

## **CYLINDERIZED PHOSPHINE FUMIGANTS: SUSTAINABLE ALTERNATIVES FOR STORED-PRODUCT PROTECTION**

Ed Hosoda – Cardinal Professional Products, Woodland CA.

### **ABSTRACT**

**ECO<sub>2</sub>FUME** (2% phosphine and 98% CO<sub>2</sub> w/w) and **VAPORPH<sub>3</sub>OS<sup>®</sup>** (99.3% phosphine w/w) are cylinderized gas formulations of phosphine which are commercially used for safe, effective and user-friendly fumigation of food and non-food commodities. In response to the increasing global concern on safety and environment, new applications had been developed to expand the use of these two phosphine fumigants. As an alternative to methyl bromide, new fumigation protocols for **ECO<sub>2</sub>FUME** and **VAPORPH<sub>3</sub>OS<sup>®</sup>** to kill all stages of insects were established and approved in the USA in 2005 which allows a shorter fumigation time of 24 hrs.

This paper provides an update on the progress of **ECO<sub>2</sub>FUME<sup>®</sup>** and **VAPORPH<sub>3</sub>OS<sup>®</sup>** as a methyl bromide alternative in California over the past few years.