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Discrimination of Gluten-Free Oats from Contaminants Using Near Infrared Hyperspectral Imaging Technique

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Research highlights:

Near infrared hyperspectral imaging technique was used to discriminate gluten-free oats.

Two classification methods (PCA and PLSDA) were assessed for accurate grain classification.

Five most significant wavelengths were selected to successfully discriminate oat kernels.

Oats and barley samples (with husk) had similar spectral features resulting in misclassification.

Hyperspectral imaging has potential to be used as a reference tool for quality control in gluten-free oat processing facilities.

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