K Ranjitha, Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.011

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference on
Agriculture & Horticulture
October 27-29, 2014 Hyderabad International Convention Centre, India

Human pathogenic bacteria associated with fresh vegetables and advances in their control strategies

K Ranjitha
Indian Institute of Horticultural Research, India

Increased consumption, larger scale production and more efficient distribution of fresh produce over the past decades have contributed to an increase in the number of illness outbreaks caused by them. Pathogen contamination of fresh produce may originate before or after harvest, but once contaminated, produce is difficult to sanitize. Pathogens of greatest current concern are Salmonella spp., *Listeria monocytogenes, Bacillus cereus, Yersinia enterocolitica*, and *Escherichia coli* O157:H7. Contamination sources include soil, feces, irrigation water, reconstituted fungicides and insecticides, dust, insects, inadequately composted manure, wild or domestic animals and handling or storage . The prospect that some pathogens invade the vascular system of plants and establish "sub-clinical" infection needs to be better understood to enable estimation of its influence upon risk of human illness. Microbes like Salmonella spp. are now thought to be a cross - kingdom pathogen capable of interacting with plants through several metabolites. Modified atmosphere packaging and other phytobacteria influence survival and growth of these pathogens on stored fresh vegetables. Chorine is the conventionally used sanitizer in fresh vegetables, but its efficacy in controlling specific pathogens have been challenged; further, the ill effects due to chorine have been proven by various researchers. Recent studies show that chlorine dioxide, electrolyzed water, UV light, cold atmospheric plasma, hydrogen peroxide, organic acids, gamma radiation and natural antimicrobials like plant extracts or antagonistic bacteria are promising candidates for decontamination of fresh vegetables.

ranjitha@iihr.ernet.in