POSTHARVEST RESEARCH UPDATE FROM USDA-ARS-SJVASC: PHOSPHINE

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Abstract. The overall goal of this USDA-ARS research is to ensure the protection and quality of foodstuffs. The results of this research directly enhance production, distribution, and safety of foodstuffs, promote and retain access of United States-grown crops to domestic and foreign markets, and protect the United States and trading partners from the agricultural, ecological and economic threat posed by quarantine and invasive pests. Specific research objectives include: comparative evaluation of alternative fumigants to methyl bromide in postharvest applications, development of novel technologies to reduce and eliminate atmospheric emissions from chambers used in postharvest fumigation, and design production strategies that allow for a more strategic postharvest use of methyl bromide and alternative fumigants. Recent research findings related to phosphine will be presented and discussed, including: control of bean thrips, *Caliothrips fasciatus* (Pergande), infesting a variety of citrus types; control of Warehouse beetle, *Trogoderma variable* (Ballion), infesting Dried Distillers Grains (DDGs) in US exports to Vietnam; the control of codling moth, *Cydia pomonella* (L.), in California Stone Fruit exports to Japan; and the control of spotted wing drosophila, *Drosophila suzukii*, in California table grape exports to Australia.

Keywords: postharvest phosphine, QPS, methyl bromide alternatives