PC Pe 129086 RD.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 5 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#1F4025. MAT 7484 in/on Corn Commodities.
Review of Permanent Tolerance Petition Request.
CBTS: **8893** DP#: D171159
MRID: 420054-77 thru -96

PP#1F4025. MAT 7484 in/on Corn Commodities.
Review of BEAD memo of 11/10/92: Report of Petition Method Validation Trial of Mobay Method 100202.
CBTS: **10862** DP#: D184687
MRID: 420054-83 and -85

ID# 003125-URE. AZTEC 2.1% Granular Insecticide.
Application for Label Registration.
CBTS: **8894** DP#: D171116 MRID: N/A

ID# 003125-URR. MAT 7484 Technical.
Application for Product Registration.
CBTS: **8895** DP#: D171080 MRID: N/A

PP#2G4048. MAT 7484 in/on Corn Commodities.
Review of Temporary Tolerance Petition Request.
CBTS: **8913** DP#: D171354
MRID: 420054-77 thru -96

ID# 003125-EUP-ENE. AZTEC 2.1% Granular Insecticide.
Application for Experimental Use Permit.
CBTS: **8915** DP#: D171321 MRID: N/A

FROM: Maxie Jo Nelson, Ph.D., Chemist
Chemistry Branch I - Tolerance Support
Health Effects Division (H7509C)

Maxie Jo Nelson
4-5-93

THRU: Debra Edwards, Ph.D., Chief
Chemistry Branch I - Tolerance Support
Health Effects Division (H7509C)

Debra Edwards
4/5/93

TO: M. Mautz/R. Forrest, PM Team 14
Insecticide-Rodenticide Branch
Registration Division (H7505C)

The petitioner, Miles Inc. [formerly Mobay Chemical Corporation], proposes the establishment of permanent [PP#1F4025] or temporary [PP#2G4048] tolerances for residues of a **NEW ORGANOPHOSPHATE INSECTICIDE, MAT 7484**, in or on:

Corn, fresh, includes sweet	@	0.01 ppm
Corn, grain, field and pop	@	0.01 ppm
Corn, forage and fodder, field, pop, and sweet	@	0.01 ppm

These two petitions constitute the **first food use** requests for tolerances for this new chemical.

In conjunction with these tolerance requests, Miles also seeks the registration of MAT 7484 Technical [003125-URR] and the formulated product AZTEC 2.1% Granular Insecticide [AZTEC 2.1G; 003125-URE; 003125-EUP-ENE].

AZTEC 2.1G contains <u>two</u> active ingredients [ai]: MAT 7484 and cyfluthrin. Cyfluthrin is a synthetic pyrethroid insecticide with registered uses and tolerances [40 CFR 180.436, 185.1250, 186.1250].

Co-pending PP#s 1F4026 and 2G4049 propose tolerances for cyfluthrin residues in/on corn commodities at 0.01 ppm from use of AZTEC 2.1G. Those petitions have recently undergone CBTS review [M. Nelson, memo of 3/9/93].

In May 1992, Miles was issued [memo of 5/5/92] an EUP [3125-EUP-202] with crop destruct for the proposed use of AZTEC 2.1G. That EUP authorized application of up to 2,942 lbs [58.85 lbs ai MAT 7484 and 2.95 lbs ai cyfluthrin] on up to 403 acres of corn in Iowa.

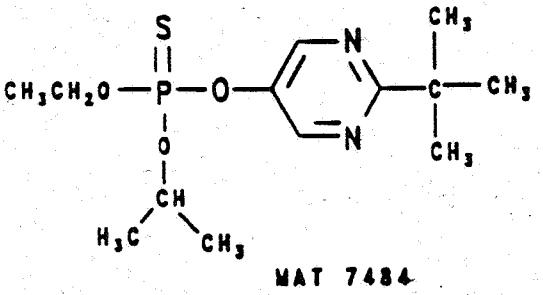
Since MAT 7484 is a new chemical, there are as yet no established tolerances. No other petitions for this chemical are currently pending.

MAT 7484 is not subject to reregistration under FIFRA '88.

The chemical name of MAT 7484 is <u>O</u>-[2-(1,1-dimethylethyl)-5-pyrimidinyl] <u>O</u>-ethyl <u>O</u>-(1-methylethyl) phosphorothioate].

MAT 7484 is also known as BAY MAT 7484. The proposed ANSI common name is **phostebupirim.**

Its chemical structure is:



MAT 7484

CONCLUSIONS

1a. The product chemistry data are not adequate to support the proposed **permanent** tolerances. Additional data under GRN 63-6 [boiling point], 63-7 [density], and 63-12 [pH] for BAY MAT 7484 Technical are needed. [See CBTS review, "BAY MAT 7484. Review of Product Chemistry Data Submitted in Support of Registration of New Chemical Insecticide", M. Nelson, 8/10/92.]

1b. The manufacturing process of BAY MAT 7484 Technical is not yet completely delineated. Additional information under GRN 61-2 [Description of Beginning Materials and Manufacturing Process] is needed to support a **permanent** tolerance. [See aforecited product chemistry review, 8/10/92.]

1c. AZTEC 2.1G is not yet registered with EPA. Determination as to whether the inert ingredients in the formulation are cleared is under the purview of RD.

2a. The proposed use pattern is sufficiently delineated.

2b. Phostebupirim is not yet an accepted ANSI common name so it should not appear on the proposed labeling; the petitioner needs to submit a revised Section B.

3a. The nature of the residue in corn plants has been adequately delineated. The residue of concern for regulatory purposes [based on observed residues] is parent MAT 7484 only.

3b. The nature of the residue in ruminants has been adequately delineated. The residue of concern for regulatory purposes [based on observed residues] would be MAT 7484 and its oxygen analog OMAT. However, regulation of residues in animal commodities is not needed at this time; see Conclusions 7b and 7c.

3c. The nature of the residue in poultry has been adequately delineated. The residue of concern for regulatory purposes [based on observed residues] would be parent MAT 7484 only; however, for the sake of consistency with the observed residue of concern in ruminants, both MAT 7484 and OMAT should be regulated in poultry. Regulation of residues in animal commodities is not needed at this time; see Conclusions 7b and 7c.

3d. Because no detectable residues of OMAT are expected in any commodity from this proposed use, regulation at this time can be in terms of parent compound MAT 7484 only.

4a. Analytical Method 100202 [GLC/FPD, phosphorous filter] for MAT 7484 [and OMAT] in corn matrices has successfully completed PMV and is suitable for enforcement purposes [contingent upon incorporation of the revisions specified in Conclusion 4b].

4b. The following revisions to Method 100202 need to be made, based upon the BEAD PMV report:

(1) The concentration of the calibration samples should be reduced to be more in line with expected sample recoveries; and,

(2) The method should specify some way of verifying the cleanliness of the GPC system prior to the injection of the sample extracts.

The petitioner should revise Method 100202 to address these two comments, and resubmit it for review.

NOTE: If Method 100202 is used <u>in future</u> to enforce tolerances in/on commodities in which OMAT is a detectable residue [and part of the regulable residue], it would need to be further revised to incorporate this additional comment from BEAD:

(3) A comment should be inserted in the method indicating that the detector gas flows must be optimized for sensitivity to OMAT.

4c. Method 100202 was found to be specific for detecting MAT 7484 [and OMAT] in corn matrices in the presence of other [registered] phosphorous-containing pesticides.

4d. FDA multiresidue screening data for MAT 7484 [and OMAT] via Protocols C, D, and E were submitted. Test results have been forwarded to FDA for review and updating of PAM I.

4e. Analytical methodology for animal commodities are not required in conjunction with the two petitions covered by this review.

5a. Adequate storage stability data for MAT 7484 [and OMAT] are available to support the stability of residues in stored corn matrices.

5b. Adequate storage stability has been demonstrated for MAT 7484 in animal matrices [and for OMAT in milk, eggs, muscle, and fat. OMAT has been shown to degrade rapidly in liver and more slowly in kidney tissues to 2-(1,1-dimethylethyl)-5-hydroxypyrimidine {aka TBHP} during freezer storage].

6a. Corn field trial data support the tolerances requested by the petitioner:

Corn, fresh, includes sweet.....	@	0.01 ppm
Corn, grain, field and pop.....	@	0.01 ppm
Corn, forage and fodder, field, pop, and sweet...	@	0.01 ppm

for residues of MAT 7484 in conjunction with the proposed use pattern.

6b. Food/feed additive tolerances for residues of MAT 7484 in processed corn commodities were not requested, and are not needed [based on the processing study data].

j

4

DETAILED CONSIDERATIONS

MANUFACTURE, FORMULATION, AND OTHER PRODUCT CHEMISTRY

AZTEC 2.1G is a granular insecticide formulated combination product which combines the use of a **new** organophosphate ai, MAT 7484 [aka phostebupirim, prop. ANSI], with a currently registered synthetic pyrethroid ai, cyfluthrin.

AZTEC 2.1G [EPA File Symbol 3125-URE] is not yet registered with EPA. Determination as to whether the inert ingredients in the formulation are cleared is under the purview of RD.

For discussion of the formulation of AZTEC 2.1G, see the Confidential Appendix [**Attachment 4**] to this review. For information pertaining to cyfluthrin, see co-pending PP#s 1F4026 and 2G4049 [CBTS memo of 3/9/93, M. Nelson].

The manufacturing process of BAY MAT 7484 Technical [EPA File Symbol 3125-URR] is discussed in the Confidential Appendix to CBTS's review of product chemistry data for BAY MAT 7484 Technical [M. Nelson memo of 8/10/92]. The information submitted does not fully satisfy the requirements of 40 CFR §158.160-§158.165 [Guideline Ref. No. (GRN) 61-2]. Further information has been requested.

Additional product chemistry data for BAY MAT 7484 Technical have also been requested on the boiling point, density, and pH [GRNs 63-6, 63-7, and 63-12, respectively] to fully satisfy the requirements of 40 CFR §158.190 [aforecited memo of 8/10/92].

Conclusions:

(1) The GRN 61-2, 63-6, 63-7, and 63-12 requirements will need to be satisfied prior to a favorable recommendation for the establishment of **permanent** tolerances on corn commodities.

(2) The determination as to whether the inert ingredients in AZTEC 2.1G formulation are cleared is under the purview of RD.

PROPOSED USE

For control of soil insect pests, make one application [in-furrow or band-incorporated] of AZTEC 2.1% Granular to soil at corn planting.

The proposed use rate is 6.7 oz of product per 1000 ft of row. The maximum use rate per acre, based on the narrowest row spacing of 30", is 7.3 lbs/A.

In terms of ai's, the rates are 0.0084 lb MAT 7484 and 0.00042 lb cyfluthrin per 1000 ft of row, or, for the narrowest row spacing of 30", the maximum rate per acre will be 0.146 lb MAT 7484 and 0.0073 lb cyfluthrin.

A maximum of 7.3 lbs AZTEC 2.1% Granular may be applied per acre per crop season.

For use only in the states of: AZ, AR, CO, ID, IL, IN, IA, KS, KY, MI, MN, MO, MT, NE, NV, NM, ND, OH, OK, PA, SD, TN, UT, VT, WV, WI, and WY.

Conclusions:

(1) The proposed use is sufficiently delineated.

(2) Phostebupirim is not yet an accepted ANSI common name [confirmed by telecon between M. Mautz and petitioner, 3/16/93] so it should not appear on the proposed labeling; the petitioner needs to submit a revised Section B.

NATURE OF THE RESIDUE

Plants. A metabolism study in corn ["Metabolism of Pyrimidinyl-2-^{14}C MAT 7484 in Corn", 10/19/90, Mobay Report 99776, MRID 420054-77] was submitted. The performing lab was Mobay Corporation.

Corn was planted in pots containing soil treated with pyrimidinyl-2-^{14}C MAT 7484 at 2.4 ppm [4X the maximum recommended field application rate of 0.146 lb ai/A]. Half the plants were harvested [kernels, cobs/husks, stalks/leaves, forage composite] at milk stage [96 days posttreatment] and the remainder allowed to mature to dryness [117 days posttreatment] prior to harvest [kernels, cobs/husks, stalks/leaves, fodder composite].

Samples were processed [chopped, frozen, pulverized, and homogenized], then stored at -20°C for 2-7 months before aliquots were extracted and radioassayed. Radioactivity in sample extracts was determined by liquid scintillation counting [lsc]; solid samples were combusted and the released $^{14}CO_2$ trapped and quantitated by lsc. Approximately 0.3% of the total radioactivity applied to the soil was found in corn plants. The distribution of radioactivity [as ^{14}C MAT 7484 equivalents] was:

Plant Part	Fresh Harvest Residue (ppm)	Dry Harvest Residue (ppm)
Kernels	0.4	0.8
Cobs/husks	0.3	1.0
Stalks/leaves	1.1	3.0
Forage composite	0.9	---
Fodder composite	---	2.6

For identification of the radioactivity, kernels and composites of forage and fodder samples were extracted and analyzed [HPLC, GC/TLC, TLC] following the procedures diagrammed in **Figures 1 and 2**, respectively. Isolated metabolites were also subjected to electron impact [EI] and chemical ionization [CI] mass spectrometry. Comparison was

6

RIN 0806-96

PP 1F4025

Page _____ is not included in this copy.

Pages 7 through 8 are not included.

The material not included contains the following type of information:

_____ Identity of product inert ingredients.

_____ Identity of product impurities.

_____ Description of the product manufacturing process.

_____ Description of quality control procedures.

_____ Identity of the source of product ingredients.

_____ Sales or other commercial/financial information.

_____ A draft product label.

_____ The product confidential statement of formula.

_____ Information about a pending registration action.

✓ FIFRA registration data.

_____ The document is a duplicate of page(s) _____.

_____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

---

made to independently synthesized reference standards, the composition and structures of which had been verified by both MS and NMR analysis [MRID 420054-81].

By this means, the identification and quantitation of ^{14}C residues in corn kernels was determined to be:

Compound[1]	Fresh Harvest %	Fresh Harvest ppm (MAT equivs.)	Dry Harvest %	Dry Harvest ppm (MAT equivs.)
MAT 7484	<2	<0.01	<1	<0.01
OMAT	0	0	0	0
TBHP	0	0	0	0
TBHP-glucose	3	0.01	1	0.01
TMAA	1	<0.01	1	0.01
HTBHP-conjugates	<1	<0.01	0	0
HTBHP-glucose	1	<0.01	1	0.01
Glucose as starch	75	0.30	84	0.67
Polar materials	8	0.03	7	0.06
Unextracted	0	0	0	0
Losses in prep'n	3		5	
Unaccounted for	7		0	
TOTAL:	100		100	

[1]Chemical names, structures, and abbreviations of MAT 7484 and related reference standards are given in **Figure 3.**

And the identification and quantitation of ^{14}C residues in corn forage and fodder samples was determined to be:

Compound	Forage %	Forage ppm (MAT equivs.)	Fodder %	Fodder ppm (MAT equivs.)
MAT 7484	1	0.01	<1	<0.01
OMAT	0	0	0	0
TBHP	5	0.04	7	0.18
TBHP-glucose	13	0.12	12	0.31
TMAA	1	0.01	7	0.18
HTBHP-glucose	18	0.16	11	0.29
HTBHP-conjugate 1	19	0.17	11	0.29
HTBHP-conjugate 2	14	0.13	12	0.31
HTBHP-conjugate 3	1	0.01	4	0.10
HTBHP-conjugate 4	2	0.02	0	0
Polar extractable	5	0.04	6	0.16
Polar, acid hydrolysis released	5	0.04	7	0.18
Polar, base hydrolysis released	4	0.04	6	0.16
Not released from solids	1	0.01	3	0.08
Losses in preparation	8		7	
Unaccounted in analysis	3		7	
TOTAL:	100		100	

RIN 0806-96

PP 1F4025

Page _____ is not included in this copy.

Pages 10 through 11 are not included.

The material not included contains the following type of information:

_____ Identity of product inert ingredients.

_____ Identity of product impurities.

_____ Description of the product manufacturing process.

_____ Description of quality control procedures.

_____ Identity of the source of product ingredients.

_____ Sales or other commercial/financial information.

_____ A draft product label.

_____ The product confidential statement of formula.

_____ Information about a pending registration action.

✓ FIFRA registration data.

_____ The document is a duplicate of page(s) _____.

_____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

MAT 7484 [or OMAT] was not detected in corn kernels at either fresh or dry harvest. The major metabolite in kernels was ^{14}C-glucose [from pyrimidinyl-2-^{14}C ring degradation] incorporated into starch, which accounted for 75% and 84% of the ^{14}C residue at fresh and dry harvest, respectively. The incorporation into glucose was demonstrated by formation of the radiolabeled phenylhydrazine derivative, phenyl glucosazone, which was compared to a reference standard in several TLC systems. Minor metabolites detected were TBHP-glucose conjugate, HTBHP conjugates, and TMAA; these each accounted for 1-3% of the residue at harvest. TMAA is not found in animals; however, TOX has indicated [conversation between R. Loranger and E. Doyle, 4/2/93] this is not a matter of concern.

MAT 7484, equivalent to 1% of the ^{14}C residue, was detected in corn forage; MAT 7484 was not detected [<0.01 ppm MAT equivalents] in corn fodder. OMAT was not detected in either the forage or fodder. The major metabolites found were HTBHP conjugates, TBHP, and TBHP-glucose conjugate; these accounted for 72% and 57% of the ^{14}C residues in the forage and fodder, respectively. Polar products accounted for an additional 14-19% of the residue.

The proposed metabolic pathway for the degradation of MAT 7484 in corn plants is shown in **Figure 4.** The O-P bond in MAT 7484 is cleaved by hydrolysis to yield TBHP, which is subsequently oxidized to HTBHP. These metabolites are extensively conjugated with endogenous materials, including glucose. Some TBHP is degraded to TMAA, which is further metabolized and incorporated into glucose and, ultimately, into starch. Oxidation of MAT 7484 into its oxygen analog, OMAT, was not detected; if it occurred, OMAT was apparently rapidly hydrolyzed to TBHP.

Conclusions:

The nature of the residue in corn plants has been adequately delineated. The residue of concern for regulatory purposes [based on observed residues] is parent MAT 7484 only.

Animals - Ruminants. A ruminant metabolism study ["The Metabolism of ^{14}C-MAT 7484 in Lactating Goats", 2/2/90, Mobay Report 99791, MRID 420054-78] was submitted. The performing lab was Mobay Corporation.

[Pyrimidinyl-2-^{14}C] MAT 7484 was administered orally by capsule on 3 consecutive days to each of two lactating goats at a rate [0.3 mg/kg body wt] equivalent to 10.4 ppm in feed. [The petitioner calculates this rate represents **2190X** the highest residue of MAT 7484 anticipated in corn treated at the maximum proposed field use rate of 0.15 lb ai/A; see Meat, Milk, Poultry, and Eggs Section. We concur with that calculation.]

Milk was collected twice daily, radioassayed, and then frozen stored [-15°C] for later [<12 months] sample preparation/analysis.

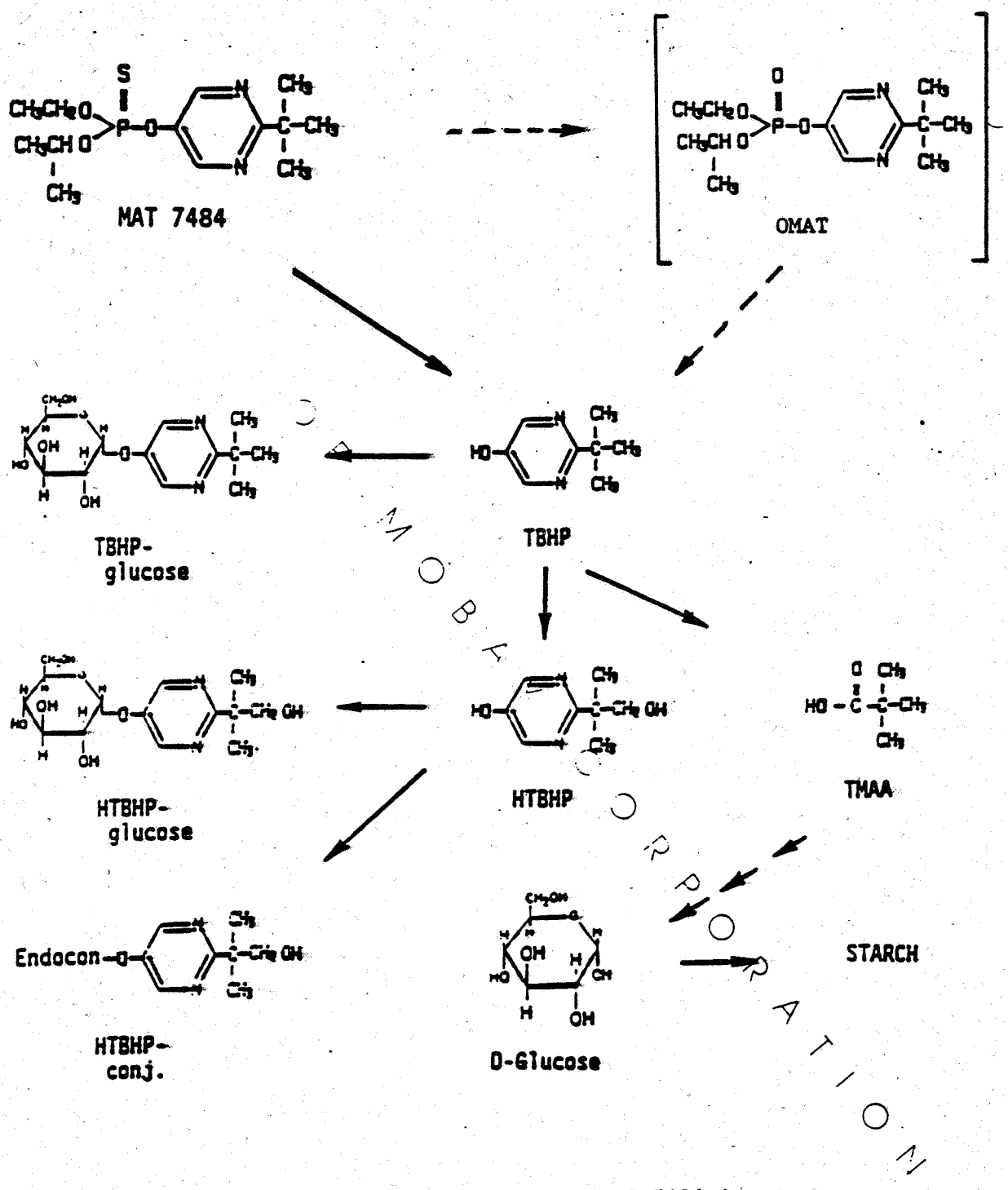


Figure 4. Proposed metabolic pathway for MAT 7484 in corn

Four hours following the third dose, the goats were sacrificed and liver, kidneys, and representative composites of muscle and fat were excised. Samples were diced, frozen, pulverized to powders, aliquots removed for radioassay, and the remainder frozen stored [-15°C] for later [<12 months] extraction and analysis.

Milk and tissue samples were extracted with a series of solvents, subjected to various clean-up/separation and hydrolysis procedures, and analyzed [radioassay, HPLC] to quantitate/identify residues. Identities of the major metabolites were confirmed by GC/MS.

Total radioactivity found in milk and tissues was 0.002-0.008 ppm in milk, 0.003 ppm in muscle, 0.007 ppm in fat, 0.050 ppm in liver, and 0.160 ppm in kidney.

Identification and quantitation of the total radioactivity showed it to be distributed [% ^{14}C] as follows:

	Kidney	Liver	Fat	Muscle	Milk[7]
MAT 7484	0	23	62	38	69, 36
OMAT	0	1	2	<1	1, 4
TBHP	3	8	5	0	8, 12
HTBHP	6	15	12	39	9, 21
Conjugate 1[1]	56	10	6	--	--
Conjugate 2[2]	12	--	--	14	--
Unidentified Metabolites	20[3]	35[4]	3[5]	4[6]	6, 16[8]
Unextractable	3	1	10	0	7, 10
Aqueous	--	5	--	5	--, --
TOTAL:	100	98	100	100	100, 99

[1] A mixture of conjugates; base hydrolysis released TBHP and HTBHP.
[2] A sulfate conjugate of TBHP.
[3] 4 metabolites: 6, 5, 8, and 1%.
[4] 8 metabolites: 9, 6, 6, 4, 3, 3, 3, and 1%. Acid hydrolysis converted these to TBHP, HTBHP, or very polar material.
[5] 1 metabolite
[6] 2 metabolites: 2% each.
[7] Reported separately for each goat.
[8] 4 metabolites: 1, 2, 2, 1% and 2, 12, 1, 1%.

MAT 7484 was found in milk and all tissues except kidney. OMAT was also found in milk and all tissues except kidney, but at very low levels. The major metabolites found in milk and tissues were TBHP, HTBHP, and their conjugates.

The proposed metabolic pathway for MAT 7484 in goats is shown in **Figure 5.** The initial step in ruminant metabolism can be either cleavage of the O-P bond by hydrolysis to yield TBHP, or oxidation to OMAT followed by cleavage of its O-P bond by hydrolysis to yield TBHP. The TBHP can be oxidized to HTBHP. Both TBHP and HTBHP form conjugates. [Alternatively, MAT 7484 can be initially oxidized at the tert-butyl group, followed by hydrolysis to yield HTBHP; the required intermediate for this pathway was not observed.]

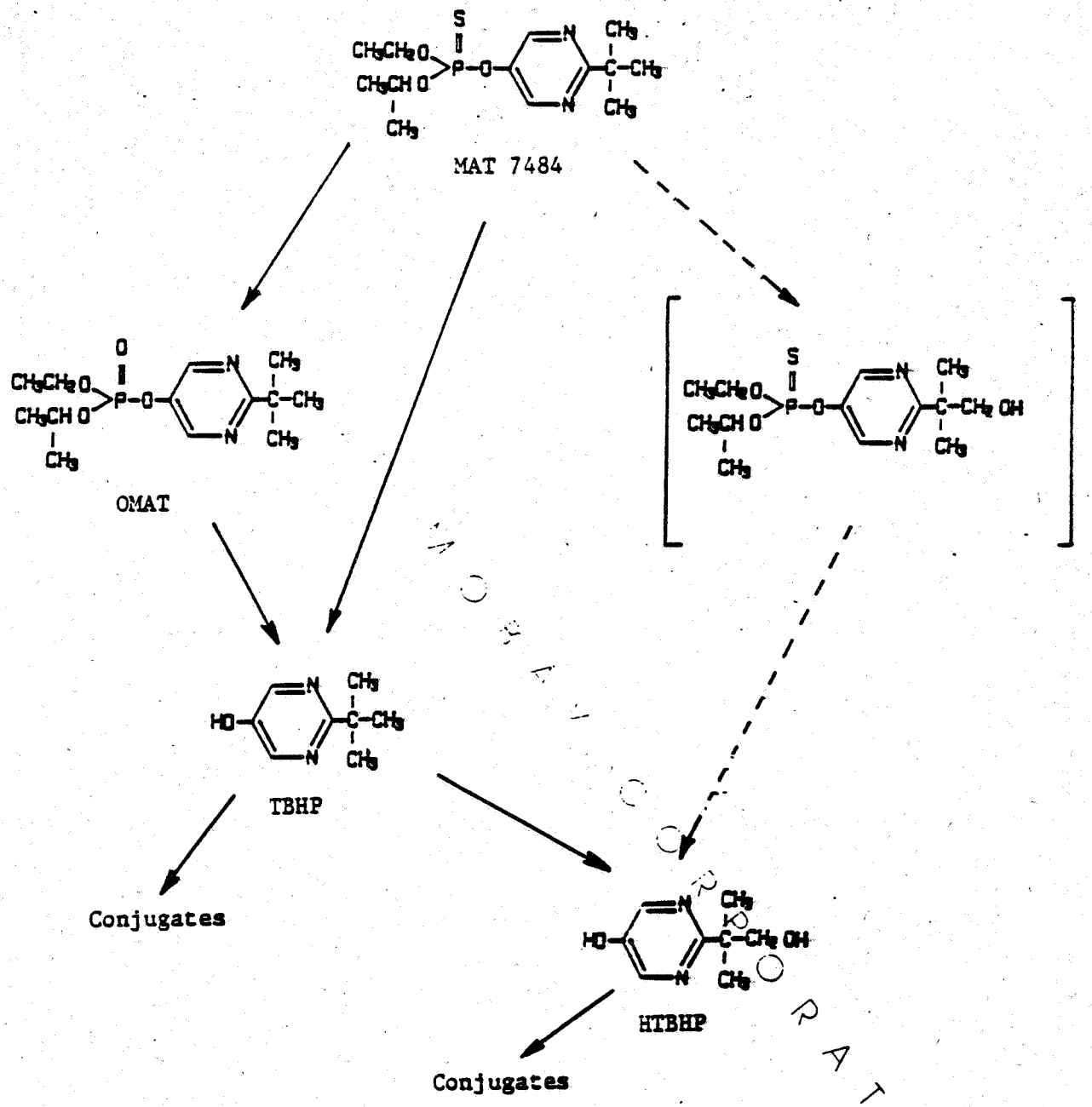


Figure 5. Proposed metabolic pathway for MAT 7484 in goats.

Toxicology Branch has been consulted about the residue of toxicological concern in plants and animals. [Conversation between M. Nelson and E. Doyle, 3/25/93.] Other than parent MAT 7484, only OMAT--where present--was considered to warrant regulation.

Conclusions:

The nature of the residue in ruminants has been adequately delineated. The residue of concern [based on observed residues] for regulatory purposes would be MAT 7484 and its oxygen analog OMAT. However, regulation of residues in animal commodities is not needed at this time; see Meat, Milk, Poultry, and Eggs.

Animals - Poultry. A poultry metabolism study ["The Metabolism of ^{14}C MAT 7484 in Laying Hens", 3/17/90, Mobay Report 100107, MRID 420054-79] was submitted. The performing lab was Mobay Corporation.

[Pyrimidinyl-2-^{14}C] MAT 7484 was administered orally by capsule on 3 consecutive days to each of 15 laying hens at a rate [1.05 mg/kg avg body wt] equivalent to 21 ppm in feed. [The petitioner calculates this rate represents **15,000X** the highest residue of MAT 7484 anticipated in corn treated at the maximum proposed field use rate of 0.15 lb ai/A; see Meat, Milk, Poultry, and Eggs Section. We concur with that calculation.]

Eggs were collected daily and broken and mixed to form a composite sample; aliquots were removed for radioassay and the rest frozen stored [≤-10°C] for later [<6 months] sample preparation/analysis.

Three hours after the third dose, the hens were sacrificed, plucked, and skin, composite muscle, composite fat, heart, liver, kidney, and gizzard [minus contents and lining] were removed. All samples were diced, frozen, composited by tissue type [skin, muscle, and gizzard pulverized to powders], aliquots removed for radioassay, and the rest frozen stored [≤-10°C] for later [<6 months] extraction/analysis.

Egg and tissue samples were extracted with a series of solvents, subjected to various clean-up/separation and hydrolysis procedures, and analyzed [radioassay, HPLC] to quantitate/identify residues. Identities of the major metabolites were confirmed by GC/MS.

Total radioactivity reported in egg and tissues was:

Matrix	Ppm	Matrix	Ppm
Eggs		Fat	0.024
Day 1	0.001	Skin	0.037
Day 2	0.005	Gizzard	0.131
Muscle	0.011	Kidney	0.519
Heart	0.016	Liver	0.778

Identification and quantitation of the total radioactivity showed it to be distributed [% ^{14}C] as follows:

	Kidney	Liver	Fat	Muscle	Skin	Heart	Gizzard	Eggs
MAT 7484	1	<1	61	2	2	8	61	0
OMAT	0	0	0	0	0	0	0	0
TBHP	10	22	11	7	3	18	4	0
HTBHP	11	38	9	43	15	27	5	0
Conj. 1[1]	14	--	--	11	11	13	-	-
Conj. 2[2]	--	--	4	--	39	3	-	-
Unknowns	58[3]	28[4]	9[5]	30[6]	19[7]	21[8]	<25[9]	89[10]
Unextract.	6	10	5	9	12	10	5	10
TOTAL:	100	98	99	102	101	100	<100	99

[1] Sulfate conjugate of HTBHP [aka K2, S2, M2, H1] ± polar material.
[2] Sulfate conjugate of TBHP [aka F2, S1, H4].
[3] 10 metabolites [mainly sulfate conjugates], 2 at >10% each of the total residue. Hydrolysis [acid, base, sulfatase] released TBHP, HTBHP, an unidentified hydrolysis product, and polar material.
[4] 9 metabolites, none representing >6% of the total radioactivity.
[5] 3 metabolites, none representing >6% of the total radioactivity.
[6] 4 metabolites at 12, 8, 8, and 2% of the total radioactivity.
[7] 3 metabolites, none representing >9% of the total radioactivity.
[8] 7 metabolites, none representing >9% of the total radioactivity.
[9] 9 metabolites, none representing >7% of the total radioactivity.
[10] 2 metabolites; acid hydrolysis yielded HTBHP.

MAT 7484 was found in all tissues, but not eggs. OMAT was not found in any tissue or eggs. The major metabolites found in tissues and eggs were TBHP, HTBHP, and their conjugates.

The proposed metabolic pathway for MAT 7484 in chickens is shown in **Figure 6.** The initial step in poultry metabolism can be either cleavage of the O-P bond by hydrolysis to yield TBHP, or oxidation to OMAT [not observed] followed by cleavage of its O-P bond by hydrolysis to yield TBHP. The TBHP can be oxidized to HTBHP. Both TBHP and HTBHP form conjugates. [Alternatively, MAT 7484 can be initially oxidized at the tert-butyl group, followed by hydrolysis to yield HTBHP; the required intermediate for this pathway was not observed.]

Conclusions:

The nature of the residue in poultry has been adequately delineated. The residue of concern for regulatory purposes [based on observed residues] would be parent MAT 7484 only; however, for the sake of consistency with the observed residue of concern in ruminants, both MAT 7484 and OMAT should be regulated in poultry. Regulation of residues in animal commodities is not needed at this time; see Meat, Milk, Poultry, and Eggs.

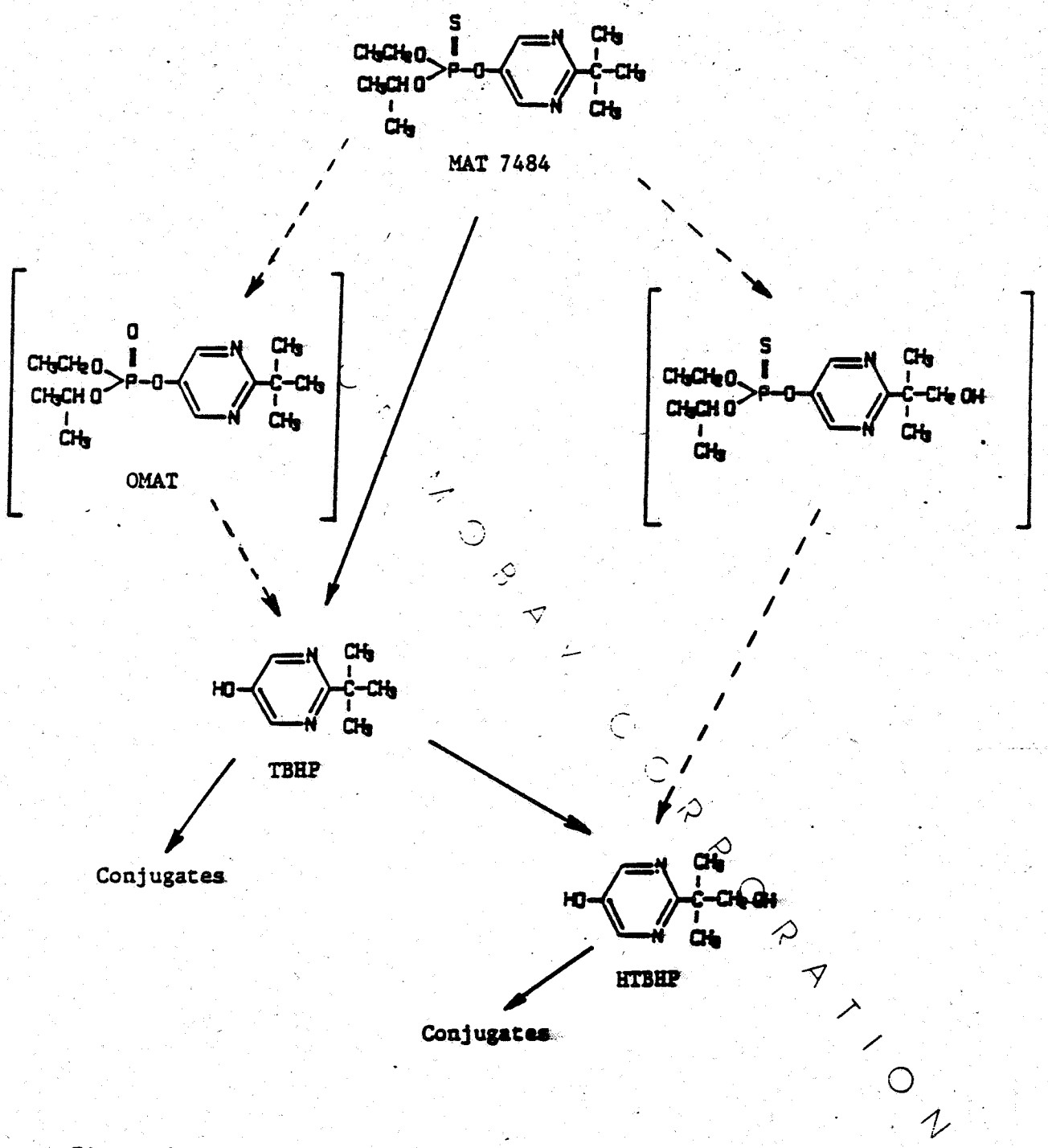


Figure 6. Proposed metabolic pathway for MAT 7484 in poultry.

ANALYTICAL METHODS

Corn Matrices. Residue data in all field and sweet corn commodities [fresh and processed] samples were obtained using the analytical procedure described in Mobay Report 100202 ["An Analytical Residue Method for the Determination of MAT 7484 and MAT 7484 Oxygen Analog {OMAT} in Corn", 6/20/90, MRID #420054-83].

Method 100202 is a GLC/FPD [phosphorous filter] procedure which has recently undergone successful petition method validation [PMV] of MAT 7484 [and OMAT] in corn grain and forage [see BEAD memo of 11/10/92, M. Law, PP#1F4025]. The following recoveries were reported:

Commodity	Spike (ppm)	%MAT 7484	%OMAT
Corn grain	0.01	102, 119	118, 118
	0.05	111, 107	107, 108
Corn forage	0.01	100, 108	108, 108
	0.05	99, 97	65, 74

No detectable residue [defined as <0.01 ppm] was reported in corn grain or forage control samples. BEAD estimates the actual limit of detection in corn commodities is 0.002 ppm for MAT 7484 [and 0.01 ppm for OMAT].

The following revisions to Method 100202 need to be made based upon the BEAD PMV report:

(1) The concentration of the calibration samples should be reduced to be more in line with expected sample recoveries; and,

(2) The method should specify some way of verifying the cleanliness of the GPC system prior to the injection of the sample extracts.

The petitioner should revise Method 100202 to address these two comments, and resubmit the method for review.

NOTE: If Method 100202 is used in future to enforce tolerances in/on commodities in which OMAT is a detectable residue [and part of the regulable residue], it would need to be further revised to incorporate this additional comment from BEAD:

(3) A comment should be inserted in the method indicating that the detector gas flows must be optimized for sensitivity to OMAT.

A description of the analytical procedure [Method 100202] and a table of recovery data from corn commodities are contained within the MAT 7484 document ["MAT 7484 DER"] attached to this review as Attachment 2. FID "N/P" mode detection is used as a confirmatory procedure.

Representative chromatograms and sample calculations are provided in the petition.

An independent lab validation of Method 100202 was conducted by ABC Laboratories ["Validation of Mobay Report 100202 According to Provisions Stipulated in PR Notice 88-5", 11/27/90, Mobay Report 100325, MRID 420054-85]. No modifications were made to the method. Recovery values after spiking at 0.01 and 0.05 ppm levels were:

	% MAT 7484		% OMAT	
Corn Matrix	0.05 ppm	0.01 ppm	0.05 ppm	0.01 ppm
green forage	82, 88	90, 90	72, 76	70, 80
dry kernels	90, 100, 108	90, 120	82, 88, 104	70, 100

Forage and grain control samples showed no interference at the MAT 7484 or OMAT retention times; all control values were <0.01 ppm.

An interference study was also conducted by ABC Laboratories ["MAT 7484 Residue Analysis, Interference Study", 5/3/91, Mobay Report 101204, MRID 420054-84]. Method 100202 utilizes an FPD [phosphorous mode]; this detector is only sensitive to compounds containing phosphorous. Of the 102 pesticides registered for use on corn, only 22 contain phosphorous. Those 22 pesticides were prepared at their tolerance levels and tested for chromatographic interference with MAT 7484 [and OMAT].

Method 100202 was found to be specific for detecting MAT 7484 [and OMAT] in corn matrices in the presence of these competitor pesticides. Using the GLC conditions stated in the method, there were no interferences from 20 of the 22; interference from the remaining 2 [diazinon, disulfoton] was resolved by using a different gc column.

FDA multiresidue screening data ["MAT 7484 and MAT 7484 Oxygen Analog Multiresidue Method Testing", 8/20/89, Mobay Report 99715, MRID 420054-86] by Protocols C, D, and E were submitted. Protocol A was not required since MAT 7484 [and OMAT] are not N-methylcarbamates. Protocol B was not required since MAT 7484 [and OMAT] do not contain acid or phenolic structures. Test results have been forwarded to FDA [memo of M. Nelson, 12/9/92] for review of adequacy and updating of PAM I.

Conclusions:

(1) Analytical Method 100202 [GLC/FPD, phosphorous filter] for MAT 7484 [and OMAT] in corn matrices has successfully undergone PMV and is available for enforcement purposes [contingent upon incorporation of revisions stated below].

(2) The following revisions to Method 100202 need to be made based upon the BEAD PMV report:

(a) The concentration of the calibration samples should be reduced to be more in line with expected sample recoveries; and,

(b) The method should specify some way of verifying the cleanliness of the GPC system prior to the injection of the sample extracts.

The petitioner should revise Method 100202 to address these two comments, and resubmit the method for review.

NOTE: If Method 100202 is used <u>in future</u> to enforce tolerances in/on commodities in which OMAT is a detectable residue [and part of the regulable residue], it would need to be further revised to incorporate this additional comment from BEAD:

(c) A comment should be inserted in the method indicating that the detector gas flows must be optimized for sensitivity to OMAT.

(3) Method 100202 was found to be specific for detecting MAT 7484 [and OMAT] in corn matrices in the presence of other [registered] phosphorous-containing pesticides.

(4) FDA multiresidue screening data by Protocols C, D, and E were submitted. Test results have been forwarded to FDA for review and updating of PAM I.

<u>Animal Matrices</u>. No analytical method was submitted to determine residues of MAT 7484 in meat, milk, poultry, or eggs. The petitioner contends such methodology is not needed since tolerances on animal commodities are not warranted in conjunction with the proposed use. CBTS concurs; the proposed use results in a 40 CFR 180.6(a)(3) situation.

Conclusion:

Analytical methodology for animal commodities are not required in conjunction with the two petitions covered by this review.

<u>STORAGE STABILITY</u>

<u>Crop Matrices</u>. Corn field trial and processing study samples were frozen stored [ca -20°C] for 62-504 days prior to residue analysis [see Table 4, p. 7, of Attachment 2 (MAT 7484 DER)]. Corn ^{14}C metabolism study samples were frozen stored [-20°C] for 2-7 months prior to analysis.

A storage stability study [Mobay Report 101234, MRID 420054-87] with pyrimidinyl-2-^{14}C MAT 7484 [and OMAT] in corn commodities [milk-stage kernels, dry kernels, green forage, dry fodder] was submitted to support the field trial and processing studies, and the corn metabolism study. The study was conducted from 2/90 through 8/91.

Fortification was at 1.0 ppm; freezer storage at < -20°C; sampling intervals were 0, 1, 33, 123, 187, and 515 days. Extraction efficiency of the radioactive residues was 94-100% in kernels and 88-95% in forage and fodder. The % degradation in all matrices was 0-4% for MAT 7484 [4-15% for OMAT] throughout the study.

Storage stability data for pyrimidinyl-2-^{14}C MAT 7484 [and OMAT] residues in red beets, kale, and wheat heads [rotational crop matrices] stored [< -20°C] up to 475 days following fortification [1.0 ppm] were also included [MRID 420054-87]. Extraction efficiency of the radioactive residues was 89-100%. The % decomposition was 0-11% for MAT 7484 [and OMAT].

Conclusion:

Storage stability data for MAT 7484 [and OMAT] are available to support the stability of residues in stored corn matrices.

Animal Matrices. Goat [milk, tissue] ^{14}C metabolism study samples were frozen stored [ca -20°C] for <12 months prior to analysis and hen [egg, tissue] ^{14}C metabolism study samples for <6 months prior to analysis.

A report [Mobay Report 100128, MRID 420054-80] describing the stability of pyrimidinyl-2-^{14}C MAT 7484 [and OMAT] in cow tissues [liver, fat, kidney, muscle], milk, and eggs stored [1, 2, 3, 6, 9, or 12 months] under freezer conditions [< -20°C] after fortification [ca 1.2 ppm] was submitted to support the animal [goat, hen] metabolism studies. This stability study was run concurrently with the freezer storage of the metabolism study samples. Extraction efficiency of the radioactive residue in these matrices was ≥95%.

A maximum of 17% degradation of MAT 7484 was observed in the 1-month fat sample, with all other samples showing ≥90% MAT 7484 at all time points in all the matrices.

OMAT was stable (≥88%) in muscle, fat, milk, and eggs for 12 months, but was hydrolyzed to TBHP in liver [up to 95%] and kidney [up to 56%] during the 12 month study.

Conclusion:

Adequate storage stability has been demonstrated for MAT 7484 in animal matrices [and for OMAT in milk, eggs, muscle, and fat. OMAT has been shown to degrade rapidly in liver and more slowly in kidney tissues to TBHP during freezer storage].

RESIDUE DATA

A MAT 7484 data evaluation record [DER], "Magnitude of the residue in/on field and sweet corn and in field corn processed commodities", 12/21/92, has been prepared under CBTS's supervision by Dynamac Corporation (contractor), and is appended to this review as **Attachment 1** [which see for details]. The DER underwent secondary review and revision within CBTS, and reflects Branch policy.

Conclusions:

(1) The field trial data submitted for residues of MAT 7484 support the permanent [or temporary] tolerances requested by the petitioner:

Corn, fresh, includes sweet.....@ 0.01 ppm
Corn, grain, field and pop.....@ 0.01 ppm
Corn, forage and fodder, field, pop, and sweet...@ 0.01 ppm

in conjunction with the proposed use pattern.

(2) Food/feed additive tolerances for MAT 7484 residues in processed corn commodities were not requested, and are not needed [based on the processing study data].

RESIDUES IN MEAT, MILK, POULTRY, AND EGGS

Corn commodities may be used in feeding beef and dairy cattle [grain, forage, fodder, silage, sweet corn cannery waste, grain dust], swine and poultry [grain].

No detectable residues [<0.01 ppm] of MAT 7484 [or OMAT] were shown to occur in any corn commodity from the crop field trials [maximum rate, minimum preharvest interval] or the processing study [5X the proposed use rate].

Accordingly, conventional feeding studies [ruminant, poultry] were not conducted. In this instance, the metabolism studies submitted [goat, hen] may also serve as feeding studies.

The goat metabolism study was conducted at a rate equivalent to 10.4 ppm in feed. This value is **2190X** the daily dietary burden that would be expected when feeding corn commodities treated with MAT 7484 at the maximum proposed field use rate [0.15 lb ai/A]. [See **Attachment 2** for calculation.]

Residue levels of MAT 7484 [and OMAT] in tissues and milk from goats treated with [pyrimidyl-2-^{14}C] MAT 7484 were reported as:

	Ppm ^{14}C	Percent		Ppm-1		Ppm-2	
Matrix	Residue	MAT	OMAT	MAT	OMAT	MAT	OMAT
Kidney	0.160	0	0	0	0	0	0
Liver	0.050	23	1	0.012	0.0005	0.000005	0.0000002
Fat	0.007	62	2	0.004	0.0001	0.000002	<0.0000001
Muscle	0.003	38	<1	0.001	<0.0001	0.000001	<0.0000001
Milk	0.008	69	4	0.006	0.0003	0.000003	0.0000001

Ppm-1 = Ppm residue at rate dosed in feed [10.4 ppm]
Example: Liver: 0.050 ppm x 23% = 0.012 ppm

Ppm-2 = Ppm residue at maximum label use rate [Ppm-1 ÷ 2190X]
Example: Liver: 0.012 ppm ÷ 2190X = 0.000005 ppm

The poultry metabolism study was conducted at a rate equivalent to 21 ppm in feed. This value is **15,000X** the daily dietary burden that would be expected when feeding corn kernels treated with MAT 7484 at the maximum proposed field use rate [0.15 lb ai/A]. [See **Attachment 2** for calculation.]

Residue levels of MAT 7484 [and OMAT] in tissues and eggs from hens treated with [pyrimidyl-2-^{14}C] MAT 7484 were reported as:

Matrix	Ppm ^{14}C Residue	Percent		Ppm-1		Ppm-2	
		MAT	OMAT	MAT	OMAT	MAT	OMAT
Liver	0.778	<1	0	<0.008	0	<0.0000005	0
Kidney	0.519	1	0	0.005	0	0.0000003	0
Gizzard	0.131	61	0	0.080	0	0.000005	0
Skin	0.037	2	0	<0.001	0	<0.0000001	0
Fat	0.024	61	0	0.015	0	0.000001	0
Heart	0.016	8	0	0.001	0	<0.0000001	0
Muscle	0.011	2	0	<0.001	0	<0.0000001	0
Eggs	0.005	0	0	0	0	0	0

Ppm-1 = Ppm residue at rate dosed in feed [21 ppm]
Example: Fat: 0.024 ppm x 61% = 0.015 ppm

Ppm-2 = Ppm residue at maximum label use rate [Ppm-1 ÷ 15,000X]
Example: Fat: 0.015 ppm ÷ 15,000X = 0.000001 ppm

These metabolism studies demonstrate that residues of MAT 7484 [or OMAT] well below the limit of detection [0.01 ppm] are to be expected in meat, milk, poultry, and eggs from the feeding of corn commodities treated at the maximum proposed label use rate [0.15 lb ai MAT 7484 per acre].

Conclusions:

(1) We concur that conventional feeding studies for MAT 7484 are not required to support the proposed use on corn.

(2) The metabolism studies demonstrate there is no reasonable likelihood of secondary residues occurring in meat, milk, poultry, or eggs as a result of the proposed use on corn; category 3 of 40 CFR 180.6(a) applies.

(3) There is no need for tolerances or analytical methods for meat, milk, poultry, or eggs in conjunction with the proposed use on corn.

i

24

CODEX HARMONIZATION

An international residue limits [IRL] status sheet is appended to this review as **Attachment 3.** There are no IRLs for MAT 7484 in/on any crop.

Conclusion: Harmonization with Codex is not an issue.

OTHER CONSIDERATIONS

A DRES run will need to be conducted by SAB/HED. It will be requested when all outstanding deficiencies have been resolved.

Conclusion:

A DRES run is needed. It will be requested when all deficiencies have been resolved.

ATTACHMENT (1): MAT 7484 Data Evaluation Record
(2): Calculations of the Dose Exaggeration Values in the Corn, Goat, and Poultry Metabolism Studies.
(3): International Residue Limits Status Sheet
(4): **CONFIDENTIAL APPENDIX**

cc (**without Attachment 4**): Circ, Dynamac

cc (with **all** Attachments): M. Nelson, RF, PP#1F4025, PP#2G4048, SF, CCB/HED (Kocialski).

H7509C:CBTS:MJN:mjn:CM#2:804:305-7324:**4025MAT.RC1**:3/26/93.
RDI:SecHd:RSQuick:3/26/93:BrSrScientist:RALoranger:4/2/93.

ATTACHMENT 1

DYNAMAC CORPORATION
Environmental Services

Final Report

MAT 7484
PP#1F4025/2G4048

TASK 4
Data Evaluation Record

December 21, 1992

Contract No. 68-D2-0053

Submitted to:
U.S. Environmental Protection Agency
Arlington, VA 22202

Submitted by:
Dynamac Corporation
The Dynamac Building
2275 Research Boulevard
Rockville, MD 20850-3268

DATA EVALUATION RECORD

STUDY TYPE: Magnitude of the residue in or on field and sweet corn and in field corn processed commodities.

MRID NOS: 420054-88 through 420054-96

AUTHORS, REPORT TITLES, STUDY I.D. NOS, & DATES OF REPORTS:

42005488. W.L. Leslie. Magnitude of the residue on U.S. field corn, band application. Laboratory ID Nos. 38976-1 and 38976-2. Mobay Project ID No. M419C002. Mobay Report No. 100341. 2/27/91.

42005489. W.L. Leslie. Magnitude of the residue on Canadian field corn, band application. Laboratory ID Nos. 39062-1 and 39062-2. Mobay Project ID No. M419C006. Mobay Report No. 101201. 4/2/91.

42005490. W.L. Leslie. Magnitude of the residue on U.S. field corn, in-furrow application. Laboratory ID Nos. 39128-1 and 39128-2. Mobay Project ID No. M419C004a. Mobay Report No. 100362. 2/27/91.

42005491. W.L. Leslie. Magnitude of the residue on Canadian field corn, in-furrow application. Laboratory ID Nos. 39130-1 and 39130-2. Mobay Project ID No. M419C007. Mobay Report No. 101208. 4/3/91.

42005492. W.L. Leslie. Magnitude of the residue on US sweet corn and sweet corn processed product, band application. Laboratory ID Nos. 38979-1 and 38979-2. Mobay Project ID No. M419C001. Mobay Report No. 100342. 2/28/91.

42005493. W.L. Leslie. Magnitude of the residue on Canadian sweet corn and sweet corn processed product, band application. Laboratory ID Nos. 39063-1 and 39063-2. Mobay Project ID No. M419C009. Mobay Report No. 101207. 4/4/91.

42005494. W.L. Leslie. Magnitude of the residue on US sweet corn and sweet corn processed product, in-furrow application. Laboratory ID Nos. 39129-1 and 39129-2. Mobay Project ID No. M419C004b. Mobay Report No. 100363. 2/28/91.

AUTHORS, REPORT TITLES, STUDY I.D. NOS., & DATES OF REPORTS *[Continued]*:

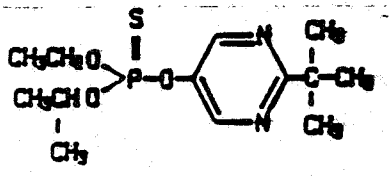
42005495. W.L. Leslie. Magnitude of the residue on Canadian sweet corn and sweet corn processed product, in-furrow application. Laboratory Project ID Nos. 39131-1 and 39131-2. Mobay Project ID No. M419C008. Mobay Report No. 101202. 4/4/91.

42005496. W.L. Leslie. Magnitude of the residue on field corn processed products. Laboratory ID Nos. 38980-1 and 39178-1. Mobay Project ID Nos. M419C003 & M419C005. Mobay Report No. 101206. 3/22/91.

PP#, REG. NO., ETC.: PP#1F4025/2G4048

FORMULATION NAME: AZTEC 2.1 G
Percent active ingredient: 2% MAT 7484 and 0.1% cyfluthrin

TEST MATERIALS APPLIED TO CROP: MAT 7484 [O-(2-(1,1-dimethylethyl)-5-pyrimidinyl)-O-ethyl-O-(1-methylethyl)phosphorothioate; CAS No. 96182-53-5]



and cyfluthrin [cyano(4-fluoro-3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethyl-cyclopropanecarboxylate; CAS No. 68359-37-5]

RESIDUES MEASURED: MAT 7484 and MAT 7484 oxygen analog [O-(2-(1,1-dimethylethyl)-5-pyrimidinyl)-O-ethyl-O-(1-methylethyl) phosphate
[Note: Residue data for cyfluthrin are presented in a separate DER.]

TESTING LABORATORIES: Analytical Bio-Chemistry Laboratories, Inc, Columbia, MO. (Samples from field residue trials)

STUDY SPONSOR: Mobay Corporation, Agricultural Chemicals Division, Kansas City, MO.

SUMMARY OF DATA

Field corn: Mobay submitted data (1991; MRIDs 42005488-42005491) from field residue trials conducted between 1989 and 1990 depicting residues of MAT 7484 and MAT 7484 oxygen analog in or on field corn grain and fodder. In 16 trials conducted in IL(2), IN(2), IA(1), KS(2), MN(1), NE(2), TX(2), and Ontario, Canada (ON;4), field corn was treated with a single soil band or in-furrow application at planting of the 2% G formulation (AZTEC 2.1 G) at 0.0125 g ai/m of row, which is equivalent to 0.0084 lb ai/1,000 feet of row or 0.159 lb ai/A (with a 30 inch row spacing); tests conducted in MN and TX utilized slightly higher rates (0.014 g ai/meter of row). *[Note: The recommended label use rate on corn is 0.0088 lb ai/1,000 feet of row.]* Field corn grain and fodder samples were harvested 101-174 days posttreatment.

Residues of MAT 7484 and its oxygen analog are presented in Table 1. The residue values presented in this table are not corrected for method recovery. According to Table II of Subdivision O Guidelines, the raw agricultural commodities of field corn are grain, forage, fodder, and silage; CBTS does not require data or a tolerance for silage since data for forage and fodder, when available, are considered sufficient.

Table 1. Residues of MAT 7484 and MAT 7484 oxygen analog in or on field corn grain and fodder samples harvested 101-174 days following a single soil band or in-furrow application of the 2% G formulation (AZTEC 2.1G) at 0.0084 lb ai/1,000 feet of row.

Matrix	Application Method	Test Locations	Number of Samples	PTI (Days)	Residues (ppm)	
					MAT 7484	Oxygen analog
Grain	Soil band	IL, IN, IA, KS, MN, NE, TX, ON	10	101-174	<0.01	<0.01
Grain	In-furrow	IN, IL, KS, NE, TX, ON	6	120-162	<0.01	<0.01
Grain	Untreated	IL, IN, IA, KS, MN, NE, TX, ON	16		<0.01	<0.01
Fodder	Soil band	IL, IN, IA, KS, MN, NE, TX, ON	10	101-174	<0.01	<0.01
Fodder	In-furrow	IL, IN, KS, NE, TX, ON	6	120-162	<0.01	<0.01
Fodder	Untreated	IL, IN, IA, KS, MN, NE, TX, ON	16		<0.01	<0.01

Geographic representation for the field corn trials is adequate since the test states of IL(17%), IN(9%), IA(20%), KS(2%), MN(10%), NE(12%), and TX(2%) accounted for ca. 70% of the 1990 U.S. field corn production (USDA Agricultural Statistics, 1991).

Mobay also submitted data (1991; MRID 42005496) from a processing study conducted between 1989 and 1990 depicting residues of MAT 7484 and its oxygen analog in the processed commodities of field corn. Field corn grain samples were harvested 121 and 169 days following the last of a single soil band application of the 2% G formulation (Aztec 2.1G) at 0.0624 g ai/m of row, which is equivalent to 0.042 lb ai/1,000 feet of row or 0.8 lb ai/A (5x the maximum recommended label rate). Field corn grain samples were wet- and dry-processed by the Food Protein Research and Development Center at Texas A&M University (College Station, TX) according to simulated commercial practices.

Residues of MAT 7484 and its oxygen analog were nondetectable (<0.01 ppm each) in or on two samples of field corn grain; in one sample each of flour, grits (small, medium, and large), meal (including coarse meal), and starch; in one sample each of crude and refined oil from dry processing; and in one sample each of crude and refined oil from wet processing. Apparent residues of MAT 7484 and its oxygen analog were nondetectable (<0.01 ppm each) in or on two samples of untreated field corn grain and in the following commodities processed from untreated grain: one sample each of flour, grits (small, medium, and large), meal (including coarse meal), and starch; in one sample each of crude and refined oil from dry processing; and in one sample each of crude and refined oil from wet processing. The petitioner stated that analyses for grain dust were not conducted because soil applications of cyfluthrin are not expected to result in measurable surface residues on the grain.

Sweet corn: Mobay submitted data (1991; MRIDs 42005492-4205495) from field residue trials conducted in 1989 and 1990 depicting residues of MAT 7484 and MAT 7484 oxygen analog in or on sweet kernels, cobs, and forage. In 16 trials conducted in CA(1), FL(2), IL(1), MN(2), NY(2), OR(1), WA(1), WI(2), and ON(4), field corn was treated with a single soil band or in-furrow application at planting of the 2% G formulation (AZTEC 2.1G) at 0.0125 g ai/m of row, which is equivalent to 0.0084 lb ai/1,000 feet of row or 0.159 lb ai/A (with a 30 inch row spacing). *[Note: The recommended label use rate on corn is 0.0088 lb ai/1,000 feet of row.]* Sweet corn forage, kernel, and cob samples were harvested 58-103 days posttreatment.

Residues of MAT 7484 and its oxygen analog are presented in Table 2. The residue values presented in this table are not corrected for method recovery. According to Table II of Subdivision O Guidelines, the raw agricultural commodities of sweet corn are sweet corn (kernels plus cob with husk removed) and forage. The registrant stated that residues in sweet corn cannery waste were not determined because no detectable residues of MAT 7484 or its oxygen analog were found in any sweet corn cob or forage sample. CBTS does not require data for the cannery waste of sweet corn if forage data are available.

Table 2. Residues of MAT 7484 and its oxygen analog in or on sweet corn kernels, cobs, and forage samples harvested 58-103 days following a single soil band or in-furrow application of the 2% G formulation (AZTEC 2.1G) at 0.0084 lb ai/1,000 feet of row.

Matrix	Application Method	Test Locations	Number of Samples	PTI (Days)	Residues (ppm)
Kernels	Soil band	FL, IL, MN, NY, OR, WA, WI, ON	10	61-103	<0.01
Kernels	In-furrow	CA, FL, MN, NY, WI, ON	6	58-99	<0.01
Kernels	Untreated	CA, FL, IL, MN, NY, OR, WA, WI, ON	16		<0.01
Cobs	Soil band	FL, IL, MN, NY, OR, WA, WI, ON	10	61-103	<0.01
Cobs	In-furrow	CA, FL, MN, NY, WI, ON	6	58-99	<0.01
Cobs	Untreated	CA, FL, IL, MN, NY, OR, WA, WI, ON	16		<0.01
Forage	Soil band	FL, IL, MN, NY, OR, WA, WI, ON	10	61-103	<0.01
Forage	In-furrow	CA, FL, MN, NY WI, ON	6	58-99	<0.01
Forage	Untreated	CA, FL, IL, MN, NY, OR, WA, WI, ON	16		<0.01

Geographic representation for the sweet corn field trials is adequate since the test states of CA(2%), FL(8%), IL(5%), MN(19%), NY(7%), OR(10%), WA(12%), and WI(20%) accounted for ca. 80% of the 1990 U.S. sweet corn production (USDA Agricultural Statistics, 1991).

Residue Analytical Methods

Residues of MAT 7484 and MAT 7484 oxygen analog in all field and sweet corn commodities were determined by Analytical Bio-Chemistry Laboratories using gas chromatography with flame photometric detection (GC/FPD) according to the method in Mobay Report No. 100202 (MRID 420054-83). Briefly, samples are extracted with acetone:water (9:1, v:v), filtered, and partitioned with methylene chloride. Methylene chloride fractions are purified by gel permeation chromatography (GPC). The GPC eluates are evaporated, resuspended in acetone, and quantified by GC/FPD (phosphorous filter) on a DB-1 megabore column. The limits of detection are 0.01 ppm each for MAT 7484 and its oxygen analog in the field and sweet corn matrices analyzed. Representative chromatograms and sample calculations were included. Method recoveries of MAT 7484 and MAT 7484 oxygen analog from field and sweet corn commodities are presented in Table 3.

Table 3. Method recoveries of MAT 7484 and MAT 7484 oxygen analog from field and sweet corn commodities.

Commodity	Number of Samples	MAT 7484		Oxygen analog	
		Fort. (ppm)	Recovery (%)	Fort. (ppm)	Recovery (%)
Field corn					
Grain	10	0.01-0.1	85-120	0.01-0.1	70-105
Fodder	9	0.01-0.1	70-110	0.01-0.1	75-110
Grain (processing study)	2	0.01, 0.1	96, 97	0.01, 01	92, 94
Grits	4	0.01-0.05	80-100	0.01-0.05	70-98
Flour	4	0.01-0.05	70-90	0.01-0.05	70-90
Meal	2	0.1	83, 88	0.1	83, 87
Starch	5	0.01-0.05	110-120	0.01-0.05	110-120
Crude oil	4	0.01	80-90	0.01	100-110
Refined Oil	2	0.01	80, 90	0.01	100, 120
Sweet corn					
Kernels	9	0.01-0.1	76-100	0.01-0.1	75-110
Cobs	8	0.01-0.1	88-108	0.01-0.1	100-108
Forage	9	0.01-0.1.	82-113	0.01-0.1	70-115

Storage Stability Data

All field corn and sweet corn commodity samples were stored frozen at ca. -20° C prior to analysis. The storage intervals for each commodity are presented in Table 4.

Storage stability data (Mobay Report No. 99776, MRID 420054-77; and, Mobay Report No. 101234, MRID 420054-87) pertaining to field corn grain, sweet corn kernels, corn forage and fodder were submitted to support the field trial and processing studies. Those data indicate that residues of MAT 7484 and its oxygen analog are stable (96-100%, MAT 7484; 85-96%, MAT 7484 oxygen analog) for up to 515 days when stored frozen at -20° C.

Table 4. Sample storage intervals between harvest and analysis of field and sweet corn commodities stored at ca. -20 C.

Commodity		Storage Interval (Days)*
Field corn		
	Grain	62-369
	Fodder	81-368
	Grain (processing study)	83, 449
	Grits	427, 428
	Flour	411
	Meal	410
	Starch	83
	Crude oil	143, 504
	Refined oil	143, 504
Sweet corn		
	Kernel	76-493
	Cobs	92-457
	Forage	91-445

* Calculated by the study reviewer.

MAT 74[illegible] Field and Sweet Corn (Sorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Storage Temp.
42005488	89	-	4	Field corn	Fodder	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	70-110	80-110	-	-
42005488	89	IA	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IL	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IL	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	KS	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	KS	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	MN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	NE	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1(2)	0.1(2)	88, 89	79, 93	-	ca. -20 C
42005490	90	NE	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005489	89	ON	3	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	80	75	-	ca. -20 C
42005491	90	ON	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	94	93	-	ca. -20 C
42005490	90	TX	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	108	95	-	ca. -20 C
42005488	89	TX	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IL	1	Field corn	Fodder	In-furrow	1	0.159	153	<0.01	<0.01					-	ca. -20 C
42005490	90	IN	1	Field corn	Fodder	In-furrow	1	0.159	152	<0.01	<0.01					87	ca. -20 C
42005490	90	KS	1	Field corn	Fodder	In-furrow	1	0.159	153	<0.01	<0.01					86	ca. -20 C
42005490	90	NE	1	Field corn	Fodder	In-furrow	1	0.159	162	<0.01	<0.01					99	ca. -20 C
42005491	90	ON	1	Field corn	Fodder	In-furrow	1	0.159	148	<0.01	<0.01					81	ca. -20 C
42005490	90	TX	1	Field corn	Fodder	In-furrow	1	0.159	120	<0.01	<0.01					98	ca. -20 C
42005488	89	IA	1	Field corn	Fodder	Soil band	1	0.159	147	<0.01	<0.01					106	ca. -20 C
42005488	89	IL	1	Field corn	Fodder	Soil band	1	0.159	140	<0.01	<0.01					329	ca. -20 C
42005488	89	IN	1	Field corn	Fodder	Soil band	1	0.159	152	<0.01	<0.01					337	ca. -20 C
42005488	89	KS	1	Field corn	Fodder	Soil band	1	0.159	174	<0.01	<0.01					336	ca. -20 C
42005488	89	MN	1	Field corn	Fodder	Soil band	1	0.159	152	<0.01	<0.01					336	ca. -20 C
42005488	89	NE	1	Field corn	Fodder	Soil band	1	0.159	148	<0.01	<0.01					330	ca. -20 C
42005489	89	ON	3	Field corn	Fodder	Soil band	1	0.159	141-147	<0.01	<0.01					342	ca. -20 C
42005488	89	TX	1	Field corn	Fodder	Soil band	1	0.159	101	<0.01	<0.01					368	ca. -20 C
42005488	89	-	4	Field corn	Grain	-	-	-	-	-	-	0.02	0.02	85	80	283	ca. -20 C
42005489	89	ON	5	Field corn	Grain	-	-	-	-	-	-	0.01-0.05(5)	0.01-0.05(5)	90-120	70-104	-	-
42005488	89	IA	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	-
42005488	89	IL	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IL	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	MN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	NE	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	100	98	-	ca. -20 C
42005488	89	NE	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	109	105	-	ca. -20 C
42005489	89	ON	3	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005491	90	ON	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	85	79	-	ca. -20 C
42005490	90	TX	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	101	73	-	ca. -20 C
42005488	89	TX	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C

MAT 7484 Field and Sweet Corn (Sorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Temp.
42005490	90	IL	1	Field corn	Grain	In-furrow	1	0.159	153	<0.01	<0.01					68	ca. -20 C
42005490	90	IN	1	Field corn	Grain	In-furrow	1	0.159	152	<0.01	<0.01					67	ca. -20 C
42005490	90	KS	1	Field corn	Grain	In-furrow	1	0.159	153	<0.01	<0.01					80	ca. -20 C
42005490	90	NE	1	Field corn	Grain	In-furrow	1	0.159	162	<0.01	<0.01					62	ca. -20 C
42005491	90	ON	1	Field corn	Grain	In-furrow	1	0.159	148	<0.01	<0.01					99	ca. -20 C
42005490	90	TX	1	Field corn	Grain	In-furrow	1	0.159	120	<0.01	<0.01					87	ca. -20 C
42005488	89	IA	1	Field corn	Grain	Soil band	1	0.159	147	<0.01	<0.01					343	ca. -20 C
42005488	89	IL	1	Field corn	Grain	Soil band	1	0.159	140	<0.01	<0.01					351	ca. -20 C
42005488	89	IN	1	Field corn	Grain	Soil band	1	0.159	152	<0.01	<0.01					336	ca. -20 C
42005488	89	KS	1	Field corn	Grain	Soil band	1	0.159	174	<0.01	<0.01					349	ca. -20 C
42005488	89	MN	1	Field corn	Grain	Soil band	1	0.159	152	<0.01	<0.01					344	ca. -20 C
42005488	89	NE	1	Field corn	Grain	Soil band	1	0.159	148	<0.01	<0.01					356	ca. -20 C
42005489	89	ON	3	Field corn	Grain	Soil band	1	0.159	141-147	<0.01	<0.01					369	ca. -20 C
42005488	89	TX	1	Field corn	Grain	Soil band	1	0.159	101	<0.01	<0.01					297	ca. -20 C
42005496	89	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.01, 0.1	0.01, 0.1	97, 96	94, 92	-	ca. -20 C
42005496	90	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Small grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Med grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Large grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Meal	-	-	CONTROL	-	<0.01	<0.01	0.1(2)	0.1(2)	83, 88	83, 87	-	ca. -20 C
42005496	89	KS	1	Field corn	Coarse meal	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Flour	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	90	KS	1	Field corn	Starch	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	118	115	-	ca. -20 C
42005496	89	KS	1	Field corn	Crude oil	-	-	CONTROL	-	<0.01	<0.01	0.01(4)	0.01(4)	80-90	100-110	-	ca. -20 C
42005496	90	KS	1	Field corn	Crude oil	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Refined oil	-	-	CONTROL	-	<0.01	<0.01	0.01(2)	0.01(2)	80, 90	100, 120	-	ca. -20 C
42005496	90	KS	1	Field corn	Refined oil	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Grain	Soil band	1	0.8	169	<0.01	<0.01					449	ca. -20 C
42005496	90	KS	1	Field corn	Grain	Soil band	1	0.8	121	<0.01	<0.01					83	ca. -20 C
42005496	89	KS	1	Field corn	Small grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Med grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Large grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Meal	Soil band	1	0.8	169	<0.01	<0.01					410	ca. -20 C
42005496	89	KS	1	Field corn	Coarse meal	Soil band	1	0.8	169	<0.01	<0.01					410	ca. -20 C
42005496	89	KS	1	Field corn	Flour	Soil band	1	0.8	169	<0.01	<0.01					411	ca. -20 C
42005496	90	KS	1	Field corn	Starch	Soil band	1	0.8	121	<0.01	<0.01					83	ca. -20 C
42005496	89	KS	1	Field corn	Crude oil	Soil band	1	0.8	169	<0.01	<0.01					504	ca. -20 C
42005496	90	KS	1	Field corn	Crude oil	Soil band	1	0.8	121	<0.01	<0.01					143	ca. -20 C
42005496	89	KS	1	Field corn	Refined oil	Soil band	1	0.8	169	<0.01	<0.01					504	ca. -20 C
42005496	90	KS	1	Field corn	Refined oil	Soil band	1	0.8	121	<0.01	<0.01					143	ca. -20 C
42005496	89	KS	4	Field corn	Grits	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	80-100	70-98	-	-
42005496	89	KS	4	Field corn	Flour	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	70-90	70-90	-	-
42005496	89	KS	4	Field corn	Starch	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	110-120	110-120	-	-

MAT 7484 Field and Sweet Corn (Sorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Storage Temp.
42005492	89	-	4	Sweet corn	Cobs	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	100-108	100-108	-	-
42005494	90	CA	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	MN	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	104	106	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	107	104	-	ca. -20 C
42005492	89	NY	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	NY	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005493	89	ON	3	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	111	107	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	88	87	-	ca. -20 C
42005492	89	OR	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	CA	1	Sweet corn	Cobs	In-furrow	1	0.159	72	<0.01	<0.01					125	ca. -20 C
42005494	90	FL	1	Sweet corn	Cobs	In-furrow	1	0.159	58	<0.01	<0.01					124	ca. -20 C
42005494	90	MN	1	Sweet corn	Cobs	In-furrow	1	0.159	78	<0.01	<0.01					109	ca. -20 C
42005494	90	NY	1	Sweet corn	Cobs	In-furrow	1	0.159	89	<0.01	<0.01					92	ca. -20 C
42005495	90	ON	1	Sweet corn	Cobs	In-furrow	1	0.159	99	<0.01	<0.01					99	ca. -20 C
42005494	90	WI	1	Sweet corn	Cobs	In-furrow	1	0.159	78	<0.01	<0.01					96	ca. -20 C
42005492	89	FL	1	Sweet corn	Cobs	Soil band	1	0.159	61	<0.01	<0.01					457	ca. -20 C
42005492	89	IL	1	Sweet corn	Cobs	Soil band	1	0.159	72	<0.01	<0.01					404	ca. -20 C
42005492	89	MN	1	Sweet corn	Cobs	Soil band	1	0.159	98	<0.01	<0.01					383	ca. -20 C
42005492	89	NY	1	Sweet corn	Cobs	Soil band	1	0.159	81	<0.01	<0.01					393	ca. -20 C
42005493	89	ON	3	Sweet corn	Cobs	Soil band	1	0.159	85	<0.01	<0.01					339-423	ca. -20 C
42005492	89	OR	1	Sweet corn	Cobs	Soil band	1	0.159	103	<0.01	<0.01					358	ca. -20 C
42005492	89	WA	1	Sweet corn	Cobs	Soil band	1	0.159	100	<0.01	<0.01					383	ca. -20 C
42005492	89	WI	1	Sweet corn	Cobs	Soil band	1	0.159	68	<0.01	<0.01					399	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	-	-	-	-	-	-	0.02	0.02	110	115	-	-
42005493	89	ON	5	Sweet corn	Forage	-	-	-	-	-	-	0.01-0.05(5)	0.01-0.05(5)	82-110	70-115	-	-
42005494	90	CA	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	105	100	-	ca. -20 C
42005492	89	MN	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	113	112	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	NY	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	NY	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005493	89	ON	3	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	104	106	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	96	92	-	ca. -20 C
42005492	89	OR	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C

MAT 7484 Field and Sweet Corn (Sorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Storage Temp.
42005494	90	CA	1	Sweet corn	Forage	In-furrow	1	0.159	72	<0.01	<0.01					124	ca. -20 C
42005494	90	FL	1	Sweet corn	Forage	In-furrow	1	0.159	58	<0.01	<0.01					123	ca. -20 C
42005494	90	MN	1	Sweet corn	Forage	In-furrow	1	0.159	78	<0.01	<0.01					108	ca. -20 C
42005494	90	NY	1	Sweet corn	Forage	In-furrow	1	0.159	89	<0.01	<0.01					91	ca. -20 C
42005495	90	ON	1	Sweet corn	Forage	In-furrow	1	0.159	99	<0.01	<0.01					98	ca. -20 C
42005494	90	WI	1	Sweet corn	Forage	In-furrow	1	0.159	78	<0.01	<0.01					95	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	Soil band	1	0.159	61	<0.01	<0.01					445	ca. -20 C
42005492	89	IL	1	Sweet corn	Forage	Soil band	1	0.159	72	<0.01	<0.01					393	ca. -20 C
42005492	89	MN	1	Sweet corn	Forage	Soil band	1	0.159	98	<0.01	<0.01					372	ca. -20 C
42005492	89	NY	1	Sweet corn	Forage	Soil band	1	0.159	81	<0.01	<0.01					382	ca. -20 C
42005493	89	ON	3	Sweet corn	Forage	Soil band	1	0.159	81	<0.01	<0.01					338-420	ca. -20 C
42005492	89	OR	1	Sweet corn	Forage	Soil band	1	0.159	103	<0.01	<0.01					347	ca. -20 C
42005492	89	WA	1	Sweet corn	Forage	Soil band	1	0.159	100	<0.01	<0.01					372	ca. -20 C
42005492	89	WI	1	Sweet corn	Forage	Soil band	1	0.159	68	<0.01	<0.01					377	ca. -20 C
42005492	89	-	4	Sweet corn	Kernels	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	90-100	90-110	-	-
42005494	90	CA	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	MN	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	99	104	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	76	75	-	ca. -20 C
42005492	89	NY	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	NY	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	96	95	-	ca. -20 C
42005493	89	ON	3	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	99	99	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	88	86	-	ca. -20 C
42005492	89	OR	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	CA	1	Sweet corn	Kernels	In-furrow	1	0.159	72	<0.01	<0.01					110	ca. -20 C
42005494	90	FL	1	Sweet corn	Kernels	In-furrow	1	0.159	58	<0.01	<0.01					93	ca. -20 C
42005494	90	MN	1	Sweet corn	Kernels	In-furrow	1	0.159	78	<0.01	<0.01					95	ca. -20 C
42005494	90	NY	1	Sweet corn	Kernels	In-furrow	1	0.159	89	<0.01	<0.01					76	ca. -20 C
42005495	90	ON	1	Sweet corn	Kernels	In-furrow	1	0.159	99	<0.01	<0.01					99	ca. -20 C
42005494	90	WI	1	Sweet corn	Kernels	In-furrow	1	0.159	78	<0.01	<0.01					97	ca. -20 C
42005492	89	FL	1	Sweet corn	Kernels	Soil band	1	0.159	61	<0.01	<0.01					493	ca. -20 C
42005492	89	IL	1	Sweet corn	Kernels	Soil band	1	0.159	72	<0.01	<0.01					441	ca. -20 C
42005492	89	MN	1	Sweet corn	Kernels	Soil band	1	0.159	98	<0.01	<0.01					419	ca. -20 C
42005492	89	NY	1	Sweet corn	Kernels	Soil band	1	0.159	81	<0.01	<0.01					429	ca. -20 C
42005493	89	ON	3	Sweet corn	Kernels	Soil band	1	0.159	88	<0.01	<0.01					367-448	ca. -20 C
42005492	89	OR	1	Sweet corn	Kernels	Soil band	1	0.159	103	<0.01	<0.01					394	ca. -20 C
42005492	89	WA	1	Sweet corn	Kernels	Soil band	1	0.159	100	<0.01	<0.01					419	ca. -20 C
42005492	89	WI	1	Sweet corn	Kernels	Soil band	1	0.159	68	<0.01	<0.01					424	ca. -20 C

MAT 7484 Field and Sweet Corn (Unsorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Temp.
42005488	89	MN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1(2)	0.1(2)	88, 89	79, 93	-	ca. -20 C
42005488	89	MN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	100	98	-	ca. -20 C
42005488	89	MN	1	Field corn	Fodder	Soil band	1	0.159	152	<0.01	<0.01					330	ca. -20 C
42005488	89	MN	1	Field corn	Grain	Soil band	1	0.159	152	<0.01	<0.01					344	ca. -20 C
42005488	89	NE	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	NE	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	NE	1	Field corn	Fodder	Soil band	1	0.159	148	<0.01	<0.01					342	ca. -20 C
42005488	89	NE	1	Field corn	Grain	Soil band	1	0.159	148	<0.01	<0.01					356	ca. -20 C
42005488	89	IA	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IA	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IA	1	Field corn	Fodder	Soil band	1	0.159	147	<0.01	<0.01					329	ca. -20 C
42005488	89	IA	1	Field corn	Grain	Soil band	1	0.159	147	<0.01	<0.01					343	ca. -20 C
42005488	89	IL	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IL	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IL	1	Field corn	Fodder	Soil band	1	0.159	140	<0.01	<0.01					337	ca. -20 C
42005488	89	IL	1	Field corn	Grain	Soil band	1	0.159	140	<0.01	<0.01					351	ca. -20 C
42005488	89	IN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	IN	1	Field corn	Fodder	Soil band	1	0.159	152	<0.01	<0.01					336	ca. -20 C
42005488	89	IN	1	Field corn	Grain	Soil band	1	0.159	152	<0.01	<0.01					336	ca. -20 C
42005488	89	TX	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	TX	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	TX	1	Field corn	Fodder	Soil band	1	0.159	101	<0.01	<0.01					283	ca. -20 C
42005488	89	TX	1	Field corn	Grain	Soil band	1	0.159	101	<0.01	<0.01					297	ca. -20 C
42005488	89	KS	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005488	89	KS	1	Field corn	Fodder	Soil band	1	0.159	174	<0.01	<0.01					336	ca. -20 C
42005488	89	KS	1	Field corn	Grain	Soil band	1	0.159	174	<0.01	<0.01					349	ca. -20 C
42005488	89	-	4	Field corn	Fodder	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	70-110	80-110	-	-
42005488	89	-	4	Field corn	Grain	-	-	-	-	-	-	0.02	0.02	85	80	-	-
42005489	89	ON	3	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01						
42005489	89	ON	3	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	94	93	-	ca. -20 C
42005489	89	ON	3	Field corn	Fodder	Soil band	1	0.159	141-147	<0.01	<0.01	0.1	0.1	85	79	-	ca. -20 C
42005489	89	ON	3	Field corn	Grain	Soil band	1	0.159	141-147	<0.01	<0.01					368	ca. -20 C
42005489	89	ON	5	Field corn	Grain	-	-	-	-	-	-					369	ca. -20 C
42005490	90	NE	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.01-0.05(5)	0.01-0.05(5)	90-120	70-104	-	-
42005490	90	NE	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	80	75	-	ca. -20 C
42005490	90	NE	1	Field corn	Fodder	In-furrow	1	0.159	162	<0.01	<0.01	0.1	0.1	109	105	-	ca. -20 C
42005490	90	NE	1	Field corn	Grain	In-furrow	1	0.159	162	<0.01	<0.01					81	ca. -20 C
42005490	90	TX	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					62	ca. -20 C
42005490	90	TX	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	TX	1	Field corn	Fodder	In-furrow	1	0.159	120	<0.01	<0.01					-	ca. -20 C
42005490	90	TX	1	Field corn	Grain	In-furrow	1	0.159	120	<0.01	<0.01					106	ca. -20 C
																87	ca. -20 C

MAT 7484 Field and Sweet Corn (Unsorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Temp.
42005490	90	IL	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IL	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IL	1	Field corn	Fodder	In-furrow	1	0.159	153	<0.01	<0.01					87	ca. -20 C
42005490	90	IL	1	Field corn	Grain	In-furrow	1	0.159	153	<0.01	<0.01					68	ca. -20 C
42005490	90	IN	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IN	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	IN	1	Field corn	Fodder	In-furrow	1	0.159	152	<0.01	<0.01					86	ca. -20 C
42005490	90	IN	1	Field corn	Grain	In-furrow	1	0.159	152	<0.01	<0.01					67	ca. -20 C
42005490	90	KS	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005490	90	KS	1	Field corn	Fodder	In-furrow	1	0.159	153	<0.01	<0.01					99	ca. -20 C
42005490	90	KS	1	Field corn	Grain	In-furrow	1	0.159	153	<0.01	<0.01					80	ca. -20 C
42005491	90	ON	1	Field corn	Fodder	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	108	95	-	ca. -20 C
42005491	90	ON	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	101	73	-	ca. -20 C
42005491	90	ON	1	Field corn	Fodder	In-furrow	1	0.159	148	<0.01	<0.01					98	ca. -20 C
42005491	90	ON	1	Field corn	Grain	In-furrow	1	0.159	148	<0.01	<0.01					99	ca. -20 C
42005492	89	MN	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	105	100	-	ca. -20 C
42005492	89	MN	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	99	104	-	ca. -20 C
42005492	89	MN	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	104	106	-	ca. -20 C
42005492	89	MN	1	Sweet corn	Forage	Soil band	1	0.159	98	<0.01	<0.01					372	ca. -20 C
42005492	89	MN	1	Sweet corn	Kernels	Soil band	1	0.159	98	<0.01	<0.01					419	ca. -20 C
42005492	89	MN	1	Sweet corn	Cobs	Soil band	1	0.159	98	<0.01	<0.01					383	ca. -20 C
42005492	89	OR	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	OR	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	OR	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	OR	1	Sweet corn	Forage	Soil band	1	0.159	103	<0.01	<0.01					347	ca. -20 C
42005492	89	OR	1	Sweet corn	Kernels	Soil band	1	0.159	103	<0.01	<0.01					394	ca. -20 C
42005492	89	OR	1	Sweet corn	Cobs	Soil band	1	0.159	103	<0.01	<0.01					358	ca. -20 C
42005492	89	WA	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WA	1	Sweet corn	Forage	Soil band	1	0.159	100	<0.01	<0.01					372	ca. -20 C
42005492	89	WA	1	Sweet corn	Kernels	Soil band	1	0.159	100	<0.01	<0.01					419	ca. -20 C
42005492	89	WA	1	Sweet corn	Cobs	Soil band	1	0.159	100	<0.01	<0.01					383	ca. -20 C
42005492	89	NY	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	NY	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	NY	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	NY	1	Sweet corn	Forage	Soil band	1	0.159	81	<0.01	<0.01					382	ca. -20 C
42005492	89	NY	1	Sweet corn	Kernels	Soil band	1	0.159	81	<0.01	<0.01					429	ca. -20 C
42005492	89	NY	1	Sweet corn	Cobs	Soil band	1	0.159	81	<0.01	<0.01					393	ca. -20 C
42005492	89	WI	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	WI	1	Sweet corn	Forage	Soil band	1	0.159	68	<0.01	<0.01					377	ca. -20 C
42005492	89	WI	1	Sweet corn	Kernels	Soil band	1	0.159	68	<0.01	<0.01					424	ca. -20 C
42005492	89	WI	1	Sweet corn	Cobs	Soil band	1	0.159	68	<0.01	<0.01					399	ca. -20 C

MAT 7484 Field and Sweet Corn (Unsorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Temp.
42005492	89	IL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	IL	1	Sweet corn	Forage	Soil band	1	0.159	72	<0.01	<0.01					393	ca. -20 C
42005492	89	IL	1	Sweet corn	Kernels	Soil band	1	0.159	72	<0.01	<0.01					441	ca. -20 C
42005492	89	IL	1	Sweet corn	Cobs	Soil band	1	0.159	72	<0.01	<0.01					404	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	Soil band	1	0.159	61	<0.01	<0.01					445	ca. -20 C
42005492	89	FL	1	Sweet corn	Kernels	Soil band	1	0.159	61	<0.01	<0.01					493	ca. -20 C
42005492	89	FL	1	Sweet corn	Cobs	Soil band	1	0.159	61	<0.01	<0.01					457	ca. -20 C
42005492	89	FL	1	Sweet corn	Forage	-	-	-	-	-	-	0.02	0.02	110	115	-	-
42005492	89	-	4	Sweet corn	Kernels	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	90-100	90-110	-	-
42005492	89	-	4	Sweet corn	Cobs	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	100-108	100-108	-	-
42005493	89	ON	3	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	104	106	-	ca. -20 C
42005493	89	ON	3	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	99	99	-	ca. -20 C
42005493	89	ON	3	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	111	107	-	ca. -20 C
42005493	89	ON	3	Sweet corn	Forage	Soil band	1	0.159	81	<0.01	<0.01					338-420	ca. -20 C
42005493	89	ON	3	Sweet corn	Kernels	Soil band	1	0.159	88	<0.01	<0.01					367-448	ca. -20 C
42005493	89	ON	3	Sweet corn	Cobs	Soil band	1	0.159	85	<0.01	<0.01					339-423	ca. -20 C
42005493	89	ON	5	Sweet corn	Forage	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	82-110	70-115	-	-
42005494	90	MN	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	113	112	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	76	75	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	107	104	-	ca. -20 C
42005494	90	MN	1	Sweet corn	Forage	In-furrow	1	0.159	78	<0.01	<0.01					108	ca. -20 C
42005494	90	MN	1	Sweet corn	Kernels	In-furrow	1	0.159	78	<0.01	<0.01					95	ca. -20 C
42005494	90	MN	1	Sweet corn	Cobs	In-furrow	1	0.159	78	<0.01	<0.01					109	ca. -20 C
42005494	90	NY	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	NY	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	96	95	-	ca. -20 C
42005494	90	NY	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	NY	1	Sweet corn	Forage	In-furrow	1	0.159	89	<0.01	<0.01					91	ca. -20 C
42005494	90	NY	1	Sweet corn	Kernels	In-furrow	1	0.159	89	<0.01	<0.01					76	ca. -20 C
42005494	90	NY	1	Sweet corn	Cobs	In-furrow	1	0.159	89	<0.01	<0.01					92	ca. -20 C
42005494	90	WI	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	WI	1	Sweet corn	Forage	In-furrow	1	0.159	78	<0.01	<0.01					95	ca. -20 C
42005494	90	WI	1	Sweet corn	Kernels	In-furrow	1	0.159	78	<0.01	<0.01					97	ca. -20 C
42005494	90	WI	1	Sweet corn	Cobs	In-furrow	1	0.159	78	<0.01	<0.01					96	ca. -20 C
42005494	90	CA	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	CA	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	CA	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	CA	1	Sweet corn	Forage	In-furrow	1	0.159	72	<0.01	<0.01					124	ca. -20 C
42005494	90	CA	1	Sweet corn	Kernels	In-furrow	1	0.159	72	<0.01	<0.01					110	ca. -20 C
42005494	90	CA	1	Sweet corn	Cobs	In-furrow	1	0.159	72	<0.01	<0.01					125	ca. -20 C

42

MAT 7484 Field and Sweet Corn (Unsorted) Formulation - 2% G

MRID	YR	LOC	NO OF SAMPLES	COMM	RAC	APPL METHOD	NO APPL.	lb ai/A	PTI (days)	RESIDUES (ppm) MAT7484	RESIDUES (ppm) Oxy Analog	Fortifcation MAT7484	Fortifcation Oxy Analog	% RECOVERY MAT7484	% RECOVERY Oxy Analog	Storage Interval	Temp.
42005494	90	FL	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005494	90	FL	1	Sweet corn	Forage	In-furrow	1	0.159	58	<0.01	<0.01					123	ca. -20 C
42005494	90	FL	1	Sweet corn	Kernels	In-furrow	1	0.159	58	<0.01	<0.01					93	ca. -20 C
42005494	90	FL	1	Sweet corn	Cobs	In-furrow	1	0.159	58	<0.01	<0.01					124	ca. -20 C
42005495	90	ON	1	Sweet corn	Forage	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	96	92	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Kernels	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	88	86	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Cobs	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	88	87	-	ca. -20 C
42005495	90	ON	1	Sweet corn	Forage	In-furrow	1	0.159	99	<0.01	<0.01					98	ca. -20 C
42005495	90	ON	1	Sweet corn	Kernels	In-furrow	1	0.159	99	<0.01	<0.01					99	ca. -20 C
42005495	90	ON	1	Sweet corn	Cobs	In-furrow	1	0.159	99	<0.01	<0.01					99	ca. -20 C
42005496	89	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01	0.01, 0.1	0.01, 0.1	97, 96	94, 92	-	ca. -20 C
42005496	90	KS	1	Field corn	Grain	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Small grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Med grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Large grits	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Meal	-	-	CONTROL	-	<0.01	<0.01	0.1(2)	0.1(2)	83, 88	83, 87	-	ca. -20 C
42005496	89	KS	1	Field corn	Coarse meal	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Flour	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	90	KS	1	Field corn	Starch	-	-	CONTROL	-	<0.01	<0.01	0.1	0.1	118	115	-	ca. -20 C
42005496	89	KS	1	Field corn	Crude oil	-	-	CONTROL	-	<0.01	<0.01	0.01(4)	0.01(4)	80-90	100-110	-	ca. -20 C
42005496	90	KS	1	Field corn	Crude oil	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Refined oil	-	-	CONTROL	-	<0.01	<0.01	0.01(2)	0.01(2)	80, 90	100, 120	-	ca. -20 C
42005496	90	KS	1	Field corn	Refined oil	-	-	CONTROL	-	<0.01	<0.01					-	ca. -20 C
42005496	89	KS	1	Field corn	Grain	Soil band	1	0.8	169	<0.01	<0.01					449	ca. -20 C
42005496	90	KS	1	Field corn	Grain	Soil band	1	0.8	121	<0.01	<0.01					83	ca. -20 C
42005496	89	KS	1	Field corn	Small grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Med grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Large grits	Soil band	1	0.8	169	<0.01	<0.01					427-428	ca. -20 C
42005496	89	KS	1	Field corn	Meal	Soil band	1	0.8	169	<0.01	<0.01					410	ca. -20 C
42005496	89	KS	1	Field corn	Coarse meal	Soil band	1	0.8	169	<0.01	<0.01					410	ca. -20 C
42005496	89	KS	1	Field corn	Flour	Soil band	1	0.8	169	<0.01	<0.01					411	ca. -20 C
42005496	90	KS	1	Field corn	Starch	Soil band	1	0.8	121	<0.01	<0.01					83	ca. -20 C
42005496	89	KS	1	Field corn	Crude oil	Soil band	1	0.8	169	<0.01	<0.01					504	ca. -20 C
42005496	90	KS	1	Field corn	Crude oil	Soil band	1	0.8	121	<0.01	<0.01					143	ca. -20 C
42005496	89	KS	1	Field corn	Refined oil	Soil band	1	0.8	169	<0.01	<0.01					504	ca. -20 C
42005496	90	KS	1	Field corn	Refined oil	Soil band	1	0.8	121	<0.01	<0.01					143	ca. -20 C
42005496	89	KS	4	Field corn	Grits	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	80-100	70-98	-	-
42005496	89	KS	4	Field corn	Flour	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	70-90	70-90	-	-
42005496	89	KS	4	Field corn	Starch	-	-	-	-	-	-	0.01-0.05(4)	0.01-0.05(4)	110-120	110-120	-	-

RIN 0806-96

PP 1F4025

Page _____ is not included in this copy.

Pages 42 through 44 are not included.

The material not included contains the following type of information:

_____ Identity of product inert ingredients.

_____ Identity of product impurities.

_____ Description of the product manufacturing process.

_____ Description of quality control procedures.

_____ Identity of the source of product ingredients.

_____ Sales or other commercial/financial information.

_____ A draft product label.

_____ The product confidential statement of formula.

_____ Information about a pending registration action.

✓ FIFRA registration data.

_____ The document is a duplicate of page(s) _____.

_____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

ATTACHMENT 3

INTERNATIONAL RESIDUE LIMIT STATUS

F. Kutz
3/5/93

CHEMICAL Phostebupirim

CODEX NO. ____

CODEX STATUS:

[✓] No Codex Proposal Step 6 or above

Residue(if Step 8): ____

Crop(s)	Limit (mg/kg)

PROPOSED U.S. TOLERANCES:

Petition No. 1F4025 and 2G4048

RCB Reviewer M Nelson

Residue: phostebupirim * (prop ANSI)
[NEW O-P Pesticide]

Crop(s)	Limit (mg/kg)
Corn, fresh (includes sweet)	0.01
Corn grain, field and pop	0.01
Corn, forage and fodder, field, pop, and sweet	0.01

CANADIAN LIMITS:

[✓] No Canadian limit

Residue: ____

Crop(s)	Limit (mg/kg)

MEXICAN LIMITS:

[✓] No Mexican limit

Residue: ____

Crop(s)	Limit (mg/kg)

NOTES:

* aka MAT 7484; BAY MAT 7484; O-[2-(1,1-dimethylethyl)-5-pyrimidinyl] O-ethyl O-(1-methylethyl) phosphorothioate

Form revised 1986

US

RIN 0806-96

PP 1F4025

Page 46 is not included in this copy.

Pages _____ through _____ are not included.

The material not included contains the following type of information:

✓ Identity of product inert ingredients.

_____ Identity of product impurities.

✓ Description of the product manufacturing process.

_____ Description of quality control procedures.

_____ Identity of the source of product ingredients.

_____ Sales or other commercial/financial information.

_____ A draft product label.

_____ The product confidential statement of formula.

_____ Information about a pending registration action.

_____ FIFRA registration data.

_____ The document is a duplicate of page(s) _____.

_____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.
