ISO 5354-1:2025-06 (E)

Molecular biomarkers - Detection of DNA in cotton used for textile production - Part 1: Extraction of DNA from cotton, cottonseed and raw materials derived therefrom

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Principle 3

5 Identification of a suitable cotton endogenous DNA marker 3

6 Test sample preparation 3

7 Assessment of DNA extraction methods for different cotton production stages 4
7.1 General 4
7.2 Results from the single laboratory analysis of DNA extraction methods 4
7.3 Conclusion 5

8 Storage 5

9 DNA quantitation 5

10 DNA quality control 5
10.1 General 5
10.2 Use of SAH7 marker as a cotton DNA quality control assay 5
10.3 Analysis for PCR inhibitors 6
10.4 Cotton matrix control method 6
10.4.1 Results 6

11 Test report 6

Annex A (informative) Cotton endogenous control analysis 8

Annex B (informative) Assessment of DNA extraction methods for different cotton production stages 10

Annex C (informative) PCR method to detect SAH7 gene target DNA in cotton 14

Annex D (informative) Evaluation of DNA isolated with a commercial spin column-based DNA extraction system designed for the extraction of DNA from stool samples with the SAH7 method 16

Bibliography 20