A History of Vegetable Crops in New Mexico

NEW MEXICO STATE UNIVERSITY

AGRICULTURAL EXPERIMENT STATION • BULLETIN 624

August 1974 Las Cruces, New Mexico

SUMMARY

The availability of water and its salinity have strongly influenced the development of the vegetable industry in New Mexico.

The Indians were producing vegetables and other crops under irrigation when the Spanish arrived in New Mexico. The Spanish continued irrigated vegetable production and introduced some new vegetable crops.

As settlement of the New Mexico territory progressed, more vegetable production was needed to satisfy local markets. Water, however, was a limiting factor. Through the years, producers planted vegetables in the spring and harvested them in the fall, because that was the tradition and water was available then. Fall planting and spring harvest were implemented only with improvement of surface water and groundwater availability.

Vegetable processing increased substantially in New Mexico during World War II because of increased demand. Surface water shortages in the late 1940s and early 1950s led to increased use of groundwater. Improved water supplies contributed to two-season cropping, with a fresh market orientation. New Mexico vegetable processing declined as a result of competition from other areas and a lack of organization.

By the 1960s, strong regional vegetable markets had been developed in nearby states. These markets, with limited interregional competition, were principally for fresh produce. New Mexico vegetable producers competed in these markets with limited formal organization.

Southwest commercial vegetable production is nomadic because climatic differences are used to achieve successive harvest dates. This permits a continuity of supply availability over a longer time and enhances suppliers' market position. This is the reason that outside influence has almost always instigated large-scale vegetable production and marketing in New Mexico. The lack of industry organization in New Mexico has contributed to the state's being treated as a residual supplier in national markets.

Opportunities for expanding the vegetable industry in New Mexico include satisfying an increasing demand for chile and chile products; expanding vegetable processing; utilizing successive harvest periods to lengthen New Mexico's produce marketing seasons; and supplying the potential for mixed vegetable shipments. Achieving national prominence through these opportunities will necessitate an element of industry cohesiveness and organization.

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> About six centuries ago, prehistoric farming people occupied what are now the ruins of villages along the slopes of the Sacramento Mountains. They cultivated maize, beans, pumpkins and possibly cotton, by means of irrigation canals which connected their fields with nearby springs. . .[2]

Vegetable production under irrigation has been a part of the state's agricultural base for centuries. Early Spanish settlers adopted the irrigation methods developed by the Indians and successfully grew chile, assorted vegetables (73), corn, and squash (58). In the frontier land, such production was essential for subsistence because there was no way to transport food into the area.

Throughout the state's long history in vegetable production, different crops have exhibited prosperous periods of development. A physical constraint to vegetable production has been limited and undependable water supplies. This single barrier directed New Mexico's agricultural industry toward a high dependency on livestock (58).

This report compiles the history of vegetable production and marketing in New Mexico. The perspective of the successes and failures with vegetables may be of use to people who are considering vegetable production in New Mexico and those already engaged in the business.

PERTINENT ERA DEVELOPMENTS

Before 1885

It is generally accepted that Indian populations thousands of years ago crossed the Bering Strait from Asia. A nomadic people, dependent on fresh meat, they followed game herds traversing the continent

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[2]Work Progress Administration, 1938 Plaque in White Sands National Monument Museum.

southward and eventually reached what is now the southwestern United States.

Between 5,000 B.C. and 1 A.D., the desert Indians began to establish a less transient culture. Corn, squash, beans, and gourds were among the first crops to be cultivated. By 1 A.D., these vegetables were flourishing in garden patches of the Mogollon Indians in the Gila River area of southwestern New Mexico (5).

The Pueblo culture, which began to develop around 700 A.D., introduced irrigation improvements such as small dams to collect summer rain runoff (74). Their cultivated crops included corn, squash, beans, gourds, native onion, mustard, and potatoes (5).

By the 14th century, various segments of the Pueblo culture had returned to a nomadic existence. This movement may have been initiated by a 30-year drought during the 12th century and later perpetuated by marauding Indian tribes moving in from the north and the east (61).

Early in the 16th century, Spanish explorers found remnant settlements of the Pueblo culture. In settling the Rio Grande Valley, the Spanish adopted the Indians' agricultural methods (73). In their explorations, the Spanish discovered new crops and often carried old crops to new areas (47). In this way chile pepper, native to tropical climates such as the West Indies and Peru, and watermelon, native to Africa, were introduced to the Southwest (3). The Spanish also introduced implements for easier cultivation such as the hoe, axe, and crude ox-drawn plow (86).

Agriculture in the Southwest remained relatively stable in the early 1800s. The Mexican War left the United States with a clearly defined New Mexico territory.

American settlers in search of new land and opportunities began to move into the territory in the late 1800s. Livestock was the dominant industry (65), and the eastern New Mexico territory became an important cattle-producing region (80). During this period, vegetable production was limited to supplying family needs and community markets.

Mormons settled the area near Bluewater around 1880. By irrigating the land surrounding Bluewater Creek, they produced vegetables for their own consumption (79).

In the late 1800s, treaties between the United States government and Indian tribes designated lands in northwestern New Mexico as reservations (63). Livestock production was the dominant economic activity on these reservations. Vegetables were produced in small quantities for local needs.

The northeastern portion of New Mexico was explored by trappers and later developed under the influence of the Santa Fe trail. Stock raising was and remains the dominant agricultural enterprise. Begin-

ning in 1872, irrigated land was farmed in conjunction with livestock production, the main crops being alfalfa and silage (106).

The Deming area was devoted primarily to cattle grazing, due to the lack of water, until 1909 (83).

1886-1917

Land in more arid areas was less densely settled under the Homestead Act of 1862 because of the high initial expense for constructing irrigation facilities. The people who settled these lands were generally unable to cope with the adverse farming conditions (6). For example, in the semi-arid region near Deming, water was first pumped for crop production in 1909, but these attempts were abandoned by 1915 because of such problems as high lift for irrigation water; small profits on adapted crops; inefficient and expensive pump equipment; low productivity of soils; unfamiliarity of land owners with western farming techniques; distance to markets; and high freight rates (83). It was not until 1928 that a water-users' association near Deming was formed, partially to cope with these problems.

On November 14, 1889 the Board of Regents of the Agricultural College of New Mexico was organized (2). By 1890, land preparation was underway to conduct research experiments on various crops, including vegetables (3), and by December 1891, the first report on vegetable-production potential was published by the Experiment Station (8).

Uncertainty of the availability of irrigation water plagued cropping efforts. In 1900, Goss stated that a means for water storage must be provided, wells must be drilled, or agriculture in the lower Rio Grande Valley must be abandoned (45). According to Vernon, uncertain river water supplies in the late 1800s had discouraged vegetable production (103). He reported that, in 1900, only 1,004 acres of land in New Mexico were pump irrigated and 203,000 acres were irrigated from rivers and streams.

During this period, Mexican farmers also encountered water shortages, which precipitated protests by the Mexican government. As a result, the United States placed an embargo on water development in New Mexico and Colorado. The 1902 Reclamation Act established a federal fund to construct storage and power dams and establish canals for irrigation (1).

Completion of Elephant Butte Reservoir in 1916 provided the means to control the water supply to the Rio Grande Valley in southern New Mexico and Mexico, easing water crises. Controlled water supply allowed a three-fold increase in land under cultivation in the Mesilla Valley (65). Other dams in New Mexico built or controlled by

provisions of the 1902 Reclamation Act include Caballo, El Vado, Carson, Santa Cruz, Alamogordo, Conchas, San Acacio, and Navajo (109).

World War I had a profound influence on national agriculture. The following actions to increase agricultural production directly affected New Mexico:

- Homesteading on 320 acres was encouraged further instead of being restricted to 160 acres.
- On May 2, 1917, the U. S. Department of Labor waived restrictions on immigration from below the Rio Grande, so that 29,000 Mexican laborers could work on western and southwestern farms. This action set a pattern that was to be repeated in World War II and a policy that was to be frequently urged by western farmers in later years.
- The U. S. Department of Agriculture increased the supply of professional advisers authorized by the Smith-Lever Act of 1914 to assist farmers (6).

Throughout this period, the proportion of New Mexico's population in agriculture increased enormously (51). Availability of cheap land with rich soil and healthful climate were added incentives promoting growth in New Mexico's agriculture.

1918-1928

Irrigation developments in New Mexico raised groundwater tables. To alleviate this problem, drainage was begun in the Pecos Valley in 1912 and in the Mesilla Valley in 1919. Because of the high salt content of the soil and water and because vegetable crops require frequent water applications, cotton, wheat, and barley were the crops recommended during reclamation (7).

In 1925-26, New Mexico had two fruit and vegetable marketing associations, one in Otero County and the other in De Baca, with a total of 45 members handling an annual product value of $51,357. The principal reason for relatively few fruit and vegetable associations centered around management difficulties associated with highly perishable commodities (105).

1929-1934

Nearly one million farmers in the United States lost their farms to creditor agencies between 1930 and 1934 (6). Irrigation projects funded during this period under the 1902 Reclamation Act made

water available to a greater portion of farmers, with the direct intent of increasing agricultural income (107).

During Roosevelt's New Deal, the Agricultural Adjustment Act was passed to improve the farmer's economic condition by raising farm prices. Increased prices, particularly for cotton and grain, inadvertently discouraged national production of vegetables. Despite this, between 1928 and 1934, vegetable acreage expanded by 27 percent in New Mexico, chiefly where cotton was plowed up under government programs (110).

Truck shipments of vegetables to Texas and Oklahoma also increased during this period, as new markets were established for New Mexico produce (23). Many people who owned trucks and were otherwise unemployed in Texas and Oklahoma entered New Mexico, picked up available produce, and hauled it back to market (21). These amateur truckers often resorted to cutthroat tactics which almost eliminated established trucking operations in the area.

Formation of the Middle Rio Grande Conservancy District in 1934 increased the acreage of irrigated land in the state (49). At this time, government relief programs encouraged people to locate in the Bosque area, south of Albuquerque. Under the guidance of State College personnel, each person was given approximately 12 acres of land for farming (64). Albuquerque vegetable growers during this period had some trouble selling their produce because of out-of-state mixed truckloads coming into the city. Since the farms were small, growers would have had to organize to expand their markets beyond Albuquerque. As of 1933, there were no canneries, marketing associations, or vegetable contracting in the Middle Rio Grande Valley (27).

A major factor affecting expansion of the New Mexico produce industry in the early 1930s was the establishment of vegetable production in the Brownsville, Texas area. There, three crops could be grown in a year, and the region commanded a transportation advantage to densely populated markets in Texas (64).

1935-1938

Before the 1930s, New Mexico's surplus agricultural products had to be transported long distances, largely by rail, to markets in densely populated area. For this reason, producers concentrated on nonperishable commodities, such as sheep, cattle, wool, cotton, dry beans, and alfalfa seed (49). At the same time, water availability varied considerably, making vegetable production risky. Crop production varied with anticipated water and markets.

The advent of trucking stimulated higher production levels. By 1938, truck lines were in operation from El Paso to San Antonio,

Houston, Dallas, Amarillo, and Oklahoma City. This enhanced the market potential for New Mexico vegetables (24).

Cotton had become so important in the Mesilla Valley that the agricultural structure (timing of irrigation water distribution and marketing orientation, for example) of the region centered around its production. The principal vegetable crops were cantaloupes, sweet-potatoes, cabbage, tomatoes, and onions. Production of these crops was limited, due to the high priority placed on cotton.

In general, New Mexico had a mid-season or intermediate marketing position in relation to competing areas (24). Most marketing took place during August and September; however, considerable variation occurred in marketing dates between areas. Vegetable crops from the irrigated valleys at lower altitudes were ready for marketing before those of the higher mountain areas (23). Producers could not plant vegetables in the fall for spring harvest because there was no irrigation water in the winter. The potential for fall planting, however, was recognized as early as 1890 by horticulturists at New Mexico State University (3).

During this period, marketing problems included storage for perishable vegetables in hot weather and small size of vegetable farms. These problems arose when growers attempted to supply quality produce in high volume for national buyers on an individual basis, rather than through an organization.

1939-1941

In 1941, the New Mexico Legislature established the New Mexico Fruit and Vegetable Standardization Service, administered by the NMSU Board of Regents, to accomplish the following:

- Develop grades and standards for commodities;
- Develop methods of preparing fruits and vegetables for market, including packing and uniform containers;
- Encourage improved production methods for production of high-quality fruit and vegetables, uniform planting dates, and improved harvest and marketing methods;
- Develop an adequate market news service, including the listing of producers, area and seasonal prices, and seasonal demands of the consumer; and
- Disseminate general publicity and other information to the agricultural community (110).

During this period, the university horticulturists continued intensive research to determine crop suitability in all areas of the state (34).

1942-1945

The United States' entry into World War II created a reordering of national agricultural priorities. Overproduction concerns which prevailed throughout the 1930s were abandoned. Manpower demands of the armed services and industry greatly diminished the available farm labor supply. As a result of this labor shortage, agricultural producers increased their reliance on machinery. In 1945, 28 percent of the farms had tractors and 34 percent had trucks. This change was primarily associated with larger farms (20). Mexican laborers were again transported across the border to western states. German and Italian prisoners of war were also used as farm laborers in 1944 and 1945. Las Cruces had two prisoner-of-war camps that provided workers on local farms through coordination by the Farm Bureau (64). A prisoner-of-war camp at Roswell provided labor to harvest fresh tomatoes (110).

Throughout the war years, national agricultural output expanded 25 percent. However, wartime demand for agricultural goods was extremely high and the nation was constantly under threat of inflation. Federal wage and price controls, along with a good rationing program, were implemented in 1942 to regulate demand.

In 1943, a direct federal agricultural production payments program was instituted in accordance with an already operative production goals system. This program was designed to encourage the growing of potatoes, dry beans, and fresh truck crops.

The concept of government subsidies to insure agricultural production stability was revived during this period. By August 1943, government subsidy programs regulated the production of meat, butter, coffee, most fish, and certain vegetables. In 1945, processed vegetables (canned soups, peas, corn, tomato items, and snap beans) were subsidized to provide growers with greater returns and to offset increased canning costs.

W. A. Wunsch, New Mexico Fruit and Vegetable Standardization Service, assessed New Mexico vegetable marketing in 1943. He anticipated that there would be too few producer-dealers, marketing associations, and other marketing organizations with adequate grading, packing, and storing facilities to handle the expected increases in production. He estimated that about 10,000 acres of commercial vegetables were being produced in the state, with the following acreages: Irish potatoes, 2,401; carrots, 2,368; snap beans, 1,560; tomatoes, 1,060; cabbage, 110; lettuce, 705; cantaloupe, 485; onions, 400; and green peas, 300. These vegetables were marketed by farmers to canning plants and to truckers, wholesalers, and dealers for fresh market. Since past marketing practices had not encouraged the establishment of adequate grading, packing, and storing facilities

at central assembling points, Wunsch thought that vegetable producers would face a serious problem in marketing their products.

1946-1953

Strong demand for agricultural commodities continued throughout post-war years. The wartime rationing policy was abolished, and prices began to rise, as demand for goods exceeded existing supplies. Nonfarm workers requested wage increases to compensate for rising prices. An inflationary psychology began to dominate the nation's economy.

United States agricultural exports declined somewhat in 1950 but still exceeded pre-war levels. The inflationary trend in the nation began to subside, at least temporarily. The Korean War, however, soon removed pressures on demand and stimulated price increases. The Agricultural Act of 1949 had a high mandatory price support program for various commodities, including cotton (6).

Diminishing water supplies in certain areas of New Mexico hampered established vegetable production. From 1945 to 1954, water runoff into the Rio Grande was 56 percent of the previous 10-year period (84). During World War II, irrigated acreage had increased, increasing the demand for available water. This resulting water shortage was most critical in 1952, although it continued through 1956. In an effort to maintain production, area farmers now found it economically feasible to drill wells to obtain groundwater.

In the Mesilla Valley, delivery of surface water ended each year in late September, primarily because the water was not needed any later for cotton production. Farmers who drilled wells, however, could supply their water needs after September for late fall crops (onions and lettuce) (110).

Until this period of drought, variable river flow resulted in acreage and crop changes to meet anticipated water situations. However, the potential threat of severe water shortages contributed to increased specialization among products (28).

Marketing conditions as reported in 1952 (46) were similar to those reported in the late 1930s (24). A major problem was the lack of a central marketplace. Cutthroat competition between producers, truckers, and wholesalers retarded progress in development of orderly marketing of New Mexico vegetables.

1954-1960

The shift to additional groundwater use in New Mexico continued. Before 1946, there were only 11 wells in the Mesilla Valley; by 1955,

there were 1,682 wells in the valley (28). Since groundwater tends to be lower quality than surface water, expanded usage contributed to increases in the soluble salt content of the soil. Water releases from Elephant Butte Reservoir were limited for vegetable crops because cotton acreage received preferential irrigation privileges. By 1957, Duisberg reported that Mesilla Valley crop production was restricted to growing more salt-tolerant crops, including cotton (84).

In 1955, the New Mexico State Department of Agriculture was established, with the Fruit and Vegetable Standardization Service under its administrative supervision (52).

By 1958, these vegetable marketing associations were operating in New Mexico: Santo Tomas Produce Association, Mesquite; Artesia Vegetable Growers Association, Artesia; Mimbres Valley Farmers Association, Deming; Mimbres Valley Vegetable Growers, Deming; Animas Produce Association, Animas; Lovington Vegetable Growers Association, Lovington; Peanut Growers Association, Portales; and Sweet Potato Growers Association, Portales (68).

1961-1973

In recent years, agricultural programs have directed increased effort to improve dietary habits of low-income groups. Federal food stamp and commodity distribution programs are prime examples of this activity. These programs increased the demand for agricultural goods.

In 1961, the Agricultural Marketing Agreement Act of 1937 was amended to broaden the applicability for marketing agreements and orders. By 1972, there were 49 agreements and orders for fruits, vegetables, and nuts in effect throughout the nation (98). Peanuts are the only New Mexico crop under these marketing regulations; they are covered by a marketing agreement.

Over this period, major changes occurred within the produce-marketing industry. The broker-shipper business began to diversify shipments by loading two or more commodities (mixed loads) in a carlot. Food chains began to buy produce directly from shipping points (96). The effort to provide a large supply of a given produce over a long period of time further encouraged large-scale production.

In 1969, there were 345 New Mexico farms reporting vegetable production on 14,336 acres (95). That year, vegetables (excluding chile) ranked fourth in the value of New Mexico agricultural products, at $14.3 million (97), behind alfalfa, grain, and cotton and cottonseed. Ninety-eight percent of the gross value of off-farm vegetable sales was derived from the fresh market (97). New Mexico vegetable production is concentrated in Dona Ana County, where 74 percent of the 1969 vegetable acreage was located on 198 farms (95).

Northern New Mexico vegetable output is derived primarily from many small farms. Roadside stands and local retail stores provide the outlets (85). Vastine and Burke (102) mentioned the absence of vegetable-processing facilities in northern New Mexico but concluded that there was little interest in producing commodities new to the area. They also concluded that production practices would have to be changed drastically before a stable processing industry could be established in Rio Arriba, Santa Fe, and Sandoval counties of New Mexico.

Still critical in New Mexico is the limited supply of water. In 1970, there were 1,273,000 acres of irrigated cropland in New Mexico. Nearly one-fourth of this acreage was in Curry and Roosevelt counties, where water is being mined, since no regularly flowing streams replenish the underground supply. Water-mining problems are also of concern in the Estancia Valley and parts of the Tularosa Basin and Mimbres Valley (71). On the other hand, the Navajo Indian Irrigation Project is a 110,630-acre irrigation development under construction in northwestern New Mexico. The first water for this project will be available in 1976, with 10,000 acres being added each year until the project is completed (55).

PRODUCTION AND MARKETING CHRONOLOGY OF SELECTED VEGETABLES

The preceding section presents a chronological sequence of events and influences affecting New Mexico vegetable production. This section contains information on production and marketing developments for selected vegetables.

Asparagus

Asparagus, never a major crop in New Mexico, has occasionally been grown with other vegetables in various marketing endeavors. In 1891, experimental trials yielded an early spring crop in the Mesilla Valley (8), and asparagus was grown in Dona Ana and Luna counties around 1918 (36). In the Middle Rio Grande Valley, fresh asparagus was produced for local markets in the 1930s, but lack of capital and seeped saline soils hampered its production there (26).

In an end-of-year summary for 1943, El Paso newspapers (33) mentioned that asparagus from the Rio Grande Valley was sold on the fresh market.

In March 1956, Frio Frozen Foods of Anthony was reported to have 200 acres of early asparagus planted (70). The company, which was also to have processed English peas, broccoli, and spinach,

encountered financial difficulties in its initial stages, and Mountain Pass Canning Co. eventually bought the land and incomplete buildings as the basis for their present canning operation (31). Asparagus production in New Mexico reached a peak of approximately 400 harvested acres in the 1950s and was marketed fresh only (110).

A potential for asparagus production and canning was defined for the Navajo Indian Irrigation project in 1972. The harvest period (April to mid-June) would permit a project cannery to start operations early in the season (43).

In 1972, approximately 68 percent of the United States asparagus production was processed, mostly in California, Washington, and Michigan. Locational climatic differences in New Mexico would permit production of spring and late spring crops. Asparagus marketed fresh at these times would compete with production from California in the spring and Washington, the Midwest, and eastern states in the late spring (99).

Green Beans

The agricultural census has not reported green bean production in New Mexico since 1959. Before that, production was erratic (87, 88, 89, 93, 94, 95), as the following data show:

Year	*County*	*Green Bean Acreage*
1929	Dona Ana	53
	Mora	115
	Roosevelt	61
1934	San Juan	146
	Valencia	207
	Sandoval	34
	Otero	65
	Roosevelt	228
1939	Roosevelt	468
1945	Lincoln	97
	Roosevelt	1,556
1949	Roosevelt	422
1959	Lea	76

Only Roosevelt County displayed any production consistency.

Cockerill (21) stated, in 1936, that commercial green bean production was limited in New Mexico because the crop was highly speculative: plant diseases and insects kept the national supply erratic, and crop perishability kept the market price erratic. Fresh green beans from New Mexico were marketed from July 15 to October 10 (23).

From 1943 to 1955, a locally owned cannery in Portales processed both tomatoes and green beans (77). The management contracted irrigated acreage for crop production, and sold the product in California, with the higher quality going to Safeway. High production costs and low prices caused the cannery to close (11).

Fresh green beans were also shipped to markets in Texas from the Portales area (26).

Since 1955, green beans have not been important in New Mexico commercial vegetable production. Recently, however, fresh green beans have been sold at farmers' markets, which have become popular around the state.

Approximately 79 percent of the green beans in the United States are processed. Oregon, Wisconsin, and New York produce most of the crop for processing. In New Mexico, green beans may be harvested for the commercial fresh market in the summer and early fall. Competition for markets would be principally with New York and North Carolina in the summer and with Virginia and California in the early fall (99).

Cabbage

In the early 1900s cabbage was the most widely grown vegetable crop in New Mexico (36). It was grown commercially in many New Mexico mountain valleys, particularly in the Ruidoso and Hondo valleys of Lincoln County (26). Carlots of cabbage were shipped to Dallas, Fort Worth, Kansas City, and points east as price commanded, but there were difficulties in marketing this produce in interstate markets (75, 110). During the commercial harvest season (May, June, and July), cabbage was also plentiful in home gardens in near-by states. Walker found a direct relationship between unemployment levels and cabbage prices (104).

Cabbage production was first recorded in New Mexico in 1918, when 180 acres were harvested (table 1). Its production was encouraged in southern New Mexico by the Cooperative Extension Service to help meet demands of World War I (17). By 1928, cabbage production expanded to 500 acres, with yields averaging 140 hundredweight per acre. In lower New Mexico valleys, the crop was also planted for fall harvest. Farmers in the Mesilla Valley hauled cabbage loose in

Table 1: Cabbage, fresh market: Acreage, yield, production, price, and value, New Mexico, 1918 to 1956

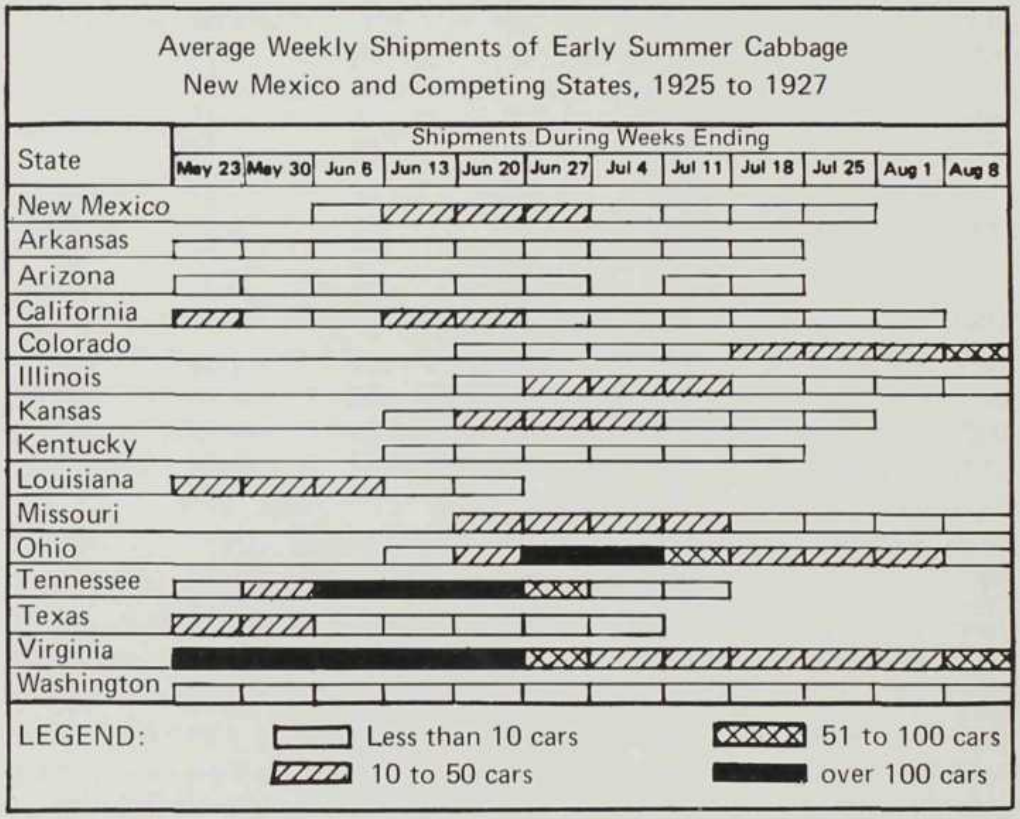
Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1918		180	140	26	2.00	52
1919		200	140	28	1.00	28
1920		200	120	24	1.30	31
1921		130	160	20	1.40	28
1922		400	180	72	1.13	81
1923		300	140	42	2.51	105
1924		400	120	48	1.75	84
1925		400	140	56	2.13	119
1926		500	160	80	1.61	129
1927		600	140	84	3.31	278
1928		500	140	70	1.00	70
1929		600	100	60	1.10	66
1930		450	116	52	1.00	52
1931		400	124	50	.75	38
1932		600	110	66	.85	56
1933		500	110	56	1.25	70
1934		980	100	98	.90	88
1935		900	90	80	.52	42
1936		700	112	78	2.25	176
1937		750	106	80	.95	76
1938		700	100	70	.90	63
1939		1,200	108	130	1.25	162
1940		1,400	130	182	.70	127
1941		1,000	100	100	.75	75
1942		1,100	112	124	1.30	161
1943		1,100	170	188	2.23	418
1944		900	180	162	1.75	284
1945		1,000	160	160	1.00	160
1946	860	860	120	104	1.50	156
1947	600	600	100	60	4.00	240
1948	450	450	100	44	3.00	132
1949	520	520	110	57	2.00	114
1950	520	520	120	62	2.00	124
1951	520	400	100	40	3.00	120
1952	300	300	100	30	2.75	82
1953	300	300	110	33	3.75	124
1954	350	350	110	38	1.25	48
1955	300	300	105	32	1.80	58
1956	250	250	112	28	3.00	84
1957	Estimates discontinued					

Source: New Mexico Department of Agriculture in cooperation with USDA, SRS, New Mexico Agricultural Statistics, Vol. I, September 1962.

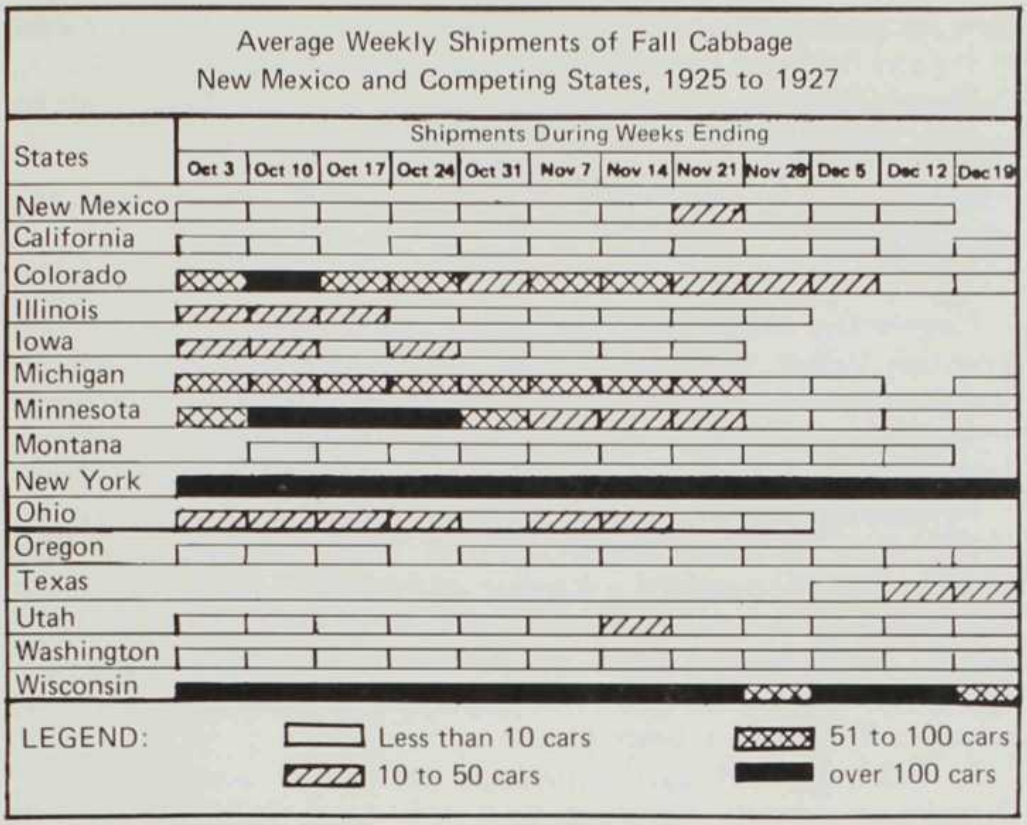
wagons to shipping points, damaging and diminishing produce quality (64). New Mexico's position in the early summer and fall national cabbage market from 1925 to 1927 is shown in the figures. In the Middle Rio Grande Valley, cabbage was grown primarily for local markets (27).

In 1929, a Mississippi River flood caused a national cabbage shortage (64). As a result, New Mexico growers received increased prices and appear to have responded with increased acreage in following years.

By 1939, cabbage production had increased to 1,200 acres. Most of the increase was in the Grants-Bluewater area. This production development extended the fall marketing season from September to November. New Mexico was then marketing cabbage almost continuously from June through November. Although cabbage was adapted to Grants-Bluewater, production was later discontinued because national markets had large cabbage supplies in the fall. Cabbage was the major vegetable in the Ruidoso, Bonito, and Hondo



Source: Walker, A. L. An Analysis of the Cabbage Market with Respect to New Mexico Conditions. New Mexico Agricultural Experiment Station Bulletin No. 167, April, 1928.



Source: Walker, A.L. An Analysis of the Cabbage Market with Respect to New Mexico Conditions. New Mexico Agricultural Experiment Station Bulletin No. 167, April, 1928.

valleys (26). The high mountain valleys continued to produce cabbage for the late summer market. Cloudcroft produced cabbage heads of seven to eight pounds, which were purchased by the military during World War II. After the war, civilian demand was for 3- to 4-pound heads. The result was a decline in Cloudcroft cabbage production (110).

New Mexico cabbage growers competed with producers in Kansas, Missouri, and Colorado for regional markets in Texas and Oklahoma. This competition and the decline of vegetable production in the Grants-Bluewater area contributed to a decreased New Mexico cabbage production (64).

Estimates of cabbage production were discontinued in 1957. Since then, approximately 60 to 200 acres of cabbage per year have been planted in New Mexico for the commercial market (60). The majority of production has been in the Mesilla, Rincon, and Uvas valleys. Since 1958, Santo Tomas Produce Association has planted approximately 60 acres of cabbage each year, for eastern markets (53).

New Mexico's commercial fresh market cabbage is harvested in the spring and fall, with the main competition from Colorado, Texas, and California (60). In 1972, California and Colorado cabbage yields per acre averaged approximately 250 hundredweight (99).

Cantaloupes

Large-scale commercial cantaloupe production started in the Arkansas Valley, Colorado. Around 1910, industry leaders saw an opportunity to lengthen the harvest season with successive cantaloupe marketings, extending from the Imperial Valley, California, to Yuma, Arizona; then Phoenix, Arizona; New Mexico; and Colorado (52).

Commercial cantaloupe production in New Mexico began around 1917, when shippers from California came into southern New Mexico. They encouraged a number of Japanese families (also from California) to locate in southern New Mexico and produce cantaloupes. Local growers began to participate. By 1920, there were 2,520 harvested acres of cantaloupes in New Mexico (table 2), mostly in Dona Ana County (100).

In 1932, New Mexico cantaloupe production was 3,100 acres. Cantaloupe acreage never reached this level again, although in several years the commercial farm market price was over $4 per hundredweight. In southern New Mexico, growers' agents handled the specialized task of marketing. They often shipped carlots with the hope of selling them enroute. Disputes over unsold carlots arose among growers, agents, and the railroads and reduced confidence in marketing this New Mexico crop. As a result, the railroad sought legislation leading to the 1941 Fruit and Vegetable Standardization Act for New Mexico. The legislation helped secure more orderly marketing procedures (110).

During the 1930s, Mesilla Valley remained the state's largest commercial cantaloupe-producing area, but uncertainty over cantaloupe prices led many Mesilla Valley farmers to increase cotton production. In addition, nematode infestations reduced the sugar content and therefore the quality in melons (56, July 23, 1968). Nematode control in the 1930s was not economically feasible (17).

Cantaloupes and other melons were dominant vegetable crops in the Middle Rio Grande Valley. Out-of-state truck shipments began to supply local markets, however, and production expansion did not appear feasible (27). Cantaloupes were grown near Roswell and Portales and in Eddy County to supply limited local demand and regional markets in north Texas and Oklahoma (21, 110). Indians on the Navajo Reservation produced and sold cantaloupe, watermelon, pumpkin, and squash for local consumption (26).

Table 2: Cantaloupes, fresh market: Acreage, yield, production, price and value, New Mexico, 1918 to 1965

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1918		630	105	66	2.14	141
1919		780	140	109	1.79	195
1920		2,520	140	353	1.79	630
1921		1,200	126	151	1.21	181
1922		1,100	88	97	2.07	200
1923		1,400	117	164	1.93	316
1924		1,550	140	217	1.93	418
1925		2,000	105	210	1.79	375
1926		2,000	119	238	1.50	357
1927		2,000	88	175	1.13	250
1928		1,400	95	132	1.57	208
1929		1,450	78	113	1.54	174
1930		1,750	92	160	1.50	240
1931		1,900	108	205	.57	117
1932		3,100	75	255[a]	.50	99
1933		1,800	78	140[a]	.36	41
1934		1,250	92	116	1.07	124
1935		1,050	88	92	.82	76
1936		1,150	103	118	.99	116
1937		1,100	72	79	1.01	80
1938		1,050	95	100	1.22	122
1939		2,100	75	157	.84	132
1940		1,300	75	97	.96	94
1941		1,100	83	91	1.63	148
1942		900	66	60	4.16	248
1943		750	108	81	4.10	333
1944		900	79	71	2.59	185
1945		1,400	33	46	3.01	140
1946	2,100	2,100	66	139	4.22	588
1947	1,500	1,500	75	112	2.95	331
1948	1,400	1,400	75	105	2.23	233
1949	900	900	75	68	3.00	204
1950	1,600	1,500	90	135	2.60	351
1951	600	600	65	39	2.55	99
1952	400	400	75	30	3.25	98
1953	800	600	70	42	2.10	88
1954	800	800	75	60	2.00	120
1955	900	900	60	54	1.75	94
1956	800	700	55	38	1.35	51
1957	400	400	55	22	3.00	66

Table 2. Continued

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1958	1,200	1,200	55	66[a]	4.05	227
1959	600	600	70	42	4.10	172
1960	1,000	700	45	32	3.10	99
1961	400	300	60	18	4.10	74
1962	1,000	900	65	58	4.40	150
1963	350	300	60	18	2.30	41
1964	500	500	60	30	2.50	75
1965	Discontinued					

[a] Includes production not marketed and excluded in computing value: 1932, 57,000 cwt; 1933, 24,000 cwt; 1958, 10,000 cwt.

Source: New Mexico Department of Agriculture in Cooperation with U.S.D.A., S.R.S., New Mexico Agricultural Statistics, Vol. I-Sept, 1962, and Vol. VI-June, 1967, Las Cruces, New Mexico.

At Fort Sumner, a cooperative marketed cantaloupes from 1944 to 1949 (110). A large portion of the 2,100 acres of cantaloupe produced in New Mexico in 1946 came from Fort Sumner. Without grower contracts, the cooperative eventually found supplies uncertain, and by the early 1950s commercial production ceased. Fort Sumner cantaloupes were of high quality, and nematode infestations never evolved (9).

New Mexico harvested approximately 1,000 acres of cantaloupes per year during the late 1940s. Increasing competition with the San Joaquin Valley resulted in a decline of the New Mexico cantaloupe industry (52). Furthermore, yields of 73 hundredweight per acre were lower than past averages. The high price for this period was $4.22 per hundredweight in 1946, but prices had declined to a low of $2.10 per hundredweight in 1953.

Cantaloupes were shipped by rail to eastern markets in Chicago and New York and by truck to border state markets in Texas, Oklahoma, and Colorado. The main areas of production were Fort Sumner, Lovington, Tularosa, Tucumcari, and Mesilla Valley. Shipping from Tularosa and Lovington was small and mostly by truck (56, Aug. 1950).

By 1956, cantaloupe production in the Mesilla Valley had declined even further because crating costs had increased and freight rates to eastern markets almost doubled. That year, only 700 acres of cantaloupe were harvested in New Mexico, with 500 acres grown near Tucumcari (56, 1957)

The Tucumcari Cooperative Marketing Association had been formed in 1953 (70, Jan. 1953), primarily to market cantaloupe, although a few other vegetables were attempted in later years. The entire operation proved "too risky" for growers and ceased around 1958 (72). In 1961, the Northeastern Substation at Tucumcari reported cantaloupe to be one of the more promising crops for the area (108).

The USDA Statistical Reporting Service discontinued cantaloupe production data for New Mexico in 1965. In the early 1960s, the production, scattered throughout the state, averaged 400 acres per year. Price declined steadily, reaching $2.50 per hundredweight in 1964 (table 2).

New Mexico cantaloupe growers experienced strong competition from producers in California, Texas, Arizona, and Colorado. California provided over half of the nation's cantaloupe production in 1963, and 80 percent of this output was marketed in July and August. This competition was difficult and New Mexico yields were below those of all competing states except Texas (50).

The last major commercial effort toward cantaloupe production was in 1968, when about 200 acres were planted in the Mesilla Valley, under contracts to the Growers Exchange of Glendale, Arizona (56, July 23, 1968). Heavy rains (60) and inexperienced personnel (52) combined to quell further pursuit of the idea after 1968.

In 1970, Trujillo and Corgan reported that cantaloupes had good production potential in northern New Mexico, provided improved markets were developed (85).

Carrots

The earliest reference to large-scale carrot production in New Mexico was in 1938 (23). Cockerill reported that growers near Roswell were marketing carrots outside New Mexico each year during July and early August, competing primarily with California production and having problems due to lack of uniformity, small volume, and unattractive bunches.

About that time, a decline in carrot and other vegetable production along the Penasco River was reported to be due to scarce water supply. These crops were shipped by truck to markets in Texas and Oklahoma (110).

The Grants-Bluewater area began intensive vegetable production in 1939, the first year New Mexico carrot data were reported by the USDA Statistical Reporting Service (table 3). According to R. A. Card, former shipper in the Grants area, his company, Stanley and Card Shippers, was attracted to this area from Phoenix to grow summer lettuce. Carrots brought greater returns, however, and became

Table 3: Carrots, fresh market: Acreage, yield, production, price and value, New Mexico, 1939 to 1965

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1939		500	55	28	2.40	66
1940		350	155	54	3.20	173
1941		1,500	90	135	2.30	310
1942		1,900	165	314	3.30	1,035
1943		2,200	153	336	3.90	1,308
1944		1,700	230	391	2.50	978
1945		2,700	145	392	2.50	979
1946	2,600	2,600	130	338	3.00	1,014
1947	2,200	1,800	175	315	4.70	1,480
1948	2,500	2,200	163	358	2.90	906
1949	2,500	2,500	180	450	4.40	1,980
1950	2,400	2,400	205	492	2.30	1,132
1951	2,600	2,600	185	481	3.20	1,539
1952	2,300	2,300	195	448	2.30	1,030
1953	2,000	2,000	160	320	3.10	992
1954	2,300	1,800	150	270	3.00	810
1955	2,200	1,800	190	342	3.60	1,231
1956	1,300	1,300	150	195	2.50	488
1957	1,500	1,400	170	238	3.30	785
1958	1,400	1,200	200	240[a]	2.35	482
1959	1,400	950	170	162	2.30	373
1960	200	200	150	30	2.20	66
1961	150	150	140	21	1.85	39
1962	300	250	160	40	2.25	90
1963	180	180	195	35	2.15	75
1964	320	280	160	45	2.45	110
1965	250	120	160	19	0[b]	0[b]

[a]Includes 35,000 cwt not marketed and excluded in computing value.

[b]Not reported

Source: New Mexico Department of Agriculture in cooperation with USDA, SRS, New Mexico Agricultural Statistics, Vol. I-1962, Vol. II-1963, Vol. III-1964, Vol. V-1966, Las Cruces, New Mexico.

the dominant crop. Freight rates from this area east were lower than from competing areas in Arizona and California. Within two years, seven additional shippers from California and Arizona were competing in the area. Labor was scarce during these pre-war years, but Navajo Indians contributed a willing and adequate manpower for the Grants area during this period (14).

By 1941, the Grants area had 700 acres planted to carrots, which were harvested from August 10 to November 10 (24). Ice to preserve the high quality of the carrots was obtained from Belen. As acreage increased, the demand for ice exceeded the Belen supplies, so growers established their own ice plant (14). The Rio Grande Produce Company in Los Lunas began carrot production in 1943, increasing New Mexico's share of the carrot market to over 2,000 harvest acres (110).

Water shortages in 1943 provided an incentive for well drilling (79). A buildup in soil salinity and an increase by 1952 in the demand for water for uranium mining and city growth (110) greatly curtailed large-scale vegetable production in this area. In addition, around 1953, the introduction of refrigerated cars and the marketing of carrots in cellophane bags contributed to the decline. Carrots from the Grants area had been noted for their green tops. Production also suffered following the death of two area shippers (14).

In the late 1950s, carrots were grown in the Deming area and harvested from September 1 to October 31 (68). Approximately 1,000 acres per year were planted under contract with the Deming Vegetable Cooperative (in operation from about 1955 to 1962). The carrots were graded and marketed fresh in bulk (75-pound bags). This production was discontinued because the bracero labor program was abolished and markets were poor (4).

Carrot production and price generally declined in the state from 1953 to 1960 (table 3). In 1960, only 200 acres of carrots were harvested at $2.20 per hundredweight. In the early 1960s, Valencia, Lea, Otero, Eddy, and Bernalillo counties reported carrot production. When estimates were discontinued in 1965, Valencia County was the only county to report production (67).

In 1961 experimental plantings at the Northeastern Branch Station indicated that carrots were a promising crop for the Tucumcari area (108).

The last commercial carrot production in New Mexico was at Roswell, beginning around 1966 (10, 18). A packing company, Schoenburg Bros. Produce of Arizona, contracted the production, with growers receiving a fresh market price of approximately $20 per ton. At first, a packing shed was established at Roswell, but later the carrots were trucked to Levelland, Texas (10). The entire operation was dissolved after three years due to grower-broker incompatibility (18). Since then, New Mexico carrot production has been for home gardens and farmers' markets.

In 1970, Trujillo and Corgan reported carrots to have good production potential in northern New Mexico, provided improved markets could be developed (85).

Chile

Chile has been produced in the Rio Grande Valley for almost 400 years (12). The following excerpt from the Rio Abajo Press, February 2, 1863 (78), indicates the importance of the crop more than 100 years ago:

> Congress takes fifty thousand dollars out of the pockets of the people of the United States to make us good roads for intercommunication and the transportation of chile colorado to market.

Chile and jalapeno peppers are pungent members of the same botanical genus, *Capsicum,* to which bell peppers belong. Chile is eaten green or red.

Green chile, the immature fruit, is classified according to pungency, which varies from mild to very hot. Green chile may also be classified as long or short; jalapeno chile is a short green chile known for its extreme pungency. Green chiles are also prized for their savoriness and fleshiness.

Red chile is the mature fruit of the pepper plant. Most red chile is processed for use in food coloring. Because of its pungency and flavor, it may also be processed for use in sauces, blends, and seasonings.

The cayenne and tabasco peppers, used in sauces for flavoring, are extremely hot peppers used only in minute portions at any one time. These peppers are not produced commercially in New Mexico, although they have been introduced experimentally (62).

Garcia reported in 1908 that green chile was being canned in Las Cruces, New Mexico and Los Angeles, California (39).

In 1919, Valencia, Sandoval, Socorro, and Dona Ana counties were producing the largest acreages of chile in New Mexico. The average market price for fresh green chile was $20 per ton. Appearance of fusarium wilt increased the risk associated with chile production (57). In the 1930s, Indians on the Laguna Reservation produced vegetables for their own use, chile being the principal crop. The shortage of irrigation water limited that vegetable production (26).

Until 1944, the state's chile marketing was highly informal, and product quality apparently was not related to price. Growers in northern New Mexico had begun selling ground red chile to market outlets in Colorado, Arizona, and Texas. In southern New Mexico, sizable quantities of red chile were produced and sold to processors, brokers, and buyers, with a few growers contracting to California canneries (19). Barker's Enterprises, Las Cruces, produced sizable quantities of chile transplants until the death of the producer in the 1950s (10, 17).

The New Mexico Fruit and Vegetable Standardization Service in the early 1940s proposed preliminary standards for sun-dried red chile with the following grades: New Mexico Fancy, New Mexico No. 1, New Mexico No. 2, and New Mexico Sample Grade (19). These were never adopted at the federal level, and to date standards for grades of unprocessed chile do not exist (60).

A 1961 report on vegetable variety trials at the Northeastern Branch Station, in Tucumcari, mentioned green chile for commercial processing as a promising crop, although hail in late spring may be a production hazard (108).

In New Mexico, approximately 10 commercial chile-processing enterprises now can or freeze red and green chile products or dehydrate red chile. Significant quantities of New Mexico chile are also processed in Texas and California (60). Red chile dehydrators were introduced into New Mexico in the early 1960s, and they largely replaced the sun-drying process (110).

National chile production data are not available from the USDA Statistical Reporting Service since national acreage is relatively small (101). However, chile acreage estimates for New Mexico are available since 1970 (table 4). These estimates do not distinguish among types of chile, but they are a beginning in providing an improved industry data base. Additional data on chile production and price may very well serve as an incentive to further industry development. New Mexico chile acreage has continually increased from 1970 to 1973. Much of the crop is produced along the Rio Grande Valley, with Dona Ana County having the largest acreage.

Prices for red chile in 1972 ranged from $0.60 to $1.00 per pound in northern New Mexico roadside stands and local markets. Processing plants paid $0.30 to $0.35 per pound for red chile. Green chile ranged from $0.10 to $0.25 per pound in roadside stands and local markets throughout the state. Processing plants paid from $0.03 to $0.04 per pound for green chile. Processors' prices varied with negotiation of delivery or pickup. The majority of commercial chile farmers operated under contract because of lower price risk. All prices for chile in 1973 were slightly higher than 1972, due to an increased demand and lower yields (54).

Most chile is hand-harvested with mechanical aids such as conveyor belts moving the produce into bulk bins. Mechanization of red chile harvesting equipment is in the trial stage; less than 0.1 percent is harvested in this manner (62). The New Mexico State University Agricultural Experiment Station is evaluating machine components for selective harvest of red and green chile.[3] Private concerns in the state are also working to mechanize chile harvesting.

[3]Project Statement 4106-524, "The Effect of Machine Component Design and Plant Characteristic on Mechanical Harvesting of Chile," New Mexico Agri. Expt. Sta.

Table 4. New Mexico chile acreage, 1970 to 1973, by county[1]

County	Year			
	1970	1971	1972	1973
Bernalillo	60	100	150	150
Rio Arriba	100	100	150	250
Sandoval	10	150	200	200
San Juan	30	30	30	30
Santa Fe	30	30	30	30
Valencia	100	150	220	220
Total	330	560	780	880
Guadalupe	--	--	60	60
Quay	20	20	30	30
Roosevelt	40	20	20	20
San Miguel	60	50	30	30
Total	120	90	140	140
Hidalgo	--	--	20	5
Luna	1,100	1,100	830	640
Sierra	900	700	700	1,000
Socorro	100	100	100	100
Total	2,100	1,900	1,650	1,745
Dona Ana	3,000	4,000	4,500	4,900
Chaves	--	100	20	40
Eddy	--	50	50	50
Lea	--	10	--	10
Otero	--	--	10	10
Total	3,000	4,160	4,580	5,010
TOTAL	5,550	6,710	7,150	7,775

[1]Plots of less than one acre are not included in these figures.

Source: New Mexico Agriculture 1970, 1971, 1972, Preliminary 1973, Agricultural Experiment Station Research Reports 195, 235, and 260, Las Cruces, New Mexico.

An increased interest in chile promotion is developing in the state. In 1972, the Hatch Chamber of Commerce coordinated the first annual Hatch Chile Festival. The festival includes, for example, displays, cooking contests, chile judging contests, and chile dish categories. The 1973 festival registry revealed names from many states, Australia, and Korea (81). Another chile promotion group, the International Connoisseurs of Green and Red Chile, was organized by the NMSU Alumni Association in 1973. The organization, which promotes chile consumption throughout the world, has over 1,500 members throughout the United States and in nine foreign countries (29).

Cucumbers

Cucumber production for fresh market and pickling has been of minor importance in New Mexico. Agricultural census data (87, 88, 89, 93, 94, 95) reveals scattered small acreages over the years.

Commercial production for the fresh market was first mentioned in New Mexico as being near Cloudcroft and Mayhill, in 1947, when 800 to 1,000 acres of vegetables, including cucumbers, were produced in the area (56, Aug. 29, 1947).

In the 1960s interest in cucumbers apparently increased; the 1964 agricultural census data (94) shows the following acreages:

County	*Cucumber Acreage*
Dona Ana	745
Otero	40
San Juan	20
Sierra	841

In 1965, some processors considered contracting for pickling cucumber production in New Mexico, mostly because they had encountered labor problems in established eastern production areas. The C and S Packing Company, in Isleta, contracted 71 acres in 1965 and 80 acres in 1966 for pickling cucumber production in San Miguel and Guadalupe counties. Additional acreage was contracted throughout the Rio Grande Valley, with emphasis in Sierra and Dona Ana counties. Cucumbers grown in San Miguel and Guadalupe counties were graded at Ribera and Anton Chico and then transported to Isleta two or three times a week as volume demanded. Quality control was a major problem, since delay between harvesting and pickling lowered quality. Lack of financing and management problems contributed to cessation around 1968 (48, 54). Yields ranged from 1.8 to 4.5 tons per acre (68).

Small acreages of slicing cucumbers have been grown in recent years in southern New Mexico by Louisiana Strawberry and Vegetable Company and Santo Tomas Produce Association on a commercial basis. These cucumbers, marketed nationally, are part of an overall crop mix.

Nationally, 70 percent of the cucumbers was processed in 1972. The average yield for processing in the western states was 10 tons per acre; Colorado, Washington, and California were the major producers. New Mexico cucumbers produced for the fresh market compete with early fall production in Virginia, South Carolina, Texas, and California. Fresh market yields in these states averaged 85 hundredweight per acre in 1972 (99).

Lettuce

In 1918, only Luna and Otero counties in New Mexico were reported to produce lettuce (36). Production in the early fall in New Mexico was initially recorded in 1924 (table 5). In 1929, Colfax County reported 132 acres of the 275 acres of lettuce harvested in New Mexico (87). Lettuce acreage in other counties was as follows:

County	*Lettuce Acreage*
Bernalillo	15
Catron	1
Chaves	11
Dona Ana	9
Grant	24
Guadalupe	24
Harding	3
Hidalgo	5
Lea	1
Lincoln	8
Luna	1
McKinley	5
Mora	5
Otero	3
Rio Arriba	7
Roosevelt	1
Sandoval	3
San Juan	1
San Miguel	9
Santa Fe	1
Sierra	1
Taos	2
Torrance	1
Valencia	2

New Mexico's fall lettuce harvest was usually September 1 through November 15 (23).

By 1943, lettuce production was concentrated in nine areas of the state: Las Vegas, Ute Park, Bluewater, Belen, Socorro, Dona Ana County, Cloudcroft, Springer, and Los Lunas. At this time, the market expanded for crisp head lettuce, which was produced primarily in the western states; butterhead lettuce, produced in the East, began to relinquish dominance in the market (76).

Studies on lettuce seeding dates, started in 1942 at New Mexico State University, showed that lettuce planted in December in southern New Mexico produced a marketable crop in the spring, when lettuce

Table 5. Early fall lettuce, fresh market: Acreage, yield, production, price, and value, New Mexico, 1924 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1924		250	158	39	2.21	87
1925		600	105	63	2.50	158
1926		1,030	53	54	2.36	127
1927		410	101	41	1.07	44
1928		430	49	21	1.93	40
1929	275[a]	250	56	14	1.71	24
1930		200	56	11	1.50	17
1931		200	76	15	1.29	20
1932		20	70	1	1.79	2
1933		200	67	13	1.71	23
1934		480	63	30	2.43	73
1935		420	67	28	2.43	68
1936		200	63	13	2.86	36
1937		200	70	14	2.14	30
1938		150	70	11	1.79	19
1939		450	74	33	1.93	63
1940		600	67	40	1.79	71
1941		600	74	44	2.00	88
1942		430	58	25	3.77	94
1943		530	63	33	4.39	146
1944		270	94	26	3.67	94
1945		430	103	44	3.75	165
1946	460	460	101	47	3.21	150
1947	350	350	117	41	3.53	143
1948	450	450	98	44	1.99	87
1949	800	650	86	56	2.95	165
1950	600	600	100	60	1.60	96
1951	600	600	115	69	2.25	155
1952	900	900	170	153	2.55	390
1953	1,000	1,000	165	165	2.90	478
1954	1,100	900	155	140	2.10	294
1955	800	800	175	140	2.20	308
1956	800	700	160	112	4.10	459
1957	800	800	165	132	3.80	502
1958	2,800	2,000	160	320[b]	2.70	756
1959	1,600	1,400	170	238	4.20	1,000
1960	1,200	1,000	180	180	4.85	873
1961	700	650	200	130	3.55	462
1962	700	650	180	117	5.80	679
1963	1,000	700	250	175	4.10	718

Table 5. Continued

Year	Acreage Planted	Acreage Harvested	Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1964	1,300	1,200	260	312	3.95	1,232
1965	2,700	2,500	170	425[a]	4.95	2,108
1966	2,800	2,700	250	675	5.80	3,915
1967	5,000	4,600	250	1,150	5.30	6,095
1968	6,800	6,400	250	1,150	4.70	6,768
1969	5,600	5,100	210	1,071	7.54	8,075
1970	5,100	4,300	200	860	5.10	4,386
1971	3,900	3,500	220	770	9.06	6,976
1972[c]	4,200	3,300	215	710	5.44	3,862

[a]Source—1930 Agricultural Censes, U.S. Department of Commerce, Bureau of Census.

[b]Includes some quantities not marketed and excluded in computing value.

[c]Preliminary.

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico State University, New Mexico Agricultural Statistics, Vol. VIII, July 1973.

prices were generally high. The New Mexico Fruit and Vegetable Standardization Service encouraged growers to try this new spring crop (110).

During the 1950s, New Mexico lettuce acreage increased significantly. Commercial spring lettuce was initially recorded in 1956 (table 6). In the early '50s, the major fall lettuce production areas were in the Mesilla Valley, near Animas, and near Albuquerque.

A structural change occurred in the lettuce industry during this period. Vacuum cooling was introduced, so that lettuce could be packed in the field, transported to vacuum coolers, cooled, loaded in refrigerated rail cars or trucks, and shipped.

New lettuce production areas, developed around 1955, included Artesia, Cloudcroft, Grants, Animas, Rodeo, and Lovington. These production attempts were short-lived. By 1958, production had stabilized in Dona Ana, Bernalillo, Valencia, Torrance, Luna, Sierra, and Socorro counties, and these areas are still producing the crop.

In 1967, spring and fall lettuce gross sales were the highest of any crop in Dona Ana County, surpassing cotton and cottonseed (69, November, 1968; 98). Since the market is inherently unstable, lettuce does not always bring the highest gross sales, but the crop is estab-

Table 6. Early spring lettuce, fresh market: Acreage, yield, production, price, and value, New Mexico, 1956 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1956	250	250	140	35	2.50	88
1957	800	800	185	148	4.40	651
1958	2,400	2,100	170	357[a]	4.90	1,392
1959	1,900	1,200	160	192[a]	2.40	300
1960	1,400	1,100	135	148	2.95	437
1961	600	450	255	115	4.80	552
1962	390	350	270	94	6.30	592
1963	600	550	250	138	3.55	490
1964	950	650	170	110	2.85	314
1965	1,300	1,200	275	330	9.30	3,069
1966	2,500	2,200	150	330[a]	2.85	941
1967	3,500	3,100	260	806	6.90	5,561
1968	5,300	4,600	164	754[a]	2.95	2,224
1969	5,000	4,800	150	720[a]	3.58	2,578
1970	3,400	3,000	140	420	2.82	1,184
1971	2,000	1,900	180	342	4.20	1,436
1972[b]	1,800	1,300	150	195	3.54	690

[a] Includes quantities not harvested or not marketed and excluded in computing value.

[b] Preliminary.

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico Agricultural Statistics, Vol. VII, July 1973.

lished as an important source of agricultural income in southern New Mexico.

New Mexico lettuce acreage in 1969 was eleven times that in 1956, and the number of shippers had increased sixfold (16). New Mexico fall lettuce goes to market as the Salinas and Watsonville production in California declines and before the Arizona district harvest. The Mesilla Valley spring harvest season is generally very short, from May 1 to June 6. This short season places the New Mexico crop at a marketing disadvantage, in competition with the California spring crop. A longer harvesting season would improve the competitive position of New Mexico's spring lettuce.

In 1970, preliminary hearings were held on a proposed lettuce marketing order and agreement for California, Arizona, Colorado,

New Mexico, and western portions of Texas. The marketing order would have regulated production quality and quantity, established container specifications, and provided for marketing information and research and development activities (15). The order was defeated by producer referendum in 1971.

Onions

In 1904, Fabian Garcia reported that the comparatively high production costs were leading to a decline in onion acreage (41). By 1912, however, bulb onions from the Mesilla Valley, Lake Arthur, Artesia, Dayton, Lakewood, and Portales were shipped to fresh-market outlets in Denver and Chicago (40), and by 1918, onions were produced in 13 counties in New Mexico (36).

From 1925 through 1928, shipments of New Mexico onions were as follows (22):

Year	*Carlots*
1925	10
1926	12
1927	17
1928	23

In 1936, the Pecos and Mesilla valley growers produced sizable quantities of onions; four major onion growers in the Mesilla Valley contracted and sold their crop through brokers (110). Onions were also grown along with other vegetables near Fort Sumner and shipped to markets in Albuquerque and Santa Fe (26).

Competition from Texas (the nation's largest onion producer at the time) and Colorado limited large-scale production expansion in the Pecos Valley, but some demand existed because of a seasonal gap between the early Texas and late Colorado onion crops (21). By 1938, Portales and Roswell had significantly increased onion marketing in the Lubbock and Amarillo, Texas areas during August. The usual harvest period for onions at this time in New Mexico was from July 1 to October 15 (23).

About 1938, Enzie found that onions could be fall seeded instead of transplanted in the spring (34). Producers adopted fall seeding readily, with the labor shortage of World War II. Following the war, New Mexico onion production increased gradually; it was first reported by the Statistical Reporting Service in 1948 (table 7).

In 1950, about 75 percent of the state's onions were shipped by rail to Chicago, St. Louis, and Philadelphia. The remainder were trucked to Texas and Oklahoma markets. These nearby onion

Table 7. Onions, fresh market: Acreage, yield, production, price and value, New Mexico, 1948 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1948	900	900	150	135	4.70	634
1949	1,600	1,100	150	164	3.00	495
1950	1,400	1,400	140	196	2.00	392
1951	1,000	1,000	145	145	2.40	348
1952	1,000	1,000	160	160	3.20	512
1953	1,700	1,700	120	204	2.40	490
1954	1,100	1,100	155	170	2.50	425
1955	1,100	1,100	195	214	1.80	385
1956	1,200	1,200	200	240	5.70	1,368
1957	2,300	2,300	260	598[a]	3.50	1,988
1958	2,600	2,100	265	556[a]	2.75	1,375
1959	3,100	2,600	275	715	2.50	1,788
1960	2,800	2,300	290	667[a]	2.65	1,635
1961	2,000	1,800	335	603	4.55	2,744
1962	2,200	2,100	280	588	3.80	2,234
1963	2,100	2,000	320	640	4.65	2,976
1964	2,600	2,500	280	700	2.80	1,960
1965	2,300	2,200	330	726	5.50	3,993
1966	4,300	4,000	250	1,000	4.35	4,350
1967	5,000	4,000	300	1,200[a]	3.15	3,780
1968	4,500	4,100	300	1,230	4.00	4,920
1969	3,600	3,400	275	935	3.52	3,291
1970	3,100	2,700	290	783	4.53	3,547
1971	2,700	2,600	300	780	4.12	3,214
1972[b]	3,300	3,300	360	1,188	7.65	9,088

[a] Includes quantities not marketed and excluded in computing value.

[b] Preliminary.

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico Agricultural Statistics, Vol. VII, July 1973.

markets, however, were easily over-supplied. Hall found that the main deterrent to expanding New Mexico onion production was growers' inability to market the crop; half of the onion growers favored cash sales in the field (46).

By 1959, Dona Ana, Lea, and Luna counties grew 90 to 95 percent of the commercial New Mexico onion acreage (82). Spring onions in

1963 comprised 70 percent of New Mexico's crop, and the remainder was harvested in late summer (13).

Today, onions are a leading commercial vegetable crop in New Mexico. There are eight onion shippers in southern New Mexico (66).

Southern New Mexico onions compete with those from Texas, California, Arizona, Washington, and Colorado. Most growers risk total investment in the crop, but some share the risk under arrangements with shippers. Harvest usually begins around May 25 with Grano and Granex varieties, followed by mid-summer hybrids, Pronto and Early Harvest, and the late Sweet Spanish crop usually running into early September. Some seasons there is a continuous flow of New Mexico onions, but in other years, weather conditions interrupt the shipments. Most of the crop is sold in nationwide fresh markets, with some going to onion-ring processors (60). Recently, some onion seed has been produced in the Mesilla Valley, usually under contract with California seed companies.

New Mexico onion growers compete principally with onions from Texas, New Jersey, and Washington. During the early summer harvest in 1972, Texas growers averaged an onion yield of 220 hundredweight per acre while New Mexico growers averaged 360 hundredweight (99 and table 7).

Peas

Commercial fresh market peas were produced in New Mexico from 1936 to 1956 (table 8). Production in 1939 was centered in three areas of the state: Grants-Bluewater, Ute Park, and Roosevelt County.

The only county production data available for New Mexico peas was in the agricultural census for 1945 (89):

County	*Pea Acreage*
Bernalillo	22
Dona Ana	18
Eddy	15
Rio Arriba	13
Roosevelt	2
Sandoval	18
San Juan	7
Santa Fe	10
San Miguel	10
Sierra	9
Valencia	38
Taos	9

Table 8. Green peas, fresh market: Acreage, yield, production, price and value, New Mexico, 1936 to 1956

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1936		350	18	6	3.00	19
1937		700	22	15	2.67	41
1938		650	18	12	2.67	31
1939		1,000	21	21	3.00	63
1940		550	21	11	2.00	23
1941		450	23	10	4.67	48
1942		380	26	10	6.67	64
1943		300	12	4	14.00	50
1944		230	27	6	5.00	32
1945		150	39	6	7.50	45
1946	500	500	15	8	6.00	45
1947	220	220	21	5	7.00	32
1948	170	170	24	4	3.33	14
1949	300	300	36	11	10.00	110
1950	230	230	40	9	6.65	60
1951	200	170	35	6	8.35	50
1952	150	150	54	8	5.00	40
1953	130	130	38	5	7.00	35
1954	120	120	75	9	5.00	45
1955	150	150	38	6	3.35	20
1956	140	140	50	7	4.85	34
1957	Estimates discontinued					

Source: New Mexico Department of Agriculture in cooperation with USDA, SRS, New Mexico Agricultural Statistics, Vol. I, September 1962.

The decline in New Mexico pea production may be due to a change in marketing from fresh to canned and frozen.

Some potential for fresh peas may exist locally with the increasing number of farmers' markets in the state.

Potatoes

Potatoes have a long history in New Mexico (table 9). Until 1940, commercial potato crops were grown primarily in northern counties under natural rainfall conditions. A minimum elevation of 7,500 feet was recommended because the crop was undependable at lower elevations (25, 36). In 1917, McKinley County led in potato production with San Juan County second.

Table 9. Potatoes: Acreage, yield, production, price and value, New Mexico, 1885 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1885		1,000	29	29	.53	16
1886		1,000	35	35	1.83	65
1887		1,000	29	29	.83	24
1888		1,000	35	35	.92	32
1889		1,000	35	35	.83	29
1890		1,000	35	35	1.58	55
1891		1,000	36	36	1.05	38
1892		1,000	33	33	1.33	44
1893		1,000	38	38	1.12	42
1894		1,000	35	35	1.33	47
1895		1,000	43	43	1.05	45
1896		1,000	40	40	1.13	45
1897		1,000	44	44	1.30	58
1898		1,000	44	44	1.30	57
1899		1,000	39	39	1.13	44
1900		1,000	18	18	1.90	34
1901		1,000	44	44	1.97	87
1902		1,000	44	44	1.35	59
1903		2,000	44	89	1.40	124
1904		2,000	46	92	1.30	120
1905		3,000	46	139	1.48	206
1906		3,000	48	144	1.50	216
1907		4,000	51	204	1.60	326
1908		4,000	45	180	1.50	270
1909		6,000	45	270	1.85	500
1910		8,000	21	168	1.58	266
1911		7,000	42	294	2.03	598
1912		6,000	41	248	1.73	431
1913		5,000	34	168	2.08	350
1914		5,000	42	210	1.87	392
1915		5,000	44	219	1.78	391
1916		4,000	43	170	2.48	423
1917		5,000	45	225	3.48	784
1918		4,000	38	154	3.00	461
1919		3,000	24	72	3.57	257
1920		3,000	30	90	4.47	402
1921		3,000	33	99	2.97	294
1922		3,000	21	63	3.00	189
1923		2,000	30	60	2.68	161
1924		2,000	31	62	2.08	130

Table 9. Continued

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1925		2,000	39	78	3.23	252
1926		3,000	42	126	2.95	372
1927		3,000	45	135	2.20	297
1928		4,000	49	197	1.68	331
1929	5,000	4,000	48	192	2.77	531
1930	6,000	5,000	42	210	2.23	469
1931	5,000	5,000	36	180	1.35	243
1932	6,000	6,000	43	259	1.05	272
1933	8,000	7,000	48	336	1.83	616
1934	6,000	5,000	32	159	1.53	244
1935	6,000	6,000	42	252	1.30	328
1936	6,000	5,000	54	270	2.10	567
1937	5,000	5,000	43	216	1.47	317
1938	5,000	5,000	45	225	1.33	300
1939	3,000	3,000	42	126	1.50	189
1940	2,500	2,500	43	108	1.30	140
1941	3,000	3,000	43	130	1.30	168
1942	3,200	3,200	51	163	2.20	359
1943	4,500	4,500	48	216	2.85	616
1944	3,500	3,500	51	179	2.67	477
1945	4,500	4,500	51	229	3.00	688
1946	3,500	3,500	60	210	2.62	550
1947	2,800	2,800	63	176	3.07	541
1948	1,800	1,800	72	130	2.78	361
1949	1,400	1,400	81	113	2.64	298
1950	1,400	1,400	84	118	2.26	267
1951	1,200	1,200	72	86	2.62	225
1952	900	900	60	54	3.66	198
1953	800	800	84	67	2.16	145
1954	800	800	106	85	2.22	189
1955	800	800	111	89	1.93	172
1956	1,500	1,500	150	225	2.55	574
1957	3,100	2,900	170	493	1.86	917
1958	3,200	3,200	170	544	2.00	1,088
1959	2,200	2,200	170	374	2.09	782
1960	2,500	2,300	185	426	2.85	1,214
1961	3,500	3,400	160	544	2.60	1,414
1962	3,400	3,300	165	544	2.55	1,387
1963	2,500	2,400	185	444	2.23	990
1964	1,800	1,700	165	280	2.14	599

Table 9. Continued

Year	Acreage Planted	Acreage Harvested	Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1965	2,300	2,200	160	352	2.50	880
1966	2,400	2,300	185	426	3.26	1,389
1967	3,300	3,100	200	620	2.48	1,538
1968	4,400	4,300	180	774	2.40	1,858
1969	3,100	2,900	165	479	2.38	1,140
1970	2,700	2,500	230	575	2.61	1,501
1971	2,600	2,400	200	480	2.75	1,320
1972[a]	3,200	3,200	275	880	3.15	2,772

[a]Preliminary.

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico State University, New Mexico Agricultural Statistics, Vol. I, September 1962, Vol. VII, July 1973.

County production data from the agricultural censuses for 1934 and 1939 show a decline in production as follows (88):

County	*Potato Acreage 1934*	*1939*
Catron	4	80
Colfax	239	67
Grant	316	201
Hidalgo	609	295
Lea	16	1
Luna	277	158
McKinley	372	183
Mora	30	14
Otero	67	1
Rio Arriba	617	164
Roosevelt	326	31
Sandoval	37	15
San Juan	1,198	386
Taos	56	26
Valencia	334	24

In 1936, Cockerill noted that the Texas-Oklahoma market had not been developed appreciably by New Mexico growers (21). Northern New Mexico potato growers were experiencing difficulty with low

rainfall, early and late blight, and psyllid yellows (an insect), especially near Mora (34).

By 1938, New Mexico's competition in the newly developed Texas potato market included California, Texas, Kansas, Arkansas, Idaho, Colorado, and Virginia. Rail carlot shipments of potatoes from New Mexico to Texas were uncommon because the railroad rate structure gave California the same freight advantage as New Mexico (23). The few potatoes produced in the Deming and Mimbres areas were marketed primarily to mining communities in southern New Mexico and Arizona (26, p. 102).

Efforts were underway to develop a medium-early crop with the White Rose variety in some irrigated areas of the state, principally near House. By the 1940s, New Mexico potato production was shifting (50); newer areas and growers' associations included House, with the House Potato Growers Association; Deming, with the Mimbres Valley Potato Growers Association (34, 110); Virden-Lordsburg, with the Duncan Valley Produce Growers Association, formed in 1934 (26 and 70, Apr. 1953); Grants; Mesilla Valley; and Estancia Valley. Potato production around Espanola began to decline with competition from Texas (59).

The following schedule shows the successive nature of the potato harvest throughout the state in the 1940s (33, January 21, 1944):

Area	*Harvest Period*
Deming, Virden, Dona Ana County	June
House, San Juan County	July and August
Cloudcroft, Grants, Las Vegas, Mora	September and October
Estancia	September to November 10

The main problem encountered with potato production was low yields. In 1947, Enzie identified three reasons for the low yields as 1) insects and pests, 2) limited suitable soil types in the irrigated valleys, and 3) water scarcity in the mountainous regions (35).

During the late 1940s, there was a federal potato support program (56, April 19, 1949). Many potato growers did not report acreage to the county Production Marketing Administration offices, and as a

result potato allotments for New Mexico were reduced from over 4,000 acres in 1943 to around 1,000 in 1949 (56, January 10, 1949). The high cost of seed potatoes from northern states and water scarcity also contributed to a declining interest in potato production.

By 1958, Estancia, Grants, Taos, Espanola, and Deming were the major potato-producing districts in New Mexico. Potato acreages were also reported in the following counties in 1959: Roosevelt, 130 acres; San Juan, 147 acres; and Santa Fe, 77 acres (94). In the early 1960s, one producer near Questa was marketing potatoes from more than 1,000 harvested acres. The isolated location near Questa hampered marketing, and when the promoter died, Questa potato operations declined (52).

Large-scale potato production was begun in the Estancia Valley in 1955. This accounts for the increases in harvested potato acreage around 1956, when 1,000 acres were planted under contract for $3.50 per hundredweight. Estancia Valley yields in 1956 were about 30,000 pounds per acre. In 1958, 1,400 acres were planted, with two Texas packers contracting the acreage. In 1960, 1,200 acres of potatoes were planted in the Estancia Valley, with 1,000 acres under contract. The potatoes were sold to Texas companies, one of which was the Howard Gault Farm of Hereford, Texas. Koozer Produce Company marketed both potatoes and lettuce produced in the Estancia Valley. Another Texas firm, Jorde Farms, grew potatoes in the Estancia Valley under contract for the Morton Potato Chip Company in Albuquerque (30). At present, some 600 acres are planted annually in Torrance County, contracted by the Clover Club Potato Chip Company of Albuquerque and the Howard Gault Company.

Other areas now producing potatoes include Santa Fe, San Juan, and Roosevelt counties. Potato production in Santa Fe County, primarily near Moriarity, is contracted along with Estancia production (59). Potato production in Roosevelt County has risen substantially in the last four years. Morton Potato Chip Company of Lubbock, Texas was operating in Estancia in 1964 and has switched the bulk of their contracts to growers in Roosevelt County. New irrigated farm land in northeast Roosevelt County was developed in the late 1960s. The sandy loam texture of the soil proved ideal for potatoes, and the shorter distance to market provided the incentive to move (77). In 1972, 1,350 acres of the 3,200 harvested acres of New Mexico potatoes were produced in Roosevelt County (67).

New Mexico potato yields per harvested acre have substantially increased since 1970 (table 9). These yields are now comparable with those obtained in Colorado (99).

Sweetpotatoes

In 1920, sweetpotatoes were produced commercially on 600 acres in Roosevelt County, 300 in Eddy County, and 300 in Dona Ana County (100). Other counties with sweetpotato acreage included:

County	*Sweetpotato Acreage*
De Baca	40
Grant	50
Guadalupe	50
Lea	100
Luna	50
Quay	100
Sierra	50
Socorro	50
Torrance	50
Union	100

Dona Ana County reported sweetpotato acreages until 1945, when 250 acres were harvested (109).

In 1936, Cockerill (21) suggested that sweetpotato production in New Mexico had limited market potential in Texas and Oklahoma since supply increases would severely reduce prices, and he recommended that sweetpotato production not be expanded. This could partially account for the decline in Dona Ana County production. As late as the 1950s, however, Barker's Enterprises, Las Cruces was producing sweetpotato slips (transplants) for nationwide distribution. This activity ceased with the death of the producer (10, 17).

Sweetpotatoes were produced at Fort Sumner and shipped to markets in Albuquerque and Santa Fe (26), but Roosevelt County remained the significant sweetpotato-producing area in the state (88, 89, 90, 91). The acreages there were as follows:

Year	*Sweetpotato Acreage*
1934	1,161
1939	1,228
1949	1,480
1954	873

In 1938, sweetpotato yields were favorable in the Portales area (23). A cooperative, established then to supply army contracts in Los Angeles, still exists today. A large portion of the area's production was shipped by rail and truck to this market outlet from September 1 to June 1. After World War II. Arizona began sweetpotato production and captured the Los Angeles market (77).

Table 10. Sweetpotatoes: Acreage, yield, production, price and value, New Mexico, 1959 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1959	1,400	1,400	105	147	3.97	584
1960	1,300	1,300	88	114	5.70	650
1961	1,800	1,700	100	170	5.40	918
1962	1,900	1,700	85	144	3.36	484
1963	1,300	1,100	90	99	4.34	430
1964	800	600	75	45	7.49	337
1965	800	800	75	60	5.31	319
1966	700	600	95	57	4.19	239
1967	400	400	90	36	5.81	209
1968	400	400	110	44	5.85	257
1969	400	350	95	33	NA	NA
1970	340	325	90	29	NA	NA
1971	340	330	65	21	NA	NA
1972	330	300	105	32	4.25	136

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico State University, New Mexico Agricultural Statistics, Vol. VII, July 1973.

Today, Roosevelt County produces almost all New Mexico's commercial sweetpotatoes, harvesting 300 to 400 acres annually (table 10). The crop is marketed through the Portales Sweet Potato Growers Association, the original cooperative. Markets are nationwide and include fresh, processed, and institutional (77).

Sweetpotato yields in New Mexico are comparable to yields nationwide. North Carolina, Louisiana, Virginia, and Texas are the major sweetpotato-producing states (99).

Tomatoes

In 1904, in the Lake Arthur area of the Pecos Valley, floods destroyed a private dam, which supplied water primarily for production of processing tomatoes for a cannery at Lakewood. The Santa Fe Railroad had promoted settlement in this region. Destruction of the dam temporarily reduced local agricultural activities, because water could be diverted only near the river. In 1906, the U. S. Bureau of Reclamation began construction on McMillian Reservoir near Lakewood (110).

In the early 1920s, a tomato canning industry developed in the Mesilla Valley (38). In 1926, the Mesilla Park Tomato Growers Association also shipped green tomatoes through brokers to eastern markets but discontinued the shipments after three years. Roswell and Portales also had tomato canneries at this time. Around 1928 or 1929, nematodes, western yellow blight (now curly top), and fusarium and verticillium wilts became severe problems in the Mesilla Valley. Growers in the Deming area then started production to supply the Mesilla Valley cannery (110). In 1928, Roosevelt County was the leading tomato producer, with 128 farms and 495 acres in production (87).

New Mexico tomato production increased approximately 45 percent between 1929 and 1934. Fresh tomatoes were marketed during peak competition with Florida, Texas, Mississippi, South Carolina, Georgia, Louisiana, Oklahoma, Arkansas, Tennessee, Virginia, and California (38).

In 1936, Cockerill (21) reported a good fresh tomato market in Texas and Oklahoma, because supplies were low from competing areas in East Texas. Inconsistent supplies from competing areas, however, was not an adequate basis for building a New Mexico tomato market. New Mexico tomatoes for fresh market were harvested from July 15 to October 15 (23). This was the peak harvest period for fresh tomatoes throughout the United States. Wunsch identified seven canneries processing New Mexico tomatoes in 1943: one in Portales, three in Canutillo, one in Hatch, one in Aztec, and one in Albuquerque. Normally a large percentage of the acreage was contracted to supply these canneries. In many instances, canning plants were used as a secondary outlet for fresh market tomatoes. During World War II, the federal government encouraged production of certain vegetables, including tomatoes for processing, which directly affected New Mexico production (20).

In the 1950s, tomatoes were produced throughout the state, as the following agricultural census data show (91, 92):

	Tomato Acreage	
County	*1954*	*1959*
Bernalillo	56	—
Dona Ana	103	—
Lea	772	—
Luna	37	1,213
Otero	5	125
Roosevelt	28	12
Sandoval	3	16
San Juan	13	11
Sierra	26	10
Valencia	14	29

Estimates of New Mexico fresh tomato acreage were discontinued in 1965 (table 11). The Lovington area produced tomatoes for local markets as well as Texas and Oklahoma (110). Roosevelt County produced mainly for local markets. In 1955, the Mimbres Valley Cannery, Inc. handled ripe tomatoes in Luna County (69, Aug. 12, 1955). The Socorro Vegetable Growers Association produced tomatoes for the Mountain Pass processing plant in Anthony, Texas. Production was later transferred to lower Dona Ana County nearer the Mountain Pass cannery (31).

At present all of the processing tomato acreage is in Dona Ana and Luna counties and is produced for Mountain Pass Canning Company of Anthony, Texas or Border Foods of Deming (31, 4). These tomatoes are primarily used as supplementary ingredients in various chile products.

Processing tomato yields in New Mexico are low compared with those in competing areas (table 12 and 99). California processing tomato yields averaged 25 tons per acre in 1972 (99).

Miscellaneous Vegetables

Bell pepper has been grown in the Mesilla Valley for many years by a few growers (17). Recently, the crop has been grown commercially in Dona Ana County. Santo Tomas Produce Association has produced bell pepper since 1971 (53), and Louisiana Strawberry

Table 11. Tomatoes, fresh market: Acreage, yield, production, price and value, New Mexico, 1957 to 1965

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1957	900	900	145	130	3.50	455
1958	400	400	120	48	3.50	168
1959	1,000	1,000	140	140	3.00	420
1960	550	550	110	60	3.00	180
1961	500	450	130	58	3.00	174
1962	600	550	170	94	2.75	258
1963	550	500	135	68	3.00	204
1964	550	500	135	68	2.75	187
1965	Estimates discontinued					

Source: New Mexico Department of Agriculture in cooperation with USDA, SRS, New Mexico Agricultural Statistics, Vol. IV, 1965.

Table 12. Tomatoes, for processing: Acreage, yield, production, price and value, New Mexico, 1960 to 1972

Year	Acreage		Yield per Harvested Acre	Production	Price per Cwt.	Value of Production
	Planted	Harvested				
	acres	acres	cwt.	1,000 cwt.	dollars	1,000 dol.
1960	1,100	750	12.4	9,300	27.50	256
1961	1,000	900	11.0	9,900	26.50	262
1962	1,500	1,400	13.5	18,900	27.50	520
1963	1,300	1,100	11.7	12,900	32.00	413
1964	1,300	1,200	10.0	12,000	32.20	386
1965	350	300	11.0	3,300	32.90	109
1966	650	500	10.0	5,000	34.00	170
1967	700	600	12.0	7,200	34.00	245
1968	1,100	900	14.0	12,600	34.00	428
1969	1,000	800	12.0	9,600	34.00	326
1970	1,100	700	10.0	7,000	34.00	238
1971	1,000	900	11.0	9,900	34.00	337
1972[a]	700	550	7.6	4,150	34.00	141

[a]Preliminary

Source: United States Department of Agriculture, New Mexico Livestock Reporting Service, Statistical Reporting Service, issued cooperatively with New Mexico Department of Agriculture, New Mexico Agricultural Statistics, Vol. VII, July 1973.

and Vegetable Company since 1970 (17). The potential for further development is good, because both quality and yield are high. However, strong competition may be experienced during the harvest season (62).

Eggplant faces a very limited market demand and shows limited promise for large-scale development.

Santo Tomas Produce Association also shipped sweet corn during the 1960s (52).

White corn and Indian corn are not normally considered vegetable crops, but the two crops provide basic ingredients in the diet of many New Mexicans. For the most part, corn for tortillas and other Mexican food products is shipped into New Mexico from West Texas, Kansas, Iowa, and Missouri. Only a little is grown in New Mexico even though the climate is suitable in many areas of the state.

Many vegetables are grown throughout the state for sale through roadside stands, pick-it-yourself operations, door-to-door sales, and farmers' markets. Sweet corn, tomatoes, squash, and chile are the most common of these.

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