

**Faculty Talk: Insightful Seminar Series**  
**Faculty of Livestock, Fisheries, and Nutrition**  
**Wayamba University of Sri Lanka**

**Topic**

**Lentils Unleashed: Transforming Meat Systems with Plant-Based Antioxidants and Binders**

**Overview**

This study investigates the application of lentil seed components as natural alternatives to synthetic additives in meat systems, focusing on their antioxidant and functional properties. Lentil seed coat extracts demonstrated strong antioxidant activity, effectively controlling lipid oxidation in meat products during cooking and storage. Infrared-treated lentil flour enhanced water-holding capacity, texture, and oxidative stability in chicken sausages and bologna, performing comparably to commercial binders like soy protein and corn starch with minimal sensory impact. Lentil flour was also effective in nitrite-free sausage formulations, maintaining oxidative stability. In bologna, lentil flour and seed coat water extracts successfully replaced synthetic phosphates, preserving texture, sensory properties, and oxidative stability during refrigerated storage. Consumer studies indicated similar acceptability of lentil flour-based products across diverse demographics. These findings highlight lentil seed components as promising clean-label ingredients, supporting sustainable and functional meat product development.

**Speaker**

**Dr. Darshika Pathiraja, Senior Lecturer**

Department of Food Science and Technology, Faculty of Livestock, Fisheries, and Nutrition, Wayamba University of Sri Lanka



Dr. Darshika Pathiraja holds a BScHons in Agriculture with specialization in Food Science and an M.Phil. in Food Science from University of Peradeniya, Sri Lanka. She earned her PhD in Food Science from University of Saskatchewan, Canada. She is a distinguished academic with wide-ranging teaching and research experience, specializing in meat quality, pulse-based ingredients, lipid oxidation, sensory evaluation and sustainable utilization of agro-industrial byproducts.

**Moderator**

Dr. W.A. Harindra Champa, Chairman, Research Development and Publication Committee, Faculty of Livestock, Fisheries and Nutrition

**Date & Time**

11:30 AM - 12:00 Noon on 02<sup>nd</sup> July 2025

**Venue**

Aquaculture & Fisheries Lecture Room, Faculty of Livestock, Fisheries and Nutrition

**Contact**

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