عنوان مقاله:

Anti-bacterial nano packaging and its effects on dairy products along with meat

محل انتشار:

بیست و چهارمین کنگره بین المللی میکروب شناسی ایران (سال: 1402)

تعداد صفحات اصل مقاله: 1

نویسندگان:

,Mohammad Parsa Bayatpoor - Faculty of Veterinary Medicine, Science and Research Branch, Islamic Azad University, Tehran, Iran

Amir Ali Anvar - ۲Department of Food Hygiene, Science and Research Branch, Islamic Azad University, Tehran, Iran

خلاصه مقاله:

BACKGROUND AND OBJECTIVESMeat and other dairy products are proper places for bacteria to increase, just as pathogens shows in meat,contains ۹۰ percent of this group of diseases containing toxins and bacteria (Berhe G., Wasihun ۲۰۲۰).Diarrhea, bovine brucellosis are major foodborne diseases. World Health Organization (WHO) show thatdiarrheal diseases cause over ۵۵۰ million infection and over ۲۳۰,۰۰۰ deaths a year (WHO, ۲۰۱۵). Therefore,we have many preventive methods to protect products from contamination, including freezing,pasteurization and packaging. Today, the development of food packaging is so important in preventingfoodborne disease, and in the future can prevent worldwide pandemics and lead to have well-being productsuch as meat which can reduce the risk of poisoning by some bacteria.Advantage and disadvantage of old method packagingIn old method (Traditional packaging) many disadvantages like non-active barriers which can only defercontamination during packing (Brody et al., ۲۰۰۸), lack of strength as well as weakness against high andlow temperature shown but it has positive side like chip cost, widely access to material, lead industry to usethis method. Weakness of old packaging led studies to have a new kind of protection, nano packaging whichhave a great management on growing pathogens.Types of Anti-bacterial Nano packagingWe can separate Nano packaging into three major class; (i) Improved packaging: These packages containNPs and can preventive to anti-bacterial , mechanical strength and also reduce needs of preservatives andother additives; (ii) Active packaging: this method containing preservatives like inorganic NPs and increaseshelf life of food products and have active specifications such as anti-bacterial and anti-oxidants ; (iii)Intelligent/smart packaging: this method of Packaging can manage biochemical or microbial changes andmeasures pathogen developing(Anvar, Ahari and Ataee, ۲۰۲۱) and can be so effective in way of longtransportation.Advantage and disadvantage of nano packagingNanotechnology has several benefits for meat packaging beyond increasing shelf life, improve the barrier,mechanical, and heat-resistant properties of packaging, as well as its biodegradability, Nanoscale ingredientscan added to meat products to improve taste and texture while masking off flavors, improve chemicalstability of packaging, resistance to gasses, and water (Ramachandraiah K, Han SG, Chin KB, ۲۰۱۵).CONCLUSIONNano ... packaging is a little expensive, but in the long term of use, observing the well-being, its morebeneficial than others plans by necessity

کلمات کلیدی:

Anti-bacterial, Nano packaging, Dairy product, Meat, Effects