	66.06	25.56	Hard	1186.61	9.05	.70	218	
Totals	525	101027	10.61	10718.49	452.21	224.79	Hard	10019.49	9.92	.69	192	\$22.00
Freight per 100 pounds, \$0.45.												

SOUTHEASTERN DISTRICT, E. J. GAITHER, BILMINGTON												
Brunswick	69	13040	12.04	1570.36	109.28	37.29		204.71	1219.08	9.42	1.12	189
Bladen	627	111455	11.54	12863.06	605.35	252.69		166.84	11838.18	10.62	.77	177
Carteret	132	26405	11.39	3006.59	149.20	59.46		32.55	2765.38	10.47	.79	200
Columbus	161	29695	11.58	3439.49	173.40	68.78	Hard		3197.31	10.77	.81	184
Craven	2977	532765	11.32	60331.25	2835.39	1157.41		419.52	55840.21	10.48	.76	178 \$78.72
Cumberland	419	76520	11.65	8914.06	365.15	177.81		19.80	8347.80	10.91	.71	182 3.50
Duplin	1355	215920	10.89	23515.53	956.51	463.77		335.26	21759.99	10.08	.66	159
Jones	1501	248360	11.37	28231.75	1446.96	561.77		143.08	26079.94	10.50	.81	165
Lencir	1332	233475	11.15	26031.54	1212.05	515.93		188.71	24114.85	10.33	.74	175
Onslow	1120	184600	11.30	20854.41	1211.20	399.61		861.25	18382.35	9.96	.87	165
Pamlico	973	190400	11.13	21191.82	1143.04	421.81		119.19	19507.78	10.25	.82	195
Pender	1958	355330	11.14	39575.98	1884.98	774.18		808.42	36054.20	10.15	.75	181 54.20
Robeson	70	13745	9.25	1271.42	81.00	25.42	Hard		1165.00	8.48	.77	186
Sampson	608	110820	11.54	12793.39	640.00	254.86		42.50	11856.03	10.70	.81	182
Wayne	396	68985	11.53	7956.54	336.04	153.55		180.17	7283.78	10.56	.71	174 3.00
15 counties	13698	2411515	11.26	271547.19	13149.55	5324.34		33522.00	249411.88	10.34	.77	176 \$139.42
Freight per 100 pounds, \$0.55. Grade deduction for soft and oily condition, per 100 pounds, \$0.15.												

NORTHEASTERN DISTRICT, B. T. FERGUSON, RALEIGH												
Beaufort	3142	614350	11.05	67875.67	3194.83	1341.68		771.77	62567.39	10.18	.74	195
Bertie	438	78370	10.61	8312.64	471.25	160.52		537.58	7143.29	9.11	.70	179
Currituck	560	91960	11.17	10272.50	410.77	198.62		239.44	9423.67	10.25	.66	164
Chowan	1896	337160	10.82	36476.01	1976.98			686.02	33665.02	9.98	.63	177 \$147.99
Edgecombe	71	15304	9.63	1473.50	57.70	29.47	Hard		1386.33	9.06	.57	215
Halifax	295	60810	11.19	6807.52	473.28	117.38		935.82	5281.04	8.68	.97	207
Hyde	949	177045	11.10	19652.87	998.48	388.89		204.59	18060.91	10.20	.78	186
Martin	308	52305	10.34	5408.43	244.10	103.82		215.40	4845.11	9.26	.67	169
Northampton	405	66570	10.80	7191.91	471.20	140.69		165.48	6414.54	9.64	.92	164
Perquimans	341	54910	11.02	6051.44	406.20			203.28	5399.96	9.83	.82	161 42.00
Washington	379	66135	11.30	7473.61	408.21	147.55		93.76	6824.09	10.32	.84	174
11 counties	8784	1614919	10.96	176996.10	9113.00	2628.62		34053.14	161011.35	9.97	.74	183 \$189.99
Freight per 100 pounds, \$0.56. Grade deduction for soft and oily condition, per 100 pounds, \$0.25.												
35 counties	23643	4263811	11.15	475249.23	22714.76	8177.75		7575.14	436430.17	10.24	.73	180 \$351.41
Freight per 100 pounds, \$0.53. Deduction for soft and oily condition, per 100 pounds, \$0.18.												

REPORT OF SALES OF HOGS IN NORTH CAROLINA

Form 12

Date sold _____ 192

COUNTY

COUNTY AGENT

1927

* Hogs sold to local packers.

No. cars	Owner	No. hogs	Weight	Price	Amount	Freight	Com.	Grade deduction	Check	Net price	Selling cost	Average weight	Inc. exp.
1	Alamance	59	10435	11.48	1203.59	68.20	24.04	Hard	1089.35	10.39	1.09	178	22.00
67	Beaufort	4640	904145	11.11	100452.18	4706.32	1990.61	897.39	92857.86	10.27	.74	194	
10	Bertie	561	111810	10.68	11941.33	633.31	248.84	550.18	10509.00	9.40	.79	169	
14	Bladen	923	157360	11.58	18222.44	922.00	363.48	166.84	16770.12	10.66	.82	170	
1	Brunswick	69	13040	12.04	1570.36	109.28	37.29	204.71	1219.08	9.42	1.12	189	
3	Carteret	183	34950	11.46	4007.76	227.80	79.48	32.55	3667.93	10.49	.88	190	
*	Cherokee	21	4654	10.50	488.67				488.67	10.50		221	
35	Chowan	2423	431485	10.87	46923.24	2573.37		819.40	43382.48	10.05	.63	178	147.99
*	Clay	67	14849	10.79	1602.15				1602.15	10.79		221	
40	Craven	3212	572275	11.34	64395.17	3046.64	1248.31	419.52	60101.98	10.50	.76	178	78.72
3	Columbus	248	43950	11.74	5158.80	253.10	103.16	Hard	4802.54	10.93	.81	177	
8	Cumberland	650	122845	11.51	14135.87	569.03	282.23	19.80	13259.81	10.79	.70	188	5.00
8	Currituck	727	120480	11.35	13674.21	552.31	278.30	239.44	12604.16	10.46	.69	165	
*	Davidson	752	161847	11.68	18905.09				18905.09	11.68		215	
21	Duplin	1745	287755	10.87	31286.28	1327.96	618.68	365.93	28983.71	10.07	.68	164	
3	Edgecombe	171	33384	10.21	3409.13	169.10	68.18	Hard	3171.85	9.50	.71	195	
5	Granville	317	61615	10.44	6431.57	254.60	136.19	Hard	6040.78	9.80	.64	194	
8	Halifax	493	99890	11.01	10993.65	747.44	199.52	1014.60	9032.09	9.04	.95	202	
14	Hyde	1021	192440	11.02	21209.21	1059.08	420.01	204.59	19525.53	10.15	.77	188	
*	Iredell	64	12384	11.59	1435.11				1435.11	11.59		193	
*	Jackson	122	23426	10.24	2399.38				2399.38	10.24		192	
22	Jones	1804	296595	11.18	33164.26	1742.28	660.37	143.08	30618.53	10.32	.81	164	
19	Lenoir	1395	245325	11.19	27458.57	1298.85	544.47	188.71	25426.54	10.36	.75	175	
4	Martin	308	52305	10.34	5408.43	244.10	103.82	215.40	4845.11	9.26	.67	169	
*	Mecklenburg	36	5276	15.65	825.60				825.60	15.65		146	
*	Moore	2	427	12.40	52.95				52.95	12.40		213	
*	McDowell	18	3162	11.67	368.94				368.94	11.67		175	
10	Northampton	605	100030	10.52	10522.03	688.66	210.45	183.48	9439.44	9.44	.90	165	
15	Onslow	1120	184600	11.30	20854.41	1211.20	399.61	861.25	18382.35	9.96	.87	165	
19	Pamlico	1325	263885	11.13	29373.84	1549.24	585.41	119.19	27120.00	10.28	.81	199	
29	Pender	2231	401230	11.27	45207.14	2220.94	886.78	808.42	41186.80	10.27	.80	179	104.20
3	Perquimans	341	54910	11.02	6051.44	406.20		203.28	5399.96	9.83	.82	161	42.00
1	Pitt	57	12895	11.50	1483.22	62.20	29.39	13.56	1378.07	10.69	.71	226	
1	Robeson	70	13745	9.25	1271.42	81.00	25.42	Hard	1165.00	8.48	.77	155	
13	Sampson	812	145555	11.64	16936.29	934.00	337.72	42.50	15619.07	10.73	.88	179	3.00
*	Stanley	14	2686	15.00	492.90				492.90	15.00		191	
2	Vance	87	15390	11.38	1752.15	63.35	39.00	Hard	1649.80	10.72	.67	177	
2	Wake	125	27635	10.12	2797.32	120.66	55.94	Hard	2620.72	9.48	.64	221	
10	Washington	624	116090	11.18	12975.62	697.26	257.34	105.76	11915.26	10.26	.82	186	
6	Wayne	462	79895	11.53	9212.12	399.44	178.66	180.17	8450.85	10.58	.73	172	3.00
3	Miscellaneous	214	38330	11.59	4442.80	216.69	78.22	537.31	3610.58	9.42	.77	179	
400	40 counties	30118	5475035	\$ 11.16	\$ 10906.64	\$ 29155.61	\$ 10490.92	\$ 238527.06	\$ 562327.14	\$ 10.27	\$.73	181	\$ 405.91

Freight per 100 pounds, \$

COMPLETED RESULT DEMONSTRATIONS OF

During 1927 twenty-nine counties started 403 demonstrations with 8945 hogs below, completed 153 of these demonstrations involving 3219 hogs, the results

COUNTIES COMPLETING RESULT DEMONSTRATIONS.

BEAUFORT
BERTIE
CARTERET

CHEROKEE
CLAY
GRAVEN

CUMBERLAND
DAVIDSON
IREDELL

JACKSON
JONES
LENOIR

MACON
MCDOWELL
MECKLENBURG

LEE
MOORE
PAMLICO

PENDER
STANLEY
WASHINGTON

No. dem.	No. hogs	Initial weight	Final weight	Total gain	No. days re-cord	Gain per pig	Aver. daily gain per pig	Total feed consumed	Total cost feed consumed	Feed per 100# gain	Feed cost per 100# gain	Profit per pig	Value of gain over feed cost	No. sold	Pounds sold	Amount sold for
8	283	32499	54836	22337	49	79	1.61	92854	\$1357.80	416	\$6.08	\$3.60	\$1019.13	283	54141	\$6220.45
12	185	13227	33176	19949	81	108	1.34	79490	1560.19	398	7.82	2.18	403.49	185	33149	3543.70
4	113	10571	23396	12825	78	113	1.45	47964	863.30	374	6.73	4.12	465.51	113	23396	2608.27
2	21	2390	4654	2264	82	108	1.32	9766	171.88	431	7.59	3.14	65.84	21	4654	488.67
9	67	2086	14849	12763	140	191	1.36	43292	734.20	339	5.75	9.60	642.98	67	14803	1602.14
11	402	34293	72512	38219	65	95	1.46	155621	2527.16	407	6.61	3.85	1548.17	402	72412	8239.62
5	24	2415	5413	2998	71	125	1.76	9194	164.58	307	5.49	6.28	150.81	24	5336	601.22
43	789	43454	168459	125005	116	158	1.36	463380	7588.12	371	6.07	8.89	7013.60	780	168209	19652.63
3	65	3644	12524	8880	97	137	1.40	28389	448.15	320	5.05	8.69	564.59	64	12384	1435.11
10	122	6396	23426	17030	100	139	1.39	55555	1185.27	326	6.96	4.68	570.77	122	23426	2399.38
20	560	42614	94454	51840	77	93	1.20	203155	3363.24	392	6.49	3.69	2065.11	544	90222	10598.01
3	72	7172	14074	6902	60	96	1.60	26156	471.29	379	6.83	4.44	319.46	72	13922	1670.42
2	13	893	3049	2156	87	166	1.91	6937	110.93	322	5.14	7.45	96.83	13	3049	294.18
2	18	1232	3162	1930	78	107	1.37	6614	135.85	343	7.04	4.71	84.75	18	3162	368.94
4	36	1600	5276	3676	88	102	1.16	13779	248.90	375	6.77	9.06	326.33	36	5276	825.60
1	8	326	1477	1151	102	144	1.42	3955	84.24	344	7.32	8.17	65.39	8	1477	192.01
1	2	188	427	239	66	120	1.81	829	17.25	347	7.22	6.19	12.39	2	427	52.95
3	102	9134	16635	7501	68	74	1.08	35315	561.62	471	7.49	1.97	201.30	102	16635	1833.27
4	103	6463	17716	11253	79	109	1.38	44544	863.76	396	7.68	3.13	322.14	102	17623	2023.78
3	42	1500	7851	6351	125	151	1.21	20760	353.59	327	5.57	19.07	800.81	42	7851	1435.90
3	181	12345	28302	15957	84	88	1.04	64220	1065.10	402	6.67	3.44	623.18	175	28302	3255.92
TOTALS																
153	3219	234442	605668	371226	85	115	1.35	1411769	\$23876.43	380	\$6.43	\$ 5.39	\$17362.58	3175	599856	\$69342.17

FINANCIAL STATEMENT

LOCAL PRICES		
FEED CONSUMED AND PRICES CHARGED		
Feed	Pounds	Price
Fish meal	91757	\$3.29
Milk equiv.	5249 (94482# @ \$.96)	90.82
Cottons meal	2846	1.44
Rye meal	2873 (59.85 Bu.)	.91
Corn meal	160009 (3333.52 Bu.)	.82
Minerals	500	9.93
Shorts	152243	2.11
Pig Chow	200	3.25
Shelled c.	996092 (17788.32 Bu.)	.83
	1411769 (21181.69 Bu.)	\$23,876.43

CREDIT	
By 3175 hogs, 599856 lbs.	\$69342.17
By 44 hogs died and condemned	\$69342.17
Debit	
To 3219 hogs, 234442 lbs.	\$25404.64
To freight and yardage	1823.96
To commission	704.68
To "soft" condition	152.18
To miscellaneous expense	17.70
To feed for 85 days	23876.43
Returns above feed cost of gains	\$17362.58

2,112,784

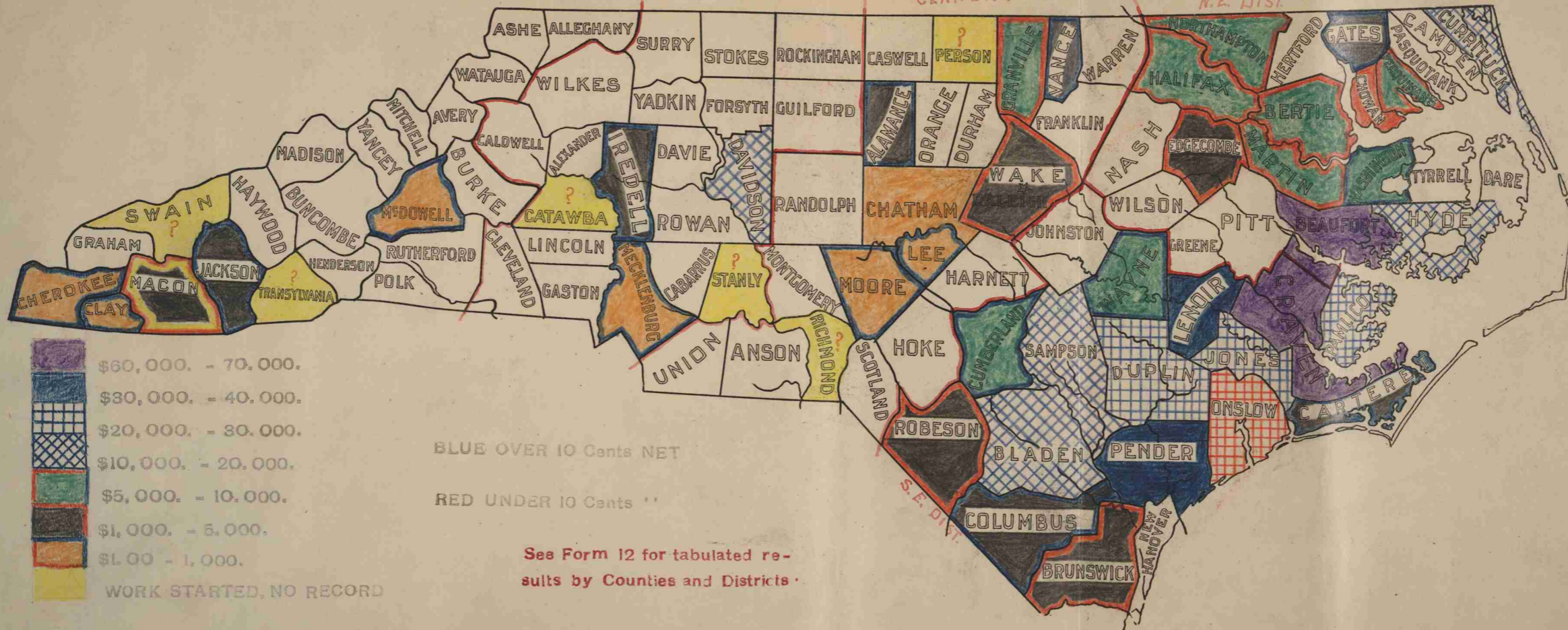
Total for corn \$34,803.09 Per bu \$1.65 Fertilizer Value \$5,952.38









N. C. SWINE EXTENSION WORK JAN. 1. - JUNE 30, 1927. - \$475, 249. 23

Mt. Disc. | Piedmt. Dist.

CENT. DIST.

N.E. DIST.



-  \$60,000. - 70,000.
-  \$30,000. - 40,000.
-  \$20,000. - 30,000.
-  \$10,000. - 20,000.
-  \$5,000. - 10,000.
-  \$1,000. - 5,000.
-  \$1.00 - 1,000.
-  WORK STARTED, NO RECORD

BLUE OVER 10 Cents NET

RED UNDER 10 Cents

See Form 12 for tabulated results by Counties and Districts.