A PRODUCER-BASED COTTON MARKETING SYSTEM

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PREFACE

Many of the problems confronting today's cotton producer are associated with his inability to match the sophistication of his manmade fiber competitors in total production and marketing strategy. To the extent that this failure is caused by differences in economic organization, he may do well to consider alternative organizational arrangements that can be initiated by producers and that might benefit both cotton growers and their mill customers. The economic survival of many growers hinges on directing producer attention and action toward their basic problem: a haphazard and uncoordinated marketing system.

Lack of coordination between early handling and processing stages is a major cause for rigid inefficiency in cotton marketing efforts. Industry groups are primarily concerned with factors affecting their own operation and pay scant attention to how functional decisions affect the performance of the overall system.

The purpose of this study was to suggest directions toward which U.S. cotton growers might move to remain viable in face of the threat posed by declining Government assistance, rising off-farm costs, and competition from synthetic fibers. The examination of organizational options open to producers was limited to those within the boundaries of present Government policies and legislation. Efforts were made to determine whether producers could link their operations more directly with those of domestic and foreign mills in ways that would be mutually advantageous and more efficient than present organizational arrangements. Consideration was given to how the industry could attain improved order and flow in cotton marketing processes and better price and supply stability.

The primary source of information for this study was unstructured personal interviews with key people in each major segment of the cotton industry: producers, ginners, warehousemen, merchant-shippers, and mill buyers. These informal meetings were designed to explore and evaluate ideas and concepts of the various groups that might serve as an information base on which to render judgment.

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Cotton producers can minimize their off-farm costs and improve mill acceptance of their product by reorganizing the functions of cotton production, processing, and marketing. The physical system would focus on producer-owned central gins equipped with universal-density bale presses, automatic samplers, and seed-cotton blending equipment. The organizational scheme would center on producer-directed marketing agencies that could effectively mesh production with cotton requirements of domestic and foreign mills.

The concept of centralized ginning offers definite potential for substantially reducing off-farm costs. Widespread acceptance of seed-cotton storage provides an added dimension to central ginning by making longer ginning seasons at near-capacity rates a practical alternative to the conventional system. Research has shown that central ginning and seed-cotton storage can be combined to save up to $15 per bale, not including warehousing, transportation, and marketing savings expected under such a system.[1]

Vertical integration of ginning, handling, storage, and marketing functions would benefit producers through a coordinated low-cost distribution system. Each functional group could become more responsive to mill requirements in terms of quality, quantity, uniformity, and delivery schedules. Costs of moving cotton from farm to mill would be reduced through fewer changes in ownership; less handling, sampling, and weighing; and fewer concentration centers of raw cotton supplies.

Blending seed cotton before ginning would enable marketing

[1] See for example, J. C. Moore, "The Least-Cost Organization of Cotton Ginning Facilities in California's San Joaquin Valley," (unpublished Ph.D. dissertation, University of California, Berkeley, 1972.)

firms to better satisfy mill requirements by increasing the uniformity of fiber quality characteristics. The ability of synthetic fiber manufacturers to meet mill demands for greater uniformity further threatens cotton's competitive position.

Use of automatic sampling in conjunction with seed-cotton blending would improve marketing operations by permitting delivery of a bale more closely approximating that of synthetic fibers. Automatic sampling would reduce the costs of packaging, resampling, and handling and also minimize contamination and waste.

Need for recompression could be eliminated by pressing cotton to its final density at the gin. Universal density bales would lead to significant cost reductions in storage, handling, sampling, and transportation. It would also permit standardized packaging techniques and increased efficiency in mill opening room operations.

Forward contracting may become the principal means by which textile mills can assure themselves a supply of cotton. An integrated marketing system could utilize contracting to relay quantity and quality information back to producers through their marketing firms.

Producers and textile mills alike stand to benefit from a classification system that would permit both marketing and utilization from a single set of fiber measurements. The dual system of cotton evaluation now in use denies growers the information required to make economically sound responses to actual mill quality requirements. Instrument classification offers the capability of additional and more reliable measurements of fiber characteristics than a system based on subjective evaluation.

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by James E. Haskell

COTTON MARKETING PROBLEMS

Despite the trend toward concentration of economic power in most commercial agriculture, the cotton industry remains plagued by lack of coordination and control. Each industry segment is concerned with maximizing returns on its own operations, in almost total disregard of other handling and processing levels. Roughly 250,000 producers, 3,500 ginners, 500 warehousemen, 250 merchants, and most of the mills—domestic and foreign—have directly conflicting interests that prevent their working together in an attempt to achieve industry harmony. No single functional group has yet demonstrated the ability to provide effective leadership or stability to cotton marketing activities.

Segmentation and division of responsibility within the cotton industry contributes to excessive farm-to-mill costs. And strict adherence to traditional trade practices and "customs" serves to prevent meaningful reductions in those costs. To illustrate, we need only to briefly examine the present responsibilities of the farmer, ginner, warehouseman, and merchant.

The farmer assumes responsibility for harvesting his cotton and

hauling it to the gin. He cannot determine the value of his crop until it is ginned. By denying him a market prior to ginning, the system creates a conflict between the interests of the farmer and all those on whom he must depend to market his cotton. Instead of concentrating his efforts on efficiently harvesting the crop, he must compromise between the harvesting activity, his hauling responsibility, and the capacity of the gin to receive and process his production. He wants the shortest possible harvest season, the shortest possible trailer turnaround time, and rapid low-cost ginning with minimum physical damage and loss.

But the ginner prefers a steady flow of seed cotton to match gin capacity for the longest possible period of time. He needs a backlog of cotton on the gin yard to keep his crew busy

during bad weather periods when the farmer cannot harvest. He is interested only in packaging the lint so it can be delivered to the warehouseman at least cost. There is little advantage to the ginner in cost reductions after the bale has been placed in storage at the warehouse.

Similarly, the warehouseman and the merchant have conflicting interests. The warehouseman has no direct incentive to improve the product he handles. He is concerned with generating the maximum amount of revenue at least cost. But the merchant wants an attractive product to sell, with the lowest possible storage and handling costs per bale. He wants the maximum markup attainable, but charges imposed by the warehouseman cut into his margins.

It is doubtful that costs of moving cotton from producers to mills can be reduced so long as industry interests remain fragmented. With profit centers infiltrating the entire system, at least one functional group will oppose potential, and sometimes proved, cost-reducing concepts simply because it may not improve their particular position. It seems clear that producers, or someone else, must assume a direct interest in the efficiency of the total system through which cotton must move to reach the ultimate consumer.

Absence of coordination and resistance to change also contribute to the bundle of problems associated with competition

from synthetic fibers and loss of market share. The inroads achieved by manmade fibers obviously cannot be fully explained in terms of price. Some portion of that loss must be attributed to widening differences in the delivery systems for cotton and synthetics.

When mills purchase manmade fibers, they buy a package of services as well as raw material. Delivery schedules are predictable almost to the hour. Every bale looks like any other bale. There is no contamination or waste. And most important, the mills know how the fiber will perform. Fiber properties are accurately specified and have near-perfect uniformity throughout the bale and from truckload to truckload.

In contrast, raw cotton shipments may run a month or more behind schedule. Bales arrive in an unbelievable array of sizes, density, weight, wrapping, and appearance. Some are broken open. Cuts from repeated sampling have encouraged contamination. Samples must be examined again in an attempt to predict fiber spinnability. Fiber characteristics vary from bale to bale and even within individual bales. Lack of uniformity is prevalent in all facets of the delivery system.

Strong resistance by certain industry groups has effectively prevented adoption of technology and trading practices that could help alleviate some of these problems. Again, the skepticism toward new ideas and concepts is conditioned by interests of sharply defined functional groups rather than the industry as a whole.

A more recent and unfamiliar concern of cotton producers is the possibility of reduced Government assistance in terms of direct payments. The push from Government dependence toward market orientation intensifies the need to find solutions to cotton marketing problems. Producers can no longer rely on Government payments to fill the gap between costs and returns. Nor can they afford to ignore the lack of efficiency and equity inherent in the traditional marketing system. With almost positive assurance that the Government is out of the cotton marketing business, it is time for producers to face up to basic problems in their own handling and distribution system.

CENTRAL ISSUES FOR IMPROVEMENT

While cotton problems elicit major concern throughout the industry, they are not sufficiently uniform from region to region nor clear-cut from function to function to draw consensus identification. However, issues that deal with possible improvements in the distribution system are widely recognized. Dwelling on industry attitudes toward these issues rather than discussing various industry views on a wide range of topics helps to focus on the best alternatives for improving the cotton marketing system.

Producer Ownership of Textile Mills

Producers and their representatives are skeptical of integrating forward through ownership and control of textile milling facilities. While they see a need for producer control of functional activities for a longer period of time as cotton moves through marketing channels, they feel control through ownership should be relinquished prior to spinning, weaving, and finishing textile products.

The amount of capital required to construct and operate a textile mill in major cotton producing areas is prohibitive, particularly with respect to the volume of cotton that mill would use. Synthetic fibers and cotton qualities not locally available would need to be brought in from other areas.

Several other factors limit the potential of mill ownership by producers. The present Southeastern mill area enjoys a comparative advantage in water and labor availability, tax structure, and proximity to apparel manufacturers. In addition, the level of management sophistication required for effective manufacturing and marketing of textile products would be difficult for producers to attain. With the possible exception of open end spinning plants in low micronaire, short staple areas, mill ownership by producers does not seem generally feasible at this time.

Functional Integration

Producers in all areas of the Cotton Belt recognize the need for closer coordination and control of handling, processing,

and marketing operations. Unnecessary competition between and within early handling and processing stages cause excessive fragmentation and inefficiencies in final marketing efforts. Each segment of the industry is primarily interested in factors affecting their own operations, without apparent concern of how these activities will affect physical and functional operations of those further up the distribution channel. Decisions to adopt new technology and operating practices are conditioned by individual profit and loss statements rather than potential improvements in the workings of the overall system.

Significant grower benefits are possible through effective integration of ginning, warehousing, compressing, handling, and marketing activities. Elimination of conflicting interests among these groups would allow them to work together for changes favorable to producers and the entire cotton marketing system. Problems arising from interfunctional adjustments would be lessened considerably if the changes were made within an integrated framework.

Industry participants who support integration of these functions visualize control by producers through the marketing arm of the integrated system. Because the marketing agency would be producers' major link to the textile industry, it should have the capability of controlling and coordinating ginning, handling, and warehousing activity to effectively mesh marketing decisions with the demands and requirements of domestic and foreign mills.

Performance of existing marketing firms probably would be improved if their operations were coordinated with ginning and warehousing activities. Gins are primarily interested in obtaining high volumes, without regard to quality specifications imposed on marketing agencies by the mills. One result is that shipping orders must be filled by pulling individual bales out of numerous warehouses, causing excessive handling costs at that level. Closer coordination of ginning and warehousing, with direction provided by those making the marketing decisions, would improve the order and flow of cotton marketing processes.

Off-Farm Costs

All segments of the industry recognize the need for reducing the costs of moving cotton from farm to mill and most are willing to make the adjustments required to move toward that goal. Producers in particular have an overriding vested interest in lowering off-farm costs. Average costs of production, processing, and marketing approach, and sometimes exceed, average prices received by cotton growers.

The most promising area for productive cost-cutting potential is in ginning. Present costs of ginning account for more than half the total cost of moving cotton from farm to mill; and in each major cotton producing region, the cost of ginning exceeds the charges made for ginning.

With rising costs of equipment, labor, and associated services, it is difficult to justify a $500,000 investment by operating a gin at capacity for only 1 month out of the year. Substantial savings are possible through the consolidation of smaller gins into larger plants and through extension of the ginning season. The concept of centralized ginning offers the potential of reducing off-farm costs on the one hand and improving marketing techniques on the other. That method might permit increased uniformity of fiber properties and more timely delivery schedules, both considered essential by the mills.

The need for recompressing most of the cotton produced each year could be eliminated by pressing cotton to its final density at the gin. Again, the need for this improvement is recognized by all segments of the industry, not only for its cost-reducing potential but also for secondary benefits such as improving bale appearance and packaging techniques.

Much of the cause for concern over high lint cotton storage costs is directly related to antiquated modes of operation in prior handling and ginning stages. Strong resistance by some industry groups to potentially beneficial concepts such as instrument classing, mechanical sampling, and gin compression has prevented the use of these techniques in reducing early-stage inefficiencies. As a result, present storage and warehousing practices cause excessive costs in receiving, rehandling, reweighing, and resampling cotton. It also results in high costs and expensive delays in shipping cotton to mills.

Bargaining

While nearly all cotton producers and grower representatives maintain that the farmer needs and deserves more muscle in the marketplace, most are highly doubtful that bargaining can be successful insofar as cotton is concerned. On the one hand, skepticism seems to focus on the inability of widely scattered producers to sufficiently coordinate their interests for successful bargaining efforts. And on the other hand, even if bargaining were successful in terms of price enhancement, the mills would most likely substitute synthetic fibers for higher priced cotton at an increasing rate, resulting in further permanent losses in cotton markets.

The latter concern is reinforced by cotton buying representatives of textile mills. They repeatedly emphasize that movement toward any market mechanism that would allow control of price or supply by one or a very few groups would be strongly resisted by the mills. They view a monolithic shift in the balance of power away from the mills not only as a threat to their own decisionmaking prerogative, but also as a disruptive force that would cause substantial reductions in cotton usage by the textile industry.

Bale Packaging and Related Considerations

One area that is blessed with industrywide endorsement is the need to improve the condition, appearance and package of the U.S. cotton bale. But closely associated with such improvements are more controversial issues such as automatic sampling and instrument classing. Here again, some segments of the industry tightly adhere to archaic trade rules and practices that effectively prevent adoption of the very technology needed to improve bale condition, appearance, and packaging.

Automatic sampling would most likely lead to significant benefits in marketing operations. It would reduce the costs involved in bale packaging. It would eliminate much of the cost hidden by the "city crop." It would eliminate the need and cost of applying patches to bales pressed for export. It would improve bale appearance. It would be more representative of bale contents than cut samples. It would minimize contamination and waste. In short, the mill could be presented a bale more closely approximating that of synthetic

fibers. Most of the objections to automatic sampling come from merchant-shippers. They hold dear the traditional trade practice which gives a buyer the "right" to resample cotton and submit claims back to the seller for defective bales on the basis of those freshly cut samples.

In the case of uniform compression, however, merchant-shippers join with the rest of the trade in voicing approval and support. Recent agreement on the "universal-density bale" by domestic mills and maritime interests permit a bale pressed to universal standards at the gin to be shipped anywhere in the world without further compression. If utilized to the fullest extent possible, universal density will lead to substantial reductions in costs associated with storage, sampling, recompression, and transportation; allow for standardization of packaging materials, and reduce the costs of mill opening room and initial processing operations.

Classification

Many cotton growers and producer representatives feel the present method of cotton classification works to the disadvantage of growers who sell their cotton on the basis of green card designations. Nearly all objections relate to the pricing structure that has been built up around the Government classification system; and most refer to the disparity between the criteria used to pay the grower and the criteria utilized by the mills in purchasing cotton. Some feel the premiums and discounts attached to the pricing system do not accurately reflect true quality differences, particularly with respect to discounts for color and light spot cotton. Others believe that textile mills take advantage of the system by purchasing low-quality cotton that adequately fills high-quality needs. Still others feel their cotton is ultimately sold to final buyers at higher quality combinations than those on which their own payments are based. Finally, some are convinced that certain large-volume buyers have the ability to exercise some degree of control over classing results.

While the mills are not so concerned about the adequacy of the classification system (only a small percent of their cotton needs are purchased on Government class) they can contribute insights that may bear on future improvements in classing

cotton. For example, most feel they could get by with fewer grade and staple combinations than exist today, particularly if variation within classifications are reduced. Cotton of varying quality characteristics is grouped into only a few categories at the mill, depending primarily on specific end-uses. Many quality combinations possible under the present system are either no longer produced or no longer demanded by the textile industry. On the other hand, the grades placed on some cotton by the Government are not consistent with grades placed on the same cotton by the mills. An example is provided by cotton graded as Strict Low Middling plus, that translates into middling color, strict low middling leaf. The textile industry admits to using more than 10 times more SLM+ than is classed that way by the Government. This might raise the question of how many growers were paid on the basis of Strict Low Middling compared with those paid for Middling.

Textile mills are intensely concerned over the variation in fiber characteristics between and within lint cotton bales. Lack of uniformity clearly contributes to the movement toward synthetic fibers whose spinning properties are predictable within very narrow tolerance ranges. Mills see as highly desirable any means to increase the uniformity of cotton quality characteristics. One such method might be through seed cotton blending where cotton with similar quality descriptions is thoroughly mixed prior to ginning. Tests have shown that resulting fiber characteristics are much more uniform than those of otherwise identical nonblended cotton.

Forward Contracting

Several broad generalizations can be extracted from the opinions and judgments rendered by industry participants toward forward contracting concepts.

First, cotton producers view forward contracting as a partial substitute for declining Government support. It offers assurance of an acceptable price and assistance in making shortrun planning decisions. Contracting has helped to prevent further reductions in acreage planted to cotton. In addition, some feel that contracting has served as a price stabilization vehicle in the absence of an effective loan level, but there has been little evidence to support the assertion.

Second, cotton buyer representatives of textile mills have not had sufficient experience with present contracting techniques to assess their suitability or practicability for widespread use in the future. Though many were "forced" into contracting with producers and merchants, only a few are dissatisfied with the way it has turned out thus far. Cotton buyers are definitely not interested in binding, long-term contractual arrangements with individual producers or gins. Uncertainties of future quality and quantity needs, weather, price, and consumer demand account for their resistance.

Third, the practice of hog-round (one-price) crop contracting probably will decline, due to possible quality impairment. With a guaranteed price and no quality stipulations, the natural tendency on the part of growers and ginners is to maximize weight by reducing drying and cleaning. While overdrying and overcleaning are certainly not recommended, undesirable weather at harvest time would seriously increase the trash level and reduce the grades of cotton produced under hog-round contracts. Were forward contracts to evolve from an acreage to a quality basis, definite marketing information benefits would be made possible. For example, cotton buyers could accurately relay their true quality requirements back to gins and producers through appropriate price differences written into the contract.

Fourth, the movement toward forward contracting arrangements, as such, is *not* a shortrun phenomenon. Recent trends in contracting have resulted from concern over short supplies and uncertainties created by past and anticipated farm programs for cotton. Many industry leaders believe that unless the loan level is raised and present payment limitations left intact, contracting will become the principal method by which mills can assure themselves a supply of cotton.

Finally, forward contracting has enabled growers to obtain financing they might not have received in its absence. Contracts usually serve as effective collateral for loans needed to finance production supplies and equipment.

A relationship seems to exist between producer interest in changing the marketing system and the success of forward contracting during the past two seasons. There is a rather

close inverse relationship between grower desire and need to substantially alter his traditional ways of doing business and the relative sucess of contracting in the area that the grower represents. This may be nothing more than coincidental. However, there also remains the possibility that widespread price guarantees to producers in the form of a contract serves to delay recognition of any need for improvements in other parts of the system.

Joint Ventures

The possibility of joint venture arrangements between mills and their cotton suppliers draws mixed response from the various sectors of the industry. Producers understandably welcome a guaranteed home for their product but hesitate when confronted with unfamiliar methods of price determination. Much of their concern apparently stems from lack of expertise and understanding of textile manufacturing and marketing.

While the mills are obviously interested in a guaranteed supply of raw material, they are skeptical of any arrangement that threatens their individuality in price and supply decisions, especially if it involves a transfer of economic power away from the textile industry. In addition, the uncertainty of future quality and quantity requirements might suggest that mills desire more than equal decisionmaking power in full-supply arrangements.

Although the aggregate of opinion does not constitute an overwhelming endorsement of joint venture potential, neither does it rule out the possibility of such arrangements. The willingness of some mill buyers and certain supplying organizations to give the idea serious consideration may indicate a trend toward closer coordination of production and mill consuming sectors of the industry. One feature of joint ventures is that portions of the industry could adopt such configurations without seriously affecting the structure and operations of the remainder.

Quality characteristics are determined from samples cut from every bale of cotton. Most bales are sampled at least two or three times before reaching textile mills.

Marketing opportunities with other countries are improving. Cooperatives last year sold large volumes of cotton to the People's Republic of China, the first U.S. cotton to go to that country in about 20 years.

One technique for storing seed cotton is to form compacted ricks in the field or in the gin yard.

Present cotton handling methods are time consuming and costly. Note the condition and appearance of the bales.

AN ALTERNATIVE MARKETING SYSTEM

Analysis of ideas and opinions obtained from the various sectors of the cotton industry points to a system with the potential for reducing off-farm costs on the one hand, and increasing the similarities of cotton versus synthetic fiber procurement on the other. To this end, this report proposes the establishment of a functionally integrated marketing system with emphasis on producer ownership and control.

To develop a producer-based marketing system capable of substantially reducing farm-to-mill costs and simultaneously increasing user acceptance requires that growers have a direct interest in the efficiency of the total system. That interest manifests itself through joint ownership of the facilities, services, and decisions comprising the system. And because cotton growers would be the major beneficiaries of resulting improvements, they should not expect other existing industry segments to initiate the needed changes. Responsibility for organizing and developing the system rests with cotton producers.

The system is based on centralized ginning with the notions of forward contracting, mechanical classing and sampling, seed-cotton blending, and uniform-density bales having strong supporting roles.

While most of these concepts need no explanation, the term "central ginning" carries various connotations and therefore should be defined more precisely. As used in this study, central ginning merely refers to a method of gin operation whereby sufficient quantities of seed cotton are stored to keep gins operating at near-capacity rates throughout the ginning season. Longer ginning seasons and higher capacity gins are not prerequisites for central ginning, but either one or both may become economically feasible when large quantities of seed cotton are stored.

Central ginning differs from the present conventional system in several fundamental ways. The chief difference is that in central ginning, cotton may be sampled, classed, and sold (or placed in Government loan) while in the seed; under the present system, growers must wait until after their cotton is gin-

ned before it is classed. Another difference is that at conventional gins, cotton from individual growers is usually ginned separately and seldom mixed with other growers' cotton. At central gins, all seed cotton of the same grade or quality might be stored, mixed, and ginned without regard to grower identification. Conventional gins presently operate at capacity only about 1 month or less per year. In contrast, central gins can function regularly at near-capacity rates because they operate mostly on stored seed cotton. They would be capable of processing several times as much cotton annually as conventional gins of the same size and capacity. Larger quantities processed would substantially affect both ginning costs and the quality of ginning services.

Much of the interest in central ginning came from producers in low rainfall areas of the Cotton Belt. Recent commercial use of turnrow storage indicates that seed cotton can be stored safely in dry areas without protection from the weather. Since central ginning requires seed-cotton storage, it would seem that low-rainfall regions would be most suitable for its use. However, during the 1972 season, substantial quantities of seed cotton were successfully stored in the San Joaquin Valley and Mississippi Delta, indicating that with proper protection from the weather, seed cotton can be stored anywhere in the Belt. The momentum created by proved storage techniques may well give producers the impetus to overcome many of their processing and marketing problems.

Some interest was found in storing baled seed cotton in lint warehouses near the gin. This would provide protection from the weather and also allow conditioning seed cotton by equalizing moisture content under controlled conditions. After seed cotton is pulled out of warehouses and ginned, the lint could be placed back in the same warehouse or shipped directly to mills.

Central ginning offers numerous potential benefits to the cotton industry, most of which relate directly to other suggested changes in the handling-marketing system. Among the most obvious advantages are: *(1) Greatly reduced per unit ginning costs.* Increased utilization of labor and the "spreading" of fixed capital expenditures produce most of the savings. Conventional gins pay for considerable idle labor

during unfavorable harvesting weather and during the early and late weeks of the season. Central gins could operate at or near capacity regardless of how much seed cotton was received on any given day, and could process the cotton with smaller labor crews. Larger annual volumes would substantially reduce depreciation and other fixed costs. *(2) Orderly marketing.* As early season contract dates approach, seed cotton could be pulled out of storage, ginned, and shipped to mills or ports with a minimum of delay. Lint cotton destined for late season delivery could be warehoused in uniform lots to facilitate its eventual shipment. *(3) Reduced marketing costs.* When central ginning is combined with automatic sampling and uniform-density bales, many of the costs involved in rehandling, re-weighing, resampling, and recompression would be reduced or eliminated. *(4) Blending.* Seed cotton could be blended prior to ginning to increase uniformity and otherwise more nearly meet mill contract specifications.

The concept of blending seed cotton offers new potentials for effective cotton merchandising efforts. Mills presently blend lint cotton from several bales to obtain more uniform quality of cotton and yarn. Preblending cotton after it leaves the gin, but before final blending with manmade fibers at the mill, has been credited with improved levels of mill production performance. Preblending to increase quality uniformity helps to maintain an average level of fiber properties in mix from day to day and month to month. Some of this improvement could be obtained at large volume central gins by proper mixing of seed cotton before ginning.

Cotton merchants and marketing cooperatives often encounter problems in matching requirements of domestic and foreign mills with the qualities available from cotton ginned for individual growers. They also have problems maintaining the uniformity in quality that mills desire either among bales in lots, or within individual bales. This problem is especially apparent in areas of unpredictable weather and multiple cotton varieties. Blending seed cotton would enable marketing firms to more accurately deliver the quality, quantity, and uniformity mills require.

Blending seed cotton is commonplace in foreign countries where cotton is sold by growers before it is ginned. In some

countries, individual growers have such small acreages that mixing or blending seed cotton is required to obtain lint uniform enough to meet market demands. But in all foreign countries where seed cotton is intentionally blended, its purpose is to produce uniform lots of lint cotton bales. Evidence of blending-induced uniformity can be found in nearly all foreign countries where cotton is sold in the seed.

While the potential benefits of increased quality consistency through seed cotton blending are apparent and recognized by mills, certain practical and technical problems associated with the practice are as yet unsolved. For example, efficient mechanized procedures for blending seed cotton need to be developed since the labor intensive methods utilized in most foreign countries are obviously unsuitable in the United States. This requirement can most likely be met. Even more important is the lack of technical knowledge required for making acceptable seed cotton blends. While like qualities may be blended to increase uniformity, what of blending various fiber characteristics? What should be the proportions of the various qualities used in the blend? Could unscrupulous ginners consistently blend "good" and "bad" qualities to arrive at some kind of an average? These and other questions remain unanswered.

However, the textile industry's demand for greater uniformity of quality characteristics, and the ability of synthetic fibers to meet that demand, should provide the initiative for cotton industry technicians to find satisfactory solutions to seed cotton blending problems.

Workings of the System

While the general attributes of a totally new processing and marketing system might be loosely described, its intricate mechanical operations are necessarily hypothetical and subject to improvement. Nonetheless, it is important to describe in as much detail as possible how such a system might operate in tomorrow's marketing environment. Most of the detail has been furnished, in one form or another, by producers, ginners, cotton buyers, and marketing firms.

The system would be composed of producers, fewer but fully utilized gins, fewer but more strategically located warehouses, marketing agencies, and mills. It would require changes in the physical flow and handling of cotton, adjustments in existing trade rules and practices, and new concepts of organization and coordination of industry functions.

Changes in the physical flow of cotton from farm to mill would begin at harvest through temporary storage of seed cotton on the turnrow or central gin site. Samples taken from the stored seed cotton could be ginned so that quality and estimated quantity of lint and seed may be determined as the basis for grower payment. In contrast to present trade practices, there would be no need for repeated sampling of lint cotton bales. One-time automatic samples that stay with the bale or lot could be taken at the gin. Blending seed cotton before ginning would create the uniformity required for effective automatic sampling in areas that are not blessed with naturally uniform cotton. High-volume central gins would be equipped also with universal-density bale presses to eliminate the need for recompression and excessive handling. Both of these changes would allow for substantial improvements in bale packaging and appearance and, therefore, mill acceptance. And because the ginner would know the qualities, quantities, and location of seed-cotton supplies, he could coordinate blending and ginning activities with forward sales commitments made by the marketing agency.

That portion of the crop that is ginned but not yet sold would be concentrated and stored in even-running lots at the warehouse complex. This practice would enable larger volumes than normal to be stored in a given warehouse, significantly improve conventional retrieval techniques, and reduce shippping delays.

Most producers and many of the mills would also support a move toward one-time weighing of lint cotton bales. Cotton could be weighed immediately after ginning by a licensed or bonded employee. That weight would stay with the bale throughout the remainder of the marketing process. It would eliminate the costs involved in reweighing and would reduce the "moisture regain" problem that often works to the disadvantage of producers.

Many of the advantages attained through seed-cotton storage, blending, automatic sampling, uniform density, and single weighing result from the use of each concept in combination with the others. For example, automatic sampling in the absence of seed-cotton blending may not be practical in areas of nonuniform cotton. And since one advantage of universal-density bales is to improve packaging and appearance, automatic sampling is necessary to eliminate the need for cutting open the new package.

Coordination of gin-compress relationships is central to lowering off-farm costs and improving the total bundle of goods and services ultimately delivered to the mills. It makes little economic sense to perpetuate the existing relationship that is unnecessarily expensive and results in a product leaving the compress in poorer condition than when it left the gin. Why spend large amounts of money to wrap and tie out a bale, press it, weight it, sample it, and load it, then send it from gin to compress where it is unloaded, reweighed, resampled, unwrapped, recompressed, and reloaded? The alternative presented here is merely to do these things right the first time, at the gin, to prevent having to do them again.

The previous section of this report described how the various industry groups view cotton marketing issues, particularly those concerned with linking production to the market. Some of the issues such as joint ventures, producer ownership of textile mills, and bargaining received only limited support as potential solutions to marketing problems. However, the positive response toward functional integration and forward contracting indicates that each may have an important role in an improved marketing system for cotton.

The trend to increased contracting does not appear to be a temporary phenomenon. And many industry leaders feel the practice will become even more widespread if and when the Government winds down its support role in cotton. It might be one of the few options available to mills who want to assure themselves of a continued adequate supply. If the forecast is correct, forward contracting would most likely become an essential cog in this proposed system.

Domestic and foreign mills could make their quality and quantity requirements known by establishing contracts with the producers' marketing association. This information could then be relayed back to the gins and individual growers through contracts or binding marketing agreements. The varieties planted, and perhaps even cultural practices, may be conditioned by mill quality requirements. Ginning methods, especially those dealing with drying and lint cleaning, and blending would be directed also by previously negotiated mill contracts with the marketing agency.

Contracts between the mills and marketing agencies would be preferred to those between mills and gins. Latter arrangements might cause excessive competition among gins for mill contracts that would break down the coordination between marketing and ginning levels. In addition, a marketing agency with several central gins under its jurisdiction would seeem to be in a better position to meet varying contract requirements than would single gins operating independently.

For individual growers to effect the potential savings from such a system, most of the control must be in their hands. But to say that growers, acting collectively, should exercise control through joint ownership of processing and marketing services raises questions as to the type of ownership patterns that would result in the most effective system. One method might be a quasi-federated structure where growers would own the gins and warehouse complex and the gins would own and control the marketing association. A more centralized system would have the growers own the marketing association which in turn would control the ginning and warehousing activities.

From a producer-interest standpoint, it would seem a centralized decisionmaking complex could most effectively meet the requirements of the emerging fiber distribution system.Sophisticated marketing decisions must be based on the most up-to-date information flow available. These decisions depend not only on what's happening in South Carolina, but also in Mainland China, Japan, Bangladesh, and elsewhere. It would be difficult to expect individual gin decisions to reflect changing conditions all over the world. Under a federated system where marketing decisions are largely determined at the local gin level,

excessive fragmentation might result in marketing efforts less precise than those made by centralized marketing agencies. Also, excessive misdirected power at the local level may cause the gins to compete with one another rather than working in concert with their marketing partner.

The accompanying diagram illustrates flow relationships between functional segments of the proposed system. While actual industry operations would obviously be more complicated than those depicted in the diagram, it is important to recognize that coordinated information exchange and contractual arrangements complement a physically integrated system in linking cotton producers to the market.

Organizational Implications

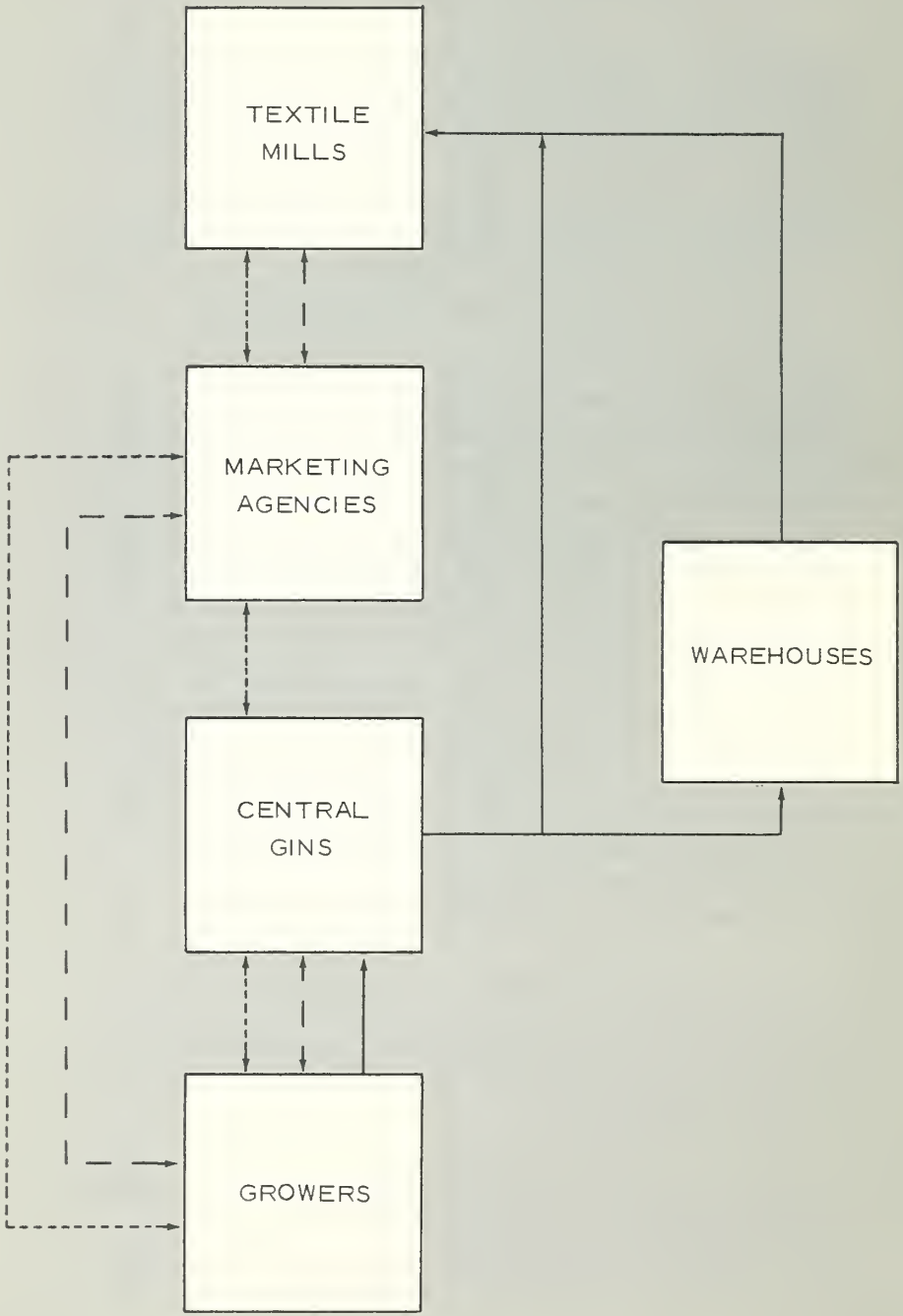
Movement toward a marketing system based on central ginning and producer control has obvious structural implications for the various industry groups. The most apparent adjustment would involve the ginning segment of industry where the trend toward fewer and larger gins is already well-known. With widespread acceptance of central ginning, this trend would be greatly accelerated. Gins with annual volumes of 50,000 bales or more are not out of the question.

The direct marketing implications of such a system would undoubtedly affect the operations of merchant shippers and other intermediate buyers and sellers of raw cotton. Their functions of assembly, financing, storage, and merchandising would be largely absorbed by producers through their own marketing agencies, warehouses, and gins. Government seed-cotton loan programs may provide financing assistance.

Because gins would be equipped with universal-density bale presses, the need for recompression--and compresses-- would be eliminated. Also, cotton would have been mechanically sampled at the central gin, eliminating the need for additional sampling at the compress.

The warehousing segment would experience some changes but storage of cotton in some form would still be required. Lint cotton storage may not be needed for bales shipped directly to mills, but unless gins had volume enough to operate most

FLOW RELATIONSHIPS IN AN INTEGRATED COTTON MARKETING SYSTEM



PHYSICAL FLOW ---- INFORMATION FLOW

— — — CONTRACTS OR MARKETING AGREEMENTS

of the year, storage of lint cotton would be required for the volume ginned but not shipped immediately. We might well see a movement toward ginning-warehouse complexes at one location; a number of these already exist.

While the focal point for cost reduction is at the central gin, it is the marketing arm of an integrated system that links producers to the mill consuming sectors of the industry. From a grower standpoint, the most efficiently run gin does not make money; it costs money. Less efficient gins cost more money. Because producers are interested in the difference between returns and cost, effective merchandising must be considered on at least an equal basis with processing efficiency. It is essential for producers to align themselves with marketing expertise that will provide the best possible home for their product.

One possibility is for producers to utilize the market intelligence of present merchants through "hiring" them as their marketing firm. Were merchant-shippers to successfully learn the central ginning business and all that goes with it, perhaps growers would accept them as their wholly owned and controlled marketing partners.

Present cooperative structure provides a basis on which an improved system might be built. Several advantages peculiar to cotton cooperatives could smooth the transition. First, some are already partially integrated. Cooperation and information flow between producers, gins, compress-warehouses, oil mills, and marketing associations are readily apparent. Member-growers are linked to each function through shared ownership. Second, producers own the facilities and services now utilized to process and market their crop. Equity representing this ownership could go a long way in financing new or improved facilities. Through equity transfers, participating growers could in effect "trade in" their existing system for one better suited to serve present and future needs. These advantages, combined with existing leadership potential, should encourage farmer cooperatives to become the pacesetters in developing an improved system.

Solving the organizational problems associated with an improved marketing system hinges more on finding leadership

and stirring producers to act than on developing the physical components of the distribution scheme. The technology required for large ginning plants, seed-cotton storage, mechanical sampling, and one-time compression is already available. But strong leadership and grower support is needed to put together an organization that can transfer physical efficiency into producer benefits.

Further examination of certain interrelated concepts basic to this study would assist in effective development of a producer-oriented marketing system. For example, unanswered questions associated with forward contracting arrangements need to be studied and explained, particularly those dealing with contracting as a price stabilization vehicle. The potentials of seed-cotton storage deserves further study in terms of storage duration, quality maintenance, sampling techniques, and of course, cost. Finally, the entire bundle of questions related to central ginning and seed cotton blending requires continued attention, both to the technicalities involved and their affiliation with other parts of the system.

A RELATED CHANGE—INSTRUMENT CLASSIFICATION

Nearly all industry people would agree that the pricing system for cotton should reflect actual differences in use value. They also realize that accurate use value differences require fiber measurements in addition to usual grade and staple designations. While the industry is in accord with the general idea of pricing cotton on the basis of actual fiber properties, there is considerable disagreement as to the extent mechanically measured fiber characteristics should become the accepted basis for the pricing differences. Most of the support for a completely objective fiber measurement system comes from producers and their representatives, although certain mills are exploring that possibility. Industry groups positioned near the middle of the marketing system, and some of the mills, are either lukewarm toward the concept or express strong reservations as to its practicality or desirability.

Opposition to instrument classing seems to center on two potential short comings. First, the use of fiber test data may not fit the operation of the market because requirements differ from mill to mill and even within the same establishment. Differences in end-use requirements, together with the increasingly large number of end uses, might limit fiber test results as a basis for trading cotton. Second, the reliability of instrument readings, both in terms of accuracy and repeatability, has caused varying degrees of skepticism in some quarters. Several essential fiber characteristics, including "character," have yet to be measured by machine.

In contrast, proponents of an objective classification system point to prevalent mill procurement practices that consistently utilize instrument evaluation of fiber properties other than grade, staple, and micronaire. Mechanical measurements of fiber characteristics such as strength and length uniformity have been gratefully accepted by those textile firms concerned with the complete array of factors affecting fiber spinnability. Mills will continue to purchase raw materials that fit their individual needs, irrespective of the pricing system utilized to compensate fiber producers.

Use value of cotton fiber clearly cannot be fully explained by green card class. As an example, a sample of the mill-cotton buyers

contacted in this study were asked to rank five fiber measurements—grade, staple, micronaire, strength, and length uniformity—according to the overall importance of each characteristic in their individual operations. Aggregate rankings showed that these mill representatives place less emphasis on "grade" than any other mentioned characteristic and consistently rank uniformity and strength (nongreen card designations) ahead of grade. It would seem the practice of pricing cotton to producers on the basis of Government classification works counter to the objective of meeting synthetic competition through accurate quality description.

Advantages of a classification system based on instrument evaluation seem to outweigh real or imaginary disadvantages. First, it would reduce or eliminate the need to resample a bale of cotton each time it changes ownership. This would not only lower excessive costs incurred in the resampling process but also would support bale packaging and appearance improvements. Second, it would reduce the risks associated with a system based on subjective judgment and the potential manipulation of that judgment. Implicit costs of assuming those risks would simultaneously be reduced. And finally, in combination with fewer quality categories and increased uniformity within categories, it would more accurately transmit the quality requirements of mills into raw cotton prices. The fact that manmade fibers are priced on the basis of specific properties poses further threats to cotton's competitive position.

Procurement methods utilized by some mills and merchant-shippers have the effect of overriding the traditional classification system. Most of these methods are well known: acreage contracting, custom ginning, buying on varietal or regional reputation, private types, or point buying on the basis of spot instrument checks. Such practices have not been totally unsuccessful as a shortrun solution for cotton procurement problems. But over the long term, producers could become the unfortunate victims of a pricing system that denies them the information required to effectively adjust to the textile industry's true quality requirements.

It seems obvious that it is in the best interests of producers to supply cotton that meets, as closely as possible, the

quality requirements of domestic and foreign mills. And if growers are willing to pursue this goal, it is also obvious that the quality criteria employed in purchasing cotton from producers must be consistent with the criteria employed in using it. Under the present classification system, growers are economically compelled to produce the best combination of grade, staple, and micronaire, even if their actions are contrary to quality signals transmitted by the mills.

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