



### TMC MM 4.1: Quality evaluation of cotton fibres

#### INTRODUCTION

Evaluation of fibre quality as per standard norms is essential for evolving genotypes with fibre meeting the textiles standard. Accordingly breeder's samples from different regions developed under mini mission programme need to be tested for fibre properties and reported to the respective breeders. A genotype is promising which means the three fibre characters viz 2.5% span length micronaire and strength are matching as per CIRCOT fibre quality norms. Most promising indicates the strength value higher than required.

#### OBJECTIVE

- Evaluation of fibre quality parameters obtained under different TMC projects
- To standardize technique for quantifying pesticide

residues in the cotton lint.

#### SALIENT FINDINGS

During the reporting period 1552 samples were received under different sub project viz. MM 1.1, MM 1.2, MM 1.4, MM 1.6, for quality evaluation. These samples were tested for fibre quality parameters under this project. Amongst these 107 samples were satisfying fibre quality norms and they could be promoted for further breeding programme. However, each project has a set of specific objectives and hence the quality data was analyzed accordingly. Number of samples possessing specific fibre characteristics is given for each sub project and they could be considered for higher stage of breeding trials. The details of fibre quality parameters of samples of each project are given in table 4.1.1, 4.1.2 and 4.1.3



Table 4.1.1 : Fiber quality parameters of samples received from 1.1, 1.2, 1.4 and 1.6 projects

Quality parameter / Project	MM I: 1.1	MM I: 1.2	MM I: 1.4	MM I: 1.6
Total no. of Samples tested	526	121	82	21
No. of Promising Strain	50	0	6	0
No. of samples having 2.5% Span Length > 26.0 mm	291			
No. of samples having 2.5% Span Length > 33.0 mm		6	0	
No. of samples having Micronaire < 4.5	133		56	
No. of samples having 2.5% Span Length > 26.0 mm, strength > 22.0 g/t & MIC < 4.5	45		14	
No. of samples having 2.5% Span Length > 29.0 mm, Strength > 24.0 g/t & MIC 3.4 to 4.5		5	0	
No. of samples having Micronaire value 3.5 to 4.5 ( very good for extra long cotton)		7		
No. of samples having 2.5% Span Length 25.0 mm to 27.0 mm & MIC 3.8-4.5				10

Table 4.1.2 : Fiber quality parameters of samples received from 3.2, 2.2 and 3.2 projects

Quality parameter / Project	MM I: 2.1	MM I: 2.2	MM I: 3.2
Total no. of Samples tested	429	115	16
No. of Promising Strain	17	2	0
No. of samples having 2.5% Span Length > 33.0 mm	114		
No. of samples having Strength > 24.0g/t	27	6	6
No. of samples with 2.5% Span Length > 29.0 mm & Strength > 24.0 g/t	25	6	
No. of samples having 2.5% Span Length > 30.0 mm		52	16
No. of samples with 2.5% Span Length > 30.0 mm & Strength > 24.0 g/t			6

Table 4.1.3 : Fiber quality parameters of miscellaneous samples received

Quality parameter / Project	Misc
Total no. of Samples tested	242
No. of Promising Strain	32
No. of samples having 2.5% Span Length > 33.0 mm	8
No. of samples having 2.5% Span Length > 26.0 mm, strength > 24.0g/t & MIC 3.5-4.5	4
No. of samples having 2.5% Span Length > 26.0 mm, strength > 22.0g/t & MIC 3.5-4.5	22
No. of samples having MIC between 3.8 to 4.5	54
No. of samples having 2.5% Span Length between 25.0 mm to 27.0 mm	91