

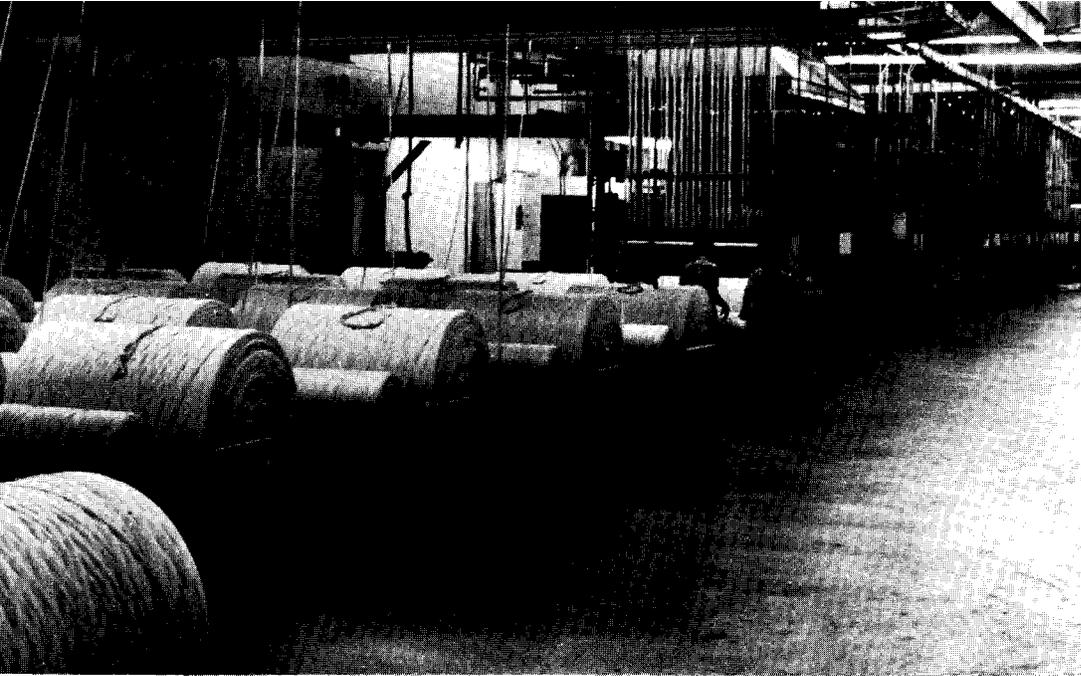
# **Cotton Cooperatives**

Farmer Cooperatives in the United States  
Cooperative Information Report 1, Section 18

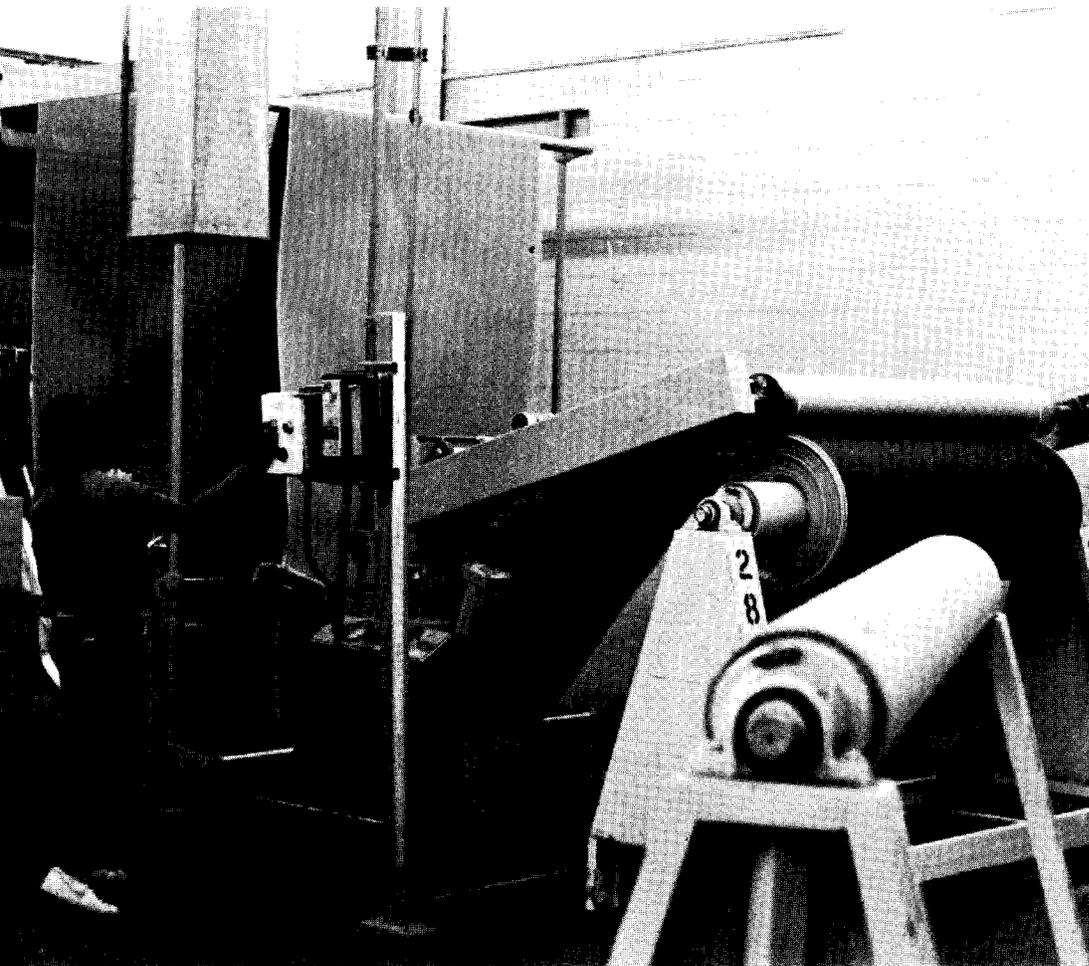
United States Department of Agriculture  
Agricultural Cooperative Service

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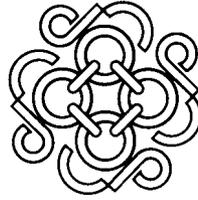
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*American Cotton Growers weaves cotton into denim at its Littlefield, TX, plant. Below, rolls of denim for blue jeans are being prepared for shipment.*



# Cotton Cooperatives



Numerous steps are required to prepare harvested seed cotton for entry into marketing channels as baled lint and cottonseed products. Farmer cooperatives play a major role in merchandising American cotton and cottonseed products, as well as performing and coordinating most of the services of the marketing system. Cooperatives are organized around four general functions: ginning, warehousing, lint merchandising, and cottonseed processing.

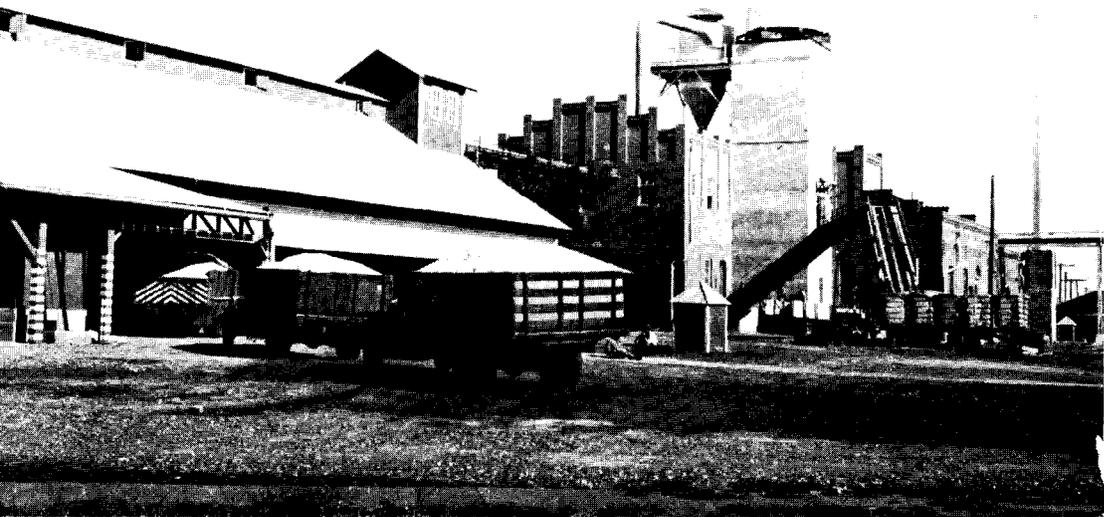
## Cooperative Gins

Ginning is the pivotal function between the harvesting and the marketing processes for cotton and cottonseed. Cotton farmers manage all production and harvest activities up to the ginning stage, which is usually organized as an off-farm industry. Ginning tends to be a specialized function because of its substantial overhead costs and scale economies. The fact that ginning is a part of harvesting but not under the farmers' supervision is one of the major reasons for organizing cooperative gins. The first major expansion of cooperative gins occurred in the period 1919 to 1939. Growers' had been faced with inadequate ginning capacity for securing prompt turnaround of their seed cotton wagons during the busy and short picking season. The cooperative gin permits greater member control over policies and practices, which is particularly important in maintaining fiber quality during the ginning process.

Gin managers sometimes provide ancillary services for the trading of cottonseed and cotton. During the 1930's, cooperative gins began to pool members' cottonseed and achieved direct access to the oil mills. Cooperative gins gradually began to establish federations to crush their own cottonseed. On the cotton lint side, cooperative gin managers



*Early cotton gin associations.*



expedite the transfer of documents and forward samples to the classing offices. The gin managers help keep records of their members' bales and qualities. Much of the cotton ginned by cooperatives is merchandised by regional cooperative marketing associations. Cooperatives have developed effective coordination of services between gins and marketing associations.

The number of cotton gins gradually declined during the 1970's. While total capacity of ginning has also declined, the capacity per gin has increased. The western sections of the Cotton Belt tend to have gins of larger capacity than the Midsouth and southeastern areas. The cooperative share of cotton ginning in terms of numbers of gins in 1981 was 414 out of 2,186 firms or about 19 percent. The share of total bales ginned fluctuates from year to year but is usually larger than 20 percent because of a large concentration of cooperative gins in many of the higher capacity utilization areas of the Cotton Belt.

The gradual decline and regional shifts in cotton production are not the only factors that influence the capacities and numbers of gins. Technological change since the 1960's, particularly the widespread adoption of mechanical picking, has substantially affected the ginning industry. The mechanization of picking concentrates seed cotton deliveries to the gin in a much shorter period of time, which places greater pressure on ginning capacity for prompt turnaround of trailers. The expanded use of seed cotton modules has greatly reduced the peak demand problem for many gins. New cotton handling technology for modules and other improvements, such as the universal density bale press, have influenced the trend toward larger and fewer gins. Since the late 1960's, there has been significant merging of cooperative gins and many of today's centralized and modernized facilities are cooperatively owned and operated.

In many of the southeastern and delta areas of the Cotton Belt, cooperatives that were originally organized to gin cotton have diversified into new lines of business. As members diversified into new crops such as grain or rice, their gin often became a local marketing association for these commodities or a handler of farm supplies. Some local associations terminated ginning operations due to a lack of member volume, but cotton ginning can be credited with introducing and demonstrating the value of cooperation to many farmers who shifted to other commodities.

Cooperative gins enable members to benefit from greater control over ginning—the part of harvesting that most farmers cannot economically own and operate individually. Cooperative ginning also has fostered similar cooperative organizations for other cotton industry services, as well as its application to other types of commodities.

## **Cooperative Compresses**

Cooperatives own about 20 percent of cotton compress and warehouse capacity and handle between 30-35 percent of the total amount of bales stored. Cooperative compresses are organized both as separate associations and as divisions of cotton marketing associations. The integration of warehousing with the merchandising of cotton has been a distinctive feature of cooperative enterprise, whereas traditionally these two functions have been organized as separate industries. The compress and warehouse industry is responsible for storage, weighing, and bale recompression for long-distance shipping; it also issues warehouse receipts. The latter service provides a negotiable document on every bale and enables the title transfer process to be carried out separately from the physical distribution of bales.

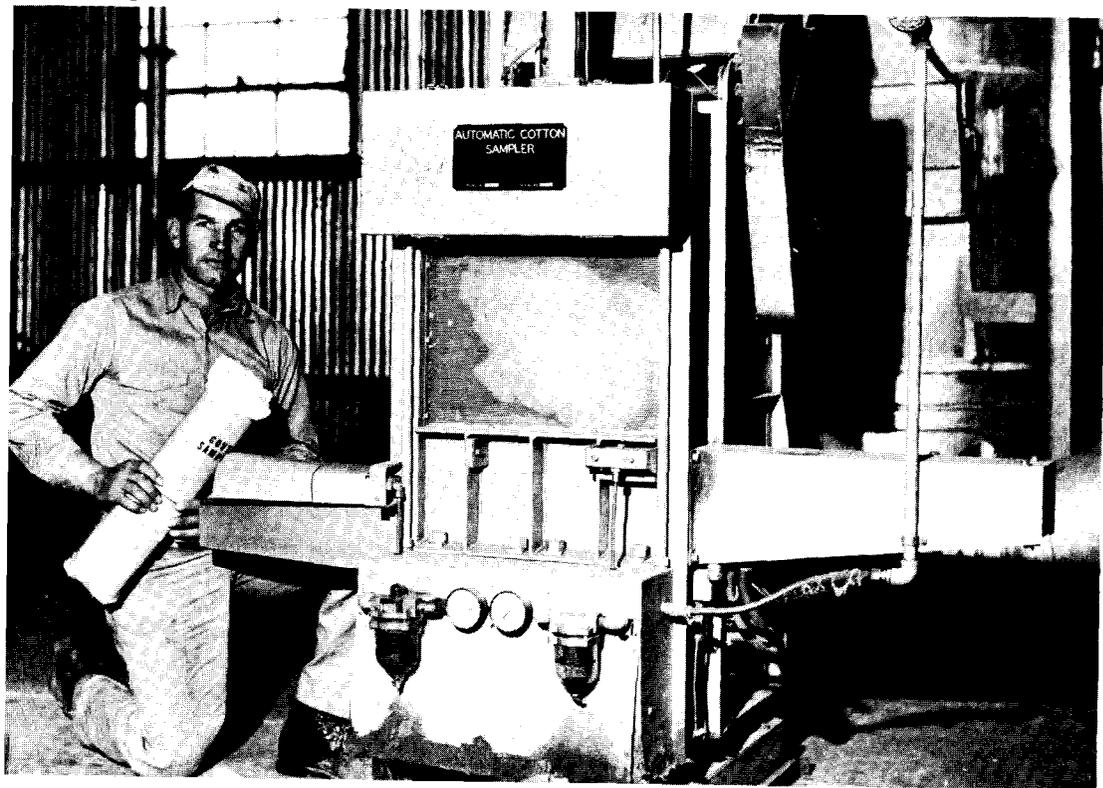
Cooperative involvement in the cotton compress industry has benefited producer-members both in terms of net savings and in providing greater assurance of convenient service. There are also advantages of improved coordination between warehousing and merchandising. For example, cooperative pooling and lint merchandising have reduced the incidence of repeated sampling of bales, which can be disruptive to compress operations. In addition, shipping savings are realized when marketing associations can consolidate shipments by a particular warehouse rather than spread throughout an entire compress facility. Further, computerized data processing is utilized at lower per bale costs by serving both cooperative merchandising and warehousing operations.

## **Lint Marketing Associations**

Cooperative cotton marketing associations merchandise between 30-40 percent of the U.S. crop in both export and domestic markets. Marketing associations vary substantially in size, with the smallest providing the basic functions of pooling and the assembly of uniform quality lots according to Government classification. Organizations that carry out these basic services are The Carolinas Cotton Growers Association, Raleigh, NC; and the Producers Marketing Association, Levelland, TX; as well as some smaller countywide cooperatives in the Southeast. Four large regional associations account for most of the cooperative volume: Staplcotn, Greenwood, MS; Calcot, Ltd., Bakersfield, CA; Plains Cotton Cooperative Association (PCCA), Lubbock, TX; and Southwestern Irrigated Cotton Growers Association (SWIG), El Paso, TX (table 1). The key distinguishing characteristics of these marketing cooperatives is their



*Cooperatives initiated programs to class producers' cotton, conducting classing schools. Automated sampling equipment helped speed up the cotton classing process.*



**Table 1 -Regional cotton marketing associations**

Name	Location	Members	Year Established
Staplcotn	Greenwood, MI	2,200	1921
CALCOT, Ltd.	Bakersfield, CA	3,800	1927
PCCA	Lubbock, TX	20,000	1953
SWIG	El Paso, TX	1,800	1926

fiber testing and export merchandising to all major domestic and foreign markets. These services have enabled farmers to share in value-added earnings and have contributed to the industry by increasing farmers' concern for quality and uniformity of cotton that is in greatest demand by textile mills worldwide.

Cooperative pooling programs are an effective method for farmers to sell their cotton. Pool earnings have consistently exceeded the average prices that producers received from local market selling. In the customary buy-sell method of trading in local markets, producers make individual and distinct transactions. Producers' involvement with the cotton is terminated at that point. By contrast, the members of a pool receive a seasonal average price for like qualities of cotton so that risk in the timing of sales is greatly reduced. Most cooperatives also offer a call pool for growers who want to fix their prices to the futures market while still having their bales physically handled and merchandised by their cooperative. In addition, the opportunity for greater earnings creates incentives for farmers to plant varieties that yield more marketable qualities of cotton. Furthermore, producers can reduce time and effort expended in market search that can be incurred when doing their own trading. When farmers organize the market search function on a cooperative basis, they have a staff of cotton marketing experts that devote their full time to identifying and securing the best opportunities in the marketplace. The cooperative also performs more efficiently the responsibilities involved with handling cotton after delivery to the gins than if each individual grower administers and contracts these tasks.

Cooperatives initiated several important innovations in the evolution of the present cotton marketing system. When the cooperative cotton pools were established in the 1920's, they provided a vehicle for pricing cotton according to quality. This was a service that the consignment method of selling had provided in the 19th century but that was dying out with the transition to a local market system. Cooperatives have continued to improve their pooling programs in regard to efficient pricing for quality by carrying out fiber testing and classifying. These services enable cooperatives to deal directly with textile mills. Furthermore, the cooperatives developed specialized quality groupings and test fiber



*Fiber testing has gradually become computerized, enabling cooperatives to keep detailed records for their members and to more effectively assemble uniform quality lots for their textile mill customers.*





*Littlefield (TX) Farmers Cooperative Gins has modernized with an automated handling system for receiving seed cotton. Inside the gin, seed is separated from the lint.*



characteristics that are not provided by government classing but demanded by textile mills.

Staplcotn set up the first set of standard types for staples. As the Cotton Belt expanded to the west, cooperatives were able to identify distinctive features of the cotton produced in their region, and established quality types according to textile mill demand specifications. Calcot established several type names such as Acme, Spur, Salo and others that cooperatives can supply to textile mills in large uniform quality lots. SWIG has done similar work in promoting the cotton distinctive to its region, such as the extra long staple varieties. The Plains Cotton Cooperative Association (PCCA) operates throughout the large geographical area of the Southern Plains, which produces mostly short-staple varieties with more diversity of quality than other Cotton Belt regions. Their major challenge has been to quickly and effectively perform large-scale fiber testing, and to this end they have made important adaptations in instrument testing.

In Cotton Belt regions where many producers prefer local market selling to pooling, cooperatives can improve the competitiveness of these markets by centralizing them and gaining access to more bids for each producer's bales. The major mechanism for this approach is electronic marketing. PCCA has been involved with electronic marketing since 1961 and by 1975 developed their program into a fully computerized system known as TELCOT.

Associations that market lint have a history of bringing innovations to the shipping of cotton that have helped reduce costs. During the 1960's, PCCA negotiated a program of reimbursement from the railroads on bales that could be more efficiently shipped by truck from the gins to the warehouses. Calcot is an industry leader in applying new transportation technology to long-distance shipping. It was a leader in the development of containerized shipping, which has benefited the cotton industry both by reducing the costs of handling and by improving maintenance of fiber quality. Calcot was also one of the first cotton shippers to use piggyback service (truck on rail) to move cotton to the textile mills. Finally, what is less an innovation and more a benefit of cooperative organization is the capture of benefits for growers from rail contract negotiation that is authorized under the Staggers Act of 1980.

The largest share of cooperative receipts of cotton is sold directly to textile mills. The largest constraint to direct cotton merchandising is the diversity of qualities demanded by thousands of textile mills throughout the world. Coverage of these markets requires sales representatives in the major textile industry centers. For many years each regional cooperative provided its own system of access to the mill buyers. These individu-

al efforts were successful but created duplication. In some cases the volume and types of cotton handled by an individual cooperative would not support the expense of representation in some foreign markets.

The four regional cooperatives took a major step in strengthening their marketing programs with the formation of Amcot in 1971. Amcot is an interregional marketing association that was organized without merger or combination of regional member assets. Its primary functions are to provide its member regional cooperatives with market information, greater global coverage for their different cotton varieties, and arranging either domestic or export transactions. Each member cooperative makes its own sales decisions. The unique varieties and qualities of cotton produced in each regional's trade territory reduce the problem of sales competition among members that in the past undermined other interregional cooperatives. Prior to Amcot's formation, each cooperative's sales representatives would ignore market opportunities for varieties its growers did not produce, and the information was rarely relayed to a cooperative that could use it. Amcot has opened several new markets that in the past had escaped the attention of its members. Amcot salesmen are present in all the major markets, and provide the textile mill customers with a comprehensive range of cotton qualities.

Domestic Amcot sales offices are located in Charlotte, NC; Greenville, SC; and Atlanta, GA. Foreign offices are in Brussels, Belgium; Osaka, Japan; Seoul, Korea; Hong Kong, and several other nations. About 30 percent of U.S. cotton production (3.0 to 4.5 million bales) is sold through these offices, and much of it is exported. Costs of operation are shared by each of the four member cooperatives, and are allocated by use of a volume-oriented formula.

Forward integration by producers into textile manufacturing has not been widespread, but has been successfully carried out by American Cotton Growers (ACG), a cooperative in Lubbock, TX. Since 1975, this organization has been producing high quality denim fabric that it sells via a marketing contract to the Levi Strauss Company. The farmer members of ACG supply the denim mill through a pooling program. PCCA provides fiber testing services for ACG, and merchandises all bales from the pool that are not used in ACG's textile manufacturing.

Cotton marketing cooperatives provide cost savings and opportunities for growers to share in earnings from merchandising and processing activities. In addition, cooperative involvement in the global marketing system generates information otherwise unavailable to growers. Ownership and control of marketing associations provide farmers with access to fiber testing and price data, individual member records, and market analyses.

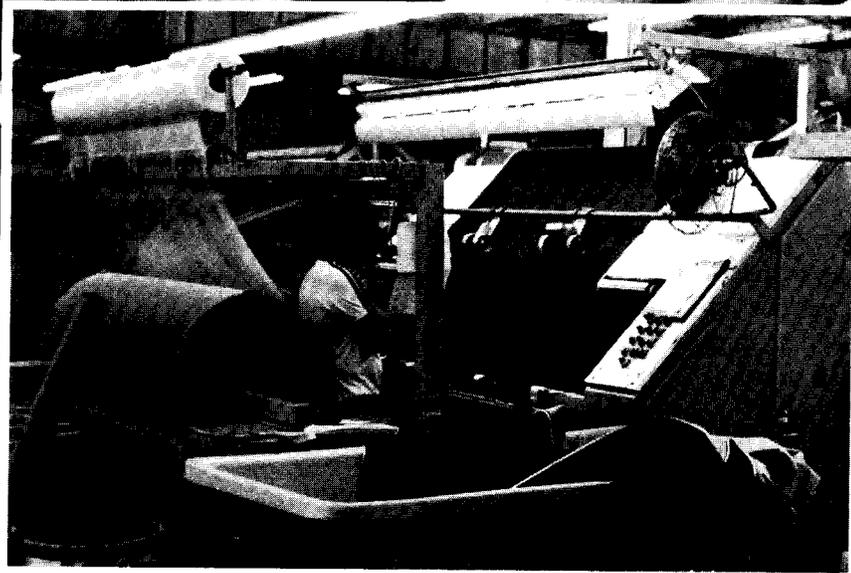


*Cooperatives maintain daily contact with foreign and domestic buyers. Below, cotton is being loaded onto piggyback vans for long-distance shipping.*





*Open-end spinning weaves cotton fibers into denim in American Cotton Growers Littlefield, TX, plant. Inset, denim fabric is being wrapped for shipment.*



## Cooperative Cottonseed Oil Mills

Cottonseed processing is an important industry to the cotton farmer. About 800 pounds of cottonseed are produced per bale of cotton, with about 1 percent needed for replanting. The cottonseed processing industry raises the value of the cotton crop by an estimated 17-19 percent. Many growers have captured a larger share of this added value by means of cooperative cottonseed processing.

The cottonseed crushing industry has several unique characteristics. Unlike other oilseeds, cottonseed is a commodity byproduct, as its supply is determined by conditions of demand and supply for lint cotton. As a consequence, the cottonseed crushing industry can experience protracted periods of relatively high or low earnings if the cotton market is affecting cottonseed supply in the opposite direction of oilseed demand. Furthermore, cottonseed provides oil, meal, hulls, and linters. Linters have no counterpart in other oilseeds, and are an ingredient in products such as paper, yarn, and plastics. Oil and meal, however, account for about 85 percent of the value of processed cottonseed.

A distinctive feature of cottonseed crushing is the process known as miscella refining. This technology allows the processes of oil extraction and refining to be conducted as a single processing stage, and provides significant cost savings over conventional refining techniques. Miscella refining is not applicable to other oilseeds. The cooperative oil mills in the western part of the Cotton Belt are generally miscella refiners. The once-refined cottonseed oil they produce meets the requirements for the export market, and much of their volume is shipped overseas from the Texas gulf and West coast. By contrast, the cooperatives in the delta region produce and merchandise crude cottonseed oil because of their proximity to many of the vegetable oil-refining companies.

The cooperative share of the cottonseed crush has been steadily rising since the 1950's. Six cooperative oil mills were established during the 1930's in an industry of several hundred mills and numerous firms. By 1958 cooperatives accounted for about 12 percent of the cottonseed crush and in the 1980's they are expected to crush well over 40 percent of the total (table 2). Most of the increase in the share of cottonseed crushed has been the result of a decline in the total capacity of the industry. Cooperatives have compensated for some of the plant closings and departure of firms by increasing their capacity. The number of cooperatives has not changed much over time, reaching a peak of 19 in 1965, with 15 in operation most recently. Three cooperatives operate multiple plants (table 3).

**Table 2-Cooperative share of total U.S. cottonseed crush**

Year	Total mills	Total crush	Co-op crush	Co-op share
	<i>Number</i>	<i>(1,000 tons)</i>	<i>0,000 tons)</i>	<i>Percent</i>
1971-72	115	3,960	1,093	28
1972-73	—	4,880	1,432	29
1973-74	—	4,792	1,374	29
1974-75	—	4,226	1,436	34
<b>1975-76</b>	—	2,952	1,042	35
1976-77	97	3,499	1,236	35
1977-78	—	4,313	1,604	37
1978-79	—	4,127	1,511	37
1979-80	74	4,233	1,643	39
1980-81	—	4,076	1,494	37
1981-82	69	4,575	2,028	44
1982-83	—	3,800	1,415	37

**Table 3-Cooperative Cottonseed Processing Associations, 1983**

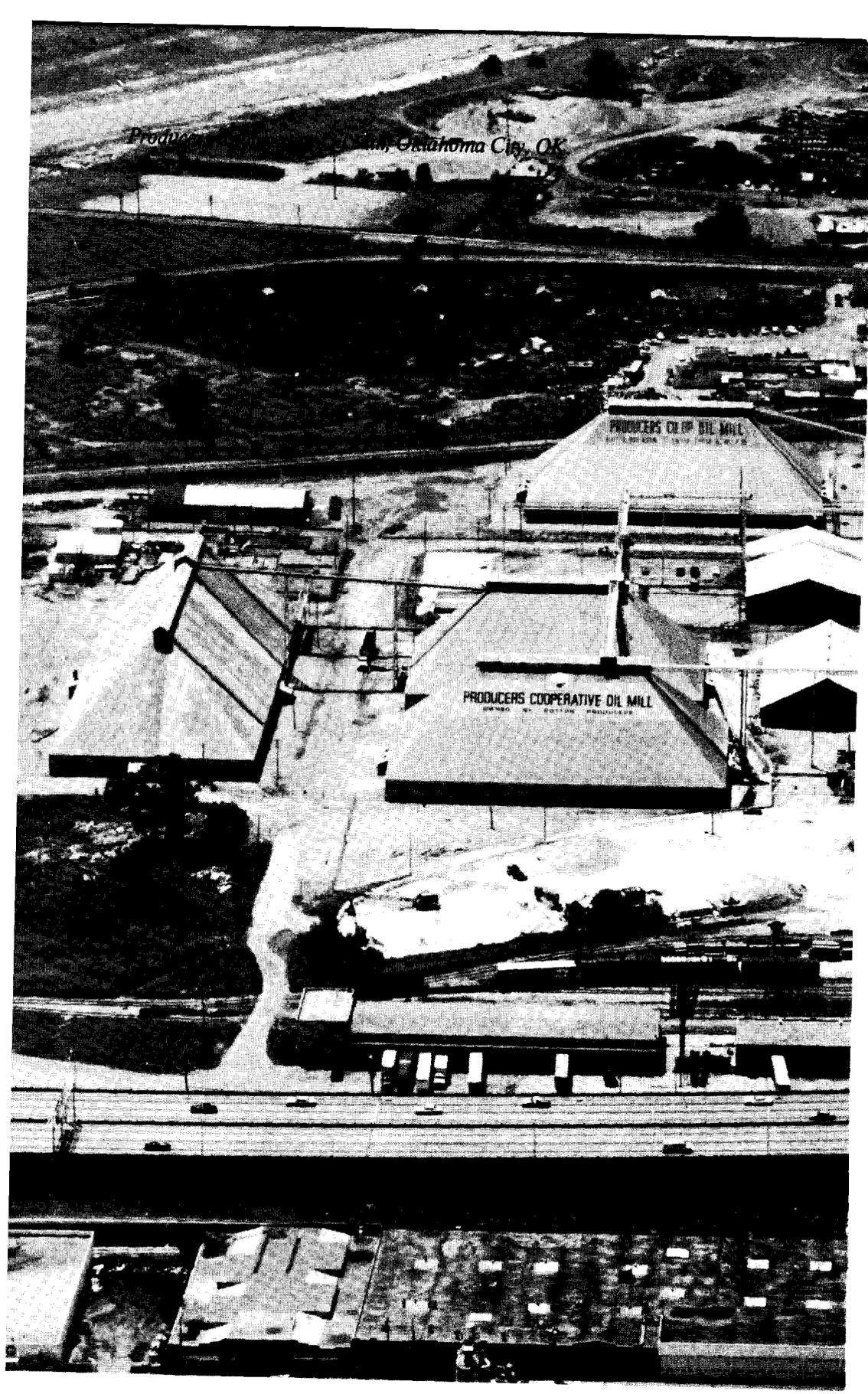
Association	Plant locations	Year organized
1. Delta Oil Mill, Inc.	Jonestown, MS	1943
2. Helena Cotton Oil Company	Helena, AR	1942
3. Luna Cotton Cooperative	Deming, NM	1957
4. Ne-Tex Cooperative Oil Mill	Wolfe City, TX	1939
5. Osceola Products Company	1. Osceola, AR 2. Silkeston, MO	1945
6. Pecos Valley Cotton Oil Mill	Loving, NM	1960
7. Plains Cooperative Oil Mill	Lubbock, TX	1937
8. Planters Cotton Oil Mill	Pine Bluff, AR	1979
9. Producers Cooperative Oil Mill	Oklahoma City, OK	1944
10. Ranchers Cotton Oil	1. Fresno, CA 2. Bakersfield, CA	1950
11. Selma Oil Mill	Selma, AL	1976
12. SWIG Cotton Oil Mill	El Paso, TX	1934
13. The Union Oil Mill	West Monroe, LA	1976
14. Valley Cooperative Oil Mill	Harlingen, TX	1950
15. Yazoo Valley-Minter City Oil Mill	1. Greenwood, MS 2. Hollandale, MS 3. Grenada, MS	1956

The capacity adjustments in plants processing cottonseed have become more complicated because of the alternative of feeding whole cottonseed to dairy cows and feeder cattle. This alternative is significant during periods when the price of cottonseed oil is relatively low, as it was in 1981 when about 25 percent of the crop was wholefed. This alternative market has benefited growers most in locations where the ratio of crushing capacity to cottonseed production is low and close to livestock pro-

Producers Cooperative Oil Mill, Oklahoma City, OK

PRODUCERS CO-OP OIL MILL  
EST. 1934

PRODUCERS COOPERATIVE OIL MILL  
OWNED BY OILMEN ASSOCIATION





duction areas. When oil mills are merchandising rather than processing substantial volumes of cottonseed, growers and ginners are foregoing potential earnings from direct sales to the livestock feed market. This potential gain is captured for growers and ginners when the oil mill is a cooperative. In addition, a cooperative oil mill can improve grower returns in the residual cottonseed feed market by coordinating sales and by achieving more efficient allocation of cottonseed (quantities and qualities) for use in crushing and as feed.

Cooperative oil mills in Texas and Oklahoma have substantially coordinated their cottonseed oil merchandising operations. In 1962 these mills and several soybean processing cooperatives established a marketing agency called Soy-Cot Sales, Inc. In recent years the cottonseed processors have leased storage tanks in the port of Houston. These facilities provide greater flexibility in shipping and enable Soy-Cot access to more buyers for its members. Soy-Cot's function is analogous to that of Amcot, but its access to markets does not require several domestic and foreign offices as is necessary with marketing cotton.

## **Future Challenges and Opportunities**

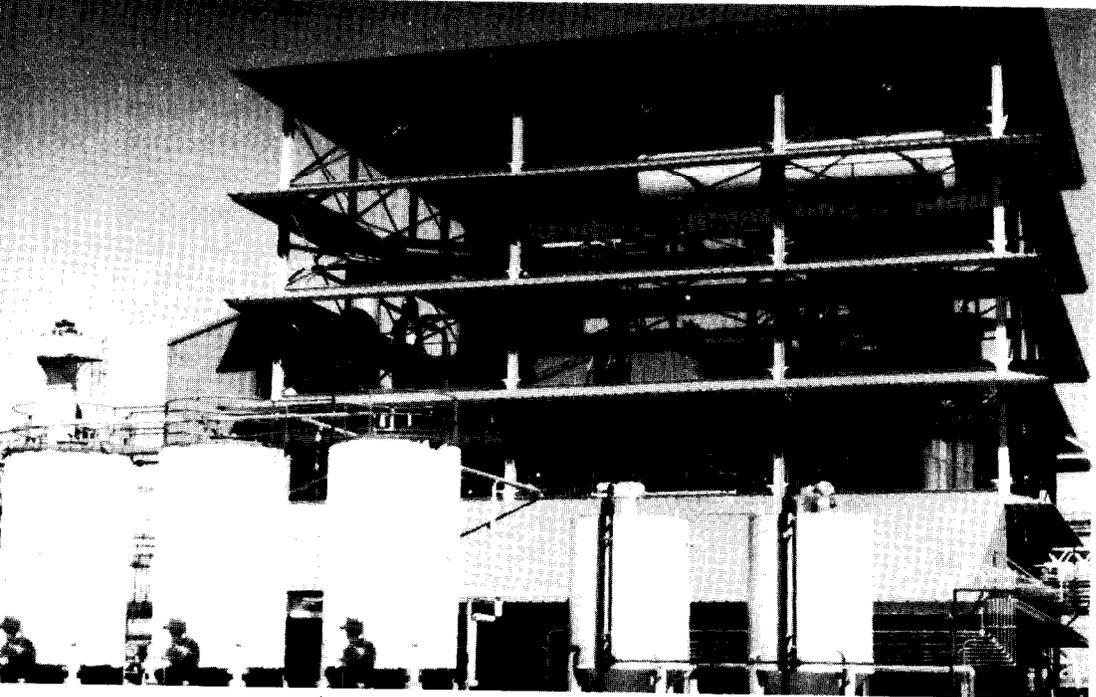
The cotton industry will continue to change in response to both market opportunities and competitive pressures. The most significant competition will be from both industries producing synthetic fibers and other cotton-producing nations. Although it is not definitely known what the cotton industry will look like in the future, interfiber competition is the dominant influence dictating the type and pace of change.

Several industrywide efforts seek to maintain or improve cotton's competitiveness. Much of the activity centers on the research and market promotion work of Cotton Incorporated, a producer-financed organization established in 1971. In recent years the industry has been highly effective in bringing together its diverse groups. There are also specific types of competitive adjustments where the cooperative form of organization and incentive structure is uniquely suited to make major contributions to the competitiveness of American cotton. One involves the coordination and streamlining of services for the assembly and preparation of cotton. The other is concerned with how cooperatives function as a bridge in reconciling diverse interests and in establishing more direct price signals from textile mills to farmers.

Future coordination and streamlining of services may have its greatest impact on the relationship between the activities of ginning and marketing. The relatively low utilization of capacity in ginning, compared



*Above, cotton is being unloaded and transferred to a warehouse of STAPLCOTN, Greenwood, MS. Below, the world's largest cottonseed oil solvent extractor is operated by Plains Cooperative Oil Mill, Lubbock, TX.*



with other industries, is the result of its functional relationship with the cotton-harvesting operation. Ginning is the technological equivalent of grain combining. Since cotton cannot enter marketing channels until after it is ginned and baled, the process must be as fast as possible. For the ginner's part, there is pressure to have adequate capacity or flexibility to provide prompt services to as many producers as possible.

In recent years the share of total off-farm handling and marketing costs accounted for by ginning has increased. This increase has occurred because of a decline in utilization of gin capacity. As a result, efforts are being made to reduce capacity by means of gin consolidations and improve utilization by extending the ginning season. The existence of a cost differential could be applied efficiently to secure more volume for extended ginning by charging lower fees to growers who are willing to wait to have their cotton ginned. The farmer who wants his cotton ginned immediately would pay a premium.

The tradeoff with lower cost ginning is the delayed opportunity to sell cotton sooner. This tradeoff can be diminished by cooperative pooling. An extended ginning season would not jeopardize growers if their gin handled only cotton that is pooled for marketing. Of course, the marketing association would encounter the same selling constraint as the grower when confronted with delayed receipts of cotton from the gins. However, the marketing cooperative is in a better position to effectively allocate sales over time. Preliminary quality tests can also be made on moduled cotton so if certain qualities are in immediate demand, the gins could process these types first. Modules containing cotton not in immediate demand could be ginned later.

A seed cotton pool could facilitate fiber blending at the gins to produce more uniform quality lots. A seed cotton blender has been in operation since 1973 at Associated Cotton Growers in Crosbyton, TX. Although seed cotton is not pooled and there is no blending among producers' lots, the Crosbyton operation has had significant quality-price gains. Blending seed cotton is common in foreign countries where cotton is sold before it is ginned. Although American farmers have been more efficient than many of their foreign counterparts, the potential gains from the seed cotton blending technology and a pooling program could significantly enhance competitiveness in some areas of the Cotton Belt.

Cotton farmers operate in a commodity supply and demand environment that provides slight incentives for having a customer orientation toward buyers. As with any product, the less frequent the contact between seller and buyer, the lower the returns to providing improved quality and specialized services. Marketing cooperatives have made important strides in improving the communication of textile mills' quali-

ty specifications to producers. Their fiber testing activity and Amcots' successful development have been major advances. Depending upon the intensity of interfiber competition, these activities may accelerate in the future.

The commodity environment of price volatility cannot be avoided, but the long-term prosperity of the cotton farmer will depend on providing ample supplies of uniform qualities of cotton to textile mill customers at stable and competitive prices. The major weakness of a commodity orientation is that it inhibits continuity in buyer-seller relationships that synthetic fiber producers have successfully established with textile buyers. Cooperatives have played an important part in overcoming this particular weakness that cotton has had in competition with synthetic fibers. What started as a price enhancer role during the 1920's, cotton cooperatives are now providing beneficial services to textile mill customers throughout the world. While the regional cooperatives are focusing on meeting the economic needs of their producer members, Amcot salesmen are concentrating their efforts on marketing services to the buyers.

Organizations selling cotton take many forms. Cooperatives are just one form but they provide a unique role in the trading system by virtue of their producer membership and involvement. A less diverse trading system, one in which all trading with textile buyers was carried out by organizations external to the control and ownership of growers, would not be beneficial to the industry. By having their cooperatives involved with global merchandising, cotton farmers have become more directly involved with the economics of interfiber competition. The unique role of cooperatives in all phases of the cotton industry, including cottonseed products, will enable them to continue making important contributions to the cotton industry.

*Author/Bruce J. Reynolds, Agricultural Economist*

**U.S. Department of Agriculture  
Agricultural Cooperative Service**

Agricultural Cooperative Service provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

The agency publishes research and educational materials and issues *Farmer Cooperatives* magazine. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.