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WASHINGTON, D.C. 20460

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OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

September 29, 1994

MEMORANDUM

SUBJECT: Metolachlor (108801) Addendum to RED
Partial Replacement of Craven Data on peanuts
[MRID No. 43263101; CB No. 13875; DPBarcode D204467]

FROM: Susan V. Hummel, Chemist
Special Review Section II
Chemistry Branch II-Reregistration Support
Health Effects Division (H7509C)

THRU: Francis B. Suhre, Section Head
Special Review Section II
Chemistry Branch II-Reregistration Support
Health Effects Division (H7509C)

TO: Jane Mitchell/W. Waldrop, PM#71
Reregistration Branch
Special Review and Reregistration Division (H7508W)

Ciba Geigy has submitted field trial data on peanuts to replace data submitted earlier from Craven Laboratories. The submission has been reviewed by Dynamac Corporation, under contract to EPA. The review reflects the CBRS Branch policies. The submitted data are adequate to support registered uses of the granular formulation on peanuts. Residues reported werre within the current tolerances for peanuts, hulls, vines, and hay. Additional data are required to support registered uses of the EC formulation. This submission does not include the required Craven replacement data for preplant incorporated application followed by postemergence layby application using the EC formulation in GA; Ciba Geigy has initiated trials in TX, GA, AL, and NC, which are expected to be submitted 9/1/95. Craven replacement data for alfalfa and clover have been received and screened and will be reviewed when time permits. Craven replacement data are still required for sweet corn, tree nuts, cottonseed (2 applications), and peanuts (layby application of EC formulation), and safflower processing.

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Metolachlor is on List A. A Registration Standard was completed 9/80, and the FRSTR 1/87 (Residue Chemistry Chapter 6/13/86). A Registration Standard Followup (Update) was completed 6/14/89. The Residue and Product Chemistry Chapters for the RED were completed 6/30/93, with an addendum for anticipated residues on 11/16/93 (S. Knizner, CB 12521, DP Barcode D194942), and addendum for Craven replacement data on field corn, cottonseed (1 application), and soybean (S. Hummel, CB 13482, D201438, 6/23/94, and an addendum for legumes (D. Miller, CB 14160, D206103, 9/13/94).

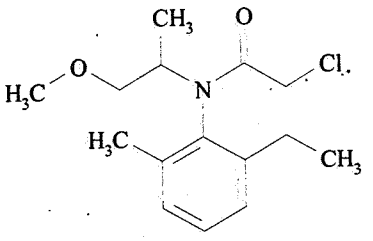
Updated anticipated residues will be provided if needed. However, additional data are still required for peanuts.

Please refer to the conclusions in the attached review. The RED should be revised to reflect these conclusions.

Attachment

cc w/ attachment: addressee, R.F., circu, S.F., S. Hummel, Metolachlor Reg. Std. F.
RDI:FBS:09/29/94:MM:9/29/94:EZ:09/29/94
H7509C:CBII:SVH:svh:RM:804:CM#2:09/29/94

# METOLACHLOR



## ADDENDUM TO THE REREGISTRATION ELIGIBILITY DECISION:

## RESIDUE CHEMISTRY CONSIDERATIONS

Shaughnessy No. 108801; Case 0001

(CB No. 13875; DP Barcode D204467)

Task 2B

## BACKGROUND

An evaluation of the crop residue data generated by Craven Laboratories in support of metolachlor reregistration (CB No. None, S. Hummel, 5/4/93 and 5/27/93) indicated that replacement field residue data were required for alfalfa and clover (to support a rotational crop tolerance), field and sweet corn, cotton, legumes, peanuts, and soybeans, and that a safflower processing study was required. In response, Ciba-Geigy Corporation has submitted replacement data (1994; MRID 43263101) depicting the magnitude of metolachlor residues of concern in/on peanut commodities. These data are reviewed herein to assess their adequacy in fulfilling residue chemistry data requirements for metolachlor reregistration. An interim summary report of these data was reviewed earlier (CB No. 11474, DP Barcode D188841, S. Hummel, 5/20/93); it was concluded that additional data will be needed for the 8 lb/gal EC formulation reflecting a 3 lb ai/A treatment preplant incorporated or preemergence, followed by a 3 lb ai/A treatment at lay-by.

Adequate replacement field residue data for field corn grain, forage, fodder, and silage, cottonseed, and soybean forage, hay, and seed (CB No. 13482, DP Barcode D201438, S. Hummel, 6/23/94), and legumes (CB No. 14160, DP Barcode D206103, D. Miller, 9/13/94) have been submitted previously and reviewed by the Agency; tolerance proposals are needed for succulent and dried beans and peas, pea vines, pea hay, bean forage, and bean straw/hay to replace the established tolerances for "legume vegetables group foliage (except soybean forage and soybean hay)" and "seed and pod vegetables (except soybeans)." Replacement field residue data for alfalfa and clover have been submitted and are currently under review at CBRS (MRID 43367101; DP Barcode D207519).

The qualitative nature of the residue in plants is adequately understood. The residues of concern in corn and soybeans are metolachlor and its metabolites, determined as the derivatives CGA-37913 and CGA-49751. The qualitative nature of the residue in animals is adequately understood. Metolachlor is rapidly metabolized and almost totally eliminated in the urine and feces of ruminants (goats), non-ruminants (rats), and poultry. Metolachlor *per se* was not detected in any of the tissues or excreta.

Tolerances for residues of metolachlor in/on food/feed and animal commodities are currently expressed in terms of the combined residues (free and bound) of the herbicide metolachlor [2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide] and its metabolites, determined as derivatives, 2-[(2-ethyl-6-methylphenyl)amino]-1-propanol and 4-(2-ethyl-6-methylphenyl)-2-hydroxy-5-methyl-3-morpholinone, each expressed as the parent compound [40 CFR §180.368 (a), (b), and (c)]. There are no Codex MRLs for metolachlor residues. Therefore, no compatibility questions exist with respect to Codex MRLs.

Adequate methods are available for the purposes of data collection and tolerance enforcement for metolachlor residues in/on plant and animal commodities. The PAM Vol. II lists Method I, a GC method, for the determination of residues of metolachlor and its metabolites in/on plant commodities as the derivatives CGA-37913, using a Coulson electrolytic conductivity detector in the nitrogen mode, and CGA-49751, using a Dohrmann microcoulometric detector specific for chloride. Method II, a GC/MS method, is listed for determination of residues of metolachlor and its metabolites, as the derivatives CGA-37913 and CGA-49751, in animal commodities.

## CONCLUSIONS AND RECOMMENDATIONS

1. The submitted peanut residue data are adequate to support use of the G formulation on peanuts. However, the submitted peanut residue data are inadequate to support use of the EC formulation on peanuts because no data reflecting a preplant incorporated application followed by a postemergence application at lay-by were submitted. Data from tests conducted in GA reflecting this type of application remain outstanding.

2. The submitted data indicate that the combined residues of metolachlor and its metabolites will not exceed the established tolerance of 0.5 ppm in/on nutmeats, the established tolerance of 6.0 ppm in/on peanut hulls, or the established tolerance of 30.0 ppm in/on peanut hay harvested 89-140 days following a single preplant incorporated (PPI) application followed by a postemergence application at late cracking or at lay-by of the 25% G formulation or a single PPI application followed by a postemergence application at late cracking of the 8 lb/gal EC formulation at 1x the maximum seasonal application rate. The maximum combined residues obtained following application of the test formulations at the maximum use patterns were 7.9 ppm in/on hay, 0.3 ppm in/on nutmeats, and 2.4 ppm in/on hulls.

3. The Agency no longer considers peanut forage to be a major livestock feed commodity. Therefore, CBRS recommends that the established tolerance for residues of metolachlor and its metabolites in/on "peanuts, forage and hay," listed under 40 CFR §180.368(a), be revised to "peanuts, hay."

4. The following Craven replacement data remain outstanding:

   Data depicting metolachlor residues of concern in/on peanut nutmeats, hulls, and hay following 3 lb ai/A preplant incorporated and 3 lb ai/A lay-by application of the EC formulation in GA.

   All metolachlor end-use products with use directions on tree nuts (EPA Reg. Nos. 100-597, 100-673, 100-688, and 100-711) must be modified to specify a maximum of one application per year since non-Craven data support only a single application to tree nuts.

   Data depicting metolachlor residues of concern in/on sweet corn (K+CWHR) following 3 lb ai/A preplant incorporated and 3 lb ai/A lay-by application of the EC and G formulations.

   The 24(c) registrations for postemergence use on cotton (AZ83000500, NM86000400, OK86000300, and TX83001100) must be canceled. Alternatively, data depicting metolachlor residues of concern in/on cottonseed and cotton gin byproducts following postemergence application at 2 lb ai/A must be submitted. [See Table II of the Pesticide Assessment Guidelines (Subdivision O, Residue Chemistry, June 1994). Data for cotton forage are no longer required but data for cotton gin byproducts (commonly called gin trash) are now required.]

   A processing study on safflower, treated at a 2x rate, must be submitted.

## DETAILED CONSIDERATIONS

### Residue Analytical Methods

Samples of peanut vines, hay, nutmeats, and hulls from the current field residue study were analyzed for the combined residues of metolachlor and its metabolites, as derivatives CGA-37913 and CGA-49751, by Ciba-Geigy Corporation (Greensboro, NC) using a GC method (Method AG-338) with nitrogen-phosphorous detection (GC/NPD). Method AG-338 is basically Method I (PAM Vol. II) modified to include moisture corrections, different incubation conditions and intervals, an additional hexane partition, elution of the silica column with 50% ethyl ether:hexane, and nitrogen-phosphorus detection in the nitrogen-specific mode.

The registrant provided descriptions of Method AG-338. Briefly, residues of metolachlor and its metabolites were converted to CGA-37913 and CGA-49751 by refluxing in 6 N hydrochloric acid. For determination of CGA 37913, an aliquot of the acid extract was alkalinized with 50% sodium hydroxide, partitioned with hexane, and cleaned up on an alumina column followed by a silica Sep-Pak column. For determination of CGA-49751, another subsample of the acid extract was partitioned with dichloromethane. The organic fraction, containing CGA-49751 residues, was washed with 5% sodium carbonate and cleaned up on an alumina column. The CGA-49751 was then converted to its chloroethanol derivative by incubation with boron trichloride:2-chloroethanol at 90 C for 30 min; the derivative was then partitioned into hexane and cleaned up on an alumina column. Aliquots of the extracts containing CGA-37913 and the derivative of CGA-49751 were quantitated by GC/NPD. Residues of the derivatives were expressed as parent metolachlor equivalents. The limits of detection were 0.03 ppm for CGA-37913 and 0.05 ppm for CGA-49751.

Concurrent method recoveries were provided to determine the adequacy of the method for data collection purposes. Untreated samples of peanut vines, hay, nutmeats, and hulls from the current residue field trials were fortified separately with derivative CGA-37913 at 0.03-10.00 ppm and derivative CGA-49751 at 0.05-10.00 ppm, and analyzed concurrently with the treated samples. The results of concurrent method analyses of fortified untreated samples are detailed in Table 1. Chromatograms and sample calculations were provided. The method recovery data indicate that method AG-338 is adequate for collecting data on residues of metolachlor and its metabolites in/on peanut vines, hay, nutmeats, and hulls.



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Table 1. Concurrent method recovery of metolachlor and its metabolites, as derivatives CGA-37913 and CGA-49751, from untreated samples of peanut commodities separately fortified with each analyte and analyzed by GC/NPD.

| Matrix<br>Residue of Concern | Fortification Level (ppm) | Number of Samples | % Recovery (Number of Samples) [a] |
|---|---|---|---|
| **Vines** | | | |
| CGA-37913 | 0.03-10.00 | 14 | 71-108 (13); 132 (1) |
| CGA-49751 | 0.05-10.00 | 14 | 76-117 (13); 131 (1) |
| **Hay** | | | |
| CGA-37913 | 0.06-10.00 | 9 | 64-68 (3); 71-104 (6) |
| CGA-49751 | 0.10-10.00 | 9 | 71-112 (9) |
| **Nutmeats** | | | |
| CGA-37913 | 0.03-1.00 | 10 | 81-103 (9); 139 (1) |
| CGA-49751 | 0.05-1.00 | 10 | 70-114 (8); 127, 130 (2) |
| **Hulls** | | | |
| CGA-37913 | 0.03-8.00 | 10 | 63-67 (3); 70-79 (6); 124 (1) |
| CGA-49751 | 0.05-8.00 | 10 | 62, 64 (2); 75-109 (8) |

[a] Recovery values outside the 70-120% range are listed separately.

Storage Stability Data

The peanut commodity samples from the current field trials were stored frozen (-15 C) for maximum periods of 13 months (387 days) for vines, 11 months (315 days) for hay, 12 months (348 days) for nutmeats, and 12 months (348 days) for hulls. No storage stability data were submitted to support the current field residue studies. Previously reviewed storage stability studies indicated that metolachlor metabolite hydrolysates CGA-37913 and CGA-49751 were stable during storage at -15 $\pm$ 5 C for up to 2 years in/on peanut nutmeats, potatoes, corn grain, and corn forage (CB No. 8317, DP Barcode No. D166637, B. Cropp-Kohlligian, 4/16/92). CBRS had previously concluded that the Craven replacement data should be adequately supported by storage stability data provided that the registrant estimates of sample storage intervals (<2 years) were correct (CB No. 12111, DP Barcode D192548, F. Suhre, 11/17/93). No additional storage stability data are required to support the submitted field residue trials.

Magnitude of the Residue in Peanuts

Tolerances of 0.5, 6.0, 30.0 ppm have been established for the combined residues of metolachlor and its metabolites, determined as the derivatives CGA-37913 and CGA-49751,

each expressed as the parent compound, in/on peanuts, peanut hulls, and peanut forage and hay, respectively [40 CFR §180.368 (a)].

The Residue Chemistry Science Chapter for the Metolachlor Reregistration Eligibility Decision (RED), dated 6/28/93, identified six metolachlor end-use products registered for use on peanuts. The 8 lb/gal EC (EPA Reg. Nos. 100-597, 100-673, 100-688, and 100-711) and 25% G (EPA Reg. Nos. 100-638 and 100-712) formulations are registered for a single preplant or postplant incorporated, preemergence, or lay-by application (application at lay-by not permitted for EPA Reg. Nos. 100-711 and 100-712) at 1.25-2 lb ai/A/application (2-3 lb ai/A for preemergence application in AL, FL, GA, NC, SC, and VA). The 8 lb/gal EC (EPA Reg. Nos. 100-597, 100-673, and 100-688) and 25% G (EPA Reg. No. 100-638) formulations are also registered for multiple applications to peanuts in the Southeast (AL, FL, GA, NC, SC, and VA) using the following application schedule: a preplant incorporated application at 1.5-2 lb ai/A, followed by an application at 2-3 lb ai/A from preemergence to ground cracking, followed by an application at lay-by at 1.5-2 lb ai/A. A maximum seasonal rate of 6 lb ai/A (alone or a combination of the G and EC formulations) is in effect. A 30-day grazing or feeding restriction and a 90-day PHI have been established.

Ciba-Geigy Corporation submitted replacement data (1994; MRID 43263101) from four tests conducted in 1991 and 1993 in GA(2), NC(1), and TX(1) depicting the magnitude of metolachlor residues of concern in/on peanut commodities treated using the following application schedules: (i) a single preplant soil incorporated (PPI) application of the 25% G formulation (Dual® 25G; EPA Reg. No. 100-638); (ii) a single PPI application followed by a postemergence broadcast application at late cracking (PLC) or at lay-by (PLB) of the 25% G formulation; or (iii) a single PPI application followed by a PLC application of the 8 lb/gal EC formulation (Dual® 8E; EPA Reg No. 100-597). Applications were made at 3 lb ai/A (equivalent to 1x the maximum seasonal rate of 6 lb ai/A when two applications were made) in 20-32 gal/A using ground equipment. Samples were harvested 30-34 days after treatment for vines and 89-140 days after treatment for nutmeats, hulls, and hay.

Samples were shipped frozen to Ciba-Geigy Corporation (Greensboro, NC) where samples were stored frozen at -15 C for a maximum of 13 months for vines, 11 months for hay, and 12 months for nutmeats and hulls prior to completion of residue analysis. Samples of peanut vines, hay, nutmeats, and hulls were analyzed for the combined residues of metolachlor and its metabolites, as derivatives CGA-37913 and CGA-49751, using the previously described GC/NPD method (Method AG-338).

The results of the field trials are presented in Table 2. A detailed summary (in Lotus 1-2-3 spreadsheet format) of residue data is included at the end of this document as Attachment I. Residue data were not corrected for concurrent method recoveries or apparent residues in untreated samples.



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The apparent combined residues of metolachlor and its metabolites were <0.08 ppm (nondetectable) in/on 11 untreated vine samples, 9 untreated hay samples, 10 untreated nutmeat samples, and 10 untreated hull samples. Two untreated replicate samples of peanut vines bore detectable combined residues of metolachlor and its metabolites at <0.09 and <0.12 ppm; no explanation was provided for these detectable residues.

The registrant stated that data from the PPI/PLC tests in TX with the 25% G and 8 lb/gal EC formulation were invalid since an error was made in the application of metolachlor (these data are *italicized* in Table 2). In these tests, the second application was to be made at the late cracking stage. Instead, the application was made when the plants were 8 inches in height and at the 16-leaf, early bloom stage; this application would be consistent with a lay-by application. In addition, the applicator cultivated immediately after the application, whereas the protocol specified a broadcast application with no incorporation; the current product labels specify that lay-by application should be made after the last normal cultivation. Since cultivation of the soil after application of metolachlor would provide greater exposure of the peanuts to metolachlor, CBRS will not consider the results of these invalidated trials in tolerance reassessment. The registrant is conducting another set of residue trials in TX reflecting PPI, PPI/PLC, and PPI/PLB applications of the 25% G formulation and PPI/PLC applications of the 8 lb/gal EC formulation. We note that only a single application of metolachlor may be made to peanuts in TX.

Geographic representation is adequate since the test states of GA(45%), NC(9%), and TX(13%) accounted for 70% of the 1991 U.S. peanut production (*Agricultural Statistics, 1992, USDA*).



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Table 2. Uncorrected residues of metolachlor metabolite hydrolysates in/on peanut commodities following a preplant soil incorporated application of the 25% G formulation or a preplant incorporated applications followed by a postemergence application at late cracking or at lay-by of the 25% G or 8 lb/gal EC formulations at 3 lb ai/A/application.

| Form. | Applic. Method [a] | Total Rate (lb ai/A) | PTI (days) | Test States [b] | Residue values (ppm) [c] | | |
|---|---|---|---|---|---|---|---|
| | | | | | CGA-37913 | CGA-49751 | Combined |
| **Vines** | | | | | | | |
| G | PPI | 3 | 30<br>31 | GA (2) | 0.43, 0.96<br>0.69, 0.73 | 0.92, 1.53<br>0.37, 0.29 | 1.34, 2.49<br>1.02, 1.06 |
| | | | 30 | NC | 0.17, 0.20 | 0.25, 0.34 | 0.42, 0.54 |
| | | | 30 | TX | 0.12, 0.17 | 0.22, 0.23 | 0.34, 0.40 |
| | PPI+PLC | 6 | 30<br>32 | GA (2) | 0.47, 1.10<br>0.54, 0.99 | 0.37, 0.65<br>0.95, 0.88 | 0.83, 1.74<br>1.49, 1.87 |
| | | | 31 | NC | 1.04, 1.15 | 1.16, 1.25 | 2.19, 2.40 |
| | | | *30* | *TX* | *0.49, 0.56* | *0.31, 0.47* | *0.79, 1.04* |
| | PPI+PLB | 6 | 30<br>34 | GA (2) | 0.30, 0.34<br>0.46, 0.60 | 0.37, 0.88<br>0.74, 0.76 | 0.67, 1.22<br>1.20, 1.36 |
| | | | 31 | NC | 0.45, 0.66 | 0.38, 0.77 | 0.83, 1.43 |
| | | | 30 | TX | 0.88, 0.93 | 0.71, 0.80 | 1.59, 1.73 |
| EC | PPI+PLC | 6 | 30<br>32 | GA (2) | 0.62, 0.68<br>0.91, 1.15 | 0.58, 1.07<br>1.41, 2.68 | 1.20, 1.76<br>2.32, 3.82 |
| | | | 31 | NC | 1.34, 1.60 | 3.60, 5.26 | 4.94, 6.86 |
| | | | *30* | *TX* | *0.82, 1.80* | *1.95, 4.72* | *2.77, 6.52* |
| **Hay** | | | | | | | |
| G | PPI | 3 | 138<br>140 | GA (2) | 0.65, 0.70<br>1.64, 1.70 | 0.58, 0.77<br>1.64, 2.01 | 1.23, 1.47<br>3.28, 3.72 |
| | | | 138 | NC | 0.39, 0.49 | 0.47, 0.60 | 0.86, 1.09 |
| | | | 120 | TX | 0.28, 0.30 | 0.36, 0.43 | 0.63, 0.72 |
| | PPI+PLC | 6 | 118<br>118 | GA (2) | 0.64, 0.89<br>3.69, 3.97 | 0.71, 0.88<br>3.53, 3.93 | 1.35, 1.77<br>7.22, 7.90 |
| | | | 115 | NC | 0.31, 0.35 | 0.47, 0.40 | 0.75, 0.77 |
| | | | *93* | *TX* | *0.59, 0.70* | *0.91, 1.34* | *1.50, 2.04* |



*(continued; footnotes follow)*

Table 2 *(continued)*.

| Form. | Applic. Method [a] | Total Rate (lb ai/A) | PTI (days) | Test States [b] | Residue values (ppm) [c] | | |
|---|---|---|---|---|---|---|---|
| | | | | | CGA-37913 | CGA-49751 | Combined |
| **Hay continued** | | | | | | | |
| G | PPI+PLB | 6 | 89<br>90 | GA (2) | 2.12, 2.13<br>1.13, 1.72 | 3.03, 3.35<br>1.12, 1.78 | 5.15, 5.48<br>2.25, 3.51 |
| | | | 94 | NC | 0.43, 0.44 | 0.72, 0.55 | 0.99, 1.55 |
| | | | 90 | TX | 0.82, 0.84 | 0.86, 0.84 | 1.67, 1.69 |
| EC | PPI+PLC | 6 | 118<br>118 | GA (2) | 1.02, 1.03<br>2.76, 2.78 | 0.88, 1.21<br>2.74, 2.72 | 1.90, 2.25<br>5.50, 5.0 |
| | | | 115 | NC | 0.43, 0.58 | 0.58, 0.70 | 1.01, 1.27 |
| | | | *93* | *TX* | *0.58, 0.64* | *1.46, 1.46* | *2.04, 2.10* |
| **Nutmeats** | | | | | | | |
| G | PPI | 3 | 138<br>140 | GA (2) | <0.03, <0.03<br><0.03, 0.04 | <0.05, <0.05<br>0.09, 0.07 | <0.08, <0.08<br><0.12, 0.11 |
| | | | 138 | NC | <0.03, 0.03 | <0.05, 0.07 | <0.08, 0.10 |
| | | | 120 | TX | 0.05, 0.05 | 0.05, 0.05 | 0.10, 0.10 |
| | PPI+PLC | 6 | 118<br>118 | GA (2) | <0.03, <0.03<br>0.08, 0.09 | <0.05, 0.06<br>0.13, 0.09 | <0.08, <0.09<br>0.16, 0.21 |
| | | | 115 | NC | <0.03, <0.03 | 0.05, 0.06 | <0.08, <0.09 |
| | | | *93* | *TX* | *0.23, 0.34*<br>*(0.22, 0.31)* | *0.19, 0.29*<br>*(0.28, 0.36)* | *0.42, 0.62*<br>*(0.49, 0.68)* |
| | PPI+PLB | 6 | 89<br>90 | GA (2) | 0.07, 0.08<br>0.05, 0.05 | 0.13, 0.13<br>0.08, 0.08 | 0.20, 0.20<br>0.13, 0.13 |
| | | | 94 | NC | <0.03, 0.04 | 0.11, 0.12 | <0.14, 0.16 |
| | | | 90 | TX | 0.11, 0.11<br>(0.12, 0.13) | 0.12, 0.12<br>(0.18, 0.20) | 0.23, 0.23<br>(0.30, 0.33) |
| EC | PPI+PLC | 6 | 118<br>118 | GA (2) | <0.03, <0.03<br>0.07, 0.07 | <0.05, <0.05<br>0.10, 0.11 | <0.08, <0.08<br>0.17, 0.18 |
| | | | 115 | NC | <0.03, <0.03 | 0.06, 0.06 | <0.09, <0.09 |
| | | | *93* | *TX* | *0.15, 0.26*<br>*(0.11, 0.17)* | *0.18, 0.21*<br>*(0.20, 0.22)* | *0.33, 0.47*<br>*(0.31, 0.39)* |



*(continued; footnotes follow)*

Table 2 *(continued)*.

| Form. | Applic. Method [a] | Total Rate (lb ai/A) | PTI (days) | Test States [b] | Residue values (ppm) [c] | | |
|---|---|---|---|---|---|---|---|
| | | | | | CGA-37913 | CGA-49751 | Combined |
| **Hulls** | | | | | | | |
| G | PPI | 3 | 138<br>140 | GA (2) | 0.38, 0.41<br>0.39, 0.51 | 0.53, 0.65<br>0.51, 0.65 | 0.91, 1.06<br>0.90, 1.15 |
| | | | 138 | NC | 0.22, 0.35 | 0.40, 0.70 | 0.62, 1.05 |
| | | | 120 | TX | 0.30, 0.35 | 0.45, 0.53 | 0.75, 0.88 |
| | PPI+PLC | 6 | 118<br>118 | GA (2) | 0.39, 0.44<br>0.78, 0.81 | 0.73, 0.73<br>1.01, 0.88 | 1.12, 1.17<br>1.69, 1.78 |
| | | | 115 | NC | 0.27, 0.33 | 0.50, 0.52 | 0.79, 0.83 |
| | | | *93* | *TX* | *0.15, 1.46*<br>*(1.43, 2.13)* | *1.65, 1.55*<br>*(2.12, 2.69)* | *1.80, 3.01*<br>*(3.54, 4.82)* |
| | PPI+PLB | 6 | 89<br>90 | GA (2) | 0.85, 0.98<br>0.61, 0.71 | 1.11, 1.39<br>1.39, 1.41 | 1.96, 2.37<br>2.00, 2.11 |
| | | | 94 | NC | 0.29, 0.37 | 0.71, 0.64 | 1.00, 1.01 |
| | | | 90 | TX | 0.64, 0.67<br>(0.71, 0.64) | 1.03, 0.93<br>(1.12, 1.33) | 1.60, 1.66<br>(1.76, 2.04) |
| EC | PPI+PLC | 6 | 118<br>118 | GA (2) | 0.17, 0.19<br>0.62, 0.79 | 0.23, 0.25<br>0.79, 0.76 | 0.40, 0.44<br>1.41, 1.55 |
| | | | 115 | NC | 0.30, 0.30 | 0.53, 0.54 | 0.83, 0.84 |
| | | | *93* | *TX* | *0.82, 1.07*<br>*(1.02, 1.06)* | *1.33, 1.54*<br>*(1.40, 1.28)* | *2.15, 2.61*<br>*(2.34, 2.42)* |

[a] PPI = preplant incorporated; PLC = postemergence broadcast at late cracking; PLB = postemergence broadcast at lay-by.

[b] Number of tests in parentheses.

[c] Each row represents analysis of "replicate" samples; the registrant did not state whether "replicate" meant replicate analysis of a single sample or replicate samples from the same plot. Residue values were not corrected for concurrent method recovery or residues in untreated samples. Residue values in parentheses represent subsequent re-analysis of the samples for confirmation. Data in *italics* wer



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The submitted peanut residue data are adequate to support use of the G formulation on peanuts. However, the submitted peanut residue data are inadequate to support use of the EC formulation on peanuts because no data reflecting a preplant incorporated application followed by a postemergence application at lay-by were submitted. Data from GA reflecting this type of application remain outstanding. The submitted data indicate that the combined residues of metolachlor and its metabolites will not exceed the established tolerance of 0.5 ppm in/on nutmeats, the established tolerance of 6.0 ppm in/on peanut hulls, or the established tolerance of 30.0 ppm in/on peanut hay harvested 89-140 days following a single preplant incorporated (PPI) application followed by a postemergence application at late cracking or at lay-by of the 25% G formulation or a single PPI application followed by a postemergence application at late cracking of the 8 lb/gal EC formulation at 1x the maximum seasonal application rate. The replacement data from the current submission will be useful in refining estimates of anticipated dietary exposure. The maximum combined residues obtained following application of the test formulations at the maximum use patterns were 7.9 ppm in/on hay, 0.3 ppm in/on nutmeats, and 2.4 ppm in/on hulls.

The Agency no longer considers peanut forage to be a major livestock feed commodity; see the livestock feed items table (Table II) of Subdivision O of the Pesticide Assessment Guidelines, dated 6/2/94. Therefore, CBRS recommends that the established tolerance for residues of metolachlor and its metabolites in/on peanut forage listed under 40 CFR §180.368(a) be revoked.

EPA MEMORANDA CITED IN THIS REVIEW

| | |
|---|---|
| CB No.: | 8317 |
| DP Barcode: | D166637 |
| Subject: | Soybean Hull Chromatograms and Storage Stability Data Submissions in Response to the Metolachlor Final Registration Standard and Tolerance Reassessment (FRSTR) follow-up (6/14/89). |
| From: | B. Cropp-Kohlligian |
| To: | W. Waldrop |
| Dated: | 4/16/92 |
| MRID(s): | 41506501 and 41425502 |

| | |
|---|---|
| CB No. | None |
| DP Barcode: | None |
| Subject: | Metolachlor (108801) Reevaluation of Craven Data Base |
| From: | S. Hummel |
| Dated: | 5/4/93 |
| To: | J. Mitchell/W. Waldrop |
| MRID(s): | None |

| | |
|---|---|
| CB No.: | 11474 |
| DP Barcode: | D1888841 |
| Subject: | Metolachlor (108801) Ciba Geigy Summary Report - Replacement of Craven Data, dated 2/18/93 |
| From: | S. Hummel |
| To: | J. Mitchell/W. Waldrop |
| Dated: | 5/20/93 |
| MRID(s): | None |

| | |
|---|---|
| CB No.: | 10938 |
| DP Barcode: | D185209 |
| Subject: | Metolachlor (108801) - Case No. 0001. Product and Residue Chemistry Chapters for the Reregistration Eligibility Document (RED). |
| From: | S. Hummel |
| To: | A. Rathman |
| Dated: | 6/28/93 |
| MRID(s): | None |

| | |
|---|---|
| CB No.: | 12111 |
| DP Barcode: | D192548 |
| Subject: | Metolachlor (108801) Storage Stability Data. |
| From: | F. Suhre |
| To: | J. Mitchell/W. Waldrop |
| Dated: | 11/17/93 |
| MRID(s): | 42810601 |

| | |
|---|---|
| CB No.: | 13482 |
| DP Barcode: | D201438 |
| Subject: | Metolachlor (108801) Addendum to RED Replacement of Craven Data on field corn, cottonseed (single application only) and soybeans. Updated Anticipated Residues. |
| From: | S. Hummel |
| To: | J. Mitchell/W. Waldrop |
| Dated: | 6/23/94 |
| MRID(s): | 43178401, 43178402, and 43178403 |

| | |
|---|---|
| CB No.: | 14160 |
| DP Barcode: | D206103 |
| Subject: | Metolachlor. Addendum to RED. Magnitude of Residue in Legumes (Succulent and Dried) |
| From: | D. Miller |
| To: | J. Mitchell |
| Dated: | 9/13/94 |

MRID(s): 43295701

MASTER RECORD IDENTIFICATION NUMBERS

The citation for the MRID document referred to in this review is presented below.

43263101 Grunenwald, M.C. (1994) Metolachlor - Magnitude of Residues in Peanuts Following Application of Dual 25G and Dual 8E. Laboratory Project I.D. Number: ABR-92076. Unpublished study conducted and submitted by Ciba-Geigy Corporation, (Greensboro, NC). 480 pp.