

ENGINEERING AND GINNING

Gin Management

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ABSTRACT

A cotton gin, like any business, must make a reasonable profit for its investors. Profitability depends on a business supplying reliable and quality service to its customers. Good service depends on good management and good management has many facets and responsibilities. These responsibilities include carrying out the owners/board of directors’ business objectives, establishing and maintaining good customer relations, having a working knowledge of the entire cotton production and utilization chain, maintaining good employee relations, ensuring a safe working environment is provided, having a good equipment maintenance/replacement program, and always being aware of current crop and market conditions. A good gin manager wears many hats and this article reviews some of the best practices of a manager that enables a well-run cotton gin.

I. GIN MANAGER GENERAL EXPERTISE

For the gin to make a profit, quality and reliable service must be provided or customers will go to competing gins and volume will be reduced to unprofitable levels. The owners or board of directors should set the policies of the gin. The manager, with the concurrence of the owners, should establish the specific objectives. When the policy and the objectives are agreed upon, owners and managers must be completely committed to them.

The primary service that a gin must provide is to maximize the value of the seed cotton in a timely manner. For the gin to do so, management

must be familiar with ginning technology, and the gin must be equipped to do the best job for growers. Management must also have sufficient knowledge of cotton ginning and marketing to evaluate the quality potential of cotton and to balance the market premiums and turnout to determine the best way to gin cotton.

A major responsibility of gin managers is to build and maintain good customer relations. Customers deserve value for the fees paid for ginning, and they also expect to be treated with respect and appreciation. To maintain good relations, some gins serve as meeting places for customers; others maintain good relations simply by providing outstanding services at a reasonable cost. Typically, producers use gins as communication centers to exchange information on production, markets, and weather. Gins can keep their producers informed on industry concerns, such as contamination, environmental regulations, and textile industry trends.

Gins are often the source of information for crop inputs, agronomic practices, and marketing information. Therefore, it is incumbent on gin managers to be informed on these matters. The decisions made by producers regarding cotton varieties, crop termination, defoliation, and conditions at harvest have a significant bearing on cotton quality. Gin managers should have the tools and facts necessary to assist producers in making informed decisions to maximize profits for the producer and the gin.

Gin managers should be familiar with cotton production and with textile uses for cotton of various qualities. They should be familiar with the fiber evaluation system and be able to explain in general terms why various quality factors are important. A well-informed gin manager can help growers make profitable production decisions and can assist in providing the highest quality cotton possible.

Gin managers should always be aware of any misunderstandings, concerns, or problems that customers might have and should be able to discuss these situations at the customer’s convenience. Often a little concern shown early can keep a small misunderstanding from growing into a major problem.

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II. EMPLOYEE RELATIONS

The gin manager should be in charge of screening, hiring, and training all employees. The manager can elect to allow someone to perform these jobs but must ultimately be responsible. The many federal, state, and even local regulations that govern gin employees must be closely followed. Labor laws are covered in the Federal Labor Law section and regulations can be found in the Cotton Gin Regulatory Issues section of the ginners' handbook.

The gin manager should be responsible for building good team attitudes and relationships among employees. Employers should let employees know that they are important to the success of the gin and should tell employees that the goal is to keep them happy and healthy. Employees should be told that they are indirectly responsible for helping protect the safety of the other team members, including management, owners, and customers. If the employees believe that they are a part of a caring team, they will be more productive.

Employers should provide an incentive to employees who are productive and dedicated and who contribute to the success of the business. If it is practical, employees should be rewarded according to their contribution. Bonuses can be built into wages based on individual productivity (if it can be measured), or employees can be rewarded as a team. Promised or nondiscretionary bonuses and any bonus based on productivity are considered wages and must be calculated based on an employee's regular rate of pay for each workweek, and any hours when extra time and a half must be paid, regardless of when the bonus is paid. One simple method to comply with this rule is to express all bonuses paid as a percentage of gross wages, which would automatically include the overtime component. Recognizing employees in front of their friends is an effective and inexpensive reward process.

III. SAFETY PROGRAMS

Safety is very important for cotton gins. Management and owners must be totally committed to safety to have a good program and a good long-term safety record. Every person has a basic moral responsibility to help protect the health and happiness of others, especially if that person employs or supervises the others.

Gins that are safety conscious are also more economical. Safe gins are more productive and have lower insurance costs. In each state, workers' compensation rates are directly affected by the frequency and severity of gin accidents. Most states allow insurance companies to adjust a gin's individual workers' compensation insurance rate.

Materials and guidelines for developing a safety program specifically for a gin can be obtained from the regional cotton ginners' association or from the National Cotton Ginners' Association (www.cotton.org/ncga/request-ncga-media.cfm).

IV. MACHINERY MANAGEMENT

Gin management must assure that the gin plant is equipped with machines that will maximize the value of the seed cotton received. When it is anticipated that the system will be modified or expanded, the manager should, with the help of machinery suppliers and other appropriate sources, make recommendations to owners concerning machinery purchases and installations. All expenditures must be justified on the basis of their projected return on investment or improvements in service.

Technological changes in the last decade have created the need for the gin manager and their staff to have a basic understanding of computer-driven controls as well as to have the ability to troubleshoot these controls. These technological improvements create savings in labor, power, and other areas in the gin. It is imperative that gin managers stay abreast of these improvements as technology improves at a rapid pace in the coming decades.

A thorough off-season maintenance and repair program is essential for a gin to be productive and profitable. Ginning is so seasonal and competitive that a major breakdown during midseason can reduce annual volume enough to eliminate profits for the year. A good supply of spare parts should be kept at the gin. Each gin should have a list of things to check on each machine during off-season repair. A repair log for each machine is valuable to help decide when repairs or replacements are needed. In-season repairs and maintenance are also critical. On each work shift, time should be allowed for shutting the machinery down, cleaning it out, lubricating it, and checking for and correcting problems before they get bigger. A comprehensive maintenance program should always include the documentation and recordkeeping of both in-season and dormant season repairs.

The gin manager should be aware of the effects of processing rates and other conditions on performance of various machines in the gin. Ginners should be instructed on items such as expected processing rates, settings, lint cleaner combing ratios, and target moisture contents or drying temperature settings. The manager must consider the effects of drying and ginning on fiber quality and value and must balance such effects with the gin's energy costs. Energy prices, especially electricity, can greatly vary in cost per unit, so it is advisable to consult with available providers to get the best rate possible.

The gin manager is responsible for determining the order in which modules will be ginned. If possible, seed cotton should be "blocked" that is, cotton belonging to the same owner and being similar in trash content and moisture should be ginned together. Longer gin runs and the presorting of bales in the warehouse help move cotton into market. Blocking allows for cotton grown under like conditions and of the same variety ginned in a single gin run to be grouped together in the warehouse. These presorted bales would be of like quality and could be sorted as such in the warehouse. The fiber qualities of the bales would likely be consistent, and this fact would be validated upon receipt of the classing data. The National Cotton Ginners' Association has endorsed these activities, such as blocking that would improve the flow of cotton from the gin to the warehouse.

V. HAULING COSTS

One of the gin's largest variable costs can be the hauling of modules from the field to the gin. With the advent of the John Deere on-board round module harvesters, many gins are discovering new ways to handle and haul these round modules from greater distances. As gin consolidation continues and gins continue to increase in size, they will find themselves in the position of having to haul from greater distances. Knowing your hauling costs and managing these costs are important. Cotton module transportation calculators, like the one available from Cotton, Inc. at www.cottoninc.com/fiber/AgriculturalDisciplines/AgriculturalEconomics/Cotton-Farming-Decision-Aids/Cotton-ModuleTransportationCalculator/, can be helpful in managing hauling costs and making profitable determinations regarding how far to haul.

VI. CONTAMINATION PREVENTION

Contamination prevention is an important industry policy, and ginners should make every effort to eliminate contaminants. Our industry is striving for zero contaminants, and ginners must do their part to make this goal a reality. Guidelines for keeping foreign material out of cotton lint have been developed for ginners and are as follows:

A. Pre-harvest

1. Inspect premises and remove any foreign materials.
2. Clean areas in and around module feeders of all debris from the previous ginning season and off-season repairs.
3. Renovate module storage yards as needed to ensure they are not inadvertent sources of potential contaminants.
4. Train gin crews on safe techniques for removing and inspecting module covers and wraps.
5. Double check hydraulic equipment with a special emphasis on hydraulic hoses, connections, couplings, and pumps, looking for leaks that might contaminate lint.

B. Harvest

1. Monitor module moving equipment to ensure floors, chains, or other attachments do not cause seed cotton contamination or damage module covers and wraps.
2. Monitor module storage yards to ensure wind-blown debris is not picked up with modules.
3. Ensure module covers and wraps are completely removed prior to ginning.
4. Frequently inspect the area in and around the module feeder for foreign matter.
5. To safeguard workers when removing potential contaminants from machinery, be prepared to shut down a piece of equipment, or the gin, until the job is complete.
6. Avoid using machinery that might result in the reintroduction of non-cotton foreign materials back into the lint stream.
7. Ensure all crew members understand that seed cotton and lint streams are not refuse receptacles.
8. Ensure gin employees understand the importance of watching for and reporting foreign materials in seed cotton and lint to their supervisor.

Too often contaminants are hidden in the seed cotton where it was picked up in the field during harvest. Gin managers should help educate growers as to the importance of policing fields and turn-rows for contaminants and the movement and placement of cotton modules in the field. Conventional modules must be formed correctly and covered using a quality module tarp to prevent damage from rain. Round modules must be handled properly to prevent the wrap from being torn during movement in the field and during transport to the gin. Although the materials used in round module wraps are durable, to prevent puncturing these modules should never be slid across or allowed to be placed on cotton stalks. To assist gin managers, the National Cotton Council's website has a number of educational pieces related to contamination and [quality preservation](http://www.cotton.org/tech/quality/index.cfm) (www.cotton.org/tech/quality/index.cfm).

The gin manager is also responsible for house-keeping in and around the gin. A clean, well-organized gin is safer and more productive, encourages pride in employees, and helps reduce the frequency of lint contamination.

VII. PROPER MOISTURE

Gin managers need to be aware of the advantage of proper moisture throughout the ginning process from seed cotton cleaning to bale formation at the press. As proper drying is necessary for effective cleaning of seed cotton, excessive drying can cause fiber damage. Gin stand moisture levels should be at 6 to 7% for optimal lint removal from the seed and to prevent fiber damage. Maintaining proper moisture is not an easy task and requires close monitoring of environmental conditions, dryers, and restoration equipment.

Bale moisture restoration at the press has several positive aspects. These include enhancing turnout, lowering energy costs, helping prevent broken ties and straps, and maintaining the target of 500 -b bale weights. However, bale moisture should never be greater than 7.5% at any point in the bale. Gin managers should monitor final bale moistures carefully as Commodity Credit Corporation (CCC) loan requirements require that bale moistures be less than 7.5% at any point in the bale. The 7.5% bale moisture should be considered a ceiling and not a target and an average of 7.5% could be excessive if the moisture restoration system is not uniformly applying moisture. More information can be found in the Moisture Control section of the Cotton Ginners' Handbook.