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FARM MARKETING of TRUCK CROPS in Houston County

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CONTENTS

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Farm Marketing of Truck Crops in Houston County*

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EXISTING market facilities can be a determining factor in the success of commercial vegetable growing. A knowledge of marketing conditions will also help the commercial grower in selecting crops, handling procedures, and the over-all commitment of farm resources.

The primary objective of this study was to investigate the handling of vegetable and marketing practices followed by commercial growers in Houston County and to relate opportunities for fuller resource use.

Houston County is primarily rural with over three-fourths of the land area in farms. Farm operators do not supplement their incomes with off-farm work to the extent found in some areas of the State. Census data reveal that only about 13 per cent of the operators work off the farm as much as 100 days or more per year as compared to about 31 per cent for the State. Vegetable growers included in this study did not work off the farm. The intensive labor requirements of vegetable operations and the age of growers as related to the availability of work accounted for this situation.

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Vegetable operations in Houston County characterize those in many commercial areas in the Southeast.[1] The County is classified as a rather high density production area, and vegetable sales per farm average less than $2,500 yearly. Problems of small operators with correspondingly low volumes appear to have many economic and social difficulties in common.

SAMPLE

This study includes information provided directly by commercial vegetable growers in Houston County. By sampling on an area segment basis, each grower in the County had equal opportunity of being included in the survey. Complete schedules were made only with growers producing vegetables for sale. Others were asked only to give their reasons for not growing commercial vegetables. Thus, in 1956, complete interviews were made with 71 of the 254 individuals visited in the County, Table 1.

Seventy-six per cent of those not producing commercial acreages of vegetables were rural nonfarmers. Although some had land, it was either rented or otherwise left to nonfarm purposes. Twenty-six respondents reported lack of adequate markets and fluctuating prices to be primary reasons for discouraging commercial truck farming. High cost of labor in relation to market instability was a further discouraging factor. Still others were not interested in producing vegetables because of competing interests both on and off the farm.

TABLE 1. PROPORTION OF SAMPLE REPORTING VEGETABLES HARVESTED FOR SALE, HOUSTON COUNTY, ALABAMA

Vegetables harvested for sale	Total reporting	Total
	Number	*Per cent*
Yes	71	28
No	183	72
TOTAL	254	100

FARM MARKETING

Crops Marketed

The kinds and amounts of vegetables produced commercially relate directly to the potential production and marketing possi-

[1] See: King, R. A. and Seale, A. D., Jr., "Vegetable Market Structure Classes in the Southeast," A. E. Information Series No. 35, N.C. State College, October 1954.

TABLE 2. NUMBER OF TRUCK CROPS PRODUCED FOR MARKET ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Number of truck crops for market	Growers reporting	Total
	Number	*Per cent*
One vegetable	33	46
Two vegetables	21	30
Three vegetables	10	14
Four vegetables	5	7
Five vegetables	2	3
TOTAL	71	100

bilities of an area. Experience, existing market structures, and established credit arrangements provide bases for further development. Although the farms in Houston County are generally diversified, almost half of the growers interviewed in the sample produced only one vegetable for sale, Table 2. About 30 per cent were marketing two kinds of vegetables per farm, while smaller numbers marketed up to a maximum of five. In all, 14 different vegetables were being produced commercially on farms sampled. Two-thirds of the respondents marketed field peas as compared to one-third selling tomatoes and butterbeans, the next most important crops in terms of number of growers. Watermelons

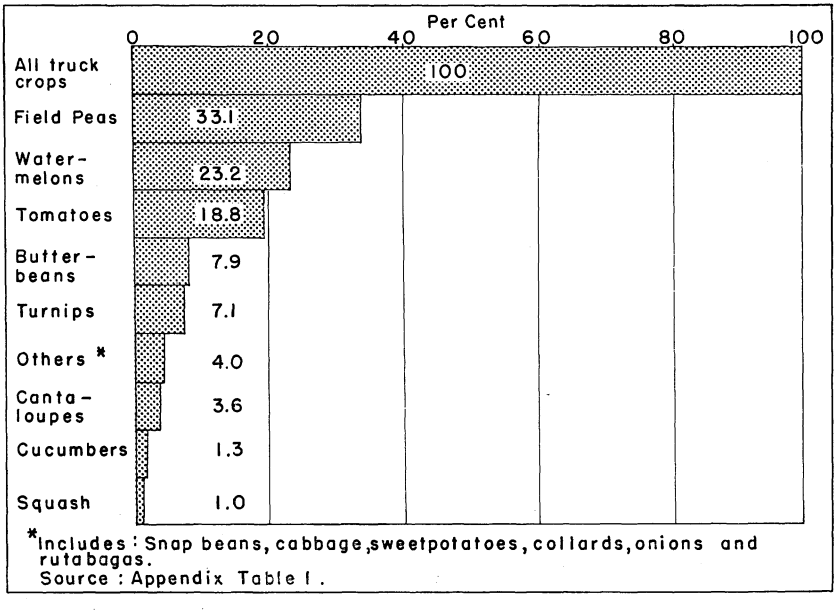

Figure 1. Percentage of commercial acreage of vegetables on sample farms, Houston County, Alabama.

were produced commercially on about one-fourth of the farms. Fewer growers reported other crops marketed.

In terms of total acreages, field peas, watermelons, tomatoes, butterbeans, and turnips were the most important, Figure 1. Of particular economic significance was the small acreage of vegetables per farm reported. Except for watermelons, acreage averaged less than 5 per farm reporting. The volume of greens, field peas, and butterbeans marketed generally was produced on 3 to 4 acres per farm. Although small operations present limitations to market development, growers indicated that land availability was not a primary limiting factor to possible expansion. Rather, the opinion was that additional production could be handled with improved marketing of crops on the same or additional land.

Marketing Practices

Transportation equipment owned by growers limited broader farm marketing opportunities. About one-third of the growers interviewed did not own a truck and had to depend on pooled hauling or automobiles for movement of small quantities of produce to various markets. Eighty-two per cent of the truck owners had pick-up type and 18 per cent had larger trucks.

The small volume of produce grown on limited acreage might be expected to influence marketing practices, such as choice of markets, preparation for market, and pricing.

In 1955, the average grower sampled sold three pickings of field peas. Sales reportedly increased from about 1,000 pounds per grower for the first marketings to 1,700 pounds for the second, and 1,600 pounds for the third. Prices received varied greatly (3 to 8 cents) even on first sales, with an average of 5 cents. Prices decreased steadily with the second and third marketings. Over 60 per cent sold went to local buyers in the County and 17 per cent went to farmers markets outside the area, primarily in Birmingham, Table 3. Growers marketed field peas in burlap sacks primarily with no further handling or treatment.

Butterbeans were handled much the same as field peas. Two to three sales per farm reporting were made during the season. The quantity of beans sold per farm averaged slightly over 1,000 pounds for the first sale and about 850 pounds for the second and third. As with field peas, economic yields were largely determined by prevailing prices; i.e. crops were not harvested as prices dropped below out-of-pocket costs. Prices averaged 7 cents per pound for first marketings with decreases reported for subsequent sales.

TABLE 3. MARKET OUTLETS FOR SELECTED VEGETABLES PRODUCED ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Crops marketed	Markets											
	Private buyers		Peddled		Farmers' market		Roadside market		At farm and other	Total	Farms reporting	Acres per farm
	County	Outside[1]	County	Outside	County	Outside	County	Outside				
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Acres*
Butterbeans	55	0	18	0	0	23	0	0	4	100	34	1.6
Cantaloupes	0	0	0	0	0	60	0	0	40	100	8	2.8
Collards	0	0	0	0	0	100	0	0	0	100	3	4.0
Cucumbers	0	0	0	0	0	0	0	0	100[2]	100	6	1.5
Field peas	64	0	14	0	0	17	0	0	5[3]	100	66	3.4
Squash	0	0	100	0	0	0	0	0	0	100	6	1.2
Tomatoes	13	4	8	0	0	67	0	0	0	100	35	3.6
Turnips	0	0	33	0	0	34	0	0	33	100	10	4.9
Watermelons	0	0	21	0	0	29	7	0	43	100	23	6.9

[1] In and/or out of state.
[2] Pickle plant.
[3] Canning plant.

NOTE: Other commodities marketed by a few growers included: cabbage, sweetpotatoes, onions, and rutabagas. This small volume was mainly peddled within the county.

About two-thirds of the volume of tomatoes was sold through farmers markets outside the County, primarily Birmingham and Columbus, Georgia. Tomatoes were also marketed locally through assembly buyers and directly to stores and consumers. Local markets utilized by growers were located primarily in Dothan and Headland. Pensacola, Florida, and Montgomery furnished additional outlets for a few producers.

Crates, averaging about 50 pounds, and baskets, averaging about 20 pounds, were the primary containers used for farm sales. In addition, a few sales were reported in 30-pound lugs. Loads to market ranged from 13 to 60 crates with an average of 24, and from 35 to 100 baskets with an average of 60. Basket sales averaged about $1.08 and crate sales $4.38 in the Birmingham market, slightly more than Columbus prices.

Deliveries were made every other day for a period of about 1 month. Tomatoes received special attention from all growers. This consisted of removing foreign matter.

Watermelons were marketed mainly to truckers at the farm, farmers markets outside the County, and peddled to local consumers and stores. The Birmingham and Montgomery markets were those used most often. Prices received from truckers averaged about 28 cents per melon or slightly below that reported for the Birmingham market.

All cucumbers were marketed locally through a processing plant. Prices reported were identical for all growers and sales were made on a graded basis. Prices received by grades were as follows: (1) No. 1's—4 cents per pound, (2) No. 2's—2.5 cents per pound, and (3) No. 3's—1.5 cents per pound. In each case, deliveries were made on an every-other-day basis over a period of 6 weeks.

Market Information

Growers in the sample lacked market news information. The only information available concerning supply, demand, and price of vegetables was from direct grower contact with buyers or others.

The need for market reporting was recognized by producers. They contended that the efficiency of moving supplies through the channels of trade could be enhanced by market news and by broader contacts with buyers throughout the County. Several of the more important vegetables sold in the County to local buyers were booked in advance of delivery. This provided a measure of advance information to growers, but with obvious limitations.

Several states in the Southern Region have developed means of communications among market participants in the fruit and vegetable trade. This has been undertaken generally on a state-wide basis and reports have included the location of production areas, buyers, and market prices.

Grower Appraisal

Farmers were asked to appraise the markets for specific truck crops on two bases: (1) dependability as interpreted to mean the ease with which commodities could be moved into marketing channels, and (2) competitiveness or the degree to which they thought commodities moved into channels free from buyer interference. Over three-fourths of the growers were dissatisfied with present marketing conditions, Table 4. In general, they did not consider present outlets satisfactory either from the standpoint of dependability or competitiveness. Growers were decidedly of the opinion that private buyers, being few in number, had a bargaining advantage in dealing individually with many small producers.

More buyers in the area and additional facilities available for reaching wider outlets were the suggested means for overcoming this economic difficulty. Relatively long distances to alternative outlets and limited farm transportation and communication facilities, created decided hardships in their view. Growers felt that something should be done to increase their bargaining power.

Growers were asked to relate any attempts to improve their marketing situation by collective effort. Fifty-six per cent recalled the attempt to establish a market at Ashford, and over 70 per cent of these had traded at this market.[2] Growers were not in

TABLE 4. FARMERS' APPRAISALS OF MARKETING CONDITIONS FOR SELECTED TRUCK CROPS, HOUSTON COUNTY, ALABAMA

Crops	Marketing satisfactory	Conditions not satisfactory	Total
	Per cent	*Per cent*	*Per cent*
Butterbeans	26	74	100
Cantaloupes	20	80	100
Field peas	14	86	100
Tomatoes	14	86	100
Watermelons	21	79	100

[2] The Ashford market was financed with about $61,000 of public funds plus stock subscriptions from farmers. It was ready for operations in 1946 and was operated by the Houston County Producers Association on a cooperative basis. It has since become defunct. See: *"Marketing Truck Crops in Alabama,"* Bulletin No. 314, API Agricultural Experiment Station, March 1959.

TABLE 5. REASONS GIVEN BY TRUCK GROWERS FOR THE FAILURE OF THE ASHFORD MARKET, HOUSTON COUNTY, ALABAMA

Reasons given	Growers reporting	Total
	Number	*Per cent*
Poor management	15	37
Efforts of local buyers	10	24
Pool settlements—not cash	7	17
Lack of farmer cooperation	5	12
Do not know	3	10
TOTAL	40	100

complete agreement as to why the market failed, but the majority did feel that capable management had been lacking and that farmers had not followed cooperative principles, Table 5. They particularly did not like the pool settlement plan of paying producers. Further, about one-fourth of those reporting indicated a major weakness of the endeavor was that local buyers encouraged growers to by-pass the market by means of temporary price increases. Several maintained that growers failed to deliver quality produce to the market and thus further weakened its position. In any case, the combined problems of the market organization eventually led to its collapse. It is possible that some of the problems could have originated in the planning stages of the market as well as in its actual operations. Growers were not discouraged over the development possibilities for vegetables in the area, although they were not able to relate specific steps to the attainment of this end.

CHARACTERISTICS of ECONOMIC IMPORTANCE

Human Factors

The majority of the growers in the study were white owner-operators with about 10 years of commercial vegetable growing experience and with much longer total farming experience, Appendix Tables 2 and 3. Regarding the latter, 59 growers or 83 per cent had more than 30 years of farming experience. This indicates that older farmers in the area have chosen truck crop production as a means of supplementing cash income in recent years. Further, the evidence indicates that few young farmers in the County are engaging in commercial vegetable operations. Only 4 per cent of the respondents were below the age of 30 as compared to 38 per cent being above 50. Attracting individuals to commercial operations involves providing them with suitable profit opportunities.

TABLE 6. INDIVIDUALS 16 YEARS AND OVER ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Sex	Individuals on farms		
	Under 100 acres	Over 100 acres	All farms
	Number	*Number*	*Number*
Male	1.4	1.4	1.4
Female	1.1	1.1	1.1
TOTAL	2.5	2.5	2.5

The problem of obtaining satisfactory labor supplies was considered important by growers. Number of tenants in the County dropped substantially in recent years. In addition, the size and age of families involved emphasized the problem even more. The average size of the operator's family was less than 4 and the number of individuals of working age, 16 and over, was slightly over 2, Table 6. Small families were found on both large and small farms, although renter and cropper families were larger than owner-operator families for both white and colored. Mechanization has helped in overcoming labor shortages in the County in recent years, although animal power still prevailed on 44 per cent of the truck farms visited. Another 17 per cent of the growers had both tractor and mule equipment, whereas 35 per cent used tractor equipment entirely. Four per cent of the growers had no equipment of their own, Appendix Table 4. Tractor equipment found on farms was related directly to size of vegetable acreage. A problem among growers with small acreages was finding power equipment small enough for their operations. Hand operations were thus employed for some production jobs. Otherwise they were left undone. This was indicated especially with regard to disease and pest control practices followed.

Resource Use

Sample farms averaged 91 acres in size and were about 16 per cent below the average for all farms in the County. The modal class of sample farms was between 50 and 100 acres, with over one-fourth of the farms coming within this size group. Only 8 per cent of the farms had more than 150 acres of land, Table 7. There was a tendency for growers with more farm experience to be on larger farms. Thus, stronger market prospects for vegetables could result in expanded production by some of the larger, more experienced growers.

Only about 7 per cent of the land used on farms sampled was devoted to vegetables, whereas 56 per cent was used for the pro-

TABLE 7. SIZE OF SAMPLE TRUCK FARMS IN HOUSTON COUNTY, ALABAMA

Size in acres	Farms reporting	Total	Cumulative percentage
	Number	*Per cent*	*Per cent*
0-49	19	27	27
50-99	26	37	64
100-149	20	28	92
150-199	2	3	95
200-249	3	4	99
Over 250	1	1	100
TOTAL	71	100	

duction of cotton, corn, and peanuts, Figure 2. About 3 per cent of the land on all farms in the County was devoted to truck crops.

The possible shifting of land resources to commercial vegetable operations depends on factors other than availability of land as previously reported.

Further indication of the diversity among farms was evidenced by livestock inventories. Ninety per cent of the growers had an average of 26 hogs per farm and 69 per cent had 4 dairy animals per farm. Fifty-nine per cent of the producers reporting had an average of two head of work stock. Seven per cent reported beef, 35 per cent laying hens, and 10 per cent broilers. The varied types of operations found among growers contributes to an "in and out" pattern of vegetable production in the area.

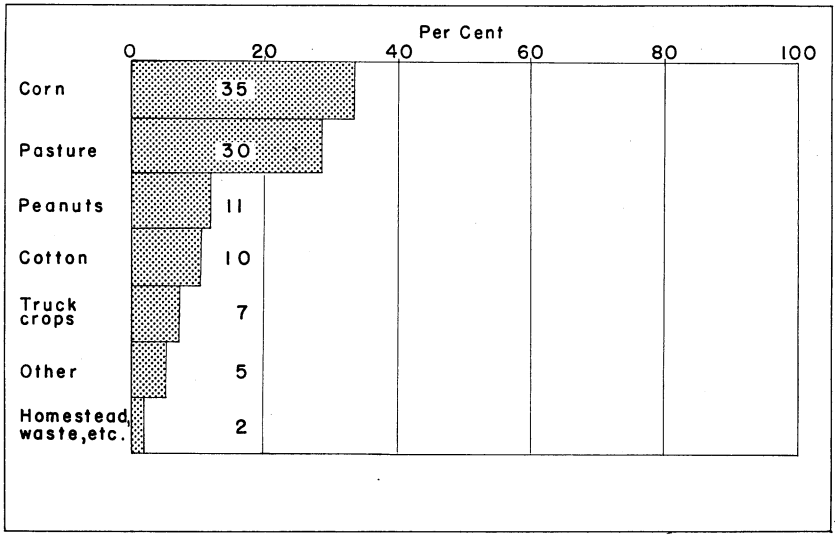

Figure 2. Percentage of land use by sample of vegetable farmers in Houston County, Alabama.

TABLE 8. SOURCE OF SHORT-TERM CREDIT RELATED TO VEGETABLE ACREAGE, HOUSTON COUNTY, ALABAMA

Source of credit	Vegetable acreage				
	0-4	5-9	10-14	15-and above	Total
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Self	33	38	33	50	36
Bank	22	25	50	25	26
Individual or dealer	45	37	17	25	38
TOTAL	100	100	100	100	100
Number reporting[1]	36	16	6	8	66

[1] Five not reporting.

Growers reported financing their operations from their own funds, banks, individuals, and dealers, Table 8. Sources of credit used was not significantly related to the number of acres of vegetables produced on sample farms.

Seventy-nine per cent of those reporting did not consider the lack of credit a restriction in future expansion of truck enterprises, under present marketing arrangements.

Production

Disking, breaking, and planting were somewhat standardized procedures used by growers for all vegetable crops. Also, spacing for the same crops was similar, Appendix Table 5. Other procedures common among growers included the varieties of specific vegetables produced and the kinds of fertilizer used under the crops and as side-dressing, Appendix Table 6. Little use was being made of lime or manure in vegetable production, although research reveals their importance under certain conditions. In general, the best known varieties of vegetables were used for commercial production. This factor is important to the success of commercial operations. Recommended varieties influence total production because of their resistance to disease, early maturity, and capacity to produce high yields. Varieties usually relate to ease of transporting, keeping qualities, and consumer acceptance.

Considerable variation was found among growers in the quantities of fertilizer applied to specific crops. A part of this variation probably resulted from individual farm differences, although much of the variation was attributed to the farmer's ability to anticipate market success. In the absence of stable markets and prices, growers tend to conserve their more scarce resources and use those more readily available. With small family farms, labor

is often a fixed resource as compared to expenditures for fertilizer, a variable resource. Thus, the risk involved in using additional capital through bought fertilizer contributes to wide variations in usage. This situation is vividly illustrated in the relatively heavy use of fertilizer by farmers growing crops with allotments where price is more certain.

Expenditures for quality control measures, such as disease and pest control, varied widely among growers. About 60 per cent of those individuals with less than 5 acres of truck crops used no control measures as compared to 45 per cent for those with over 5 acres, Appendix Table 7. By crops, tomatoes received pest and disease treatment by practically all growers. The majority of other crops received no treatments, although they might have been needed. Only 21 per cent of the field pea producers and 42 per cent of the butterbean growers used control measures. No control measures were reported by watermelon growers. In all cases where controls were used, hand dusters were reported as the means of application.

SUMMARY

Farm marketing characteristics and development opportunities found among the small vegetable producers in Houston County are likely to be similar to those in certain other parts of the State and Region. This is based on the fact that market structures are determined, in part, by production densities and the type of producer in an area. Houston County is composed mainly of small producers and vegetable production is rather widespread over the County. Vegetable farms averaged 91 acres in size with only about 7 per cent of the land devoted to commercial vegetables and 56 per cent to cotton, corn and peanuts.

Of the 254 individuals contacted in this study, 71 were found to be engaged in commercial vegetable operations. The 28 per cent were producing 14 different vegetables commercially. Forty-six per cent of these produced only one vegetable for sale per farm. With the exception of watermelon acreage, all truck crops grown averaged less than 5 acres per farm. Field peas, watermelons, and tomatoes comprised about three-fourths of the total vegetable acreage on sample farms. Growers were not engaged in off-farm employment in contrast to other farmers in the County. Of the 183 respondents not engaged in commercial vegetable growing, rural nonfarmers predominated. Some were engaged in other farming activities and some had given up

commercial vegetable production after failing to meet with economic success.

Most of the vegetable growers were white owner-operators with about 10 years of truck crop experience. Age of growers, together with longer farm experience, indicated that commercial vegetable production had been adopted in recent years as a means of supplementing cash income.

Growers financed operations primarily with their own funds, bank credit, and individual or dealer credit. Credit restrictions were self-imposed by the growers themselves rather than by lenders. Seventy-nine per cent of those reporting did not consider credit availability a restrictive factor in contemplating expansion of vegetable enterprises.

A major factor revealed in the study was the general dissatisfaction among growers regarding market outlets for crops produced. Lack of dependability or competition among buyers were primary problems. This was indicated by three-fourths of all growers, 86 per cent of those producing field peas and tomatoes, and by 80 per cent of the watermelon growers.

Market news information was available to growers in the study only by personal contact. Growers viewed this as a definite limitation to market efficiency and possible development.

Growers in the past had been unable to maintain their own marketing facilities. They attributed the failure of the Ashford market to (1) poor management, (2) resistance of local buyers, and (3) lack of producer understanding and/or unwillingness to follow cooperative procedures in marketing their produce. Notable among their dislikes was the pool method of settling accounts.

Outlets available to many growers were restricted by the lack of farm truck transportation. About one-third of the growers had no such facilities while 82 per cent of those with trucks had only those of pick-up size. Local buyers predominated as purchasers of field peas and butterbeans, whereas farmers markets outside the County were important outlets for tomatoes, watermelons, and greens.

There was wide variation in the use of commercial fertilizer and recommended pest and insect control measures by producers. Other production practices were uniform for the same commodities concerned.

Although several opportunities for improving production and marketing conditions are evident from the information provided

by growers, care should be followed in starting new marketing programs involving large expenditures of funds. Education and research efforts will aid appreciably in developing programs adapted to conditions and resources available. The one crop being produced on an agreement basis would suggest that others might also be tried, either for processing or fresh market. The area appears to be well situated for development of several commodities already being produced on a limited basis in the County.

APPENDIX

APPENDIX TABLE 1. TRUCK CROPS PRODUCED ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Crop	Farms reporting	Total acreage		Acres per farm
	Number	*Acres*	*Pct.*	*Acres*
Butterbeans	24	38	7.9	1.6
Cantaloupes	6	17	3.6	2.8
Cucumbers	4	6	1.3	1.5
Field peas	47	158	33.1	3.4
Squash	4	5	1.0	1.2
Tomatoes	25	90	18.8	3.6
Turnips	7	34	7.1	4.9
Watermelons	16	111	23.2	6.9
Other[1]	7	19	4.0	2.7
TOTAL	---	478	100.0	---

[1] Includes: snap beans, cabbage, sweetpotatoes, collards, onions, and rutabagas.

APPENDIX TABLE 2. GROWER CHARACTERISTICS OF TRUCK GROWERS ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Characteristics	Houston	
	White	Colored
Tenure:		
Owner, *number*	45	0
Renter, *number*	6	3
Cropper, *number*	11	6
Size of family:		
Owner, *average*	3.7	---
Renter, *average*	3.8	4.7
Cropper, *average*	5.0	5.7
Age of grower:		
Owner, *average*	51	---
Renter, *average*	46	49
Cropper, *average*	44	38
Truck farm experience:		
Owner, *years*	10	---
Renter, *years*	7	17
Cropper, *years*	11	4
Farm experience:		
Owner, *years*	34	---
Renter, *years*	30	34
Cropper, *years*	27	24

APPENDIX TABLE 3. YEARS OF FARMING EXPERIENCE AS RELATED TO VEGETABLE ACREAGE ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Vegetable acreage	Years of experience reported				
	0-9	10-19	20-29	30 and above	Total
	No.	*No.*	*No.*	*No.*	*No.*
0-4	0	2	5	33	40
5-9	2	1	1	12	16
10-14	0	1	0	6	7
15-19	0	0	0	4	4
20 and above	0	0	0	4	4
TOTAL	2	4	6	59	71

APPENDIX TABLE 4. TYPE OF EQUIPMENT AS RELATED TO VEGETABLE ACREAGE ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Vegetable acreage	Type of equipment reported			Total
	Tractor	Mule	Other[1]	
	No.	*No.*	*No.*	*No.*
0-4	11	25	4	40
5-9	7	4	5	16
10-14	3	1	3	7
15-19	2	1	1	4
20 and above	2	0	2	4
TOTAL	25	31	15	71

[1] Combination tractor and mule equipment. Including three with no equipment owned.

APPENDIX TABLE 5. SUMMARY OF PRODUCTION PRACTICES FOR SELECTED TRUCK CROPS ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Crop	Row width		Spacing in rows	
	Common	Range	Common	Range
	Inches	*Inches*	*Inches*	*Inches*
Butterbeans	36	30-36	10	6-15
Cantaloupes	48	48-60	48	36-60
Field peas	36	30-36	10	6-18
Watermelons	120	108-120	120	96-120

APPENDIX TABLE 6. SUMMARY OF PRODUCTION PRACTICES FOR CERTAIN TRUCK CROPS ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Crop	Variety reported		Planting dates	Seed or plants	Fertilization rates					
					Under crop			Side		
	Name	Per cent	Range	Per acre	Analysis	Average	Range	Analysis	Average	Range
						Pounds	*Pounds*		*Pounds*	*Pounds*
Butterbeans	Henderson	100	----	28 lb.	4-10-7	426	200-750	Nit. Soda	116	75-200
Cantaloupes	Hales Best	100	----	2.5 lb.	4-10-7	700	300-1000	Nit. Soda	110	50-300
Cucumbers	[1]	100	----	----	4-10-7	188	50-400	----	----	----
Field peas	Purple Hull	62	----	30 lb.	4-10-7	285	100-500	Nit. Soda	99[2]	25-200
	Blackeye	19	----	----	----	----	----	----	----	----
	Brown Crowder	19	----	----	----	----	----	----	----	----
Squash	Yellow-Crookneck	100	----	3 lb.	4-10-7	338	200-450	Nit. Soda	150	50-200
Tomatoes	Rutgers	100	Mar.-Apr.	4,000	4-10-7	854	400-1500	Nit. Soda	114	100-200
Turnips	Purple Top	100	----	4 lb.	4-10-7	608	400-1000	Nit. Soda	220	100-300
Watermelons	Black Diamond	43	----	2 lb.	4-10-7	589	50-1350	Nit. Soda	85	50-100
	Congo	57	----	----	----	----	----	----	----	----

[1] Furnished by processing plant. Did not know variety.
[2] 16 cases reporting.

APPENDIX TABLE 7. PEST CONTROL AS RELATED TO VEGETABLE ACREAGE ON SAMPLE FARMS, HOUSTON COUNTY, ALABAMA

Vegetable acreage	Control	Per cent of total	No control	Per cent of total	Total number reporting	Per cent of total
	No. Rep.	*Pct.*	*No. Rep.*	*Pct.*	*No. Rep.*	*Pct.*
0-4	16	40	24	60	40	100
Over 5	17	55	14	45	31	100
TOTAL	33	46	38	54	71	100

APPENDIX TABLE 8. DISEASE AND PEST CONTROL MEASURES ON SAMPLE VEGETABLE FARMS, HOUSTON COUNTY, ALABAMA

Crop	Number of applications farms reporting			Control reported	Usual control measure	Dust	Spray	Equipment
	None	Using	Average					
Butterbeans	14	10	2	Beetles	BHC, DDT Toxaphene	Dust	0	Hand
Cantaloupes	6	0	0	0	0	0	0	0
Cucumbers	4	0	0	0	0	0	0	0
Field peas	37	10	2	Beetles	BHC Toxaphene	Dust	0	Hand
Squash	3	1	2	0	0	0	0	0
Tomatoes[1]	1	21	4	Worms Blight	Tomato poison $Cu\ So_4$	Dust	0	Hand
Turnips	5	2	4	Aphids, Worms	Toxaphene Derris	Dust	0	Hand
Watermelons	16	0	0	0	0	0	0	0

[1] Three not reported.