

A  
THESIS

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for the  
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by  
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RELATIONSHIPS  
OF  
FARM MANAGEMENT FACTORS TO  
PRODUCTS FURNISHED THE HOUSEHOLD

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## PURPOSE OF THE STUDY

Family living has always been closely associated with the business of farming. Products obtained from the farm for use by the household constitute a significant and often a major portion of the total farm income. They are of greater importance during and after periods of rapidly declining prices, such as the years covered by the records used in this study, when Virginia farm prices (table 1) varied from an index of 156 in January, 1930, to as low as 67 in both January and July, 1932 (1910-14=100). In such periods the farm family adjusts itself to a lowered income by producing more of its living at home.

Table 1.--Index numbers of farm prices in Virginia for years covered by surveys used in this study (1910-14=100) <sup>1/</sup>

Month	1930	1932	1933	1935	1937
January	156	67	75	126	141
February	148	68	70	123	138
March	139	75	68	111	135
April	134	77	68	109	127
May	132	78	68	88	117
June	151	79	91	98	112
July	106	67	121	86	95
August	115	71	98	95	121
September	126	73	84	108	121
October	119	75	87	127	139
November	103	72	109	137	143
December	101	72	102	124	120
Year	120	71	87	111	122

<sup>1/</sup> Current issues of Virginia Farm Economics

The purpose of this thesis is to analyze the relationships of various farm management factors to the products furnished by the farm for use by the household and by statistical means attempt to develop adequate methods

of measuring the importance of these products to the household and the farm.

Data used for this thesis were taken from six studies previously conducted by members of the Department of Agricultural Economics at Virginia Polytechnic Institute and Agricultural Experiment Station (table 2). All records of the farm business were obtained by trained enumerators using the survey method.

Table 2.--Farms enumerated

County <sup>1/</sup>	Years data covered	Directed by	Number of farms
Grayson	1930	J. J. Vernon	332
Nansemond	1932	F. L. Underwood	699
Pittsylvania	1933	F. L. Underwood	667
Albemarle	1935	W. L. Gibson, Jr.	75
Appomattox	1935	W. L. Gibson, Jr.	126
Floyd	1937	F. L. Underwood	100

<sup>1/</sup> The areas represented in the several counties were as follows: Grayson, western half, consisting of Elk Creek and Wilson magisterial districts; Nansemond, the peanut-cotton-hog area in the southern part; Pittsylvania, flue-cured tobacco area surrounding Chatham; Albemarle, a land-use problem area in the Ivy Creek watershed; Appomattox, a land-use problem area in the Wreck Island Creek watershed; and Floyd, an area of approximately 30 square miles in about the middle of the northwest side of the county.

The information was tabulated by use of the Hollerith punched-card equipment. All figures were checked, so that probably no significant errors remain in the calculations.

Prices received by producers were used to represent the value of each item. This was believed to be the most satisfactory price because it represented the actual cash value to the farmer and the amount which would have been added to the income if the product had been sold. In this way the price was comparable to sales from crop or livestock enterprises.

The household is an outlet for food products not otherwise salable, owing to perishability, imperfections in the item, or to the small amounts available for sale at any one time. Such products are often superior to those that are marketable, because they have attained such a state of ripeness or maturity that they would deteriorate on the way to market. The price used therefore represents an adjustment of established related market prices, and is the farmer's estimate of the value to him had there been a market for the particular product he used so that it could have been sold and its equivalent in other foods purchased.

LOCATION AND DESCRIPTION OF THE AREAS STUDIED

Grayson County <sup>1/</sup> is in the southern tier of counties in southwest Virginia (figure 1). The 332 farms studied were located in the western half of the county in the Blue Ridge Mountain region where the land is rough and rugged. The hills provide excellent grazing for cattle. Only one hard-surfaced road existed in the county at the time of the survey, and many of the roads into the hills were little more than rocky trails.

Nansemond is also a southern-tier county but is located in eastern Virginia in the peanut-growing area. <sup>2/</sup> Hogs were kept to consume the waste peanuts and have become almost as important an enterprise as peanuts. Vegetable crops were grown more extensively than in the other counties studied because of the long growing season, light-textured soils, and proximity to the markets of Suffolk and Norfolk. The elevation is lower in this area than in the others studied.

Pittsylvania County <sup>3/</sup> is in the bright tobacco belt, and 620 of the 667 farms studied, grew this crop. Danville is the tobacco market, 8 to 25 miles from the farms studied. The area surrounds Chatham and covers approximately the center of the county, where the topography is rolling to hilly.

Albemarle County <sup>4/</sup> is located in the central part of the state.

1/ The information concerning Grayson County was obtained from A Study of the Organization and Management of Farms in Grayson County, Virginia, by J. J. Vernon, T. M. Dean, and H. W. Hawthorne. Va. Agr. Exp. Sta. Bul. 304. 1936.  
2/ Nansemond County information taken from unpublished data prepared by F. L. Underwood.  
3/ Information for Pittsylvania County taken from manuscript for publication, Factors Affecting Costs and Returns in Producing Bright Tobacco. By F. L. Underwood.  
4/ "Labor Incomes on 76 Farms in Albemarle County, Virginia, 1935," by W. L. Gibson, Jr., Virginia Farm Economics, No. 38. May, 1937.



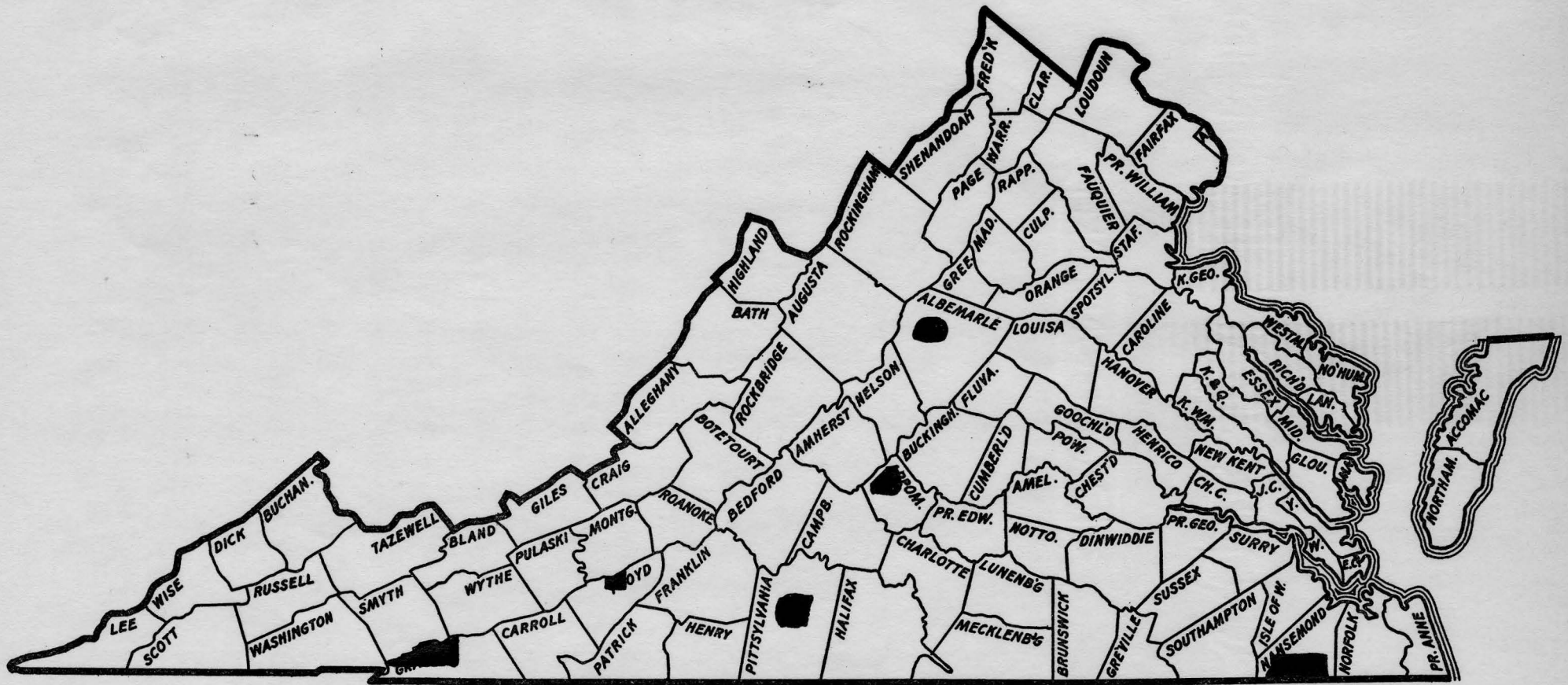


Figure 1.--Areas for which data were obtained.

Types of agriculture include dairying, orcharding, and general farming. The area studied was located in the Ivy Creek watershed, west of the City of Charlottesville.

Appomattox County <sup>1/</sup> is situated in the south-central part of Virginia in the Piedmont area. The topography is rolling to hilly and much eroded. No hard-surfaced roads passed through the area, but two bordered it. The most important cash crop was fire-cured tobacco.

Floyd <sup>2/</sup> is one county removed from the North Carolina line, in the eastern part of the area commonly referred to as Southwest Virginia. It constitutes the northeastern-most of the three highland-plateau counties, the other two of which are Grayson and Carroll. The study from which the data were taken for use in this thesis was conducted by a class in farm management research methods as an experiment in the use of statistical procedure for analyzing farm management and land utilization data, in an area of about 30 square miles traversed by Virginia Highway No. 8 about the middle of the northwest side of the county. The area is generally of very rough topography and is drained by Little River and its tributaries. Grazing of sheep and light cattle constitute important enterprises. Burley tobacco and canning factory tomatoes are the cash crops. The tobacco is delivered to the Abingdon market, a distance of about 125 miles, while the tomatoes are put up in canneries located in or near the area and in the homes. Numerous producers also cater to the Roanoke market, about 30 to 40 miles away, with eggs, butter, dressed and live poultry, pork products, and a few vegetables and small fruits. Wheat is grown primarily for home use, and the

<sup>1/</sup> Information obtained from An Economic Study of Farming in Appomattox County, Virginia, by W. L. Gibson, Jr. Va. Agr. Exp. Sta. Bul. 311. 1937.

<sup>2/</sup> Information used in this thesis obtained from unpublished data contained in a farm business and land utilization survey conducted under the direction of F. L. Underwood.

degree of self-sufficiency of the agriculture is higher than much of the remainder of the state. Lumbering and the marketing of forest products constitute important additional sources of income in many cases. In general, with the exception of two gravel roads and the state highway, all roads are mud and passable only with extreme difficulty in winter. No railroads are located in the county.

## DEFINITIONS

Acres operated constitute the total area farmed as one unit under the direction of one man or partnership, with the assistance of family help, croppers and their families, or wage hands. The area may be either owned or rented, but land rented out was included as a part of the business of the operator who farmed it.

Capital is the value of land, houses, other buildings, livestock, feed, seed, tools, and machinery used in the operation of the farm business unit.

Labor income is the difference between receipts and expenses, less 5 percent interest on the land and buildings and 6 percent interest on livestock, machinery, feeds, and seeds. It is the amount which the operator received for his time in addition to the use of a dwelling and various farm products in the house.

Labor earnings is labor income plus the value of farm products used by the household, including house rent and wood.

Productive-man-work units is the total amount of directly productive work accomplished in a year, in terms of ten-hour days, based on the average amount of man labor required to produce one acre of each of the various kinds of crops, and to care for one head of the various kinds of livestock.

Crop index is the yield of all crops combined according to their importance and expressed as a percentage of the average for all farms studied in the area.

Receipts include the value of crops sold or to be sold, net increases in livestock, the value of livestock products sold, and miscellaneous.

Total farm income includes amounts for crops sold or to be sold, net increase in livestock values without deductions for net decreases in other

classes of livestock, livestock products sold, receipts from miscellaneous sources, increase in inventory value of feeds and supplies, and all products used by the household, including wood and house rent.

Number eating at the operator's table includes the members of the family living at home, guests, employees, and boarders who eat meals from a common board. This is also the number of people in the household.

Use of dwelling is an estimated rental figure of 10 percent of the average capital investment in the operator's dwelling.

Quarts of milk include all milk and milk products calculated on the basis of whole sweet milk equivalent.

Classification of products used by the household. Many different products were used by the household. These were grouped according to type for convenience in analysis. The following classification was used:

<u>Item</u>	<u>Unit of measure</u>
<b>Dairy products:</b>	
Milk	quart
Butter	pound
Cream	quart
Clabber	quart
Buttermilk	quart
Skimmilk	quart
Cheese	pound
<b>Poultry and products:</b>	
Chicken	pound
Eggs	dozen
Turkey	pound
<b>Pork and products:</b>	
Meat	pound
Lard	pound
<b>Other meats and animal products:</b>	
Beef	pound
Veal	pound
Mutton	pound
Goats	pound
Kids	number
Rabbits	pound
Other wild game	dollar
<b>Grains:</b>	
Corn for meal	bushel
Wheat for flour	bushel
Hominy	pound
Buckwheat	bushel
Rye	bushel

<u>Item</u>	<u>Unit of measure</u>
Garden and vegetables for sale:	
Garden	dollar
Potatoes	bushel
Sweet potatoes	bushel
Snapbeans	bushel
Green peas	bushel
Sweet corn	dozen
Tomatoes	bushel
Black-eye peas	quart
Beets	bushel
Cowpeas	bushel
Cabbage	pound
Collards	bushel
Dry beans	bushel
Kale	bushel
Butterbeans	bushel and quart
Lima beans	bushel and quart
Okra	bushel
Rutabaga	pound
Spinach	bushel
Soybeans	bushel
Turnips	bushel
Watermelons	number
Cantaloups	number
Wild products	dollar
<b>Fruits:</b>	
Apples	bushel
Grapes	bushel
Peaches	bushel
Strawberries	crate or gallon
Cherries	bushel or gallon
Pears	bushel
Plums	bushel
Figs	bushel
Bush fruits	gallon
Other fruit	bushel
<b>Other food:</b>	
Sorghum molasses	gallon
Honey	pound
Pecans	bushel
Walnuts	bushel
Peanuts	pound
Popcorn	bushel
<b>Other products:</b>	
Tobacco	pound
Broomcorn	number
Wool	pound
Hides	number
Wood	cord
Use of dwelling	dollar

## PRODUCTS USED BY THE HOUSEHOLD

## Grayson County

The total value of products used by the household on the 332 farms in this area in 1930 was \$359.76 per farm (table 3) or almost a dollar a day. The largest single item was the use of dwelling which amounted to \$93.60. The next largest item was for pork which was the most important meat used by these households even though this county is in the beef- and sheep-producing area. Of all farms, 98 percent used pork while only 10 percent used beef and 14 percent used mutton.

Milk and milk products were valued at a total of \$67.40 per farm. On the 278 farms using milk, a little less than 3 quarts per farm was consumed daily. Milk was valued very low, the farm price averaging only 2 cents per quart. At city retail prices this and other milk products would have amounted to much more.

The majority of these farm households used poultry to eat. Most of this was chicken, although some ducks and turkeys were eaten. As many households used eggs, which averaged approximately one dozen per farm per week.

Having their own corn and wheat ground for use as meal or flour was a very common practice for 91 percent of the farm households used cornmeal and 37 percent used wheat flour. Each of these was valued at \$1.13 per bushel. Small amounts of buckwheat and rye were also used.

All farms had gardens and most of them used additional land for vegetables. Sometimes these areas were large enough to be classed as commercial production but usually were better called patches. Garden and truck products averaged \$42.33 per farm and accounted for almost 12 percent of the

total value of farm products used by the household.

Of the fruits, apples were most important and were used by 273 households or 82 percent of all farms.

Of the other food products, sorghum molasses was used by 14 percent of the farms, popcorn by 12 percent, and honey by 8 percent.

With the exception of wood, which was used on all but 5 farms, averaging almost 2 cords per farm per month, other products were relatively unimportant. Broomcorn, tobacco, wool, and hides combined averaged only 88 cents per farm.



Table 3.--The amounts and values (at farm prices) of farm products used by the farm households on 332 farms in Grayson County, Virginia, 1930.

Product	Average per farm, all farms		Average for farms using			Price
	Amount	Value	Number of farms	Amount	Value	
<b>Dairy products:</b>						
Whole milk, qts.	842.6	\$ 20.98	278	1,006.3	\$25.06	\$0.02
Butter, lbs.	142.7	28.42	329	144.0	28.67	.20
Cream, qts.	49.4	12.36	112	146.5	36.63	.25
Skim milk, qts.	356.6	2.66	112	1,057.2	7.90	.01
Buttermilk, qts.	370.0	2.80	296	415.0	3.14	.01
Cheese, lbs.	1.7	.18	18	31.2	3.28	.11
<b>Poultry and products:</b>						
Poultry, lbs.	58.2	11.00	326	59.3	11.21	.19
Eggs, doz.	49.5	9.78	331	49.6	9.81	.20
<b>Pork and products:</b>						
Pork, lbs.	580.6	57.66	324	594.9	59.08	.10
<b>Other meats:</b>						
Beef, lbs.	20.0	1.93	34	195.4	18.82	.10
Mutton, lbs.	12.5	1.23	46	90.2	8.85	.10
Goat, lbs.	3.5	.19	4	293.8	15.50	.05
<b>Grains:</b>						
Corn for cornmeal, bu.	12.3	13.96	301	13.6	15.40	1.13
Wheat for flour, bu.	9.0	10.14	124	24.1	27.15	1.13
Buckwheat, bu.	.2	.14	10	5.2	4.70	.90
Rye, bu.	*	.03	1	5.0	10.00	2.00
<b>Garden and truck:</b>						
Garden	-	29.47	332	-	29.47	-
Potatoes, bu.	7.5	7.80	324	7.7	7.99	1.04
Sweet potatoes, bu.	1.2	1.34	108	3.8	4.12	1.08
Dry beans, bu.	.9	3.13	217	1.5	4.78	3.19
String beans, bu.	*	.01	1	2.0	2.00	1.00
Melons, no.	1.0	.10	5	65.0	7.00	.11
Beets, bu.	*	.02	2	7.0	3.50	.50
Wild products	-	.46	15	-	10.13	-
<b>Fruit:</b>						
Apples, bu.	25.4	14.39	273	30.9	17.50	.57
Grapes, bu.	1.3	1.26	114	3.1	2.90	.94
Bush fruit, gal.	1.5	.56	71	7.2	2.61	.36
Cherries, gal.	2.4	.48	57	14.1	2.79	.20
Strawberries, gal.	.8	.41	40	7.0	3.40	.49
Other fruit, bu.	.5	.44	38	4.1	3.84	.94
<b>Other food:</b>						
Sorghum molasses, gal.	1.5	1.53	45	11.2	11.27	1.01
Popcorn, bu.	.2	.25	39	1.3	2.10	1.62
Honey, lbs.	2.9	.60	27	36.0	7.41	.21

(CONTINUED)

Table 3.--The amounts and values (at farm prices) of farm products used by the farm households on 332 farms in Grayson County, Virginia, 1930.(cont'd).

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
Other products:						
Broom corn, no.	1.1	.33	41	9.1	2.71	.30
Tobacco, lbs.	2.1	.33	16	42.9	6.88	.16
Wool, lbs.	.7	.18	24	10.2	2.46	.24
Hides, no.	*	.04	4	2.5	3.75	1.50
Wood, cds.	23.3	29.57	327	23.6	30.02	1.27
Use of dwelling	-	93.60	331	-	93.89	-
Total		\$359.76	332			

\* Less than .1 unit used.

## Nansemond County

The farms studied in Nansemond County for 1932 averaged \$300.85 worth of products per farm used by the household (table 4). This amounted to \$54.70 per person.

The largest single item of food was pork which amounted to \$48.47 per farm or an average of 166 pounds per person for the year. This was to be expected since this county was one of the leading hog-producing counties of Virginia. The average value of pork was only 5 cents per pound. Very little other meat was eaten, except chickens, which were used by 94 percent of the households and valued at \$17.31 per farm using. This was probably about one chicken every ten days on these farms.

Corn was ground for meal by 81 percent of the farms but no wheat was used for flour. Wheat was seldom grown for grain on these farms.

Garden and truck crops were of great importance and included a wide variety. Besides those vegetables grown in the garden 17 kinds were grown in separate areas, many for commercial purposes. The total value of the vegetable and truck crops averaged \$47.34 per farm, or almost 16 percent of the total value of all products used by the household.

Grapes, peaches, and apples were of about equal importance, accounting for 90 percent of the total of 7.1 bushels of all homegrown fruit consumed per farm. All grapes were of the Scuppernong variety and were used for beverages, jellies, and marmalades. Their average value was 92 cents per bushel. Other fruits were largely consumed fresh.

The price of milk for this area averaged 7 cents per quart which was higher than that for other areas, and reflects the difficulty of hay and

and forage production for cows.

Peanuts, sorghum molasses, nuts, and honey were of minor importance, averaging \$1.39 per farm. Sorghum was more popular among colored than white operators.

The amount of wood used averaged only 9.8 cords per farm, and 5 percent of the farms did not use wood. Wood consumption was lower than in any of the other counties studied. However, the average price per cord was highest, at \$2.96.

Table 4.--The amounts and values (at farm prices) of farm products used by the farm households on 699 farms in southern Nansemond County, Virginia, 1932.

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
<b>Dairy products:</b>						
Whole milk, qts.	495.2	\$36.64	327	1,058.6	\$78.31	\$0.07
Butter, lbs.	32.8	8.24	238	96.4	24.20	.25
Cream, qts.	.1	.01	1	52.0	10.00	.19
Clabber, qts.	6.8	.37	9	530.2	28.44	.05
Buttermilk, qts.	1.6	.07	2	560.0	23.00	.04
<b>Poultry and products:</b>						
Poultry, lbs.	87.3	16.29	658	92.7	17.31	.19
Eggs, doz.	67.2	9.89	657	71.5	10.52	.15
<b>Pork and products:</b>						
Pork, lbs.	912.4	48.47	578	1,103.5	58.62	.05
Lard, lbs.	.4	.03	1	250.0	20.00	.08
<b>Other meats:</b>						
Beef, lbs.	1.5	.15	3	354.3	35.00	.10
Veal, lbs.	.2	.02	5	29.2	3.20	.11
Mutton, lbs.	.5	.04	4	83.8	7.50	.09
Goats, lbs.	.1	.01	1	100.0	4.00	.04
Kids, no.	*	.02	1	3.0	15.00	5.00
Rabbits, lbs.	.1	.01	1	40.0	4.00	.10
<b>Grains:</b>						
Corn for cornmeal, bu.	10.9	4.29	568	13.4	5.28	.39
Hominy, lbs.	*	.01	1	25.0	9.00	.36
<b>Garden and truck:</b>						
Garden,	-	35.05	682	-	35.93	-
Potatoes, bu.	5.2	2.57	236	15.3	7.61	.50
Sweet potatoes, bu.	17.6	7.93	431	28.6	12.87	.45
Sweet corn, doz.	1.1	.15	29	26.4	3.52	.13
Cowpeas, bu.	.1	.13	27	3.4	3.30	.97
Snapbeans, bu.	.1	.08	23	3.4	2.30	.68
Peas, bu.	.3	.28	47	5.0	4.19	.84
Tomatoes, bu.	*	.03	5	5.8	4.00	.69
Cabbage, lbs.	7.3	.10	15	338.0	4.80	.01
Collards, bu.	*	*	1	7.0	1.00	.14
Kale, bu.	*	.01	4	6.2	2.50	.40
Rutabaga, lbs.	.3	*	2	95.0	1.00	.01
Spinach, bu.	.1	.04	1	50.0	25.00	.50
Turnips, bu.	*	.01	1	10.0	10.00	1.00
Beets, bu.	*	*	1	1.0	2.00	2.00
Lima beans, qts.	2.6	.28	15	119.5	13.00	.11
Watermelons, no.	7.7	.58	37	145.4	10.89	.07
Cantaloups, no.	3.1	.10	12	179.6	5.67	.03

(continued)

Table 4.--The amounts and values (at farm prices) of farm products used by the farm households on 699 farms in southern Nansemond County, Virginia, 1932 (cont'd).

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
<b>Fruit:</b>						
Grapes, bu.	2.1	1.89	298	4.8	4.44	.92
Peaches, bu.	1.5	.93	205	5.1	3.19	.63
Strawberries, crates	*	*	1	1.0	2.00	2.00
Apples, bu.	2.8	1.44	263	7.4	3.83	.52
Cherries, bu.	*	.01	6	1.2	1.50	1.25
Pears, bu.	.6	.38	97	4.3	2.71	.63
Plums, bu.	*	.03	17	1.7	1.24	.73
Figs, bu.	*	.03	21	1.0	.95	.95
Other fruit, bu.	*	.03	3	5.3	6.00	1.13
<b>Other food:</b>						
Peanuts, lbs.	9.6	.14	38	175.9	2.50	.01
Sorghum molasses, gal.	1.8	1.12	54	23.6	14.48	.61
Pecans, bu.	*	.06	13	1.4	3.15	2.25
Walnuts, bu.	*	.01	1	5.0	5.00	1.00
Honey, lbs.	.4	.06	8	36.9	5.25	.14
<b>Other products:</b>						
Wool, lbs.	*	*	1	5.0	1.00	.20
Wood, cds.	9.8	29.29	665	10.4	30.79	2.96
Use of dwelling	-	93.53	696	-	93.93	-
<b>Total</b>		<b>\$300.85</b>	<b>699</b>			

\* Not calculated because of small amount.

## Pittsylvania County

The total value of items produced by the farm for use by the household in this county averaged \$510.07 per farm or \$78.47 per person (table 5). After deducting the value of the house and wood for fuel, this amounted to \$56.72 per person in the household.

Whole milk was the most important single item, and was used by 95 percent of the households. All farms averaged 2197.5 quarts or 338 quarts per person in the household per year. This is almost a quart a day per person. In addition to this, each household used 83.0 pounds of butter during the year.

Except for poultry, pork and veal were the most popular meats eaten and were used by 96 and 8 percent of the households, respectively. The farmers valued these meats at 8 cents per pound and beef and mutton at average prices of 9 and 10 cents per pound, respectively. Poultry and eggs were used by 98 percent of these households and averaged \$33.76 per farm.

Of all households, 87 percent used flour produced from wheat grown on the farm, and 89 percent used meal ground from their own corn. The average amounts used by all households were 12.7 bushels of corn and 30.9 bushels of wheat per farm.

As in the other areas garden produce was important, but the farmer in Pittsylvania County did not grow additional vegetable crops to any great extent.

Homegrown fruits used averaged 18.7 bushels per farm for the year.

All but two of the farms produced their own wood supply for use in the house. This item amounted to 18.5 cords worth \$49.18 per farm.

Table 5.--The amounts and values (at farm prices) of farm products used by the farm households on 667 farms in Pittsylvania County, Virginia, 1933.

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
<b>Dairy products:</b>						
Whole milk, qts.	2,197.5	\$126.26	636	2,304.6	\$132.41	\$0.06
Butter, lbs.	83.0	19.21	254	218.1	50.44	.23
<b>Poultry and products:</b>						
Poultry, lbs.	106.1	19.23	651	108.7	19.70	.18
Eggs, doz.	88.0	14.53	656	89.5	14.78	.17
<b>Pork and products:</b>						
Pork, lbs.	660.1	53.05	642	685.8	55.11	.08
<b>Other meats:</b>						
Beef, lbs.	13.1	1.12	26	335.2	28.69	.09
Veal, lbs.	13.4	1.07	55	162.2	12.98	.08
Mutton, lbs.	1.4	.14	3	315.0	30.67	.10
<b>Grains:</b>						
Corn for cornmeal, bu.	12.7	8.31	593	14.2	9.35	.66
Wheat for flour, bu.	30.9	27.58	581	35.4	31.67	.89
Rye, bu.	*	.03	3	6.3	6.00	.95
<b>Garden and truck:</b>						
Garden	-	80.08	664	-	80.44	-
Potatoes, bu.	1.9	1.72	47	27.6	24.43	.89
Peas, bu.	.1	.15	21	3.8	4.76	1.25
Beans, snaps, bu.	.1	.08	8	6.8	6.75	.99
Tomatoes, bu.	.1	.19	6	10.8	21.33	1.98
Corn, doz.	.3	.04	4	50.5	6.75	.13
Lima beans, bu.	*	.02	2	3.0	6.00	2.00
Okra, bu.	*	.01	1	2.0	6.00	3.00
Watermelons, no.	1.9	.25	5	247.0	33.60	.14
Cantaloups, no.	.5	.03	3	114.7	5.67	.05
Soybeans, bu.	*	.02	1	15.0	15.00	1.00
<b>Fruit:</b>						
All fruits, bu.	18.7	12.81	519	24.0	16.47	.69
<b>Other food:</b>						
Sorghum molasses, gal.	2.5	1.36	78	21.1	11.65	.55
Honey, lbs.	11.0	1.37	95	77.1	9.64	.13
Peanuts, lbs.	.3	.02	1	198.0	14.00	.07
Wood, cords	18.5	49.18	665	18.6	49.33	2.65
Use of dwelling	-	92.21	667	-	92.21	-
<b>Total</b>		<b>\$510.07</b>	<b>667</b>			

\* Less than 1 unit.



## Albemarle County

The total value per farm of all items furnished for use by the household was \$928.59 or \$182.08 per person (table 6). This is unusually high owing to the high rental value of dwelling which averaged \$451.97. Without use of dwelling and wood used for fuel the average value of products used per person was \$90.16.

Of the total products other than use of dwelling, the most important item both from the standpoint of value and proportion of farms using, was garden. This amounted to \$120 and was reported by 97 percent of all farms.

Next in importance was whole milk which was valued at \$112.52 per farm or 6 cents per quart and amounted to more than one quart a day per person.

Only 72 percent of these households used meal made from corn produced on the farm and 41 percent used wheat flour. The relatively high average consumption of homegrown wheat for flour amounting to 35.5 bushels per farm for the year on the farms that used wheat, reflects the hot-homemade-bread-eating habits of the people. This rate of consumption is approximately equivalent to a 24-pound bag of flour per household every 6 or 7 days, or about 1-pound of bread per person daily.

Table 6.--The amounts and values (at farm prices) of farm products used by the households on 75 farms in Albemarle County, Virginia, 1935. --

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
<b>Dairy products:</b>						
Whole milk, qts.	1,907.1	\$112.52	72	1,986.5	\$117.21	\$0.06
Butter, lbs.	98.6	21.91	42	176.1	39.12	.22
<b>Poultry and products:</b>						
Poultry, lbs.	149.3	37.65	67	167.1	42.15	.25
Eggs, doz.	102.9	23.01	67	115.1	25.76	.22
<b>Pork and products:</b>						
Pork, lbs.	888.6	101.62	54	1,234.2	141.13	.11
<b>Other meats:</b>						
Beef, lbs.	33.0	3.04	3	825.0	76.00	.09
Mutton, lbs.	.8	.08	1	60.0	6.00	.10
<b>Grains:</b>						
Wheat, bu.	14.7	14.08	31	35.5	34.06	.96
Corn, bu.	9.7	7.87	54	113.5	10.93	.81
<b>Garden and truck:</b>						
Garden	-	120.00	73	-	123.29	-
Potatoes, bu.	4.6	4.13	19	18.2	16.32	.90
Sweet potatoes, bu.	.1	.11	1	8.0	8.00	1.00
Sweet corn, doz.	1.3	.20	1	100.0	15.00	.15
Black-eye peas, qts.	.1	.03	1	10.0	2.00	.20
Peas, bu.	.1	.07	1	5.0	5.00	1.00
Turnips, bu.	.1	.05	1	6.0	4.00	.67
Butterbeans, qts.	.1	.01	1	5.0	1.00	.20
<b>Fruit:</b>						
All fruits, bu.	20.7	13.25	40	38.9	24.85	.64
<b>Other food:</b>						
Sorghum molasses, gal.	.2	.12	2	9.0	4.50	.50
Honey, lbs.	.4	.07	1	30.0	5.00	.17
Wood, cds.	-	36.80	73	-	37.81	2.06*
Use of dwelling	-	431.97	75	-	431.97	-
<b>Total</b>		<b>\$928.59</b>	<b>75</b>			

\* Average price on only those farms for which cords were enumerated.

### Appomattox County

The total average value of all products used by the household in Appomattox County amounted to \$662 per farm, or \$118.21 per person (table 7). Of this amount the rental value of the house was \$186.07.

Of the food consumed by the household, milk was the most important item amounting to \$117.09 average per farm, or more than a quart per person per day and valued at 5 cents a quart. In addition to this, 3 pounds of butter was used weekly per household.

Practically all farms produced corn and wheat for use in the household. More wheat was used for flour per household in this than in any other area studied. The consumption of this item resembles closely that in the Albemarle area.

Table 7.--The amounts and values (at farm prices) of farm products used by the farm household on 126\* farms in Appomattox County, Virginia, 1935.

Product	Average per farm, all farms		Average for farms using			
	Amount	Value	Number of farms	Amount	Value	Price
<b>Dairy products:</b>						
Milk, qts.	2,223.2	\$117.09	124	2,259.1	\$118.98	\$0.05
Butter, lbs.	156.3	32.01	93	211.8	43.37	.20
<b>Poultry and products:</b>						
Poultry, lbs.	109.0	24.90	120	114.4	26.14	.23
Eggs, doz.	98.2	20.21	122	101.4	20.87	.21
<b>Pork and products:</b>						
Pork, lbs.	715.3	83.37	116	777.0	90.56	.12
<b>Other meats:</b>						
Beef, lbs.	6.3	.36	1	800.0	45.00	.06
Veal, lbs.	4.0	.60	1	500.0	75.00	.15
<b>Grains:</b>						
Corn for cornmeal, bu.	9.5	7.43	114	10.5	8.21	.78
Wheat for flour, bu.	41.7	39.87	118	44.5	42.57	.96
<b>Garden and truck:</b>						
Garden	-	102.75	125	-	103.58	-
Potatoes, bu.	1.0	.98	3	43.3	41.33	.95
Sweet potatoes, bu.	0.1	.08	1	10.0	10.00	1.00
Tomatoes, bu.	0.1	.04	1	10.0	5.00	.50
<b>Fruits:</b>						
All fruits, bu.	14.7	8.78	67	27.7	16.52	.60
<b>Other food:</b>						
Sorghum molasses, gal.	1.2	.68	5	30.8	17.20	.56
Honey, lbs.	3.8	.61	10	48.5	7.70	.16
Wood, cds.	17.6	36.17	123	18.0	37.06	2.06
Use of dwelling	-	186.07	126	-	186.07	-
<b>Total</b>		<b>\$662.00</b>	<b>126</b>			

\* One farm of the original study was omitted because the operator did not reside on the farm.

## Floyd County

The total value of all farm products used by the household on the 100 farms studied in Floyd County amounted to \$394.70 per farm or \$98.68 per person (table 8).

Pork, milk, and garden were the major home-grown products used by these farm households. The total amount of pork consumed in the household averaged 592 pounds per farm which was 1.6 pounds daily or 148 pounds per person for the year. At farm prices averaging 11 cents per pound the average value per farm was \$66.73.

More than a quart of milk was consumed per person in addition to the butter used. At farm prices the milk and butter amounted to almost \$64 per household for the year. An average of about a pound of butter a week was used by these households but only 56 percent of the farms made their own butter which averaged 1.6 pounds per week.

The farm poultry flock furnished the households an average of 61.1 pounds of dressed poultry during the year and 63.5 dozen eggs. This amounted to about 2.5 pounds of chicken every two weeks and over a dozen eggs per week. For a household of 4.0 persons, the average for the area, this is a low consumption of eggs. All but one of the households used eggs. Although turkeys were commonly raised for sale on these farms, few were eaten.

One farm consumed 150 pounds of beef, but no additional meats other than wild game, which consisted primarily of rabbits, were used. The value of the wild game amounted to 94 cents per household and 31 percent of the households reported its use.

Garden produce, which includes a great variety of vegetables, amounted

to an average of \$57.91 per household and all farms reported gardens.

Of the 100 farm households, 80 took wheat to the mill to have flour made. These 80 farms averaged 24 bushels, which amounted to 19.2 bushels average for all farms. However, in addition, 91 farmers reported corn ground for meal for use in the house and the average bushels per farm on those farms was 14.5, or a total value of \$11.70.

In addition to these products furnished for food the farms furnished an average of 15.8 cords of wood per farm at a farm price of \$2.58 per cord.

Table 8.--The amounts and values (at farm prices) of farm products used by the households on 100 farms in Floyd County, Virginia, 1937.

Product	Average per farm, all farms		Number of farms	Average for farms using		
	Amount	Value		Amount	Value	Price
<b>Dairy products:</b>						
Whole milk, qts.	1,482.9	\$ 52.54	96	1,544.7	\$ 54.73	\$0.04
Butter, lbs.	50.3	11.25	56	89.8	20.09	.22
<b>Poultry and products:</b>						
Poultry, lbs.	61.1	13.80	94	65.0	14.68	.23
Eggs, doz.	63.5	12.68	99	64.1	12.81	.20
<b>Pork and products:</b>						
Pork, lbs.	592.1	66.73	96	616.8	69.51	.11
<b>Other meats:</b>						
Beef, lbs.	1.5	.15	1	150.0	15.00	.10
Game	-	.94	31	-	3.03	-
<b>Grain:</b>						
Wheat, bu.	19.2	19.36	80	24.0	24.20	1.01
Corn, bu.	13.2	10.65	91	14.5	11.70	.81
Buckwheat, bu.	.1	.09	4	3.2	2.25	.70
<b>Garden and truck:</b>						
Garden	-	53.84	100	-	53.84	-
Potatoes, bu.	4.4	3.13	22	19.9	14.23	.72
Sweet potatoes, bu.	.8	.64	12	6.9	5.33	.77
Snap beans, bu.	.2	.17	4	6.0	4.25	.71
Lima beans, bu.	.1	.04	1	6.0	4.00	.67
Tomatoes, bu.	.2	.09	4	4.8	2.25	.47
<b>Fruit:</b>						
All fruit	-	10.07	67	-	15.03	-
Cider, gal.	.4	.10	1	40.0	10.00	.25
<b>Other food:</b>						
Sorghum, gal.	.5	.38	3	16.7	12.67	.76
Honey, lbs.	4.9	.68	12	40.5	5.67	.14
Nuts	-	.06	1	-	6.00	-
Wood, cds.	15.8	37.53	99	15.9	37.91	2.38
Use of dwelling	-	99.78	99	-	100.79	-
<b>Total</b>		<b>\$394.70</b>	<b>100</b>			

### Comparison of the six areas

The average total value of home-produced foods consumed by the farm operators' households was least in Nansemond and highest in Albemarle County (table 9). In other words, the values increased toward the west and north from Tidewater Virginia. In a general way, the same was true of the values for wood and house rent, although wood was highest in Pittsylvania County, decreasing both north and west, while house rent was lowest in this county and was exceptionally high in Albemarle County, probably indicating that some of the dwellings included in this area were both larger and better than typical farm houses and were erected and supported by funds obtained from sources other than farming. In such cases, perhaps a truer picture of the relationship to farming could have been presented by including only the farm share of the dwelling in the business record.

In Floyd, Grayson, and Appomattox Counties the value of all food products accounted for about two-thirds of the total for all items. While the value of foods per farm was highest in Albemarle County the proportion of the total was lowest because of that part of the dwelling not furnished strictly by the farm but by outside funds. In Pittsylvania County, nearly three-fourths of the total represented foods, which was relatively high because of a large proportion of low-valued dwellings many of which were occupied by small-scale operators of relatively poor farms.

For convenience in comparison and owing to slight variations in methods of enumeration, the foods were combined into eight groups, each containing similar products. Percentages calculated for each of the eight classes, with the total value of all food as 100 percent indicate that animal products constituted about two-thirds of the total (table 10).





Of the six areas, the greatest percentage of total food products represented by dairy products was found in Pittsylvania County where it amounted to almost 40 percent. Nansemond County outranked the other areas in the use of poultry, while Nansemond and Floyd had about equal percentages represented by pork. Albemarle and Nansemond ranked highest in porportion of the value of food products represented by garden and vegetables. This was probably influenced by nearness to market.

The proportion of households using various items of homegrown foods and the average amounts used reflect both the type of agriculture in the area and the eating habits of the people, which were necessarily somewhat related. For example, a relatively high proportion of the families in the Nansemond area used miscellaneous vegetables grown for sale, and Grayson, Nansemond, and Floyd represented practically the only areas in which sweet potatoes were used except for small quantities produced in the garden (table 11). The proportion of farms using dairy products in the house was lower in the Nansemond area than anywhere else, as was also true of wheat, whereas beef and mutton consumption were more common in the Grayson area than elsewhere, while dry beans were found only in Grayson. Buckwheat was used in the house only in Grayson and Floyd.

The total value per person for farm products used by the household varied considerably in the six areas. The lowest value per person was in Nansemond County and amounted to \$54.70 and the highest value was \$182.08 in Albemarle County (table 12). This extremely wide range was caused by (1) the very high rental value of the dwellings in Albemarle and (2) the the difference in price level for the years represented. In order to over-

Table 11.--Percent of farms using various farm products in the household on 1999 farms in six counties in Virginia

Product	Lower Piedmont			Upper	Highland		All
	Tidewater	Pittsylv-	Appomattox,	Piedmont	Grayson,	Floyd,	
	1932	1933	1935	1935	1930	1937	
	<u>Percent of farms using</u>						
Dairy products: <sup>1/</sup>							
Whole milk	47	95	98	96	84	96	77
Butter of butter fat	34	38	74	56	99	56	51
Cream	*	-	-	-	34	-	6
Skim milk	-	-	-	-	34	-	6
Clabber	1	-	-	-	-	-	-
Buttermilk	*	-	-	-	89	-	15
Cheese	-	-	-	-	5	-	1
Poultry and products:							
Poultry	94	98	95	89	98	94	96
Eggs	94	98	97	89	100	99	97
Pork and products: <sup>1/</sup>							
Pork	83	96	92	72	98	96	91
Lard	*	-	-	-	-	-	-
Other meat:							
Beef	*	4	1	4	10	1	3
Veal	1	8	1	-	-	-	3
Mutton	1	*	-	1	14	-	3
Goats	*	-	-	-	1	-	-
Kids	*	-	-	-	-	-	-
Rabbits or game	*	-	-	-	-	31	2
Grain:							
Corn	81	89	90	72	91	91	86
Wheat	-	87	94	41	37	80	47
Rye	-	-	-	-	*	-	-
Buckwheat	-	-	-	-	3	4	1
Hominy	*	-	-	-	-	-	-
Garden and truck <sup>1/</sup>							
Garden	98	100	99	97	100	100	99
Potatoes	34	7	2	25	98	22	38
Sweet potatoes	62	-	1	1	33	12	28
Corn	4	1	-	1	-	-	2
Cowpeas	4	-	-	-	-	-	1
Snap beans	3	1	-	-	*	4	2
Peas	7	3	-	1	-	-	3
Tomatoes	1	1	1	-	-	4	1
Cabbage	2	-	-	-	-	-	1
Collards	*	-	-	-	-	-	-
Kale	1	-	-	-	-	-	-
Dry beans	-	-	-	-	65	-	11
Rutabaga	*	-	-	-	-	-	-
Spinach	*	-	-	-	-	-	-
Turnips	*	-	-	1	-	-	-
Beets	*	-	-	-	1	-	-
Lima beans	2	-	-	-	-	1	1
Butterbeans	-	*	-	1	-	-	-
Soybeans	-	*	-	-	-	-	-

(continued)

Table 11.--Percent of farms using various farm products in the household on 1999 farms in six counties in Virginia (cont'd)

Product	Lower Piedmont			Upper Piedmont	Highland plateau		All
	Tidewater Hansemond, 1932	Pittsylv- ania, 1933	Appomattox, 1935	Albemarle, 1935	Grayson, 1930	Floyd, 1937	
<u>Percent of farms using</u>							
Garden and truck <sup>1/</sup>							
Okra	-	*	-	-	-	-	-
Blackeye peas	-	-	-	1	-	-	-
Watermelons	5	1	-	-	2	-	2
Cantaloups	2	*	-	-	-	-	1
Wild products	-	-	-	-	5	-	1
Fruit: <sup>1/</sup>							
Grapes	43	-	-	-	43	-	22
Peaches	29	-	-	-	-	-	10
Strawberries	*	-	-	-	12	-	2
Apples	38	-	-	-	82	-	27
Cider	-	-	-	-	-	1	-
Cherries	1	-	-	-	17	-	3
Pears	14	-	-	-	-	-	5
Plums	2	-	-	-	-	-	1
Figs	3	-	-	-	-	-	1
Bush fruit	-	-	-	-	21	-	4
Other fruit	*	-	-	-	11	-	2
All fruit	68	78	53	53	92	67	74
Other food:							
Peanuts	5	*	-	-	-	-	2
Sorghum molasses	8	12	4	3	14	3	9
Pecans	2	-	-	-	-	-	1
Walnuts	*	-	-	-	-	-	-
Honey	1	14	8	1	8	12	8
Popcorn	-	-	-	-	12	-	2
Nuts	-	-	-	-	-	1	-
Other products:							
Wool	*	-	-	-	7	-	1
Broomcorn	-	-	-	-	12	-	2
Tobacco	-	-	-	-	5	-	1
Hides	-	-	-	-	1	-	-
Wood	95	100	98	97	98	99	98
Use of dwelling	100	100	100	100	100	100	100

\*Less than one-half of one percent.

<sup>1/</sup>In some of the areas, certain of the items have little significance owing to variations in methods of enumeration. In only Grayson County were all dairy products enumerated separately, for on many farms in the other areas the figure obtained represented all milk taken to the house to use in all forms. In all areas, pork represents the dressed weight of the carcass and lard was not enumerated separately. In all areas, certain vegetables were enumerated separately only if grown for sale. Particularly was this true, for example of potatoes in Hansemond and Pittsylvania Counties and of miscellaneous vegetables in the other areas. In Pittsylvania, Albemarle, Appomattox, and Floyd Counties all fruits were combined and in only Grayson and Hansemond were they enumerated separately. For this reason, the food-class-group totals should be used for comparison whenever possible.

come the effect of these, food products were grouped together separate from wood for fuel and value of use of dwelling, and the values divided by the index of Virginia farm prices for the year of the study. Under these conditions the food products of the different areas, placed on a per-person basis, are fairly comparable. The lowest value for food per person in terms of 1910-14 dollars was in Grayson County and the highest was in Albemarle which was practically double that of Grayson County. Appomattox, Pittsylvania, Floyd, and Nansemond rank in the order named.

Table 12.--Comparison of value per person for farm products used by the household in 6 areas in Virginia

	Tidewater Nansemond, 1932	Lower Piedmont		Upper Piedmont Albemarle, 1935	Highland plateau	
		Pittsylv- vania, 1933	Appo- mattox, 1935		Grayson, 1930	Floyd, 1937
Number of farms	699	667	126	75	332	100
Average persons at operator's table	5.5	6.5	5.6	5.1	4.9	4.0
Value of farm products used in house, per person:						
Food	\$32.37	\$56.72	\$78.53	\$90.16	\$48.28	\$64.35
Fuel and house rent	22.33	21.75	39.68	91.92	25.14	34.33
Total	\$54.70	\$78.47	\$118.21	\$182.08	\$73.42	\$98.68
Value per person, <sup>1/</sup> 1910-14 dollars						
Food	\$45.59	\$65.20	\$ 70.75	\$ 81.23	\$40.23	\$52.75
Fuel and house rent	31.45	25.00	35.73	82.81	20.95	28.14
Total	\$77.04	\$90.20	\$106.50	\$164.04	\$ 61.18	\$80.89

<sup>1/</sup> Index numbers of Virginia farm prices shown in table 1 used for deflating.

Since it was impracticable to deflate the values of all individual items by index numbers of the general farm price level, actual values were used in the analyses that follow. This fact should be kept in mind in comparing the relationships found for the various areas. Furthermore, since the average

value per person for fuel and house rental combined varied only slightly between the Grayson, Floyd, Pittsylvania, and Hansmond areas, these did not materially affect the relationships found and were hence not deducted from the total values except in cases where they were affected by the factor considered. Most of the analyses were based upon the records obtained in these four areas.

THE RELATION OF SELECTED FARM MANAGEMENT FACTORS  
TO FARM PRODUCTS USED

Because the various food products, wood, and dwelling are part of the total product of the farm business, it is reasonable to believe that the same factors which determine the success or failure of the farm business will also influence the amounts and values of products used by the household. One would expect a relationship between them and size of business, rates of production, labor efficiency, tenure, location, and such characteristics of the operator as color, education, and size of household. The relative importance of each is difficult to determine because of the limited number of records, but the gross relationships and the combined effect of some of the more important factors may be studied.

Size of farm business

Size of business is measured in this study by total productive man work units, capital investment, equivalent number of men working on the farm, and in the case of the household, by the average number of persons eating at the operator's table. In addition to these, various measures of size such as the amount of livestock kept, total acres of crops grown, or the acreage of the most important crop characteristic of the area or type of farming may be used. Labor income measures the financial success of the total farm business. It has been well-established that the opportunity for a large labor income is greater on a large than on a small farm, but the chance for loss is also greater on the large farm. For farm products used by the household, however, the relationship is always direct, for, as size of farm business increases, the total value of farm products

and the average value per person also increase. Part of this is because a larger business requires more men, and more men require more food, more heat, and larger quarters. Furthermore, all of these men and the operator's family fare better, as indicated by the increase in the average value of products used per person accompanying increased size of business.

Farms in each of the four areas were divided into size-of-business groups on the basis of total productive man work units. In each area, an increase in total productive man work units was accompanied by an increase in the total value of farm products used by the household (table 13). The average value of products per person also increased on the larger farms.

The greatest increase in value of farm products used by the household accompanying a given increase in size of business occurred in Grayson County, where the average increased value of farm products per 100 work units increased size of business was \$98, as compared to \$74 in Floyd, \$70 in Nansemond, and \$44 in the Pittsylvania area. The relatively low figure for the latter area probably reflects the fact that increased size of farm business represented increased tobacco acreage rather than increased production of items usable by the household.

In order to determine the degree of self-sufficiency of these farms a ratio was calculated by determining the percentage which the value of the farm products used by the household represented of the total income of the farm as expressed by total receipts from farm enterprises plus the value of farm products used by the household. This ratio decreased as size of business increased. According to the census definition, a self-sufficing farm is one from which the value of the products used directly by the farm family is equal to or greater than the value of all the crops,



Table 13.--The relation of size of business to various factors

Total productive-man-work units	Number of farms	Average per farm		Number in house-hold	Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings
		Total productive man work units	Crop index				Per farm	Per person		
332 farms, Grayson County, 1930										
Less than 125	78	97	92	3.6	75	\$-174	\$225	\$ 62	52	\$ 51
125-199	101	158	102	4.8	113	-188	298	62	44	110
200-274	69	231	102	5.3	136	-369	411	78	38	42
275 or more	84	392	102	6.0	206	-522	514	86	29	-8
699 farms, Nansemond County, 1932										
Less than 146	118	105	85	4.3	88	\$-168	\$150	\$ 35	53	\$ -18
146-225	173	189	92	5.1	135	-196	225	44	44	29
226-305	160	264	94	5.5	155	-210	279	51	40	69
306-385	96	346	99	6.4	173	-221	340	53	34	119
386 or more	152	610	108	6.3	210	-297	503	80	26	206
667 farms, Pittsylvania County, 1933										
Less than 250	111	181	87	5.0	121	\$-241	\$346	\$ 69	63	\$ 105
250-399	173	317	93	6.1	176	-126	400	66	46	274
400-549	142	468	97	6.8	203	-141	520	76	43	379
550-699	188	618	105	7.3	221	-101	555	76	33	454
700 or more	153	1,036	105	7.4	247	80	719	97	27	799
100 farms, Floyd County, 1937										
Less than 175	37	130	88	3.5	111	\$ -74	\$286	\$ 82	47	\$ 212
175-294	38	228	96	4.3	146	-122	432	100	36	310
295 or more	25	418	107	4.5	209	-81	498	111	23	417

Table 14.--Relation of productive-man-work units to the values of various farm products used by the household

Productive-man-work units	Number of farms	Average per farm											Use of dwelling			
		Milk	Eggs	Poultry	Pork meat	Other	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		Other pro- ducts	Wood	
332 farms, Grayson County, 1930																
Less than 125	78	\$ 48	\$ 6	\$ 6	\$36	\$2	\$ 3	\$10	\$12	\$22	\$ 8	\$ 1	\$ 1	\$22	\$ 48	
125-199	101	61	8	8	49	1	7	14	15	28	15	5	1	27	63	
200-274	69	75	12	13	67	6	14	16	20	33	14	5	1	31	104	
275 or more	84	86	14	17	77	6	17	16	24	36	15	3	1	38	164	
699 farms, Nansemond County, 1932																
Less than 146	118	\$ 6	\$ 5	\$ 8	\$19	-	-	\$ 4	\$ 3	\$21	\$ 8	\$ 1	-	\$23	\$ 52	
146-225	173	30	8	12	37	-	-	4	4	28	9	1	-	26	66	
226-305	160	43	9	16	51	-	-	4	4	34	12	1	-	26	79	
306-385	96	60	12	19	58	\$1	-	5	5	39	15	2	-	32	92	
386 or more	152	88	16	26	76	-	-	5	8	52	18	2	-	40	172	
667 farms, Pittsylvania County, 1933																
Less than 250	111	\$109	\$11	\$12	\$37	\$1	\$13	\$ 6	\$10	\$58*	-	\$ 2	-	\$37	\$ 50	
250-399	173	120	13	16	41	2	18	7	10	71	-	2	-	44	56	
400-549	142	159	14	18	53	2	29	9	15	89	-	3	-	51	78	
550-699	88	156	14	19	59	4	35	9	13	84	-	2	-	54	106	
700 or more	153	183	20	30	75	3	43	10	17	107	-	3	-	60	168	
100 farms, Floyd County, 1937																
Less than 175	37	\$ 50	\$10	\$10	\$47	\$1	\$14	\$ 7	\$ 6	\$ 43	\$ 1	-	-	\$31	\$ 66	
175-294	38	68	14	14	75	1	23	13	10	57	7	\$ 2	-	43	105	
295 or more	25	77	14	19	83	1	22	12	18	66	4	1	-	39	142	

\* Includes vegetables grown outside the garden.

livestock, livestock products and forest products sold or traded. On this basis, the group of smallest farms, on the average, in Grayson, Nansemond, and Pittsylvania Counties were the only self-sufficing size groups. A larger total production occurred on the larger farms; and the products used by the family, while of greater total value, were of lesser importance in relation to the total production.

Labor earnings, or the combined labor income and farm products used by the household, did not rise steadily in all areas as size of business increased, but increased irregularly from low to high size groups.

In all areas crop yields increased consistently from the smallest to the largest-sized groups. This was also true of work units per man and the number of persons in the household.

The values of all individual farm products and house rental increased as the size of business increased (table 14). Other measures of size of business were used and results similar to those for total productive man work units obtained. The farms were arranged according to the total capital investment (table 15) and averages per farm showed a consistent increase in the total value of farm products used by the household and also in the average per person. This was greatly influenced by the rental value of the house, because more valuable houses were on farms with larger capital investment (table 16). Better farms are generally valued at higher prices per acre and produce more than poorer farms. In all four areas this was evident, for the crop index increased from lowest on the farms with small capital to highest on those with large capital investment. This would indicate that the apparent increase in the total value of farm products used by the household was not only due to increased capital investment

Table 15.--The relation of capital investment to various factors

Capital investment	Number of farms	Average per farm				Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings
		Total productive man work units	Crop index	Number in household	Capital			Per farm	Per person		
332 farms, Grayson County, 1930											
Less than \$2451	96	152	87	4.8	\$ 1,592	117	\$ -24	\$215	\$ 45	44	\$ 191
\$2451-4949	89	172	91	4.5	3,447	123	-154	291	65	42	137
\$4950-7450	55	224	106	4.9	6,125	140	-254	376	77	37	122
\$7451-9949	29	243	111	5.1	8,507	143	-426	473	93	37	47
\$9950 or more	63	366	103	5.7	19,770	183	-946	606	106	30	-340
699 farms, Kanawha County, 1932											
Less than \$1451	114	150	82	4.8	\$ 1,015	115	\$ -95	\$128	\$ 27	41	\$ 33
\$1451-2949	238	223	92	5.2	2,207	149	-164	224	43	40	60
\$2950-4450	164	295	97	5.9	3,549	155	-251	317	54	38	66
\$4451-5949	75	367	103	5.5	5,115	175	-229	413	75	35	184
\$5950 or more	108	623	113	6.1	9,763	215	-422	551	90	27	129
667 farms, Pittsylvania County, 1933											
Less than \$2451	213	301	84	6.1	\$ 1,756	167	\$ -127	\$333	\$ 55	48	\$ 206
\$2451-4450	207	456	98	6.6	3,415	198	-82	482	73	40	400
\$4451 or more	247	793	108	6.8	8,439	233	-86	686	101	31	600
100 farms, Floyd County, 1937											
Less than \$2950	30	146	85	3.9	\$ 1,847	122	\$ -1	\$274	\$ 70	42	\$ 273
\$2950-5549	40	217	95	3.9	4,380	155	-92	376	96	36	284
\$5550 or more	30	362	107	4.4	10,290	181	-190	540	123	26	350

Table 16.--The relation of capital investment to the values of various products used by the household

Capital investment	Number of farms	Average per farm												Use of dwelling	
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food	Other pro- ducts		Wood
332 farms, Grayson County, 1930															
Less than \$2451	96	\$ 54	\$ 6	\$ 6	\$34	-	\$ 4	\$11	\$13	\$23	\$10	\$ 3	\$ 1	\$ 23	\$ 27
\$2451-4949	89	64	7	9	48	\$ 2	8	12	15	28	12	3	1	28	54
\$4950-7450	55	62	8	10	63	3	10	18	19	34	13	4	1	28	103
\$7451-9949	29	83	16	16	77	8	19	19	19	32	14	3	1	36	130
\$9950 or more	63	91	17	20	88	8	20	15	26	36	15	3	1	40	226
699 farms, Nansemond County, 1932															
Less than \$1451	114	\$ 11	\$ 5	\$ 7	\$22	-	-	\$ 4	\$ 3	\$22	\$ 9	\$ 1	-	\$ 22	\$ 22
\$1451-2949	238	29	8	14	41	-	-	4	4	30	11	1	-	26	56
\$2950-4450	164	50	10	17	55	-	-	5	5	35	13	1	-	30	96
\$4451-5949	75	73	12	19	63	\$ 1	-	5	5	43	14	1	-	33	144
\$5950 or more	108	92	18	28	72	1	-	5	8	56	18	2	-	40	211
667 farms, Pittsylvania County, 1933															
Less than \$2451	213	\$109	\$10	\$13	\$37	\$ 1	\$15	\$ 7	\$ 9	\$61*	-	\$ 2	-	\$ 42	\$ 27
\$2451-4450	207	147	14	18	54	2	27	8	13	86	-	3	-	49	61
\$4451 or more	247	176	18	26	66	3	39	10	16	98	-	3	-	56	175
100 farms, Floyd County, 1937															
Less than \$2950	30	\$ 53	\$ 8	\$ 8	\$51	\$ 1	\$16	\$11	\$ 6	\$43	\$ 1	\$ 1	-	\$ 33	\$ 42
\$2950-5549	40	53	14	15	57	1	20	10	8	53	5	1	-	40	99
\$5550 or more	30	89	16	18	95	2	21	12	17	65	5	2	-	39	159

\* Garden and vegetables.

but also to increased production. Each class of farm products used by the household increased. Even when the rental value of the house was deducted from the total value of products, the average for each size group was an increase over the preceding smaller-sized group. When the farms in Floyd County were arranged according to the capital investment in the dwelling, it was found that as the investment in dwelling increased from less than \$495 to \$1195 or more, the value of farm products used by the household increased from \$263 to \$541 per farm.

The same relationships were obtained by placing the farms in groups according to the equivalent number of men used in the farm business (tables 17 and 18). The total value of farm products increased both per farm and per person as the number of men increased.

Table 17.--The relation of equivalent number of men to various factors

Number of men	Number of farms	Average per farm			Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings	
		Total productive man work units	Crop index	Number of men			Number in household	Per farm			Per person
332 farms, Grayson County, 1930											
Less than 1.2	36	139	86	1.1	4.2	126	\$ 1	\$203	\$ 48	41	\$204
1.2-1.3	118	167	97	1.2	4.2	139	-147	289	69	42	142
1.4-1.5	51	218	93	1.4	5.1	156	-203	342	67	39	141
1.6-1.7	45	225	104	1.6	5.7	141	-313	426	75	37	113
1.7 or more	82	322	98	2.2	5.8	146	-735	502	87	31	-233
100 farms, Floyd County, 1937											
Less than 1.2	31	168	88	1.0	3.2	168	\$ 7	\$304	\$ 95	37	\$ 311
1.2-1.7	41	222	94	1.4	4.3	159	-49	404	94	37	355
1.8 or more	28	342	106	2.3	4.6	149	-271	480	104	26	209

Table 18.--The relation of the equivalent number of men to the value of various products used by the household

Number of men	Number of farms	Average per farm											Use of dwelling			
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		pro- ducts	Wood	
332 farms, Grayson County, 1930																
Less than 1.2	36	\$42	\$ 7	\$ 7	\$30	\$ 1	\$ 4	\$ 8	\$ 8	\$20	\$ 8	\$ 1	-	\$22	\$ 45	
1.2-1.3	118	62	7	8	45	2	5	11	15	25	11	2	\$1	23	72	
1.4-1.5	51	66	9	10	59	1	11	15	17	29	12	3	1	30	79	
1.6-1.7	45	80	12	12	69	5	16	17	19	32	15	4	1	34	110	
1.7 or more	82	80	14	17	77	7	17	19	25	39	15	5	1	40	146	
100 farms, Floyd County, 1937																
Less than 1.2	31	\$45	\$10	\$11	\$51	\$ 1	\$10	\$ 8	\$ 8	\$46	\$ 2	-	-	\$35	\$ 77	
1.2-1.7	41	63	12	14	67	1	22	12	11	56	5	\$ 2	-	37	102	
1.8 or more	28	85	16	17	84	2	25	13	11	59	5	1	-	41	121	



### Crop yields

The crop index represents the yields of all crops on a particular farm expressed as a percentage of the average for all farms studied in the area. If the farm household consumed more when larger yields were obtained from crops, or, in other words, if the household was an outlet for crop products grown in excess of those used in the business or sold, this fact would be indicated when the farms were grouped according to crop index. As is shown in table 19, both the total value of farm products used by the household and the average per person in all areas increased with increased crop yields. Increases occurred in all classes of products used by the household, but wheat, corn, fruit, garden, and vegetables showed large increases closely associated with crop index. The large increase in rental value of the dwelling again indicated the close relationship between crop yields and capital investment.

The association between either the equivalent number of men used on the farm or the number of persons in the household, and crop index, other than that reflecting variation in size of business, was relatively slight.

Labor earnings increased consistently with crop index in the Nansemond, Pittsylvania, and Floyd areas.

Table 19.--The relation of crop index to various factors

Crop index	Number of farms	Average per farm		Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings	
		Total productive man work units	Number in house-hold			Per farm	Per person			
1/										
330 farms, Grayson County, 1930										
Less than 90	153	209	69	4.8	139	\$-247	\$320	\$ 67	37	\$ 73
90-109	80	215	99	5.3	134	-319	373	70	40	54
110 or more	97	239	139	4.8	149	-395	412	86	33	17
699 farms, Nansemond County, 1932										
Less than 75	159	221	62	5.7	138	\$-258	\$198	\$ 35	44	\$-60
75-89	145	259	82	5.6	152	-244	261	47	41	17
90-104	132	329	97	5.4	173	-232	313	58	33	81
105-119	140	377	111	5.2	180	-222	366	70	30	144
120 or more	123	362	136	5.5	181	-125	396	72	30	271
667 farms, 1/ Pittsylvania County, 1933										
Less than 85	238	454	67	6.7	197	\$-347	\$438	\$ 65	49	\$ 91
85-109	215	537	96	6.4	207	-103	485	76	36	382
110 or more	214	611	132	6.4	218	184	616	96	31	800
100 farms, Floyd County, 1937										
Less than 85	34	194	73	3.8	149	\$-141	\$345	\$ 91	39	\$204
85-99	29	218	93	3.8	145	-117	398	105	39	281
100 or more	37	297	119	4.5	165	-32	438	97	26	406

1/ Some farms grew no crops.

Table 20.--The relation of crop index to the value of various farm products used in the household

Crop index	Number of farms	Average per farm											Use of dwelling			
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		Other pro- ducts	Wood	
<u>1/</u>																
330 farms, Grayson County, 1930																
Less than 90	153	\$ 66	\$ 9	\$ 9	\$52	\$ 2	\$10	\$13	\$15	\$28	\$11	\$3	\$ 1	\$29	\$ 72	
90-109	80	70	9	12	59	2	12	18	20	32	14	3	2	31	89	
110 or more	97	68	12	13	63	6	9	13	20	30	13	3	-	30	132	
<u>1/</u>																
699 farms, Mansemond County, 1932																
Less than 75	159	\$ 24	\$ 6	\$10	\$33	-	-	\$ 5	\$ 3	\$28	\$ 9	\$1	-	\$25	\$ 54	
75-89	145	40	9	14	45	-	-	5	3	33	11	1	-	27	73	
90-104	132	44	10	16	49	-	-	4	6	33	13	2	-	30	106	
105-119	140	58	14	19	59	-	-	4	6	41	14	1	-	34	116	
120 or more	123	68	13	24	60	-	-	4	6	43	16	1	-	32	129	
<u>1/</u>																
667 farms, Pittsylvania County, 1933																
Less than 85	238	\$131	\$13	\$18	\$47	\$ 2	\$22	\$ 7	\$11	\$67 <u>2/</u>	-	\$2	-	\$47	\$ 71	
85-109	215	144	15	17	50	2	27	8	11	79	-	3	-	47	82	
110 or more	214	163	16	23	63	3	35	10	17	103	-	3	-	54	126	
<u>1/</u>																
100 farms, Floyd County, 1937																
Less than 85	34	\$ 53	\$14	\$10	\$56	\$ 1	\$18	\$10	\$ 6	\$ 47	\$ 4	\$1	-	\$40	\$ 85	
85-99	29	64	10	14	75	-	21	11	11	62	4	1	-	34	91	
100 or more	37	73	14	17	70	2	20	11	14	54	4	1	-	38	120	

1/ Some farms grew no crops.

2/ Vegetables and garden.

Labor efficiency

Labor efficiency was measured by productive work units per man. Increased efficiency in the use of labor is ordinarily accompanied by increased income and is largely a result of increased size of business.

When the farms were grouped according to the number of productive work units accomplished per man, both the total and per-person value of farm products increased consistently (table 21). Much of this was undoubtedly due to increased size of business, as indicated by further analysis presented later (table 23). Crop index increased as labor efficiency increased, although not regularly. Labor earnings increased consistently.

In general, the values of the individual classes of products used in the household also increased slightly with increased labor efficiency (table 22). Both animal and crop products followed this rule. The rental value of the house also increased, but as with other products, this was probably due partly to increased size of business.

Table 21.--The relation of man work units per man to various factors

Man work units per man	Number of farms	Average per farm		Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings	
		Total productive man work units	Number in Crop house-hold index			Per farm	Per person			
332 farms, Grayson County, 1930										
Less than 100	97	114	93	4.3	76	\$-306	\$265	\$ 62	50	\$ -41
100-149	122	190	98	5.1	127	-258	345	68	40	87
150-199	59	283	98	5.1	166	-344	433	85	31	89
200 or more	54	397	97	5.6	265	-379	475	85	29	96
699 farms, Mansemond County, 1932										
Less than 110	136	163	87	5.5	82	\$-354	\$199	\$ 36	47	\$-155
110-149	166	239	89	5.4	133	-265	262	49	41	-3
150-189	172	306	99	5.6	170	-180	311	56	34	131
190-229	107	376	103	5.6	209	-137	376	67	33	239
230 or more	118	498	101	5.3	277	-135	390	74	26	255
667 farms, Pittsylvania County, 1933										
Less than 125	77	218	90	5.5	95	\$-415	\$377	\$ 69	57	\$ -38
125-174	158	414	93	6.2	153	-287	458	74	41	171
175-224	180	567	99	6.8	202	-79	534	79	35	455
225-274	119	582	101	6.8	242	19	552	81	35	571
275 or more	133	758	99	6.8	330	180	580	85	32	760
100 farms, Floyd County, 1937										
Less than 125	37	154	90	4.0	96	\$-186	\$349	\$ 87	44	\$ 163
125-174	30	237	98	4.0	148	-118	399	100	36	281
175 or more	33	336	100	4.1	224	34	443	108	24	477

Table 22.--The relation of man work units per man to the value of various farm products used by the household

Man work units per man	Number of farms	Average per farm											Use of dwelling		
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		Other pro- ducts	Wood
332 farms, Grayson County, 1930															
Less than 100	97	\$ 53	\$ 7	\$ 7	\$43	\$ 2	\$ 5	\$13	\$14	\$26	\$10	\$ 3	-	\$26	\$ 56
100-149	122	68	10	10	56	4	12	15	18	30	14	3	\$ 1	28	76
150-199	59	78	12	15	65	5	13	15	20	31	14	3	1	32	129
200 or more	54	81	11	15	72	4	13	12	21	32	13	3	1	37	160
699 farms, Hansemond County, 1932															
Less than 100	136	\$ 17	\$ 6	\$10	\$29	-	-	\$ 4	\$ 3	\$28	\$ 9	\$ 1	-	\$25	\$ 67
110-149	166	35	8	13	45	-	-	5	5	30	12	2	-	29	78
150-189	172	54	10	17	52	-	-	4	4	36	13	1	-	30	90
190-229	107	65	13	21	62	\$ 1	-	4	6	41	11	2	-	32	118
230 or more	118	63	13	23	58	1	-	4	6	43	17	1	-	31	130
667 farms, Pittsylvania County, 1933															
Less than 125	77	\$117	\$11	\$12	\$38	\$ 1	\$17	\$ 9	\$11	\$60*	-	\$ 3	-	\$38	\$ 60
125-174	158	135	13	16	45	3	24	8	12	74	-	3	-	46	79
175-224	180	147	14	19	57	3	29	8	13	89	-	3	-	56	96
225-274	119	154	17	21	58	2	30	9	15	86	-	2	-	53	105
275 or more	133	165	16	26	62	1	35	8	13	93	-	3	-	47	111
100 farms, Floyd County, 1937															
Less than 125	37	\$ 64	\$12	\$10	\$57	\$ 1	\$19	\$10	\$ 6	\$51	\$ 3	\$ 1	-	\$37	\$ 78
125-174	30	64	15	17	66	1	21	11	10	48	5	2	-	41	98
175 or more	33	64	11	15	79	1	18	11	15	63	5	1	-	34	126

\* Garden and vegetables.

### The combined effect of size of business and labor efficiency

As was shown in table 21 the value of farm products used by the household increased as labor was used more efficiently on the farms. Work units per man do not fully indicate labor efficiency, or output, because many other factors, such as an animal's innate capacity for production, or the quality of the soil, affect the output, but for a given set of conditions, work units per man measure how much more efficiently one man can produce a given quantity than another under similar conditions of yield and size of business. It is difficult to secure large enough groups of farms with men producing under such similar conditions, but it is possible to limit the situation by limiting the most important factor in relation to output, namely, size of business. The reasons for its importance are increased equipment with which to operate, the possibility of larger fields and larger total acreages, more conveniently arranged farm layout, and the availability of help for doing the two-man jobs on moderately larger farms. On a small farm, an operator is handicapped by attempting to perform certain tasks alone. As soon as he hires additional help he must either increase his size of business or operate with reduced labor efficiency. Additional labor usually requires cash outlay, and may necessitate more food and a larger house.

Since labor efficiency and size of farm business are so closely allied, the farms were grouped first according to size and then subdivided on the basis of work units per man (table 23). In both Nansemond and Pittsylvania Counties, for similar-sized farms, the labor income was lower on those with low than on those with relatively high labor efficiency,

indicating that it paid to produce more per man employed in the business. When labor efficiency was low, all size groups averaged minus labor incomes, but whether this was a large or small loss was determined by the size of business in Hansemond County. In Pittsylvania County, where labor income increased as total man work units increased, the farms with low labor efficiency showed a decreasing labor income with increased size, but those with high labor efficiency had an increasing labor income.

In general, the total value of products used by the household increased with increased labor efficiency, although this relationship varied between the different size-of-business groups. In the Hansemond area, a slight reduction in this figure accompanied increased labor efficiency on the small farms, although the value of farm products per person increased because number of persons in the household decreased more rapidly than the total value of farm products used. The same was true of the total value of farm products furnished the household for the largest-sized group of farms in the Pittsylvania area but the value per person declined. For all other size groups in both areas, total value of farm products furnished the household increased slightly with increased labor efficiency, and the average value of such products per person increased considerably. It was only on the largest-sized group of farms in Pittsylvania that decreased value of farm products used per person decreased with increased labor efficiency. The reason for this was that the increased labor efficiency was accomplished to a considerable extent by a reduction in the number of men used to operate the farm rather than by increasing the size of business, meanwhile the total number of persons in the household increased and each person's share in the products therefore was less.



This analysis very clearly shows the relationship of size of business to the total value of farm products furnished the household. In both areas, for farms in comparable labor-efficiency (work-units-per-man) groups, increased size was accompanied by increased value of the products used, and it mattered not in which labor-efficiency group the comparison was made, except that in the Pittsylvania area the increased value of products used associated with increased size seemed to be somewhat greater for the farms that used labor most efficiently than for those with lowest labor efficiency. In general, holding size of business constant indicated very little increase in the closeness of relationship of labor efficiency to total value of farm products furnished the household, and holding labor efficiency constant detracted very little from the apparent relationship of size to the total value of these products. In other words, most of the result associated with size of business was due to size and other factors rather than to any association with labor efficiency.

However, as has been found in many farm management studies, labor efficiency was highly correlated with labor income in all size-of-business groups, and also with labor earnings, because of the high proportion of the labor-earnings figure represented by the labor income itself. However, the degree of relationship between labor efficiency and both labor income and labor earnings increased with increased size of business, as is strikingly shown in figure 2. In the Nansemond area, increasing size was accompanied by decreasing labor income for all labor-efficiency groups, while decreased labor earnings (labor income plus value of farm products furnished the household) accompanied increased size with low labor efficiency. and increased with size on farms with high

Table 23.--The combined effect of size of business and labor efficiency on labor earnings

Work units per man	Number of farms	Average per farm			Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings
		Total productive man work units	Crop index	Number in house-hold			Per farm	Per person		
699 farms, Mansemond County, 1932										
Farms with total man work units less than 195:										
Less than 140	145	125	86	5.0	89	\$-220	\$175	\$ 35	53	\$ -45
140-189	57	163	92	4.3	163	-80	182	42	41	102
190 or more	16	132	89	3.4	220	-67	155	46	44	88
Farms with total man work units 195 to 345:										
Less than 140	92	246	88	6.1	107	\$-412	\$263	\$ 43	43	\$-149
140-189	104	276	97	5.9	162	-158	294	50	38	136
190 or more	86	262	96	5.0	218	-72	287	57	39	215
Farms with total man work units of 346 or more:										
Less than 140	18	479	98	6.9	117	\$-693	\$372	\$ 54	28	\$-321
140-189	58	466	106	6.2	166	-343	466	75	31	123
190 or more	123	604	108	6.0	252	-189	481	80	26	292
667 farms, Pittsylvania County, 1933										
Farms with total man work units less than 350:										
Less than 180	156	223	89	5.4	124	\$-266	\$360	\$ 67	57	\$ 94
180-229	44	265	98	5.7	204	-54	411	72	51	357
230 or more	30	293	94	4.8	266	7	417	87	51	424
Farms with total man work units 350-599:										
Less than 180	67	446	92	7.1	149	\$-395	\$479	\$ 67	43	\$ 84
180-229	75	455	97	6.9	198	-113	474	69	39	361
230 or more	85	466	96	6.5	274	52	500	77	41	552
Farms with total man work units of 600 or more:										
Less than 180	29	843	107	6.7	162	\$-481	\$725	\$108	30	\$ 244
180-229	65	932	107	7.6	207	-8	684	90	28	676
230 or more	116	952	105	7.6	307	202	672	88	28	874

Table 24.--The combined effect of size and labor efficiency on the values of farm products used by the household

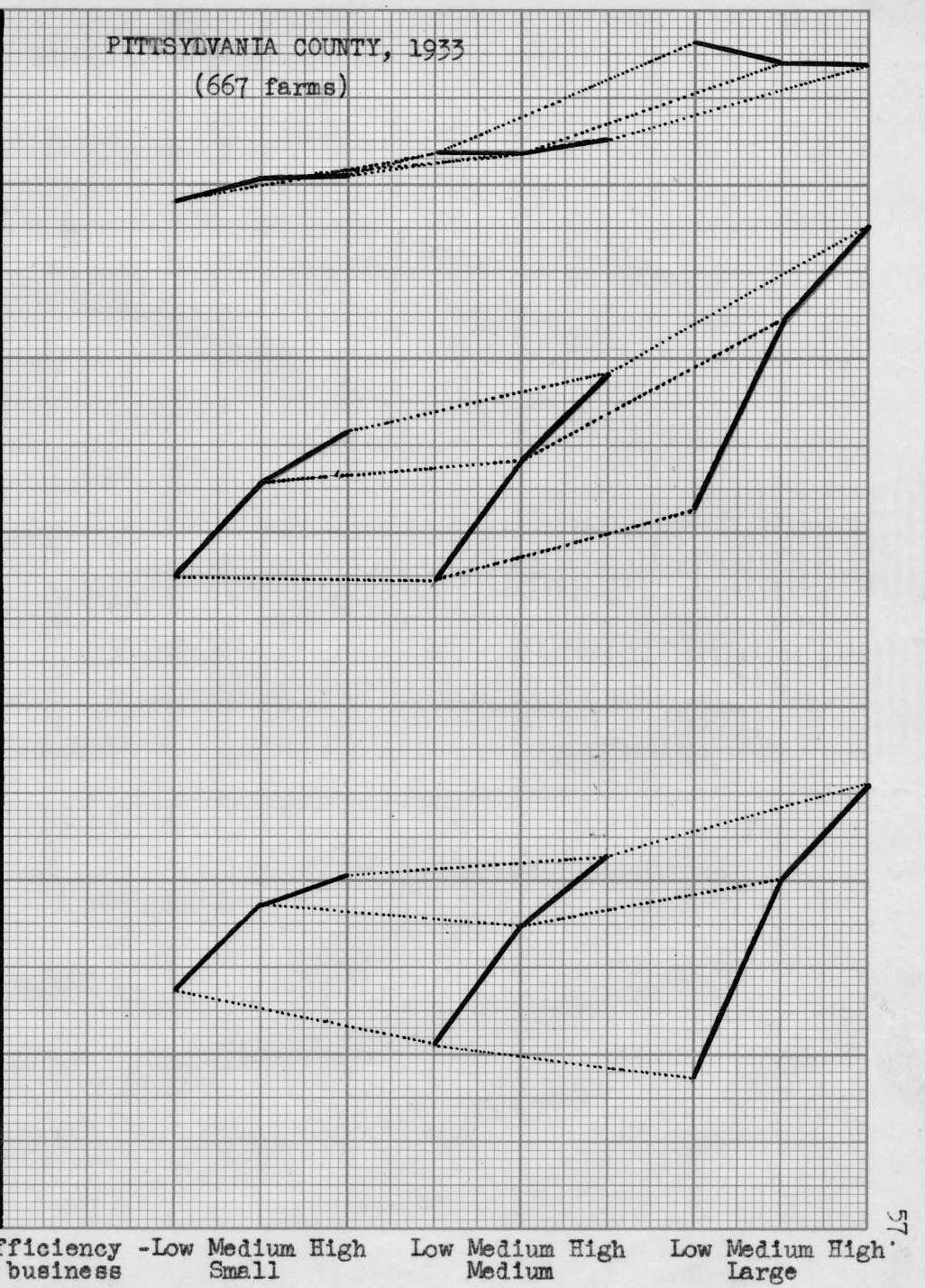
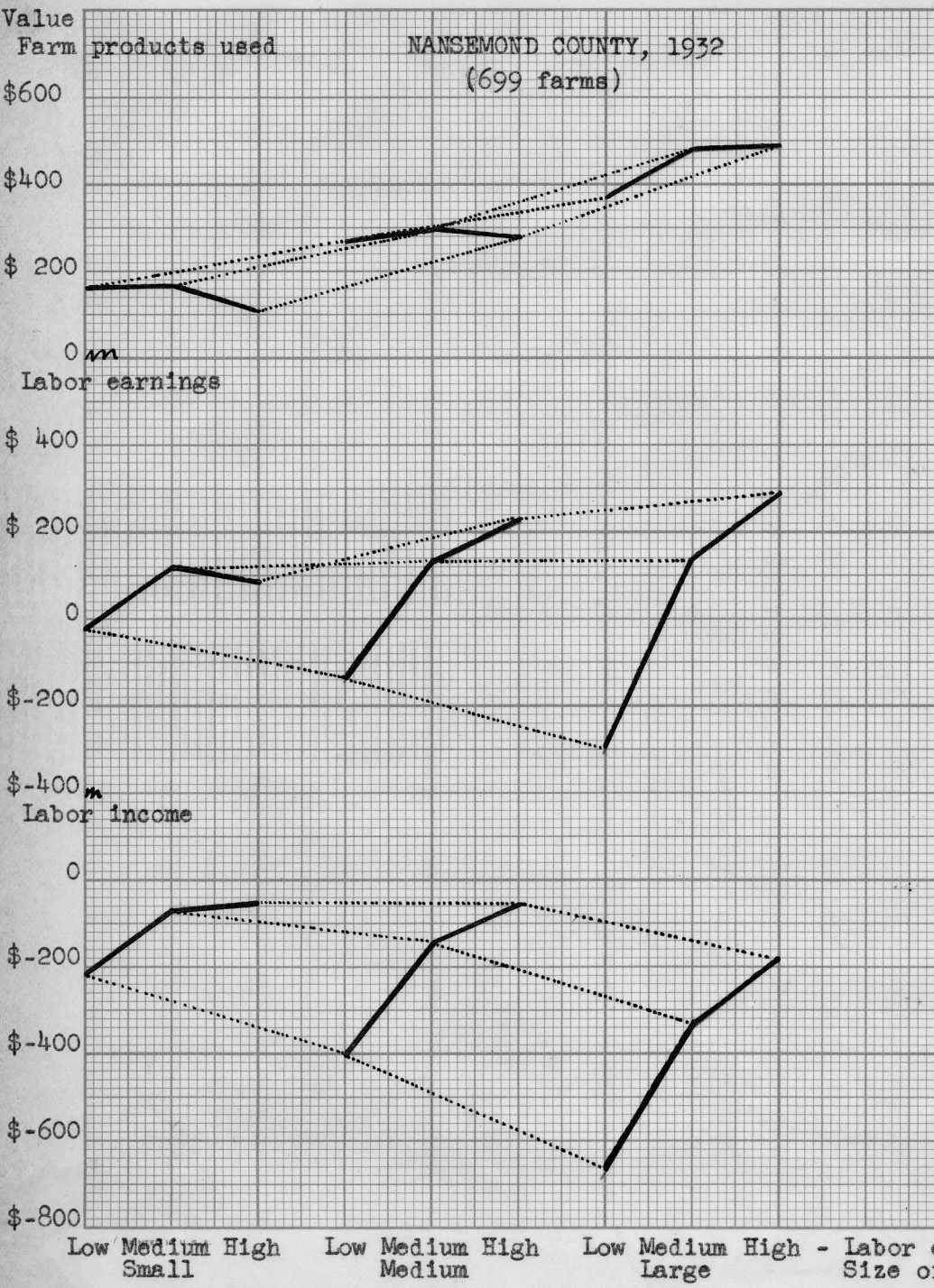
Work units per man	Number of farms	Average per farm											Use of dwelling	
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		Wood
699 farms, Nansemond County, 1932														
Farms with total work units of less than 195:														
Less than 140	145	\$ 14	\$ 6	\$ 9	\$ 23	-	-	\$ 4	\$ 3	\$ 23	\$ 9	\$ 1	\$ 24	\$ 59
140-189	57	15	7	11	30	-	-	4	3	26	7	1	24	54
190 or more	16	10	7	12	18	-	-	2	2	21	9	1	19	54
Farms with total work units of 195-345:														
Less than 140	92	\$ 32	\$ 8	\$ 14	\$ 46	-	-	\$ 5	\$ 5	\$ 32	\$ 12	\$ 1	\$ 30	\$ 78
140-189	104	53	10	16	52	-	-	4	4	33	12	2	28	80
190 or more	86	47	11	18	54	-	-	4	4	36	10	1	26	76
Farms with total work units of 346 or more:														
Less than 140	18	\$ 53	\$ 10	\$ 16	\$ 66	\$ 1	-	\$ 9	\$ 8	\$ 38	\$ 19	-	\$ 45	\$ 107
140-189	58	89	14	22	77	1	-	4	6	52	17	\$ 3	38	143
190 or more	123	83	16	27	69	1	-	4	8	50	17	2	37	167
667 farms, Pittsylvania County, 1933														
Farms with total work units of less than 350:														
Less than 180	156	\$ 113	\$ 12	\$ 12	\$ 37	\$ 1	\$ 15	\$ 8	\$ 10	\$ 64	<sup>1/</sup>	\$ 3	\$ 38	\$ 47
180-229	44	133	12	16	42	3	15	6	7	63	-	3	46	65
230 or more	30	112	16	17	45	2	18	4	8	74	-	1	51	69
Farms with total work units of 350-599:														
Less than 180	67	\$ 143	\$ 12	\$ 16	\$ 46	\$ 3	\$ 27	\$ 9	\$ 14	\$ 78	-	\$ 5	\$ 49	\$ 77
180-229	75	136	14	16	51	2	27	8	15	85	-	2	51	67
230 or more	85	158	12	19	54	1	26	9	11	83	-	2	46	79
Farms with total work units of 600 or more:														
Less than 180	29	\$ 190	\$ 17	\$ 24	\$ 69	\$ 6	\$ 44	\$ 9	\$ 16	\$ 95	-	\$ 3	\$ 57	\$ 195
180-229	65	160	18	28	74	5	41	10	19	108	-	4	69	148
230 or more	116	181	20	29	70	2	42	10	15	101	-	3	53	146

<sup>1/</sup> Garden and vegetables.

labor efficiency. It should be remembered that unfavorable weather conditions and low prices resulted in a low general level of farm incomes in the Hansemond study, which largely accounts for the fact that no group of farms in this analysis averaged above zero in labor income, whereas in the Pittsylvania study, while conditions were also unfavorable, they were somewhat better than for the other area, and farms with high labor efficiency averaged plus labor incomes in all size groups--the larger the business, the larger the income--while those with low labor efficiency, like Hansemond County farms, lost money--the larger the business, the larger the loss. Labor earnings increased with increased size in all labor-efficiency groups.

Increasing labor efficiency was associated with a decreasing difference between the total value of farm products furnished the household and labor income, for all size groups. On the other hand, increasing size of business was associated with an increasing difference between these two measures of income for all labor-efficiency groups, and the relationship to size of business was greater than to labor efficiency. Labor efficiency apparently had little effect on the total value of farm products furnished the household, except through its association with size of the farm business.

On a per-person basis more products were produced on the large farms with high labor efficiency than on the small farms with low labor efficiency.



### Combined effect of labor efficiency and crop yields

As shown in previous analyses, increased crop yields were associated with an increase in total value of farm products used per household and per person, labor income, and labor earnings. Increased labor efficiency also showed a slight tendency toward similar results, although size of business obscured this relationship. The combined effect of labor efficiency and crop yields in the Hansemond area was a consistent and substantial increase in labor income (table 25), in spite of increased size, which ordinarily was accompanied by increased losses. Compared to table 13, where these same farms were sorted by size of business and showed a decreasing labor income, this would indicate that in times of low prices, such as in 1932, it is very important to have efficient use of labor and relatively high crop yields, if relatively large incomes are to be secured. This same relationship to the combined effect of crop index and labor efficiency is reflected by the total value of farm products used by the household and by labor earnings. Since it was almost impossible to separate the effect of either of these factors from size of business, part of this increase was undoubtedly due to increased size. Since most of the apparent relation of labor efficiency to value of farm products used was due to the association of that factor with size of business, the results shown in this analysis were largely due to size of business combined with crop yields rather than to labor efficiency and crop yields.

Animal products used in the house increased faster than crops in relation to these two factors and the group of farms highest in both labor

Table 25.--The combined effect of labor efficiency and crop yields on labor earnings

Work units per man	Number of farms	Average per farm		Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings	
		Total productive man work units	Number in house-hold			Per farm	Per person			
699 farms, Nansemond County, 1932										
Farms with crop index less than 85:										
Less than 140	118	175	66	5.8	97	\$-312	\$181	\$ 31	49	\$-131
140-189	69	256	69	5.5	160	-213	229	42	42	16
190 or more	60	332	71	5.6	230	-197	282	50	40	85
Farms with crop index 85 to 109:										
Less than 140	94	205	96	5.4	102	\$-326	\$250	\$ 46	46	\$ -76
140-189	86	311	98	5.5	164	-187	322	59	35	135
190 or more	71	503	98	5.2	252	-170	387	74	27	217
Farms with crop index 110 or more:										
Less than 140	43	221	129	5.0	105	\$-346	\$264	\$ 53	35	\$ -82
140-189	64	323	130	5.6	162	-157	381	68	32	224
190 or more	94	467	126	5.5	234	-71	445	81	27	374

Table 26.--The combined relation of labor efficiency and crop yields to farm products used by the household  
Average per farm

Work units per man	Number of farms	Average per farm										Use of dwelling		
		Milk	Eggs	Poultry	Pork meat	Other	Wheat	Corn	Fruit	Garden	Vege- tables		Other food	
699 farms, Nansemond County, 1932														
Farms with crop index less than 85:														
Less than 140	118	\$16	\$ 6	\$ 9	\$31	-	-	\$ 4	\$ 3	\$25	\$ 8	\$ 1	\$25	\$ 53
140-189	69	35	7	13	45	-	-	4	3	31	8	-	25	58
190 or more	60	49	8	15	46	-	-	4	4	36	13	2	28	77
Farms with crop index 85 to 109:														
Less than 140	94	\$27	\$ 7	\$13	\$39	-	-	\$ 5	\$ 5	\$29	\$13	\$ 1	\$30	\$ 81
140-189	86	55	10	15	55	-	-	4	5	37	14	3	30	94
190 or more	71	64	16	19	56	\$ 1	-	4	7	39	16	2	31	132
Farms with crop index 110 or more:														
Less than 140	43	\$35	\$ 9	\$14	\$33	-	-	\$ 5	\$ 4	\$31	\$14	\$ 1	\$29	\$ 89
140-189	64	69	13	21	60	-	-	4	5	42	14	1	32	120
190 or more	94	73	15	29	71	-	-	4	7	49	13	2	34	148



efficiency and crop yields had more than twice as many dollars' worth of total products to use in the house as the group that was lowest in labor efficiency and crop yields. The difference per person between these two groups was even greater.

The combined effect of size of business and crop yields

Size of business, measured by total productive man work units, directly affected the total value of farm products used both per household and per person. Crop index also had a similar relationship, for when crop yields were higher, the value of products used by the household was greater.

Because of the small number of records taken in Grayson and Floyd Counties, only the larger samples obtained in Nansemond and Pittsylvania Counties were used in an attempt to hold size of business constant in order to study the relation of crop yields to income (table 27). In both areas the labor income increased with increased crop yields for all size groups, and the greatest increase was shown in the largest-sized groups.

The value of farm products used by the households in the Nansemond area increased as crop yields increased and at an increasing rate as size increased, while in the Pittsylvania area the increase associated with increased crop yields was somewhat irregular. In both areas labor earnings increased as crop yields increased.

The best combination of crop yields and size of business in either area, as reflected by both the value of products used per farm or per person and the labor income, was high crop yields and a large size of business. The best average labor income in all groups of farms in Pittsylvania County was obtained by those having 600 or more man work units and crop yields 110 percent or more of average for the region.

The classes of products varied in the same manner as their total (table 28). Although the small amounts of corn, fruit, garden, and vegetables seemed to vary considerably, their combined value generally increased as crop yields increased, and a considerable increase was shown by these products in the Pittsylvania area. The total value of animal products increased with both crop yields and size of business. It would be expected that animal products would increase as crop yields increased because higher crop yields were usually obtained on the farms that kept more livestock. The value of dwelling increased with both size of business and crop yields.

Table 27.--The combined effect of size of business and crop yields on labor earnings

Crop index	Number of farms	Average per farm		Average work units per man	Labor income	Value of farm products		Ratio of farm products to farm products plus receipts	Labor earnings	
		Total productive man work units	Number in household			Per farm	Per person			
699 farms, Nansemond County, 1932										
Farms with less than 195 total man work units:										
Less than 85	109	132	66	5.0	102	\$-185	\$153	\$ 31	53	\$ -32
85-109	70	143	96	4.5	110	-172	199	44	48	27
110 or more	39	131	136	4.1	109	-136	195	48	41	59
Farms with 195-345 total man work units:										
Less than 85	103	258	69	5.8	143	\$-275	\$233	\$ 40	44	\$ -42
85-109	103	266	97	5.8	148	-214	288	50	40	74
110 or more	76	262	124	5.4	164	-133	339	63	37	206
Farms with 346 or more total man work units:										
Less than 85	35	474	72	7.5	198	\$-420	\$385	\$ 51	36	\$ -35
85-109	78	568	99	5.7	210	-317	451	79	28	134
110 or more	86	570	128	6.0	211	-188	514	86	25	326
667 farms, Pittsylvania County, 1933										
Farms with less than 350 total man work units:										
Less than 85	101	231	65	5.3	136	\$-261	\$327	\$ 62	62	\$ 66
85-109	68	245	94	5.6	153	-114	366	65	52	252
110 or more	61	249	131	5.1	146	-156	473	93	50	317
Farms with 350-599 total man work units:										
Less than 85	88	443	69	7.4	193	\$-293	\$466	\$ 63	49	\$ 173
85-109	82	469	96	6.3	204	-141	461	73	39	320
110 or more	57	460	133	6.6	200	120	550	83	36	670
Farms with 600 or more total man work units:										
Less than 85	49	932	68	8.2	259	\$-618	\$616	\$ 75	40	\$ -2
85-109	65	928	97	7.3	232	-44	640	88	28	596
110 or more	96	931	132	7.2	239	439	746	104	25	1,185

Table 28.--The combined effect of size of business and crop yields on farm products used by the household

Crop index	Number of farms	Average per farm											Use of dwelling	
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food		Wood
699 farms, Nansemond County, 1932														
Farms with less than 195 total man work units:														
Less than 85	109	\$ 14	\$ 5	\$ 9	\$21	-	-	\$ 3	\$ 2	\$23	\$ 6	\$ 1	\$23	\$ 46
85-109	70	12	7	10	29	-	-	4	4	27	11	1	26	68
110 or more	39	19	7	10	27	-	-	4	3	19	12	1	23	70
Farms with 195 to 345 total man work units:														
Less than 85	103	\$ 32	\$ 7	\$11	\$47	\$1	-	\$ 5	\$ 3	\$30	\$10	\$ 1	\$26	\$ 60
85-109	103	46	10	16	49	-	-	5	5	33	12	2	28	82
110 or more	76	57	11	21	58	-	-	4	5	41	12	1	31	98
Farms with 346 or more total man work units:														
Less than 85	35	\$ 71	\$ 9	\$20	\$67	-	-	\$ 6	\$ 4	\$47	\$17	\$ 3	\$37	\$104
85-109	78	80	14	19	69	\$1	-	4	8	44	20	2	38	152
110 or more	86	89	17	31	75	-	-	5	8	56	16	2	38	177
667 farms, Pittsylvania County, 1933														
Farms with less than 350 total man work units:														
Less than 85	101	\$105	\$11	\$14	\$36	\$1	\$14	\$ 6	\$ 9	\$52 <sup>1/</sup>	-	\$ 1	\$40	\$ 38
85-109	68	122	13	12	38	1	14	7	8	63	-	3	40	43
110 or more	61	132	14	15	44	3	19	8	12	88	-	3	45	90
Farms with 350-599 total man work units:														
Less than 85	88	\$147	\$14	\$18	\$48	\$3	\$22	\$ 9	\$12	\$75	-	\$ 2	\$46	\$ 70
85-109	82	136	12	15	49	1	27	8	10	81	-	4	47	71
110 or more	57	158	13	19	57	1	34	10	21	95	-	2	54	86
Farms with 600 or more total man work units:														
Less than 85	49	\$155	\$16	\$27	\$65	\$4	\$36	\$ 9	\$13	\$87	-	\$ 2	\$62	\$140
85-109	65	178	19	26	65	3	40	8	15	93	-	3	54	136
110 or more	96	185	20	30	78	3	46	11	19	117	-	4	60	173

<sup>1/</sup> Garden and other vegetables combined.

The combined effect of three factors and size of household

Knowing the relationships existing between size of business, crop yields, and labor efficiency on the one hand, and the various measures of income on the other, the farms in Hansemond County were ranked according to whether they were low, medium, or high in any or all of these factors (table 29). This arrangement gave an average ranking of 1 to 3 from low to high in these three factors.

However, the resulting labor income as shown by all farms in each rank did not rise as regularly as did each of the factors by which the farms were grouped. This indicated the existence of some other causal factor.

Each rank-group was further sorted according to the number of people in the household and averages were calculated. As the average number of people per household increased, labor income decreased at such a rate as to indicate that the decrease was not all due to the slight increase in size of business that occurred in spite of an attempt to hold all three factors constant.

Within each rank-group the average work units per man and average crop index remained fairly constant, while size of business, or total productive man work units, increased slightly with increased size of household. However, a smaller percentage of increase occurred in size of business than in size of family. The combination resulted in a decreased labor income, but an increased total and per-person value of farm products used by the household. This would indicate that the size of household was a factor in determining both measures of income, and this is logical, for,

as a larger proportion of the total product is consumed on the farm, less is available for sale, so that labor income is reduced, while the total value of farm products furnished the household is increased. Increased size of family on farms of like size and quality, therefore producing like total product, gives rise to such a condition. Lack of sufficient records prevented complete elimination of the effect of size of business in this analysis, because of the tendency toward the location of large families on large farms and smaller families on smaller farms (see table 13).

While labor income and the value of farm products used per person in the household decreased with increased size of family in every rank-group, and the total value of farm products used per farm increased, the the average amount of change in these three factors per person increase in the size of the household was greatest for the farms in the highest-ranking group. For the farms that ranked small in size, low in labor efficiency, and poor in crop yields (low in all 3 factors), increased size of household from less than 5 persons to 7 or more was accompanied by a reduction of \$90 per farm in average labor income, an increase of \$18 per farm in total value of farm products used, and a reduction of \$33 in value of products used per person. Corresponding figures for similar increases in size of family on farms that ranked large in size, high in labor efficiency, and high in crop yields (high in all 3 factors), were a decrease of \$639 per farm in average labor income, an increase of \$142 per farm in total value of farm products used, and a decrease of \$59 in the value of products used per person.

Table 29.--Relation of size of family to total value of farm products furnished and labor earnings on farms with different conditions of size, labor efficiency, and rates of production, 694 farms, Nansemond County, 1932

Rank with respect to size of business, labor efficiency, and rates of production 2/	Average rank	Number in household	Number of farms	Average per farm			Average work units per man	Labor income	Value of farm products		Labor earnings
				Total productive man work units	Crop index	Number at operator's table			Per farm	Per person	
Low in all 3	1.0	Less than 5	31	120	65	2.9	97	\$-154	\$144	\$ 50	\$ -10
		5 to 6	25	120	67	5.4	78	-274	147	27	-127
		7 or more	20	136	65	9.3	86	-244	162	17	-82
		All farms	76	124	66	5.4	89	-217	150	28	-67
Low in 2 and medium in 1	1.3	Less than 5	57	164	83	3.1	112	\$-220	\$185	\$ 60	\$ -35
		5 to 6	26	177	74	5.4	114	-244	219	41	-25
		7 or more	28	205	75	9.3	102	-382	238	26	-144
		All farms	111	177	79	5.2	111	-266	206	40	-60
Low in 1 and medium in 2 or high in 1 and low in 2	1.7	Less than 5	62	183	97	3.1	130	\$-180	\$190	\$ 61	\$ 10
		5 to 6	21	241	92	5.5	126	-386	268	49	-118
		7 or more	40	263	89	8.4	123	-364	269	32	-95
		All farms	123	219	94	5.2	129	-275	229	44	-46
Medium in all 3 or low in 1, medium in 1, and high in 1	2.0	Less than 5	37	254	101	3.4	170	\$-158	\$259	\$ 76	\$ 101
		5 to 6	41	276	92	5.4	163	-155	280	52	125
		7 or more	39	317	95	8.6	149	-359	320	37	-39
		All farms	117	285	96	5.8	157	-224	287	49	63
High in 1 and medium in 2 or low in 1 and high in 2	2.3	Less than 5	46	331	105	3.5	184	\$-119	\$334	\$ 95	\$ 215
		5 to 6	35	335	106	5.5	174	-207	346	63	139
		7 or more	33	435	97	9.1	188	-281	436	48	155
		All farms	114	362	103	5.7	181	-193	367	64	174
High in 2 and medium in 1	2.7	Less than 5	33	411	111	3.5	231	\$ -80	\$377	\$108	\$ 297
		5 to 6	36	495	113	5.4	233	-198	433	80	235
		7 or more	26	583	117	8.5	215	-364	488	57	124
		All farms	95	490	114	5.6	223	-202	429	77	227
High in all 3	3.0	Less than 5	16	551	127	3.4	241	\$ 296	\$432	\$127	\$ 728
		5 to 6	24	599	128	5.5	234	-170	559	102	389
		7 or more	18	671	130	8.4	261	-343	574	68	231
		All farms	58	608	128	5.8	243	-95	529	91	434



1/ Some farms did not grow crops.

2/ Sorted on	1	2	3
Man work units	Less than 195	195 to 345	346 or more
Work units per man	Less than 140	140 to 189	190 or more
Crop index	Less than 85	85 to 109	110 or more

Average rank calculated.

THE RELATION OF SIZE OF HOUSEHOLD AND OPERATOR'S  
PERSONAL FACTORS TO FARM PRODUCTS USED

Size of the household

The size of the household, which included the members of the family living at home, guests, employees, and boarders who ate at the operator's table, was an important factor determining the amount of farm products used in the house. It is not logical to believe that a family of 2 would eat as many farm products as a family of 10. However, many old couples whose children had gone from home were still living in the same house that once seemed too small for a large family, so that regardless of the amount of food produced that might have been used, the size of household limited the total value of food products used. The size of household in all of the areas varied considerably, ranging from 1 to 24. The most variation occurred in the Nansemond and Pittsylvania areas and the least in Floyd. The largest households were in the Pittsylvania area and the smallest in Floyd (table 30).

The total value of farm-furnished food products used by the household increased with increased size of family, but variations in wood and house rental somewhat offset this, so that less relationship was shown between size of household and the total value of all products including wood and house rent. Most of the variation which occurred in the total value was caused by the variations in livestock products rather than crops.

If there were fewer people in the household, the food was not divided among so many. Consequently, each received a larger portion. Whether or not this was due to a less adequate diet among the larger families or an

excess of food used by the smaller families cannot be determined by this analysis, but the fact remains that each person in smaller households was better provided for. Large families on small or poor farms were most poorly provisioned by the farm.

In Pittsylvania County those households of only 2 people used food produced by the farm which had a money value of \$0.33 per person per day, while households having 12 people used only \$0.10 worth per person per day.

Table 30.--The relation of size of household to the value of various farm products used by the household

Number eating at operator's table	Number of farms	Average per farm											Use of dwelling	Total per person			
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food			Other pro- ducts	Wood	
313 farms, Grayson County, 1930																	
2	45	\$ 40	\$ 5	\$ 7	\$32	\$ 1	\$ 3	\$ 7	\$13	\$ 21	\$ 8	-	\$ 1	\$22	\$ 57	\$217	\$108
3	58	57	8	12	54	3	5	10	16	25	10	\$ 1	-	25	102	328	109
4	59	62	10	10	56	4	9	12	17	26	13	2	1	29	101	352	88
5	48	73	12	15	63	3	11	14	16	34	13	2	1	35	116	408	82
6	38	75	12	9	58	5	13	14	17	34	13	4	1	33	83	371	62
7	43	82	11	12	69	5	14	18	21	30	14	4	1	32	95	408	58
8	22	74	10	10	60	4	14	23	18	41	16	8	2	31	81	392	49
655 farms, Hansemond County, 1932																	
2	50	\$ 17	\$ 6	\$11	\$26	-	-	\$ 3	\$ 3	\$ 23	\$ 6	-	-	\$21	\$ 82	\$198	\$ 99
3	89	41	9	18	42	-	-	4	4	31	9	-	-	28	88	274	91
4	134	37	9	15	44	\$ 1	-	4	5	30	11	-	-	28	84	268	67
5	114	47	10	19	49	-	-	4	6	35	12	\$ 1	-	30	104	317	63
6	94	45	12	19	60	-	-	4	6	40	15	2	-	32	100	335	56
7	69	47	10	16	52	-	-	6	5	40	14	2	-	33	100	325	46
8	55	60	13	15	62	-	-	5	4	37	16	2	-	32	120	366	46
9	23	52	9	15	50	-	-	6	5	40	14	1	-	27	74	293	33
10	27	57	10	13	53	1	-	6	5	40	15	4	-	40	83	327	33
645 farms, Pittsylvania County, 1933																	
2	25	\$ 98	\$11	\$ 9	\$39	\$ 1	\$16	\$ 4	\$ 8	\$ 52	-	\$ 1	-	\$43	\$115	\$397	\$199
3	57	105	14	14	35	2	18	6	11	54	-	2	-	39	109	409	136
4	83	117	10	15	42	1	18	6	9	66	-	1	-	43	70	398	100
5	101	140	15	19	51	1	24	7	12	71	-	2	-	45	81	468	94
6	97	159	16	19	55	2	30	8	13	83	-	4	-	46	112	547	91
7	66	153	17	23	61	4	32	8	16	87	-	4	-	50	93	548	78
8	79	190	18	21	60	2	33	10	18	97	-	3	-	56	101	609	76
9	45	139	12	19	49	4	25	8	13	88	-	3	-	55	82	497	55
10	51	148	11	25	62	5	38	12	14	119	-	3	-	48	84	569	57
11	16	172	20	18	81	2	37	11	14	100	-	3	-	58	83	599	54
12	25	164	14	25	59	2	39	14	15	95	-	6	-	65	110	608	51
91 farms, Floyd County, 1937																	
2	22	\$ 41	\$10	\$11	\$62	-	\$10	\$ 5	\$ 8	\$ 39	\$ 2	\$ 1	-	\$30	\$ 85	\$304	\$152
3	15	41	10	12	65	\$ 1	16	8	7	49	2	-	-	29	91	331	110
4	25	67	12	12	62	2	17	13	9	56	5	2	-	40	89	386	96
5	19	77	15	18	69	1	25	13	14	68	4	2	-	43	135	484	97
6	10	85	17	19	82	1	24	15	16	64	8	2	-	48	133	514	86

1/ Some farms are omitted from this table because of the limited number of cases within a certain household size group.

## Tenure

Commonly one thinks of a tenant as being either a younger operator trying to get a start in the business of farming, or as a less capable man running a small business. In either case, tenancy is often associated with living habits which are of a lower standard than the average for the area.

The part-owner may be a person who rents additional land in order to increase his size of business or he may own only his farmstead and rent most of his farming land nearby. His standards therefore would represent a mixture of those of tenants and owners.

The owner is an operator who has been able to acquire his own property, and partly because of ownership is more stable than the tenant or part-owner. Ownership is a basic factor affecting standards of living.

When the farms were divided according to tenure, it was found that in all areas the younger men were operating the rented farms. These farms had larger households than those operated by owners.

The total value of farm products used by the household was largest in all areas on owned farms and smallest on rented farms (table 31). This was heavily weighted by the rental value of the dwelling, for owned farms had a larger capital investment than rented farms. With only one exception this relationship still existed after the value of house rent was deducted.

Very little variation in food consumption occurred between the owner and part-owner groups, but a lesser value of farm-furnished food was consumed by the tenant farmers' families. The important difference between

the owners and part-owners was the rental value of the house.

Because the average number in the household varied considerably in these tenure groups, the value of all products per person was a better indication of the products consumed. This was greatest for the owners, and least for the tenants.

Table 31.--The relation of tenure to various farm products used by the household

Tenure	Number of farms	Average per farm											Use of dwelling	Total per person			
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other pro- ducts			Wood ing		
332 farms, Grayson County, 1930																	
Owner	234	\$ 67	\$11	\$12	\$59	\$ 4	\$10	\$13	\$19	\$30	\$12	\$ 3	\$ 1	\$30	\$109	\$380	\$ 81
Part-owner <sup>1/</sup>	87	70	8	8	52	2	10	16	14	29	14	4	1	29	57	314	56
Tenant <sup>2/</sup>	11	55	8	8	44	2	7	14	12	22	10	4	1	30	52	269	49
699 farms, Mansemond County, 1932																	
Owner	368	\$ 46	\$10	\$18	\$55	-	-	\$ 4	\$ 6	\$35	\$13	\$ 1	-	\$32	\$109	\$329	\$ 67
Part-owner	132	53	11	17	45	-	-	4	4	39	15	2	-	29	86	305	48
Tenant	199	40	8	12	39	\$ 1	-	4	4	32	10	2	-	25	70	247	42
667 farms, Pittsylvania County, 1933																	
Owner	376	\$155	\$16	\$23	\$58	\$ 3	\$30	\$ 8	\$16	\$91 <sup>2/</sup>	-	\$ 3	-	\$50	\$121	\$574	\$ 94
Part-owner	46	160	19	22	65	1	41	10	13	33	-	3	-	54	70	541	78
Tenant	245	128	11	14	44	2	21	8	8	69	-	2	-	47	52	406	58
100 farms, Floyd County, 1937																	
Owner	72	\$ 69	\$13	\$14	\$72	\$ 1	\$19	\$10	\$11	\$55	\$ 4	\$ 2	-	\$39	\$110	\$419	\$107
Part-owner	15	46	11	15	52	1	24	16	9	57	3	1	-	31	73	339	85
Tenant	13	56	13	11	53	1	19	9	5	45	3	-	-	37	75	327	68

<sup>1/</sup> These farmers rented land in addition to some which they owned and operated.

<sup>2/</sup> May be either cash or share-tenants or both.

<sup>3/</sup> Garden and vegetables.

## Color

Wansemond County

Of the 699 operators included in the Wansemond study, 251 were colored. No distinction was made between negroes and other colored persons. The size of business, as represented by total man work units, averaged more than one-third smaller for these farms than for those operated by white farmers. The crop yields were 19 percent lower, and they accomplished 31 percent fewer work units per man than white operators. The labor incomes averaged \$-207.

The total value of farm products used by the household averaged \$210, of which \$50 represented the rental value of the house (table 32). The rental value of the house for the 448 white operators averaged \$118 and indicated a considerably better dwelling than the average for the colored operators.

With the exception of pork, the value of the animal products consumed by the white operators' households was double that used by the colored people whose number in the household averaged 6.2 as compared to 5.1 for the whites. About equal amounts of vegetables were consumed per family by each.

The total value of all farm products used by the household per person was \$34 for the colored and \$69 for the white operators' households.

The 251 farms having colored operators were sorted according to size of business and the same relationships were found to exist as were shown for all farms in table 13. The rental value of the house was considerably lower for farms with colored operators but when this was deducted from the



total of farm products, the remainder which represented food and wood was not different from the average for all farms under similar size conditions. Thus it was concluded that the values of food consumption per household for colored farms were representative of the area when farms of like size were compared. However, since the households of colored operators averaged larger than for white operators, the amount of food consumed per person was smaller than for the white.

#### Pittsylvania County

Similar relationships existed in Pittsylvania County, the households of colored operators using smaller amounts as indicated by value than the households of white operators and having a considerably lower total value per person. The size of colored households averaged 7.2 persons as compared to 6.3 for those of white operators.

Table 32.--The variation in farm products used by the households of colored and white operators

Color of operator	Number of farms	Average per farm											Use of dwelling	Total per person		
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food			Wood	
699 farms, Mansemond County, 1932																
White	448	\$ 56	\$12	\$20	\$54	-	-	\$ 4	\$ 5	\$ 38	\$ 13	\$ 1	\$31	\$118	\$352	\$69
Colored	251	28	6	10	38	-	-	5	4	30	12	2	25	50	210	34
667 farms, Pittsylvania County, 1933																
White	519	\$158	\$16	\$21	\$58	\$ 2	\$31	\$ 8	\$14	\$ 91*	-	\$ 3	\$51	\$109	\$562	\$89
Colored	148	101	9	12	36	3	16	10	9	55	-	2	43	33	329	46

\* Garden and vegetables.

### Operator's schooling

The formal schooling of the operator was closely associated with the total value of farm products used by the household, not be reason of the fact that he attended school, but because he was better prepared to operate a larger business, obtain higher crop yields, and do the job more efficiently. In Grayson County, the operator who had attended either high school or college provided farm products valued at \$216 more per farm than the average operator who had less than 4 years of formal schooling (table 33). In Nansemond County, if the operator had attended either high school or college, he provided \$219 worth more products for his household than the average for operators of 137 farms who had no formal schooling. Other areas showed similar relationships.

The total value of farm products furnished for use by the household was not only larger for the operators with more schooling, but differed considerably in that occupied houses were valued more highly and consequently had higher rental values. These higher-valued dwellings were occupied by slightly smaller households than those of the operators with less schooling.

In Grayson County, the food used by the operators who had attended high school or college indicated a slightly different diet from that provided by operators with less than 4 years of schooling. Animal products amounted to \$72 more, and there were increased values of wheat, fruit, and garden but a decreased value representing cornmeal. The same differences occurred in Nansemond County between the lowest and highest groups of schooling.

Because size of the farm business was the most important factor affect-

ing the farm production for the household, the farms in Pittsylvania were grouped first according to size and then by operator's schooling. The same relationships as shown for the other areas existed, but the size of the farm business determined the range within which the total value of the products fell. The operators who had small businesses had a total of only \$446 as compared to \$836 for the operators of large-sized farms for that area and who had attended high school or college. This was an increase of 87 percent, but was accompanied by an increase in total work units amounting to 336 percent, in labor efficiency of 59 percent, and 24 percent increase in crop yields. The labor income increased from \$-246 to \$63 and labor earnings from \$200 to \$899. The total value of farm-furnished food used also increased as years of schooling increased and as size of farm business increased. The value of the dwelling increased as size of business and operator's education increased, until the average household of 6.8 persons in the largest size-group of farms of operators who had attended high school or college was living in a house valued at \$2470.

The size of the household increased as the size of the farm business increased, but decreased within a limited size group as the years of schooling increased. Because of this the rate of increase in the total value of the products was even more pronounced within a size-group when placed on a per-person basis either for foods alone or for foods, house, and wood combined.

Table 33. The relation of the years of schooling to the value of various farm products used by the household

Years of schooling	Number of farms	Average per farm											Use of dwelling	Total per person			
		Milk	Eggs	Poultry	Pork	Other meat	Wheat	Corn	Fruit	Garden	Vege- tables	Other food			Other pro- ducts		
332 farms, Grayson County, 1930																	
Less than 4	114	\$ 61	\$ 9	\$ 8	\$52	\$ 2	\$ 7	\$15	\$16	\$27	\$12	\$ 4	\$ 1	\$28	\$ 61	\$303	\$ 59
4-7	170	65	9	11	55	3	11	14	17	30	12	3	1	29	91	351	93
High school or college	48	90	13	19	74	8	15	12	23	33	14	2	1	36	179	519	106
698 farms, 1/2 Hansemond County, 1932																	
None	137	\$ 26	\$ 6	\$12	\$38	-	-	\$ 4	\$ 3	\$29	\$11	\$ 1	-	\$24	\$ 65	\$219	\$ 40
Less than 5	220	40	9	13	48	-	-	5	5	33	11	2	-	29	76	271	48
5-8	266	53	11	19	51	-	-	4	5	35	13	1	-	31	107	330	61
High school or college	75	73	15	26	60	-	-	3	7	55	15	3	-	34	147	438	83
666 farms, 1/2 Pittsylvania County, 1933																	
Farms with less than 350 total man work units:																	
Less than 4	89	\$ 90	\$11	\$12	\$32	\$ 1	\$14	\$ 8	\$10	\$59 <sup>2/</sup>	-	\$ 2	-	\$39	\$ 35	\$313	\$ 98
4-7	112	135	13	14	42	2	16	6	10	67	-	2	-	43	60	410	76
High school or college	29	129	14	18	48	2	17	5	7	74	-	4	-	44	84	446	93
Farms with 350-599 total man work units:																	
Less than 4	72	\$131	\$11	\$12	\$47	\$ 4	\$25	\$10	\$ 9	\$75	-	\$ 3	-	\$46	\$ 52	\$425	\$ 62
4-7	123	151	13	19	54	1	28	9	16	83	-	3	-	50	80	507	71
High school or college	32	159	17	18	48	1	26	6	11	93	-	4	-	50	104	537	94
Farms with 600 or more total man work units:																	
Less than 4	32	\$183	\$17	\$17	\$62	-	\$38	\$ 9	\$ 8	\$94	-	\$ 3	-	\$52	\$ 90	\$573	\$ 73
4-7	133	174	18	28	72	\$ 3	42	9	17	97	-	3	-	59	139	661	84
High school or college	44	182	24	35	78	6	45	11	22	125	-	2	-	59	247	836	123
99 farms, 1/2 Floyd County, 1937																	
Less than 6	42	\$ 57	\$12	\$10	\$67	\$ 1	\$17	\$10	\$10	\$47	\$ 3	\$ 1	-	\$36	\$ 84	\$355	\$ 89
6-7	43	70	14	17	67	1	22	11	11	58	5	1	-	41	99	417	102
High school or college	14	59	10	15	66	3	17	9	9	56	5	2	-	31	145	427	107

1/ Education not found for some operators.

2/ Garden and vegetables.

### Conclusions

The farm products used by the 1999 households in the six counties studied represented approximately one-third of the total farm income. The farm-furnished food, wood, and dwelling used by the household were of major significance since the labor incomes of every area averaged less than zero, or the farmers actually paid for the privilege of farming.

In each area, pork was used more than any other meat, and was valued at considerably less than chicken which was second in importance. Beef was not used extensively in any area probably because the canning of meat was not a common practice and refrigeration was often impractical for a single family. A community refrigerator in a beef-producing area such as Grayson County, or cooperative investment in a pressure cooker for better preservation would afford more variety in the diets of the people when beef is produced for the same price as pork. Such a recommendation would be of doubtful application in Nansemond County where pork was valued at 5 cents per pound.

The farmers produced corn and wheat for meal and flour in all areas except Nansemond where no wheat was grown. In most cases, the charge for grinding was taken in toll which was a few pounds of meal or flour (generally one-eighth) retained by the miller, so that the farmer had no cash outlay except for crop production. Economically this was probably a sound practice unless the land used could have produced more profit by growing a cash crop such as tobacco, but most farmers in these areas included wheat in their crop rotation for additional reasons other than feed or food uses, such as erosion control, nurse crops, and labor distribution.

Practically all farms raised a garden, but because the value represented approximately one-third of the total for all foods used, crop products were secondary in importance to animal products. A large proportion of vegetables and fruits could be grown and canned for use by the farm household, if methods of sterilization and preservation were in common use in the farm home. This would be desirable for all areas with the possible exception of Nansemond where vegetables are available throughout a longer season.

With the exception of the small number of cows in Nansemond County, practically all households used milk, poultry, eggs, pork, garden, and wood.

Pittsylvania County, which is commonly called a "one-crop" area, produced more food per person on the basis of 1910-14 dollars than Grayson and considerably more than Floyd, both commonly classed as general-farming-and-livestock areas.

Size of the farm business was the most important factor contributing to increased value of farm products used by the household. Like income, these values increased with increased size of business, but unlike labor income are always plus, whereas, in years of low prices the deduction for interest on capital investment is so large that the already small income becomes a minus labor income.

Labor efficiency, expressed as productive work units per man, influenced the value of total farm products very little except through its association with increased size of business.

Crop yields directly influenced the amount of crops produced for use by the household.

The combined influence of high labor efficiency and high crop yields on relatively large-sized businesses resulted in the highest average value

of farm products used in the house when all three factors were combined.

The size of the household determined the total value of farm products within these groups. When products were used in the house instead of sold, the labor income was reduced considerably. The variation was more noticeable on the small farms of low labor efficiency and low crop yields, because labor earnings was weighted more by the total value of products than was the case on larger farms where the farm products used by the household was a smaller proportion of total income.

Larger households occupied farms with larger-sized businesses. Which was cause or effect would be difficult to determine. Only a small proportion of the relationship was due to the increased number of men necessary to operate the larger business. Large families on small or poor farms were the most poorly provisioned by the farm, and small families on large farms the best, using more than twice the average total value of farm furnished products used by the same-sized households on small businesses. The size of the farm business determined how large or small the amount available to use, but the size of the household limited the amount necessary to use.

Ownership of the farm was a basic factor affecting the level of household use of farm-furnished products. The older owner-operators had, often through good management and hard work over a period of years, acquired more capital than the younger or less diligent operators who remained tenants. With this larger capital investment they were able to operate larger businesses and to furnish considerably more farm products for use in the household. This difference in value of farm-furnished products used between owners' and tenants' households was greatest for animal



products in Grayson County and for crop products in Pittsylvania.

The farms of colored operators averaged relatively small businesses, but only through size was any great variation in food indicated. The rental value of the house was considerably lower for colored than white operators.

Education, like other personal factors, was effective only as it resulted in practicing better farm management. The better educated men on the small businesses had higher incomes than the less educated men, because of better farm management practices, and the same was true on larger-sized farms. But the amount of the income of the better-educated men on small businesses was considerably less than that of the better educated operators of the larger businesses.

The first requirement for larger incomes, of which the farm products furnished for use by the household were a part, was to efficiently maintain a large size of business in proportion to the size of the operator's household. If the family was large the farm had to be larger in proportion. On small farms where about half of the total income was from products used by the household, a decrease in the products was a larger proportionate part of total income than on the larger farms.

In general, the type of farming determined to some extent the character of the farm-furnished products used by the households of all groups, while size of farm business, rates of production, and size of household determined the amount.

Well-educated owner-operators of large-sized businesses lived more comfortably even though they maintained relatively larger households.