Competitive Exclusion Bacteria Against Salmonella and Campylobacter Colonization in Poultry

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Technology description

Biotechnology or Drug Discovery, Non-Plant Secondary Technology Class None Private Abstract Introduction Salmonella and Campylobacter are the leading causes of foodborne bacterial gastroenteritis diseases in many countries, with poultry and poultry products representing major sources for foodborne Salmonella and Campylobacter. Given the rising concerns about food safety and as well as the increasing regulatory restrictions on the prophylactic use of antibiotics due to concerns about antibiotic-resistant bacteria, it is vital to develop alternative means of addressing pathogenic enteric bacteria and promoting poultry health/growth. One such method involves the use of competitive exclusion bacterial strains (probiotics). Competitive exclusion (CE) involves treatment of chicks with a source of natural bacterial populations to promote a healthy gut microenvironment and prevent colonization of pathogenic enteric bacteria. Technology Summary UGA researchers, led by renowned food safety expert Michael Doyle, developed a novel composition comprising a defined competitive exclusion (CE) culture that will prevent or substantially reduce/eliminate Salmonella, Campylobacter and other pathogenic enteric bacteria colonization in commercial poultry. The CE culture may include a single bacterium or may include a mixture of several bacterial isolates. CE represents an alternative solution to antibiotics for managing healthy poultry and providing same benefits of disease prevention, feed conversion and increased weight gain.Advantages Novel bacterial strain inhibits the growth of pathogenic organisms which reduces the risk of contamination of meat and poultry products Provides an alternative to antibiotic growth promoters which are banned in Europe and might be restricted or banned in other countries. Cultures may be frozen, or freeze dried to form a lyophilized powder, for storage stability and ease of handling.Potential Applications Utilized in an efficacious, cost-effective, defined CE product. Undefined CE products are not permitted in the United States and may soon be restricted in Europe.

Institution

University of Georgia

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com