



# **Horticultural Research, 1985--Overton**

**Research Center**

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## VEGETABLE CROP PRODUCTION IN EAST TEXAS

D. R. Paterson, D. R. Earhart and K. E. Cushman

The southernpea is the leading acreage vegetable crop grown in East Texas. Over 12,000 acres are grown annually, with about two-thirds of the crop harvested as green-shelled peas and the remainder as dry peas. They are consumed as green-snap peas, green-shelled peas, and dry peas. Many tons are processed each year as canned, frozen, and dry peas by processors in East Texas. Texas is the leading processor of imbibed "dry" peas in the United States, while Georgia is the leading processor of fresh peas. Accurate production statistics are not available, but the sum of the best obtainable estimates by state indicated that about 200,000 acres of cowpeas are grown in this country each year. Southernpeas are high in protein and the plant is capable of fixing atmospheric nitrogen through bacterial symbiosis. These two attributes are important as the world shortage of protein and nitrogen fertilizer becomes more critical.

Sweet potatoes have tremendous potential for feeding people; they are relatively resistant to attack by pests; and they produce dependable, high yields with minimum applications of fertilizer and pesticides. More people can be fed from an acre of sweet potatoes than from an acre of cereal grains with less energy input. Approximately 7,600 acres of sweet potatoes are raised in Texas with an annual value of more than 13 million dollars. Texas is the 4th largest sweet potato producing state in the U.S. and receives the highest weighted average price per box of marketable roots. The United States produces more than 200 thousand of the world-wide production of nearly 40 million acres. About 25 percent of the Texas sweet potato crop is marketed soon after harvest and another 25 percent is processed, primarily canned. The remaining 50 percent is stored for marketing during the winter and spring or as seed to produce next year's crop.

This vegetable crop produces more food value per acre than any other cultivated crop. An 8-ounce sweet potato which provides 225 calories, about the same as a packaged diet breakfast, also furnishes



nearly one-fifth of an adult's minimum protein requirement. This same 8-ounce sweet potato supplied four times the daily vitamin A requirement and twice the daily vitamin C requirement. In addition to this, there is enough iron for a woman's  $2\frac{1}{2}$  day requirement. The sweet potato also contains most of the essential amino acids. Of special interest to nutritionists is the fact that sweet potatoes do not increase blood glucose as do white potatoes, whole wheat or white bread.

East Texas grows 27% of the fresh market tomato crop in the state, with a value of about 4.2 million dollars. This same area produces 11% of the watermelons in Texas with a 3.7-million dollar value.

A limited acreage of sweet corn, peppers, cabbage, cantaloupe, pinto beans, Irish potatoes, onions, and cucumbers are utilized locally or at the Dallas and Ft. Worth markets. A considerable tonnage of produce moves through roadside stands throughout the area.

Vegetable growers must maintain better quality as well as higher yields to successfully compete with other areas. High quality could be maintained from harvest to market by utilizing the existing million cubic feet of refrigerated cold storage in the area that stands idle during the 4-6 months of peak vegetable crop production. Because the yields of vegetable crops grown in East Texas are generally below other competing states and areas, cultural research is needed to develop optimum production systems to achieve maximum yields at lowest cost.

The produce department is now the most important counter in the store. Shifting the eating habits of the American people is a difficult thing to do. But it is happening - and vegetables are the favored food. This can't help but mean increased income for vegetable growers.



## SOUTHERNPEA COOPERATIVE TRIALS - 1984

D. R. Earhart, D. R. Paterson, and K. E. Cushman

### INTRODUCTION

The southernpea cooperative tests for 1984 were divided into replicated and observational trials. There were 6 breeding lines and 3 check varieties entered in the replicated portion and 6 breeding lines and 3 checks in the observational portion of the trials.

### METHODS AND MATERIALS

#### Replicated:

Treflan was applied pre-plant at the rate of 1.5 pints per acre. The area was bedded on 40-in. centers. The plots were planted on 14 May 1984 using a Planet Jr. push type planter. The plots were laid out in a randomized block design with 5 replications. The plots were 20 ft. long. One week after emergence, fertilizer was applied at the rate of 300 lbs. 6-24-24 per acre.

#### Observational:

The observational plots were established the same as the replicated except that only 2 replications were used.

### RESULTS AND DISCUSSION

#### Replicated:

There was no significant difference between days to maturity for any of the entries in the trial (Table 1).

Corona, VS 83-44, VS 83-45, and VS 81-92 were highest in percent shellout while Coronet was the lowest. Corona, which was selected out of Coronet, produced the highest in pod yields and also highest shelled yields.

Corona performed very well in the cowpea virus study conducted at the Overton Research Station this year. Corona was recommended to be released to growers. It was recommended that all other entries be repeated.



### Observational:

All the entries in the observational trials matured within 65 to 68 days from planting (Table 2). Breeding line L 912-1-G was the highest yielder per acre in the trial for both in pod and shelled weight. It also showed the highest percent shellout. It was recommended that 5 of the breeding lines be advanced to the replicated trials and that one, US-311, be repeated in the observational trials.

Table 1. Days to maturity, hand shellout, in pod yield and shelled yield of southernpeas entered in the replicated Southernpea Cooperative Trials - 1984.

Entry	Days to maturity	Hand shellout (%)	In pod yield (lbs/ac)	Shelled yield (lbs/ac)
Corona	65	58	2456	1424
Miss. Cream	68	48	2051	993
Miss. Silver	68	52	2613	1385
Coronet	65	42	2234	901
TX 63-7	65	44	1489	679
L 573 A	68	50	1293	640
VS 83-44	65	50	1803	927
VS 83-45	65	56	1476	823
VS 81-92	65	64	1868	1176
L.S.D. .05	N.S.	8	810	529

Table 2. Days to maturity, hand shellout, in pod yield and shelled yield of southernpeas entered in the observational Southernpea Cooperative Trials - 1984.

Entry	Days to maturity	Hand shellout (%)	In pod yield (lbs/ac)	Shelled yield (lbs/ac)
Miss. Cream	68	48	2051	993
Miss. Silver	68	52	2613	1385
Coronet	65	42	2234	901
US-432	65	54	2875	1568
US-311	65	51	1895	980
AU-78.3	65	54	2875	1568
AU-82VK-4	73	51	2679	1372
L912-1-6	68	62	2940	1830
L1155-3-M	65	60	2483	1503