

Cotton Cool

Standardization of a 60-year-old test





Overview – Year 1 outline

Overall Aim: Identify and reduce the sources of variation and further standardize cotton seed vigor testing methods within and among seed laboratories.







Primary Objectives – Year 1 outline

Objective 1.) Conduct a within and among variation study with three laboratories to better understand "seed" and "experimental" error source of variation.

Objective 2.) Compare the "outer" and "inner" chamber model used for Accelerated Aging test for relevance to the Cool Test standardization.

Objective 3.) Implement heat unit monitoring and compare accumulated days to average result responses









As Applied to Seed Testing Outer Chamber vs. Inner Chamber importance

Relevance: Outer chambers are now able to sustain ±0.5°C with low humidity regime, we can now further investigate the inner chamber











Outer and Inner Chamber Concept

Accelerated Aging

Cotton Cool

Outer Chamber













Standardization of Temperature Regime in Inner Chamber





- Outer chamber set to 18C, however, inside inner chamber is reading
- Set outer chamber via reading from NIST Thermometer placed in inner chamber
- Inner chambers that are warmer than 18C accumulate more GDUs by day 7
 - Meaning plants will be taller and likely appear more 'vigorous'
 - Causing variation among labs

