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This is the 39th annual issue on income, production, and costs in Arizona's agriculture It was compiled by members of the Department of Agricultural Economics, The University of Arizona.

All communications should be addressed to: Head, Department of Agricultural Economics, The University of Arizona, Tucson, Arizona 85721.

Copies of this publication also are available at County Extension Offices in each county of the state.

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Table on Agricultural Income Eliminated

The table showing gross value of crops and livestock produced in Arizona appearing at the beginning of previous "Arizona Agriculture" bulletins has been eliminated. The problem of reporting value and income by commodity and agricultural sectors becomes more difficult due to the increasing complexity of the agricultural economy in Arizona.

Another reason for eliminating this table is that the agreement between the College of Agriculture, The University of Arizona, and the Statistical Reporting Service, U.S. Department of Agriculture, has brought about better reporting and more refined statistics with respect to agricultural commodities. These and other data are contained in annual releases published jointly by the Statistical Reporting Service and the Department of Agricultural Economics of the University through the Arizona Crop and Livestock Reporting Service.

Historically, there have been some discrepancies in the value and income data which need to be reconciled for better decision making and policy actions in the future. More money is being spent on collecting and publishing agricultural data than ever before and this current action will greatly clarify the situation in Arizona. It is hoped that other agencies and institutions which publish agricultural statistics will look to the Statistical Reporting Service for technical assistance.

Refined data on income will be published later in conjunction with other releases of the Statistical Reporting Service. Thereafter, the series of statistics will be consistent with good data gathering and reporting principles. It is emphasized that this action is being made for better decision making on the part of agriculture and agricultural industries in the state. Still, an increase in budget and in effort is needed to provide farmers, businessmen, and the public with the precise data needed for private and public policy decisions.

Agricultural Prices

Prices received by farmers in 1968 for cotton, alfalfa hay, barley and, sorghum grain were lower than in 1967 and less than the 5-year average prices for 1962-66 (Table 1, page 4). In contrast, 1968 cattle prices were higher than in 1967 and substantially greater than 1962-66 average prices.

Prices for upland cotton steadily declined by more than 5 cents per pound during the last six months of 1968. During the peak harvest period in 1968, prices were as much as 10 cents a pound lower than prevailing prices during the peak harvest period in 1967. The 1968 average price of $24.70 for alfalfa hay was almost 20 percent less than the average of $30.80 per ton received in 1967. Declines in barley and sorghum grain prices were not nearly as pronounced as the price drop for alfalfa hay. However, the downtrend in prices for these feed grains during the 1960's is clearly evident.

Prices for Choice slaughter steers averaged slightly more than $1.00 per hundredweight higher in 1968 than in 1967, and more than $2.00 higher than the 1962-66 average. The average price for Choice yearling feeder steers in 1968 was $1.66 higher than in 1967, and $3.60 higher than the 1962-66 average. For Choice feeder calves, the 1968 average

TABLE 1. Prices Received by Growers for Major Agricultural Products: 1968, 1967, and 1962-66 Average.

COMMODITY	UNIT	1968 [a]	1967	1962-66 AVERAGE
All Cotton [b]	Cents/Pound	27.3 [c]	29.84	29.44
Upland Cotton [b]	Cents/Pound	25.5 [c]	28.45	27.96
Extra Long Staple Cotton [b]	Cents/Pound	41.0 [c]	47.5	50.0
Alfalfa Hay [b]	Dol./Ton	24.70	30.80	26.80
Barley [b]	Dol./Cwt.	2.27	2.44	2.52
Sorghum Grain [b]	Dol./Cwt.	2.07	2.14	2.17
Choice Slaughter Steers	Dol./Cwt.	26.93	25.77	24.60
Choice Yearling Feeder Steers	Dol./Cwt.	26.51	24.85	22.91
Choice Feeder Steer Calves	Dol./Cwt.	30.21	27.66	24.73
Milk [e]	Dol./Cwt.	6.25	5.88	5.21
Eggs [d]	Cents/Dozen	27.6	28.3	35.8
Wool [e]	Cents/Pound	36.0	34.0	39.8
Lettuce [b]				
Winter	Dol./Carton [f]	2.27	1.58	2.11
Early Spring	Dol./Carton [f]	2.08	3.19	2.18
Late Fall	Dol./Carton [f]	2.48	2.31	2.20

[a] Preliminary.
[b] Crop year average price.
[c] Average price to December 1 (see page 8 for details).
[d] Twelve-month average price
[e] Twelve-month weighted average price.
[f] Carton weighs 42 pounds.

price of $30.21 was $2.55 above the 1967 average price, and $5.48 above the 1962-66 5-year average price of $24.73.

Milk prices in 1968 were slightly above 1967 levels, and $1.04 a hundredweight higher than the 1962-66 average. In contrast, the 1968 average price for eggs was less than the 1967 average, and about 23 percent lower than the 5-year average price of 35.8 cents per dozen. Wool prices in 1968 were above 1967 prices, but lower than the average price during the 1962-66 period.

Winter and fall lettuce prices were higher in 1968 than in previous years, but prices for spring lettuce were down appreciably from prices received in 1967.

Agricultural Policy

The 1965 Food and Agriculture Act, due to expire in 1969, has been extended for another year. This extension will allow the present Administration more time to consider the alternatives available in recommending agricultural policies to Congress. Whatever policies — and programs to implement these policies — are decided upon will have two major goals: to insure an efficiently-produced, adequate supply of varied food and fiber products to feed and clothe our citizens at a reasonable cost; and to alleviate rural poverty and increase the contributions of the rural poor to society and to economic development.

Agricultural policy aimed at achieving the first goal will be directed mainly towards operators of 16 percent of United States farms — those farms with sales of $20,000 or more. Most of these farms have enough resources to be efficient operating units, and their future is tied to agriculture as an industry. Family incomes on these farms average fairly high on the American scale, although return on in-

vestment — since investment is high — apparently is below the rate earned in manufacturing. The cluster of problems facing operators of these farms relates to markets and prices. Roughly two-thirds of the benefits of any price improvement goes to these farmers, for they sell two-thirds of all products put on the market.

Policy aimed at achieving the second goal will be directed mainly at operators of 55 percent of United States farms — those farms with sales of less than $5,000. These low-volume farmers have little prospect of earning adequate incomes from agriculture. Higher prices help very little because sales are so low. Employment off the farm offers the best prospect for better incomes and already is more important than farming in most cases.

Policy goals come from the values and beliefs of the people. The values and beliefs that Americans hold in common determine what we wish for our nation and our people. Over and over throughout our history the American people, through their spokesmen and at the ballot box, have shown an almost universal acceptance of three great policy goals. These are (1) equality of opportunity, (2) equality of factor returns, and (3) a minimum standard of living for all Americans.

Equality of opportunity means that each American should be able to develop his inborn talents and use them to their fullest potential. Equality of factor returns means that our economic system should reward like resources in the same way. Labor of a given quality should receive the same return, whether employed in the city or on the farm. The same holds for capital, management, and land. A minimum standard of living implies that common decency and our humanitarian instincts will not allow us to willingly permit any American to exist with less than an acceptable level of food, clothing and shelter.

The President's National Advisory Commission on Rural Poverty expressed the four major goals for rural areas as follows:

1. Equality of opportunity with all other citizens for rural America. This must include equal access to jobs, medical care, housing, education, welfare, and all other public services, without regard to race, religion, or place of residence.

2 Full employment.

3. Adequate food, shelter, clothing, medical care, and education.

4 An adequate income.

There is now little doubt that major changes are taking place in United States agricultural policy thinking The nature of these changes is becoming clearer, as are their implications. Market forces probably will play a larger part in the production and pricing of United States farm products at home and abroad Efforts are being made, and will continue to be made, to design legislation so as to maintain and/or increase farm incomes. At a time when many other countries are trying to move away from the discipline of the market, the United States is moving toward it This will not be an easy task for either.

At the same time, the United States is concerned more than ever before with new opportunities for rural people. Millions of farm people have been helped very little by the commodity programs. The most important — and most neglected — aspect of policy for agricultural adjustment is the task of providing opportunities for these people whose economic prospects are limited by the onset of science and technology in farming.

Farm Programs for the Seventies

From now until mid-1970 there will be a great deal of thinking, speaking, and writing about what kind of legislation should be passed to replace the Food and Agriculture Act of 1965 The end result may be another extension of the present Act, with perhaps some minor amendments.

Payment limitations may be brought up again, as usual, and may be defeated again in the Senate. Bills may be reintroduced to increase farmer bargaining power, with the probable result of extending marketing orders to more farm commodities and strengthening farmer co-ops. Further attempts probably will

be made to limit the amount of farm losses that can be written off against nonfarm income when using cash accounting basis.

Some of the President's farm policy experts have indicated a need to phase out some of the provisions of the present feed grain, wheat, and cotton programs and move toward long-term contracts to retire more land. This change of emphasis can be done within the framework of the 1965 Act. Farm programs for the 1970's probably will stay within this framework—so it is probable that present legislation, with some amendments, will be with us in the foreseeable future.

Commodity Programs

Most of Arizona's agricultural products are directly or indirectly affected by the Federal Government's agricultural commodity programs. Current programs were authorized under the Food and Agriculture Act of 1965. These programs have been in effect since 1966 and will continue through 1970.

The Food and Agriculture Act of 1965 provides for cotton and feed grain programs radically different from previous programs. The programs provide for direct payments to farmers and a "one price" provision aimed at making United States cotton and grain prices competitive in the world market.

Pricing provisions of the Act provide for a general pattern of price-support loan levels for grains and cotton aimed at world price levels. Cotton prices in 1966, 1967, and 1968 increasingly reflected demand and supply forces in the market.

The impact of lower prices on income is offset through greater emphasis on direct payments to participating producers. At the same time, provisions of the Act help avoid large carryover stocks by striking a better balance between production and consumption.

Cotton (Upland)

Under the 1965 law, upland-cotton allotments may be leased, bought and sold and, with certain restrictions, moved across county lines.

Although the Food and Agriculture Act of 1965 authorized a 4-year cotton program, growers must decide each year through a marketing quota referendum whether or not they want the program continued. Quotas were approved for 1969.

The most important aspect of the 1966, 1967, and 1968 cotton programs was the reversal of the upward trend of the cotton surplus.

Arizona cotton producers in these 3 years cut their planted acreage of cotton by almost one-third. This heavy participation in the cotton program resulted in cotton producers receiving about $42 million in government income-supporting payments in 1967, and an estimated $37.7 million in 1968 (Table 2, below).

There was increased activity in 1968 in buying, selling, and transferring cotton allotments. There was continued shifting of cotton production to less hazardous and lower cost production areas within the state.

When the cotton program authorized by the Food and Agriculture Act of 1965 went into operation, there was an alltime

TABLE 2. Estimated Government Payments Received by Arizona Farmers in 1967 and 1968.

PROGRAM	PAYMENT 1967	1968
	(million dollars)	
Cotton	42.2	37.7
Feed Grains and Wheat	1.5	2.4
Agricultural Conservation	1.8	1.8
Other	.8	1.9
Total	46.3	43.8

high carryover of 16.6 million bales of upland cotton.

There was extremely high farmer participation in the 1966, 1967, and 1968 programs. This, coupled with an abnormal weather cycle and insect infestation, accomplished the supply adjustment in two years rather than the expected four.

The 1969 cotton program is designed to produce sufficient cotton to meet expected demand and to encourage the production of a higher percentage of the medium and longer staple lengths now in short supply.

There will be no required acreage diversion and no diversion payments for 1969. A farmer will not be required to reduce his acreage below the farm's acreage allotment. Any farmer who signs up in the program and maintains his conserving base will receive a 1969 price support payment of 14.73 cents per pound times his *projected yield* on 65 percent of his allotment. The 1968 rate was 12.24 cents per pound. He is also eligible for price support loan of 20.25 cents per pound (average location on middling one-inch) produced on his farm. There is a special provision for small farms with allotments of 10 acres or less. In addition to the price-support payment on 65 percent of allotment, small farms will also receive a payment of 11.26 cents per pound times the projected yield on 35 percent of the allotment.

Cotton (American-Egyptian)

Price support will be available to eligible growers who do not exceed their acreage allotments at the full level of support. The full level of support includes the price-support loan rate and the price-support payment.

The 1969 level of support was not announced in time to include in this report. Price-support loan for the 1968 crop averaged 40 cents per pound and the price-support payment was 8.69 cents per pound (this totals 65 percent of parity).

A farmer who exceeds his acreage allotment will be subject to a quota penalty on his "excess" extra-long-staple cotton and will forfeit the price-support payment and eligibility for loan.

The ELS program's legislation provides that if the Secretary of Agriculture determines that it would not impair the effective operation of the allotment program, he may permit transfers of ELS cotton allotments. The Secretary determined that transfers are authorized for 1969.

ELS cotton allotments may be transferred by sale, lease, or to another farm by the owner. The latter may be permanent or temporary. Leases and temporary owner transfers may be for any number of years to which the parties agree.

Feed Grains and Wheat

Arizona feed grain producers in 1968 participated in the feed-grain program to about the same extent as the year before.

The most significant fact about the feed-grain situation was the elimination of the food- and feed-grain surplus by mid-1966. Many factors contributed to emptying the elevators and warehouses. Drought in India caused record United States wheat shipments to the subcontinent; dry weather reduced some United States yields; war in Asia caused unusual food demand; and operation of United States commodity programs over the past 5½ years held land out of production and allowed the Commodity Credit Corporation to move surpluses into use.

The 1967 feed-grain and wheat programs were designed to increase production instead of decreasing production. Increased production was believed to be necessary to meet the needs of United States food and feed requirements at home and abroad. The planned 1967 increased production believed to be necessary to meet United States commitments, aided by optimum growing conditions here and abroad, resulted in surpluses. The United States 1967 grain crop was up 12 percent and the wheat crop 19 percent over 1966.

The 1968 and 1969 feed-grain programs were designed to help firm up crop prices and reduce holdover stocks Price-support loan levels under the 1969 program are expected to be at about the 1968 level: for corn, $1.05 per bushel;

sorghum, $1.61 per hundredweight.

Program-incentive payments will continue, probably at 30 cents per bushel for corn and 53 cents per hundredweight for sorghum, based on planted acreage up to one-half the farm base times projected yield.

Other key provisions of the 1969 feedgrain program are:

1. Required acreage diversion to conserving use to qualify price-support loans and payments will be 20 to 25 percent of the farmer's base acreage of corn and sorghum. No diversion payment will be made for this minimum diversion, except for small farm acreages.

2. Additional acreage diversion is possible up to a total of 50 percent of the base or 25 acres, whichever is larger—the same as in 1968. The acreage diversion payment rate probably will be at 45 percent of the total price support times the projected yield.

Conserving base features in 1969 are the same as in 1968. Substitution provisions relating to wheat and feed grain acreage are continued.

Barley, including malting barley, is considered a feed grain in 1969. The national average loan rate for barley will be $0.83 and the price support payment rate will be $0.20 per bushel.

Comprehensive Community Resource Development

For decades, rural communities have been educating and training their youth who then, because they cannot find satisfactory local jobs, move to the city. Such drains of brainpower, manpower, and investments in education have left deep scars on the faces of smaller communities. Deteriorating public services, empty buildings, and a shrinking economic base are the results. Because of this exodus from the country, cities are becoming increasingly concerned with crowding, poverty, slums, defeatism, crime, strife, pollution of all kinds, and expensive transportation systems.

As a result of the above problems, both rural and urban leaders have become keenly interested in their communities. These leaders have raised such questions as: "Are slums necessary?" "Why can't we develop some manufacturing in the rural areas and stabilize the small communities, while alleviating the crowding of the cities?"

These and similar questions have caused increased interest in comprehensive or total resource development. This approach includes human resources, natural resources, job development, recreation, pollution controls, and improvements in the transportation and communication systems. But even more important is that it attempts to place all problems of the given community into proper perspective and focus.

Comprehensive community development usually embraces rather large geographic areas containing businessmen and farmers, towns and countrysides, industry and agriculture, community services and roads, and above all, better opportunities for people.

Many colleges of The University of Arizona have become involved to a limited extent in helping leaders of areas and communities do a better job in planning for and developing their resources. They have helped towns, counties, and multicounty areas study their resources, organize for action, develop plans for improvement, and carry out projects. Examples of projects supported or carried out by the local people include: comprehensively analyzing and planning for the community area, holding training workshops in Community Resource Development, developing water supplies, selecting roads for improvement and development, and obtaining new industry.

For comprehensive planning and de-

velopment, the multicounty approach seems best. Such an approach allows better utilization of the varied resources of the area and helps keep overhead costs low. Two areas for comprehensive community development are now active: one comprises all of Navajo and Apache Counties, plus contiguous Indian Reservation lands, with offices at the Fairgrounds in Holbrook; the other area encompasses generally Pinal and Gila Counties, with offices in the Pima-Coolidge Building in Coolidge.

Workshops, conferences and other "how to do it" programs may be applied to a county, a town, or even parts of a city. During 1968, major efforts were oriented toward comprehensive development, recreation, community planning, and industrial development.

Other important actions during the past year were (1) extending the Cooperative Extension Service into the Indian reservations through a contract with the Bureau of Indian Affairs (BIA), (2) aiding the Governor's office in developing a state plan for agriculture, and (3) aiding the Four Corners Economic Development Region in developing guidelines for local area participation in the Four Corners Regional Program.

The Four Corners Economic Development Region, developed by an Act of Congress, includes the major portions of land areas of Utah, Colorado, New Mexico, and Arizona. In Arizona, counties included in the region are Mohave, Yavapai, Coconino, Navajo, Apache, Greenlee, Graham, Gila, and Pinal. This program emphasizes economic development; however human development is also an important part. During 1968, this program was in the process of formation and only a few projects were funded through it. It will become a much more important part of the life of the people within the boundaries of the counties listed as more funds are made available and projects within this area are funded and carried out.

Water[1]

The total surface-water diversions and groundwater pumpage in Arizona during 1967[2] was 7,986,000 acre-feet, of which about 703,000 acre-feet were returned to the Colorado River toward fulfilling treaty commitments to Mexico. This is a total volume of about 816,000 acre-feet more than during 1966, and more than any previous year on record. Most of this water, as in past years, was withdrawn for irrigation use.

Of this total diverted and pumped supply, about 2,835,000 acre-feet were diverted from surface streams. This is about 235,000 acre-feet less than in 1966, but about comparable to the amounts diverted for use in previous years. The Colorado River provided about 1,631,000 acre-feet of the total, about the same as in 1966. The Gila drainage system provided about 1,204,000 acre-feet, down about 250 000 acre-feet from 1966.

Total groundwater pumpage in 1967 was about 5,151,000 acre-feet, larger by about 160,000 acre-feet than in 1961 (the previous high), and about 970,000 acre-feet more than in 1966, the year of the least total pumpage since 1952. The 1967 volume was about a half million acre-feet more than the average annual volume pumped during the fourteen-year period, 1953-1966, inclusive.

It is too early to know whether the large increase in pumpage in 1967 is the start of a new trend. However, this seems likely when one considers that the sizable increase in 1967 occurred in the presence

[1] The figures reported herein as to surface-water diversions, groundwater withdrawals, etc., are taken from the **Annual Report on Groundwater in Arizona, Spring 1967 to Spring 1968**, The Geological Survey, U.S. Department of the Interior and the Arizona State Land Department Cooperating, January 1969.

[2] The year "1967" refers to the period from October 1966 through September 1967 for surface water and from Spring 1967 to Spring 1968 for groundwater, in each case considered by the Survey to be the "1967" water year.

of a plentiful surface-water supply, and an irrigated acreage that was increasing after several years of lesser acreages. The large increase in pumpage in 1967 occurred in spite of an irrigated acreage that was not as large as existed in the years 1952-54 and 1958-60. During those years, about the same volume of surface water was diverted for use as in 1967.

What then accounted for the increased withdrawal of groundwater during 1967? Was it increased acreages of heavy water-using crops, increased applications to crops in general, increased nonirrigation uses of water, or did it reflect only a more accurate and complete inventorying of water uses by the data-gathering agencies? The Geological Survey reports that only about 120,000 acre-feet of the increase can be accounted for by more accurate and complete data, leaving some 350-450,000 acre-feet of the increase to be accounted for.

Some light is thrown on these questions by the pumpage volumes in the two groundwater areas where the largest volume has always occurred and still does—the Salt River Valley and the Lower Santa Cruz. In neither of these areas did the pumpage volume increase in 1967 compare to prior years. In the Salt River Valley, withdrawal increased compared to 1965 and 1966, but did not return to the annual volumes of any year between 1950 and 1964 inclusive. In the Lower Santa Cruz, where the 1967 pumpage was also greater than in 1965 and 1966, it did not increase beyond the volume that characterized the years 1953-1964.

These figures indicate that the 1967 increase in statewide pumpage took place in other areas of the state. Irrigated acreage has held remarkably constant for many years in the Salt River Valley (though it was down in 1964-1966, it increased in 1967 to its former annual levels). Thus, it seems that urbanization and increased nonirrigation uses of groundwater cannot account for the 1967 increase in statewide pumpage. The increase must have occurred in other newly developing groundwater-irrigated areas

The continued and increasing volume of pumpage in excess of groundwater recharge was accompanied by further, in some instances accelerated, declines in groundwater levels. In the Salt River Valley, the groundwater level rose 4 feet in one subarea, held constant in two, and fell 3 to 5 feet in two others. The rate of decline in this basin continued to lessen as it had during the immediately preceding years In the Lower Santa Cruz basin, the average decline in the groundwater level during 1967 was from 1.3 to 4.5 feet in three sub-basins, rates of decline about comparable to those of the previous 8 to 10 years. Other areas now show up as basins of rapid groundwater decline—the Avra Valley, the San Simon Basin, the Waterman Wash area, the Harquahala Plains, and the McMullen Valley.

Surface-water storage in Arizona at the end of 1968, as shown in Table 3, excluding Colorado River storage, was up 185,000 acre-feet over the previous year-end, and was about 250 percent of the longtime average year-end storage. All of

TABLE 3. Usable Stored Contents of Reservoirs in Arizona.

RESERVOIRS	December 31, 1967	December 31, 1968	Longtime Average
		(acre-feet)	
San Carlos (Gila River)	289,000	498,000	114,500 (39 years)
Combined Storage—Salt and Verde System	1,492,000	1,468,000	675,900 (58 years)
Colorado River Storage—Lakes Mead & Mohave	16,101,000	16,862,000	18,280,000 (33 years)

this 1968 increase in within-state storage occurred in the San Carlos Reservoir; the Salt-Verde system of reservoirs was actually down slightly in volume in storage from the 1967 year-end.

The San Carlos Reservoir now holds a volume of stored water that is 435 percent of its longtime average year-end storage, whereas the Salt-Verde system contains a volume that is 217 percent of its longtime average. The state enters 1969 in very good shape insofar as meeting its surface-water demands are concerned, a condition with which it has been blessed since the opening of 1966, the "year of the big runoff."

The volume of water in storage on the Colorado River continues to be quite stable (up 760,000 acre-feet during 1968) and fully ample to meet the needs of 1969.

The development in respect to water during 1967 of greatest popular interest in Arizona was the final passage by Congress and approval by the President of legislation authorizing Federal planning and construction of the Central Arizona Project. Final passage and approval followed a third of a century of failures and frustrations by Arizonans, battles between Colorado Basin states and within the Congress, and a long drawn-out legal battle before the United States Supreme Court.

However, the battle to turn the authorization for the Project into actual water deliveries is by no means over, as appropriations for it still must be made by the Congress. These may be as difficult to get as was the authorizing legislation. In addition, it is now estimated that though the Project may deliver in excess of 2,000,000 acre-feet per year into central Arizona within ten years after construction starts, the volume delivered will decline after a decade or two and by early in the next century may not amount to more than 500,000 acre-feet annually. Even at deliveries of two million acre-feet, the CAP will not "solve" Arizona's water problem and at a half million acre-feet it surely will not do so Hence, in addition to efforts to secure appropriations for the Project, as much time, effort, and money must go into finding other ways to augment the State's usable water supplies and to increase the economic efficiency of their use.

To this end, preliminary steps that may lead to a statewide water policy have been initiated by the Arizona Inter-State Stream Commission and a program of comprehensive reconnaissance river basin water resource planning studies covering all river basins in Arizona and in the entire Pacific Southwest has been initiated by the Pacific Southwest Inter-Agency Committee (PSIAC) under the general guidance of the United States Water Resources Council. Arizona is represented on the PSIAC. In addition, The University of Arizona, through its many research departments, colleges, and institutes is continuing its research into technological, economic, governmental, and social problems related to water development and use in order to assist in the search for ways to overcome the State's continuing water problem.

Labor

Following a slight rise in total agricultural employment in 1967, farm labor employment dropped slightly in 1968. A shortened cantaloup-harvest season in Yuma County, the reduction of acreage of fall lettuce in central Arizona, and the use of fewer handpickers in cotton harvest combined to reduce the total number of migratory workers. However, while intrastate workers were fewer, there was a small increase in usage of interstate workers due to increased sugar-beet acreage in Cochise County. The number of regular hired (year-around) workers increased about 3 percent during the year while the number of farm operators con-

TABLE 4. Average Number of Persons Employed in the Arizona Agricultural Labor Force, 1967 and 1968.

	YEAR	
	1967	1968
	(number)	
Statewide Total	37,900	37,700
Self-Employed and Unpaid Families	6,700	6,500
Regular Hired	14,500	15,000
Seasonal Hired	16,700	16,200

Source: Arizona State Employment Service.

TABLE 5. Average Wage Rates for Selected Classes of Agricultural Labor, Arizona, 1967 and 1968.

TYPE OF LABOR	WAGE RATE PER HOUR 1967	1968
	(dollars)	
Preharvest Crew Labor (Hoeing, Weeding, Thinning)	1.25	1.35
Irrigator	1.25	1.25
Tractor Driver	1.40	1.40
Semiskilled Machine Operator (Cotton Picker, Combine)	1.65	1.65

Source In-Season Farm Labor Reports, Arizona State Employment Service

tinued to decline (see Table 4, above).

Vegetable, citrus, and melon preharvests and harvest presented the largest requirements for hand labor during the year. A peak seasonal work force of about 19,800 workers was employed during early December, compared to about 20,800 workers at peak in June of 1967.

Average wage rates for farm labor edged upward slightly during the year for hand operations because of competition for workers, both in hourly and piece rates. Wages for tractor and other farm equipment operators remained at about the same levels as in 1967 (see Table 5, above).

The minimum hourly wage for agricultural workers covered under amendments to the Fair Labor Standards Act will be $1 30 effective February 1, 1969, an increase of 15 cents per hour over the presently established minimum. Farm operators using 500 man-days or more of hired labor in any calendar quarter of the previous year are subject to the Act. As shown in Table 5, only irrigator labor was below the new minimum in 1968.

Agricultural Credit

The amount of agricultural credit used by Arizona farmers and ranchers increased again in 1968, continuing the upward trend of past years. However, the pattern of increase was different in that it took place primarily in nonreal-estate loans The outstanding balance of nonreal-estate loans totaled $235.3 million January 1, 1969, 11 percent more than a year earlier and more than double the January 1, 1960 total (Table 6, page 13).

The increase in nonreal-estate credit use during the year apparently was somewhat greater, judging from peak loan amounts of commercial banks and loans closed by Production Credit Associations. The amount of loans closed by the Production Credit Associations in Arizona totaled $102.8 million in 1968, compared with $68 6 million in 1967.

Increases in crop and in machinery and equipment loans acounted for the increase in nonreal-estate loans, judging from commercial-bank-loan data. Their crop loans outstanding January 1, 1969 were 50 percent higher than a year earlier. Machinery and equipment loans outstanding to farmers and ranchers were up one-third. On the other hand, livestock and poultry loans and "other" loans were down slightly.

The amount of real-estate loans outstanding appears to have increased a little during 1968, judging from data available

TABLE 6. Farm and Ranch Loans in Arizona, by Lender Group.

LENDER GROUP	OUTSTANDING JANUARY 1				1969 AS PERCENT OF			LENDER PERCENT
	1960[a]	1965[a]	1968[a]	1969[b]	1960	1965	1968	1969
	(millions of dollars)							
Nonreal-Estate Loans								
Commercial Banks[c]	98.1	179.2	192.1	214.8	219	120	112	91.3
Production Credit Associations	8.4	13.0	14.3	15.7	187	121	110	6.7
Other Financing Institutions[d]	7.2	4.2	3.4	1.5	21	36	44	.6
Farmers Home Administration[e]	1.4	1.6	2.9	3.3[f]	236	206	114	1.4
Total	115.1	198.0	212.7	235.3	204	119	111	100.0
								LENDER PERCENT 1968
Real-Estate Loans								
Individuals and Miscellaneous	52.8	85.8	117.9	*na*				43.7
Insurance Companies	43.5	79.6	104.5	*na*				38.8
Commercial Banks	4.1	6.8	9.4	10.3	251	151	110	3.5
Federal Land Bank	16.3	22.1	36.2	36.6	224	166	101	13.4
Farmers Home Administration	1.9	2.1	1.7	*na*				.6
Total	118.6	196.4	269.7	*na*				100.0

[a] **Agricultural Finance Review**, Economic Research Service, USDA
[b] Preliminary
[c] Excludes loans guaranteed by CCC.
[d] Discounting with the Federal Intermediate Credit Bank. The amount for 1969 includes only OFI's with headquarters in Arizona.
[e] Includes "Operating," "Emergency," and "Emergency crop and feed loans."
[f] Estimated.

for commercial banks and the Federal Land Bank (Table 6, above). Lenders report that real-estate loan extensions and loan reamortizations were up in 1968, but that new loan volume was down. Federal Land Bank loans closed in Arizona totaled only $53.2 million in 1968, compared with $65.9 million in 1967.

Commercial banks continue as the primary source of institutional nonreal-estate credit in Arizona. They held 91.3 percent of these loans outstanding January 1, 1969 (Table 6). Life insurance companies and individuals and miscellaneous lenders continue as the primary sources of real-estate credit.

Loan delinquency was low at the beginning of 1969, about the same as in recent years. However, this does not mean that all is rosy in the agricultural credit field. As indicated above, loan extensions and reamortizations were a factor contributing to the low delinquency ratio in some cases. Apparently this was a more important factor in 1968 than in earlier years. Lenders generally appear to be giving more attention to marginal loans, encouraging those with little hope of success to refinance elsewhere or to "sell out" while they still have some equity. Lenders recognize that little service is rendered by continuing to finance marginal borrowers who are gradually "eating up" their equity.

The high cost of money stands out in the January 1969 agricultural-credit picture. As 1968 drew to a close, rates on both nonreal-estate and real-estate loans were typically 7.5 percent, with some as high as 8 0 percent. With the increase in the commercial bank prime rate to 6.75 percent December 18, 1968 and to 7.0 percent January 7, 1969, rates on agricultural loans were strengthened. A number of lenders raised their typical rate to 7.75 percent, and the implication was that more of their loans would be at 8.0 percent.

High interest rates are serving as a deterrent in farm real-estate sales and loans in the opinion of several lenders. They report that many farmers and ranchers are financing with short-term credit, hoping to "get by" until long-term rates decline When or if any substantial decline will occur is, of course, uncertain. Many economists see relatively high rates lasting for several years. (See *Wall Street Journal*, November 11, 1968.)

Valuation of Arizona's Privately Owned Agricultural Lands

In 1968, agricultural lands were valued for tax purposes under 1967 and prior legislation and administrative procedures. These "Full Cash Values" were based in part on market data and contained some elements of speculative value.

The *assessed value* was, by legislation, 18 percent of the "Full Cash Value." Taxes on agricultural land were calculated by multiplying the assessed value by the appropriate state, county, and local tax rates. In 1968, for the first time, property taxes were calculated from the "Full Cash Values" resulting from the statewide property revaluation program.

New legislation revising the procedures for determining "Full Cash Values" of agricultural property became law in 1968. In 1969, "Full Cash Values" will be determined under the provisions of the new legislation which removes the speculative value from the valuation of agricultural lands and, in essence, provides that agricultural lands be valued for their use value in producing agricultural products.

The State Department of Property Valuation has developed appraisal procedures using the capitalized equivalent net cash rent income as one of the determinants for agricultural land values, along with capitalized net income from agricultural production. Capitalization rate for determining 1969 values is 8 percent.

According to Mr. Arlo Woolery, Director of the Department of Property Valuation, the "Full Cash Values" per cropped acre of agricultural land will range from a low of $180 to a high of $680 Rangeland will be valued according to its grazing capacity, with one animal unit per year capacity valued at about $400.

Values per cropped acre will be assigned for each production area in the state. Values of individual parcels of agricultural lands within the area will be adjusted for variations from the area norm in respect to water quality, availability, cost, and other factors that affect the economic productivity of the land.

County assessors will, within the guidelines and area values furnished by the Department, value the individual parcels in their respective counties. The Department retains review and approval rights for all values determined by the county assessors.

Field Crops

Cotton and Cottonseed

Arizona farmers harvested approximately 296,000 acres of cotton in 1968 (Table 7, page 15). This is 21 percent higher than the 245,000 acres harvested in 1967. All of this increase was accounted for by upland varieties.

Production for the state in 1968 totaled 710,000 bales — 670,000 bales of upland and 40,000 bales of American-Egyptian. Upland production is 60 percent above the 1967 crop of 420,000 bales and American-Egyptian is 16 percent above last year's crop.

Although total acreage and production for 1968 were greater than for both the 1966 and 1967 crops, they were still appreciably below the acreage and production levels which prevailed during the 15-year period from 1951 to 1965

The yield of upland cotton in 1968 was at a record high of 1,206 pounds per acre. This is 30 percent above last year's yield of 928 pounds per acre. The previous highest yield was 1,162 pounds in 1962 For American-Egyptian, the yield of 655 pounds per acre in 1968 was the third largest on record. However, for all

TABLE 7. Acreage, Yield, and Production of Cotton Lint, Arizona and United States, 1968, 1967 and 1962-66 Average.

	ARIZONA			UNITED STATES		
	Est. 1968	1967	1962-66	Est. 1968	1967	1962-66
			(thousand acres)			
Acreage						
All Cotton	296	245	352	10,175	7,997	13,401
Upland	267	216	309	10,108	7,931	13,302
American-Egyptian	29	29	43	67	66	99
			(pounds)			
Per Acre Yields						
All Cotton	1,151	887	1,051	511	447	1,500
Upland	1,206	928	1,115	510	447	500
American-Egyptian	655	574	599	551	502	537
			(thousand bales)			
Production-Lint						
All Cotton	710	454	776	10,822	7,455	13,986
Upland	670	420	722	10,745	7,385	13,874
American-Egyptian	40	34	54	77	70	112

cotton combined, the 1968 yield of 1,151 pounds per acre was an all-time record for Arizona, and for the United States.

Production of cottonseed in 1968 totaled 294,000 tons, 62 percent more than the 194,000 tons produced in 1967 and 40 percent higher than the 210,000 tons produced in 1966. However, as was true for lint, cottonseed production during the last three years was substantially below production for the years 1959 through 1965.

Although per-acre yields and total production in 1968 were appreciably higher than in 1967, farm prices for cotton lint in 1968 were substantially lower than the previous year. In contrast to the relatively good demand and mill-buying activity in 1967, many farmers had difficulty in obtaining satisfactory price offers in 1968. However, because of the larger crop the value of cotton lint in 1968 is estimated at $96 6 million and cottonseed at $15.4 million. This is a total of $112.0 million, which is 37 percent greater than the value of lint and cottonseed produced in 1967

The 1969 Upland Cotton Program will, apparently, result in a substantial increase in the proportion of cotton allotments planted to cotton and total cotton production. This follows from the complete elimination of the 1968 mandatory diversion of 5 percent of allotments and all payments for voluntary diversion. The increased production will likely cause market prices to be near the price-support level, which is unchanged from 1968. The price-support payment on the projected yield of the domestic allotment (65 percent of total allotment) has been raised from 12.24 to 14.73 cents per pound.

The downward trend in cotton consumption continues to be a critical factor in the long-run future for cotton. According to the U.S. Department of Agriculture data, cotton had 65 percent of the United States fiber market in 1960. By 1967, cotton accounted for only 49 percent of the total, and latest official data indicate that for 1968 cotton had only 43 percent and man-made fibers 53 percent of the total United States fiber market.

Looking at the trend another way, in 1955 United States textile firms needed nine million bales of cotton to meet the demand of 165 million people. During the current cotton marketing year United States textile mills will use slightly less than nine million bales of cotton for a population of more than 200 million.

Since 1960, per-capita consumption of cotton has remained fairly stable at about

21-23 pounds per year. In contrast, per-capita use of man-made fibers has increased from about 10 pounds in 1960 to almost 26 pounds in 1968. During this same 9-year period, per-capita consumption of all fibers in the United States increased from 36 to 48 pounds.

As a result of competitive prices and promotion, makers of man-made fibers have captured a large portion of both the domestic and foreign textile markets formerly held by United States cotton. Thus, even though cotton prices have declined sharply this year, United States textile makers are continuing to use more and more man-made fibers and cotton's share of the total domestic market for fibers continues to decline.

Alfalfa and Other Hay

The value of all hay produced in Arizona during 1968 was $28.8 million for 1,174,000 tons of hay, a decrease from $34.2 million in 1967. This decrease occurred in spite of increased acreage harvested — 239,000 acres in 1968 compared to 233,000 acres in 1967 — and a higher yield of 4.91 tons per acre in 1968 compared to 4.82 tons in 1967. The price per ton of all hay in 1968 was $24.50, compared to $30.50 in 1967.

Alfalfa hay production of 1,091,000 tons was obtained from 202,000 acres for an average yield of 5.40 tons per acre. Price per ton fell from $30.80 in 1967 to $24.70 in 1968. Alfalfa hay was 92.9 percent of total hay production and 84.5 percent of total hay acreage.

Grain hay was harvested from 27,000 acres, with a yield of 2.30 tons per acre. It sold for $22 per ton on the average. The production of all hay other than alfalfa or grain hay accounted for 10,000 acres, yielded 2.10 tons per acre, and sold for $21 per ton.

Prices for good quality alfalfa hay in the Salt River Valley moved about the same as last year (Figure 1). Prices during July, August, and September were low — from $19 to $25 per ton. Prices recovered somewhat during October, November and December, but fell $5 to $10 per ton short of last year's levels.

Yuma County hay prices followed the Salt River Valley trends. The price per ton for good quality hay ranged from a

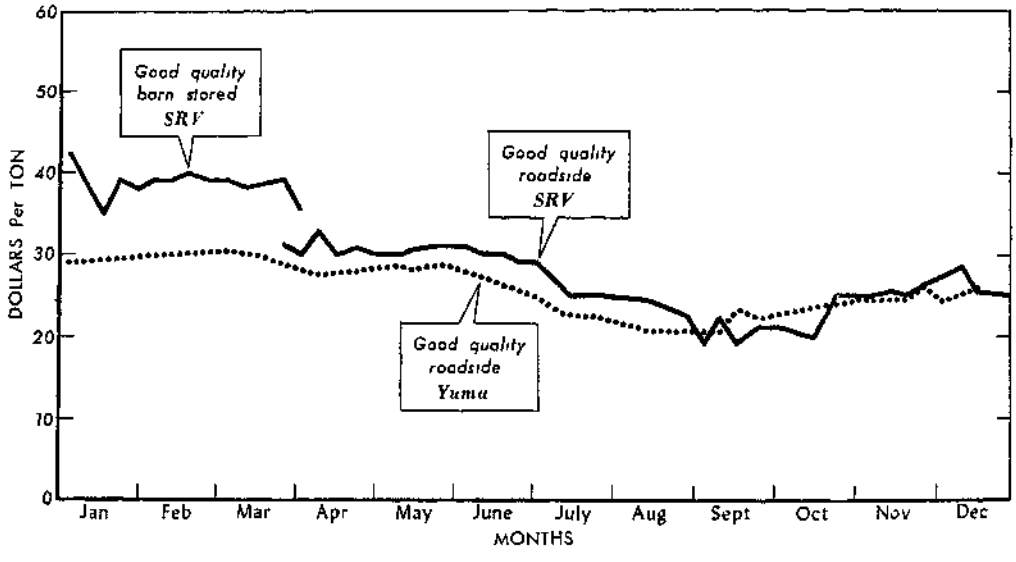

FIGURE 1. Prices for Alfalfa Hay, 1968.

high of $30.50 in March to a low of $20.50 in August and September.

Price movements for this year reflect increased concern of pesticide levels in hay. Hay with pesticide levels above tolerance was avoided by dairymen and by an increased number of cattle feeders. Contaminated hay suffered severe price penalties, while pesticide-free hay went for premium prices.

Grain Sorghum and Barley

Sorghum harvested for grain in 1968 at 510,972 tons was the second highest production on record, exceeded only by last year's record level. The yield of 2.21 tons per harvested acre is well over the average of 2.04 tons. The value of sorghum grain produced in 1968 was $20.6 million. Acreage of sorghum grain fell slightly from 246,000 acres in 1967 to 231,000 in 1968. The price per hundredweight of sorghum was $2.07 in 1968, compared with $2.14 in 1967.

Approximately 4,000 acres of sorghum were harvested for silage, yielding 72,000 tons One thousand acres were harvested for forage, yielding 3,000 tons.

Barley acreage increased from 187,000 acres in 1967 to 200,000 acres in 1968. This year 176,000 acres were harvested for grain, yielding 1.75 tons per acre, or 308,000 tons valued at $14 million. The price per hundredweight was $2.27, down from $2.44 in 1967.

Safflower

Arizona farmers harvested only 9,000 acres of safflower in 1968, down 91 percent from the 96,000 acres in 1967. Yields in 1968 were 2,650 pounds per acre, 200 pounds above 1967. Total production in 1968 was 11,900 tons.

The price in 1968 was $78 per ton, compared to $91 per ton in 1967. The decrease in the contract price was primarily a result of large supplies of oil crops on world markets. As a result of lower prices and production, the value of safflower in 1968 was only $0.9 million, compared to $10.7 million in 1967.

Wheat

A total of 57,000 acres of wheat was planted in 1968, of which 52,000 acres were harvested. Yields of wheat were up to 52 bushels per acre, an all-time high for the state.

Wheat prices in 1968 averaged $1.32 per bushel, compared to $1.52 in 1967. The value of the 1968 crop was $3.6 million, compared to $3.7 million in 1967.

Corn

Acreage of corn planted for all purposes was 29,000 acres in 1968, down 3,000 acres from 1967. About 17,000 acres were harvested for grain. Yields were down slightly at 32 bushels per acre. The price per bushel increased from $1.35 in 1967 to $1.50 in 1968. The total value of corn harvested for grain was $816,000 for 544,000 bushels.

Sugar Beets

The year 1968 was the second year of operation for the Spreckels Sugar Company factory near Chandler, Arizona. Arizona farmers harvested 17,000 acres of sugar beets for sugar in 1968, a 50-percent increase over 1967.

A total of 12,100 acres of sugar beets planted in Maricopa and Pinal Counties in the fall of 1967 were harvested during May, June, and July. They produced an average of 22.3 tons of beets per acre containing 15.0 percent sugar. In these counties average yields per acre were 34 percent higher in 1968 than in 1967, the first year of commercial production.

In Cochise, Graham, and Greenlee Counties, where beets were planted in the spring and harvested in November and December, farmers grew 4,600 acres of beets in 1968. They yielded 14.0 tons of beets per acre containing 14.5 percent sugar. Average yields per acre in these counties were the same as in 1967, but the sugar content of the beets was higher.

A limited acreage was devoted to trial plantings of sugar beets in Pima and Yuma counties.

The price of sugar beets depends on two factors: (1) the price of sugar, and (2) the percentage of sugar in the beets.

The net selling price of sugar, about $8.50 per hundred pounds, was favorable. Growers will receive, on the average, approximately $12 per ton from the sugar company, plus a government payment of approximately $2 per ton under the Sugar Act.

Gross income per acre from sugar beets grown in Maricopa and Pinal Counties in 1968 is estimated at about $316 per acre. Beets grown in Cochise, Graham, and Greenlee Counties grossed about $192 per acre.

The acreage of sugar beets that will be grown in Arizona for harvest in 1969 will be substantially higher than the 1968 acreage.

There are no restrictions on the acreage of sugar beets that may be planted in 1969. This may be the last year, however, for a new grower to get into the sugar-beet business. It is likely that in the future, limitations will be placed on the acreage of sugar beets that an individual farmer can grow. Beginning with 1970 plantings, sugar-beet acreage allotments may be in effect throughout the United States. If such is the case, individual farmers will be restricted to a proportionate share of the sugar-beet acreage which they planted in 1969 and prior years.

Farmers who are interested in growing sugar beets should contact Spreckels Sugar Company, 11800 East Superstition Road, P.O. Box 398, Chandler, Arizona 85224.

Citrus and Grapes

The total value of Arizona citrus production in 1967-68 was $47.9 million, the highest level in the history of the state. The new record represents an increase of $26.4 million over the previous high set in 1966-67. The abnormally good 1968 Arizona crop was a result of poor growing conditions (freezes in California, hurricanes in Texas, and drought in Florida) and lower output in other producing states, particularly California. For example, California orange production in 1967-68 was 13.7 million boxes below the previous five-year average of 33.1 million boxes.

The production of oranges in Arizona during 1967-68 actually decreased by about 20 percent over the previous crop year (Table 8, page 19). However, because of increased prices, total revenue from orange production was 56 percent above the previous year and 99 percent above the five-year average, 1962-63 through 1966-67.

The decrease in orange production occurred in Valencias. Nevertheless, the upward trend of Valencia production resulting from new acreage, primarily in Yuma County, is evident from comparing the 1967-68 data with the average for 1962-63 through 1966-67.

Arizona grapefruit production in 1967-68 was the highest since the mid-1940's. The combination of increased output and higher prices raised the value of grapefruit production $4.24 million above last season's extremely poor crop. The year-to-year variation in the output and value of Arizona grapefruit has been abnormally large during the past three seasons.

The upward trend in Arizona lemon production continued in 1967-68. Output was 16 percent above the 1966-67 level and double the 1962-63 through 1966-67 average. Higher prices in 1967-68 pushed the value of Arizona lemon production over the $10 million mark for the first time. Arizona now produces about one-fifth of the United States lemon supply.

The only Arizona citrus crop for which the 1967-68 production, price, and value decreased was tangerines. This situation was caused by extremely hot weather during part of the growing season, resulting in reduced output and lower quality fruit.

Citrus production estimates released in December, 1968 for the 1968-69 Arizona crop indicate an increase for all types except grapefruit. There is one caution however; these estimates were made prior to the late December freeze and therefore

TABLE 8. Arizona Citrus Production, Prices and Value.

CITRUS	AVERAGE 1962-1963 THROUGH 1966-1967	1966-1967	1967-1968	INDICATED 1968-1969
ORANGES				
Navel and Miscellaneous				
Production (75-lb. box, 1,000)	812[b]	860	880	1,200
Price Per Box[a]	3.70[b]	3.72	6.43	
Value of Production ($1,000)	2,955[b]	3,199	5,658	
Valencias				
Production (75-lb. box 1,000)	1,690	3,050	2,240	2,900
Price Per Box[a]	2.84	2.04	4.03	
Value of Production ($1,000)	4,417	6,222	9,027	
All Oranges				
Production (75-lb. box, 1,000)	2,502	3,910	3,120	4,100
Price Per Box[a]	3.09	2.41	4.71	
Value of Production ($1,000)	7,372	9,421	14,685	
GRAPEFRUIT				
Production (64-lb. box, 1,000)	2,602	1,680	3,740	3,000
Price Per Box[a]	1.43	1.55	1.83	
Value of Production ($1,000)	3,789	2,604	6,844	
LEMONS				
Production (76-lb. box, 1,000)	1,624	2,810	3,250	3,800
Price Per Box[a]	3.19	2.99	3.39	
Value of Production ($1,000)	4,717	8,402	11,018	
TANGERINES				
Production (75-lb. box, 1,000)	173[c]	200	150	200
Price Per Box[a]	5.44[c]	5.18	4.22	
Value of Production ($1,000)	935[c]	1,036	633	

[a] Equivalent packinghouse door returns.
[b] Includes tangerines prior to the 1964-65 season.
[c] Average 1964-65 through 1966-67.
Sources: U S. Department of Agriculture, Statistical Reporting Service, **Citrus Fruits by States, 1966-67 and 1967-68; Production, Use, Value**, Washington, D.C., October 1968.
U S Department of Agriculture, Arizona Crop and Livestock Reporting Service, **Citrus Report—December 1, 1968**, Phoenix, December 12, 1968.

probably overestimate expected production, particularly that part going into the fresh market. Revised estimates will be available later in the season.

The December forecast of total United States citrus production for 1968-69 indicates an increase from the previous year. The estimated United States production of all oranges, grapefruit, lemons, and tangerines is greater than last season's production by 47, 30, 17 and 89 percent, respectively. The 1968-69 crop is also expected to exceed the 1962-63 through 1966-67 average by 46, 35, 21 and 59 percent for all oranges, grapefruit, lemons, and tangerines, respectively.

Since Arizona citrus prices are highly dependent on the level of production in other producing areas, the predicted increases in California and Florida production will probably lead to less favorable prices for Arizona producers. However, as previously mentioned, the above estimates do not include the effect of frost damage in California and Florida during late December. Once this damage has been thoroughly evaluated, the outlook for the remainder of the season may change substantially. It is now anticipated that a larger proportion of the crop will have to be diverted to processing, thereby raising the price for fresh fruit.

Grape production in Arizona was 13,600 tons in 1968, down 5 percent from the 14,300 tons produced in 1967. The 1968 crop was also less than the average for 1962-66 by 300 tons. Unofficial estimates of grape prices indicate an average

price of $391 per ton in 1968; this compares with a $376 average price in 1967. Gross sales in 1968 were $5.3 million, down slightly from the $5.4 million level of 1967. Approximately 4,500 acres of grapes are grown in Arizona.

Although the last 2 years have resulted in favorable prices for Arizona grapes, the future of the grape industry in the state is still uncertain. Higher costs, particularly for labor and materials, have reduced net returns except in abnormal seasons such as during the past two years. Also, most producing districts in Arizona are at a disadvantage when compared to the earlier production and marketing season in the Coachella Valley of California.

Vegetables and Melons

Arizona produced an $81.3 million vegetable and melon crop in 1968. This is a 7-percent decrease from the $87.3 million crop in 1967. The reduced gross income situation resulted from a decrease in the value of production of early spring lettuce, cantaloups, green onions, cabbage, and cauliflower (Table 9, below). The decrease was partially offset by higher values for winter and late fall lettuce, potatoes, watermelons, dry onions, carrots, broccoli, and miscellaneous fruits, vegetables, and melons.

With the exception of green onions and miscellaneous fruits, vegetables, and melons, data on value of production shown in Table 9 are for the entire state for the calendar year. Data on acreage and production by district within the state, however, are available only by crop year. Thus, data on lettuce production in Table 10 (page 21) do not show the fall 1968 crop although this has been included in the value estimates in Table 9 (below).

Figures on carlot shipments, likewise, are available only on a crop-year basis.

TABLE 9. Value of Major Arizona Vegetables and Melons.

PRODUCT	VALUE OF PRODUCTION 1968	1967[a]	AVERAGE 1962-1966
		(thousand of dollars)	
Lettuce	42,621	49,285	49,265
Cantaloup[b]	13,171	14,730	14,819
Potatoes	7,317	6,894	6,873
Watermelons	2,074	1,993	1,477
Onions, Dry	3,338	3,153	2,574
Onions, Green[c]	4,173	4,365	[d]
Carrots	3,965	2,565	2,405
Broccoli	468	351	451
Cabbage	1,035	1,170	955
Cauliflower	500	520	516
Miscellaneous Fruits, Vegetables, and Melons[c]	2,602	2,277	[d]

[a] Revised.
[b] Includes honeydews.
[c] Crop year; i.e., 1967-1968 and 1966-1967.
[d] Data not available.

Sources: For all products except green onions and miscellaneous vegetables, U.S. Department of Agriculture, Arizona Crop and Livestock Reporting Service, **Commercial Vegetable Annual Summary, December 1968** and **Annual Crop Summary — 1968**, Phoenix, December 20 and 24, 1968. Value of production for green onions and miscellaneous fruits, vegetables, and melons computed by the Department of Agricultural Economics, The University of Arizona, with assistance of the Arizona Fruit and Vegetable Standardization Service and the Federal-State Market News Service.

TABLE 10. Arizona Lettuce Production.

DISTRICT AND SEASON	PRODUCTION			
	1967-1968		1966-1967	
	(acres)	(cartons)	(acres)	(cartons)
Central				
Salt River Valley, Harquahala, and Eloy				
Fall	12,341	4,955,663	14,288	5,592,856
Spring	15,507	6,586,549	15,175	6,840,900
Aguila				
Fall	782	400,798	910	472,823
Spring	400	233,857	880	584,290
Eastern				
Willcox				
Fall	921	338,286	1,326	572,198
Spring	1,360	400,885	754	507,614
Western				
Yuma				
Winter	13,364	5,973,775	15,706	6,773,672
Poston and Parker				
Fall	567	305,868	500	233,490
Spring	446	214,875	255	110,405
Total	45,688	19,410,556	49,794	21,688,248

Sources: Arizona Fruit and Vegetable Standardization Service, **Annual Report, Arizona Fruits and Vegetables, Crop Year 1967-1968,** Phoenix, October 1968. Arizona Fruit and Vegetable Standardization Service, **Annual Report, Arizona Fruits and Vegetables, Crop Year 1966-1967,** Phoenix, October 1967.

The Arizona vegetable, melon, and fruit (excluding citrus) industry shipped a total of 41,587 carlots during 1967-68, down 2,662 carlots from 1966-67.

Lettuce

For the spring lettuce deal of central, eastern, and western Arizona, acreage increased by 649 acres; but due to yield decreases, production decreased by about 607,000 cartons below the spring 1967 level (Table 10). Because of lower prices and production, the value of spring lettuce production decreased by $10.6 million below the previous year's crop. Spring lettuce sold for an average price of $2.08 per carton in 1968, as compared to $2.27 for 1968 winter lettuce and $3.20 for spring lettuce in 1967.

Preliminary reports on the fall 1968 lettuce crop indicate a 500-acre reduction from the fall 1967 harvested acreage. However, the 13,600 acres harvested in the fall of 1968 is 4,660 acres less than the 5-year average, 1962 through 1966. Prices were up slightly over the fall 1967 level, $2.48 versus $2.31. As a result, total returns from the fall 1968 crop were almost identical with 1967 (less than 1 percent increase).

Cantaloup and Other Melons

The acreage of spring cantaloups increased for the first time in several years. However, the increase was small—700 acres—and the 11,600 acres harvested in 1968 was substantially below the recent 5-year average of 16,920 acres. The average price for spring cantaloups decreased from $9.70 per hundredweight in 1967 to $8.10 in 1968. Even though acreage and production were higher in 1968, the lower average price resulted in an 11-percent decrease in total revenue.

About 75 percent of Arizona's annual melon production is in spring cantaloups. The remaining 25 percent includes early summer watermelons (listed separately in Table 9), early summer honeydews, and early summer and late-fall cantaloups.

Potatoes

Arizona produced 2,323,000 hundredweights of potatoes from 10,100 acres in 1968 compared to 2,725,000 hundred-

weights from 10,900 acres in 1967. However, the declines in acreage and production were offset by a higher average price, $3.15 per hundredweight in 1968 compared to $2.53 in 1967. As a result, total revenue from potatoes in 1968 was about 6 percent higher than in 1967 (Table 9).

The percentage of potatoes going into manufacturing continues to increase — 64 percent of the crop in 1968 compared to 52, 59 and 48 percent for 1967, 1966 and 1965, respectively.

Livestock and Livestock Products

Beef Cattle

Cash receipts from the sale of cattle and calves in Arizona during 1968 were estimated at approximately $199 million, which represented an increase of nearly $9 million over 1967. This increase was due to a combination of a higher volume of sales and better prices. During the 12-month period ending November 30, 1968, price of Choice 900-1100 pound slaughter steers at Phoenix averaged $26.82 per hundredweight, compared to $25.64 the previous year. Prices were generally higher and more stable than in the previous two years (Figure 2).

Feeder-cattle prices also were higher in the past 12 months than in the previous two years, reflecting the improvements in fat-cattle markets. Good 550-750 pound stocker and feeder steers at Phoenix averaged $24.92 per hundredweight vs. $23.86 for 1967 and a slightly lower level in 1966. Good 300-550 pound stocker and feeder calves at an average of $27.61 per hundredweight exceeded the previous year by nearly $2.00. Weekly average prices for the latter group ranged from a low of $26.25 per hundredweight in January to a high of $29.12 in June.

Inshipments of cattle and calves during the 12 months ending October 31, 1968 amounted to 674,529 head. This was nearly 11 percent more than for the previous 12-month period. Shipments of cattle and calves out of the state for the 12 months ending October 31, 1968 amounted to 706,459, which was about 10 percent less than the previous 12-month period.

Although numbers shipped into the state rose nearly 11 percent and those

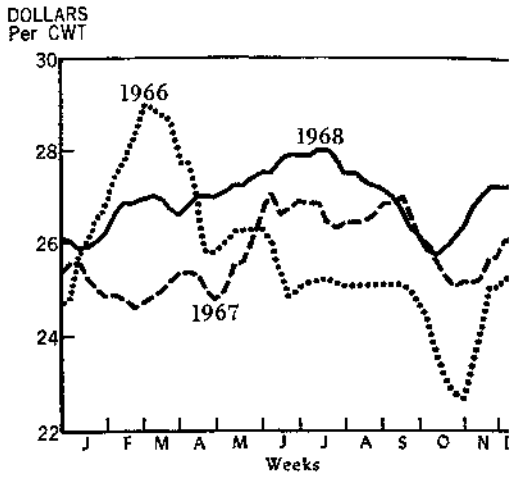

FIGURE 2. Phoenix Prices for Choice Slaughter Steers, 900-1100 Pounds, by Weeks, 1966-68.

shipped out fell by 10 percent, the numbers on feed in 1968 did not change significantly from 1967. Increased placements in October and November, however, pushed the number on feed to a high of 429,000 head as of December 1, 1968. During the 12-month period ending November 30, 1968, cattle feeders marketed 680,000 head of fat cattle from Arizona feedlots, compared to 656,000 in the preceding 12 months and 619,000 two years ago.

A major change has occurred in cattle slaughter in the state. From November 1, 1967 through October, 1968, cattle slaughtered were 375,400 head, or 54 percent more than the previous 12-month period.

There were 47,000 cattle slaughtered in October in Arizona plants — more than double the number for October, 1967. These increases are largely a function of the opening of one new plant in the Phoenix area.

The past year has been favorable for the cattle industry generally. Prices have been relatively good for fat cattle and feeders. More stability has been partly a result of more orderly marketing and partly from continued strong demand. Numbers on feed have grown substantially in 1968. Cattle and calves on feed October 1, 1968 in the 32 major states totaled 9,506,000 versus 8,588,000 a year earlier, or nearly 11-percent increase. A continuation of this trend, plus an anticipated slackening in the growth of consumer incomes, could result in a weaker market for 1969.

Sheep and Wool

Cash receipts from sales of sheep and lambs in Arizona in 1968 amounted to over $4.7 million. This represented an increase of nearly $100,000 over the previous year.

The number of sheep and lambs on feed January 1, 1969 was 72,000 head. This was 1,000 less than a year earlier. The lamb crop was estimated at 240,000 head, compared to 264,000 for 1967 and 291,000 for 1966. The 1968 lamb crop for the United States was estimated to be down 4 percent from 1967.

With the reduced lamb crop, slaughterings have been below previous year levels. In Arizona from January 1, 1968 through November, slaughterings were only 13,400 head, down from 15,600 head for the same period the previous year. However, even with the reduced slaughter the inventory of total sheep and lambs in the United States is expected to have declined 5 to 7 percent during 1968.

The number of sheep shorn in Arizona during 1968 is estimated at 441,000 head, about 3,000 less than in 1967. The average weight per fleece, estimated at 6.9 pounds, was two-tenths of a pound less than 1967. The reduction in numbers and lighter fleeces resulted in wool production of only 3,037,000 pounds, as compared to 3,154,000 in 1967. However, wool sales were up about 2 percent over the previous year at $1,151,000. Both production and total value continue to trend downward for the United States. Shorn wool production for the United States in 1968 is estimated to be down about 7 percent from 1967.

Prices of fed and spring lambs have been generally higher in 1968 than in 1967. Choice spring lambs, 75-105 pounds at Phoenix were priced at $27.25 to $27.50 in March and April of 1968, whereas they were $22.00 to $24.00 for the same period in 1967. Shorn lambs were $19.00 in February, 1967 but sold for $24.25 to $24.75 in the same month, 1968. Choice slaughter-lamb prices in Western markets rose above $29.00 in April, 1968, which was about 20 percent over the previous year. In August, prices declined to less than $24.00, near the 1967 level, but from August to November prices climbed again. October prices, near $26 00, were once more above the previous year by about $3.50 per hundredweight.

The sheep and lamb inventory in the United States has declined continuously since 1960 from 33.2 million to 22.1 million on January 1, 1968. A further decline is estimated for 1968. Sheep and lambs on feed in 26 major states have declined from 4.4 million in 1961 to 2.9 million in 1968. As a result of the decline in production, per capita supplies of lamb and mutton are at record low levels, estimated to be less than 3.9 pounds in 1968.

Poultry and Eggs

Sales of poultry and eggs in Arizona during 1968 reached $6.2 million, compared to $6.7 million in 1967. The major source of income from poultry was from eggs, with sales of $5.6 million compared to $6.0 million in 1967.

The decrease in dollar sales was associated with lower egg prices, lower cull rates, and fewer turkeys raised. Egg prices averaged 27.1 cents per dozen in 1968, whereas in 1967 the average price was 28.4 cents. Prices for turkeys increased

from 20 cents a pound in 1967 to 22 cents in 1968.

The average number of laying hens decreased from 1.2 million in 1967 to 1.1 million in 1968. Production per hen increased from 211 to 218 eggs per year and total egg production reached 246 million eggs in 1968.

Dairy

This year cash receipts from dairying in Arizona are estimated to be $38.5 million. The sale of milk and milk products accounted for $34 8 million, while the sale of dairy cows and calves accounted for the remainder. The volume of milk sold was up from 549 million pounds in 1967 to 556 million pounds in 1968.

Prices received by farmers for milk averaged $6.26 per hundredweight. This price is a weighted average for all milk and not a blend price for 3.5-percent milk.

Sales of producer milk under Federal

TABLE 12. Packaged Class I Milk Products which Contain Vegetable Fat Processed and Distributed by Handlers under Order 131.

MONTH	YEAR 1966	1967	1968
	(thousand pounds of product)		
January		691	1,872
February		769	2,293
March		945	2,779
April		894	2,841
May		964	3,129
June		933	3,094
July		989	3,478
August		1,185	3,812
September		1,392	3,609
October	438	1,547	3,765
November	597	1,598	3,560
December	626	1,700	

TABLE 11. Number of Milk Producers by State and Counties, Daily Average Production per Farm, and Percent of Production by Counties Regulated by Federal Order 131.

AREA	PRODUCERS JUNE 1968	PRODUCERS JUNE 1967	DAILY AVERAGE PRODUCTION PER FARM JUNE 1968	DAILY AVERAGE PRODUCTION PER FARM JUNE 1967	TOTAL DELIVERY JUNE 1968	TOTAL DELIVERY JUNE 1967
	(number)		(pounds)		(percent)	
Arizona						
Cochise	5	5	3,073	3,005	1.1	1.0
Graham	5	5	2,946	3,010	1.1	1.0
Maricopa	153	164	6,919	7,121	78.8	79.8
Pima	4	4	15,210	14,092	4.5	3.9
Pinal	5	5	5,647	4,619	2.1	1.6
Yavapai	5	7	2,937	5,552	1.1	2.7
Yuma, Greenlee, and Santa Cruz	3	4	3,911	3,335	.9	.9
Total	180	194			89.6	90.9
California						
Imperial and Riverside	6	6	23,233	22,209	10.4	9.1
Total	186	200			100.0	100.0

Order 131, Central Arizona were divided as follows: 81.1 percent, Class I; 9.4 percent, Class II; and 9.5 percent, Class III The proportion of Class I sales increased 5 percent over 1967. The Class III percentage decreased about 7 percent.

The producers reported under the Federal Order decreased to 182 in November, 1968. This compares to 192 producers in 1967. The number of producers, their daily average production, and location are shown in Table 11 (page 24). The trend toward fewer producers occurred together with a trend toward increased herd size. DHIA average cow years per herd increased from 205 in 1967 to 210 in 1968.

Production per cow for DHIA Test herds was 12,040 pounds per year at 4 percent butterfat. The culling rate was 30.2 percent. This was broken down as follows: 26.1 percent sold for beef, 3.0 percent died, and 1.1 percent sold for dairy purposes

The sales of filled milk in the Federal Order 131 area are shown for 1967 and 1968 in Table 12 (page 24). Monthly sales in 1968 were at least double the monthly sales in 1967. However, sales in the latter months of 1968 declined from the August high of 3,812 pounds, indicating that the sales of filled milk are leveling off.

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TABLE 13. Principal Arizona Crops in 1968 — Estimated Acreage by Counties and Production in the State.

1968 CROP	STATE TOTAL	Apache	Cochise	Coconino	Gila	Graham	Greenlee	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Alfalfa: Acres cut for hay	202,000	2,300	8,300	1,000	400	5,500	1,800	100,000	3,000	4,200	2,000	18,200	800	3,500	51,000
Hay production tons	1,091,000														
Cotton: Upland, acres harvested	266,700	0	12,020	0	36	7,990	1,390	101,000	334	0	16,400	94,900	122	8	32,500
Bales (500 lbs. gross wt.)	670,000														
American-Egyptian, acres harvested	29,300	0	180	0	10	8,310	0	11,800	0	0	2,400	6,300	0	0	300
Bales (500 lbs. gross wt.)	40,000														
Barley: Acres harvested for grain	176,000	0	5,100	300	0	8,600	300	84,000	200	0	9,000	43,000	200	300	25,000
Grain production, tons	308,350														
Corn: Acres harvested, all purposes[a]	28,000	3,000	3,600	1,600	200	200	300	5,800	50	10,500	600	300	100	1,600	150
Grain production, tons[b]	15,230														
Sorghums: Acres harvested, all purposes[a]	236,000	200	66,000	100	0	25,700	1,500	63,000	500	800	17,000	38,000	800	400	22,000
Grain production, tons[b]	510,970														
Wheat: Acres harvested for grain	52,000	50	12,000	250	0	100	80	11,700	0	500	620	12,400	0	500	13,800
Grain production, tons	81,120														
Safflower: Acres harvested	9,000	0	40	0	0	0	0	7,150	0	0	0	1,000	0	0	810
Production, tons	11,900														
Vegetables: Acres harvested[c]	91,280	0	2,280	0	0	0	0	47,690	0	0	1,690	9,260	0	0	30,360
Production, commercial cwt.	15,571,200														
Grapefruit: Total acres[d]	8,010	0	0	0	0	0	0	5,370	0	0	20	220	0	0	2,400
Production, 1967-68 crop, cartons	7,480,000														
Oranges. Total acres[d]	29,865	0	0	0	0	0	0	12,150	0	0	30	380	0	5	17,300
Production, 1967-68 crop, cartons[e]	6,540,000														
Lemons: Total acres[d]	11,670	0	0	0	0	0	0	1,660	0	0	0	10	0	0	10,000
Production, 1967-68 crop, cartons	6,500,000														
Other Crops: Acres harvested[f]	64,175	1,000	8,870	2,525	400	1,510	940	21,760	410	2,650	1,790	5,050	320	1,550	15,900
TOTAL ACRES	1,204,000	6,550	117,890	5,775	1,046	57,910	6,310	473,080	4,494	18,650	51,550	229,020	2,342	7,863	221,520

[a] Includes acreage harvested for grain, silage and forage
[b] Does not include grain from acreage harvested for silage and forage
[c] Year ended August 31, 1967. County acreages based on date from Arizona Fresh Fruit and Vegetable Standardization Service and County Agents
[d] Source County Agricultural Agents
[e] Includes tangerines and tangerine types
[f] Does not include pasture Data from the Arizona Crop and Livestock Reporting Service and from County Agricultural Agents

Source The Arizona Crop and Livestock Reporting Service, Phoenix, Arizona unless otherwise noted Includes both irrigated and dry land crops