

Supplementary Material

Assessment of Mechanical Damage and Germinability in Flaxseeds Using Hyperspectral Imaging

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PLS-DA for Vis-NIR and SWIR (without wavelength selection)

The following supplement analysis explores the performance of PLS-DA models without wavelength selection for the Vis-NIR and SWIR wavelength ranges. Our goal was to evaluate the impact of not using wavelength selection on the model performance. The same pre-processing techniques and sample size were used as described in the main paper.

Table S1. PLS-DA results for mechanical damage classification using Vis-NIR wavelength range (without wavelength selection).

Calibration				
		True class		Recall (%)
Predicted class	Nil/low		Medium/high	
	Nil/low	43	4	87.80
	Medium/high	6	45	91.80
Precision (%)		91.80	87.80	
Cross-validation				
		True class		Recall (%)
Predicted class	Nil/low		Medium/high	
	Nil/low	43	5	87.80
	Medium/high	6	44	89.80
Precision (%)		89.80	87.80	
Test				
		True class		Recall (%)

Predicted class	Nil/low	Medium/high
Nil/low	17	1
Medium/high	4	21
Precision (%)	95.50	81.00

Table S2. PLS-DA results for mechanical damage classification using SWIR wavelength range (without wavelength selection).

Calibration			
	True class		Recall (%)
Predicted class	Nil/low	Medium/high	
Nil/low	50	5	92.60
Medium/high	4	41	89.10
Precision (%)	89.10	92.60	
Cross-validation			
	True class		Recall (%)
Predicted class	Nil/low	Medium/high	
Nil/low	49	6	90.70
Medium/high	5	40	87.00
Precision (%)	87.00	90.70	
Test			
	True class		Recall (%)
Predicted class	Nil/low	Medium/high	
Nil/low	17	2	94.40
Medium/high	1	24	92.30
Precision (%)	92.30	94.40	