New Equipment and Methods for Performing Methyl bromide Fumigations

Scott Wood
USDA, APHIS, PPQ, S&T, CPHST AQI Program
1730 Varsity Drive
Raleigh NC 27606

Methyl bromide was introduced as a pesticide in 1932 and became widely used for plant quarantine purposes during the 1930s. The USDA Agricultural Research Administration Bureau of Entomology and Plant Quarantine starting to fumigate various types of imported plant materials (e.g., seeds, broad leafed evergreens) and other commodities (e.g., onions, chestnuts and bulbs) around 1940. Many of the procedures for conducting methyl bromide fumigations and constructing fumigation enclosures were standardized during the 1940s and have changed little over the years. Recently, however, the USDA has observed development of many new types of equipment and methods for performing methyl bromide fumigations. A poster presentation will showcase some of these new technologies, including:

- ➔ Use of new materials in chamber construction
- ➔ Development of recapture systems for reducing methyl bromide emissions to the atmosphere
- ➔ Use of electric volatilizers
- ➔ Development of thermal conductivity units
- ➔ Use of electronic digital manometers
- ➔ Development of low level ambient air monitors
- ➔ Development of monitoring devices using non-dispersive infrared technology, i.e., unique MB chemical signatures not affected by carbon dioxide or volatile organic compounds
- ➔ Development of monitoring devices that compensate for temperature variability
- ➔ Implementation of improved commodity handling systems, e.g., refrigeration of perishable commodities following aeration