5.23 TRIAZOPHOS (143)

RESIDUE AND ANALYTICAL ASPECTS

The last evaluation of triazophos residues in food was made by the 2007 JMPR within the periodic review programme. The Meeting estimated maximum residue levels only for cotton seed, cotton seed oil and soya bean (immature seeds). The information provided to 2007 JMPR precluded an estimate that the dietary intake would be below the ARfD for immature soya bean in the pod. Current use patterns and residue data from new trials on rice and soya beans, submitted by China and Thailand, were evaluated by the present Meeting.

Results of supervised trials on crops

Rice

Fifteen trials were conducted on rice in four provinces of China in 2008 and 2009, applying triazophos at the target rate of maximum GAP (3 × 0.506 kg ai/ha of an ME formulation and 0.45 kg ai/ha of an EC formulation with a 28 day PHI). Nine trials were also conducted with an additional 4th treatment at early growth stage at the same site, where the last 3 applications were made on the same days. There was little difference found between residues in rice grain obtained after either 3 or 4 treatments. Where 4 applications were made the crops were treated 2 months before the sampling, therefore the Meeting considered that the first treatment did not affect the residue level at the time of sampling, i.e., 28 days after final application. As the trials were not independent only the higher residues were selected from the side-by-side trials for estimation of residue levels. The residues in husked rice (brown rice) in ranked order were: 0.059, 0.059, 0.06, 0.128, 0.087, 0.343, 0.347, 0.421, 0.513, 0.683, 0.764, 0.807, 0.894, 1.01, 1.19 mg/kg.

The Meeting estimated a maximum residue level of 2 mg/kg, and a median residue of 0.421 mg/kg.

There was no alternative GAP to be considered.

Soya bean, immature seed

Two trials were conducted in Thailand on soya beans applying triazophos 3 to 4 times at maximum the GAP rate (0.625 kg ai/ha, with a PHI 14 days for immature seed) on three replicate plots at one site. Samples were taken at various times after last application. Whole pod, bean (immature) and pod without seed were analysed in three replicates.

The residues at 14 days PHI in whole pods in the 2008 trials were 0.99 and 1.04 mg/kg.

In trials conducted between 1992 and 2006 in Thailand residues of triazophos in whole pod including immature seeds at 14–17 days after the final application were 0.05, 0.17, 0.31, 0.43, 0.52, and 0.60 mg/kg.

Based on the two data sets (0.05, 0.17, 0.31, 0.43, 0.52, 0.60, 0.99 and 1.04) the estimated maximum residue level and median residue would be 3 mg/kg and 0.475 mg/kg.

In the two trials conducted on replicate plots in 2008, the residues in whole pod including immature seed and in the seeds were

	Trial 1			Trial 2		
	Repl.1	Repl.2	Repl.3	Repl.1	Repl.2	Repl.3
Whole pod	0.99	0.66	0.96	0.8	0.81	1.04
Seed	0.15	0.14	0.11	0.12	0.1	0.14
Ratio [a]	0.152	0.212	0.115	0.150	0.123	0.135

[a] Ratio of residues in seed and whole pod

The average ratio of residues in seed and whole pod including the seed is 0.148.

Applying the average ratio of residues, the Meeting estimated a maximum residue level of 0.5 mg/kg, STMR of 0.07 mg/kg and HR of 0.15 mg/kg in immature soya bean seed.

Residues in animal commodities

The 2007 JMPR concluded that because of the lack of appropriate animal livestock metabolism study, a residue definition for animal products could not be determined and therefore the Meeting could not make use of the results of the feeding studies. Consequently, the residues in animal products derived from the use of the compound on rice and soya beans were not considered by the present Meeting.

DIETARY RISK ASSESSMENT

Long-term intake

In the current evaluation long-term intake were estimated based on four commodities (cotton seed, edible cotton seed oil, immature soya been seed and rice) for which STMR values have been recommended by JMPR in 2007 and by the present Meeting. The long term intakes for adult population were in the range of 0–50% of the maximum ADI.

The results are shown in Annex 3.

Short-term intake

In the current evaluation short-term intakes were estimated for four commodities (cotton seed, edible cotton seed oil, immature soya been seed and rice) for which STMR values have been recommended by the 2007 JMPR and present Meeting. The estimated short-term intake derived from residues in soya bean (immature), cotton seed and cotton seed oil for general population and children ranged from 0–40% and 0–60% of the acute reference dose, respectively. However, the short-term intake from residues in rice was 260 % of the ARfD for children and general population.

There was no alternative GAP to be considered.

Studies on the effect of processing (polishing, cooking, frying) are desirable to obtain more realistic information on residue levels in food actually consumed.

The results are shown in Annex 4.