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REPORT NO. 128

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THE NEED FOR A LIVESTOCK MARKET NEWS SERVICE IN ARIZONA

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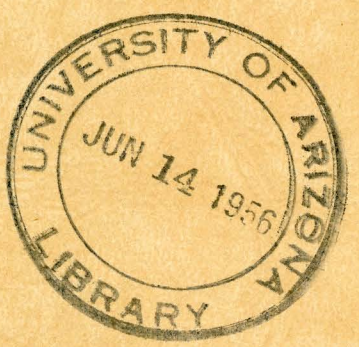

Arizona Agricultural Experiment Station
Department of Agricultural Economics
Tucson, Arizona

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SUMMARY

Arizona needs a local livestock market news service. Approximately 770,000 head of cattle and calves are sold within the state each year. There is no organized, public service regularly reporting these sales. The lack of an adequate Arizona livestock market news service makes it difficult for ranchers and cattle feeders to compare local prices with those in out-of-state markets.

With the concentration of livestock auctions, cattle feeding, and slaughter facilities in the central part of the state, it would be relatively easy to gather the information needed to report feedlot and auction sales. It also appears that from the results obtained by the Department of Agricultural Economics in the University of Arizona, range sales could be reported without too much difficulty since most of the information can be obtained by telephone from a centrally located office.

The Livestock Division of the Federal Market News Service, a part of the Agricultural Marketing Service, is now reporting livestock markets for many areas which do not have the volume of sales found in the Arizona market. This agency, with its corps of trained market reporters and its leased wire service connecting all major livestock markets in the United States, would appear to be the logical agency to undertake this function in Arizona.

THE NEED FOR A LIVESTOCK MARKET NEWS SERVICE IN ARIZONA

Arizona is, and will continue to be, an important cattle-producing state. Over 60 million acres, out of a total state area of 72 million acres, are devoted to range cattle production. Virtually all of the barley, grain sorghum, and hay produced in Arizona is used to support a cattle feeding industry whose feedlots have a capacity of 300,000 head. Income from beef cattle accounts for approximately 20 per cent of the total agricultural income of the state, amounting to 66 million dollars in 1955.

There are two general types of cattle production in Arizona -- range cattle production and the fattening of cattle in feedlots.

Ranching operations are carried on in all sections of the state, usually on a fairly extensive scale. In most instances ranchers maintain a breeding herd on the ranch, and sell the increase as feeder calves or yearlings. However, in a few cases ranches are stocked by purchasing feeder calves or yearling feeders, which are then sold after they have used the available grass.

Cattle feeding operations are concentrated in the Salt River Valley and Yuma areas, although there are feedlots located throughout the state. Again, most of the operations are on a fairly large scale. Feedlots having a capacity of 1,000 head or more account for 230,000 head, or approximately two-thirds of total capacity.

Most of the cattle sold in Arizona are sold at the place of production. It is estimated that at least 90 per cent of the range cattle sales are made at the ranch, and 90 per cent or more of the cattle sold by feeders are sold at the feedlot.

At the present time there is no agency in Arizona that reports market news to the public on the sale of cattle, either directly off the range or out of the feedlots.1/

Table 1 gives the number of beef cattle in Arizona, by counties, for the years 1940, 1945, 1950, and 1954. Maricopa and Yuma Counties have had the greatest increases during these 14 years. This can be accounted for by the increase in the number of cattle fed. These figures are not indicative of the increase in total marketing because they show the number of cattle on hand only on one particular date.

Table 2 gives the cash income that Arizona Cattle producers have received from beef production, 1933-1954. This table shows that the amount of income derived from beef production increased steadily from 1933-1952, at which time there was a break in the cattle prices and, as a result, income from beef production was reduced.

1/ The Agricultural Economics Department, University of Arizona, is issuing a range cattle market report, on an experimental basis, in an attempt to develop an accurate method of reporting range sales.

Table 1. Estimated Number of Beef Cattle in Arizona on January 1, 1940, 1945, 1950, and November 1, 1954, by Counties. a/

County	1940	1945	1950	1954
		(thousands of head)		
Apache	31	29	37	63
Cochise	122	89	80	72
Coconino	46	34	56	56
Gila	57	48	50	43
Graham	44	69	62	57
Greenlee	17	21	18	16
Maricopa	117	152	130	201
Mohave	43	52	35	37
Navajo	37	60	47	41
Pima	76	71	51	64
Pinal	70	92	46	66
Santa Cruz	35	29	33	28
Yavapai	73	85	82	91
Yuma	25	19	18	46
Total	793	850	745	881

a/ These estimates have been made by adjusting the U. S. Census data for 1940, 1945, 1949, and 1954 with the Federal Crop and Livestock Reporting Service for Arizona data, Arizona Livestock on Farms and Ranches January 1, USDA, AMS, Phoenix.

Description of Range Cattle Areas 2/

There are five more or less distinct ranching areas in the state of Arizona.

1) Mohave Strip -- The entire portion of the state lying north of the Colorado River is usually designated as "The Mohave Strip." The principal reason for designating this as a distinct area is due to the fact that it is cut off from the rest of the state by the Grand Canyon and the Colorado River. Transportation and communication facilities in this area are rather limited.

2) Navajo Reservation -- This area includes the Navajo and Hopi Reservations that lie in northeastern Arizona and constitutes about one-sixth of the state's area.

3) Southwestern Desert -- This area stands apart from the rest of the state because of its very limited use as grazing land. It includes all of Yuma County, western Pima, Pinal, and Maricopa Counties, southern and western Mohave County, and some of southwestern Yavapai County.

2/ This description is taken primarily from Stanley, E. B. and Armer, Walter, "The Cattle Ranching Industry in Arizona," Report No. 54 (Revised), Ariz. Agr. Exp. Sta., Univ. of Ariz., Tucson, 1951.

Table 2. Estimated Annual Income in Arizona from Beef Production, 1933-1955.

Year	Dollars (thousands)
1933	5,200
1934	6,500
1935	10,755
1936	10,000
1937	13,000
1938	13,600
1939	15,000
1940	16,000
1941	23,000
1942	30,000
1943	28,000
1944	28,000
1945	29,000
1946	37,000
1947	40,000
1948	47,000
1949	45,000
1950	54,000
1951	62,000
1952	81,000
1953	60,000
1954	70,000
1955	66,000

Source: Barr, Geo. W., Arizona Agriculture 1934-1955, Department of Agricultural Economics, University of Arizona, Tucson.

In general, this is not an area of year-long ranching. Water is scarce, wells are uncertain, and livestock are dependent on runoff water collected in dirt reservoirs. In years of ample winter moisture this becomes an excellent cattle fattening area, especially those regions adjacent to the irrigated valleys in Maricopa, Pinal, and Yuma Counties.

During these wet seasons many cattle are grazed on the luxuriant growth of winter annuals, consisting largely of Filaree, Indian Wheat, and a few other annual weeds during February, March, April and May. The few permanent year-long ranching units are located at higher elevations within the general area where rainfall is more certain, water is available, and some year-long forage is available in the form of browse and perennial grasses. The carrying capacity is variable, ranging from 50-200 acres per animal unit on a year-long basis. During good rainy seasons combined with a mild winter the carrying capacity may be from two to fifteen acres per animal unit from February through May.

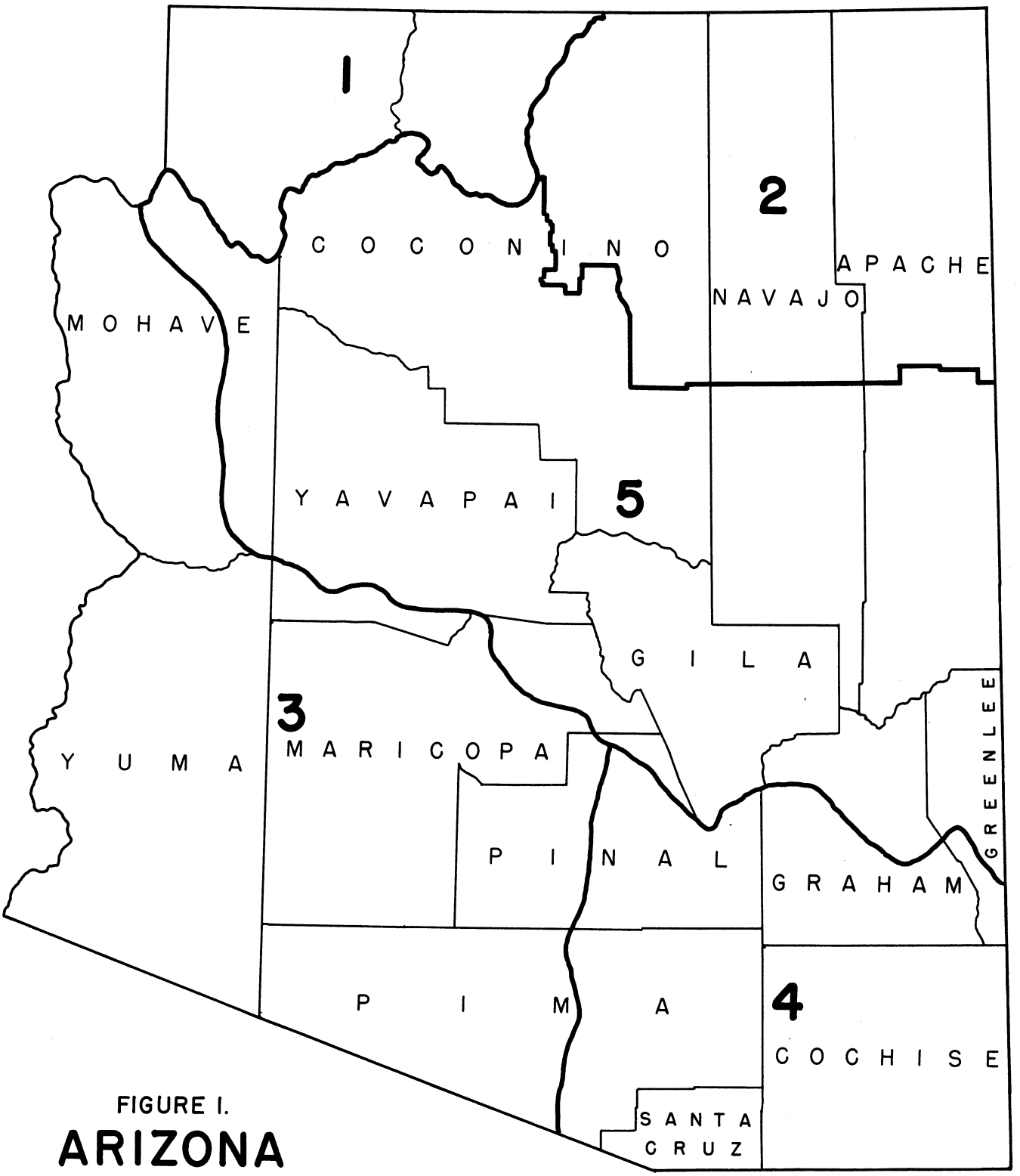

FIGURE I.

ARIZONA RANCHING AREAS

AREAS

1.- MOHAVE STRIP
2.- NAVAJO RESERVATION
3.- SOUTHWESTERN DESERT
4.- SOUTHEASTERN AREA
5.- CENTRAL MOUNTAINS AND FOOTHILL AREA

4) Southeastern Area -- This area includes all of Cochise and Santa Cruz Counties and more than half of the adjoining counties of Graham, Pima and southern Greenlee, all lying south of the Gila River. It is well adapted for cattle breeding and is noted for the production of early spring calves. For the most part, the grasslands which border on scattered mountain ranges and some desert strips at lower elevations provide for year-long grazing.

This is one of the principal range producing areas in the state. Most of the ranches are set up on a cow-calf basis.

5) Central Mountains and Foothill Area -- This area is surrounded by the four areas previously described. It is the major range livestock section of the state. At least half of the cattle and most of the White-owned sheep are grazed in this district. It lies in a diagonal direction northwest and southeast, centering on high mountain ranges.

This area includes open grassland, oak woodland or chaparral, pinyon-juniper, and forest types of range. Climatic conditions vary from moderate year-long to that of extreme cold in the winter. The higher elevations, 7,000 and above, are used largely for summer ranges. Many ranches in this area have definite summer and winter ranges which may or may not be connected. Operations may either be on a cow-calf, cow-yearling, or a stocker calf-yearling basis.

Range Sales

Most of the range cattle are marketed in the fall months of October and November. All classes are marketed at this time -- stocker calves; stocker and feeder yearlings; and slaughter, stocker, and breeding cows and bulls. They are usually sold by contract 30 to 60 days before they are delivered to the buyer or his agent. Most deliveries are made at country points.

The ranchers in the Globe area -- southwestern portion of the Central Mountain and Foothill Area -- hold the major part of their calves and sell them in the spring of the year as stocker and feeder yearlings. These cattle are usually delivered to the buyer in April and May. They are usually sold by contract 30 to 90 days before delivery date. The buyer or his agent nearly always receives the cattle at a country point.

Much of the buying of range cattle is done by order buyers who usually reside in the area in which the cattle are produced. Feeders also deal directly with the ranchers.

Cattle Feeding Areas

Table 3 shows that Maricopa County is the predominant cattle feeding area, followed by Yuma and Pinal Counties. The cattle feeders purchase feeder cattle and calves primarily in Arizona, New Mexico, and Texas. The cattle are fed for 90 to 180 days, depending on the quality and size of the feeder, cattle or calves. The average time for holding the cattle in the feedlots is approximately 140 days.

Table 3. Number of Feedlots and Total Capacity in the Respective Counties in Arizona, 1955.

County	No. of Feedlots	Total Capacity
Maricopa	97	190,455
Yuma	48	42,970
Pinal	31	34,940
Pima	6	13,000
Cochise	14	7,300
Graham	6	5,020
Santa Cruz	2	2,900
Yavapai	5	2,200
Greenlee	9	1,880
Navajo	5	1,240
Mohave	1	200
Total	219	302,105

Table 4 presents the number of cattle and calves on feed January 1, 1950-1956.

Table 4. Cattle and Calves on Feed in Arizona, January 1, 1950-1956.

Year	Number
	(Thousands)
1950-54 (5-year average)	93
1950	59
1951	87
1952	97
1953	102
1954	120
1955	169
1956	204

Source: Federal Crop and Livestock Reporting Service for Arizona, "Cattle and Calves on Feed in Arizona, January 1, 1950-1956", USDA, AMS, Phoenix.

Table 5 gives the number of cattle on feed by months during 1953-54.[3/] The index shows the heaviest feeding months to be January, February, March, November, and December.

Slaughter Industry

More than 75 per cent of the total commercial slaughter takes place in the Phoenix area (Maricopa County). The other important area is Tucson (Pima County). Table 6 shows the average per cent of total monthly slaughter for each of these areas, as well as that slaughtered in other counties of the state.

3/ These data were collected by the Central Arizona Cattle Feeders from their members. It is less than those in Table 4, because not all of the feeders in Arizona are members of the Central Arizona Feeders Association.

Table 5. The Average Inventory of Number of Head of Cattle in Arizona Feedlots, by Months, 1953-1955.

Month	Number of Head			Index for the years 1953-1955[a]
	1953	1954	1955	
January	79,562	87,639	104,829	125
February	75,704	85,891	102,531	121
March	68,092	73,795	96,403	109
April	58,684	64,697	90,773	98
May	51,764	57,939	86,746	89
June	57,650	62,637	77,195	90
July	60,398	60,119	68,143	87
August	54,040	63,145	58,841	81
September	47,817	63,669	53,771	77
October	55,740	74,552	58,553	87
November	64,052	88,039	84,521	108
December	77,004	103,493	100,065	128

[a] The index was determined by averaging the three respective months and dividing that by the monthly average for the three years -- the average for 1953-1955 = 100.

Source: Weekly Newsletter, Central Arizona Cattle Feeders Association, Phoenix.

Table 6. The Per Cent of the Total Commercial Slaughter in Each Area, by Months, 1953-1954.

Month	Phoenix	Tucson	Other
January	78	10	12
February	79	9	12
March	80	9	11
April	80	9	11
May	78	9	13
June	81	8	11
July	79	9	12
August	81	9	10
September	79	11	10
October	78	10	12
November	77	11	12
December	78	11	11

Source: Livestock Sanitary Board Records, State of Arizona, Phoenix.

There are 48 meat packing plants in the state -- 15 in the Phoenix area, six in the Tucson area, one in Safford, the remaining are scattered throughout the state. Fifteen of the 48 packing plants slaughter most of the cattle in the state. Seven of these are in the Phoenix area, four are in Tucson, and one in Safford. Table 7 gives the total yearly slaughter from 1949-1954.

Table 7. Total Yearly Commercial Slaughter of Cattle and Calves in Arizona, 1949-1954.

Year	No. of Cattle	No. of Calves
1949	77,800	8,300
1950	75,100	5,900
1951	80,100	4,200
1952	86,000	7,500
1953	109,200	15,200
1954	111,200	19,200

Source: Federal Crop and Livestock Reporting Service for Arizona, "Arizona Livestock Slaughter", USDA, AMS, Phoenix.

Table 8. The Seasonal Pattern of Commercial Slaughter of Cattle and Calves in Arizona, by Months, 1946-1954.[a/]

Month	Index
January	112
February	93
March	102
April	103
May	100
June	98
July	88
August	92
September	101
October	107
November	102
December	102

a/ This seasonal index was determined by average of relatives method.

Source: Livestock Sanitary Board Records, State of Arizona, Phoenix; and "Arizona Livestock Slaughter", Federal Crop and Livestock Reporting Service for Arizona, USDA, AMS, Phoenix.

The foregoing table shows that there is somewhat of a seasonal pattern, with the summer months of June, July, and August being the low months. (February is low because there are only 28 days in the month, with the exception of leap year. If there were 31 days in the month, there would be an index of 102.)

Outshipments

One indicator of the marketing of Arizona beef cattle is outshipments of cattle. This is particularly true in Arizona because most of the cattle produced in this state are eventually slaughtered in the Los Angeles area, and a large share of the feeder cattle are shipped to California to be fed. Table 9 shows the outshipments of cattle and calves and all other cattle from 1946 through 1954. There has been quite a variation in the calf shipments. The trend of outshipments of other cattle has been fairly steady -- decreasing from 1946 through 1949 and increasing from 1949 through 1953.

Table 9. Outshipments of Cattle from Arizona, 1946-1954.

Year	Calves	Other Cattle	All Cattle
1946	102,557	317,215	419,772
1947	83,731	306,615	390,346
1948	66,038	268,528	334,566
1949	52,242	238,756	290,998
1950	78,486	265,375	343,861
1951	102,208	289,226	391,434
1952	70,169	325,162	395,331
1953	104,260	362,177	466,437
1954	88,795	349,162	437,957

Source: Federal Crop & Livestock Reporting Service for Arizona "Arizona Cattle Shipments", USDA, AMS, Phoenix.

Figures 2, 3, 4, 5, 6 and 7 show the seasonal movement of outshipments of cattle by classes.

Figure 2 shows that the heaviest movement of calves is in October and November. These calves are primarily feeder and stocker calves; very little slaughter calves are included in this figure.

The movement of yearling steers, as shown in Figure 3, is the heaviest in May; and the next heaviest movement is in October and November. This corresponds to the time when these animals are sold off the ranges in Arizona.

Figure 4 shows that the yearling heifers are moved out of the state in the heaviest numbers in May. There is also an increase in movement in October and November, but these increases are not as large as that of the yearling steers. This can be explained by the ranchers keeping back replacement heifers in the fall of the year.

The movement of two-year-old steers, shown in Figure 5, is the largest during the spring months with a steep decline taking place in the summer. Most of the two-year-old steers are fat steers moving to slaughter in the Los Angeles area.

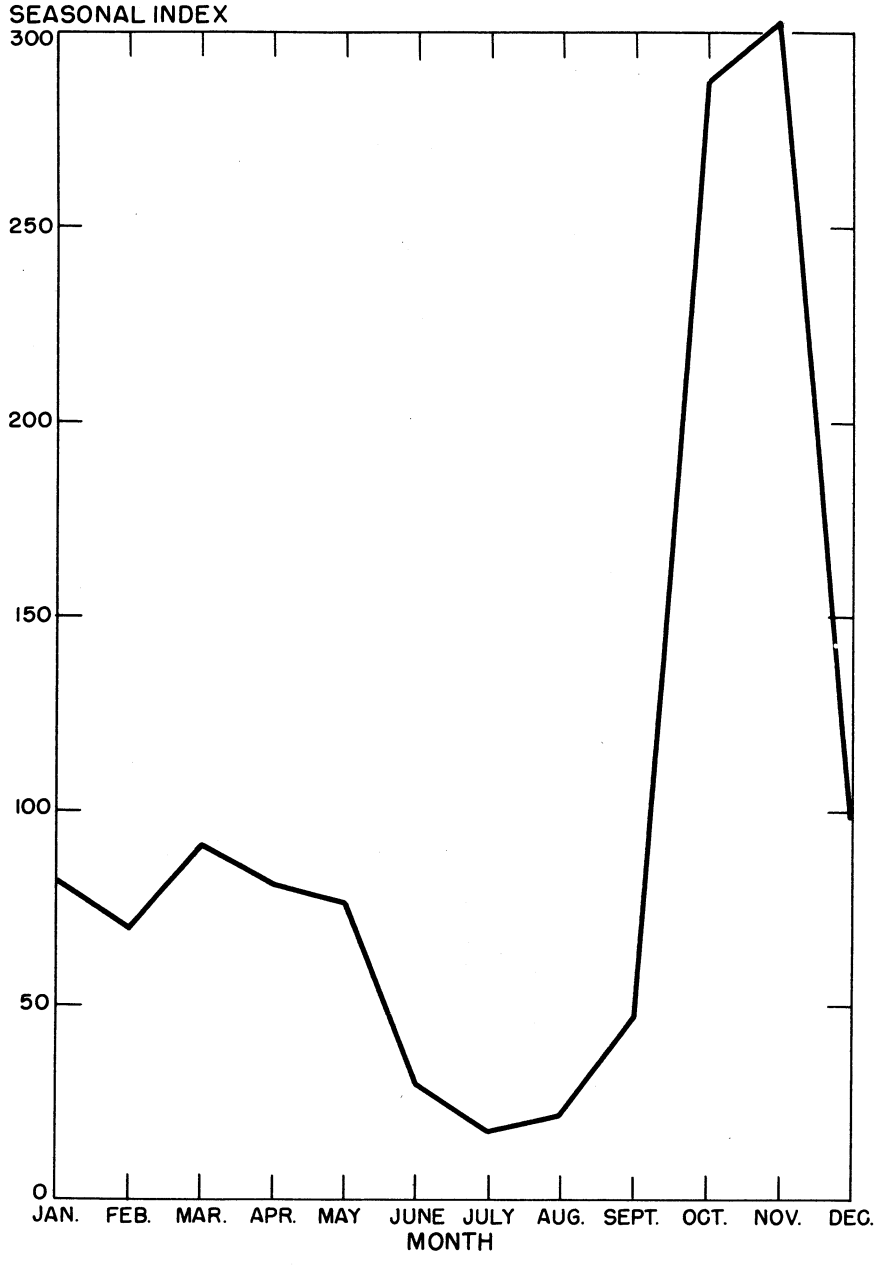

Figure 2.-- Seasonal variation in outshipments of calves from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

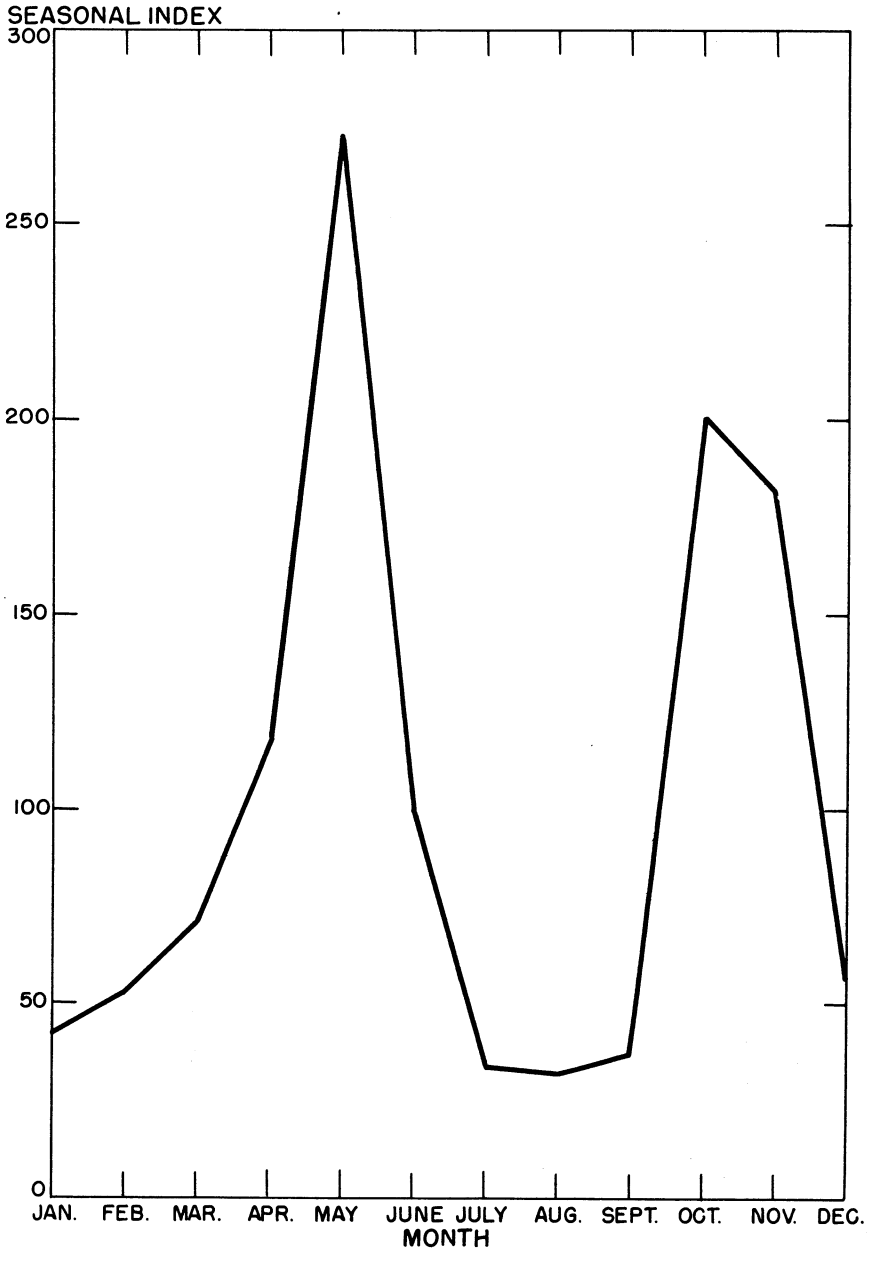

Figure 3.-- Seasonal variation in outshipments of yearling steers from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

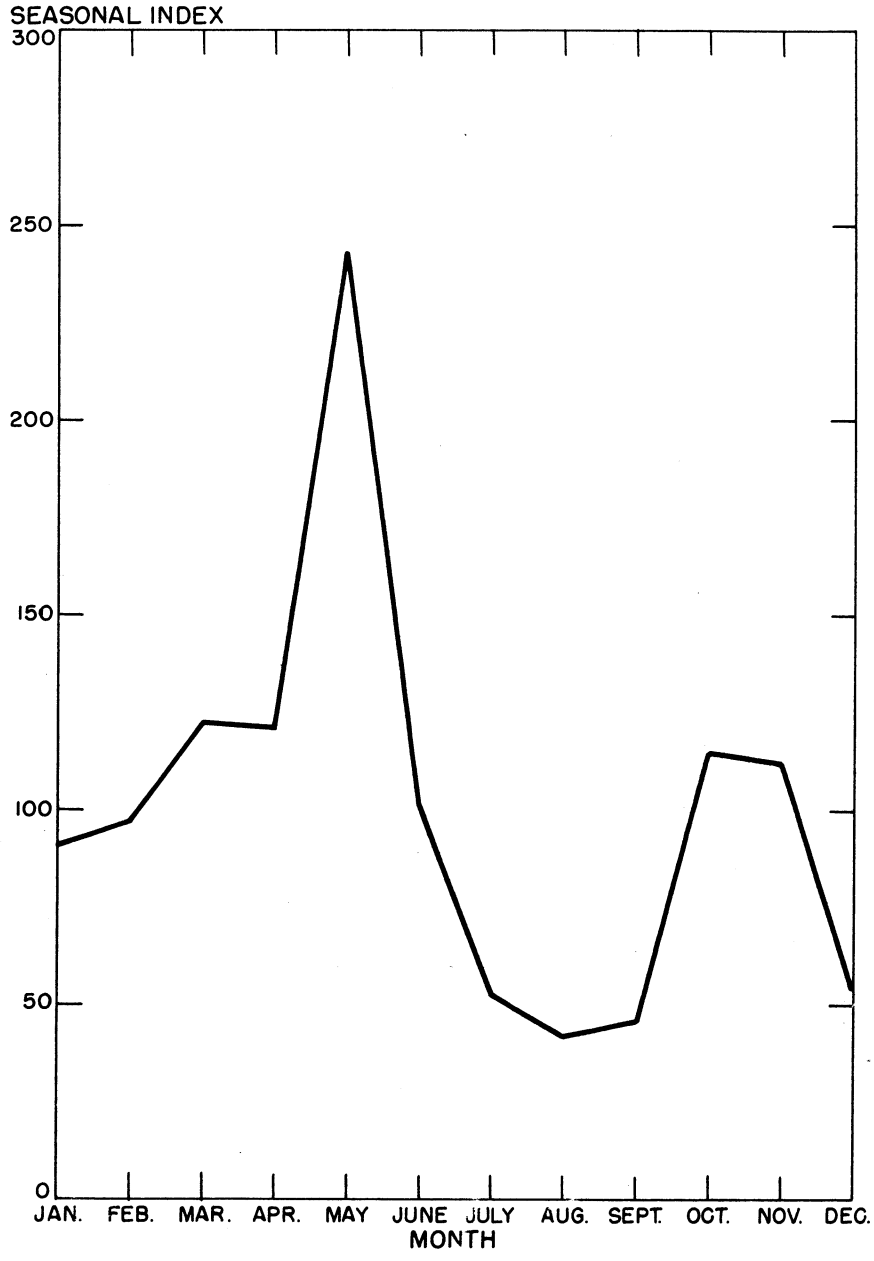

Figure 4.-- Seasonal variation in outshipments of yearling heifers from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

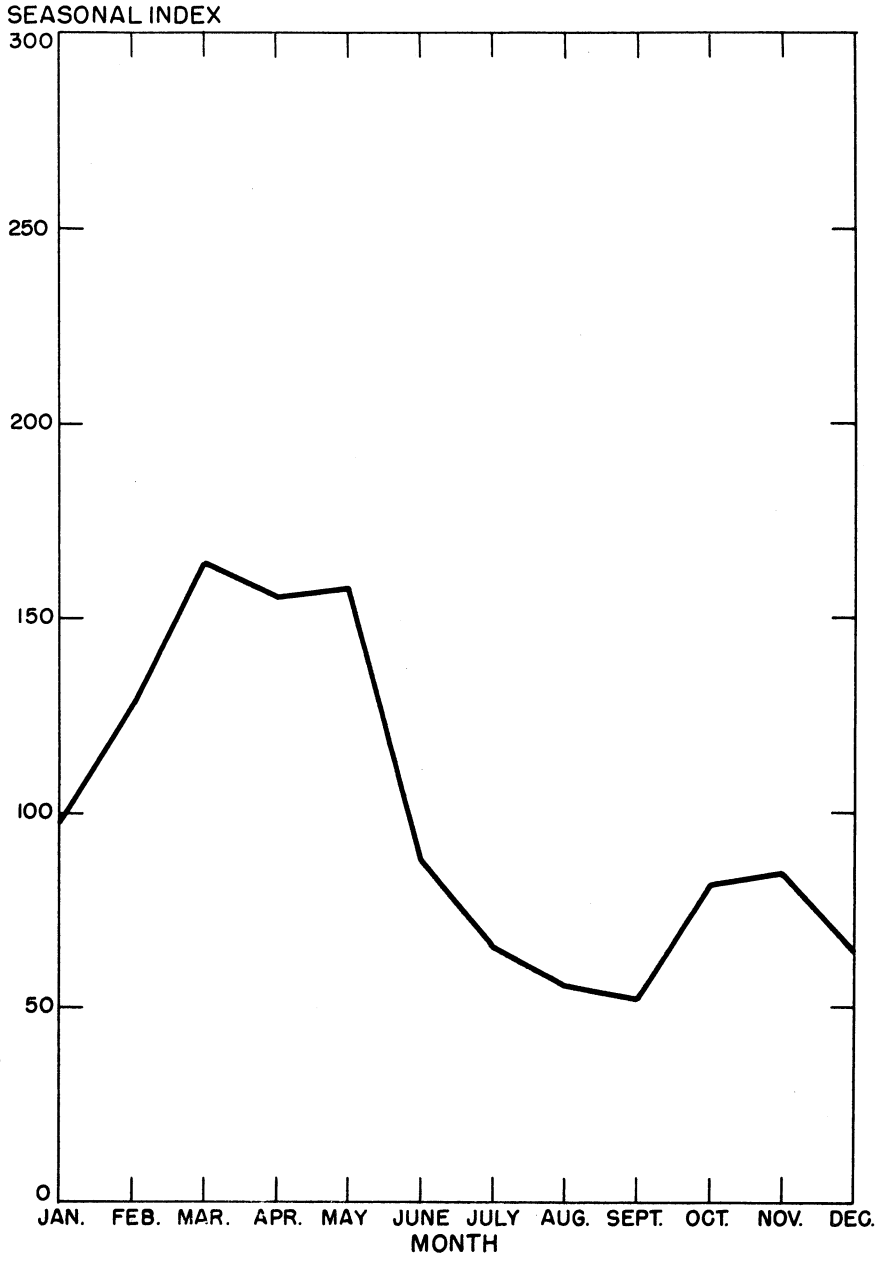

Figure 5.-- Seasonal variation in outshipments of two-year-old steers from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

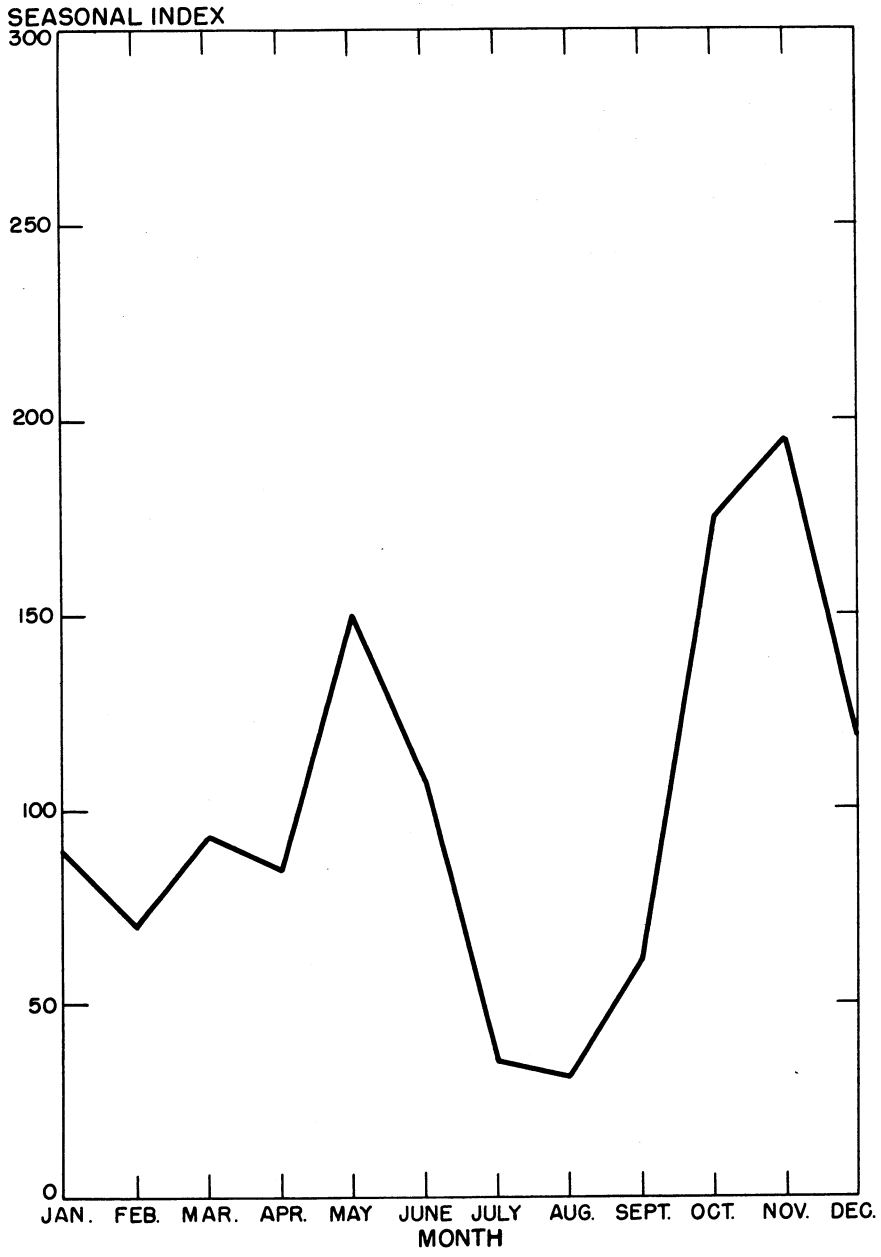

Figure 6.-- Seasonal variation in outshipments of cows from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

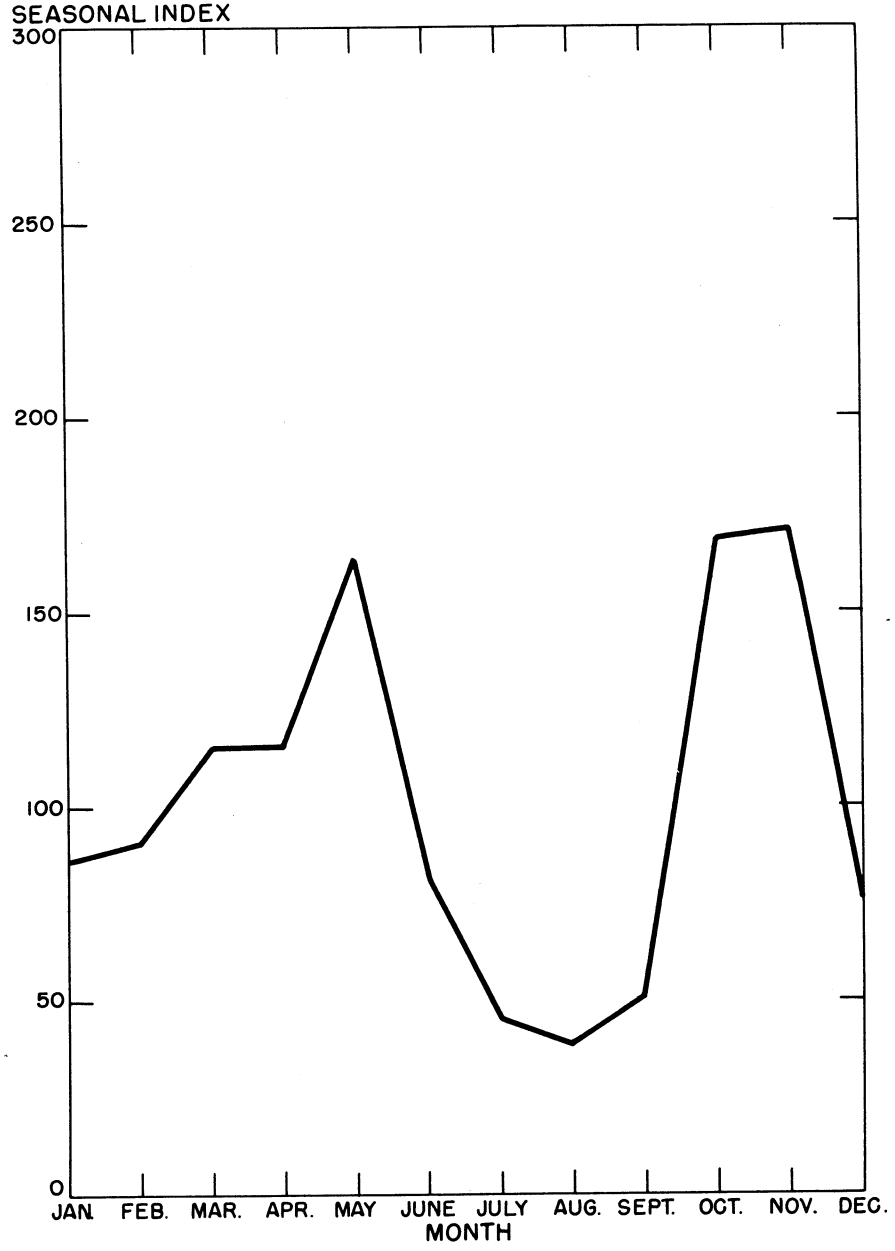

Figure 7.-- Seasonal variation in outshipments of all cattle from Arizona. Average of the period 1946-54 inclusive.
(Average of the year equals 100.)

Figure 6 shows the seasonal movement for cows. The largest marketing of range cows occurs during October and November. This is the time when the ranchers are culling their breeding herd and the older animals are being replaced. A large number of these animals go directly to slaughter, while some of them will be fed for awhile.

Figure 7 shows the seasonal movement of all cattle. It shows the two peak seasons, spring and fall, and the low season, summer. The increase during the spring season is due primarily to the sale of feeder and stocker yearling heifers and steers off the ranges and the increased marketing of fat cattle, while the increase during October and November is due primarily to the sale of range produced cattle, calves, yearlings, and cows.

The estimated marketing of cattle and calves fed in Arizona feedlots during 1955 were:

First quarter	86,000
Second quarter	95,000
Third quarter	83,000
Fourth quarter	49,000
Total	313,000

This does not show the increased marketing during the spring months which is indicated in Figure 4. However, this can probably be explained by the fact that cattle feeding has been increased considerably in the last two years. Also, many of the feedlots are feeding cattle the year around.

Marketing Agencies

Tovrea Stockyards. The Tovrea Stockyards are located on East Washington Street between Phoenix and Tempe. It has a total capacity of approximately 30,000 head. In 1954, 220,000 head of cattle were shipped into and out of these yards. Of these, approximately 130,000 head were transit cattle that were shipped in, changed hand, and shipped out. Approximately 90,000 head of cattle a year are fed out in these lots. This is mostly a custom operation where the owners of the lots contract to feed cattle. In addition to the feedlots there is a large livestock exchange building in which there are offices of cattle feeders, livestock sellers, and other livestock agencies. Most of the sales of animals from Tovrea Stockyards are direct sales.

Feedlot Sales. Most of the feedlots are located in Maricopa County and are within a radius of 30 miles of Phoenix. Those located in Yuma County are fairly close to Yuma with the exception of a few located in the Wellton-Mohawk area. Those in Pinal and Pima Counties are fairly well concentrated, and most of the feedlots in the state can be contacted by telephone.

In 1955 there were approximately 315,000 head of cattle sold out of feedlots in Arizona. A very large part of these were country sales, while a very small per cent were sold through the Los Angeles Union Stock Yards.

Auction Sales. Approximately 100,000 head of cattle were sold through auction sales during 1954. It is probable that fully as many were sold through auctions in 1955. There are six major livestock auctions in the state; three in the Phoenix area, one each in Casa Grande, Tucson, and Willcox, Arizona. Three of the auctions, one in Phoenix, one in Tucson, and one in Casa Grande, issue weekly market reports.

Range Sales. Most of the cattle sold off the ranges are accounted for by range sales. Very few of the range cattle are sold through the central markets. During the fall of 1955 approximately 200,000 head of cattle moved off the ranges in Arizona. Part of these cattle did not change hands but were moved by owners into feedlots in central Arizona and Yuma. Some of the cattle sold through the auctions. It is estimated, however, that at least 150,000 head of cattle a year are sold directly off the ranges.

The Need for Market News Service in Arizona.

From the foregoing data it is apparent that at least 700,000 head of cattle and calves are involved in transactions in the state each year. There is no public market news service (with the exception of the Arizona Range Cattle Market Report published by the Agricultural Economics Department of the University of Arizona) for cattle prices. There are two organizations that report the sales of their memberships but these are not public. The three auctions previously mentioned report their sales, but this information is not coordinated with other sales.

With the concentration of livestock auctions, cattle feeding, and slaughtering facilities in the central part of the state, it would be relatively easy to gather the information needed to report the feedlot and auction sales.

It also appears from the results obtained by this department that range sales could be reported without too much difficulty since most of the information can be obtained by telephone from a centrally located office.