5.27 MANDIPROPAMID (231)

RESIDUE AND ANALYTICAL ASPECTS

Mandipropamid was first evaluated by JMPR in 2008 when an ADI of 0–0.2 mg/kg bw was established and decided that an ARfD was unnecessary. At the Forty-fourth Session of the CCPR, mandipropamid was scheduled for the evaluation of 2013 JMPR for additional uses on hops.

Methods of analysis

The Meeting received descriptions and validation data for analytical methods for residues of mandipropamid in hops and processed hop samples.

Hop samples were extracted with acetonitrile:water (80:20 v/v). Extracts are centrifuged and aliquots diluted with water prior to being cleaned-up using polymeric solid-phase extraction cartridges. Residues of mandipropamid were quantified with HPLC-MS/MS. Validated LOQs was 0.01 mg/kg.

Stability of residues in stored analytical samples

The Meeting received information on the stability of residues in crop commodities in tomatoes, grapes, potatoes, lettuce, cucumbers, wheat and soya beans for two years.

The commodities in which stability was tested were both raw agricultural commodities and processed, such as tomatoes (fruit and paste), grapes (fruit and juice), potatoes (tubers and granules/flakes), lettuce, cucumbers, wheat (forage, grain and straw), and soya beans (beans, hulls, meal and oil). There was no significant change in the mandipropamid residue levels in any commodity during the 24 months of storage at -20 °C with any apparent losses being < 30%. These commodities contained representatives of the four crop types, i.e., predominantly water, oil, protein, and starch containing materials. Therefore, residues of mandipropamid are expected to be stable in all crop commodities including hops stored under these conditions for at least two years.

Results of supervised residue trials on crops

The Meeting received supervised trials data for mandipropamid uses on hops.

Hops

Ten trials were conducted on hops in Europe (maximum German GAP: 0.40 kg ai/ha, two applications, 14-day PHI) in 2005 and 2006 and in the USA (maximum USA GAP: 0.145 kg ai/ha, three applications, 7-day PHI). In eight trials conducted at the maximum German GAP, the ranked order of concentrations in dry cone, median underlined, were: 14, 20, 26(2), 31, 32 and 34(2) mg/kg. In three trials conducted at the maximum US GAP, the ranked order of concentration in the dry cones was: 4.3, 5.4 and 10.6 mg/kg.

Noting that European trials resulted in higher residues in dry cones, the Meeting estimated a maximum residue level and an STMR value for mandipropamid in hops, dry of 90 and 28.5 mg/kg on the basis of European dataset.

Fate of residues during processing

The Meeting received information on the fate of mandipropamid residues during the food processing of hops.

The processing factor for beer (0.002) was applied to the estimated STMR for dry cone (28.5 mg/kg) to produce an STMR-P value for beer (0.057 mg/kg).

RECOMMENDATIONS

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

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

DIETARY RISK ASSESSMENT

Long-term intake

The Meeting noted that the new estimation of dry hops did not result in a significant change of the long term dietary intake and concluded that the long-term intake of residues of mandipropamid resulting from its uses that have been considered by JMPR is unlikely to present a public health concern.

Short-term intake

The 2008 JMPR decided that an ARfD was unnecessary. The Meeting therefore concluded that the short-term intake of mandipropamid residues is unlikely to present a public health concern.