

75th ICAC Plenary Meeting 

**Ginning for Best Fiber Quality:
Technical vs Economic Feasibility**

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Critical Procedures: 

- Terminating the crop
- Harvesting the cotton
- Ginning the cotton

Must make compromises between yield and quality.
If done in a manner to properly balance between yield and quality, then total profits will be maximized.

Critical Procedures: 

- Terminating the crop
- Harvesting the cotton
- **Ginning the cotton**

Customers: 

- Textile Manufacturers
- What about consumers?
 - Ignorant about relative qualities of cotton fibers
 - May Constrain Manufacturer choice between cotton and synthetics
 - Lack focus on fibers

Textile Manufacturers: 

When deciding on either (1) cotton vs competing fibers or (2) among alternative cotton fibers, focus on processing efficiency and product performance is relatively strong.

For most profitable manufacturers, focus is very strong.

Understanding Successful Ginning: 

- Necessary to produce usable package of cotton fibers
- Cannot improve on physical properties of the fibers
- Success is producing bale package that is adequately cleaned and properly conditioned and protected – while inflicting minimal damage on fiber properties.
- Requires compromises, especially with problems of contamination and deteriorated physical properties of the harvested cottons.

Fiber Length Distribution:



- Is always damaged by ginning
- Largely defines successful ginning, because other problems are manifested in the resulting length distribution of fibers after ginning.
 - Contamination
 - Micronaire
 - Strength or elongation
 - High moisture content

Operational Compromises:



1. Processing speed
 - Alleviate damage by reduced speed/lower throughput
 - Increases cost/kg of output
 - Must be adequately compensated by increased revenue
2. Controlling fiber moisture content
 - Optimize strength/elongation of fibers
 - Increase moisture before gin stand & bale press
 - Decrease moisture for cleaning seed cotton & lint
 - Added costs must be compensated by added revenue

Lack of Useful Measurements:



- Small improvements in length distribution
 - Big improvements in performance
 - Accurate measurements not available within the market
 - HVI gives 'length uniformity index' (LUI)
 - $LUI = (ML/UHML) \times 100$
 - LUI → Low accuracy & little information
 - Inadequate for price discovery
- Must have both accuracy & speed

Conclusions



- Technically feasible to reduce fiber damage
 - Actual feasibility is limited by economic factors
 - Two determinants of actual feasibility:
 1. Speed of throughput & associated ginning costs
 2. Limitations & costs of measurement technology
- FOCUS ON: **MEASUREMENT TECHNOLOGY**
PRICING EFFICIENCY

