

Biotechnologies towards Sustainable Development in Malaysia

Zarina Zainuddin

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Chapter 13

Probiotic for sustainability protein source in Malaysia

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Probiotic in poultry production

Enteric diseases are an important concern to the poultry industry because of lost productivity, increased mortality, and the associated contamination of poultry products for human consumption (human food safety) (Patterson and Burkholder, 2003). Human interest in intestinal microbiology and the dietary use of probiotics originated in the late 1800s and early 1900. Numerous *in vivo* and *in vitro* studies since then have shown that the commensal intestinal microbiota inhibit pathogens, that disturbances of the intestinal microbiota can increase susceptibility to infection, and that addition of probiotics increase resistance to infection (Stavric and Komegay, 1995; Rolfe, 2000). Nowadays, the variable use of probiotics as a daily supplement has become a popular routine in commercial poultry industry, particularly following antibiotic treatment. Lactic acid bacteria or LABs are the most common microbes employed as probiotics and these are usually *Lactobacillus* sp, *Bifidobacterium* sp and *Enterococcus* sp (Karimi *et al.*, 2008). A variety of microbial species have been used as probiotics, including species of *Bacillus*, *Bifidobacterium*, *Enterococcus*, *E. coli*, *Lactobacillus*, *Lactococcus*, *Streptococcus*, a variety of yeast species, and undefined mixed cultures. *Lactobacillus* and *Bifidobacterium* species have been used most extensively in humans, whereas species of