

The U. S. Cotton Ginning Research Laboratory was established at Stoneville in 1928 as the Tflagship for cotton ginning research. By 1950, gin researchers had developed and helped implement technology in the industry such as the tower dryer, stick machine, and lint cleaner, to dry and clean cotton. Many of the developments in ginning originated or were rooted in the innovative concepts of Stoneville researchers. Success at Stoneville led to establishment of similar research laboratories at Clemson, South Carolina, Lubbock, Texas, and Las Cruces, New Mexico, to develop specialized processing technology related to stripper-harvested cotton as well as cotton with extra-long staple length. Their coordinated development of standardized gin sequences ensure uniform, high quality cotton for the textile industry.

pound bales. The bales are then placed in storage and are ready for marketing.



Over 5,000 personnel have been trained at the Stoneville Gin School since 1985.

Technology transfer plays a key role in maximizing research investments. The Cotton Ginners Handbook, initially published in 1964, and then again in 1977 and 1994, serves as the bible for ginning worldwide. The 90 million bales of cotton produced annually in the world benefit from the Stoneville ginning technology. In addition to the Handbook, training schools have been held annually since 1985 in conjunction with public and private organizations to ensure that ginners are well trained and focused on producing quality cotton at a reasonable price for consumers. Over 5,000 gin personnel have been trained at Stoneville and schools are now also held in Texas and New Mexico.

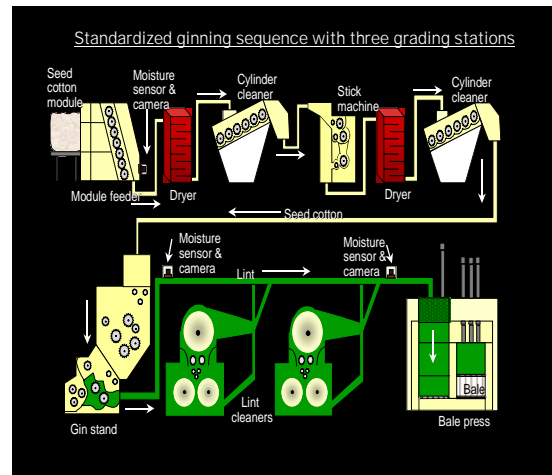
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Stoneville, MS



The machines in the upper part of the photograph feed seed cotton into the gin, and remove moisture and foreign matter. The gin stand on the lower left, patterned after Eli Whitney's machine, removes the fiber from the cottonseed. The remaining machines remove more foreign matter and package 500-

Some of the more recent technology patented and licensed to private industry include computerized gin process control marketed as *IntelliGin*[™] (80 gins), prescription lint cleaning marketed as *LOUVERMAX*[™] (50 units), cotton moisture sensor for High Volume Instrument testing (300 units), bale

repackaging device marketed as the *Ultra Rebander*[™], and many others.

Current patented technology awaiting implementation includes 1) bale press force reduction, 2) bale tie replacement, 3) Stickiness Tester, 4) automated sensor calibration, 5) flax decortication, 6) improved lint cleaner, 7) bale moisture measurement, and 8) recovery of rubber and fiber from automotive tires. These technological advancements emerged from basic research that was tested and applied at the Stoneville Lab, and field-tested in commercial environments. These advancements set the stage for quantum leaps in gin processing.

With over 20 patents and 450 publications in the last 20 years, the Stoneville Ginning Lab has met the immediate and long term goals of the ginning industry. Its staff of 5 scientists and 14 support personnel utilize three ginning systems including the world's only glass-sided, climate-controlled, versatile (500+ automated machinery combinations), and computerized small-scale gin, to meet the needs of the ginning industry.

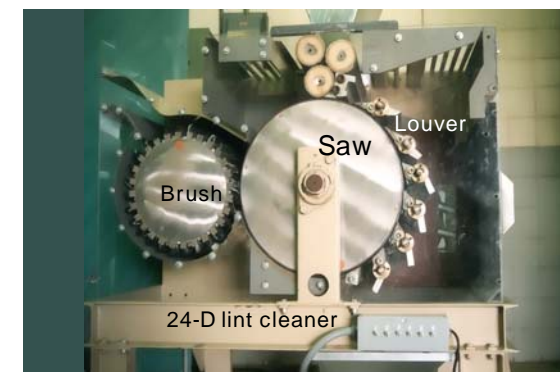


For the next five years, the Cotton Ginning Lab will pursue goals of enhancing and improving the gin technology available both to domestic and foreign producers as part of ARS National Program 306. The current objectives include evaluating cotton varieties to determine their response to standardized gin machinery, improving and testing recently developed, patented technology, further augmenting the computerized gin process control system, and promoting the environmental friendliness of gins. By evaluating different cotton variety production, tillage and harvest practices, the impact of standard and non-standard gin machinery can be ascertained.



Micro-gin lint cleaners

Utilizing the Stoneville Ginning Lab's newer technology, such as louvered lint cleaners, bale tie replacement devices, efficient lint cleaners, and fiber-particulate separation devices, the most current information can be further developed and improved. The computerized gin process control system is constantly being updated and streamlined to monitor and control such things as moisture, fiber length distribution, dust, neps, moisture restoration, and stickiness. Research to reduce dust and noise levels, energy usage and to increase by-product utilization is also underway. By staying on the cutting edge of the industry's changing technology, the Ginning Lab at Stoneville has been the premier source of technology available to the public and private sectors.



Louvered lint cleaner

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