

World Congress on

PLANT PATHOLOGY & PLANT BIOTECHNOLOGY

International Conference on

&

ORGANIC FARMING, BIODYNAMICS

September 24-25, 2018 | Dallas, USA

Colorimetric determination of melamine in dairy products using naturally synthesized silver nanoparticles

Nuthalapati Venkatasubba Naidu
Sri Venkateswara University, India

Melamine, a synthetic chemical compound is widely used in the manufacture of Melamine-Formaldehyde resin in chemical industries. It is also used as flame retardant, thermosetting plastic and in the production of adhesives. As Melamine is rich in nitrogen (66%), it is used to adulterate protein rich food products viz., pet food, milk and infant formulas to increase the apparent protein content. This prompted researchers to develop methods for the detection of Melamine in food samples. We herein present a simple and sensitive colorimetric method for the detection of Melamine in dairy products employing silver nanoparticles prepared using *Colocasia Esculenta*. This method is based on principle that Melamine causes the aggregation of silver nanoparticles, resulting in abrupt color change from yellow to orange red under optimized conditions. The concentration of Melamine in adulterated sample can be quantitated by monitoring the absorption spectra of silver nanoparticles using ultraviolet-visible (UV-Vis) spectrophotometer. Since this protocol employs silver nanoparticles of particle size 20nm, it can reliably detect Melamine down to a concentration range of 0.2 to 2ppm with a R2 value of 0.9865.

Biography

NVS Naidu has completed his PhD from Sri Venkateswara University, Tirupati, India in 1990. He is currently working as a Professor of Chemistry, Co-ordinator, University Grant Commission-Special Assistance Programme, Chairman, BOS (UG & PG) Environmental Sciences, Director/Co-ordinator-MSc PG (DDE) and Member, Central Purchase Committee, Sri Venkateswara University, Tirupati, India. He has published more than 117 in reputed journals and has been serving as an editorial board member of reputed journals. His research area include Analytical/Electroanalytical, Material Chemistry and Environmental Monitoring and Assessment. He has published books for DDE, SV University, Tirupati- Andhra Pradesh, Open University-Hyderabad, NCERT-New Delhi.

nvs69@gmail.com

Notes: