5.21 SPINOSAD (203)

Spinosad, an insecticide, was first evaluated by the 2001 JMPR (T, R), which established an ADI of 0–0.02 mg/kg bw. An ARfD was judged to be unnecessary. MRLs were recommended for fruits, vegetables, nuts, oil seeds, cereal grains, animal feeds and animal commodities. The 2004 JMPR recommended several additional MRLs. In 2007, on the request of the Delegation of the United States, the 39the Session of the CCPR scheduled the evaluation of additional MRLs on banana, cranberry and hops for the 2008 JMPR.

The meeting received information from the IR-4 project[44] on registered uses and data from supervised residue trials.

Methods of analysis

All methods are immunoassays that were previously reported and evaluated by the 2001 JMPR. These methods do not differentiate between individual spinosyns, but measure the total residue of spinosad and its metabolites LOQs were 0.005 mg/kg for leafy vegetables and 0.01 mg/kg for banana, cranberry and basil.

Stability of pesticide residues in stored analytical samples

The Meeting received information on the stability of residues in samples stored frozen. JMPR 2001 evaluated a large amount of storage stability data and found no indications for instability during storage.

Results of supervised residue trials on crops

The Meeting received supervised trials data for spinosad on banana, cranberry, basil, mustard greens, spinach and legume forage. No data on hops was submitted.

Cranberry

Field trials were conducted in the USA and Canada using the SC formulation at a rate of 3 times 0.18 kg ai/ha, with a PHI of 20–21 days. USA GAP indicates a rate of 0.07–0.17 kg ai/ha with no more than a total of 0.50 kg ai/ha per crop, with a PHI of 3 days. In all six trials the residues were < 0.01 (6) mg/kg.

The Meeting decided that since none of the trials matched GAP, no estimate could be made for a maximum residue limit for spinosad in cranberries.

Banana

Field trials were conducted in Hawaii (USA) using the SC formulation at a rate of 4 times 0.015 kg ai/hL, with a PHI of 53–56 days. USA GAP indicates using a rate of 4 times a spray concentration of 0.006 kg ai/hL, with a PHI of 56 days. In one of the trials banana bunches were bagged following the final application once the spray mixture deposits had dried; this trial yielded a residue of 0.026 mg/kg (whole banana). In the other four trials the banana bunches remained unbagged, residues were: 0.033, 0.042, 0.13, 0.19 mg/kg (whole banana). No information was available on the residue in the edible portion.

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[44] The Interregional Research Project Number 4 (IR-4) is a publicly funded program in the USA that was established in 1963 to help minor acreage, specialty crop producers obtain EPA tolerances and new registered uses for pest control products.

The Meeting decided that as no trials matched GAP, no estimate could be made for a maximum residue limit for spinosad in bananas.

Leafy vegetables

Four field trials were conducted in the USA in mustard greens and cowpea forage (Georgia) and in spinach and snap bean forage (California) using the GF fruit fly bait formulation. The application rates were approximately 0.03 kg ai/ha (base rate = 1×), 0.10 kg ai/ha (3×), and 0.33 kg ai/ha (10×). Samples of commercially mature greens were collected on day 0. USA GAP indicates 0.01–0.02 kg ai/ha without specifications on the number of applications or PHI. Residues at 1× rate were < 0.005 (3), 0.0063 mg/kg, at 3× rate < 0.005(2), 0.0058, 0.0072 mg/kg, and at 10× rate 0.019, 0.026, 0.046, 0.070 mg/kg.

The Meeting decided not to estimate a new maximum residue level for spinosad in leafy vegetables.

Dried herbs

Two field trials were conducted on basil, one each in Washington and California (USA), using the SC formulation with 5 applications at approximately 0.11 kg ai/ha, for a total of approximately 0.5 kg ai/ha, with a PHI of 1 day. In the Californian trial, residues were determined both in fresh and dry basil. The US GAP for herbs and hops indicates a maximum of 5 applications per crop at a rate of 0.07–0.10 kg ai/ha, PHI 1 day. Residues were 0.66 and 1.90 mg/kg in fresh basil and 6.3 mg/kg in dry basil.

The Meeting agreed that the data was insufficient to estimate a maximum residue level for spinosad in dried herbs (basil and hops).