

# Accepted Manuscript

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PII: S0733-5210(15)30039-4

DOI: [10.1016/j.jcs.2015.07.008](https://doi.org/10.1016/j.jcs.2015.07.008)

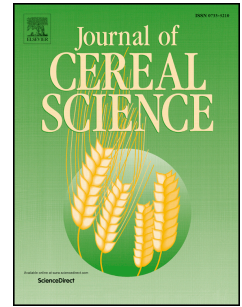
Reference: YJCRS 2020

To appear in: *Journal of Cereal Science*

Received Date: 29 May 2015

Revised Date: 2 July 2015

Accepted Date: 6 July 2015



Please cite this article as: Scherf, K.A., Koehler, P., Wieser, H., Gluten and Wheat Sensitivities – an Overview, *Journal of Cereal Science* (2015), doi: 10.1016/j.jcs.2015.07.008.

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# Gluten and Wheat Sensitivities – an Overview

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## Abstract

Wheat products are important staple foods worldwide. However, a small portion of the population has to avoid wheat-containing foods because of harmful immune responses. Countless studies have demonstrated that the storage (gluten) proteins of wheat are major causative agents for wheat-dependent immune-mediated disorders. The unique structural features of gluten proteins are long repetitive amino acid sequences rich in glutamine and proline. These sequence sections are involved in most wheat sensitivities. Corresponding homologous sequence sections of rye and barley proteins may also be harmful, but relevant studies are rare. Wheat sensitivities can be classified into three main forms: autoimmunogenic sensitivities including coeliac disease, dermatitis herpetiformis, and gluten ataxia; allergic sensitivities including immediate wheat allergy, wheat-dependent exercise-induced anaphylaxis, respiratory allergy, and contact urticaria; and non-coeliac gluten sensitivity. The presented overview summarizes our current knowledge of gluten protein structures related to wheat sensitivities and the epidemiological, clinical, and pathogenic differences between these immune-mediated disorders.

**Keywords:** Coeliac disease, gluten, non-coeliac gluten sensitivity, wheat allergy

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