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## MULTI-STRAIN PROBIOTIC FOR CHICKENS

Innovus Technology Transfer (PTY) Ltd is Stellenbosch University's wholly-owned technology transfer company. Contact Anita Nel, Innovus Chief Executive Officer, on (021) 808 3826 or send an email to [ajnel@sun.ac.za](mailto:ajnel@sun.ac.za) for more information.



Multi-strain probiotic consisting of six different bacterial strains, that has the potential to enhance the immune responsiveness of broilers and decrease the burden pathogenic bacteria place on broiler growth performance.



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## BRIEF DESCRIPTION

The commercial poultry industry faces significant problems with bacterial and fungal infections despite advances in housing and feeding, causing substantial financial losses. These infections result in weight loss, poor meat quality and often death. Bacterial pathogens such as *Salmonella*, *Campylobacter* and *Clostridium* species are responsible for most infections and, if not controlled, may pose a health risk to farm animals and humans.

Commercial poultry farmers therefore often use antibiotics as feed additives to control bacterial pathogens in their birds. This has led to an increase in the development of antibiotic resistance. As a result, there is a need for an alternative treatment to antibiotics which can improve the health of poultry and other farmed birds.

Probiotics are beneficial health-promoting bacteria which naturally occur in the gastrointestinal tract (GIT), forming a symbiotic relationship with the host. In some animals, these health-promoting bacteria have been shown to protect hosts against pathogen colonization, improve digestion, increase growth and enhance the immune system. Our researchers have developed a suitable probiotic for farmed poultry with the potential to improve the health or growth of birds by increasing broiler immune responsiveness and decreasing the presence of pathogenic bacteria.

## VALUE PROPOSITION/BENEFITS

The invention offers a method to enhance the immune system of broilers and to control the presence of pathogenic bacteria in the gastrointestinal tract. Enhancing the immune system of broilers with the use of probiotics, could increase the host immune responsiveness towards pathogenic bacterial infections. In addition, controlling the presence of pathogenic bacteria in the gastrointestinal tract could decrease the burden pathogens place on broiler growth performance.

## UNIQUE CHARACTERISTICS

A multi-strain probiotic, consisting of six different bacterial strains, that has the potential to enhance the immune responsiveness of broiler chickens and decrease the burden that pathogenic bacteria place on broiler chicken growth performance.

## TARGET MARKET

- Commercial probiotic manufacturers
- Poultry farmers

## TECHNICAL DESCRIPTION

The multi-strain probiotic consists of six different bacterial strains. These strains have been isolated from different areas of the gastrointestinal tract of broiler chickens.

All strains are considered tolerant towards simulated gastrointestinal conditions. Some probiotic isolates produce beneficial enzymes such as amylase, phytase and bile salt hydrolase. Some strains produce antimicrobial compounds such as hydrogen peroxide, short chain fatty acids and lipopeptides. All strains possessed the ability to adhere to intestinal epithelial cells.

## PRINCIPAL RESEARCHERS

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## INNOVATION STATUS

PCT patent application (PCT application number **PCT/IB2018/057976**) has been filed for this innovation.