

Lactose derivatives: Their properties and applications

■ **Chanda Bramhankar, Archana Khare, Pranali Nikam, Raghav Pandey, Mehar Afroz Qureshi and Y.K. Naik**

Received : 10.04.2018; Accepted : 13.04.2018

See end of the Paper for authors' affiliation

Correspondence to :

Chanda Bramhankar
Department of Dairy
Chemistry, College of Dairy
Science and Food Technology,
Chhattisgarh Kamdhenu
Vishwavidyalaya, Raipur
(C.G.) India
Email : bramhankarchanda@gmail.com

■ **Abstract** : Lactose is a unique disaccharide, which occurs exclusively in the milk of mammals. Lactose can be converted to various derivatives like, lactulose, galacto-oligosaccharides, lactobionic acid, lactosucrose, lactitol, tagatose, lactic acid etc., using laboratory or industrial processes. They find application in foods and pharmaceutical preparations as prebiotics to promote gut health. Similarly to non-digested lactose, these compound enhance the intestinal absorption of calcium and magnesium. The potential health benefits of lactose derivatives have been a subject of growing commercial interest in the context of health-promoting functional foods. So far, treatment of constipation and hepatic encephalopathy, enhancement of mineral absorption, prebiotic action, treatment of colon carcinogenesis, treatment of inflammatory bowel disease have been most studied for their physiological effects. This review covers the physical, chemical and functional properties of Lactose derivatives and their applications in food, dairy and pharmaceutical industries.

■ **Key words** : Lactose derivative, Lactulose, Galacto-oligosaccharides, Lactobionic acid, Lactosucrose, Lactitol

■ **How to cite this paper** : Bramhankar, Chanda, Khare, Archana, Nikam, Pranali, Pandey, Raghav, Qureshi, Mehar Afroz and Naik, Y.K. (2018). Lactose derivatives: Their properties and applications. *Internat. J. Agric. Engg.*, **11**(Sp. Issue) : 131-136, DOI: 10.15740/HAS/IJAE/11.Sp. Issue/131-136.