

## Role of biosensors in agro-food technology

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■ **ABSTRACT** : Sensor is a device which measures a physical quantity and transforms it into a signal which can be need by an observer or an instrument. Sensors are of various types (thermal, electric, mechanical, chemical, optical, acoustic and biological (*i.e.* biosensors). They are devices based on direct spatial competing between a biologically active compound and the signal transducer equipped with an electronic amplifier (Bose *et al.*, 2004). The biosensors have immense role in food technology. They are used as screening methods for detection of genetically modified food components (Tichoniuk *et al.*, 2008). Biosensors for the detection of food contaminants and toxin detection were studied by (Baeumner, 2003). Neethirajan *et al.* (2005) reported that biosensors are emerging as a highly promising tool for rapid diagnosis of pathogens and allergic components in food. Garcia and Mottram (2003) and Ivnitski *et al.* (2000) studied bacteriological food safety and discussed the role of biosensors in detecting pathogen like *Salmonella*, *E coli* in food likewise robust optical biosensors have been used to study beverage analysis (Luff *et al.*, 1998). Heavy metals in food and water are also detected by biosensors (Nerayswamy, 2006). Detection of bacterial volatiles in food analysis using gas sensors were also deseribed in a patent by (Alocilja *et al.*, 2002). Mascini and Palchetti (2000) studied that organophosphorus sand carbonate pesticides have gradually replaced organochlorines. Although, they have low environmental persistence but have higher toxicity. Biosensors are used to screen these compounds. Toxins in food have been detector using optical fluoro immunsensor capable of detecting multiple targets (mycotxin, bacterial toxins etc (Ligler *et al.*, 2003).

■ **KEY WORDS** : Biosensors, GMF, Food contamination, Food safety, Toxicity

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