

# ABSTRACTS

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## *Lactobacillus* Strains in Natural Thai Silage for Applying as Silage Inoculants and Probiotics

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Lactic acid bacteria are central to the silage fermentation. The production of acids, principally lactic acid, by lactic acid bacteria from the anaerobic fermentation of forage carbohydrate is responsible for the acidification of the forage and its subsequent preservation. Successful inoculation of the plant with lactic acid bacteria is one of the principal factors to achieve the successful preservation. To obtain *Lactobacillus* strains in natural Thai silage for applying as silage inoculants and probiotics in local areas, three hundred-seventy isolates of lactobacilli were isolated from silage collected from six silage production areas of the main cattle farms in Thailand. These isolates were identified as to groups of *Lactobacillus plantarum*, *Lactobacillus fermentum*, *Lactobacillus acidophilus*, *Lactobacillus delbrueckii*, *Lactobacillus farciminis*, and *Lactobacillus gassari* by traditional phenotypic tests, then selected for the confirmation of species using PCR identification systems based on the 16S-23S rRNA intergenic region for *Lactobacillus plantarum* and *Lactobacillus fermentum* which were the dominant species in the natural silage samples. At least three strains of *Lactobacillus plantarum* were found when the random amplified polymorphic DNA (RAPD) method was used for differentiating lactobacillus strains. The dominant strains in silage were selected for applying as silage inoculants and, possibly as probiotics for the same strain. Some species, such as *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus plantarum*, and *Lactobacillus reuteri*, have been reported in literatures as probiotic lactic acid bacteria. The production of silage both with and without adding inoculants, as well as the investigation of the survival of silage inoculants in the digestive tract of cattle has been being carried out. These studies would be benefit to the preservation and production of cattle feed, and also to Suranaree University of Technology Business Farm where has been being produced animal feed for utilizing in the farm and distributing to other farms nearby.