ISO 18419:2026-02 (E)

Oilseeds - Application of near infrared spectrometry

Contents

Page

Foreword ... iv

Introduction ... v

1 Scope ... 1

2 Normative references ... 1

3 Terms and definitions ... 1

4 Principle ... 9

5 Apparatus ... 9

6 Calibration and initial validation ... 10
- 6.1 General ... 10
- 6.2 Reference methods ... 11
- 6.3 Development of the prediction model ... 11
- 6.4 Cross-validation ... 12
- 6.5 Outliers ... 12
- 6.6 Validation of prediction models ... 13
  - 6.6.1 General ... 13
  - 6.6.2 External validation ... 13
  - 6.6.3 Bias correction ... 13
  - 6.6.4 Slope adjustment ... 14
  - 6.6.5 Expansion of prediction sample set ... 14
- 6.7 Changes in measuring and instrument conditions ... 14

7 Statistics for performance measurement ... 15
- 7.1 General ... 15
- 7.2 Plot the results ... 15
- 7.3 Bias ... 16
- 7.4 Standard error of prediction ... 17
- 7.5 Root mean square error of prediction ... 20
- 7.6 Slope ... 20
- 7.7 Coefficient of determination ... 22
- 7.8 Ratio of performance to deviation ... 22

8 Sampling ... 23

9 Procedure ... 23
- 9.1 Preparation of test sample ... 23
- 9.2 Measurement ... 24
- 9.3 Evaluation of results ... 24

10 Checking instrument stability ... 24
- 10.1 Instrument diagnostics ... 24
- 10.2 Control sample ... 24
- 10.3 Instruments in a network ... 24

11 Running performance check of the prediction models ... 24
- 11.1 General ... 24
- 11.2 Control charts using the difference between reference and NIR results (validation samples) ... 25

12 Precision and accuracy ... 26
- 12.1 Repeatability ... 26
- 12.2 Accuracy ... 27

13 Test report ... 27

Bibliography ... 28