APPLICATION OF HERBAL PLANTS AND PROBIOTICS IN PREVENTING *SALMONELLA ENTERICA* SEROVAR CHOLERAESUIS INFECTION

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Objective : *S. enterica* serovar Choleraesuis is one of the important serotypes for salmonellosis transmitted from animals to humans. Lactic acid bacteria (LAB) strains have been widely studied in recent years for their probiotic properties.
Method : A pig infection model was applied to evaluate the effects of herbal plants and LAB strains against infection.
Results : *Scutellariae radix* (SR) and *Gardeniae fructus* (GF) showed their abilities on reducing bacteria shedding and suppressing serum levels of TNF-α induced by infection in swine. The bioactivities of SR and GF were enhanced by combined with LAB strains. Furthermore, LAB strains alone could speed up the bacteria elimination time in feces and also boost immunity of infected pigs.
Conclusion : LAB strains have showed dual functions for preventing infection, enhancing immunity to prepare host defense for further infection and adjusting the enzymatic activity of intestinal microbes in order to converter herbal compounds to active compounds. And SR/GF and LAB strains mixture could be potential infection prevention agents supplied as feed additives.

Key words：*S.* Choleraesuis, Herbal plants, Probiotics