

# Livestock Nutrition

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## *Paenibacillus* sp. nov., isolated from animal complete feed

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A Gram-reaction-positive, aerobic, rod-shaped, spore-forming bacterium, SK3146T, was isolated from complete feed in South Korea and characterized in order to determine its taxonomic position. On the basis of 16S rRNA gene sequence similarity, strain SK3146T was shown to belong to the family *Paenibacillaceae*, being related to *Paenibacillus vulneris* CCUG 53270T (98.1%) and *Paenibacillus chinjuensis* WN9T (96.9 %). The phylogenetic distances from other described species with validly published names within the genus *Paenibacillus* were greater than 3.3%. The G+C content of genomic DNA is 48.1±0.2 mol%. Phenotypic and chemotaxonomic data (major menaquinone, MK-7; fatty acid profile, anteiso-C15:0 and iso-C16:0) supported the affiliation of strain SK3146T to the genus *Paenibacillus*. The results of DNA-DNA hybridization test and physiological and biochemical tests allowed strain SK3146T to be distinguished genotypically and phenotypically from *Paenibacillus* species with validly published names. Strain SK3146T, therefore, represents a novel species of the genus *Paenibacillus* for which the name *Paenibacillus konkukensis* sp. nov., is proposed. Some biological activities of this strain should be characterized in future works, expecting for beneficial probiotics applicable to animal feed additive.

### Biography

Soo-Ki Kim has completed his PhD in Osaka University and Postdoctoral studies in Department of Biology of Purdue University. He is a Professor in Department of Animal Science and Technology. He has published research papers on the fields of basic microbiology and development of animal feed additives. He has also served as a President of Korean Agricultural Microbiology Research Association from 2013 to 2015.

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