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## **OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL ISSUES: RESEARCH DEVELOPMENTS**

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### **ABSTRACT**

In recent years the number of fumigants has dwindled to only a very few. In 2000, when the phase-out of methyl bromide began by limiting the amounts that could be used to a 1991 standard minus 25%, the 2 major fumigants remaining were methyl bromide and phosphine, which shortly thereafter underwent a major re-registration through the U.S. EPA. Since that time, with the need for alternatives to the uses of methyl bromide becoming increasingly greater, standards for bringing these new alternatives to fruition have become stricter. The time for only minimal stewardship is now over and strong stewardship of products has become the norm rather than the exception. More studies on fumigant containment, application from outside, spent residues, and emissions control are but a few of the changes in research emphasis that is taking place. New detection systems and monitoring are being investigated, and with the increased emphasis on air quality and ozone degradation, more research will focus on the control of emissions from fumigations. Alternatives research has also focused on "Systems" approaches to reduce the need for fumigation and for pest monitoring as an indicator of when fumigation is needed. All these new studies must produce answers that will fit into the marketing channels and strategies that industry has set for commodities stored and sold domestically and for export. In addition to domestic requirements, export fumigation and controlled atmospheric treatments will be required to meet the standards of the importing country. Many challenges lie ahead and we are now poised to make great strides in our quest to improve the health and safety of fumigators and the public as well as protecting our environment by controlling treatment emissions.