

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 |