

## **ABSTRACT**

Cereal grains are the most important food commodity for the world population and represent up to 80% of the diet in some cultures. Grains are often contaminated with microorganisms during harvest, transport, and storage, and the safety and quality of grains also decrease. Immediately after harvesting, cereal grains contain microbial contaminants from several sources, such as dust, water, ill plants, insects, soil, fertilizers, biolm on surface of equipment, humans, and animal feces (Butscher et al., 2015).