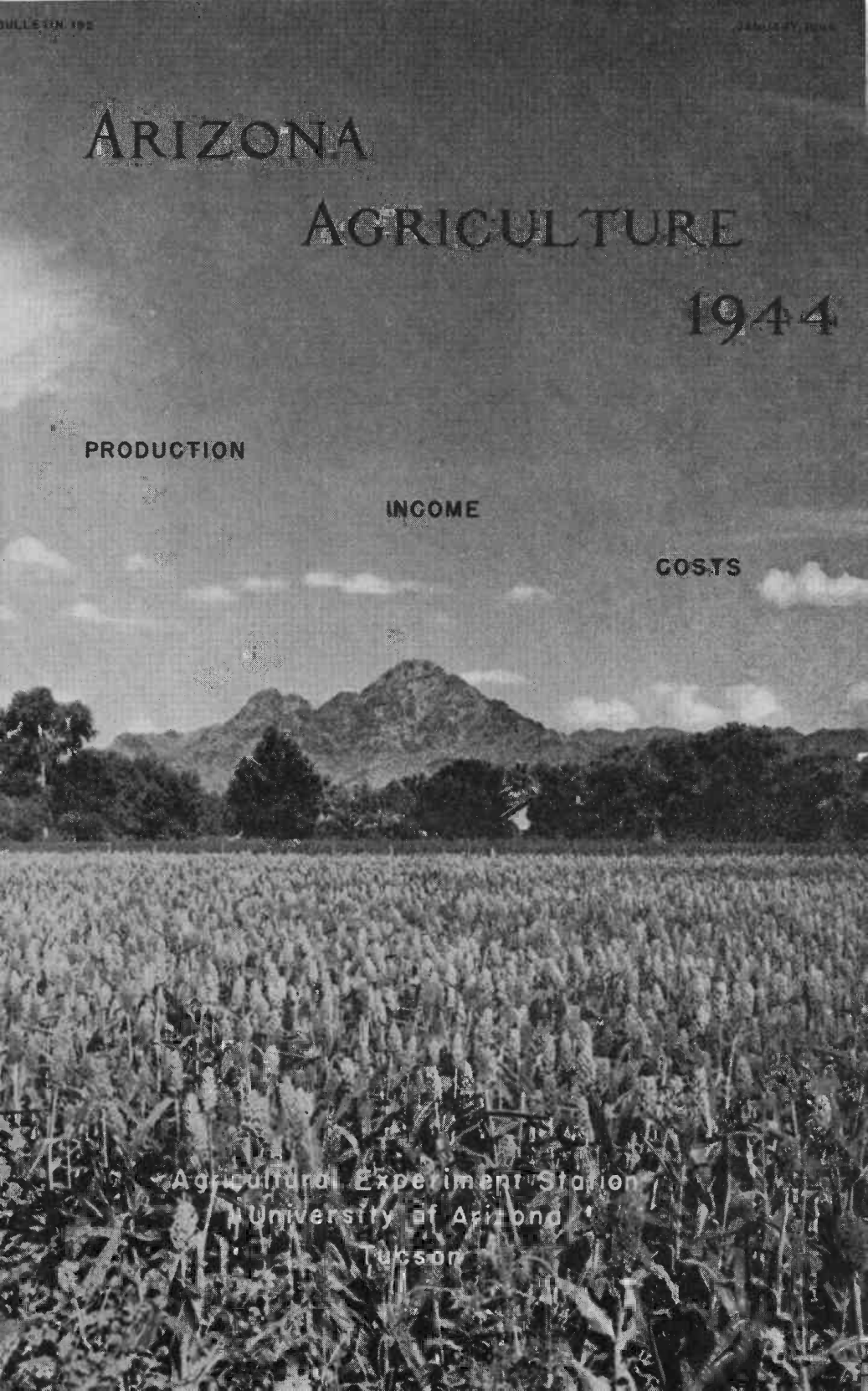
ARIZONA AGRICULTURE 1944

PRODUCTION

INCOME

COSTS



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ARIZONA AGRICULTURE
1944

PRODUCTION, INCOME, AND COSTS[1]

By George W. Barr

More production, not more dollars, is the wartime keynote. It is customary to compare one year's production with another in terms of dollars. When the dollar is changing in value such a comparison lacks meaning. Increase in volume of production is most important at this particular time. Not dollars but quantities of food and feed and fiber help win the war.

Arizona farmers produced and harvested 115,000 tons of grain, 139,000 bales of cotton, and 28,000 cars of vegetables in 1943; and ranchers and feeders marketed 450,000 head of cattle and more than four million pounds of wool. Acreage of principal crops, by counties, and the production for the state is shown in Table 6, page 16.

Figure 1 shows what Arizona's irrigated agriculture has done in volume of output. The production of the year 1935, shown at

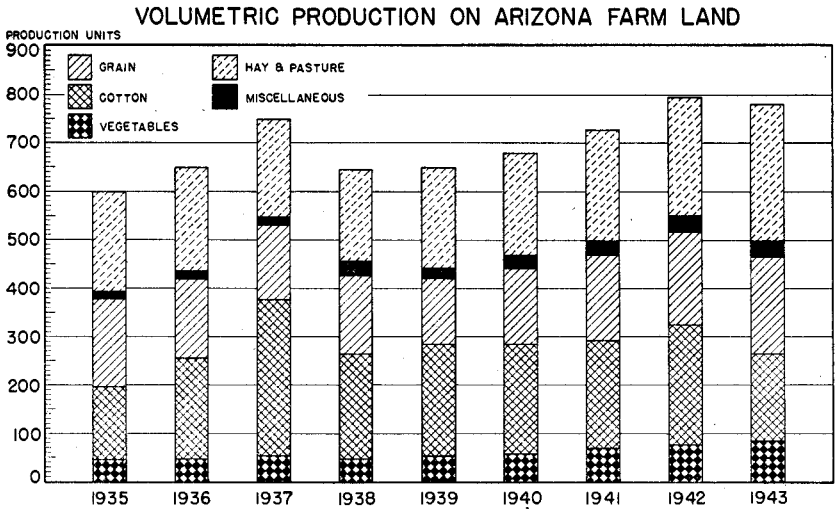

Figure 1.—Volume of production is the product of acreage and yield per acre. On this chart, one unit is the normal production on 1,000 acres.

[1]In issuing this fourteenth consecutive annual statement on Arizona's agriculture, the University of Arizona is indebted to a number of sources for data and comments, especially to Mr. Preston J. Creer, of the Bureau of Agricultural Economics. The comparisons in the publication are based on statistical files which have been kept by Mrs. Alberta Hart.

the left of the figure, was at that time a record high for the state. Again, the year 1937 marked a new peak in the state's production. A large acreage and a rather high yield of upland cotton were the principal contributing factors. The 1937 record was not exceeded for five years, in spite of large expansion of irrigated acreage especially in Pinal County. War stimulation and improved water supply contributed to the record production of 1942. The greater volume was attributable to the increased production of vegetables, American-Egyptian cotton, and alfalfa hay. A somewhat lower production in 1943 was partly the result of smaller acreages of cotton accompanied by less than normal yields. Late harvesting of the cotton crop of the year 1942 tended to restrict plantings of winter grains for 1943 harvest.

Adjustment

Bulk production without consideration of the need for each commodity is not desirable. Arizona producers in the irrigated areas are in the process of making an important adjustment in the kind of crops grown. In 1937, one half of the irrigated area of the five principal cotton-producing counties was cropped to cotton. In 1942, one third was in cotton (Fig. 2). As this is written (January, 1944) it appears that not more than one fourth of the irrigated

TABLE 1.—CASH INCOME FROM ARIZONA FARM AND RANCH PRODUCTION (IN MILLIONS OF DOLLARS).

Commodity	1943	1942	1933-42 average
Lettuce and other truck crops[a]	$ 31.0	$ 18.6	$ 8.7
Cattle and calves	28.0	30.0	14.0
Cotton lint and cottonseed	21.0	28.0	14.5
Alfalfa and other hay[b]	8.0	4.0	2.2
Dairy products	7.5	5.5	3.8
Sheep, lambs, and wool	4.0	4.0	2.9
Citrus fruits[a]	3.8	2.0	1.1
Commercial feed grains[b] (corn, oats, barley, sorghums)	3.0	2.0	0.9
Eggs, chickens, and turkeys	3.0	2.5	1.6
Alfalfa and Bermuda seed	3.0	2.5	1.0
Miscellaneous crops	7.0	4.4	2.2
Miscellaneous livestock and livestock products	3.0	1.7	0.7
Federal government payments[c]	1.7	1.8	2.4
Total cash income[b]	$124.0	$107.0	$56.0

[a]For the year ended August 31. For citrus, return figured for fruit "on the tree."

[b]Figures in the table represent cash sales. In addition to cash income in 1943, hay fed by producers had an estimated value of $7,000,000; grains and sorghums fed by producers, $1,500,000.

[c]Agricultural Conservation Program payments: Cotton, $970,000; wheat, $54,000; Farm and Range Practice payments, $540,000. Incentive payments: Vegetables, $63,000; potatoes, $42,000.

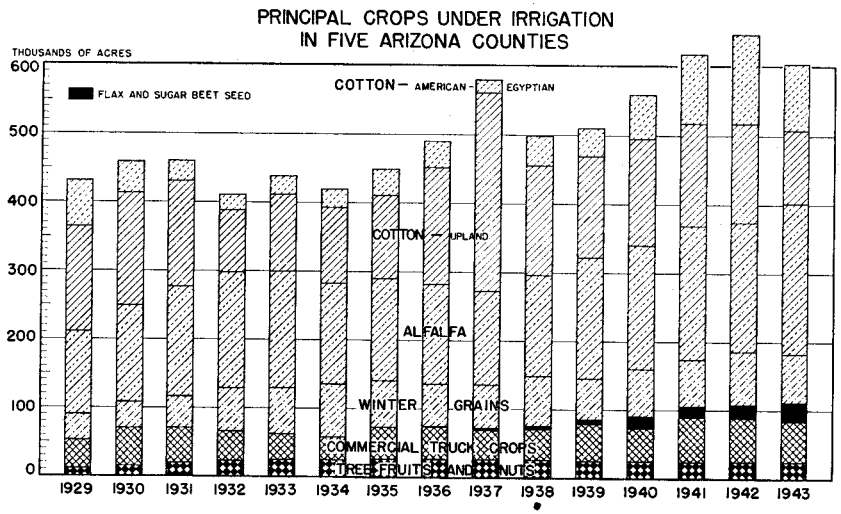

Figure 2.—Cotton was the most important source of agricultural income in the years, 1937 and 1942. The 1943 acreage was substantially less than in the preceding year, and it appears that the 1944 acreage of this commodity will be still less. Winter grains and alfalfa will use more acreage in 1944. The five Arizona counties represented above, Maricopa, Pinal, Yuma, Graham, and Pima, contain 90 per cent of the state's irrigated land.

lands in these counties will be cropped to cotton in 1944. Lands formerly planted to cotton in a substantial amount have been diverted to alfalfa and grain for the 1944 season.

Value of Production

A cash income of 124 million dollars is estimated for the state's agricultural producers for 1943, an all-time high (Table 1). This is about the same income as that received for the state's total mine production—copper, gold, silver, zinc, lead, tungsten, and molybdenum. Truck crops ranked first, with a value of 31 million dollars, followed by beef cattle, 28 million; cotton, 21 million; alfalfa; and dairy. Prices received in December, 1943, were higher than those received a year earlier, except for upland cotton (Table 5). As in other periods of rising prices, production costs and income tended to be out of adjustment. In some branches of agriculture the costs rose faster than the income, but in general costs tended to rise less rapidly than prices received for the products. History has repeated itself and given agriculture a period of prosperity in time of rising prices. The careful producer must save his profits for protection against a possible period of falling prices, when prices received for his products will fall more rapidly than his costs.

Reduction of Farm Debt

A substantial reduction was made in the long-term debts of Arizona farmers and ranchers in 1943. To illustrate: During 1943,

in Maricopa County alone, 418 Land Bank and Land Bank Commissioner loans were paid off in an amount of $1,510,000, while new loans amounted to only 79 in number with a total value of $255,000. It is fortunate that private debt is being reduced at a time when public debt is increasing. Reduction of debt helps prevent inflationary buying. Also, agricultural producers likely will be in a stronger postwar position if profits of the war period are used in this way.

Rising Land Prices

During 1943, many pieces of Salt River Valley Project land, without building or orchard improvements, sold at prices ranging from $250 to $300 per acre, some higher. By comparison, similar lands sold in the period 1935 to 1938 at $150 to $175 per acre; in the period 1932 to 1934, around $100 per acre; while the two years 1919 and 1920, immediately following the last war, brought $350 to $500 per acre. Rising land prices are a symptom of a falling value of the dollar. The rise in price does not occur fundamentally because eastern capitalists are coming to Arizona to buy land, or because prosperous farmers are acquiring land near by, but rather because those with money to invest feel safer by investing it in land than in other types of investment. A reversal in the trend of land prices will come when confidence in the value of the dollar has been restored, when the government shows a definite determination to keep costs within income.

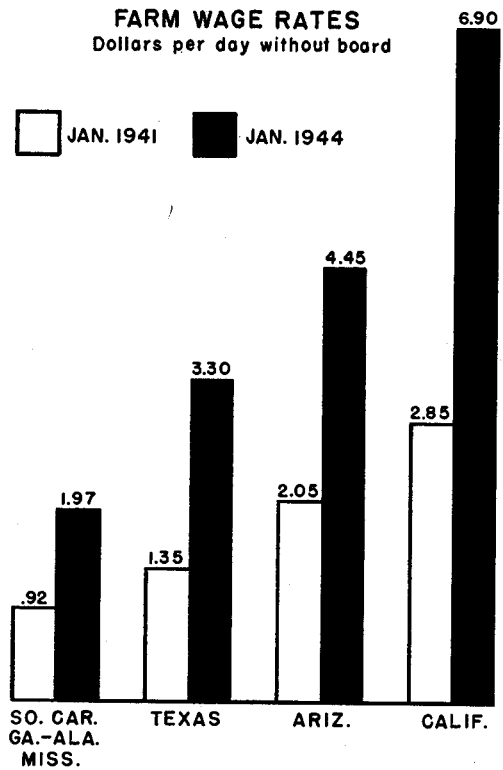

Figure 3.—Wages per day, without board, on January 1, 1944, were much higher than three years previous, according to the Bureau of Agricultural Economics. Also, large differences obtain between wage rates in Arizona and California and those in the Old South.

Labor Problems

Labor problems in 1943 continued to be uppermost in the minds of many agricultural producers, especially those who formerly used large

quantities of low-priced hand labor. Cotton producers have found that the cheap labor which in former years flowed from Texas and states eastward to Arizona no longer flows, and that when it is brought in it is no longer cheap.

In the growing of cotton, Arizona producers compete principally with producers in Texas and the Old South. Increasing wage differentials between Arizona and the principal cotton-producing areas make competition more difficult for the Arizona grower. In January, 1941, farm wage rates per day without board, in the states of South Carolina, Georgia, Alabama and Mississippi averaged 92 cents; while three years later, January, 1944, these wages averaged $1.97—an increase of about $1.05 per day. In Arizona, at the former period, January, 1941, farm labor received on the average $2.05 a day; while in January, 1944, the rate was $4.45 a day, or an increase of $2.40 per day (Fig. 3).

Map Showing Irrigation

About 95 per cent of the state's 750,000 acres under irrigation is shown on the map enclosed with this bulletin. Most of the remaining 5 per cent is in Apache, Navajo, and Yavapai counties. The area irrigated compares with 480,000 under irrigation at the end of World War I. The location of practically all of the state's 20,000 acres of citrus is indicated on the map. The irrigation district title or common name for each of about fifty areas, with map reference number is given on page 17.

TRUCK CROPS

A production of 28,000 cars and carlot equivalents of truck crops, exclusive of potatoes, was marketed from Arizona farms in the year ended August 31, 1943. This was the largest production on record. It represents nearly half a carload per acre on 62,000 acres. The increasing importance of vegetable and truck crops in recent years is no doubt in part due to a normal development of Arizona's vegetable industry, but also in part it must be definitely attributed to war conditions. The value of these crops in the twelve-month period ended with August, 1943, was about 31 million dollars.

Lettuce

As in past years, lettuce was the major source of truck crop income. Shipments of lettuce from the 1942 fall deal amounted to a grand total of about 6,600 cars, including allowances for lettuce trucked and lettuce shipped in mixed carlots. Of this movement, more than 4,500 cars were from the Salt River Valley, 2,000 from Yuma, and 60 from Pima County.

The 1943 spring lettuce deal consisted of about 9,600 cars, of which 6,400 were from the Salt River Valley and the remainder from the Yuma Valley. Lettuce was billed to over 300 points in forty-five states in the spring season, according to the Federal-

State Market News Service. An outstanding feature of the marketing was the large use of lettuce by army camps.

Shipments of 1943 fall lettuce through January 14, 1944, amounted to 6,537 straight cars, with several hundred more to be shipped before the official end of the 1943 fall deal on January 31, 1944.

Melons

Cantaloupe shipments in the summer of 1943 totaled 3,448 cars, according to the Arizona Fruit and Vegetable Standardization Service, including the carlot equivalent of truck shipments. Of these, 2,093 were from the Salt River Valley, 1,225 from Yuma County, and 130 from Pinal County. Also, 1,040 carloads of honeydews were shipped from the Salt River Valley. Mixed melons made up 19 cars. In the summer of 1943 an estimated 2,700 acres of watermelons in the state produced a crop of 15,000 tons or 1,250 carlots, worth about a million dollars.

Other Truck Crops

In addition to lettuce and melons, a record production of 6,200 carloads of miscellaneous vegetables was marketed in the year ended August 31, 1943, compared with 3,500 in the preceding year, and average yearly marketings of about 2,000 carloads in the four-year period ended in 1941. Shipments of these miscellaneous vegetables in the year ended in 1943 included: carrots, 4,000 carloads; cauliflower, 1,000; cabbage, 525; broccoli, 300; chicory, 81; onions, 44; tomatoes, 23.

In recent years there is a definite trend toward shipments of more cars of mixed vegetables. Such shipments make possible the distribution of carloads to smaller communities and during the war period substitute for the distribution service formerly carried on from large centers to near-by cities and towns by truck movement. In January, 1944, 30 to 60 cars of mixed vegetables were being shipped daily from Arizona; these consisted of lettuce, carrots, broccoli, chicory, beets, turnips, etc.

The 1943 potato acreage was the largest in Arizona history. The state's 6,500 acres were located principally as follows: Maricopa County, 2,800 acres; Pinal County, 1,000 acres; Coconino County, 900 acres. The Coconino County production of about 40,000 bags represents a long-established industry in that county, supplying potatoes for use in Arizona and near-by areas. The crop in Maricopa and Pinal counties was produced mainly by vegetable shippers for central markets where premiums were paid for early potatoes. The size of the potato crop was variously estimated, but it appears that around 30,000 tons were sold commercially for about 1½ million dollars.

BEEF CATTLE

Range production, valley pasturing, and pen feeding of beef cattle produced one fourth of Arizona's agricultural income in

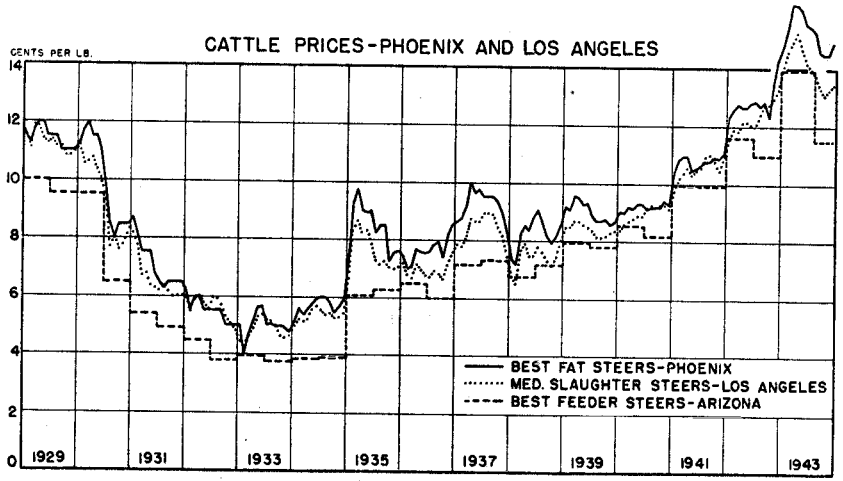

Figure 4.—Lack of a fair relationship between feeder prices and fat-cattle prices in periods of major economic adjustment results in large profits at certain times and large losses at others in the cattle feeding business.

1943. The industry has been long established, and except for the pen feeding branch of it, it is subject to less fluctuation than the production of vegetables or cotton. In prosperity and in depression, the efficient producer of range cattle keeps his range stocked with cattle to the extent which the season permits. He is guided in his practices not by prices so much as by rainfall. In the irrigated valleys much of the production is in the form of roughage—alfalfa, grain, Bermuda pasture, and crop leftovers such as cotton stalks, which can be utilized only by livestock. This furnishes a reasonably stable basis for pasture feeding of cattle. Pen fattening of cattle, on the other hand, is influenced very greatly by relationships between the price of cattle on the one hand and the price of grain, cottonseed meal, and hay on the other.

Gross marketings and slaughter of Arizona cattle amounted to 450,000 head in 1943. After deducting imports, the apparent net marketings were 280,000 head, compared with 415,000 head in 1942 and a ten-year, 1933-42, average of 327,000 head.[2]

Fat-cattle prices in Arizona rose to a price peak in April, 1943, unequalled since 1919. The peak reached in April was of rather short duration, as prices in the latter months of 1943 were about 2 cents a pound lower (Fig. 4).

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[2]These figures are determined as follows: state commercial slaughterings plus out-of-state movement of cattle as reported by the Arizona Livestock Sanitary Board, less movement of cattle into the state as reported by the State Veterinarian. Figures for the year ended June 30 were used for inward movement, since several months elapse before these cattle become a part of the marketings.

In periods of rapidly changing cattle prices the relationship between the price for fat cattle and the price for feeder steers seems always to be out of balance. Large profits are possible in feeding operations during a period of rising prices, while large losses are inevitable during a period of falling prices. O.P.A. ceilings did not remedy these inequalities in the year 1943. A stabilization of the cattle-feeding business appears desirable in view of the probability discussed elsewhere in this bulletin that pasture, hay, and grain supplies in Arizona will be substantially larger in the fall of 1944 than in other recent years.

COTTON

For most years in the last quarter century cotton has been the cash crop bringing largest profits on extensive acreages of Arizona's irrigated land. This was not true in 1943, when grain growers and even hay producers netted more profit per acre. Cotton growers have been discouraged by the relatively greater returns from other crops and because of irritating problems related to insect damage and the securing of cotton pickers in the 1942 and 1943 seasons. Cotton acreage was reduced one fourth from 1942 to 1943, and growers indicated in January, 1944, that another reduction of one fourth or more was coming. While a long-time outlook for cotton as a basic crop in Arizona agriculture is admittedly not bright, yet a too hasty retirement from cotton production may not be desirable. By training and experience, many farmers are suited to grow cotton better than any other crop. Machinery is available for cotton production and might not easily be secured for producing other crops in 1944. Much of the land growing cotton in past years is not provided with sufficient water or water cheap enough for the production of a substitute crop, such as alfalfa hay. Also, a price based on parity is guaranteed by the government for upland cotton. A long-time adjustment away from cotton to substitute cash crops seems desirable, but the transition should be gradual.

Since acreage of upland cotton will not be restricted in 1944, many former growers of American-Egyptian cotton may shift

TABLE 2.—YIELD OF UPLAND COTTON, BY COUNTIES IN ARIZONA, 1935-1943 (POUNDS NET LINT PER ACRE).

County	Average 1935-39	Average 1940-42	1943[a]
Graham	613	614	505
Pima	626	595	450
Pinal	491	484	415
Maricopa	499	436	450
Yuma	403	395	425
State	505	467	449

[a]Estimated yield as of December 1, 1943.

TABLE 3.—CALCULATED COST OF PRODUCING UPLAND AND AMERICAN-EGYPTIAN COTTON, SALT RIVER VALLEY WATER USERS' AREA, 1944.[a]

	Cost per acre			
	Upland		American-Egyptian	
Interest, taxes, and water:				
Interest, 5% on $250 valuation	$12.50		$12.50	
Land tax (average 1943 rate in 9 Salt River Valley school districts)	1.70		1.70	
Water (3 acre-feet)	4.85	$19.05	4.85	$19.05
Cultural costs:				
Seed	$ 1.50		$ 1.65	
Machinery operation costs, including machine labor[a]	15.00		15.00	
Hoeing and thinning	5.00		5.00	
Irrigation and ditch labor	5.00		5.00	
Dusting (averaging about three times)	3.00		3.00	
Fence and miscellaneous	1.00		1.00	
Production credit	1.00	$31.50	1.00	$31.65
Harvesting costs:				
Per bale of 479 pounds net lint— Upland, 1,400 pounds seed cotton; and American-Egyptian, 1,800 pounds[b] seed cotton:				
Picking — including contractor, or weighing cotton and securing and hauling workers, @ $2.75 per cwt. for upland and $4.75 for American-Egyptian	$38.50		$85.50	
Hauling cotton	3.50		4.50	
Ginning (1943 rate of 33¢ per cwt. upland and 66¢ for American-Egyptian)	4.60		11.88	
Bags and ties (1943 cost)	1.85		2.10	
Insurance for 20 days and sterilizing seed (1943 cost)	.54		1.10	
Less return from 809 pounds[c] upland and 1,177 pounds[c] American-Egyptian cottonseed, at 1943 price of $53 per ton	$21.42		31.18	
Net harvest costs per bale	($27.55)		($73.90)	
Per acre net harvest costs on 420 pounds net lint upland and 200 pounds net lint American-Egyptian cotton[d]		$24.15		$30.85
Calculated cost of producing 420 pounds net lint upland and 200 pounds net lint American-Egyptian cotton on 1 acre, management and risk of crop failure not included		$74.70		$81.55

[a]This table represents a budget based upon typical costs on owner-operated farms, assuming average yields, and wage rates as of January, 1944.
[a]Plowing; disking twice, once before plowing with stalk cutter and once afterward; dragging, twice before planting and dragging or harrowing after planting; furrowing; planting; and five cultivations.
[b]For Maricopa County. State average, about 1,700 pounds.
[c]After deducting 8 per cent trash.
[d]Yields are 1941-43 averages for Salt River Project.

acreage to upland cotton. Also, the reduction in cotton acreage will be greater in areas where high yields have not been maintained in recent years. In the eight years 1935-43 high-elevation cotton-producing counties, Graham, Pima, and Pinal have maintained higher yields per acre as well as longer staple (Table 2).

Costs of producing and harvesting cotton increased materially in 1942 and 1943. A budget or calculated cost of production for the Salt River Valley is given in Table 3. The cost of producing upland cotton per pound in 1944 is indicated as 18 cents for the grower, with average yields and average costs. No allowance is included for management or for crop risk or insurance.

One of the added costs in recent years has been for insecticides. More than 1,300 tons of mixed dust were used in fighting cotton insects in 1943, according to the U.S. Bureau of Entomology. This was the equivalent of one dusting of 15 pounds for every acre of cotton in the state. Actually, about 60,000 acres were dusted an average of three times.

This is a period of depression in the long-staple cotton industry, even though as late as 1942 the government especially urged the expansion of long-staple cotton acreage. As in other depressions, the outstanding features are a large stockpile, much competition, and production exceeding consumption. A larger than normal carry-over of American-Egyptian cotton and substantial quantities of American-owned Peruvian cotton, and also large supplies of competitive Egyptian cotton both in this country and in Egypt, are some of the unfavorable conditions. The farmer who can produce upland cotton as profitably as American-Egyptian cotton can, without loss to himself, help improve the supply position of the long-staple cotton industry by farming a larger share of his land to short-staple cotton in 1944.

TABLE 4.—CALCULATED COST OF PRODUCING ALFALFA PER ACRE, SALT RIVER VALLEY WATER USERS' AREA, 1944.[1]

Interest, taxes, and water:		Harvesting costs:	
Interest, 5% on $250 valuation	$12.50	Mowing and raking—5 cuttings	$10.00
Land tax	1.70	Baling—4 tons	16.00
Water (4 acre-feet)	6.35	Total	$26.00
Total	$20.55	Total cost per acre, through harvest	$60.60
Cultural costs:		Cost per ton	15.15
One fourth of seed cost	$ 1.90		
One fourth of land preparation and planting cost	3.00		
Irrigation labor	6.10		
Ditch labor	3.05		
Total	$14.05		

[1]These calculations represent anticipated costs during 1944 on owner-operated farms, assuming a yield of 4 tons per acre. No item was included for farm automobile expense or for management.

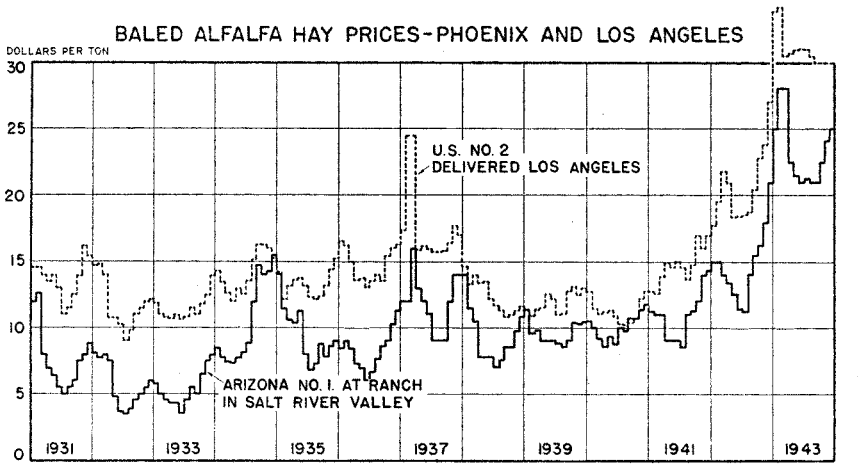

Figure 5.—Normally prices rise in the fall months and did so in 1943, until the ceiling of $24 was reached. In December, 1943, and January, 1944, the actual average sale price of Arizona hay of No. 1 quality was difficult to determine because hay of considerably lower quality was being currently sold at the ceiling price of $24.

HAY AND FEED

Alfalfa acreage increased about 10 per cent in 1943 and new plantings indicate a 15 per cent increase for 1944, so that more than one third of the state's irrigated land will be growing alfalfa. Increased marketings, at a favorable price, are possible as long as a strong demand exists in Southern California for baled hay (Fig. 5). However, in January, 1944, reports are circulating that considerable Imperial Valley acreage is being shifted from flax to alfalfa, which fact may make a change in the situation by late 1944 or early 1945. Another outlet for alfalfa is in the form of ground hay and dehydrated alfalfa. Thirty thousand tons or more were disposed of in this way in 1943.

The seasonal cost of producing alfalfa has been increasing rapidly. In the Salt River Valley, the cost of producing and harvesting 4 tons per acre was estimated to be $35 in 1941, $44 in 1942, $58 in 1943, and will likely exceed $60 in 1944 (Table 4).

A production of 100,000 tons of feed grains—grain sorghums, barley, and corn—was entirely inadequate to meet Arizona's requirements in 1943. Imports were unusually large. They consisted primarily of 25,000 tons or more of government wheat for feed purposes but also included barley, sorghums, and oats, the latter to be used as seed for planting. These imports were offset to some extent by a large outward movement of grain sorghums for planting.

If conditions in the fall of 1944 are such that cattlemen can feed at a profit and dairymen can produce milk at a profit, and if

prices are favorable to the poultry industry, then it appears that all the grain which will be produced in Arizona in 1944 will find a profitable market.

DAIRYING

Dairying ranked fifth as a source of Arizona's agricultural income in 1943. The value of sales was between 7 and 8 million dollars, not including sales for meat purposes. The dairyman has not been as relatively prosperous in the last decade as has been the producer of cotton, vegetables, and beef cattle. For a period of time his product was relatively low in price and now it is much higher; but his feed costs have risen disproportionately and his labor costs not only have risen faster than the selling price of his product, but the quality of the labor secured is not such as has been conducive to heavy production per cow.

Arizona's production of milk in 1943 is roughly estimated at 280 million pounds, or somewhere around 10 million pounds of fat. Dairy production increased through the latter months of 1942 and up to March, 1943, when production was very much heavier than in March of the preceding year, possibly 10 per cent. After that, production lagged because of higher cost of feed until it appeared that in the latter months of the year the production was probably considerably less than for the same months in 1942. This lowered production came at a time when there was an extreme demand on the part of the public for milk and milk products in every form, but ceiling prices have been so fixed as to discourage heavy feeding of dairy cows. A comparison between the returns which dairy-

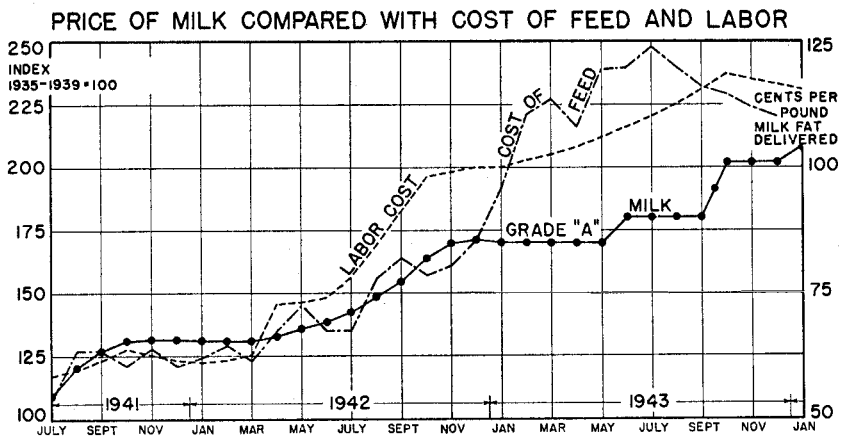

Figure 6.—Increased returns per pound of fat delivered to creameries in the Salt River Valley reached $1.04 in January, 1944, which included the subsidy of 50 cents per hundredweight of milk. This price was about 208 per cent of the 1935-39 price, while the cost of feed was 220 per cent of feed cost in corresponding months of the base period and the cost of labor 239 per cent. Line is in error showing lower labor cost from October, 1943. Late reports show a slight increase.

men receive in the Salt River Valley and the cost of feed and labor is shown in Figure 6. The price of Grade A milk averaged $1.04 per pound milk fat in January, 1944, which included a subsidy of 50 cents per hundredweight of milk, or 208 per cent of the price received in the period 1935-39. The labor cost in January, 1944, was about 239 per cent of the labor cost in the period 1935-39, and the feed cost was apparently about 220 per cent of the cost in 1935-39. This indicates that the dairyman in January, 1944, was in a less favorable position than he was in the five years preceding the war. The whole picture, however, is not shown, because feed costs in January, 1944, were based on an assumed price of hay at $25 per ton, one dollar above ceiling. However, dairymen rather generally were unable at that price to obtain hay of qualities formerly used, so that feed costs in reality were substantially higher than those shown in the chart, both in December, 1943, and in January, 1944. Also, it should be noted that the index showing rise of labor cost does not reflect the definitely lower quality of dairy labor. Many of the skilled milkers have gone into industry. and milkers replacing them lack experience.

LAMBS AND WOOL; GOATS AND MOHAIR

A crop of 438,000 lambs from 546,000 breeding ewes was reported for the entire state by the Bureau of Agricultural Economics for 1943. This was a somewhat smaller production than in recent years, owing to low water supplies on the ranges in 1942 and 1943. Also labor problems have restricted lamb production. Ewes pasturing in the Salt River and Casa Grande valleys in the winter of 1943-44 numbered 300,000 head, and feeder lambs, held over because they did not reach marketable weight on the range, 25,000 head, according to Jerrie W. Lee, Secretary of the Arizona Wool Growers Association. This is a record number in recent years.

Eighty-five per cent of the 1943 spring lamb crop moved to the Pacific Coast according to the same source, compared with a movement of about 30 per cent in the decade of the thirties. Lamb consumption in the Pacific Coast market area amounts to 19 per cent of the United States total consumption. In January, 1944, lambs were selling at ceiling price; this meant about 14 cents at the Arizona ranch after a 2 per cent cut and a 3 per cent shrink.

New Mexico and Texas sheep producers have made numerous inquiries in recent years regarding Arizona valley pasture. In most instances they have not been able to obtain pasture after the demands by owners of sheep produced on Arizona ranges have been satisfied. This may indicate that increased production of winter feed in the Casa Grande and Salt River valleys can be utilized by sheep.

A crop of 4,400,000 pounds of wool, shorn from 688,000 sheep was reported for 1943. This was sold at an average price of about 41

cents a pound. It should be observed by wool growers that the increased price of wool in recent years is the result of government buying and does not reflect a scarcity of that commodity, either in the United States or in the world. Major adjustments in wool production and marketing throughout the world may follow this war. American wool growers will be faced with competition for the domestic market by foreign wool growers if import duties are substantially reduced, and in any case they will be faced with competition from synthetic fibers.

Arizona produced about one million pounds of mohair in 1943, or 5 per cent of the United States production. Angora goats numbered about 215,000 in 1943, not including goats on Indian reservations. Mohair from mature goats brought about 52 cents a pound, while kid mohair brought about 71 cents and constituted one seventh of the total clip.

The state's mohair is sold at spring and fall auctions in each of three areas—Kirkland, Wickenburg, and Winkelman. The largest of these pools is at Kirkland, where the Arizona Mohair Growers' Association reported the total clip of fall, 1942, and spring, 1943, mohair amounted to 650,000 pounds, of which 97,000 pounds was kid mohair, with an average production of 5.56 pounds per aged goat.

Another source of income for goat producers is chevon. Some 50,000 head of goats were sold off the range in 1943 for meat purposes and brought from $3 to $4 per head.

TABLE 5.—PRICES OF AGRICULTURAL PRODUCTS IN ARIZONA.

Commodity	December, 1943	December, 1942	December average 1933-42
Alfalfa hay [a] (per ton)	$25.00	$21.00	$12.60
Alfalfa seed[b] (per cwt.)	31.00	22.00	14.95
Barley[b] (per cwt.)	2.71	1.58	1.33
Beef cattle[c] (per cwt.)	14.90	14.22	8.69
Cotton lint[b] (per lb.)			
American-Egyptian	0.47	0.43	0.26
Upland	0.19	0.19	0.12
Cottonseed[b] (per ton)	53.00	46.00	28.12
Eggs[b] (per doz.)	0.56	0.51	0.36
Lambs[b] (per cwt.)	11.20	10.50	7.46
Milk fat[d] (per lb.)			
In Grade A milk	1.01	0.85	0.54
In churn cream	0.59	0.54	0.35
Wheat[b] (per cwt.)	2.83	2.00	1.58
Wool[b] (per lb.)	0.36	0.35	0.25

[a]Arizona No. 1, baled at the ranch in the Salt River Valley.
[b]Prices on 15th of month, as furnished by the Bureau of Agricultural Economics.
[c]Top fat steers at Phoenix, from Central Arizona Cattle Feeders Association.
[d]Delivered to creameries in Salt River Valley. For December, 1943, subsidy of 11 cents per pound for Grade A milk and 5 cents per pound for churn cream included.

CITRUS

After a period of years when the citrus industry was one of the least profitable of all branches of agriculture in the state, the situation changed completely for the 1942-43 season, although the grapefruit crop was not large in that year. Sales from the Phoenix district amounted to 64,000 tons and from the Yuma district, 18,000. A sizeable part of the crop was processed, 43,000 tons having produced 3 million gallons of juice, or the equivalent of 857,000 cases.

A much larger crop is expected for the 1943-44 season, as January estimates are about 127,000 tons, of which about 40 per cent is scheduled to be converted to juice. At prices as of January, 1944, it appears that the fruit for processing will bring about $28 per ton on the tree, and the ceiling price permits $42 per ton for fresh fruit; this indicates an average return of $36 or $37 per ton.

The Bureau of Agricultural Economics reported the Arizona orange crop for the season ended August, 1943, to be 28,000 tons with a value of 1½ million dollars on the tree, and estimated in January, 1944, a production for 1943-44 of 34,000 tons.

SEED CROPS

The 3,000-ton crop of alfalfa seed in 1944 was not so large as in other recent years, yet it represented nearly one tenth of the U.S. production. The crop was in great demand in the winter of 1943-44. Also highly profitable was the production of Bermuda grass seed, grown principally in Yuma County.

Contracts for 2,473 acres of sugar beets for seed were made for the 1944 harvest. Of this acreage, 1,358 are in Graham County and 1,115 in Maricopa County. The contract price is 13 cents a pound on a recleaned basis, compared with 12 cents in the preceding year. The acreage in Graham County is nearly twice the 734 acres harvested in 1943. The state acreage, on the other hand, represents a reduction from 4,716 acres harvested in 1943. Total production in 1943 amounted to 6,600,000 pounds of recleaned seed, of which 5,450,000 pounds were produced in Maricopa County. The state's reduction of nearly 50 per cent in acreage for the 1944 crop is attributed by A. A. Mast, Manager Western Seed Production Corporation, the contracting agency, to a reduction in sugar beet plantings in the United States and also to the widespread use of sheared seed.

Vegetables for Seed

The production of vegetable seeds made substantial progress in 1943. Yuma Valley produced a substantial amount of lettuce seed, and other seeds produced in the state included cauliflower and onions. For the year 1944, about 2,000 acres are being privately grown under contract to the government for lend-lease purposes. Chief among these vegetable seeds is onion, but included also is red beet, mangel beet, cabbage, cauliflower, and broccoli. It is expected that lettuce-seed production will continue to be important in 1944, especially in the Yuma Valley.

TABLE 6.—PRINCIPAL ARIZONA CROPS IN 1943—ACREAGE BY COUNTIES AND PRODUCTION FOR THE STATE.

Crops	State total	Apache	Cochise	Coconino	Graham	Greenlee	Maricopa	Navajo	Pima	Pinal	Yavapai	Yuma
Alfalfa: acres[a]	235,000	4,300	2,000	700	6,000	1,000	140,000	2,600	1,000	47,000	4,300	26,000
Tons cut for hay	587,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cotton												
Upland: acres	107,000	0	.....	0	6,600	800	55,800	0	4,200	37,500	0	1,600
Bales of cotton	98,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
American-Egyptian: acres	96,000	0	.....	0	11,300	.....	28,200	0	6,000	50,200	0	100
Bales of cotton	41,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feed grains												
Barley: acres	52,000	200	600	100	1,900	300	35,000	100	3,000[h]	8,600	700	2,000
Tons of grain	39,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corn: acres	35,000	9,000	800	3,000	700	500	1,100	12,000	1,300[h]	1,900	1,200	300
Tons of grain	11,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grain sorghums: acres	52,000	500	2,100	300	300	300	30,000	600	1,000[h]	11,600	600	3,500
Tons of grain[c]	49,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wheat: acres	22,000	1,200	700	1,100	1,000	200	10,400	1,000	700[h]	3,600	400	500
Tons of grain	14,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dry edible beans: acres	14,000	1,400	600	6,500	200	100	200	1,500	1,900[h]	400	1,300	100
Tons harvested	4,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vegetable crops[d]: acres[b]	62,000	50	600	50	600	250	37,000	50	1,000	1,000[g]	500	20,000
Cars shipped[b]	28,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flax: acres	22,000	.....	.....	.....	.....	.....	1,000	.....	.....	800	.....	20,200
Tons harvested	13,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grapefruit: acres[b]	13,200	.....	.....	.....	.....	.....	12,000	.....	.....	.....	.....	1,160
Tons harvested[e]	82,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oranges: acres[b]	7,300	.....	.....	.....	.....	.....	7,000	.....	.....	.....	.....	300
Tons harvested[e]	28,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acres irrigated[b] (approx.)	750,000[f]	13,000	10,000	3,000	33,000	5,000	390,000	8,000	25,000	170,000	10,000	71,000

Note.—Crop acreages not named above include sugar beets harvested for seed: Maricopa County, 4,716 acres; Graham County, 734 acres; potatoes, 6,500 acres; and small acreages of other crops such as oats and guar. State totals include estimates for Gila, Mohave, and Santa Cruz counties.
Source.—Bureau of Agricultural Economics, Phoenix office, except as otherwise noted.
[a]Alfalfa acreage somewhat larger than Bur. of Agr. Econ. reports of harvested acreage because considerable acreage, especially in Pinal County, was not harvested except by pasturing.
[b]Estimates of Dept. of Agr. Econ., University of Arizona.
[c]Includes grain in silage, and forage.
[d]Does not include potatoes.
[e]Year ended August 31, 1943.
[f]Figures represent both irrigated crops and irrigated pasture. In addition, it is estimated that dry-land crops were harvested from approximately 65,000 acres.
[g]Not including War Relocation Authority area.
[h]Triple A figures.

IRRIGATED AREAS IN SOUTHERN ARIZONA

Irrigation district and irrigated area reference numbers are shown on map, in dotted outline.

Yuma County:

1. Colorado Indian Reservation lands irrigated.
1a. Colorado Indian Reservation lands proposed for irrigation.
2. Yuma County Water Users' Association.
3. Yuma Reclamation Project, Unit B.
3a, 3b. Gila Project irrigable area, Unit One, Yuma Mesa Division. Water distribution system under construction in 1943 in the portion marked 3b.
4. North Gila Valley Irrigation District.
5. Yuma Irrigation District (South Gila Valley).
6. Mohawk Municipal Water Conservation District.
7. Gila Project, proposed unit.

Maricopa County:

8. Gila Water Conservation District—Gila Land & Cattle Co.
9. Maricopa County Southern Water Conservation District—Gillespie Land & Irrigation Co.
10. Enterprise Canal—Empire Ranch.
11. Arlington Canal Company.
12. Roosevelt Irrigation District.
13. Buckeye Water Conservation & Drainage District.
14. Maricopa County Municipal Water Conservation District No. 1—Maricopa Reservoir & Power Co.
15. Private pumping—north of Litchfield.
16. Goodyear Farms—Litchfield Ranch.
17. Goodyear Farms—Marinette Ranch.
18. St. Johns Irrigation District.
19. New State Irrigation & Drainage District.
20. Peninsula Water Company.
21. Maricopa Garden Farms Company. (Not irrigated in 1943.)
22. Salt River Valley Water Users' Association.
23. Arcadia Water Company.
23a. Camelback Water Conservation District.
24. Fowler Tract (Broad Acres).
25. Lone Butte Farm.
26. Goodyear Farms—South Chandler Ranch.
27. Salt River Indian Reservation—U.S. Indian Service.
28. Roosevelt Water Conservation District.
29. Private pumping north of Electrical District No. 5.
30. Maricopa County Electrical District No. 5.
31. Queen Creek Irrigation District.
32. Chandler Heights Citrus Irrigation District.

Pinal County:

33. Gila River Indian Reservation.
34. San Carlos Irrigation & Drainage District.
35. Pinal County Electrical District No. 2.
36. Pinal County Electrical District No. 4.
36a. Stanfield District.

Pima County:

37. Marana Area and Cortaro Farms Company.
38. Flowing Wells Irrigation District.
39. Midvale Area.
40. San Xavier Indian Reservation.
41. Sahuarita Area.
42. Continental Area.

Cochise County:

43. Pomerene Canal Company.
44. St. David Canal Company.
45. Stewart District.
46. Elfrida Area.
47. Hereford Area, T23S, R22E.

Graham County:

48. Upper Gila Valley, in Graham County, comprising these canal companies, in order of decreed acreages: Union, Montezuma, Graham, San Jose, Ft. Thomas, Dodge-Nevada, Smithville, Curtis, Brown, Tidwell, Fourness, Colvin-Jones.

Greenlee County:

49. Upper Gila Valley in Greenlee County, including the following canal companies, in order of decreed acreages: Sunset, Moddle, Valley.