



## **Factors Responsible for Food Spoilage and Remedies for its Alleviation by Heat Treatment and Processing Techniques: A Review**

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### **ABSTRACT**

Feed processing like extrusion technique, pelleting of fish feed which includes various processing steps like grinding, mixing, coating etc. involving high-temperature processing (upstream/ downstream processing), whenever performed in large quantities is comparatively cheaper than processing and modification of individual ingredients.

**Keywords:** Food, Loss, Processing, Quality

### **INTRODUCTION**

As food processing decreases the population or load of pathogenic microorganisms in food and neutralizes the harmful mycotoxins, if present therein. So, it reduces the microbial load and deleterious microorganisms and incidences of mycotoxicoses (majorly, aflatoxicosis, ochratoxicosis and zearalenone) due to prolonged improper storage of feed.<sup>1,2</sup> Processing involves various methods among which cooking is a very popular and widely used method which involves the modification by blending etc. of naturally available unprocessed food ingredients. Feed processing also involves fortification with addition of supplements *viz.*, probiotics, prebiotics, certain important vitamins and mineral elements within standard permissible limits which are rather present in natural food in very scarce quantity.<sup>3</sup>

#### **Drawbacks of food processing**

There exist certain limitations of food processing also. For example, during processing by heating the concentration of vitamin C is reduced, as it is heat-sensitive. Generally, food processing techniques reduce the nutritional quantity in very negligible amount of nearly 5-20%. Food processing involves many mechanisms like mixing, grinding, chopping and emulsifying during the whole process of production, which indirectly increase the chances of contamination and admixtures with undesirable foreign elements. Sometimes, packaging containers also pose a threat for contamination when exposed to thorough procedures of continuous processing by leaching of the chemical components from the containers into the food item to be processed.<sup>4</sup>

### **CONCLUSION**

All fresh produce is subject to damage when exposed to extremes of temperature during chilling and freezing. Commodities vary considerably in their temperature tolerance. Their level of tolerance to low temperatures is of great importance where cool storage is concerned.

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