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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

MEMORANDUM

SUBJECT: Methyl Bromide Industry Panel: Response to the Methyl Bromide Reregistration Standard: Magnitude of the Residue Studies on Large vs Small Fumigation Chambers (MRID # To Be Assigned, CBRS # 8675, Barcode No.D169396)

FROM: R. B. Perfetti, Ph.D., Chemist  
Reregistration Section  
Chemistry Branch II: Reregistration Support  
Health Effects Division (H7509C) *R B Perfetti*

THRU: E. Zager, Chief  
Chemistry Branch II: Reregistration Support  
Health Effects Division (H7509C) *E Zager*

TO: W. Burnam, Acting Chief  
Science Analysis and Coordination Branch  
Health Effects Division (H7509C)

and

L. Rossi, Chief  
Reregistration Branch  
Special Review and Reregistration Division (H7508C)

The MBIP has submitted data comparing methyl bromide residues in walnuts fumigated in commercial chambers vs small laboratory chambers.

Conclusions/Recommendations

The data submitted indicates that residue levels of methyl bromide are similiar in walnuts regardless of the size of the fumigation chamber utilized. The Registrant(s) may use the small chambers for magnitude of the residue studies in nuts. The Registrant(s) should be reminded that large chamber/small chamber bridging studies are also required for a dried fruit (e.g. raisins) as well as for a representative crop from each crop group. If any of these studies indicate a difference in residue levels can be

expected as a result of the size of the fumigation chamber, then data for commercial chambers will be needed.

Detailed considerations

Walnuts were fumigated with MeBr (a 36% load) in a 79.4 m<sup>3</sup> commercial chamber using 56 g/m<sup>3</sup> of MeBr for 24 h (1X rate). The initial temperature was 17.7° C. After 24h the chamber was aerated using reduced pressure, this was repeated three times. The walnuts then under went a passive aeration period at 21° C for 24h before analysis. Residues of MeBr were determined using the Agency approved GLC gas headspace method and a flame ionization detector. The small scale fumigations were performed using three 28.3 l chambers located at the USDA-ARS station in Fresno, CA. The conditions described above were duplicated as closely as possible. Three chambers were utilized to provide replications. Walnuts were analyzed at 1, 3, 5, 7, 9 and 11 days post treatment.

Residues of MeBr in walnuts ranged from ca. 50 ppm after 24h to ca. 2 ppm after an 11 day period. No significant difference was observed in residue levels in the nuts regardless of whether large or small chambers were employed.

If you need additional input please advise.

cc: R. B. Perfetti, J. Burrell (PIB/FOD), Methyl Bromide Reregistration Standard File, Methyl Bromide Subject File, C. Furlow (PIB/FOD), Methyl Bromide Amended Use File, Circ. (7) and RF.