FIBRE QUALITY VARIATION

Cotton Brazil Knowledge Hub

Technical Guide

Variations in fiber quality parameters such as strength, colour grade, spinning consistency index, maturity, and short fibre index across cotton bales leads to inconsistent yarn quality and impacts efficiency. Inadequate bale management or blowroom settings amplifies quality variation related issues in spinning.

Interventions

1. **Bale Management and Mixing**
   - Use bale management software linked with HVI data to track fibre parameters for every bale.
   - Mix cotton from multiple lots, merchants, or regions to achieve balanced quality.

2. **Optimize Blowroom and Card Setting**
   - Keep gentle opening in blow room to reduce the impact of variation in Short Fiber Content (SFC) and fiber strength.
   - Operate lower beater speeds in the blow room and cylinder & licker-in speeds in carding to reduce fiber rupture.
   - Extract maximum trash at the blow room stage, followed by carding.
   - Monitor key parameters such as neps/g and SFC(n) at intermediate stages – specifically at the blow room input/output and carding input/output to achieve an optimum balance of trash levels, waste, and neps.

3. **Maintaining Optimal Spinning Conditions**
   - Maintain relative humidity (RH) at 55 ± 2% and temperature at 34-35.

Desired Results

- Greater homogeneity in fibre properties and improved consistency in blow room feed.
- Significant reduction in kitti deposition and fly accumulation during opening and carding.
- Smoother fibre flow with stable processing across all spinning stages.
- Enhanced yarn realization and reproducible quality across lots.