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## Commentary

# Microbiological decontamination of cereal grains

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Cereal grains are the most important essential foods for human beings. The constantly growing annual production and production is matched by demand for cereals, which is expected to increase drastically along with the world population growth. A critical food condition and quality issue is to decrease the microbiological material of grains as it affects cereals both quantitatively and qualitatively. Microorganisms present in cereals can spoil the safety, quality, and functional properties of grains. Some molds have the likely to produce injurious mycotoxins and pretense a severe health risk for consumers. Therefore, it is necessary to diminish cereal grain contamination to the least to make sure safety both for human and animal consumption. Present production of cereals relies deeply on pesticides input, however many dangerous effects on human health and on the environment emphasize the need for more sustainable pest management and agricultural methods. Since, Cereals are one of the most essential agricultural crop in the world, both as human foods and as the main ingredient of animal feed Freita et al. (2013).

## Current techniques

Current technologies applied to reduce microbial spoilage of cereals successfully and these current technologies also reduce the microbial load, though they can harmfully have an effect on the quality and technical properties of cereals, as well as produce dangerous environmental impacts. The current technologies are Pesticides, Drying, Debranning, Chlorine and hypochlorite, Irradiation, Ozone. Through these technologies one can reduce microbial spoilage.

## Future trends for decontamination of cereal grains

There are some Limitations in current technologies and these limitations of conservative methods used to inactivate the microorganisms connected with cereals propose that there is a vast demand for new technologies. These new technologies will be quick and with affordable cost. An ideal method should decrease microbial loads consistently on all the treated grains, without configuration of toxic, non-target residues and

byproducts after the treatment. Potential techniques for cereals conservation should not have an effect on their quality as the consumers be expecting high-quality processed foods with negligible changes in dietary and sensory properties. The Potential methods and technologies for cereal grains preservation are Microwave treatment, Pulsed UV light, Nonthermal (cold) plasma, Organic acids Magan and Lacey (1984).

Potential microbiological risks related with cereal grains remain a chief concern of the grain industry as they may enormously have an effect on the quality and properties of the grains. Current technologies applied to reduce microbial spoilage of cereals successfully and this current technology also reduces the microbial load, though they can harmfully have an effect on the quality and technical properties of cereals, as well as produce dangerous environmental impacts. In order to overcome the limitations of current technologies, fresh works have been focused on introducing new techniques, such as microwave treatment, pulsed UV light, cold plasma and organic acids, that can be used for microbial decontamination of cereals Cheli et al. (2013). Further studies are needed to make sure that these new technologies could give an efficient microbial inactivation and quick, consistent treatment at the same time do not have an effect on the grains quality.

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