

US EPA ARCHIVE DOCUMENT

MEMORANDUM

SUBJECT: PP# 3G04263. New Chemical - Fipronil in or on corn. Request for Petition Method Validation. MRID#s 429186-66 & 433234-01. Barcode D206623. Chemical# 129121. CBTS# 14279.

FROM: G.F. Kramer Ph.D., Chemist  
Tolerance Petition Section III  
Chemistry Branch I, Tolerance Support  
Health Effects Division (7509C)

THRU: R.A. Loranger Ph.D., Acting Branch Chief  
Chemistry Branch I, Tolerance Support  
Health Effects Division (7509C)

TO: Donald A. Marlow, Chief  
Analytical Chemistry Branch  
Biological and Economics Analysis Division (7503C)

Rhône-Poulenc has submitted an application for an EUP and temporary tolerances for fipronil (5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-[(1R,S)-(trifluoromethyl)sulfinyl]-1H-pyrazole-3-carbonitrile) and its metabolites MB46136 (5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-[(trifluoromethyl)sulfonyl]-1H-pyrazole-3-carbonitrile) and MB45950 (5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-[(trifluoromethyl)thio]-1H-pyrazole-3-carbonitrile) on corn. The petitioner has proposed the following tolerances for corn RACs (expressed as parent plus metabolites):

Corn, Field, Grain	-	0.02 ppm
Corn, Forage	-	0.05 ppm
Corn, Fodder	-	0.07 ppm

The registrant has submitted a copy of method EC-93-236 and an Independent Laboratory Validation (ILV) in the following volumes which are appended to this memorandum as Attachments 2 & 3:

Fipronil- Validation of Method of Analysis for Fipronil and Its Metabolites in Field Corn. EC-93-236. 8/27/94. MRID# 433234-01 (Appendix E)

Fipronil Independent Laboratory Method Validation. 8/19/93. By P. Vorndam and W. Rhoads. Colorado Analytical Research & Development Corp., Colorado Springs, CO MRID#429186-66

Note that CBTS has previously requested validation of a proposed analytical enforcement method for fipronil (Memo, G. Kramer 3/16/94). This request was withdrawn as the registrant reported that revisions had been made which resulted in improved recovery of

some metabolites (Memo, G. Kramer 4/15/94). Method EC-93-236 contains these revisions which were not so substantial as to warrant a new ILV.

CBTS has conducted a preliminary review of the ILV. Acceptable recoveries were obtained by the laboratory for all analytes except MB45950 (average recovery of 56.7% at 0.04 ppm) and RPA105048 (average recovery of 169% at 0.04 ppm). Reproducible recoveries of MB45950 in the range of 50-70% may be acceptable as this metabolite does not appear to comprise a significant portion of the total fipronil residues in corn. Also, the revisions to the method have increased recoveries of MB45950 to ~62% and reduced recoveries of RPA105048 to ~110%. A summary of these findings may be found on page 10 of the ILV report and pages 22-24 of Appendix E of the revised method.

CBTS requests that BEAD review the method for acceptability as a tolerance enforcement method. The ILV should also be reviewed to determine if the method has been adequately validated. If the method and the ILV are satisfactory, CBTS requests that BEAD conduct a Petition Method Validation (PMV) on the submitted analytical method.

CBTS is also requesting that the method be validated using metabolites RPA105048 and RPA200766. These metabolites are not currently included in the fipronil tolerance expression but they have been found to be major metabolites in forage and fodder. The registrant has also provided validation data for these metabolites. The HPLC chromatograms include all metabolites.

Samples should be run in duplicate per the experimental design specified in Attachment 1. Please complete and return this attachment as part of your report. Also, please include with your report, copies of the standard curves, sample calculations, and representative chromatograms for controls and fortified samples. Any deficiencies in the methods, as written, should also be noted and reported. Please comment on the length of time necessary to complete a set of samples.

One of the purposes of conducting a PMV is to determine whether all necessary instructions are included in the submitted method. For this reason, we are requesting that laboratory staff scientists do not discuss this PMV with the registrant. Any problems encountered should be documented and included in your report.

Please address your written reports to: P.V. Errico, Section Head, Tolerance Petition Section III, Chemistry Branch I, Tolerance Support, Health Effects Division (7509C)

- Attachment 1- Experimental Design for PMV
- Attachment 2- Fipronil- Validation of Method of Analysis for Fipronil and Its Metabolites in Field Corn. EC-93-236. 8/27/94. MRID# 433234-01 (Appendix E)
- Attachment 3- Fipronil Independent Laboratory Method Validation. MRID#429186-66

cc (with Attachment 1 and 2): M. Clower (FDA, HFS-335)  
cc (with Attachment 1 only): PP#3G04263, S.F., Kramer, circ., R.F.,  
H. Hundley (ACB/BEAD), R. Brennis (PM10/RD)/D. Waldo, R.  
Thompson (RTP-NC)  
RDI: J. Garbus for P.V. Errico (9/5/94), M.T. Flood (9/7/94)  
G.F. Kramer:804V:CM#2:(703)305-5079:7509C

ATTACHMENT 1

ATTACHMENT 1

METHOD: Fipronil- Validation of Method of Analysis for Fipronil and Its Metabolites in Field Corn. EC-93-236. 8/27/94. MRID# 43234-01 (Appendix E)

Please: (i) Indicate the limit of detection and quantitation; (ii) Do not use control values for recovery calculations; and (iii) Do not report control values as zero; if less than the limit of detection, report as such.

RAC	Chemicals Added	ppm Added	ppm Fipronil Found	% Rec.	ppm MB4595 Found	% Rec.	ppm MB46136 Found	% Rec.	PPM RPA105048 Found	% Rec.	ppm RPA200766 Found	% Rec.
Corn, Grain	Fipronil	0.00										
	MB45950	0.01										
	MB46136	0.02										
	RPA105048 RPA200766											
Corn, Stover	Fipronil	0.00										
	MB45950	0.02										
	MB46136	0.04										
	RPA105048 RPA200766											
Corn, Forage	Fipronil	0.00										
	MB45950	0.02										
	MB46136	0.04										
	RPA105048 RPA200766											

ATTACHMENT 1

Modifications made to method (major or minor):

Special precautions to be taken:

Source of analytical reference standards:

If derivatized standards used, give source:

Instrumentation for confirmation:

If instrumentation parameters differ from the method as written,  
list parameters actually used:

Commercial source for any special chemicals or apparatus:

Comments:

Chromatograms: