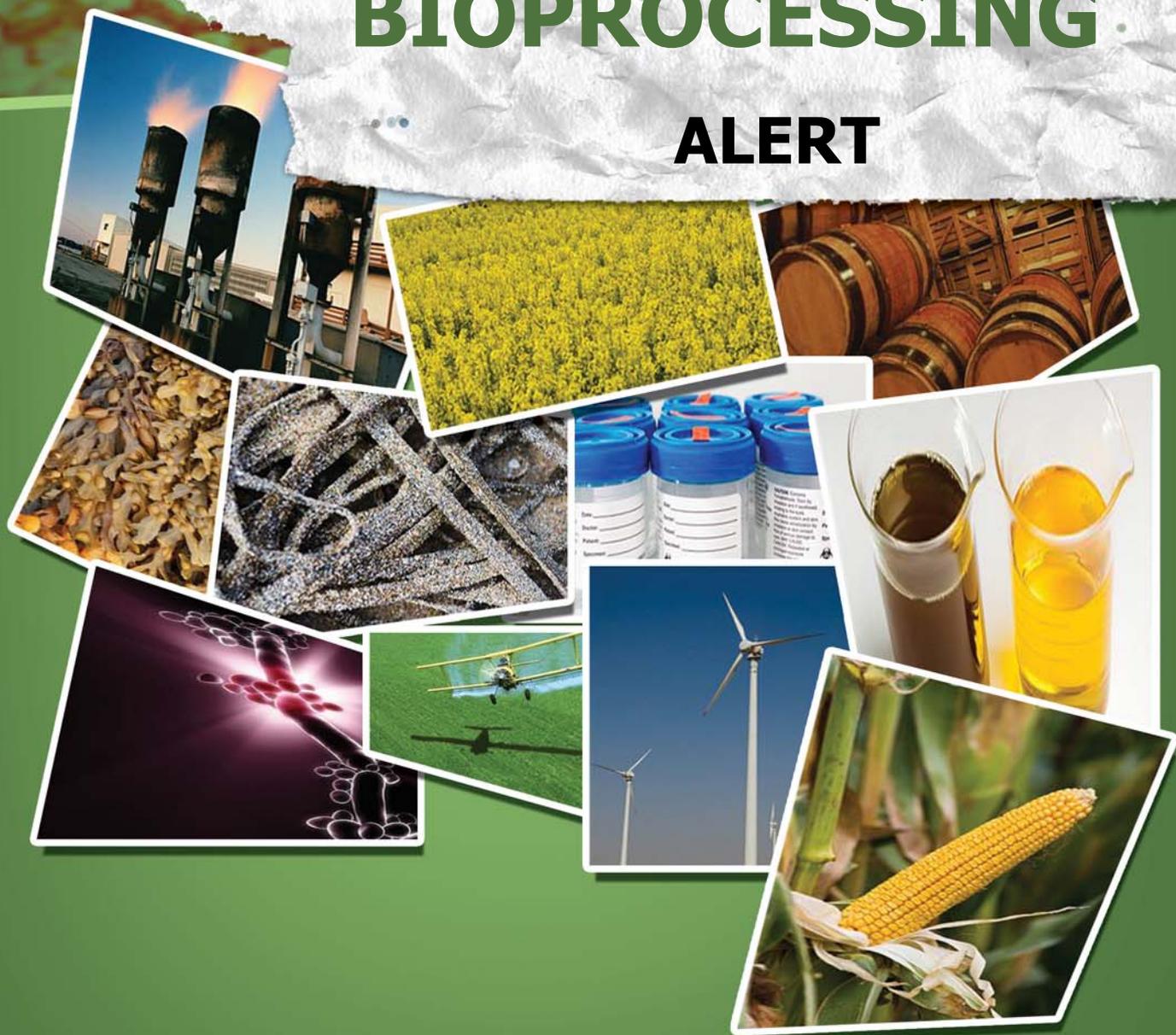


# TECHNICAL INSIGHTS

## INDUSTRIAL BIOPROCESSING

**ALERT**



## PLANT ENZYME TECHNOLOGY TO MAKE DIGESTIBLE OVINE COLLAGEN

Collagen is the most common protein in the human body. We only lose it as we age or when we are burnt or injured.

Thus, collagen has many applications in the anti-aging, bio-material, burns and wound dressing as well as food supplement markets, as biomaterials in medical devices and as food ingredients.

Collagen may be sourced from mammals, avian and marine sources. However, genetic closeness makes mammalian sources superior to avian and marine sources. The most common sources are from pigs (porcine) and cows (bovine) that are not universally acceptable due to cultural and religious reasons.

However, sheep and goats can be a valuable source of a neutral and highly acceptable source of mammalian collagen.

Holista Colltech has patented a unique process of extraction this collagen from the skin of slaughtered sheep. This collagen may be used in the following applications:

- Medical
- Cosmetic
- Food

Holista Colltech also derives all its sheepskins from Australia – the only country in the world that has certified disease free sheep. The company has patented its process and protected its intellectual property such that future companies interested in entering the ovine collagen market can do so in collaboration with Holista Colltech.

The whole process is “halal” certified.

The company is now entering the food (or hydrolyzed) collagen market which while having smaller margins is significantly bigger than cosmetic and medical collagen. Food grade collagen is utilized in many kinds of confectionery such as jellies and chewy candy. It is also used in sausage casings and as supplements.

Working with researchers from University Sains Malaysia, the company obtained the extracts from fruit and fungal sources. These enzymes are designed to break down the complex biomolecules present in collagen. They are also used to

extract by products such as excess fat and fibres from sheep skin, which serve as “halal” chicken feed. The company has decided to keep this a proprietary technology.

The ovine collagen product overcomes technical, textural and cultural challenges simultaneously. Additionally, the innovative approach of utilizing plant enzymes to make the food grade collagen more digestible would enable ovine collagen to penetrate the food ingredients market with ease.

The plant enzyme technology based food grade ovine collagen products have been launched in the market and they would be applicable in the food ingredients industry.

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