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

MAY 10 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 89-NJ-09. Section 18 Specific Exemption for the Use of Clomazone (Command^{R}) on Squash. No MRID No. DEB No. 5276.

FROM: Linda S. Propst, Chemist
Dietary Exposure Branch
Health Effects Division (H7509C)

THRU: Andrew R. Rathman, Section Head
Special Registration Section 1
Dietary Exposure Branch
Health Effects Division (H7509C)

TO: D. Stubbs/L. Pemberton PM Team 41
Registration Support and Emergency Response Branch
Registration Division (H7505C)
and
Toxicology Branch
Health Effects Division (H7509C)

The New Jersey Department of Environmental Protection, Pesticide Control Program requests a specific exemption for 3000 lb. active clomazone (750 gallons of Command^{R} 4EC, EPA Reg. No. 279-3053) to treat 4000 acres of squash for control of broadleaf weeds from May 1, 1989 to October 31, 1989.

Tolerances have been established for residues of the herbicide clomazone, 2-(2-chlorophenyl)-methyl-4,4-dimethyl-3-isoxazolidione, on peas (succulent) and soybeans at 0.05 ppm, and pumpkins at 0.1 ppm (40 CFR 180.425).

The proposed emergency use on squash would allow for one application using 0.38 - 0.75 lb. active clomazone per acre pre-plant incorporated. The pre-harvest interval is 90 days.

The metabolism of clomazone in plants has been discussed in detail in PP#4G2987 (see memo L. Propst, 4/17/84) and PP#4F3128 (see memo J. Worthington, 9/24/84). The nature of the residue has been adequately delineated and the parent compound is the residue of concern.

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The analytical method used to determine residues of clomazone in pumpkins is derived from FMC Method P-0908. The method consists of acid hydrolysis, hexane partition, sodium bicarbonate wash, Florisil cleanup, and quantitation on a GC with a nitrogen-phosphorous flame ionization detector. Recoveries from pumpkin samples fortified at 0.1 and 1.0 ppm averaged 96 and 98%, respectively.

Residue studies were conducted on pumpkins in CA, IL, NY, PA, VA, and WI. A single application was made using 1.0 lb. active per acre either preemergence or preplant incorporated. PHI's ranged from 90 to 110 days. Residues on all treated samples were reported as non-detectable (<0.02 ppm) at all test sites except WI where values ranged from non-detectable to 0.04 ppm. However, controls at the WI test site ranged from 0.04 to 0.07 ppm.

Since summer squash mature somewhere between 45 and 60 days after planting, a pre-harvest interval of 90 days is not practical. Although DEB has no clomazone residue data available in our files reflecting PHI's of 45 - 60 days, based on the above residue data on pumpkins and considering that Command^{R} will be preplant incorporated, we do not anticipate residues occurring in squash treated as proposed in this emergency use to exceed 0.1 ppm.

Since squash are not fed to livestock, no secondary residues of clomazone will be transferred to meat, milk, poultry, and eggs as a result of this emergency use.

Conclusions and Recommendations

1. For the purposes of this Section 18 request, the metabolism of clomazone in plants has been adequately delineated. The residue of concern is the parent compound.

2. A method is available for determining residues of clomazone in squash. This method is FMC P-0908 (PP#4F3128, Accession # 072818).

3. For the purposes of this Section 18 only, based on the proposed use residues of clomazone are not likely to exceed 0.1 ppm in squash.

4. Dietary Exposure Branch expects no transfer of secondary residues to meat, milk, poultry, and eggs since no feed items are involved in this emergency use.

5. Reference standards are available from the Pesticides and Industrial Chemicals Repository at RTP, NC.

TOX considerations permitting, Dietary Exposure Branch has no objections to this Section 18 request to use Command^{R} on squash as proposed. An agreement should be made with FDA regarding the legal status of the treated squash in commerce.

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cc: Circulation, Reading File, Section 18 File, L. Propst, SACB/TAS, Branch Chief
RDI: A. R. Rathman, 5/10/89; E. Zager, 5/10/89
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