

5.22 PHOSMET (103)

RESIDUE AND ANALYTICAL ASPECTS

Phosmet is a broad-spectrum organo-phosphorus insecticide used to control a variety of insect and mite pests that attack berries, pome, stone and citrus fruit. It can also be used on field, pasture and forage crops. Phosmet is non-systemic and acts by contact and ingestion as a cholinesterase inhibitor. It is registered in a number of countries, mainly for protecting fruits and vegetables.

Phosmet was evaluated for residues several times by the JMPR between 1976 and 2007, and was evaluated under the periodic review in 1994 for toxicity and in 1997 for residues. The ADI of 0–0.01 mg/kg bw was established in 1994. The ARfD of 0.2 mg/kg bw was established in 2003. Existing residue definitions for phosmet were set at the 1997 JMPR Meeting. For plant and animal commodities, the residue definition for enforcement and dietary risk assessment is phosmet.

Results of supervised residue trials on crops

Cranberry

GAP and supervised trials data on cranberry were received and evaluated by the current Meeting. Phosmet is registered in the USA for use on cranberry at 1.1–3.1 kg ai/ha with a PHI of 14 days. Five supervised trials were conducted on cranberries in the USA in 1996. The residues of phosmet from four independent trials were: 0.13, 0.84, 0.85, 0.88 mg/kg, with the highest residue of 0.91 mg/kg from a replicate sample in one trial.

The Meeting estimated a maximum residue level of 3 mg/kg, a HR of 0.91 mg/kg, and an STMR of 0.845 mg/kg for cranberries.

RECOMMENDATIONS

On the basis of the data from independent supervised trials, the Meeting concluded that the residue concentrations listed below are suitable for establishing MRLs and for assessing IEDIs and IESTIs.

Definition of the residue (for compliance with the MRL and for estimation of dietary intake) for plant and animal commodities: *Phosmet*.

DIETARY RISK ASSESSMENT

Long-term intake

The estimates of long-term dietary intake for phosmet (ADI 0–0.01 mg/kg bw) were calculated by the current meeting for the 17 regional diets on the basis of the STMRs estimated by the JMPR in 2002, in 2007 and in 2014. The results are shown in Annex 3 of the 2014 Report.

The International Estimated Daily Intakes (IEDI) of phosmet, based on estimated STMRs from the uses were 3–90% (rounded) of the maximum ADI (0.01 mg/kg bw). The Meeting concluded that the long-term intake of residues of phosmet from uses that have been considered by the JMPR is unlikely to present a public health concern.

Short-term intake

The International Estimated Short Term Intake (IESTI) of phosmet was calculated for cranberry. The results are shown in Annex 4 to the 2014 Report.

The IESTI of phosmet calculated on the basis of the recommendations made by current meeting represented 0-3% of the ARfD (0.2 mg/kg bw) for children, 0-2% for the general population. The Meeting concluded that the short-term intake of residues of phosmet resulting from uses in cranberry that have been considered by the JMPR is unlikely to present a public health concern.