

DEVELOPMENTS IN COTTON CLASSIFICATION STANDARDS

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Abstract

The 27th Universal Cotton Standards Conference will be held on June 8-10, 2005 in Memphis, Tennessee. Universal standardization of classification measurements is a priority given the interest of many cotton producing countries to develop instrument based classification systems similar to the U.S. system. Additional instrument classification standards will likely be considered for addition to the Universal Cotton Standards Agreement. Some of the developments in cotton classification standards include an expiration date on calibration cottons and the creation of a visual guide for classification of bark and grass. In addition, an international lab recently began participating in the testing for establishing values on calibration cottons. Other developments include the expansion of the standard's bale warehouse at the USDA facility in Memphis. This expansion will allow additional acquisition of more bales to be used as calibration cottons.

Developments

International interest, particularly in instrument classification of cotton, is driving several developments in cotton classification standards. Arrangements have been made to hold the 27th Triennial Universal Cotton Standards Conference in Memphis, Tennessee on June 8-10, 2005. The last Universal Standards Conference in 2002 saw the adoption of Universal Standards for micronaire and the addition of standardized instrument testing procedures based on the USDA publication "Guidelines for HVI Testing". The 2005 conference will consider Universal Standards for color Rd and color +b. Given the international efforts to standardize HVI testing, the time is right to consider adoption of Rd and +b. In addition to instrument color standards, the USDA, AMS, Cotton Program has developed a guide book for bark/grass classification that will be considered at the conference. This is in response to a request made at the 2002 conference asking the USDA to "better define" and to "explore possibility of creating standards" for bark and grass classification. The guide book developed for proposal at the upcoming conference contains digital images taken of various samples representing both level 1 and level 2 amounts of bark and grass. The images are designed to represent the minimum amount of bark and grass necessary for assigning a call for bark or grass. In order to provide classers with different examples, 8 images of level 1 and 2 images of level 2 are provided in the booklet. The images do not differentiate between bark and grass. Therefore, the images are made to be applied for either bark or grass classification.

Although only two proposals have been made at this time, other proposals for the Standards Conference may be submitted prior to the conference. As done previously, the 2005 Standards Conference will be held in conjunction with Cotton Incorporated's Engineered Fiber Selection (EFS) System Conference. The two conferences compliment one another given their emphasis on standardized cotton classification and the value of instrument classification data to the textile mill.

The Universal Cotton Standards Agreement is an agreement between USDA, the U.S. cotton industry and 23 foreign cotton associations. Established in 1923, the Agreement provides direction for governing the Universal Cotton Standards. The Standards Conferences are designed to act on recommendations to the Agreement and to review the current physical standards for color and leaf grade. Since 1995, HVI standards for strength, length, uniformity index, micronaire, moisture conditioning and HVI testing practices and procedures have been added.

In 2001, USDA cotton classers began using a leaf grade guide book that was designed to be used as a quick reference for leaf grading. The leaf grade guide books are made up of digital images taken from the 1986 original standards which are used as the leaf reference for the physical grade standards that are made up fresh each year. Although the Universal Leaf Grade Standards remain the official standard, the digital images of the leaf grade book provide the classers with a guide that can be used continuously while classing samples. The weight and size of the physical grade standards boxes make it impossible for continual use as a reference for every sample classed given that an average classer classes around 1,500 samples in a day. Several of the leaf grade guide books have been given to several ginners around the country for evaluation during the past few ginning seasons. The response has been very

favorable and requests by other ginnerers for the booklets have been increasing. The booklets provide ginnerers with a quick guide for leaf levels at the gin that can be used to help control their leaf grade levels. Given the demand for the booklets by ginnerers and others in the cotton industry, the Cotton Program will make the booklets publicly available beginning late spring or early summer of 2005. The cost of the booklets will be between \$20 and \$25.

Cotton standards used for HVI calibration have never carried an expiration date. As a result, it is not uncommon to find calibration cottons out in the cotton industry that are over 5 or even 10 years old. Some of these old calibration cottons have often been used over and over and are no longer reliable for accurate calibration. In the fall of 2004, an expiration date was implemented for all calibration cottons being produced. All Universal HVI calibration cottons from this date forward will be given a two year expiration date from the date they are boxed and made available. This will help to ensure that calibration cottons are kept fresh and should improve HVI testing accuracy universally.

Growing instrument usage around the world is increasing the demand for calibration cottons. The bale inventory required to supply this demand is increasing as a result. In September of 2004, the USDA standard's bale warehouse in Memphis was expanded. An additional 3,600 square feet was added to the existing 20,000 square foot warehouse. The expansion will increase storage capacity from 1,400 bales to 1,800 bales.

In the summer of 2004, international participation in HVI calibration cotton value setting was initiated. The HVI testing lab at CIRAD in Montpellier, France was added to six other labs designated by USDA for value setting of Universal HVI Calibration Cotton Standards. The other designated labs are made up of five USDA labs plus Cotton Incorporated's HVI testing lab in Raleigh, North Carolina. All calibration cottons now being distributed to the cotton industry have values established with the help of CIRAD.

The USDA HVI Check Test Program provides two samples per month to approximately 52 participating labs around the world. The samples are tested by the participants and the data is returned to USDA for summarization. Each participant receives a report showing their results versus the average of other participants. In addition, the report shows the distribution of all participant results in addition to values established on the cottons through the Universal standards value setting process. In an effort to enhance the HVI Check Test Program, the statistical program used for data summarization has been rewritten into an Access database. The additional measurements of neps, short fiber content and HVI trash percent area and particle count will soon be added to the data collected and reported. The new program and new measurements will be implemented some time in 2005.

The Bremen Round Trial is another multi-participant testing program conducted by the Bremen Fiber Institute in Bremen, Germany. Coordination efforts between USDA and the Bremen Fiber Institute have resulted in sharing cottons between the two testing programs. This will provide the ability to compare results on the same cottons between the two testing programs. Cooperative efforts such as this should be valuable in the international effort to standardize instrument testing on an international basis.