SULFURYL FLOURIDE FUMIGATION FOR CONTROL OF STINKBUGS IN VEHICLE CONSIGNMENTS

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Abstract. Brown marmorated stinkbug (BMSB) is a recent invasive pest that causes considerable damage to certain crops grown in Eastern USA. Moreover, this pests causes urban disturbance in its preparation for overwintering, as it forms large groups in sheltered areas, including houses, garages, and vehicles. The US exports ~ 1 billion USD annually in vehicles to Australia and New Zealand, and these countries require that BMSB is controlled in these shipments. Postharvest fumigation provides a biological safeguard against insect and microbiological pests and, in many scenarios, is the only available tool for government and industry to guarantee pest-free security. This work addresses the need to develop a postharvest fumigation treatment to control this pest in vehicles and shipping containers. The results describe how the fumigant, sulfuryl fluoride, can be used to control BMSB. Moreover, this research provides an alternative to methyl bromide fumigation, a critical need for the United States per the international regulatory requirements of the Montreal Protocol.