Probiotic Cocktail as Animal Feed Additive ("Live5")

Teagasc and UCC researchers are seeking a commercial partner within the animal feeds industry to exploit a new technology. Based on a natural probiotic mix, for growth and good health promotion in animals (specifically pigs), the objective is to develop stable and commercially relevant probiotic product prototypes ready for market.

Summary
The microbial feed additive (or direct-fed microbial), is based on a five strain mix "Live5". It is a natural probiotic mix that can be used as an alternative to chemicals and antibiotics in pig husbandry, both as a means of controlling pathogen carriage and improving growth rate and feed conversion. The five live beneficial bacteria help maintain a healthy intestinal balance for optimum animal performance.

Problem Addressed
Antibiotic growth promoters are currently being phased out of use because they impose a selection pressure for bacteria that are resistant to antibiotics. There is a need for alternative solutions that do not depend on antibiotic usage.

Subclinical salmonellosis is a relatively common problem in pigs, usually causing no obvious animal health problems. Affected pigs are carriers of Salmonella, and can excrete large numbers of Salmonella organisms intermittently, and particularly when stressed. Salmonella in pigmeat has long been associated with outbreaks of foodborne illness.

Solution
The mixture (Lactobacillus murinus DPC6002 and DPC6003, Lactobacillus pentosus DPC6004, Lactobacillus salivarius DPC6005 and Pediococcus pentosaceus DPC6006) has been shown to be effective in reducing Salmonella shedding in pigs, in protecting against the clinical signs associated with Salmonella infection, and in improving growth rates. Live5 has also demonstrated the potential to modulate host immunity in pigs.

Competitive Advantage of Technology
Live5 offers huge potential for use in pig production; in enhancing health status, reduction of subclinical carriage of pathogens (gram negative Salmonella and E.coli in particular) and in acting as an alternative to antibiotic therapy. Furthermore, one of the Live5 microbes, L. salivarius DPC6005, produces a heat stable, two-component bacteriocin, Salivaricin P, which is highly active against a number of gram positive bacteria, including Enterococcus sp. and Listeria innocua.

Opportunity
It is in the interests of both industry and consumers to reduce the significance of Salmonella Typhimurium as a pigmeat-associated food borne pathogen.

The potential fields of applications in animal health include:
- Microbial animal feed additive.
- Alternative to antibiotic growth promoters.
- Therapeutic application.

Intellectual Property Status
A patent application was filed by Teagasc and UCC and the patent "Probiotic composition suitable for animals" was recently granted in the US and Europe.

Partners

Funding

How to Proceed:
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