



2023 Grant Recipient

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Institution: International Maize and Wheat Improvement Center (CIMMYT)

Project Title: *Application of near infrared spectroscopy for the rapid quantification of wheat grain arabinoxylans*

Abstract: Low consumption of dietary fibers (DF) is considered a public health concern. Selection of wheat varieties with increased grain arabinoxylan (AX) concentration, the major wheat DF component, could be an efficient solution to reduce the fiber gap present in the diet of most wheat-consuming countries.

Current wet chemistry methods used to measure AX content are lengthy, complex, and expensive which impedes their utilization within a breeding program or in other contexts (elevators, mills, etc.). Accurate prediction of AX through non-destructive methods such as near infrared spectroscopy (NIRS) could greatly facilitate the evaluation and selection of high-AX wheat lines. Currently, no valid NIRS calibrations for the AX quantification are available.

For these reasons, the aim of the present project is to examine the potential of NIRS in the analysis of wheat flour and grain AX content and evaluate its efficiency in the analysis of a diverse set of wheat material.