TAL 797 – Seminário
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BIOSSENSORES EM ANÁLISE DE ALIMENTOS E POTENCIAL APLICAÇÃO EM EMBALAGENS INTELIGENTES

BIOSENSORS IN FOOD ANALYSIS AND POTENTIAL APPLICATION IN INTELLIGENT PACKAGING

Knowing the composition of food is of great importance for the food industry. The compounds present in foods are often control parameters for the production process, either as desirable products or as potential harm to the consumer's health. Thus, methods of food analysis monitor the physicochemical, microbiological and sensory characteristics of food. Traditional methods generally require expensive equipment, trained personnel and are time consuming. As an alternative to minimize such disadvantages, biosensors are being widely studied. Biosensors are analytical devices that convert a biological response into an electrical signal, allowing identifying and quantifying components in a simple or complex system. One of the ways to classify biosensors is by the type of bioreceptor or by the phenomenon of transduction that occurs in the recognition of molecules. Currently, there are commercial biosensors in the food sector that detect molecules such as heavy metals, microorganisms, antibiotics, and toxins. The biosensors can be applied in intelligent packaging in order to monitor the conditions and quality of the food during storage. Despite considering some aspects such as legislation, costs and type of interaction between the biosensor and the polymer matrix, biosensors applied in intelligent

packaging are considered as a promising technology for the monitoring of food quality and safety.

Referências Bibliográficas:

BAHADIR, E. B.; SEZGINTURK, M. K. Applications of commercial biosensors in clinical, food, environmental, and biothreat/biowarfare analyses. **Analytical Biochemistry**, v. 418, March, p. 107-120, 2015.

MEHROTRA, P. Biosensors and their applications – A review. **Jornal of oral biology and craniofacial research**, v. 6, January, p. 153-159, 2016.

GHAANI, M.; COZZOLINO, C. A.; CASTELLI, G.; FARRIS, S. An overview of the intelligent packaging technologies in the food sector. **Trends in Food Science & Technology**, v. 51, March, p. 1-11, 2016.

VELUSAMY, V. et al. An overview of foodborne pathogen detection: In the perspective of biosensors. **Biotechnology Advances**, v. 28, December, p. 232-254, 2009.