

## ENGINEERING AND GINNING

### Cotton Ginners Handbook (2016 Revised Edition)

The *Journal of Cotton Science* is publishing, in serial form over several issues, a revision of the Cotton Ginners Handbook. Sections of the Handbook are being published as approved.

Sidney E. Hughs – Managing Editor

#### ABSTRACT

The function of separating cotton fiber from the cottonseed (ginning) has been done mechanically since prehistoric times by simple wooden or metal rollers used to manually squeeze the seed apart from the fiber. Eli Whitney's 1794 patent of the spiked tooth cotton gin and Henry Ogden Holmes's 1796 patent of the saw tooth cotton gin significantly increased the ability of cotton producers to economically produce raw cotton fiber to be made into cotton textiles and were the predecessors of today's modern cotton ginning plants. The separation of the cotton fiber from the seed and preservation of the cotton fiber quality is still the principal function of the modern cotton gin. However, the modern cotton ginning plant is a highly mechanized processing system that controls moisture and removes foreign materials while handling, transporting and packaging many tons per hour of bulk cottonseed and baled cotton fiber. Cotton gins must produce a raw ginned cotton fiber of a quality that maximizes its value for the producer while meeting the high demands of the textile industry

and ultimately the consumer. Designing, operating and maintaining today's cotton gin plant is a highly specialized field that continues to demand increasing technical knowledge and skills. This new Cotton Ginners Handbook addresses and updates changes over the past 20 years in ginning issues such as fiber quality, machinery maintenance and operation, moisture control, seed cotton and cotton fiber cleaning, energy use, waste handling and collection, and gin safety as well as gin management and state and federal air pollution regulatory requirements. The authors of the various chapters of this handbook hope that the information presented will help the U.S. cotton industry maintain its reputation of quality and service.

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