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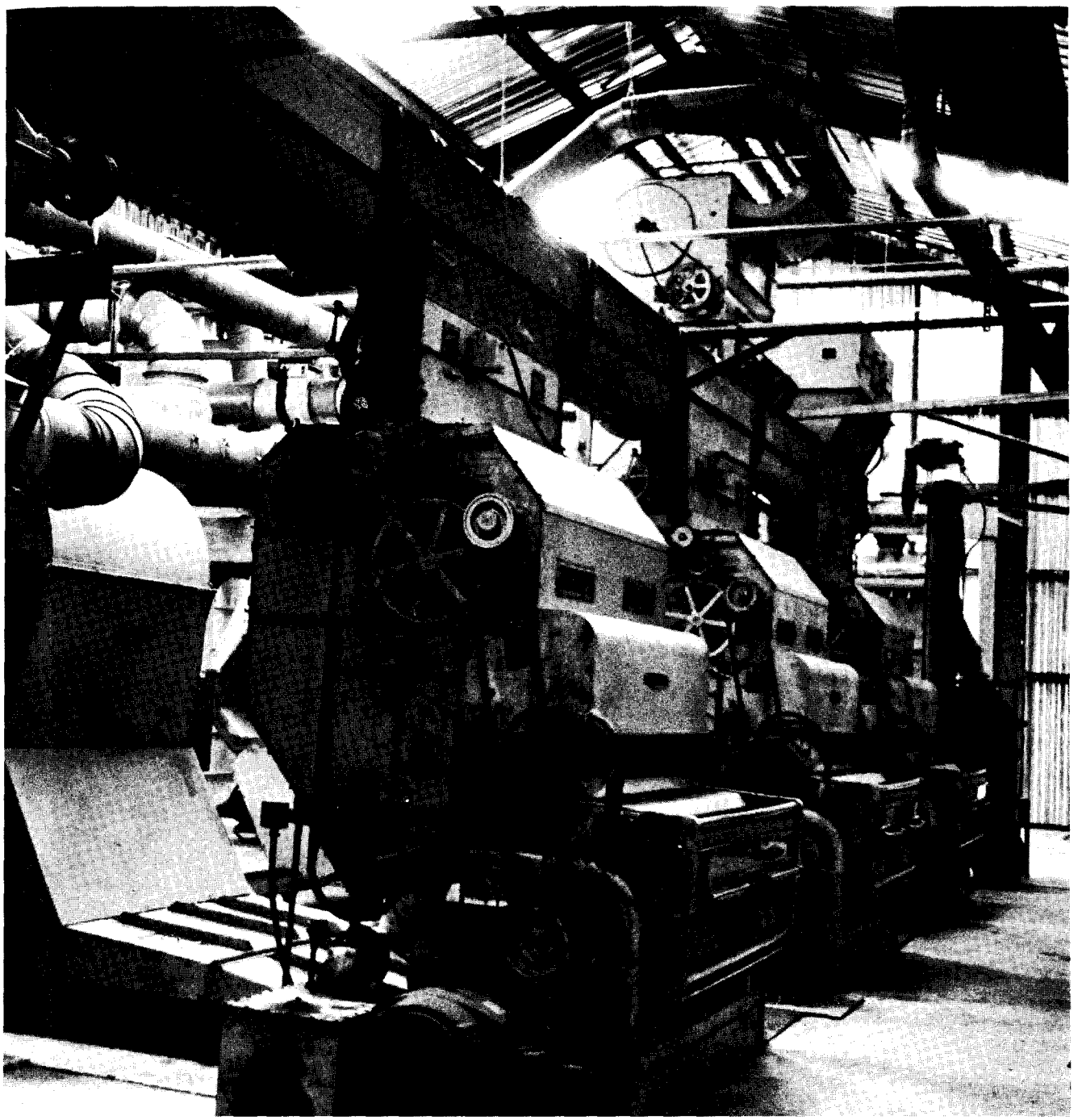
# Establishing a Cotton-Ginning Cooperative In the Southeast





**ESTABLISHING A COTTON-GINNING COOPERATIVE IN THE SOUTHEAST,** by Donald M. Simon, William R. Garland, and Jan Halkett. Cooperative Development Division; Agricultural Cooperative Service; U.S. Department of Agriculture. ACS Research Report 7.

## ABSTRACT

The producer-members of the proposed Albemarle Cotton Growers Cooperative presently experience costly and dangerous conditions in transporting seed cotton to distant ginning sites. These growers seek to acquire locally a cooperatively owned and operated cotton gin. This study of the proposed venture reports on producer surveys and financial projections, and estimates member benefits and return on investment. This cotton-ginning cooperative may considerably improve the net farm incomes of local producers. The feasibility analysis concludes that it is possible for these North Carolina growers to earn a respectable return on their cooperative investment. However, firm volume and equity commitments on the part of growers will be required. This study may be applicable to similar situations in other parts of the Southeast.

**Keywords:** Cotton gins, cooperatives, cotton, feasibility analysis, rural development, return on investment, cooperative benefits.

## PREFACE

In January 1980, a group of cotton growers in Chowan County, N.C., requested the assistance of Agricultural Cooperative Service to determine the feasibility of a local grower-owned cotton gin. Since that time, an organizing committee has begun to incorporate the association as a stock cooperative to be chartered under the name Albemarle Cotton Growers Cooperative. The proposed cooperative is considering purchasing an existing gin and relocating it to the Albemarle area.

In fulfilling the group's request, the authors conducted the following activities:

1. Surveyed 44 interested growers from three counties in eastern North Carolina;

2. Developed data on (a) facility and equipment specifications and costs; (b) local and average operating costs of gins; and (c) projected loan package and member equity requirements;

3. Prepared cash flow analysis, pro forma schedules and financial statements, return on investment, and net benefits accruing through transportation savings and rotation crop gains.

Field visits were made to existing local gins, to meet with growers, and to observe local farming operations to determine the need for and interest in a cooperative organization. Additionally, potential members were advised on the organizational, financial, and managerial elements of cooperative formation. A preliminary feasibility report was completed and presented to the proposed cooperative in April 1980.

Numerous individuals contributed to this study and to the organization of Albemarle Cotton Growers Cooperative. We wish to particularly acknowledge the assistance of Dale Shaw, ESS Agricultural Economist at Texas Tech University, and William Eickhoff, Extension Economist at North Carolina State University. Their technical expertise in ginning operations and costs contributed to the feasibility determination. The authors also thank the staff of Agricultural Cooperative Service for its assistance. This cooperative could not have been established without the technical and organizational assistance provided by Clarence J. Leary of Edenton, N.C., Roy Schaal of the North Carolina Rural Fund for Development (NCRFD), and Pete Thompson and Steve Riddick of the North Carolina Extension Service.

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## HIGHLIGHTS

Cotton enterprises are being revived in the Albemarle area of North Carolina. A boll weevil eradication program coupled with increasing industry demand for cotton fiber makes cotton a profitable alternative to corn for area farmers. However, the lack of a local gin has impeded increased cotton production in the area.

Over the years, local growers have been rotating corn with peanuts. Unfortunately, escalating production costs in corn combined with average yields of only 60 bushels to the acre on the very sandy soil have caused corn to be a poor income producer, thus adding to the renewed interest in growing cotton.

Currently, Albemarle cotton growers must haul their cotton in trailers to distant gins under costly and dangerous conditions. Heavy loads must be hauled at low speeds in trailers that are difficult to control. A local gin would reduce both this expense and danger, while encouraging substitution of a profitable crop in the growers' peanut rotation. These factors have led an association of local growers to seek suitable equipment, necessary member equity subscriptions, and financing for facility and operating capital needs.

Producer surveys indicate potential member acreage of 1,633 acres in the first year of operation and 1,959 acres by the third year. The cooperative must raise $91,000 in equity subscriptions to leverage financing for capital and operating expenditures. Potential member benefits of cooperative participation are projected at an average of $132 per acre in the first year. A return on investment of nearly 14 percent is projected for members in the third year. These results may be of use to other Southeastern farmer groups facing similar situations in producing cotton.

This study shows that establishing a grower-owned cotton gin in the Albemarle area is economically feasible. However, sound business operations and professional management will be required. Projected member benefits and return on investment over a 3-year period appear to be substantial. By following the recommendations outlined in this study, cooperative members should realize the following:

1. Savings in transportation costs through reduced hauling;

2. Improvements in net farm income through the substitution of cotton in the peanut rotation; and

3. Cash return on investment in proportion to their use of cooperative services, after the accumulation of adequate reserves.

In addition, the new business may generate secondary income and employment benefits in the area.

## CONCLUSIONS AND RECOMMENDATIONS

A cotton-ginning cooperative will process the product of local cotton growers, while allowing them to share in the net savings of the ginning operation. With equity subscriptions of 34 percent of total investment cost, professional management, and a strong working relationship between lender and Board, the cooperative can expect to generate annual net savings in excess of $10,000 by its third year of operation. Additionally, the servicing of term debt would be supported by a cash balance of about $30,000 by that time. The general conclusion is that establishing a cooperative cotton-ginning facility in the Albemarle area is a viable investment opportunity for grower and lender alike.

However, the success of this operation depends on implementation of certain basic recommendations. The Board of Directors has sole responsibility for this implementation. Our analysis indicates a cotton-ginning cooperative is economically feasible if these conditions are met:

1. All stock should be purchased as indicated in the loan package requirements of this study and the proceeds deposited in an escrow account before any equity capital or loan funds are disbursed. Professional legal counsel should be used to set up the escrow account and for other related purposes;

2. A responsible accounting firm should be employed before any loan funds are disbursed, construction is started, or equipment is purchased. Receipts and disbursals should be monitored constantly and necessary reports made to the lender and Board;

3. When loan funds and equity capital are obtained, two bank accounts should be established: One for capital expenditures and the other for operating expenditures;

4. The lender should act as an escrow agent to assure that construction and equipment purchases are as planned;

5. The Board should require competitive bidding for construction. Where possible, three or more bids should be solicited for each item requiring separate contractors;

6. A professional manager should be hired who has adequate experience in the cotton industry, especially cotton-ginning. He should have the necessary authority to market cotton seed;

7. Marketing or service agreements specifying delivery of cotton should be signed by all members and strictly enforced;

8. Operating statements should be completed monthly in years 1 and 2 and the Board should meet to review each;

9. Eighty percent of the net margins shown in the second and third years of operation should be retained as allocated reserves to build a sound business and should be redeemed to members only when the cooperative is in sound financial condition with adequate working capital. A plan for revolving equities should be developed at a later date;

10. The Board of Directors should establish a training program for Board members, cooperative members, and management so that all will better understand their responsibilities. Emphasis should be placed on product quality, economic efficiency, and effective marketing. This should be coordinated with the ongoing programs and available resources of both the North Carolina Extension Service and the North Carolina Department of Agriculture. Assistance can also be requested from the Cooperative Development Division of Agricultural Cooperative Service.

# Establishing a Cotton-Ginning Cooperative In the Southeast

Donald M. Simon
William R. Garland
Jan Halkett[1]

Growers in North Carolina's Chowan County and neighboring areas are faced with a dilemma in the crop rotation of their peanut enterprise. Until very recently, their situation has left them with essentially two alternatives for their high, sandy land: (1) Planting corn; or (2) letting the land lie idle. Corn, with an average yield of 60 bushels per acre, has become an operating cost of growing peanuts. Presently, these growers' marginal net revenue from idle land is greater than that from planting corn in the rotation. Neither are soybeans a logical choice because they reduce soil fertility necessary for maximum peanut production. However, recent developments have made cotton a profitable alternative for crop rotation.

Cotton was once king within the Albemarle area. Five gins once operated in Chowan County alone. The last gin closed in the early 1950's. The comparative advantage of corn as a competing crop and ineffective pest control contributed to cotton's demise.

Within the past few years, the U.S. Department of Agriculture has piloted a boll weevil eradication program in the Albemarle area. As a result, cotton has proved to be not only a practical rotation crop for local growers, but also a relatively profitable enterprise. However, the absence of gins nearby has inhibited growth of cotton production.

Most growers are at least 50 miles from the closest gin. Consequently, cotton growers transport their crop under both costly and dangerous conditions. It is estimated that 1980 cotton-hauling costs will amount to an average $13 per acre.[2] In addition, both cotton and trailers have been damaged from the long hauling distances. Some cotton growers have even experienced serious accidents from the overturning of trailers.

These conditions have led Albemarle growers to try to relocate an existing gin to Chowan County. The steering committee of the proposed cooperative requested help from the Agricultural Cooperative Service in administering a producer survey and developing a financing package for a new cotton-ginning cooperative. The results, conclusions, and recommendations are presented in the following sections.

[1]Donald M. Simon and William R. Garland are Agricultural Economists and Jan Halkett is a Marketing Specialist with the Cooperative Development Division (CDD) of ACS.

[2]Refer to table 20 for further detail.

## PRODUCER SURVEY RESULTS

In February 1980, a producer survey was given to (1) identify growers interested in participating and investing in a local cotton-ginning cooperative; and (2) obtain necessary information about their farm operations and production plans. A six-member steering committee and local Extension personnel assisted CDD in conducting the survey. The survey instrument is found in the appendix.

Forty-four producers, or 96 percent of those surveyed, expressed interest in the cooperative and provided information on their farm operations. These interested growers, more than 90 percent of whom farm in Chowan County, were assumed to be the initial membership and thus provided a basis for developing this feasibility study. All were willing to invest equity capital in the cooperative, if it were economically feasible. The remainder of this section explores in greater detail both the present situation and future production plans of the surveyed growers.

### Grower Characteristics

All growers interested in investing in a local cotton-ginning cooperative plan to grow cotton, if a gin can be located nearby. Due to the stated undesirable conditions, only 25 percent of them actually grew cotton in 1979. However, twice that number anticipate planting cotton even if a local gin cannot be acquired. It thus appears that producers are earnest about replacing their corn enterprise with cotton.

A vast majority (82 percent) of interested growers are full-time operators (table 1). Overall, less than 5 percent of gross farm income was from cotton. However, among those growing cotton last year, 18 percent of farm income came from cotton. In fact, among this latter group, cotton contributed nearly half as much to gross farm income as did peanuts, one of the area's major cash crops.

This group reported marketing most of their cotton through a local cotton merchandising cooperative. Consequently, the proposed cotton-ginning cooperative will probably not be involved in any direct marketing of lint cotton. Rather, the local merchandising cooperative will probably continue to market baled cotton.

Growers appear to lack conventional hauling equipment (table 2). About 70 percent of those growing cotton last year do not own cotton trailers, usually hauling their cotton in trailers owned by the gin. Thus, the ginning cooperative may want to provide trailers to its members.

Most farmers, however, own peanut trailers, an average of eight per grower. Even though the capacity of a peanut trailer is usually half that of a cotton trailer, it may be feasible to haul cotton short distances in peanut trailers. In this way, peanut trailers could help to relieve any shortages that may arise in cotton trailers.

Finally, over half the surveyed growers indicated they would have to rely on custom-picking for cotton grown in 1980. The number of growers expected to own a cottonpicker by harvesting time would appear to satisfy the custom-picking needs of those surveyed. However, the cooperative may need to coordinate the scheduling of custom-pickers as an additional service to ensure the timeliness of members' harvesting.

**Table 1—Characteristics of surveyed Albemarle cotton growers, 1979**

| Item | Unit | All producers | Producers growing cotton |
|---|---|---|---|
| Interested growers | No. | 44 | 11 |
| Full-time producers | No. | 36 | 9 |
| Part-time producers | No. | 8 | 2 |
| Percentage of farm income from cotton | Pct. | 4.5 | 18.1 |
| Percentage of farm income from peanuts | Pct. | 31.1 | 36.4 |

**Table 2—Transportation and harvesting characteristics of surveyed Albemarle cotton growers**

| Item | All producers | Producers growing cotton in 1979 |
|---|---|---|
| Growers with trailers for hauling cotton | 3 | 3 |
| Average cotton trailers | 1 | 3.67 |
| Average peanut trailers | 7.7 | 4.64 |
| Growers using or renting other cotton trailers | 9 | 9 |
| Growers expecting to own cottonpicker | 18 | 8 |
| Growers expecting to utilize custom-picking | 26 | 3 |

## Expected Cotton Acreage and Volume

Table 3 provides a breakdown of the member/growers by expected acres of cotton to be grown in 1980 for the proposed cotton-ginning cooperative. About 40 percent of surveyed producers indicated they expect to plant more than 30 acres in cotton during 1980, if a gin can be located nearby. There was a direct relationship between number of acres farmed and number of cotton acres to be grown. The skewness of the distribution is due to the fact that about 10 percent of the growers account for over one-third of the total cotton acreage.

With a local gin, growers expect to produce 1,633 acres of cotton in 1980 (table 4). In 1981, they expect to increase their 1980 acreage by 13 percent and in 1982, by 20 percent. Without a local gin, growers expect to plant only 876 acres of cotton in 1980. Although this is an increase over the 652 cotton acres planted in 1979, it represents only half of what would be planted if a local gin is constructed.

The total annual estimated volume for this cooperative is based on a net weight 480-pound bale of lint cotton per acre plus additional volume from repicked acreage. Net weight was determined through both industry contacts and published crop reports.[3] Volume from repicked acreage, or "second-pickings," was limited to those growers who own or plan to own a cottonpicker by October 1980. Second-picking was assumed on half the acreage of these "picker-owners" with a projected yield of 20 percent of first-pick cotton. Thus, total volume for the cooperative in its first 3 years is estimated to average 1,943 bales per year.

[3]See, for example, *North Carolina Agricultural Statistics 1979,* North Carolina Crop and Livestock Reporting Service, Raleigh, N.C.

**Table 3—Distribution of producers by acres of cotton to be grown for proposed cotton-ginning cooperative, 1980**

| Cotton acres | Number of growers | Acreage totals |
|---|---|---|
| 0-15 | 15 | 148 |
| 16-30 | 11 | 270 |
| 31-45 | 4 | 150 |
| 46-60 | 8 | 410 |
| 61-90 | 1 | 80 |
| Over 90 | 5 | 575 |
| Total | 44 | 1,633 |

**Table 4—Cotton production plans of surveyed growers, with and without local gin, by year, 1980-82**

| Year | Expected cotton acreage without local gin | Expected cotton acreage with local gin | Expected cotton acreage of picker-owners[1] | Total estimated volume with local gin (bales)[2] |
|---|---|---|---|---|
| 1980 | 876 | 1,633 | 1,150 | 1,748 |
| 1981 | 878 | 1,845 | 1,350 | 1,980 |
| 1982 | 882 | 1,959 | 1,430 | 2,102 |

[1]Based on a cotton acreage with local gin for those growers who own or plan to own a cottonpicker by October 1980.

[2]Total volume includes an estimated bale per acre yield on first-pick cotton and a 20 percent second-picking yield on half the cotton acreage represented by potential picker-owners.

## SERVICES AND OPERATING REQUIREMENTS

The primary services to be provided by this cooperative include the ginning, bale-packaging, and sampling of cotton and the marketing of cotton seed. Other services may also include helping members schedule custom-pickers and providing cotton trailers. The following sections describe the operating procedures of the proposed cooperative. The ginning operation and marketing of seed are outlined along with the necessary labor and capital item requirements. The financing section delineates the terms and provisions of the loan package and equity subscriptions.

### Ginning Operation

The ginning season in the Albemarle area usually begins around mid-October and extends through January. The gin is normally at peak operation during November. About 70 percent of the area's cotton is harvested and delivered to the gin in November, with about 10 percent picked and ginned in October and 20 percent in December. Cotton from repicked acreage (second-pickings) usually is delivered in January.

Ginning charges were based on projected area rates for the 1980 ginning season. Both local gin owners and the growers themselves feel the ginning charge will climb to 10 cents per pound of lint cotton. Thus, this rate was used to cover the operating costs of the gin over its first 3 years. This charge includes bagging and ties and insurance on the cotton during the time it is handled by the gin. Additionally, the gin assumes all market promotion costs.

Producers are billed at the end of the ginning season. Those growers not delivering second-pickings are assessed in January. The remaining growers are billed in February. Growers normally pay these charges in excess of seed credits within 4 weeks of the end of their ginning season.
Once the cotton is baled, the gin tags the bale with a number. This number then becomes the identification for that bale.

Within the cotton industry, lint is normally classed by USDA-authorized classers without charge to either the gin or growers. However, the gin is usually responsible for sending samples to the USDA cotton classing office serving the area. The official "green card" portion of the tag is removed and sent with the sample.

Within the Albemarle area, growers are responsible for arranging to have the baled cotton hauled to a bonded warehouse. Bales are normally placed in the warehouse before the results of classing are known. Once the cotton is classed, bookkeeping entries tie the bale's green card data with the gin number.

### Seed Marketing and Purchasing

The U.S. oilseed industry experienced record high supplies as a result of the 1979/80 harvest. U.S. production of the five major oilseed crops in 1979/80 was estimated at a record 71 million metric tons, about 20 percent above the 1978/79 season.[4] Consequently, large carryover stocks may depress oilseed prices at the farm level for the 1980/81 season.

Cottonseed production for the current crop year is down about 20 percent over last year.[5] Roughly 75 percent of cottonseed production is crushed. Little decrease in carryover stocks is projected for 1980/81. Mill prices for cottonseed in eastern North Carolina were reported at $138/ton during the 1979/80 season. Industry analysts project about a 20-percent decline in the cottonseed mill price for the 1980/81 season, followed by a 5-percent increase in 1981/82 and a 19-percent increase in 1982/83. A 2-week lag is assumed between sale of seed and collection of receipts.

[4]*U.S. Oilseeds Outlook,* talk by George W. Kromer at the 1980 Agricultural Outlook Conference, Session 20, Washington, D.C., November 1979.
[5]*World Agricultural Supply and Demand Estimates,* WASDE-107, U.S. Department of Agriculture, October 1980.

Payment to growers for seed has traditionally been set at a rate to cover the ginning costs. However, an examination of local gin operations and discussions with industry experts showed this practice has changed. It appears that a 1½- to 2-cent profit margin per pound is realized on the sale of seed, with the ginning charge covering most of the operational costs. In this case, a 1½-cent margin is sufficient to put the cooperative in a favorable cash position while still contributing to member equity.

Seed payments are based on a local industry average of 760 pounds of seed per bale of lint produced. Payments are made in conjunction with charges for ginning at the end of the season. At that time, the difference between ginning charge and seed payment is calculated and the patron may be either billed or reimbursed, depending on the fluctuation in mill seed prices.

Finally, it is possible to reclaim gin motes from cotton-ginning waste. However, no area buyers for gin motes were identified. Consequently, the market value of gin motes has not been incorporated in this analysis, but should be explored in the future as a possible revenue source.

## Management and Labor

Table 5 projects personnel requirements and pay schedule for the cooperative's first 3 years of operation. Both the manager and ginner are paid salaries. A production incentive supplements the ginner's salary during the peak period of the ginning season. Additional plant labor consists of three people on the bale press, one person operating the suction pipe, and an individual to share the duties of cleaning and disposing of motes and other residue. One of the press workers may alternate between bale press and suction pipe.

Table 6 demonstrates the projected monthly labor expenditures for the proposed cooperative. Workdays are computed on the volume of seed cotton entering the gin for a given month and the standard efficiency rating for a two-stand gin. This efficiency rating is described in the following section. Thus, workdays for plant labor (excluding the ginner) counted only those days when the gin was in operation, with due consideration given for breakdowns and other delays. Workdays for the remaining personnel were calculated on a weekly basis. This labor schedule, of course, assumes a local labor pool available on a seasonal and part-time basis.

The positions of manager and ginner might be combined. However, while this strategy may appear workable on the surface, it is our experience that the performance and efficiency of the cooperative would be impeded if additional duties were added to the manager's regular supervisory responsibilities. We feel that effective management stems from the ability to engage in all phases of a business' operations and services in the most competent and productive manner.

High-caliber management is a key element in the success of cooperatives. A manager's responsibilities are not limited to overseeing the day-to-day operation of the business' physical plant and facilities, but also extend to such areas as financial management, marketing programs, member relations, and special cooperative services. A sample job description for a professional manager is included in the appendix.

**Table 5—Projected personnel requirements and pay schedule for proposed cotton-ginning cooperative, 1980-82 crop years**

| Type of employee | Number | Unit of pay | Gross wage rate[1] | | |
|---|---|---|---|---|---|
| | | | 1980 | 1981 | 1982 |
| | | | | *Dollars* | |
| Administrative and office personnel: | | | | | |
| Manager | 1 | Monthly | 2,000 | 2,140 | 2,290 |
| Secretary/bookkeeper | 1 | Hourly | 4.50 | 4.82 | 5.15 |
| Plant labor: | | | | | |
| Ginner[2] | 1 | Monthly | 1,000 | 1,070 | 1,145 |
| Press worker | 3 | Hourly | 4.00 | 4.28 | 4.58 |
| Suction pipe operator | 1 | Hourly | 4.00 | 4.28 | 4.58 |
| Driver/cleaner | 1 | Hourly | 3.88 | 4.15 | 4.44 |

[1]All wage rates include 20 percent for FICA taxes, workers' compensation, and miscellaneous fringe benefits. Assumes a 7-percent-per-year cost-of-living increase.

[2]Ginner's salary does not include a 50-cent commission per ginned bale for those days in November when production exceeds 60 ginned bales.

**Table 6—Monthly labor expense for proposed cotton-ginning cooperative, 1980-82 crop years**

| Year and month | Estimated volume | Monthly workdays required | | | | Gross wages | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Plant labor[2] | Ginner[2] | Secretary/ bookkeeper | Manager | Plant labor[2] | Ginner | Secretary/ bookkeeper | Manager | Total |
| | *Bales*[1] | | | | | | | *Dollars* | | |
| 1980/81 | | | | | | | | | | |
| October | 163 | 15 | 5 | 10 | 15 | 387 | 250 | 360 | 1,500 | 2,497 |
| November | 1,143 | 100 | 20 | 20 | 20 | 2,580 | 1,000 | 720 | 2,000 | 6,300 |
| December | 327 | 30 | 20 | 20 | 20 | 774 | 1,000 | 720 | 2,000 | 4,494 |
| January | 115 | 15 | 5 | 20 | 20 | 387 | 250 | 720 | 2,000 | 3,357 |
| February | 0 | 0 | 0 | 10 | 15 | 0 | 0 | 360 | 1,500 | 1,860 |
| Total | 1,748 | 160 | 50 | 80 | 90 | 4,128 | 2,500 | 2,880 | 9,000 | 18,508 |
| 1981/82 | | | | | | | | | | |
| October | 184 | 20 | 5 | 10 | 15 | 719 | 268 | 386 | 1,605 | 2,978 |
| November | 1,292 | 110 | 22 | 20 | 22 | 4,041 | 1,346 | 771 | 2,140 | 8,298 |
| December | 369 | 40 | 20 | 20 | 20 | 1,438 | 1,070 | 771 | 2,140 | 5,419 |
| January | 135 | 15 | 5 | 20 | 20 | 539 | 268 | 771 | 2,140 | 3,718 |
| February | 0 | 0 | 0 | 10 | 15 | 0 | 0 | 386 | 1,605 | 1,991 |
| Total | 1,980 | 185 | 52 | 80 | 92 | 6,737 | 2,952 | 3,085 | 9,630 | 22,404 |
| 1982/83 | | | | | | | | | | |
| October | 196 | 20 | 5 | 10 | 15 | 770 | 286 | 412 | 1,718 | 3,186 |
| November | 1,371 | 125 | 25 | 20 | 25 | 4,666 | 1,386 | 824 | 2,290 | 9,166 |
| December | 392 | 40 | 20 | 20 | 20 | 1,540 | 1,145 | 824 | 2,290 | 5,799 |
| January | 143 | 15 | 5 | 20 | 20 | 577 | 286 | 824 | 2,290 | 3,977 |
| February | 0 | 0 | 0 | 10 | 15 | 0 | 0 | 412 | 1,718 | 2,130 |
| Total | 2,102 | 200 | 55 | 80 | 95 | 7,553 | 3,103 | 3,296 | 10,306 | 24,258 |

[1]Volume estimates based on 480-pound net weight bale of lint cotton per acre with 10 percent of committed volume delivered in October, 70 percent in November, and 20 percent in December. Estimated volume in January based on deliveries of repicked cotton.

[2]Both ginner and plant labor operate on 8-hour days from October to January, except for November when gin operation usually exceeds 8 hours a day. In November, ginner collects 50 cents commission per ginned bale for those days when production exceeds 60 ginned bales.

## Facility Needs

The projected volume of seed cotton in the Albemarle area over the coming years necessitates reliable ginning equipment specifications, especially with regard to bale capacity. Recommended land and equipment needs and their associated costs are outlined in table 7. The purchase price of the ginning plant reflects used equipment that is 3 to 4 years old. This price is based on information provided by industry personnel involved in gin sales and represents the maximum purchase price for the equipment given. This ginning plant has a rated capacity per hour of 12 to 14 processed bales. We assumed a 60-percent rate of efficiency on previously owned equipment. In addition, hand-sampling as opposed to mechanical is assumed for this gin.

Table 8 lists the costs of relocating a gin to the Albemarle area. These construction and improvement costs, in addition to the building expense, are based on local estimates for material, labor, and supervision on a per job basis. The new building will be a 50- by 100-foot structure. Labor includes both the manual and supervisory workers needed to disassemble, transport, reconstruct, and fine-tune the gin.

The purchase price is an aggregate cost of all the plant's machinery and equipment. The depreciation allowance (table 9) is based on 60 percent of the equipment having a useful life of 20 years, with the remainder assessed at 12 years. The useful life of the additional facility needs was assigned on the basis of appropriate standards. Fixed asset replacement was set at 40 percent of the depreciation allowance.

**Table 7—Facility and equipment needs of proposed cotton-ginning cooperative**

| Item | Cost |
|---|---|
| | *Dollars* |
| Purchase price of used gin[1] | 100,000 |
| Land | 10,000 |
| Building | 65,000 |
| Office equipment | 5,000 |
| Scale and hoist | 2,000 |
| Additional trailers | 2,000 |
| Total | 184,000 |

[1]Plant includes 2 gin stands, motors, starters and switches, platform scales, presses, feeders, dryers, cleaners, fans, seedhouse, cyclones and 10 trailers.

**Table 8—Estimated cost of relocating the gin to the Albemarle area**

| Item | Amount |
|---|---|
| | *Dollars* |
| Moving (freight) of gin and seedhouse | 8,000 |
| Electrical costs (wiring, conduit, and labor) | 25,000 |
| Labor | 20,000 |
| Plant renovations and adjustments | 9,000 |
| Total | 62,000 |

**Table 9—Depreciation schedule of proposed cotton-ginning cooperative**

| Asset | Useful life | Initial cost | Annual depreciation |
|---|---|---|---|
| | *Years* | *Dollars* | |
| Ginning plant[1] | 20 | 60,000 | 3,000 |
| | 12 | 40,000 | 3,333 |
| Building | 20 | 65,000 | 3,250 |
| Improvements | 15 | 62,000 | 4,133 |
| Trailers | 10 | 2,000 | 200 |
| Office equipment | 8 | 5,000 | 625 |
| Scales | 5 | 2,000 | 400 |
| Total | — | 236,000 | 14,941 |

— = Not applicable.

[1]The total purchase price ($100,000) of the gin includes the equipment embodied in the original purchase price. Sixty percent of total equipment needs were assumed to have a useful life of 20 years, with the remainder an average useful life of 12 years.

## Financing Requirements

The cost of fixed facilities and equipment for the proposed cotton-ginning cooperative is $246,000. Of this amount, loan capital would comprise $166,000 with equity capital set at $91,000 or 34 percent of the total cost. The cooperative plans to raise $80,000 in stock purchases from member/growers. Beginning member equity will be subscribed at $49 an acre, assuming member investments for 1,633 acres. The additional equity capital will be raised from nonmembers and institutions interested in having a gin in the area. Thus, approximately 12 percent of the total equity requirements will originate from nonmember, preferred stock purchases. However, these stockholders are not expected to be cotton-growers. Any nonmember/growers who wishes to continue ginning through the cooperative and become a member should be assessed a capital retain to be put toward the purchase of stock. In this way, the cooperative may continue to accumulate member equity.

The interest rate on this 15-year facility loan is projected to be 14 percent at the time of disbursement of funds. Interest payments reflect the variable rate of interest over the life of the loan for both long-term and short-term credit. Payments are structured on a constant principal basis, with interest paid on a declining outstanding balance. By the time of loan settlement, the board of directors of the proposed cooperative must have fully secured nonmember and members' financial commitments or equity investments. These requirements are shown in table 10.

In the 6- to 8-week period before the beginning of the ginning season, management must procure supplies, line up labor requirements, and establish a proper accounting system. It is imperative that facilities and equipment be in sound working order by the start of operations. To achieve this, some money will have to be spent on construction before actual loan funds are disbursed.

**Table 10—Loan package and equity requirements for proposed cotton-ginning cooperative**

| Item | Bank loan | Equity | Total cost |
|---|---|---|---|
| | | *Dollars* | |
| Facilities and equipment | 166,000 | 80,000 | 246,000 |
| Operating expenditures | 7,000 | 11,000 | 18,000[1] |
| Total | 173,000 | 91,000 | 264,000 |

[1]This incorporates a 1-percent fee in conjunction with an FmHA-authorized loan guarantee.

Any disbursement of funds from stock sales before loan funds are received should be done with the approval and, if possible, under the guidance of the lending institution. A misallocation of equity capital may jeopardize future loan disbursements. By the same token, proper handling of member equity will foster a stong working relationship between lender and the client cooperative.

An operating loan (table 10) will be required to cover initial variable and operating expenditures. It is projected that $18,000 of initial working capital will be needed during the first year of operation. We foresee a line of credit of about $7,000 as necessary to supplement member investments toward these initial operating capital requirements. An annual interest rate of 16 percent is anticipated on the operating loan with a projected payback of 5 months. We recommend that moneys associated with working capital needs be deposited in an account separate from that for facility needs, so as to ensure that each account serves only its intended purpose.

All interest accruing on the facility loan during the startup period is charged to the first year of operation. Term payments (annual principal and accrued interest) are scheduled for February, the close of the ginning season. At this time, sufficient revenue will have been generated to service outstanding debt.

## FINANCIAL FORECAST

All of the gin-related variable costs used in this analysis were based on on-site visits to local ginning operations and discussions with informed industry personnel. These data were cross-checked with published material on average gin operating expenditures.[6] Allowances were made for inflation. Thus, the authors feel confident that price and cost projections are reliable.

[6]Ghetti, Joseph L., and Edward H. Glade, Jr., *Cotton Gin Operating Costs in the Midsouth: 1973/74 and 1977/78.* U.S. Department of Agriculture; Economics, Statistics, and Cooperatives Service, ESCS-52, May 1979; and Shaw, Dale L., O. A. Cleveland, Jr., and Joseph L. Ghetti, *Economic Models for Cotton Ginning.* U.S. Department of Agriculture; Economic Research Service and College of Agricultural Sciences, Texas Tech University, College of Agricultural Sciences Publication No. T-1-158, August 1977.

## Cash Flow Schematic

Numerous assumptions went into the development of the cash flow projections presented in tables 11 through 13. The assumptions used for each item are as follows.

## Cash Received

*Ginning Charge*—10 cents per pound of net weight lint cotton for 1980-82 crop years. Growers billed at end of each ginning season.

*Cottonseed price*—$110/ton in 1980/81, $116/ton in 1981/82 and $138/ton in 1982/83.

*Sale of stock*—See "Financing Requirements" section.

*Facility loan*—See "Financing Requirements" section.

*Operating loan*—See "Financing Requirements" section.

*Electric co-op refund*—Dividends of $0.025, $0.045, and $0.055 on each dollar of electric costs for first, second, and third years, respectively.

## Cash Outlay

*Land, facilities, and equipment*—See table 7.

*Relocation expense*—See table 8.

*Fixed asset replacement*—40 percent of depreciation allowance (see table 9).

## Cash Disbursement

*Bagging and ties*—$4.10 per bale in first year, increasing by 8 percent per year.

*Salaries and wages*—See tables 5 and 6. Cost-of-living increases set at 7 percent a year.

*Legal fees and audit*—Legal fees, $900. Audits, three times a year at $200 each. Audit fees increase 7.5 percent a year.

*Cottonseed purchases*—Growers paid $0.04/pound, $0.043/pound, and $0.054/pound for cottonseed in 1980/81, 1981/82, and 1982/83, respectively. Margins set at 1½ cents per pound. Payments based on 760 pounds of seed per bale of lint.

*Plant repairs*—3.5 percent of initial cost of facilities, equipment, and improvements. Increasing by 7.5 percent per year.

*Office expenses*—Includes telephone and other utilities and general office supplies. Average of $200/month for the first year, and increases at 8 percent a year.

*Market promotion*—65 cents per bale of lint cotton to support State university research and regional and national cotton councils.

*Property taxes*—$1.05 per $100 of property value. Tax rate increases 5 percent per year.

*Insurance*—Building and equipment insurance figured at $1,620/year; cotton insurance figured on $0.75/bale.

*Electricity*—Based on 37.66 kilowatt-hours per bale at a cost of $0.032 per kWh, a kilowatt demand of 448 kWh per month for 3 months at a cost of $4.00 per kWh, a wholesale power adjustment charge at the rate of $0.0106 per kWh, and a facility charge of $25 per month. Both energy charge and demand charge increase 8 percent a year.

*Gas*—1,000 gallons for every 500 bales at 90 cents per gallon. Gas is used for drying seed cotton. Increases at 8 percent a year.

*Tags*—15 cents/bale, increasing at 8 percent a year.

*Disposal*—5 cents/bale, increasing at 8 percent a year.

*Miscellaneous*—10 cents per bale.

*Term loan*—Principal and interest. See "Financing Requirements" section.

*Operating loan*—Principal and interest. See "Financing Requirements" section.

*Patronage refund*—20 percent of net savings paid in cash.

*Equipment rental*—Includes seasonal rental and maintenance of forklifts.

**Table 11—Cash flow of proposed cotton-ginning cooperative, Year One, 1980/81**

| Item | Startup | September-October | November | December | January | February | March-August | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | *Dollars* | | | | |
| Cash Received: | | | | | | | | |
| Ginning charge | — | — | — | — | 28,704 | 55,200 | — | 83,904 |
| Cottonseed sales | — | — | 30,701 | 30,723 | 9,238 | 2,404 | — | 73,066 |
| Sale of stock | 91,000 | — | — | — | — | — | — | 91,000 |
| Facility loan | 166,000 | — | — | — | — | — | — | 166,000 |
| Operating loan | 7,000 | — | — | — | — | — | — | 7,000 |
| Electric co-op refund | — | — | — | — | — | 220 | — | 220 |
| Total cash received | 264,000 | — | 30,701 | 30,723 | 37,942 | 57,824 | — | 421,190 |
| Cash outlay: | | | | | | | | |
| Land, facilities, equipment | 184,000 | — | — | — | — | — | — | 184,000 |
| Relocation expense | 62,000 | — | — | — | — | — | — | 62,000 |
| Fixed asset replacement | — | — | — | — | — | — | 5,976 | 5,976 |
| Cash disbursement | | | | | | | | |
| Bagging and ties | — | 1,025 | 5,125 | 1,025 | — | — | — | 7,175 |
| Salaries and wages | — | 2,497 | 6,300 | 4,494 | 3,357 | 1,860 | — | 18,508 |
| Legal fees and audit | 900 | — | 200 | — | 200 | — | 200 | 1,500 |
| Cottonseed purchases | — | — | — | — | 18,179 | 34,960 | — | 53,139 |
| Plant repairs | — | 770 | 5,402 | 1,545 | 543 | — | — | 8,260 |
| Office expenses | — | 400 | 200 | 200 | 100 | 100 | — | 1,000 |
| Market promotion | — | — | — | — | — | 1,136 | — | 1,136 |
| Equipment rental | — | 1,000 | 4,000 | 2,000 | 1,000 | — | — | 8,000 |
| Property taxes | — | — | — | 2,583 | — | — | — | 2,583 |
| Term loan | — | — | — | — | — | 28,497 | — | 28,497 |
| Insurance | — | 2,931 | — | — | — | — | — | 2,931 |
| Electricity | — | 287 | 3,650 | 2,342 | 2,001 | 25 | 175 | 8,480 |
| Gas | — | 900 | 1,800 | 900 | — | — | — | 3,600 |
| Tags | — | 300 | — | — | — | — | — | 300 |
| Disposal | — | 10 | 59 | 18 | 8 | — | — | 95 |
| Miscellaneous | 90 | — | 45 | — | 45 | — | — | 180 |
| Operating loan | — | — | — | — | — | 7,467 | — | 7,467 |
| Total outlay | 246,990 | 10,120 | 26,781 | 15,107 | 25,433 | 74,045 | 6,351 | 404,827 |
| Net cash flow | 17,010 | (10,120) | 3,920 | 15,616 | 12,509 | (16,221) | (6,351) | 16,363 |
| Accumulated cash flow | 17,010 | 6,890 | 10,810 | 26,426 | 38,935 | 22,714 | 16,363 | — |

**Table 12—Cash flow of proposed cotton-ginning cooperative, Year two, 1981/82**

| Item | September-October | November | December | January | February | March-August | Total |
|---|---|---|---|---|---|---|---|
| | | | | *Dollars* | | | |
| Cash received: | | | | | | | |
| Ginning charge | — | — | — | 30,240 | 64,800 | — | 95,040 |
| Cottonseed sales | — | 36,520 | 36,542 | 11,088 | 2,970 | — | 87,120 |
| Electric co-op refund | — | — | — | — | 424 | — | 424 |
| Total cash received | — | 36,520 | 36,542 | 41,328 | 68,194 | — | 182,584 |
| Cash outlay: | | | | | | | |
| Fixed asset replacement | — | — | — | — | — | 5,976 | 5,976 |
| Cash disbursement: | | | | | | | |
| Bagging and ties | 1,108 | 6,645 | 1,107 | — | — | — | 8,860 |
| Salaries and wages | 2,978 | 8,298 | 5,419 | 3,718 | 1,991 | — | 22,404 |
| Audit | — | 215 | — | 215 | — | 215 | 645 |
| Cottonseed purchases | — | — | — | 20,588 | 44,118 | — | 64,706 |
| Plant repairs | 833 | 5,852 | 1,671 | 612 | — | — | 8,968 |
| Office expenses | 432 | 216 | 216 | 108 | 108 | — | 1,080 |
| Market promotion | — | — | — | — | 1,287 | — | 1,287 |
| Equipment rental | 1,080 | 4,320 | 2,160 | 1,080 | — | — | 8,640 |
| Property taxes | — | — | 2,706 | — | — | — | 2,706 |
| Term loan | — | — | — | — | 33,532 | — | 33,532 |
| Insurance | 3,105 | — | — | — | — | — | 3,105 |
| Electricity | 338 | 4,159 | 2,588 | 2,361 | 25 | 175 | 9,646 |
| Gas | — | 2,916 | 972 | — | — | — | 3,888 |
| Tags | 368 | — | — | — | — | — | 368 |
| Disposal | 10 | 70 | 20 | 10 | — | — | 110 |
| Miscellaneous | 18 | 130 | 37 | 14 | — | — | 199 |
| Total outlay | 10,270 | 32,821 | 16,896 | 28,706 | 81,061 | 6,366 | 176,120 |
| Net cash flow | (10,270) | 3,699 | 19,646 | 12,622 | (12,867) | (6,366) | 6,464 |
| Cash balance, previous year | 16,363 | — | — | — | — | — | |
| Accumulated cash flow | 6,093 | 9,792 | 29,438 | 42,060 | 29,193 | 22,827 | |

**Table 13—Cash flow of proposed cotton-ginning cooperative, Year three, 1982/83**

| Item | September-October | November | December | January | February | March-August | Total |
|---|---|---|---|---|---|---|---|
| | | | | *Dollars* | | | |
| Cash received: | | | | | | | |
| Ginning charge | — | — | — | 32,256 | 68,640 | — | 100,896 |
| Cottonseed sales | — | 46,225 | 46,226 | 14,027 | 3,750 | — | 110,228 |
| Electric co-op refund | — | — | — | — | 568 | — | 568 |
| Total cash received | — | 46,225 | 46,226 | 46,283 | 72,958 | — | 211,692 |
| Cash outlay: | | | | | | | |
| Fixed asset replacement | — | — | — | — | — | 5,976 | 5,976 |
| Cash disbursement: | | | | | | | |
| Bagging and ties | 1,195 | 7,170 | 1,912 | — | — | — | 10,277 |
| Salaries and wages | 3,186 | 9,166 | 5,799 | 3,977 | 2,130 | — | 24,258 |
| Audit | — | 231 | — | 231 | — | 231 | 693 |
| Cottonseed purchases | — | — | — | 27,579 | 58,687 | — | 86,266 |
| Plant repairs | 902 | 6,311 | 1,805 | 658 | — | — | 9,676 |
| Office expenses | 233 | 233 | 233 | 233 | 233 | — | 1,165 |
| Market promotion | — | — | — | — | 1,366 | — | 1,366 |
| Equipment rental | 1,167 | 4,666 | 2,333 | 1,167 | — | — | 9,333 |
| Property taxes | — | — | 2,854 | — | — | — | 2,854 |
| Term loan | — | — | — | — | 31,983 | — | 31,983 |
| Insurance | 3,197 | — | — | — | — | — | 3,197 |
| Electricity | 379 | 4,590 | 2,824 | 2,557 | 25 | 175 | 10,550 |
| Gas | — | 3,150 | 1,050 | 1,050 | — | — | 5,250 |
| Tags | 425 | — | — | — | — | — | 425 |
| Disposal | 12 | 82 | 24 | 9 | — | — | 127 |
| Miscellaneous | 20 | 137 | 39 | 14 | — | — | 210 |
| Patronage refund, cash portion | — | — | — | — | 1,037 | — | 1,037 |
| Total outlay | 10,716 | 35,736 | 18,873 | 37,475 | 95,461 | 6,382 | 204,643 |
| Net cash flow | (10,716) | 10,489 | 27,353 | 8,808 | (22,503) | (6,382) | 7,049 |
| Cash balance, previous year | 22,827 | — | — | — | — | — | |
| Accumulated cash flow | 12,111 | 22,600 | 49,953 | 58,761 | 36,258 | 29,876 | |

## Financial Documentation

The startup financial condition of the proposed Albemarle Cotton Growers Cooperative is presented in table 14. Pro forma operating statements and balance sheets are shown in tables 15-17. A 3-year source and application of funds statement is presented in table 18.

**Table 14—Startup financial condition of proposed Albemarle Cotton Growers Cooperative, June 1, 1980**

| Item | 6/1/80 |
|---|---|
| | *Dollars* |
| Assets: | |
| Current— | |
| Cash | 18,000 |
| Fixed— | |
| Land, buildings, and equipment | 246,000 |
| Total assets | 264,000 |
| Liabilities: | |
| Current— | |
| Term loan | 11,067 |
| Operating loan, 1 year | 7,000 |
| Total current | 18,067 |
| Long-term— | |
| Term loan, 15 years | 154,933 |
| Member equity— | |
| Purchased stock | 91,000 |
| Total member equity | 91,000 |
| Total liabilities | 264,000 |

**Table 15—Projected operating statement for proposed Albemarle Cotton Growers Cooperative, August 31**

| Item | 8/31/81 | 8/31/82 | 8/31/83 |
|---|---|---|---|
| | | *Dollars* | |
| Ginning charge | 83,904 | 95,040 | 100,896 |
| Seed income | 73,066 | 87,120 | 110,228 |
| Other income | 220 | 424 | 568 |
| Gross revenue | 157,190 | 182,584 | 211,692 |
| Seed purchases | 53,139 | 64,706 | 86,266 |
| Gross margin | 104,051 | 117,878 | 125,426 |
| Expenses: | | | |
| Bagging and ties | 7,175 | 8,860 | 10,277 |
| Salaries and wages | 18,508 | 22,404 | 24,258 |
| Legal fees and audit | 1,500 | 645 | 693 |
| Plant repairs | 8,260 | 8,968 | 9,676 |
| Office expenses | 1,000 | 1,080 | 1,165 |
| Market promotion | 1,136 | 1,287 | 1,366 |
| Equipment rental | 8,000 | 8,640 | 9,333 |
| Property taxes | 2,583 | 2,706 | 2,854 |
| Insurance | 2,931 | 3,105 | 3,197 |
| Electricity | 8,480 | 9,646 | 10,550 |
| Gas | 3,600 | 3,888 | 5,250 |
| Tags | 300 | 368 | 425 |
| Disposal | 95 | 110 | 127 |
| Miscellaneous | 180 | 199 | 210 |
| Subtotal | 63,748 | 71,906 | 79,381 |
| Interest | 29,517 | 21,690 | 20,142 |
| Depreciation | 14,941 | 14,941 | 14,941 |
| Total expenses | 108,206 | 108,537 | 114,464 |
| Net savings | (4,155) | 9,341 | 10,962 |
| Application of previous loss | — | 4,155 | — |
| Funds available for distribution | (4,155) | 5,186 | 10,962 |
| Allocation of savings: | | | |
| 20-percent cash refund payable | — | 1,037 | 2,192 |
| 80-percent allocated reserve | — | 4,149 | 8,770 |

— = Not applicable.

**Table 16—Balance sheet for proposed Albemarle Cotton Growers Cooperative, August 31**

| Item | 8/31/81 | 8/31/82 | 8/31/83 |
|---|---|---|---|
| | | *Dollars* | |
| Assets: | | | |
| Current— | | | |
| Cash | 16,363 | 22,827 | 29,876 |
| Total current | 16,363 | 22,827 | 29,876 |
| Fixed— | | | |
| Land, buildings, equipment | 251,976 | 257,952 | 263,928 |
| Reserve for depreciation | (14,941) | (29,882) | (44,823) |
| Net fixed | 237,035 | 228,070 | 219,105 |
| Total assets | 253,398 | 250,897 | 248,981 |
| Liabilities: | | | |
| Current— | | | |
| Term loan | 11,067 | 11,067 | 11,067 |
| Interest payable | 11,620 | 10,845 | 10,071 |
| Refund payable | — | 1,037 | 2,192 |
| Total current | 22,687 | 22,949 | 23,330 |
| Long-term— | | | |
| Term loan, 15 years | 143,866 | 132,799 | 121,732 |
| Member equity— | | | |
| Purchased stock | 91,000 | 91,000 | 91,000 |
| Allocated reserve | — | 4,149 | 12,919 |
| Operating loss | (4,155) | — | — |
| Total member equity | 86,845 | 95,149 | 103,919 |
| Total liabilities | 253,398 | 250,897 | 248,981 |

— = Not applicable.

**Table 17—Per bale operating costs by year for proposed Albemarle Cotton Growers Cooperative, August 31**

| Item | 8/31/81 | 8/31/82 | 8/31/83 |
|---|---|---|---|
| | | *Dollars* | |
| Ginning charge | 48.00 | 48.00 | 48.00 |
| Seed income | 41.80 | 44.00 | 52.44 |
| Other income | .13 | .21 | .27 |
| Gross revenue | 89.93 | 92.21 | 100.71 |
| Seed purchases | 30.40 | 32.68 | 41.04 |
| Gross margin | 59.53 | 59.53 | 59.67 |
| Expenses: | | | |
| Bagging and ties | 4.10 | 4.47 | 4.89 |
| Salaries and wages | 10.59 | 11.32 | 11.54 |
| Legal fees and audit | .86 | .33 | .33 |
| Plant repairs | 4.73 | 4.53 | 4.60 |
| Office expenses | .57 | .54 | .55 |
| Market promotion | .65 | .65 | .65 |
| Equipment rental | 4.58 | 4.36 | 4.44 |
| Property taxes | 1.48 | 1.37 | 1.36 |
| Insurance | 1.68 | 1.57 | 1.52 |
| Electricity | 4.85 | 4.87 | 5.02 |
| Gas | 2.06 | 1.96 | 2.50 |
| Tags | .17 | .19 | .20 |
| Disposal | .05 | .06 | .06 |
| Miscellaneous | .10 | .10 | .10 |
| Subtotal | 36.47 | 36.32 | 37.76 |
| Interest | 16.89 | 10.95 | 9.58 |
| Depreciation | 8.55 | 7.55 | 7.11 |
| Total expenses | 61.91 | 54.82 | 54.45 |
| Net savings | (2.38) | 4.72 | 5.22 |
| Application of previous loss | — | 2.10 | — |
| Funds available for distribution | (2.38) | 2.62 | 5.22 |
| Allocation of savings: | | | |
| 20-percent cash refund payable | — | .52 | 1.05 |
| 80-percent allocated reserve | — | 2.10 | 4.17 |

— = Not applicable.

**Table 18—Source and use of funds statement for proposed cotton-ginning cooperative, 1980/81-1982/83**

| Source and use | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| | *Dollars* | | |
| Source: | | | |
| Net savings or loss | (4,155) | 9,341 | 10,962 |
| Depreciation | 14,941 | 14,941 | 14,941 |
| Total funds generated | 10,786 | 24,282 | 25,903 |
| Use: | | | |
| Term debt principal | 11,067 | 11,067 | 11,067 |
| Fixed asset purchases | 5,976 | 5,976 | 5,976 |
| Cash patronage refunds | — | 1,037 | 2,192 |
| Total funds disbursed | 17,043 | 18,080 | 19,235 |

— = Not applicable

**Table 19—Estimated average return on investment per acre—proposed cotton ginning cooperative, 1980-82 crop years[1]**

| Item | Cash return on investment | Total return on investment | Percentage return |
|---|---|---|---|
| | *Dollars* | | *Percent* |
| 1980/81 | 0 | (2.54) | (5.2) |
| 1981/82 | .64 | 5.72 | 11.7 |
| 1982/83 | 1.34 | 6.71 | 13.7 |
| Avg. percentage return | — | — | 6.7 |

— = Not applicable.

[1]Based on an estimated average of $49-per-acre member investment, assuming member equity subscriptions on 1,633 acres. This does not include the expected nonmember equity investment.

## COOPERATIVE BENEFITS

This study shows that cooperative organization offers considerable potential for improving the net farm incomes of Albemarle growers. This section explores the sources of these income improvements and analyzes the return on investment and net benefits accruing to member/growers. In particular, it appears that members stand to gain both through patronage refunds and important transportation and crop benefits. Further, without attempting a rigorous analysis here, it would appear that the revival of cotton in the Albemarle area would stimulate greater economic activity, generating secondary income and employment benefits.

### Member Return on Investment

Net savings accrue to cooperative members in the second and third years of the gin's operation, and are apportioned between cash refunds and allocated reserves. Specifically, 20 percent of net savings will be refunded to growers in cash on the basis of their patronage; 80 percent will be allocated to a capital reserve account with each member receiving certificates in proportion to use of the cooperative's services. These certificates should be redeemed at a later date at the discretion of the board of directors. A revolving plan for members' beginning equities should also be encouraged.

Estimated average returns on investment on a per acre basis are presented in table 19. These returns consist of net savings accruing to members on a proportionate basis. The absence of net savings in the first year of operation precludes any direct return on investment in that year. The percentage return on investment per acre over the 3-year period is estimated to average 6.7 percent annually. For the third year, member-growers on the average should realize $6.71 per acre in total returns. The average $49-per-acre member investment would translate to a 13.7-percent return. This represents a respectable return on investment to member-growers who organized primarily in response to adverse hauling distances and an unprofitable crop mix.

### Transportation and Crop Benefits

A grower-owned cotton gin could result in several additional benefits to participating cotton producers in the Albemarle area. We have not, however, attempted to analyze nonquantifiable gains and losses (such as potential dangers of overturned trailers from transporting seed cotton long distances), although they may also point to substantial advantages.

Net dollar benefits accrue through both transportation savings and rotation crop substitution. Table 20 shows the estimated cost savings to surveyed growers from transporting cotton to

a local gin. Total cotton transport savings amount to $17,731 and average $10.85 per acre. These savings take into account both the cost of transporting seed cotton to the gin as well as having the baled cotton delivered to a bonded warehouse.

Another important advantage to having a local gin appears to be increased revenue received from growing cotton instead of corn as a rotation crop with peanuts. The land planted in the peanut rotation is quite sandy. Corn yields average only 60 bushels per acre, while cotton yields average 514 pounds of lint to the acre, including repicking. In comparing total production costs and revenues of the two crops, cotton has the advantage. Cotton averages a gain of $78 per acre, while the same acreage in corn actually results in a net loss. The potential increased income to the 44 participating producers from planting cotton instead of corn is over $198,000 (see table 20), or an average of over $121 per acre.

Thus, the combined benefits of reduced hauling costs and increased crop revenue are over $132 per acre. These appear to be substantial benefits, especially when examining the overall investment returns to the member/owners by establishing a local cotton-ginning cooperative.

**Table 20—Potential transportation and crop benefits to growers participating in cooperative, 1980**

| Item | All growers | | Average per acre | |
|---|---|---|---|---|
| | | *Dollars* | | |
| Cotton transport costs:[1] | | | | |
| Seed cotton— | | | | |
| To previous gin | 18,475 | | 11.31 | |
| To local gin | 2,492 | | 1.53 | |
| Cost savings | | 15,983 | | 9.78 |
| Baled lint cotton:[2] | | | | |
| From previous gin | 2,622 | | 1.61 | |
| From local gin | 874 | | .54 | |
| Cost savings | | 1,748 | | 1.07 |
| Total transport savings | | 17,731 | 10.85 | |
| Crop income:[3] | | | | |
| Cotton | 127,374 | | 78.00 | |
| Corn | (70,693) | | (43.29) | |
| Income gain | | 198,067 | | 121.29 |
| Potential total benefit | | 215,798 | | 132.14 |

[1]Based on conversations with surveyed growers and area Extension farm management specialists. Transport costs were calculated for each producer on a round trip, per mile basis, assuming: (a) $1.18 per mile cost, including gasoline, repair, and labor costs; (b) an average of 514 pounds of lint cotton per acre, including repicked acreage; and (c) five bales of seed cotton per trailer load.

[2]Assumes trucking charge to warehouse from previous gin at $1.50 per bale, and from proposed local gin site at 50 cents per bale.

[3]Crop income is essentially the return to land, overhead, and management. Cost estimates were derived from *Farm Enterprise Budget Guidelines,* North Carolina Agricultural Extension Service, January 1980. We adjusted these cost figures to local conditions based upon survey information and recommendations by Extension economists at North Carolina State University. Cotton income estimation was based upon the same yield assumption as in footnote 1 (b), a price of 70 cents per pound, and production costs of $281.80 per acre. Seed income was assumed offset by the ginning charge. Corn revenue estimation was based upon a yield of 60 bushels per acre, a price of $2.35 per bushel, and production costs of $184.29 per acre.

## APPENDIX A—GENERAL MANAGER'S JOB DESCRIPTION

The most vital decision a cooperative's board of directors makes is its choice of a manager. The relationship it establishes with the manager in delegating job responsibilities is of equal importance.

Success takes a lot of help. The board is the single most important source of help to a good manager. Boards of directors set policy. Managers carry out policy decisions set by the board.

The manager has specific responsibility in planning, organizing, directing, coordinating, and controlling the operations of the cooperative. For the board of directors to function effectively, it must agree on specific jobs that the manager must do, from daily tasks to a long-range implementation of policy.

By following a set plan or job description, both the board and the manager have guidelines to measure the duties and performance of the manager.

The cooperative's membership delegates to the board of directors the responsibility of conducting all business operations. The board, in turn, hires a manager to carry on the daily business within the policy guidelines set. The board expects the manager to have an effective operation that produces set net earnings, to maintain member's savings, to provide assistance and leadership for the board of directors, and to develop growth in sales and volume. To attain these objectives, the manager should fulfill the following specific duties:

### Planning

1. Make policy recommendations to the board in all areas of management.

2. Analyze potential and make recommendations for each commodity or service that the cooperative will handle.

3. Prepare capital requirement budgets to enable the board to arrange for enough finances for the organization.

4. Develop a program of manager and personnel assistance needs with job description for each specific area of employment.

### Organizing Work

1. Submit monthly reports and other special reports as needed; provide general information and recommendations to the board of directors; assist the board in formulating policies by providing all available facts and information.

2. Set performance standards in conformance with job description, general employee policies, objectives and goals established.

3. Select employees according to stated job requirements and their potential for development.

4. Develop employees for advancement so that they will be able to advance within the organization and to serve as a temporary manager if the need arises.

5. Chair membership meetings in accord with the board of directors.

6. Promote membership through publicity and other means including personal contact.

### Directing the Business of the Cooperative

1. Carry out board policy.

2. Carry out sales/production promotions on all products (if planned in budget).

3. Direct and supervise all employees.

4. Develop production, promotion, and technical expertise among employees. Assist them in becoming proficient in their work areas.

5. Hold employee meetings to give pertinent information, get employee advice, and develop group interest and enthusiasm for current programs.

6. Encourage self-development of employees and assist in encouraging self-development by personal interest.

7. Create and maintain an atmosphere in which employees willingly produce at maximum capacity.

8. Provide good housekeeping throughout entire facility.

9. Provide for adequate maintenance for all equipment and facilities.

10. Enforce facility regulations and develop safe work habits for employees.

11. Enforce the policies of the cooperative as set down by the board.

12. Direct the daily activities and establish procedures to carry them out by delegating all responsibilities within established regulations.

## Coordination

1. Arrange for assistance from the board; use board when required.

2. Constantly strive for self-development by:

a. Attending manager, staff, and other management training meetings.

b. Attend community and promotional meetings.

c. Keep up to date on new trends in management, financing, and marketing.

3. Develop to the utmost a sound working relationship with other cooperatives and the business community.

4. Personally and officially represent the cooperative by participating in community affairs.

5. Develop the image of the cooperative as an economic institution in the job community.

## Fiscal Controls

1. Make yearly operating, financial, and budget projections for board of directors and submit to the board showing periodic breakdowns. Make operating reports and budget estimates and compare to the same period in prior years.

2. Maintain desirable gross margins.

3. Maintain desirable expense ratios.

4. Maintain desirable inventory controls.

5. Appraise and evaluate each employee annually based upon performance.

6. Replace employees who cannot measure up to job requirements and/or who willfully violate company policies.

7. Assist the board in selecting complete audit services which include spot audits at the discretion of the board or the auditor. The auditor reports to the board.

8. Make monthly and/or periodic reports to lenders in accordance with agreements.

9. Arrange for board to review/receive insurance coverage annually.

## APPENDIX B—PRODUCER SURVEY FORM

Date _____

Interviewer _____

1. Name _____ Telephone _____

2. Address _____ County _____

3. How many acres did you farm last year? _____ acres

   a. Of this amount, how many acres were in cotton? _____ acres

   b. How many were in peanuts? _____ acres

4. How much cotton do you expect to plant in 1980? _____ acres; in 1981? _____ acres;

   in 1982? _____ acres; in 1983? _____ acres

5. If a gin could be located nearby, within the Albemarle area, what would be your cotton production plans?

   1980 _____ acres  1982 _____ acres

   1981 _____ acres  1982 _____ acres

6. This series of questions pertains only to those who grew cotton last year.

   a. What is the distance between your farm and the gin you used? _____ miles

   b. Which gin was this? _____

   c. Did you pay a ginning charge per bale? ☐ Yes ☐ No

      (1) If yes, how much did you pay? $_____ per_____

   d. What percent of your cotton was sold:

| | *Percent* |
|---|---|
| To the ginner | _____% |
| To a merchandising co-op | _____% |
| To other merchants | _____% |
| Direct to mills | _____% |
| Other | _____% |
| | 100 |

   e. What percent of your seed:

| | |
|---|---|
| Was returned to you | _____ |
| Went to the gin | _____ |
| | 100 |

   f. Did you use or rent someone else's trailers for hauling cotton? ☐ Yes ☐ No

      (1) If yes, what did you have to pay per trailer?

      Rental _____

      Upkeep _____

7. What is the distance between your farm and Edenton? _____ miles, _____ direction?

8. Do you have trailers for hauling cotton? ☐ Yes ☐ No

   a. If yes, what types of trailers do you have and how many?

| *Type* | *Capacity* (in bales of seed cotton) | *Number* |
|---|---|---|
| Cotton trailer | _____ | _____ |
| Peanut trainer | _____ | _____ |
| Other_____ | _____ | _____ |

9. Would you be willing to join and purchase stock (in proportion to your use) in a local cotton-ginning cooperative, if a sound program can be developed?

   ☐ Yes ☐ No

10. What percentage of your cotton would you commit to the cooperative to be ginned?

    _____% in 1980 _____% in 1982

    _____% in 1981 _____% in 1983

11. Would you allow the cooperative the right to market your cotton seed? ☐ Yes ☐ No

12. Assuming you grow cotton this year, what is the maximum distance you would want to haul your cotton to a gin?

    25-45 miles _____

    15-25 miles _____

    Under 15 miles _____

13. If you plant cotton this year, how do you expect to get your picking done?

    Own machine _____

    Custom picking _____

    Other _____ _____

    a. If you had custom picking done last year, how much were you paying? $_____ per _____

14. Did you do any "public" work last year? ☐ Yes ☐ No

    a. If yes, did you put in more than 100 eight-hour days? ☐ Yes ☐ No

15. What percent of your gross farm (crop and livestock) income came from cotton last year? _____%

    a. What percent came from peanuts? _____%



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## 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 obtain supplies and services at lower costs 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.* All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.