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Commercial production assessment of probiotic feed additives for the poultry in Kuwait

Lactic acid bacteria (LAB) is mainly used as an alternative to antibiotics in poultry production to control infection with enteric pathogens, enhance productivity and improve food safety. Over 89 presumptive LAB were isolated from chicken samples collected during the four seasons. Eleven representative strains were chosen and were screened for their probiotic potential through in vitro assessment of their tolerance to acidic pH, bile salts, and antibiotics, bacteriocin production, and antagonistic activity against selected enteric pathogens. The selected LAB strains showed strong potential for the development of commercial probiotic products. The main objectives of this study are: to develop a cost-effective media, and the conceptual design for the commercial production including downstream processing, product formulation, final product assessment on live chicken, shelf-life evaluation of the final product, and to assess the techno economic feasibility of commercial product. Five isolates from the eleven strains have been identified as potential candidates for the development of poultry probiotics, these isolates are: *Lactobacillus plantarum*; *Lactobacillus parabunchner*;

lactobacillus reuteri; *Lactobacillus brevis*; and *Pediococcus pentosaccus*. However, before the commercial production probiotics is considered, the compatibility test between these isolates have been assessed.

Speaker Biography

Tahani Al-Surrayai joined the Biotechnology Dept. at KISR in 1995 as a Research Assistant. During the past twenty four years, she developed excellent technical skills and has actively participated in several important research projects in the area of Environmental Biotechnology. Her role in the many projects resulted successfully in the isolation, characterization and optimization of a large number of new microbial strains from the local environment. These strains have been used as an integral part of the developed sulphur amendment for enhancing soil fertility. Additionally, She leads a task in a study that focused on the screening and evaluation of PAHs degrading microorganisms for the local environment. Besides her depth of knowledge and skills in biochemistry and microbiology, she involved in the development of probiotic bacteria for use in livestock and poultry. Accordingly, she has been leaded two successful projects in probiotics fields for livestock.

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