FLOW OF THE SAMPLE THROUGH USDA CLASSIFICATION

Barbara Meredith
USDA, AMS, Cotton Program
Macon, GA

Abstract

The cotton sample follows an established path from the gin through the classification process to ensure that accurate classification data is obtained. This data is returned to the gin for use by the producer in marketing his cotton.

Introduction

In following the sample from the gin through the classification process there are six key steps: Sampling, Receiving, Conditioning, HVI Testing, Classing, and Outturn of Classification Data. It starts at the gin--where the sample is usually drawn--and ends at the gin with the classification results.

Discussion

Sampling

The Cotton Program licenses all gins that submit samples for classification. This means--among other requirements --that samples may not be trimmed or altered in any manner, must be immediately prepared for shipment, and may not be handled by any one other than the licensed sampler. At most gins a sample is cut by knives in the bale press and drawn after the bale leaves the press but before it is bagged. Other gins draw the sample from the lint flow during the ginning process. In either case the sampling agent identifies each bale with a PBI (permanent bale identification) number consisting of a gin code assigned by the Cotton Program (unique to each gin) and a bale number assigned by the gin (unique to each bale within that gin). A coupon that identifies the bale is placed between the two portions of the sample. This PBI number will follow this sample though the classing process.

The sample is rolled tightly into a Cotton Program supplied sack. Each day during the active ginning season our sample hauler picks up the sacks at the gins and delivers them to the local classing office.

Receiving

On arrival at the classing office the sacks are brought into conditioned space and stacked according to the date the cotton was received. Each day's receipts are kept separate so that we can class the cotton on a first in, first out basis.

Conditioning

The sacks are emptied and the samples put into trays. These trays of samples are then placed on the RCU (Rapid Conditioning Unit) to be conditioned. The RCU pulls conditioned air (70 degrees and 65 percent humidity) through the samples until the percent moisture in the sample is between 6.75 and 8.25. Sample moisture is important because some of the HVI measurements are moisture sensitive. By having the samples at this moisture level, the tests are more accurate and reproducible. Once the samples are conditioned they move by conveyor from the RCU into the lab for HVI testing.

HVI Measurements

The HVI Line the measures the Micronaire, Color (Rd and +b), Trash, Length, Strength, and Length Uniformity. There are quality control measures that are in place that ensure the accuracy and reproducibility of the measurements taken. These include line calibrations and statistical process control procedures, both of which utilize known value cotton.

Once the sample is tested at the HVI Line it is recorded in the computer, and placed on another conveyor that takes it to the Classer station.

Classer Determination

The classer carefully examines both sides of the sample and assigns color grades and leaf grades according to the Universal Standards for Grade for American Upland Cotton. The Classer will also note the presence of Extraneous Matter, such as bark, grass, oil, etc. Checklot samples are randomly selected after the Classer has assigned the appropriate color and leaf grades. These samples are sent to Quality Assurance in Memphis, TN to ensure that all offices are classing correctly and on the same level. QA checks the HVI data and Classer grades.

Any sample that is not selected as a checklot is dropped into a loose removal chute onto a conveyor that transports the cotton to the baler. After the accumulated cotton is baled, it is sold to help defray the cost of our operations.

Classification Results

At this point all classing data is available to be downloaded from our computer by the gin. The producer uses this data in marketing his cotton.

Conclusion

In following the sample from the gin through the classification process and back to the gin you see that there are six key steps: Sampling, Receiving, Conditioning, HVI Testing, Classing, and Outturn of Classification Data. Each step in the process is important to the final outcome—reliable classification data.

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