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Food products can be contaminated by a variety of pathogenic and spoilage microorganisms, the former causing foodborne diseases and the latter causing significant economic losses for the food industry due to undesirable effects on the food properties. According to the Centers for Disease Control and Prevention (CDC) each year in the United States, 48 million people get sick, 128,000 are hospitalized, and 3,000 die because of foodborne infections. However, although foodborne outbreaks are well recorded, sporadic cases are not, because not all patients visit the doctor or enter the hospital and the causative agent is not always identified. A considerable number of foodborne pathogens of great public health importance (e.g., VTEC *E. coli* serotypes, *Campylobacter jejuni*, *Listeria monocytogenes*, and *Yersinia enterocolitica*) have emerged during the recent two decades causing severe illness and foodborne outbreaks worldwide.

Microbial food spoilage is also an area of immense concern for the food industry. It is estimated that as much as 25% of all food produced is lost after harvest due to microbial activity. While the growth of spoilage microorganisms in foods is not harmful for the human health, it has negative impact on the shelf-life, textural characteristics, and overall quality of the finished products, affects the consumer choices, and results in significant commercial losses. Thus, prevention or inhibition of microbial growth in foods is of outmost importance for the current globalized food production. Hence, there is still the need for new processing methods, to be used either alone or in combination with the already existing ones, able to reduce or eliminate food borne pathogens and spoilage bacteria. Chemical additives have been extensively used to delay the proliferation of microorganisms, but recently the safety of their use in relation to the consumer health is questioned. Natural preservatives are considered safe alternatives and satisfy the consumer preferences for more “green foods.” Therefore, the current developments in food preservation are focusing on the use of natural antimicrobial substances such as lysozyme, chitosan, spice extracts, and bacteriocins.

This special issue addresses cutting-edge research and review articles related to recent developments on the use of natural preservatives to improve food quality, food safety, and consumer acceptance.

Potential topics include but are not limited to the following:

- ▶ Natural Preservatives/antimicrobials of plant origin such as
 - ▶ Essential oils and plant extracts
 - ▶ Plant derived compounds (polyphenols, tannins, flavonoids, thymol, carvacrol, phenolics, quinones, saponins, terpenoids, etc.)
 - ▶ Plant by products (seeds, peels, kernels, pulps, etc.)
- ▶ Natural preservatives/antimicrobials of animal origin such as
 - ▶ Lysozyme, lactoferrin, lactoperoxidase, casein, lipids, protamines, chitosan
- ▶ Natural preservatives and antimicrobials from bacteria such as
 - ▶ Acidophilin, bacteriocins and/or bacteriocin-producing strains with probiotic character, lactocin, natamycin, nisins, and reutirin
- ▶ Natural preservatives/antimicrobials from algae
- ▶ Natural preservatives/antimicrobials from fungi and edible mushrooms
- ▶ Edible films and coatings from natural compounds with antimicrobial effect

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