5.2 AZOXYSTROBIN (229)

RESIDUE AND ANALYTICAL ASPECTS

Azoxystrobin (methyl (E)-2-[2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl]-3-methoxyacrylate) was first evaluated for toxicology and residues by the JMPR in 2008. The Meeting derived an ADI of 0–0.2 mg/kg bw per day, decided that an ARfD was unnecessary and concluded that the residue definition for plant commodities for compliance with MRL values and for consumer risk assessments was parent azoxystrobin. The compound was listed by the Forty-second Session of the CCPR for the review of additional MRLs by the JMPR in 2011.

The Forty-fourth Session of the CCPR requested the 2012 JMPR to re-evaluate the processing studies for ginseng processed products to estimate MRLs for ginseng extracts. Furthermore, the Meeting received information on GAP and residue data for carambola from Malaysia.

Methods of residue analysis

The Meeting received summarized information on an analytical method for azoxystrobin residues in carambola. The samples were extracted with ethyl acetate. After clean-up, the residues were determined by GC-ECD with an LOQ of 0.005 mg/kg. The recoveries were reported as 104% (0.005 mg/kg), 93% (0.01 mg/kg) and 96% (0.1 mg/kg).

No new information on storage stability was submitted but the studies reported by the 2008 JMPR for fruits and vegetables cover the sample material evaluated by the present Meeting.

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

The residue is fat-soluble.

Results of supervised residue trials on crops

The OECD calculator was used as a tool in the estimation of the maximum residue level from the selected residue data set obtained from trials conducted according to GAP. As a first step, the Meeting reviewed all relevant factors related to each data set in arriving at a best estimate of the maximum residue level using expert judgment. Then, the OECD calculator was employed. If the statistical calculation spreadsheet suggested a different value from that recommended by the JMPR, a brief explanation of the deviation was provided.

Carambola

Azoxystrobin is registered in Malaysia as foliar spray treatment with 2 × 0.0115 kg ai/hL (2 × 0.115 kg ai/ha) with a 1-day PHI. Four trials matching the Malaysian GAP were carried out in Malaysia in 2005 (LOQ 0.05 mg/kg) and in 2010 (LOQ 0.005 mg/kg). The residues were: 0.007, 0.011, 0.034 and < 0.05 mg/kg. Using the OECD MRL calculator, 0.15 mg/kg were calculated as maximum residue level. The Meeting noted that the highest residue value was lower than the LOQ of 0.05 mg/kg and concluded that 0.1 mg/kg would be more appropriate as MRL.

The Meeting estimated for azoxystrobin residues in carambola a maximum residue level of 0.1 mg/kg and an STMR 0.023 mg/kg.

Ginseng processed products

The 2011 JMPR estimated a maximum residue level of 0.1 mg/kg and an STMR of 0.025 mg/kg for azoxystrobin in ginseng.

The 2011 JMPR evaluated ginseng processing studies. The following median processing factors were calculated: 3 for dried ginseng, 2 for red ginseng, 5.2 for ethanol extract of dried ginseng, 4.8 for water extract of dried ginseng, 4.9 for ethanol extract of red ginseng and 2 for water extract of red ginseng.

The 2011 JMPR estimated 0.5 mg/kg as maximum residue level for ginseng, processed products (dried, red, ethanol and water extracts).

Based on the STMR of 0.025 mg/kg for fresh ginseng roots, the 2011 Meeting estimated the following STMR-P-values: 0.075 mg/kg for dried ginseng, 0.05 mg/kg for red ginseng, 0.13 mg/kg for ethanol extract of dried ginseng, 0.12 mg/kg for the water extract of dried ginseng, 0.12 mg/kg for the ethanol extract of red ginseng and 0.05 mg/kg for the water extract of red ginseng.

At the Forty-fourth CCPR, the Committee decided to separate the commodity "ginseng, processed products" into "ginseng, dried including red ginseng" and "ginseng, extracts". The Forty-fourth CCPR requested the 2012 JMPR to re-evaluate the processing studies on ginseng to estimate separate maximum residue levels for the two commodities.

The 2012 JMPR agreed to estimate separate maximum residue levels and STMR-P values for the above mentioned commodities. Based on the data evaluated by the 2011 JMPR, the individual processing factors were combined according to the new commodity groups. Median processing factors of 2.75 for dried ginseng (incl. red ginseng) and of 4.8 for ginseng extracts were estimated.

The Meeting estimated a maximum residue level of 0.3 mg/kg and an STMR-P of 0.069 mg/kg for ginseng, dried including red ginseng.

The Meeting estimated a maximum residue level of 0.5 mg/kg and an STMR-P of 0.12 for ginseng, extracts.

The former recommendation of 0.5 mg/kg for ginseng processed products (dried, red, ethanol and water extracts) should be withdrawn.

DIETARY RISK ASSESSMENT

Long-term intake

The International Estimated Daily Intake (IEDI) of azoxystrobin were calculated for the 13 GEMS/Food cluster diets using STMRs and STMR-Ps estimated by the JMPR in 2008, 2011 and the current Meeting. The results are shown in Annex 3.

The ADI is 0–0.2 mg/kg bw and the calculated IEDI were 2–10 % of the maximum ADI. The Meeting concluded that the long-term intake of residues of azoxystrobin resulting from the uses considered by the JMPR is unlikely to present a public health concern.

Short-term intake

The 2008 Meeting decided that an ARfD for azoxystrobin is unnecessary and concluded that the short-term intake of residues resulting from the use of azoxystrobin is unlikely to present a public health concern.