

# Arizona's Vegetable & Melon Industry: An Overview

By C. Curtis Cable, Jr.\*

Commercial vegetables are an important source of agricultural income for Arizona. In recent years, cash received from sales of vegetables represented approximately 15 percent of total cash receipts from all Arizona farm commodities.

In addition to vegetables being an important source of income for the state, Arizona is an important U.S. source for fresh-market produce. Arizona ranks fourth — following California, Florida and Texas — in production and value of fresh-market vegetables and melons.

More than 99 percent of the state's acreage, tonnage and value of commercial vegetables and melons are grown for the fresh market. Obviously, Arizona is a low-ranking state in the production of processing vegetables.

Because of the fresh-market predominance, processing vegetables were not considered in this article. Data used herein were compiled from appropriate annual issues of *Agricultural Statistics*, published by the U.S. Department of Agriculture, and *Arizona Agricultural Statistics* published by Arizona Crop and Livestock Reporting Service.

This is the second article in a series concerned with the longrun outlook and prospects for vegetables and melons. The first article examined national trends in production and use of vegetables, and the implications of these trends. In this second article, the objective was to describe Arizona's vegetable and melon industry, and appraise its relationship to the U.S. vegetable and melon industry.

## Arizona's Volume Remains Stable

In the first article of this series it was shown that total U.S. production of fresh-market vegetables has held fairly stable at about 11 million tons annually since the mid-1950s. Arizona's yearly production has also remained stable at about 600,000 to 700,000 tons during the past 15 years (Chart 1). During the same period, production in Texas has remained fairly stable, and averaged roughly 1 million tons annually.

In contrast, California's annual production increased from 2.7 million tons in 1950 to 3.5 million tons in 1965. This was an increase of 800,000 tons in 15 years. During the next five years California's output increased another 900,000 tons to a high of 4.4 million tons in 1970.

There was a slight upward trend in Florida production during the past 15-20 years, and annual output reached a high of almost 1.9 million tons in 1966. Since then Florida's annual production has gradually declined to less than 1.5 million tons in 1970.

These trends indicate that California is becoming more important as a producer of fresh-market vegetables. The importance of Arizona and Texas has remained fairly constant, whereas the position of Florida as a market supplier has declined.

Although Arizona ranks fourth in fresh-market vegetables, it accounted for only about 5 percent of the nation's fresh vegetables in the late 1960s. In comparison California accounted for about 40 percent, Florida for 15 percent and Texas 10 percent.

## Lettuce — Arizona's Principal Vegetable

Lettuce has been Arizona's principal vegetable crop for several decades, and its relative importance to the state has been increasing in recent years. In the early 1950s, lettuce was a 20 million dollar crop and accounted for about half of the total value of the state's vegetable industry (Chart 2). By the late 1960s lettuce was a 50 to 60 million dollar crop representing about two-thirds of the value of the states fresh-market vegetables.

\*Marketing Specialist, Cooperative Extension Service, University of Arizona.

Chart 1. Production of Fresh-Market Vegetables in Four Leading States

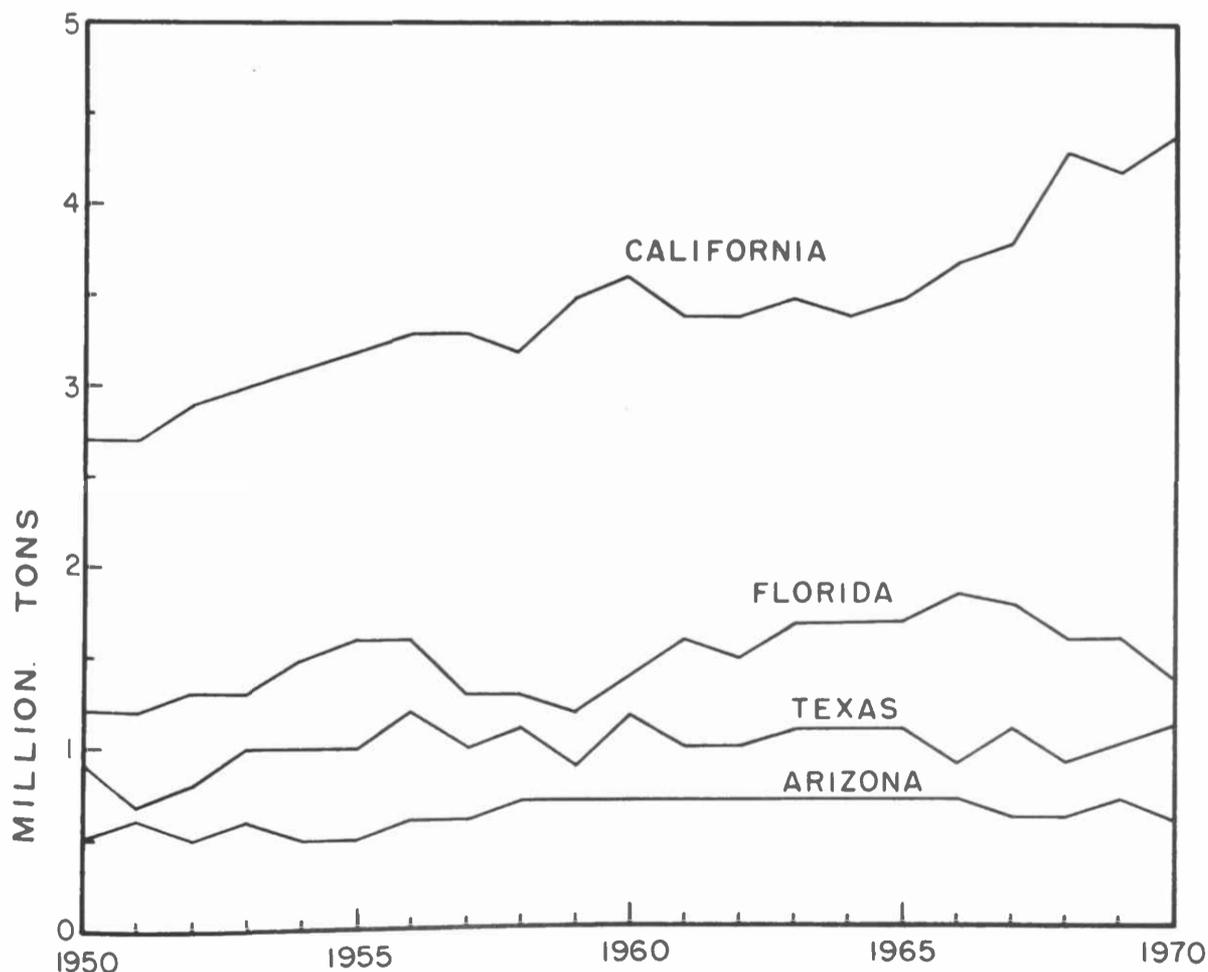
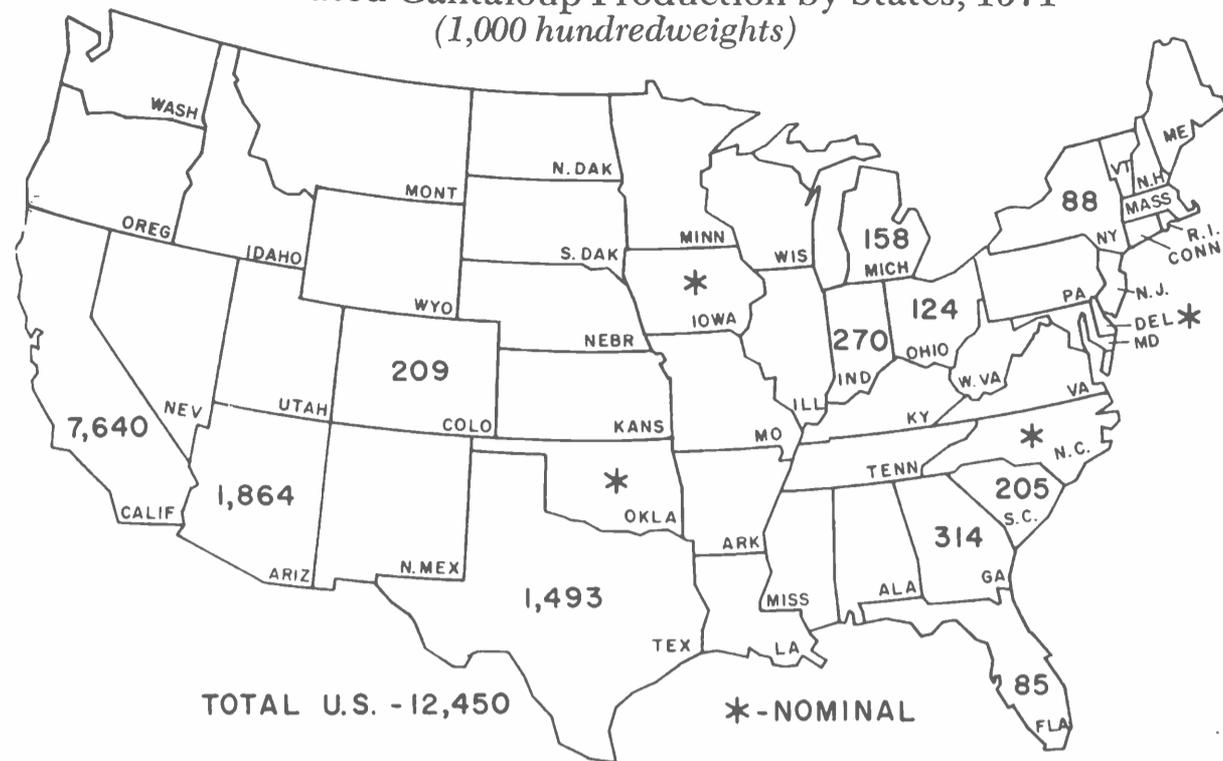




Chart 4. Estimated Cantaloup Production by States, 1971  
(1,000 hundredweights)



New York and Oregon. Approximately 75 percent of the nation's output is grown in California — Arizona produces about 2 percent.

*Honeydew melons* are a spring crop in Texas, an early summer crop in Arizona and a late summer crop in California. About 80 percent of the total U.S. production is grown in California, about 11 percent in Texas, and 9 percent in Arizona.

*Dry onions* are commercially grown in several sections of the U.S. The total of California, Texas, New York and Oregon production accounts for about two-thirds of the U.S. annual supply. Arizona's crop in late spring and early summer coincides with the production-marketing seasons in Texas and California.

*Watermelons* are primarily a late spring and summer crop in U.S. production. Please turn to page 14

these crops there are pronounced year-to-year changes in both production and prices, resulting in wide yearly fluctuations in crop value.

*Broccoli* is a winter crop in both Arizona and Texas, and each state produces 1-2 percent of the U.S. crop. In comparison, California grows and markets about 80 percent of the nation's broccoli — on a year-round basis. Oregon, ranking second in production, markets broccoli in the fall.

*Cabbage* is grown commercially throughout the U.S. The top five producing states are New York, Florida, Texas, California and Wisconsin. Each of these states produces 2-4 million hundredweights annually. In contrast, Arizona grows only about 200,000 hundredweights a year — during the winter and spring months. This production season coincides with the growing seasons in California, Florida, Louisiana and Texas, and in most years the combined output of these four states provides an ample winter market supply.

*Carrots* are grown commercially in many sections of the country, but California and Texas combined produce about two-thirds of the U.S. annual supply. Production and shipments are year-round operations in both of these states. Arizona carrots, which represent about 2-3 percent of the U.S. total, are a winter to early summer crop.

*Cauliflower* is a winter crop in Arizona and Texas, a fall, winter and spring crop in California, and a late summer and fall crop in Michigan,

Table 1. Acreage, Production, Price and Value of Selected Arizona Vegetables.

Vegetable and time period <sup>1</sup>	Harvested Acres	Yield per Acre	Production	Average Price	Value of Production
			cwt.	1,000 cwt.	\$/Cwt.
<b>Broccoli</b>					
1960-64 ave.	590	67	38	13.10	500
1965-69 ave.	492	69	33	12.80	421
1970	800	65	52	15.90	827
1971	1,000	60	60	15.50	930
<b>Cabbage</b>					
1960-64 ave.	1,270	211	245	3.38	858
1965-69 ave.	1,540	153	234	4.05	906
1970	1,000	210	210	5.61	1,178
1971	1,400	125	175	4.02	704
<b>Carrots</b>					
1960-64 ave.	2,400	171	382	5.03	1,973
1965-69 ave.	3,120	182	565	5.17	2,929
1970	2,700	180	486	3.92	1,905
1971	2,600	190	494	8.23	4,066
<b>Cauliflower</b>					
1960-64 ave.	534	74	39	11.18	433
1965-69 ave.	700	62	43	13.34	579
1970	800	75	60	15.60	936
1971	810	65	53	18.00	954
<b>Honeydew melons</b>					
1960-64 ave.	760	145	105	6.14	652
1965-69 ave.	1,010	125	128	6.81	829
1970	1,100	165	182	8.26	1,503
1971	1,200	165	198	8.39	1,661
<b>Dry Onions</b>					
1960-64 ave.	1,740	340	492	3.47	1,761
1965-69 ave.	2,260	381	857	3.85	3,134
1970	2,400	360	864	4.30	3,712
1971	1,500	380	570	3.27	1,864
<b>Watermelons</b>					
1960-64 ave.	4,400	156	692	2.23	1,544
1965-69 ave.	4,120	162	660	2.51	1,640
1970	4,300	160	688	3.25	2,236
1971	3,900	175	683	3.63	2,479

<sup>1</sup>The 5-year averages are simple averages of annual figures.

## Vegetables & Melons

(From page 5)

duction areas. Winter and spring market supplies of about 1 million hundredweights are imported from Mexico. Florida, Texas, Georgia and California are major producing states, and in 1971 the combined output of these states accounted for about 65 percent of the 27.3 million hundredweights grown in the U.S. Arizona produces 2-3 percent of the U.S. crop.

### Arizona's Market Position

Except for lettuce, cantaloup and honeydew melons, Arizona is not a major producing region for any of the nation's "most popular" fresh-market vegetables and melons. In some cases the shipping seasons for Arizona vegetables coincide with or comes at the end of seasons in other producing areas. For others, harvesting begins in Arizona only a week or so before harvesting gets underway

in one or more of the large volume growing areas.

Arizona, then, is primarily a "fill-in" supplier for many fresh-market vegetables. That is, many Arizona vegetables are utilized to fill the short time "market gaps" immediately preceding or following shipping seasons of other larger-volume areas. Arizona's vegetable industry has taken advantage of this market opportunity, and this "fill-in" role is vital in providing a year-round supply of fresh produce for U.S. consumers.

It is also evident, however, that the short time "market gaps" for numerous vegetables has been and is vital to the Arizona vegetable industry. Apparently Arizona does not have a big production-marketing advantage for any one crop to the extent that California has for several crops, and that Florida and Texas have for one or more crops.

If this is the case, Arizona's fresh

vegetable industry should remain constantly alert for new market gaps for crops which could be but are not presently produced in the state.

Also, the state's vegetable interest should strive for improved efficiency and lower costs in producing and shipping vegetables and melons which are well adapted to the state's soils and growing seasons. This could make Arizona more competitive, in terms of costs and volume, with other producing areas.

Finally, the possibilities of growing vegetables for processing should be appraised periodically. As noted in the first article of this series, U.S. per capita consumption of processed vegetables is increasing, whereas it is declining for almost all fresh vegetables. If these two trends continue, the required volume of fresh-market vegetables will continue to decline relatively to the requirements for processing vegetables.

## Rural Poverty

(From page 10)

### Rural Poverty Deserves More Attention

The data indicate that rural poverty in Arizona directly effects a substantial number of people and a significant proportion of the total rural population. The problem, therefore, deserves the attention of policymakers, extension personnel, and researchers. If numbers count then special efforts need to be directed toward both the Indian and Spanish-American segments of the rural poor. This will require an understanding of their cultures and the role of economic development within their cultures. Rural poor who farm comprise a small portion of all rural poor, and consequently, warrant a smaller share of total development efforts. At the same time, it should be recognized that the incidence of poverty among farm families is higher than for the rural population in general, and one means of alleviating farm poverty would be to help farm breadwinners find off-farm employment. In fact, the incidence of unemployment and underemployment among the rural poor in general is relatively high and programs to increase their employment and raise their productivity may pay handsome rewards.

In the long run, the authors are

skeptical that this should be done by pouring money into the industrialization of rural areas or by providing stop-gap funds to improve the deteriorated public facilities of small communities. The costs, relative to the benefits, may be far too great. Rather, at the local and state level, government officials might increase the standard of living of the rural poor by providing carefully selected education and training opportunities, as well as providing information on job vacancies and living conditions wherever they may exist. The Federal government might redirect some of its development funds to provide a subsidy for relocation of those "trapped" in rural poverty areas. These funds may also support education and training programs and an improved job information network. The extension service may help the rural poor by providing information on educational and training programs, job opportunities and about the more general social environment such as housing accommodations and schools in communities where jobs exist. In addition, the extension service can assist rural communities by providing information on the most efficient way to provide public service (hospitals, water systems, waste disposal systems, etc.) to rural people. Research may help determine which jobs exist where, the most efficient way of retraining the unem-

ployed and underemployed rural poor. The most efficient ways of communicating employment opportunity information, the costs and benefits of various systems of rural public facilities, and the costs and benefits of migration of the rural poor to more metropolitan areas or growth centers.

### Footnotes

<sup>1</sup>Rural people are those living in towns or places of 2,500 people or less.

<sup>2</sup>The poverty income threshold provides a range of cutoffs adjusted by such factors as family, sex of the family head, number of children under 18 years old, and farm and nonfarm residence. The poverty threshold for farm families is 85 percent that of non-farm families.

<sup>3</sup>This is approximately 3,000 fewer rural poor families than in 1960. See Terry Anderson, Components and Causes of Rural Poverty in Arizona, M.S. Thesis, Department of Agricultural Economics, University of Arizona, 1972, pp. 22-23 for data used in making this estimate.

<sup>4</sup>Welfare payments do not include food subsidies.

<sup>5</sup>A small proportion, less than 10 percent, of these families have children under 6 years of age.

<sup>6</sup>The Census data on Indian unemployment is substantially different from other information on unemployment on the reservations. For example, information from the U.S. Department of the Interior indicates that unemployment on Arizona's reservations averaged 35 percent in 1970.

<sup>7</sup>The wide range in the data indicating the proportion of farm families in poverty is due to the difference in the definitions of a farm as given in the Census of Population versus that used in the Census of Agriculture.