MALATHION (049)

EXPLANATION

Malathion was evaluated by the JMPR in 1999 within the Periodic Review Programme of the CCPR but no recommendations were made in relation to the existing CXLs for wheat bran, wheat flour and wheat wholemeal.

APPRAISAL

At the 1999 JMPR, an MRL of 0.5 mg/kg was recommended and an STMR of 0.04 mg/kg estimated for malathion in wheat grain. The highest residue found in the trials was 0.28 mg/kg. A processing study on wheat was submitted to the 1999 Meeting, which gave processing factors of 0.23 for wheat flour and 0.41 for wheat bran. No processing factor was derived for wheat wholemeal. The 1999 JMPR concluded that it was unlikely that residues in grain would decrease after processing to bran, and agreed that the PF of 0.41 was unrealistic.

The present Meeting recommended an MRL of 0.2 mg/kg for wheat flour, derived by multiplying the maximum residue level estimated for wheat grain by the processing factor (0.5 mg/kg x 0.23 = 0.115 mg/kg), and an STMR-P of 0.0092 mg/kg, which corresponds to the processing factor multiplied by the STMR for wheat.

The Meeting recommended the withdrawal of the MRLs for wheat bran and wheat wholemeal.

RECOMMENDATIONS

The Meeting concluded that the residue levels shown below are suitable for establishing maximum residue limits and for the assessment of dietary intake.

Definition of the residue for compliance with MRLs and for the estimation of dietary intake: malathion

CCN	Commodity	MRL, mg/kg		STMR or STMR-P, mg/kg
		New	Previous	
CF 1211	Wheat flour	0.2	2 PoP	0.0092
CF 1212	Wheat wholemeal	W	2 PoP	
CM 0654	Wheat bran, unprocessed	W	20 PoP	

DIETARY RISK ASSESSMENT

Chronic. Currently, the ADI for malathion is 0.3 mg/kg body weight/day. International estimated daily intake (IEDI) was calculated for commodities of human consumption which STMRs were estimated in this evaluation and by the 1999 JMPR. The results are shown in Annex III.

International Estimated Daily Intakes for the five GEMS/Food regional diets, based on estimated STMRs were 0% of the ADI. The Meeting concluded that the intake of residues of pyrethrins resulting from its uses that have been considered by the JMPR is unlikely to present a public health concern.

Acute. The International Estimated Short-term Intake (IESTI) for malathion was calculated as described in Section 3 for wheat flour. The result is shown in Annex IV. The IESTI was for children and for adults. As no acute reference dose has been established the acute risk assessment for malathion was not finalised.