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Food Safety Hazards related to Plant-Based Proteins used as Alternatives to Meat and Dairy products

E.D. van Asselt, J.L. Banach

Wageningen Food Safety Research

Meat and dairy products are traditionally seen as important protein sources for human consumption. However, several developments result in an increased demand for alternative protein sources, such as consumer trends and circular agriculture, resulting in a need for a different use or reuse of proteins. Therefore, more and new alternative protein sources will be used in the food supply chain in the near future. In addition to the beneficial effects, such a protein transition can also result in the emergence of new food safety hazards. For example, insects are known to be able to accumulate contaminants such as heavy metals and pesticides. Furthermore, the use of alternative proteins can also lead to cross-reactions of allergens. In this research, we identified possible food safety hazards related to the protein transition. Our focus was on plant-based proteins as these proteins are increasingly being used. This group of proteins comprises cereals (e.g., wheat and oats), legumes (e.g., soy, peas, beans), seeds (e.g., rapeseed), nuts (e.g., almonds), potatoes, mushrooms, and green leaves (e.g., beet leaves). Both processing effects and the use of alternative ingredients have been investigated using literature research and expert interviews. In this poster, we will present the outcome of this research.

Keywords: protein, food safety, hazard, transition