

# Recommendations for Handling Seedcotton Exposed to Excessive Rainfall

Widespread extended rainy and wet conditions periodically impact the U.S. cotton crop. Almost every year, some growing areas experience significant yield and quality losses due to inclement weather. Wet weather negatively impacts lint color and seed quality. Losses of yield are observed as lint strings from the boll onto the ground.

Other yield losses result from fiber weathering and the loss of seed weight, particularly when seeds germinate in the boll. Boll rot and the occurrence of hardlock bolls often increase with extended wet periods. Severe hardlock often occurs when boll opener application timings inadvertently set the crop up for problems when boll cracking occurs at the same time as onset of wet conditions. Significant lint yield losses can result from boll rot and hardlock.

The best solution for wet fields at harvest is an extended period of dry weather. When forecasts continue to include chances for precipitation, producers feel the pressure to harvest the crop as quickly as possible. However, producers are strongly encouraged to closely evaluate fields before harvesting. Special concerns are seed moisture, germinated seedlings, or other seedcotton conditions that can result in additional yield and quality losses.

The following recommendations should help producers and ginner preserve the existing quality of the crop as harvest resumes:

## **1. MONITOR REGROWTH ON A FIELD-BY-FIELD BASIS:**

Green leaf from cotton regrowth or weeds can cause problems with harvesting and provide another source of moisture, which can further complicate issues related to seedcotton moisture. Fields may require an additional harvest aid application if regrowth becomes excessive.

## **2. ALLOW SEEDCOTTON TO DRY PRIOR TO HARVEST:**

If possible, cotton should only be harvested with at least seven to 10 additional days of sun exposure after an extended wet spell. This will allow the germinated cotton seedlings to die and dry as well as allow the non-germinated cottonseed to dry. In most instances, if at least 50% of the cottonseeds are firm, the cotton can be ginned. In terms of color grades, the sunshine may bleach the lint and improve the cotton's color.

### **3. MONITOR SEEDCOTTON MOISTURE/TEMPERATURE:**

Producers resuming harvest too soon after a rain event should anticipate seedcotton moisture that may exceed 12%. If excessive moisture is present, seedcotton will begin deteriorating if stored more than 24 hours prior to ginning. Research has shown that germinated cottonseed usually maintains a greater moisture level than normal cottonseed. It is recommended that module temperatures be monitored in at least six locations immediately following module formation and again every 12 hours for at least six days. If temperatures rise more than 20 degrees or reach 120 degrees, immediate ginning is recommended.

### **4. BRING DRY SEEDCOTTON TO GINS:**

Growers should take the necessary steps to bring dry seedcotton to the gin, with the understanding that the only thing worse than wet cotton in the field is wet cotton in a module. Growers are strongly encouraged to refer to the publication, "Just Build It" and "Just Tarp It." These publications provide important information on module site selection, module formation as well as tarp selection and application. In case the creation wet modules cannot be avoided, growers are advised to call the ginner ahead of time to be absolutely sure the ginner has the space on his schedule as well as the equipment and capacity to take care of wet seedcotton. Once wet seedcotton is in a module it will deteriorate unless it is ginned immediately. Growers should understand that wet seedcotton is more costly to gin because it requires more heat and slower processing.

### **5. GINNING RECOMMENDATIONS:**

Excessive moisture at the gin will require increased drying of the seedcotton to ensure that the cotton can be properly ginned. When germinated seed are present, seed coats will likely be in the lint after the gin stand. If substantial amounts of seed coats are present, it may be necessary to use two stages of lint cleaning. If air-type lint cleaners are used, care must be exercised to ensure that substantial quantities of fiber attached to the seed coat are not removed. When excess lint loss is observed, it may be necessary to close the opening in the air jet cleaner to reduce or prevent excessive fiber loss.

### **6. PROPERLY MAINTAIN LINT CLEANERS:**

The first grid bar on the first lint cleaner will encounter abnormally high wear during the season. Monitor the first grid bar and clean it as required or be prepared to replace it during the season if necessary. Processing cotton on worn grid bars will greatly increase the fiber loss.

## **7. MONITOR LINT MOISTURE:**

The potential for high-moisture lint after ginning wet seedcotton necessitates careful monitoring of moisture restoration systems at the gin. Forgoing any moisture restoration should be a consideration when monitoring indicates the presence of bale moisture that may be excessive.

## **8. MONITOR PACKAGING MATERIALS:**

Relatively impermeable polyethylene (PE) film and fully coated woven polypropylene bale bagging may present a potential problem because excess moisture may buildup on the surface of the bale following ginning. Delaying ginning/bagging may be the prudent course of action if a gin is concerned that bales might be treated as a "wet bale" based on the USDA-CCC definition used for loan eligibility. If ginning/bagging cannot be delayed, check with the bag manufacturer to see if woven polypropylene bags have "micro-pores" or consider using bags made from uncoated natural fibers.

## **9. MONITOR COTTONSEED CONDITION:**

After the lint has been separated from the seed by the ginning process, cottonseed moisture levels should also be monitored. Cottonseed can be successfully stored when moisture levels are below 10% but at higher levels, the seed should be marketed as soon as possible. Higher moisture levels (12-15%) can cause cottonseed's triglycerides (fats) to convert to free fatty acids (FFA) which, in turn, may cause problems at the oil mill during processing.

**The purpose of this document is to give guidance to cotton producers and ginner in the harvesting and ginning of cotton during periods of excessive rainfall and less than ideal harvesting conditions. Much of the information included related to ginning is based on information prepared by Stanley Anthony, Research Leader, US Cotton Ginning Laboratory, Stoneville, MS in September of 2001 in response to the wet harvest conditions of that year. However, neither the National Cotton Council, nor the National Cotton Ginners' Association makes any warranty, expressed or implied, with respect to these recommendations.**