

Rose, W. K., 1973. *Astrophysics*. Holt, Rinehart and Winston Publishing Company, New York, Table 1-1.
 Stecker, F. W., 1968. Effect of Photomeson Production by the Universal Radiation Field of High Energy Cosmic Rays, *Phys. Rev. Letters* 21:1016-1018.

Weekes, T. C., 1969. *High-Energy Astrophysics*, Chap. 4, Chapman and Hall Publishing Company, London.
 Zusepin, G. T. and V. A. Kurmin, 1966. Upper Limit of the Spectrum of Cosmic Rays, *JETP Letters* 4:78-80.

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NOTES CONCERNING CONTRACT VEGETABLE PRODUCTION IN THE UPPER MID-SOUTH

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ABSTRACT

In recent years agri-businessmen in the upper Mid-south have shifted from urban-oriented products to field products such as soybeans, cotton, and small grain, that are exported from the Mid-South region. The trend is evidenced by neo-plantation farmers and large mechanized farm operations. However, there are still small farmers in the upper Mid-South. With median farm family income below \$3,000, it is the writer's opinion that these farmers should consider changing their farm operation to urban-oriented products such as contract vegetable production. In addition, some farmers with intensive capital investments in land and machinery for field production should also consider shifting toward contract vegetable production.

INTRODUCTION

The upper Mid-south is a perceptible region which extends from Eastern Arkansas into Western Tennessee and from the Missouri Bootheel into the Mississippi Delta. Geographically, Memphis, Tennessee is the center or economic hub of the region (Figure 1). In addition, the city is capable of serving parts of the Southwest and Midwest. However, it serves mainly as a distribution center for goods and services for the people of the region.

Agricultural production in the area is characterized primarily by soybeans, cotton, and various grains. Dairy, vegetable, and poultry products less significant in the region, occur as areas of nodal production.

Considerable interest in contract vegetable production is developing in the Mid-South. This is a business arrangement whereby each grower usually signs a contract to produce a certain acreage and is guaranteed a specific market price based on grade and quality of the product.

The use of contracts as instruments to organize the economic activity of producers and processors of vegetables is widespread in the United States. Accord-

ing to Jesse (1970) as early as 1964, 70 percent of the raw products used by canners of fruits and vegetables was obtained under some type of contractual arrangement. Until recently many Mid-South farmers have lacked, among other factors, organized vegetable processing markets. Economic geographers have recognized this handicap for many years. Therefore, the purpose of this paper is to analyze contract vegetable production in selected areas of the upper Mid-South to support the idea that a shift to this type farming should be a successful trend for many farmers in the study area.

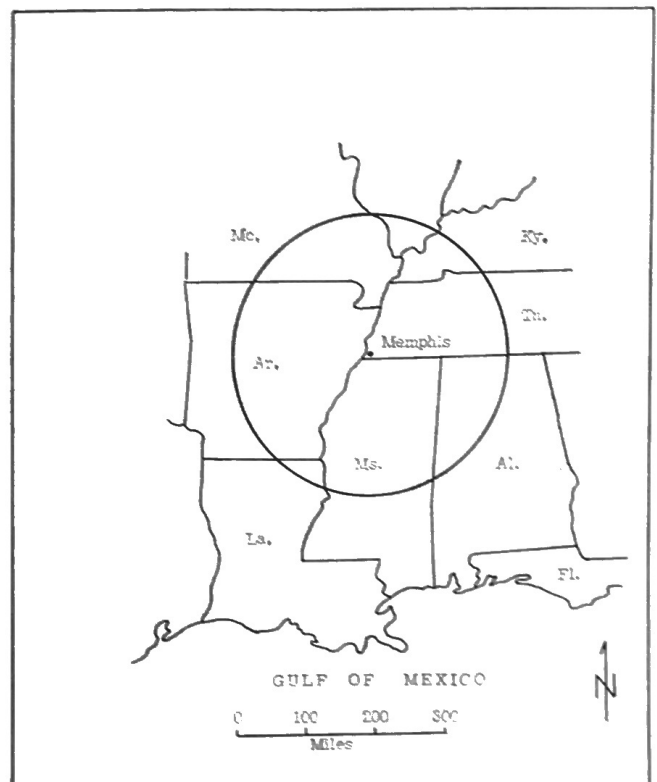


FIG. 1: Circle Indicates Area of Study.

SELECTED AREAS OF PRODUCTION

Arkansas, Mississippi, and Tennessee produce vegetables for the local market. However, the area is becoming a frozen foods processing center as evidenced by several new incoming companies.

Arkansas. About 1,200 farmers are producing vegetables, mainly okra and cucumbers, in a four county area—Crittenden, Phillips, Lee and Cross Counties. Other counties in Eastern Arkansas are producing asparagus, snapbeans, tomatoes, greens, and sweet potatoes.

Staked tomatoes are produced by 750 to 800 farmers in Bradley and Drew Counties. The production is usually a family enterprise, normally three or four acres per family. Brokers and buyers purchase these tomatoes in Warren, Hermitage and Monticello, and ship them throughout the Midwest and Eastern United States.

Many nodal areas of vegetable production throughout the Mid-South emphasize the significance of their specialty crops by holding annual festivals. Warren, Arkansas is no exception because each year a Miss Pink Tomato Queen is named to reign for one year.

Lee County, Arkansas has a total of 650 people that sign vegetable contracts. These contracts are mainly for four vegetables—cucumbers, okra, field peas and squash. The total number of acres under contract varies with each family. Usually the larger families, with more labor, have larger contract acreages.

All in all, most of the vegetables produced in Arkansas are marketed as fresh vegetables. Nevertheless, contract acreage would expand greatly with mechanized methods of production and greater emphasis on promoting contracts.

Mississippi. The Delta Branch Experiment Station in Stoneville is conducting vegetable research. Five years ago the horticulture research effort at the Delta Branch Station was completely changed to the task of planning and executing a program of research oriented entirely in the direction of vegetables for processing. A number of very simple but vital facts were badly needed in order that farmers interested in the new enterprise could adopt practices that would minimize their losses in growing these unfamiliar crops. Research results from these projects and other pertaining to fertility, and weed and insect control have provided an abundance of significant information.

Research on snapbeans has shown that, without doubt, the Mississippi Delta can economically compete with any other section of the country in producing snapbeans of high quality and quantity. It has been shown that a sizeable list of varieties can be grown as fall or spring crops with good success. However, the economics of growing and harvesting the crop with large mechanical equipment has not been established on Delta farms.

Plot research has shown conclusively that lima beans and southern peas are well adapted to Delta soils and climate. Data pertaining to varieties, planting dates, soil fertility, weed and insect control have already been obtained and released to growers.

Preliminary research concerning cucumbers has been very limited. However, due to the tremendous amount of labor required for harvesting an acre of cucumbers, the use and success of mechanical harvesters in the Delta will perhaps be the determining factor governing how large the cucumber opera-

tion becomes. Nevertheless, H. J. Heinz Company of Pittsburgh, Pennsylvania has located a cucumber facility in Merigold, Mississippi. The company only prepares the cucumber for shipping to other plants for final processing.

Mississippi has not become established as a producer of processor-type tomatoes. Although at this time, a few producers in Benton County, Mississippi are furnishing Atkins Pickle Company at Ashland, Mississippi with all the pickling tomatoes they can handle. In addition, the company contracts for vegetables in areas outside of Mississippi. Also, in 1971, 486 contract acres of pimiento peppers in Benton County were supplied to Pomona Products Company, located at Oshland.

A number of other crops such as Irish potatoes, sweet potatoes, and leafy greens are being grown in the Delta. It is important to note that these products are being successfully harvested with mechanical equipment in the Delta.

Other potential crops for the Delta include carrots, beets, onions, and green peas. Since many commercial establishments have indicated an interest in including one or more of these products in their future program of expansion, varietal and cultural studies are being conducted by the Delta Branch Experiment Station at Stoneville, Mississippi.

Tennessee. Among other counties, Dyer, Gibson and Crockett are the primary producers of vegetables under contract in West Tennessee. These counties have a long history of fresh vegetable production but only recently has contract production been practiced on a large scale.

Over 5,600 acres of green lima beans and 3,000 acres of spinach plus many acres of turnip greens are under mechanical production on a contract basis in Dyer County. In contrast most of the minor vegetables such as snapbeans, peas and tomatoes are not easily mechanized. Consequently, these crops are hand-harvested and marketed locally on a non-contract basis.

Gibson and Crockett Counties produce okra, squash, and sweet pepper. Of these, okra constitutes the greatest acreage. In fact, most of the okra in the United States is produced within a 200 mile radius of Memphis with Bells, Tennessee being the okra capital.

The markets for West Tennessee vegetables are Bush Brothers Company in Blytheville, Arkansas, Winter Garden in Bells, Tennessee, Humboldt Freezing Plant in Humboldt, Tennessee and Frosty Foods Company in Dyersburg, Tennessee.

SUMMARY

The study area is well adapted to vegetable production from the standpoint of drainage, soil, and transportation, which is the economic key to specialization. However, more emphasis should be placed on research in the areas of mechanization of vegetable production, contract promotion and marketing to ensure the future success of contract vegetable production.

LITERATURE CITED

- Jesse, Edward V. 1970. Analysis of Vegetable Contracts. *Am. J. Agri. Eco.* 52(4):545.

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