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**Comments from the Coordinator**

This issue of Pesticide Notes features the Michigan Restricted Use Pesticide (RUP) list, provided by the Michigan Department of Agriculture. Thank you to Robin Rosenbaum and the updated MDA computer system for the list.

Last week, in preparation for an MSU Extension-Farm Bureau Satellite program, I looked back into my "extension talks-done" file to find my first-ever presentation on the Food Quality Protection Act. It turns out that my first FQPA talk, actually my first talk as an MSU employee, was at the Southwest Michigan Fieldman Association dinner in Paw Paw, November, 1996. I was new pesticide educator, FQPA was new pesticide law—I latched on to FQPA as the only topic I could discuss, and likely know more than my audience. Many a grower suffered or snoozed through a DiFonzo FQPA lesson that winter. What a difference a year makes. As a major FQPA implementation deadline nears in August 1999, awareness of FQPA is growing. In Michigan, a group of 25 to 30 people meets every few weeks to discuss FQPA issues. Michigan State University, MDA, commodity organizations, Farm Bureau, MABA, processors, growers, and others are working together to collect data on pesticide use, residues, and alternatives, to develop educational materials, and to discuss political and social issues related to FQPA. Many seminars and conferences this spring feature an FQPA update or assessment of impacts. Political discussions on the local, state, and national level are increasing. Last week, for the first time, growers actually called me to complain about NOT having been surveyed for pesticide use data! While we still don't have concrete answers about how EPA will implement FQPA, Michigan is at the forefront of the FQPA issue. The Pesticide Education Program will continue to be at the table for FQPA discussions and to provide timely educational information. Hopefully now there isn't any snoozing.

*Christina DiFonzo*

*Pesticide Education Coordinator/Field Crops Entomologist*

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# Michigan Restricted Use Pesticide Listing 1997-98 (Arranged by Brand Name), Robin Rosenbaum, Registration Program Manager, Michigan Department of Agriculture

BRAND NAME	EPA NUMBER	REGISTRANT
98-2	8622-12	AMERIBROM INC
AATREX, CLASS	100-585-1381	CENEX/LAND O'LAKES AGRONOMY CO.
AATREX 4L HERBICIDE	100-497	CIBA-GEIGY CORPORATION
AATREX ACCU-PAK	100-756	CIBA-GEIGY CORPORATION
AATREX NINE-O HERBICIDE	100-585	CIBA-GEIGY CORPORATION
AATREX NINE-O HERBICIDE	100-585	NOVARTIS CROP PROTECTION INC
AATREX RL HERBICIDE	100-497	NOVARTIS CROP PROTECTION INC
ACCESS HERBICIDE	62719-57	DOWELANCO CO.
AGRI-MEK 0.15 EC	618-98	MERCK & COMPANY INC
AMBUSH 25W INSECTICIDE	10182-35	ZENECA INC.
AMBUSH 25W INSECTICIDE IN WATER-SOLUBLE PACK	10182-110	ZENECA INC.
AMBUSH INSECTICIDE	10182-18	ZENECA INC.
AMMO 2.5 EC INSECTICIDE	279-3027	FMC CORP/AGRI CHEMICAL GROUP
AMMO WSB INSECTICIDE	279-3084	FMC CORP/AGRI CHEMICAL GROUP
ASANA XL INSECTICIDE	352-515	E.I. DU PONT DE NEMOURS AND CO.
ASTRO 25WP INSECTICIDE	279-3051	FMC CORP/AGRI CHEMICAL GROUP
ASTRO 3.2EC INSECTICIDE	279-3014	FMC CORP/AGRI CHEMICAL GROUP
ATRAZINE 4L	9779-255	RIVERSIDE/TERRA CORPORATION
ATRAZINE 4L	5905-470-38167	SETRE CHEMICAL COMPANY
ATRAZINE 4L	100-497-2935	WILBUR-ELLIS COMPANY
ATRAZINE 4L	2749-336-2935	WILBUR-ELLIS COMPANY
ATRAZINE 4L	68119-4	WILFARM
ATRAZINE 4L	19713-11	DREXEL CHEMICAL COMPANY
ATRAZINE 4L	35915-4-60063	SOSTRAM CORPORATION
ATRAZINE 4L	1386-647	UNIVERSAL COOPERATIVES, INC.
ATRAZINE 4L	5905-470	HELENA CHEMICAL COMPANY
ATRAZINE 4L, CLEAN CROP	34704-69	PLATTE CHEMICAL CO.
ATRAZINE 4L, CORNBELT	11773-1	VAN DIEST SUPPLY COMPANY
ATRAZINE 4L, TENKOZ	35915-4-55467	TENKOZ INC
ATRAZINE 90, ACETO	2749-485	ACETO AGRICULTURAL CHEMICALS CORPOR
ATRAZINE 90	2749-485-1386	UNIVERSAL COOPERATIVES, INC.
ATRAZINE 90 DF	2749-485-68119	WILFARM
ATRAZINE 90 DF HERBICIDE	35915-3-60063	SOSTRAM CORPORATION
ATRAZINE 90 WDG	34704-622	PLATTE CHEMICAL CO.
ATRAZINE 90DF	9779-253	RIVERSIDE/TERRA CORPORATION
ATRAZINE 90DF	19713-76	DREXEL CHEMICAL COMPANY
ATRAZINE 90DF	100-585-68119	WILFARM
ATRAZINE 90DF, CORNBELT	11773-13	VAN DIEST SUPPLY COMPANY
AVITROL CONCENTRATE FOR THE CONTROL OF GULLS	11649-10	AVITROL CORPORATION
AVITROL CORN CHOPS	11649-6	AVITROL CORPORATION
AVITROL DOUBLE STRENGTH CORN CHOPS	11649-5	AVITROL CORPORATION
AVITROL FC CORN CHOPS - 99	11649-12	AVITROL CORPORATION
AVITROL MIXED GRAINS	11649-4	AVITROL CORPORATION
AVITROL WHOLE CORN	11649-7	AVITROL CORPORATION
AZINPHOS-M 50 W	10163-148	GOWAN COMPANY
AZINPHOS-M 50 WSB	10163-78	GOWAN COMPANY
AZINPHOSMETHYL 2EC	51036-76	MICRO FLO COMPANY
AZINPHOSMETHYL 50W	51036-164	MICRO FLO COMPANY
AZTEC 2.1% GRANULAR	3125-412	BAYER CORPORATION
BASIS GOLD HERBICIDE	352-585	E.I. DU PONT DE NEMOURS AND CO.
BATTLE GC TURF AND ORNAMENTAL INSECTICIDE	10182-400-10404	LESCO INC
BAYLUSCIDE 3.2% GRANULAR	6704-91	FISH & WILDLIFE SERVICE
BAYLUSCIDE 70% WETTABLE POWDER	6704-87	FISH & WILDLIFE SERVICE
BAYTHROID 2 EMULSIFIABLE PYRETHROID INSECT	3125-351	BAYER CORPORATION
BICEP	100-645	CIBA-GEIGY CORPORATION
BICEP II	100-710	CIBA-GEIGY CORPORATION
BICEP II HERBICIDE	100-710	NOVARTIS CROP PROTECTION INC
BICEP II MAGNUM	100-817	CIBA-GEIGY CORPORATION
BICEP II MAGNUM	100-817	NOVARTIS CROP PROTECTION INC
BICEP LITE HERBICIDE	100-731	CIBA-GEIGY CORPORATION
BICEP LITE II	100-766	CIBA-GEIGY CORPORATION
BICEP LITE II	100-766	NOVARTIS CROP PROTECTION INC
BICEP LITE II MAGNUM	100-827	CIBA-GEIGY CORPORATION
BICEP LITE II MAGNUM	100-827	NOVARTIS CROP PROTECTION INC
BLADEX 4L HERBICIDE	352-470	E.I. DU PONT DE NEMOURS AND CO.
BLADEX 90DF HERBICIDE	352-495	E.I. DU PONT DE NEMOURS AND CO.
BRIGADE WSB INSECTICIDE/MITICIDE	279-3108	FMC CORP/AGRI CHEMICAL GROUP
BRO-MEAN C-2PRE	5785-22-37733	REDDICK FUMIGANTS
BRO-MEAN C-33 SOIL FUMIGANT	5785-24-37733	REDDICK FUMIGANTS
BRO-MEAN C-O	5785-41-37733	REDDICK FUMIGANTS
BRO-MEAN C-O	5785-11-37733	REDDICK FUMIGANTS
BROM-O-GAS 2% SOIL FUMIGANT	5785-42	GREAT LAKES CHEMICAL CORP.
BROM-O-GAS SOIL FUMIGANT	5785-4	GREAT LAKES CHEMICAL CORP.
BROMOX + ATRAZINE	51036-255	MICRO FLO COMPANY
BRONCO HERBICIDE BY MONSANTO	524-341	MONSANTO AGRICULTURAL PRODUCTS CO
BROZINE	51036-255-34704	PLATTE CHEMICAL CO.
BUCTRIL + ATRAZINE	264-477	RHONE POULENC AG COMPANY
BUGLE HERBICIDE	45639-185	AGREVO USA COMPANY
BULLET HERBICIDE	524-418	MONSANTO AGRICULTURAL PRODUCTS CO
CCA CONCENTRATE 50% WOOD PRESERVATIVE	62190-2	HICKSON CORPORATION
CCA TYPE C WOOD PRESERVATIVE 50%	10465-26	CSI
CCA TYPE-C WOOD PRESERVATIVE 60%	10465-28	CSI
CHLOR-O-PIC	5785-17	GREAT LAKES CHEMICAL CORP.
CHLOR-O-PIC, DOUGLAS	5785-17-1015	DOUGLAS CHEMICAL COMPANY
CO-RAL COUMAPHOS EMULSIFIABLE LIVESTOCK INSECT	11556-23	BAYER CORPORATION, AGRICULTURE DIV.
COAL TAR CREOSOTE (PRESSURE APPLICATIONS)	61468-1	KOPPERS INDUSTRIES INC



**BRAND NAME**

COMPOUND DRC-1339 98% CONC.-PIGEONS  
 COMPOUND DRC-1339 98% CONCENTRATE  
 COMPOUND DRC-1339 CONC STAGING AREAS  
 COMPOUND DRC-1339 CONCENTRATE - FEEDLOTS  
 CONTOUR HERBICIDE  
 COUNTER 15G LOCK 'N LOAD  
 COUNTER 15G SYSTEMIC INSECTICIDE-NEMATICIDE  
 COUNTER CR  
 COUNTER CR LOCK 'N LOAD  
 CREOSOTE OIL  
 CREOSOTE OIL 24 CB  
 CREOSOTE-COAL TAR SOLUTION  
 CROPSTAR GB HERBICIDE  
 CY-PRO 4L  
 CY-PRO 90DF HERBICIDE  
 CY-PRO AT 4L HERBICIDE  
 CY-PRO AT DF HERBICIDE  
 DANITOL 2.4 EC SPRAY  
 DETIA FUMEX HYDROGEN PHOSPHIDE FUMIGANT  
 DI-SYSTON 15% GRANULAR SYSTEMIC INSECTICIDE  
 DI-SYSTON 15% GRANULAR SYSTEMIC INSECTICIDE  
 DI-SYSTON 8 EMULSIFIABLE SYSTEMIC INSECTICIDE  
 DI-SYSTON 8 EMULSIFIABLE SYSTEMIC INSECTICIDE  
 DIAZINON (D-Z-N) 14G GRANULAR INSECTICIDE  
 DIAZINON (D-Z-N) 50W INSECTICIDE  
 DIAZINON (D-Z-N) AG500 INSECTICIDE  
 DIAZINON (D.Z.N.) AG600 WBC  
 DIAZINON (D-Z-N)50W  
 DIAZINON (D-Z-N) AG600 WBC  
 DIAZINON (D.Z.N) AG500  
 DIAZINON 14G  
 DIAZINON 14G  
 DIAZINON 3.33% + 31-5-7 FERTILIZER  
 DIAZINON 4AG  
 DIAZINON 4EC (AG)  
 DIAZINON 500 INSECTICIDE  
 DIAZINON 500-AG, CLEAN CROP  
 DIAZINON 50W  
 DIAZINON 50W, CLEAN CROP  
 DIAZINON 50W, PRENTOX  
 DIAZINON 5G  
 DIAZINON AG500  
 DIAZINON AG500  
 DIAZINON AG500  
 DIAZINON AG500, PRENTOX  
 DIAZINON AG600 WBC INSECTICIDE  
 DIAZINON G-14, CLEAN CROP  
 DIAZINON INSECTICIDE  
 DIMILIN 25W  
 DIMILIN 25W  
 DIMILIN 2L  
 DIMILIN 4L  
 DIMILIN 4L  
 DITRAC TRACKING POWDER  
 DOUBLEPLAY SELECTIVE HERBICIDE  
 DYFONATE 4-EC INSECTICIDE  
 EXTRAZINE II 4L HERBICIDE  
 EXTRAZINE II DF HERBICIDE  
 FIELDMASTER CORN HERBICIDE  
 FOAM-COAT VAPOROOTER  
 FORCE 1.5G INSECTICIDE  
 FORCE 3G INSECTICIDE  
 FORCE'S MOUS-CON NO. 2  
 FORTRESS 2.5G GRANULAR INSECTICIDE  
 FORTRESS 5G GRANULAR INSECTICIDE  
 FULEX NICOTINE FUMIGATOR  
 FULTIME HERBICIDE  
 FUMI-CEL  
 FUMI-STRIP  
 FUMITOXIN PELLETS  
 FUMITOXIN TABLETS  
 FUMITOXIN/ALUMINUM PHOSPHIDE BAGS  
 FURADAN 15 GRANULES INSECTICIDE-NEMATICIDE  
 FURADAN 4F INSECTICIDE-NEMATICIDE  
 GASTOXIN FUMIGATION PELLETS  
 GASTOXIN FUMIGATION SACHET CHAIN  
 GASTOXIN FUMIGATION SACHETS  
 GASTOXIN FUMIGATION TABLETS  
 GENESIS  
 GRAMOXONE EXTRA HERBICIDE  
 GUARDSMAN HERBICIDE  
 GUTHION 2S EMULSIFIABLE INSECTICIDE  
 GUTHION 2S EMULSIFIABLE INSECTICIDE  
 GUTHION 3 FLOWABLE INSECTICIDE  
 GUTHION 3 FLOWABLE INSECTICIDE  
 GUTHION 50% WETTABLE POWDER  
 GUTHION 50% WETTABLE POWDER\*  
 HARNESS 20G  
 HARNESS HERBICIDE  
 HARNESS PLUS HERBICIDE  
 HARNESS XTRA  
 HARNESS XTRA 5.6L  
 HEADLINE B HERBICIDE  
 HOELON 3EC  
 HOLLOW HEART CONC WOOD PRESERVING COMPOUND\*

**EPA NUMBER**

56228-28  
 56228-29  
 56228-30  
 56228-10  
 241-353  
 241-238  
 241-238  
 241-314  
 241-314  
 218-609  
 218-132  
 218-136  
 524-296  
 1812-366  
 1812-365  
 1812-367  
 1812-368  
 59639-35  
 40285-16  
 3125-172  
 3125-172  
 3125-307  
 3125-307  
 100-469  
 100-460  
 100-461  
 100-784  
 100-460  
 100-784  
 100-461  
 51036-70  
 2935-408  
 10404-14  
 9779-210  
 1386-599  
 10404-11  
 34704-231  
 51036-108  
 100-460-34704  
 655-456  
 51036-93  
 51036-71  
 5905-248-38167  
 5905-248  
 655-459  
 100-784-10404  
 34704-230  
 19713-91  
 37100-8-400  
 400-465  
 400-461  
 37100-54-400  
 400-474  
 12455-56  
 10182-388  
 10182-212  
 352-500  
 352-577  
 524-497  
 9993-2  
 10182-130  
 10182-373  
 814-9  
 352-579  
 352-552  
 1327-41  
 10182-419  
 40285-8  
 40285-8  
 5857-2  
 5857-1  
 5857-6  
 279-3023  
 279-2876  
 43743-2  
 43743-3  
 43743-3  
 43743-1  
 524-479  
 10182-280  
 55947-150  
 3125-123  
 3125-123  
 3125-338  
 3125-338  
 3125-193  
 3125-193  
 524-487  
 524-473  
 524-476  
 524-480  
 524-485  
 7969-100  
 45639-173  
 3008-8

**REGISTRANT**

USDA, ANIMAL DAMAGE CONTROL  
 USDA, ANIMAL DAMAGE CONTROL  
 USDA, ANIMAL DAMAGE CONTROL  
 USDA, ANIMAL DAMAGE CONTROL  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 ALLIEDSIGNAL, INC.  
 ALLIEDSIGNAL, INC.  
 ALLIEDSIGNAL, INC.  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 GRIFFIN CORPORATION  
 GRIFFIN CORPORATION  
 GRIFFIN CORPORATION  
 GRIFFIN CORPORATION  
 VALENT U.S.A. CORPORATION  
 DEGESCH AMERICA, INC.  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 CIBA-GEIGY CORPORATION  
 CIBA-GEIGY CORPORATION  
 CIBA-GEIGY CORPORATION  
 CIBA-GEIGY CORPORATION  
 NOVARTIS CROP PROTECTION INC  
 NOVARTIS CROP PROTECTION INC  
 NOVARTIS CROP PROTECTION INC  
 MICRO FLO COMPANY  
 WILBUR-ELLIS COMPANY  
 LESCO INC  
 RIVERSIDE/TERRA CORPORATION  
 UNIVERSAL COOPERATIVES, INC.  
 LESCO INC  
 PLATTE CHEMICAL CO.  
 MICRO FLO COMPANY  
 PLATTE CHEMICAL CO.  
 PRENTISS INCORPORATED  
 MICRO FLO COMPANY  
 MICRO FLO COMPANY  
 SETRE CHEMICAL COMPANY  
 HELENA CHEMICAL COMPANY  
 PRENTISS INCORPORATED  
 LESCO INC  
 PLATTE CHEMICAL CO.  
 DREXEL CHEMICAL COMPANY  
 UNIROYAL CHEMICAL COMPANY, INC.  
 UNIROYAL CHEMICAL COMPANY, INC.  
 UNIROYAL CHEMICAL COMPANY, INC.  
 UNIROYAL CHEMICAL COMPANY, INC.  
 UNIROYAL CHEMICAL COMPANY, INC.  
 BELL LABORATORIES, INC.  
 ZENECA INC.  
 ZENECA INC.  
 E.I. DU PONT DE NEMOURS AND CO.  
 E.I. DU PONT DE NEMOURS AND CO.  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 AIRRIGATION ENGINEERING CO., INC.  
 ZENECA INC.  
 ZENECA INC.  
 CARAJON CHEMICAL COMPANY, INC.  
 E.I. DU PONT DE NEMOURS AND CO.  
 E.I. DU PONT DE NEMOURS AND CO.  
 FULLER SYSTEM, INC.  
 ZENECA INC.  
 DEGESCH AMERICA, INC.  
 DEGESCH AMERICA, INC.  
 PESTCON SYSTEMS INC  
 PESTCON SYSTEMS INC  
 PESTCON SYSTEMS INC  
 FMC CORP/AGRI CHEMICAL GROUP  
 FMC CORP/AGRI CHEMICAL GROUP  
 BERNARDO CHEMICALS LIMITED  
 BERNARDO CHEMICALS LIMITED  
 BERNARDO CHEMICALS LIMITED  
 BERNARDO CHEMICALS LIMITED  
 BERNARDO CHEMICALS LIMITED  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 ZENECA INC.  
 SANDOZ AGRO INC  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 BASF CORPORATION  
 AGREVO USA COMPANY  
 OSMOSE WOOD PRESERVING CO OF AM INC



**BRAND NAME**

INJECT A CIDE (CONTAINS METASYSTOX-R)  
 INJECT A CIDE B (CONTAINS TECHNICAL BIDRIN)  
 JUDGE  
 JUDGE MT  
 K-33-A(50%) WOOD PRESERVATIVE  
 K-33-C (50%) WOOD PRESERVATIVE  
 K-33-C (72%) WOOD PRESERVATIVE  
 KERB 50-W IN WATER SOLUBLE POUCHES  
 KERB WSP TURF & ORNAMENTAL HERBICIDE  
 KNOX OUT GH  
 LADDOK HERBICIDE  
 LADDOK S-12 HERBICIDE  
 LAMPRICIDE SEA LAMPREY LARVICIDE  
 LANNATE INSECTICIDE  
 LANNATE LV INSECTICIDE  
 LANNATE SP INSECTICIDE  
 LARIAT  
 LASSO HERBICIDE BY MONSANTO  
 LASSO II GRANULAR HERBICIDE BY MONSANTO  
 LINDANE 20 EC  
 LINDANE 20 EC  
 LINDANE 20 EC, PRENTOX  
 MAGNACIDE B  
 MAGNACIDE B MICROBIOCIDE  
 MAGTOXIN PREPAC SPOT FUMIGANT  
 MARKSMAN HERBICIDE  
 MESUROL 75% WETTABLE POWDER  
 METABROM 100  
 METASYSTOX-R 2 ORNAMENTAL INSECTICIDE  
 METASYSTOX-R SPRAY CONCENTRATE  
 METASYSTOX-R SPRAY CONCENTRATE  
 METASYSTOX-R2 ORNAMENTAL INSECTICIDE  
 METH-O-GAS 100 COMMODITY FUMIGANT  
 METH-O-GAS COMMODITY FUMIGANT  
 METH-O-GAS Q  
 METHYL BROMIDE 98%  
 METHYL PARATHION 4EC, CHEMINOVA  
 METHYL PARATHION 4EC, CHEMINOVA  
 METHYL PARATHION 6EC, CHEMINOVA  
 METHYL PARATHION, CLEAN CROP  
 MICRO-TECH  
 MISTY WEEDTROL VF\*  
 MITC-FUME  
 MOCAP 10% GRANULAR (TURF)  
 MOCAP EC  
 MON 58420 HERBICIDE  
 MONITOR 4 LIQUID INSECTICIDE  
 MONITOR 4 LIQUID INSECTICIDE  
 MONITOR 4 SPRAY  
 MOXY + ATRAZINE  
 MOXYNIL + ATRAZINE  
 MUSTANG 1.5 EW INSECTICIDE  
 NEMACUR 10G TURF AND ORNAMENTAL  
 NEMACUR 10G TURF AND ORNAMENTAL  
 NEMACUR 15G SYSTEMIC INSECTICIDE-NEMATICIDE  
 NEMACUR 15G SYSTEMIC INSECTICIDE-NEMATICIDE  
 NEMACUR 3E SYSTEMIC INSECTICIDE-NEMATICIDE  
 NEMACUR 3E SYSTEMIC INSECTICIDE-NEMATICIDE  
 NEMACUR 3 TURF  
 NEMACUR 3 TURF  
 NICOTINE SMOKE GENERATOR  
 NOXFISH FISH TOXICANT  
 NUSYN-NOXFISH FISH TOXICANT  
 OPTION II HERBICIDE  
 OSMOPLASTIC WOOD PRESERVING COMPOUND  
 OSMOPLASTIC WOOD PRESERVING COMPOUND  
 PARATHION 8 AQUA  
 PARATHION E8  
 PARTNER CUSTOM BLEND HERBICIDE  
 PARTNER WDG  
 PENNCAP-M MICROENCAPSULATED INSECTICIDE  
 PHORATE 20G  
 PHORATE 20G, CLEAN CROP  
 PHOSFUME PELLETS, DOUGLAS  
 PHOSFUME TABLETS, DOUGLAS  
 PHOSTOXIN PELLETS  
 PHOSTOXIN PREPAC ROPE  
 PHOSTOXIN TABLET PREPAC  
 PHOSTOXIN TABLETS-R  
 PLANTFUME 103 SMOKE GENERATOR  
 POL-NU 15-15  
 POL-NU PAK  
 POUNCE WSB INSECTICIDE  
 PRO-TEX  
 QUICK KILL\*  
 RAMROD AND ATRAZINE FLOWABLE  
 REGENT 80 WG INSECTICIDE  
 REWARD AQUATIC AND NONCROP HERBICIDE\*  
 REWARD AQUATIC AND NONCROP HERBICIDE\*  
 RID-A-BIRD 1100 PERCH SOLUTION  
 RIDALL-ZINC RODENT FIELD & AGRICULTURAL BAIT  
 RIDALL-ZINC TRACKING POWDER - HOUSE MICE  
 ROO-PRU SUPER TRI PAK  
 ROZOL BLUE TRACKING POWDER FOR MICE AND RATS  
 ROZOL TRACKING POWDER FOR MICE AND RATS  
 SAFROTIN EC INSECTICIDE

**EPA NUMBER**

7946-10  
 7946-11  
 524-314-9779  
 524-344-9779  
 3008-42  
 3008-36  
 3008-17  
 707-159  
 707-159  
 4581-379-1001  
 7969-54  
 7969-100  
 6704-45  
 352-342  
 352-384  
 352-384  
 352-342  
 524-329  
 524-314  
 524-296  
 8660-52-51036  
 19713-308  
 655-579  
 10707-10  
 10707-10  
 40285-12  
 55947-39  
 3125-288-10163  
 8622-16  
 3125-111  
 10163-220  
 3125-111  
 10163-220  
 5785-11  
 5785-41  
 5785-41  
 8536-19-8853  
 51036-18  
 67760-29  
 51036-88  
 34704-10  
 524-344  
 8123-37-10807  
 54289-2-3008  
 264-497  
 264-458  
 524-493  
 3125-280  
 3125-280  
 59639-56  
 51036-255-9779  
 51036-255-9779  
 279-3126  
 3125-237  
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 3125-236  
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 3125-283  
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 3125-283  
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 3125-283  
 8241-9  
 432-172  
 432-550  
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 2724-314-50809

**REGISTRANT**

J J MAUGET COMPANY  
 J J MAUGET COMPANY  
 RIVERSIDE/TERRA CORPORATION  
 RIVERSIDE/TERRA CORPORATION  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 ROHM AND HAAS COMPANY  
 ROHM AND HAAS COMPANY  
 W.A. CLEARY CORP.  
 BASF CORPORATION  
 BASF CORPORATION  
 FISH & WILDLIFE SERVICE  
 E.I. DU PONT DE NEMOURS AND CO.  
 E.I. DU PONT DE NEMOURS AND CO.  
 E.I. DU PONT DE NEMOURS AND CO.  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MICRO FLO COMPANY  
 DREXEL CHEMICAL COMPANY  
 PRENTISS INCORPORATED  
 BAKER PERFORMANCE CHEMICALS  
 BAKER PETROLITE CORPORATION  
 DEGESCH AMERICA, INC.  
 SANDOZ AGRO INC  
 GOWAN COMPANY  
 AMERIBROM INC  
 MILES, INC. AGRIC. DIV.  
 GOWAN COMPANY  
 MILES, INC. AGRIC. DIV.  
 GOWAN COMPANY  
 GREAT LAKES CHEMICAL CORP.  
 GREAT LAKES CHEMICAL CORP.  
 GREAT LAKES CHEMICAL CORP.  
 HENDRIX AND DAIL, INC.  
 MICRO FLO COMPANY  
 CHEMINOVA, INC.  
 MICRO FLO COMPANY  
 PLATTE CHEMICAL CO.  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 AMREP, INC. (GA)  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 RHONE POULENC AG COMPANY  
 RHONE POULENC AG COMPANY  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 VALENT U.S.A. CORPORATION  
 RIVERSIDE/TERRA CORPORATION  
 RIVERSIDE/TERRA CORPORATION  
 FMC CORP/AGRI CHEMICAL GROUP  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 MILES, INC. AGRIC. DIV.  
 BAYER CORPORATION  
 PLANT PRODUCTS CORPORATION  
 AGREVO ENVIRONMENTAL HEALTH  
 AGREVO ENVIRONMENTAL HEALTH  
 AGREVO USA COMPANY  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 WILBUR-ELLIS COMPANY  
 MICRO FLO COMPANY  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 ELF ATOCHEM NORTH AMER., AG. CHEM.  
 RIVERSIDE/TERRA CORPORATION  
 PLATTE CHEMICAL CO.  
 DOUGLAS CHEMICAL COMPANY  
 DOUGLAS CHEMICAL COMPANY  
 DEGESCH AMERICA, INC.  
 DEGESCH AMERICA, INC.  
 DEGESCH AMERICA, INC.  
 DEGESCH AMERICA, INC.  
 PLANT PRODUCTS CORPORATION  
 ISK BIOSCIENCES CORPORATION  
 FMC CORP/AGRI CHEMICAL GROUP  
 FMC CORP/AGRI CHEMICAL GROUP  
 GRIFFIN CORPORATION  
 TECH-LINE PRODUCTS  
 MONSANTO AGRICULTURAL PRODUCTS CO  
 RHONE POULENC AG COMPANY  
 ZENECA INC.  
 ZENECA INC.  
 RID-A-BIRD INC  
 LIPHATECH INC  
 LIPHATECH INC  
 CONNESS CO.  
 LIPHATECH INC  
 LIPHATECH INC  
 ZOECON CORPORATION



**BRAND NAME**

SANAFOAM VAPORROOTER II  
 SBP-1382 40 MF SOLUBLE DILUTABLE CONC. FI  
 SCIMITAR GC INSECTICIDE  
 SCOURGE 18% + 54% MF F2  
 SCOURGE 4% + 12% MF F2  
 SCOUT X-TRA INSECTICIDE  
 SEA LAMPREY LARAVICIDE LAMPRECID  
 SEWEROUT  
 SEWEROUT II  
 SEWEROUT II FOAMING FUMIGANT  
 SEWEROUT II-D (SUBPACK)  
 SEWEROUT II-M (SUBPACK)  
 SEWEROUT-D (SUBPACK)  
 SEWEROUT-M (SUBPACK)  
 SHOTGUN FLOWABLE HERBICIDE  
 SNIPER 50 PVA AZINPHOS METHYL INSECTICIDE  
 SNIPER 50W AZINPHOS METHYL INSECTICIDE  
 STRYKER INSECTICIDE  
 SUPER TIN 80WP  
 SUPER-TIN 4L TRIPHENYL TIN HYDROXIDE FLOW FUNG  
 SUPRACIDE 25WP  
 SUPRACIDE 25WP  
 SUPRACIDE 2E INSECTICIDE-MITICIDE  
 SURPASS 100 HERBICIDE  
 SURPASS 20-G GRANULAR HERBICIDE  
 SURPASS EC HERBICIDE  
 SYNPREN-FISH TOXICANT LIQUID-EMULSIFIABLE  
 TALSTAR GC FLOWABLE INSECTICIDE/MITICIDE  
 TALSTAR GC GRANULAR INSECTICIDE  
 TALSTAR NURSERY FLOWABLE INSECTICIDE/MITICIDE  
 TALSTAR ORNAMENTAL FLOW INSECTICIDE/MITICIDE  
 TAME 2.4 EC SPRAY  
 TELONE C-17 SOIL FUNGICIDE & NEMAT.  
 TELONE II SOIL FUMIGANT  
 TEMIK 10% GRANULAR ALDICARB PESTICIDE  
 TEMIK ALDICARB PESTICIDE 15% GRANULAR  
 TEMIK BRAND 15G LOCK 'N LOAD ALDICARB  
 TEMPO 20 WP GOLF COURSE INSECTICIDE  
 TERR-O-GAS 67 PREPLANT SOIL FUMIGANT  
 TERR-O-GAS 98  
 TFM BAR  
 THIMET 15-G LOCK 'N LOAD  
 THIMET 15-G SOIL AND SYSTEMIC INSECTICIDE  
 THIMET 20-G LOCK 'N LOAD CLOSED HAND SYSTEM  
 THIMET 20-G SOIL AND SYSTEMIC INSECTICIDE  
 TIMBERFUME  
 TIMBERFUME II  
 TIMBERLIFE WOOD PRESERVING COMPOUND  
 TIMBERLIFE WOOD PRESERVING COMPOUND  
 TOPCIDE O/S  
 TOPNOTCH NO-TILL HERBICIDE  
 TORDON 101 WEED AND BRUSH KILLER  
 TORDON K HERBICIDE  
 TRI-CON 67/33  
 TRI-FORM 30  
 TRIUMPH 4E  
 TURCAM  
 TURCAM 2 1/2G INSECTICIDE  
 TURCAM 2-1/2  
 TURFGO TURCAM 2.5G INSECTICIDE  
 VENDEX 50WP MITICIDE, DU PONT  
 VIKANE FUMIGANT  
 VULCAN GLAZD PENTA  
 VYDATE L INSECTICIDE/NEMATICIDE WATER SOL LIQ  
 WARRIOR INSECTICIDE  
 WEEVIL-CIDE GAS BAGS  
 WEEVIL-CIDE PELLETS  
 WEEVIL-CIDE TABLETS  
 WOLMANAC CONCENTRATE 50%  
 ZINC PHOSPHIDE BAIT, HOPKINS  
 ZINC PHOSPHIDE CONC FOR RODENT & LAGOMORPH  
 ZINC PHOSPHIDE CORN BAIT  
 ZINC PHOSPHIDE OAT BAIT  
 ZINC PHOSPHIDE ON OATS  
 ZINC PHOSPHIDE ON WHEAT FOR MOUSE CONTROL  
 ZINC PHOSPHIDE PELLETS, HOPKINS  
 ZP RODENT BAIT AG  
 ZP TRACKING POWDER

**EPA NUMBER**

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 56228-6  
 61282-20  
 61282-14  
 56228-14  
 56228-3  
 2393-521  
 12455-17  
 12455-16

**REGISTRANT**

AIRRIGATION ENGINEERING CO., INC.  
 AGREVO ENVIRONMENTAL HEALTH  
 ZENECA INC.  
 AGREVO ENVIRONMENTAL HEALTH  
 AGREVO ENVIRONMENTAL HEALTH  
 AGREVO USA COMPANY  
 FISH & WILDLIFE SERVICE  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 FLORIDA PETROCHEMICALS, INC.  
 PLATTE CHEMICAL CO.  
 PLATTE CHEMICAL CO.  
 PLATTE CHEMICAL CO.  
 AGREVO USA COMPANY  
 GRIFFIN CORPORATION  
 GRIFFIN CORPORATION  
 CIBA-GEIGY CORPORATION  
 NOVARTIS CROP PROTECTION INC  
 CIBA-GEIGY CORPORATION  
 ZENECA INC.  
 ZENECA INC.  
 ZENECA INC.  
 PRENTISS INCORPORATED  
 FMC CORP/AGRI CHEMICAL GROUP  
 FMC CORP/AGRI CHEMICAL GROUP  
 FMC CORP/AGRI CHEMICAL GROUP  
 SCOTTS COMPANY  
 VALENT U.S.A. CORPORATION  
 DOWELANCO CO.  
 DOWELANCO CO.  
 RHONE POULENC AG COMPANY  
 RHONE POULENC AG COMPANY  
 RHONE POULENC AG COMPANY  
 BAYER CORPORATION  
 GREAT LAKES CHEMICAL CORP.  
 GREAT LAKES CHEMICAL CORP.  
 FISH & WILDLIFE SERVICE  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 AMERICAN CYANAMID COMPANY  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 OSMOSE WOOD PRESERVING CO OF AM INC  
 UNIROYAL CHEMICAL COMPANY, INC.  
 ZENECA INC.  
 DOWELANCO CO.  
 DOWELANCO CO.  
 HENDRIX AND DAIL, INC.  
 HENDRIX AND DAIL, INC.  
 CIBA-GEIGY CORPORATION  
 AGREVO USA COMPANY  
 NOR-AM CHEMICAL COMPANY  
 AGREVO USA COMPANY  
 UNITED HORTICULTURAL SUPPLY  
 E.I. DU PONT DE NEMOURS AND CO.  
 DOWELANCO CO.  
 VULCAN CHEMICALS  
 E.I. DU PONT DE NEMOURS AND CO.  
 ZENECA INC.  
 RESEARCH PROD CO DIV OF MCSHARES  
 RESEARCH PROD CO DIV OF MCSHARES  
 RESEARCH PROD CO DIV OF MCSHARES  
 HICKSON CORPORATION  
 HACO, INC.  
 USDA, ANIMAL DAMAGE CONTROL  
 HACCO, INC.  
 HACCO, INC.  
 USDA, ANIMAL DAMAGE CONTROL  
 USDA, ANIMAL DAMAGE CONTROL  
 HACO, INC.  
 BELL LABORATORIES, INC.  
 BELL LABORATORIES, INC.

\*Restricted in Michigan only pursuant to Regulation No. 633 as amended. Because these products are not federally restricted, they do not bear the words "Restricted Use Pesticide" on the label. However, they should be treated the same as federally registered pesticides, i.e. sales must be recorded and product may be sold only to certified pesticide applicators.

Registration and restriction of pesticides in the United States is a constantly changing process. If you have concerns regarding the inclusion or omission of certain pesticide products on this list, please contact Robin Rosenbaum, MDA Pesticide Registration Program Manager, at (517) 355-6542 or through email at rosenbaumr@state.mi.us.





## Chemical Update

The following information provides registration status of particular pesticides and should not be considered as pesticide recommendations by MSU Extension.



### INSECTICIDES:

#### **Agri-Mek (avermectin)—Label Addition**

Control of Colorado potato beetle in potatoes was added to the label of Novartis' Agri-Mek (Ag Chem News, 2/15/98).

#### **Capture (bifenthrin)—Extended Tolerances**

The EPA has extended time-limited residue tolerances on broccoli and cauliflower for FMC's Capture until 1-31-99 (Ag Chem News, 2/15/98)

#### **Comply 40 WR (fenoxycarb)—Expected Registration**

Novartis' Comply 40 WR is expected to be registered for the 1998 season for control of lepidoptera insects on apples, pears and nut crops and for pear psylla in pears (Ag Chem News, 2/15/98).

#### **Corn Guard (*Beauvaria bassiana*)—New Insecticide**

Mycotech Corp is developing Corn Guard for use on corn to control European and Southwestern corn borers (Ag Chem News, 3/15/98).

#### **Gaicho 480 (imidacloprid)—New Seed Treatment**

Gustafson's Gaicho 480 is a new seed treatment that is available for use on sugarbeet seed to control wireworms, fleabeetles, whiteflies, aphids and leafhoppers (Ag Chem News, 2/15/98).



#### **Pentac (dienochlor)—Registration Cancelled**

Novartis has cancelled all the registered uses of Pentac, primarily used as a miticide on greenhouse ornamentals, and it will no longer be for sale (Ag Chem News, 3/15/98).

#### **Platinum/Adage (thiamethoxam)—New Insecticide**

Novartis is developing this new insecticide for use on vegetables, potatoes, fruit crops, rice and as a seed treatment on various crops (Ag Chem News, 3/15/98).

#### **Provado (imidacloprid)—Extended Tolerances**

The EPA has extended time-limited residue tolerances on beets and turnip for Bayer's Provado until 11-29-98 (Ag Chem News, 2/15/98).

#### **Pyramite (pyridaben)—Registrations Expected**

The EPA received a petition to establish residue tolerances on plums, grapes, and pecans for BASF's Pyramite. Registration on grapes, stone fruits, and nut crops is expected in the near future (Ag Chem News, 2/15/98 and 3/15/98).

#### **Spin Tor 2SC (spinosad)—Registration Pending**

Registration is pending for use on leafy and fruiting vegetables, cole crops and apples for Dow AgroSciences' Spin Tor 2SC (Ag Chem News, 3/15/98).

#### **Sterling (pymethroline/fenoxycarb)—New Insecticide**

Novartis is developing this new combination insecticide for use on fruiting and cucurbit vegetables to control whiteflies and aphids (Ag Chem News, 3/15/98).

#### **Tracer (spinosad)—New Registration**

Dow AgroSciences' Tracer recently received registration on tobacco to control tobacco budworm, tobacco hornworm and loopers (Ag Chem News, 3/15/98).

#### **Warrior (lambda cyhalotrin)—Tolerances Established**

The EPA has established residue tolerances for Zeneca's Warrior on alfalfa at 5 ppm, alfalfa hay at 6 ppm, and broccoli, Chinese broccoli, Brussels sprouts, cabbage, Chinese cabbage, cauliflower, and kohlrabi at .4 ppm (Ag Chem News, 3/15/98).

### HERBICIDES:

#### **Achieve (tralkoxydim)—New Herbicide**

Zeneca's new postemergence herbicide is expected to receive registration this season on durum wheat and barley to control wild oats, foxtails and ryegrass (Ag Chem News, 2/15/98).

#### **Cobra (lactofen)—Label Addition**

Tank-mix use with synchrony STS and Reliance STS on soybeans was added to the label of Valent's Cobra (Ag Chem News, 2/15/98).

#### **Celebrity (nicosulfuron/dicamba)—New Herbicide**

BASF's new postemergence herbicide combination will be introduced this year for use on corn to control broadleaf weeds (Ag Chem News, 3/15/98).



### **First Rate (cloransulam-methyl)—Conditional Registration**

The EPA has approved the application to conditionally register this new active ingredient produced by Dow Agro Sciences for broadleaf weed control in soybeans (Ag Chem News, 2/15/98).

### **First Rate (cloransulam-methyl)—New Herbicide**

This newly registered soybean herbicide from Dow AgroSciences will be available on a limited basis this year. It is applied preplant, preplant incorporated, or post-emergence to control broadleaf weeds. Application can be made up to the time of soybean flowering (Ag Chem News, 3/15/98).

### **Fluroxypyr-methyl—Tolerances Proposed**

Dow AgroSciences has proposed to the EPA to establish residue tolerances on wheat, barley, and oats (Ag Chem News, 2/15/98).

### **Frontier (dimethenamid)—Label Addition**

BASF has added to their Frontier label tank mixes with Marksman, Clarity, Banvel, Manifest, Rezult or Conclude for use on soybeans (Ag Chem News, 2/15/98).

### **Gauntlet—New Herbicide**

FMC produces this new broad-spectrum herbicide containing sulfentrazone and another unnamed (at this time) active ingredient for use on soybeans (Ag Chem News, 2/15/98).

### **Matador (quizalofop-p-ethyl)—Postemergence Herbicide**

This is the brand name for this postemergence soybean herbicide being marketed by FMC (Ag Chem News, 2/15/98).

### **Muster (ethametsulfuron)—Tolerances Proposed**

Monsanto proposed to the EPA to establish residue tolerances on wheat. Comments were due by 1-16-98 (Ag Chem News, 2/15/98).

### **Python WDG (flumetsulam)—New Formulation**

Dow AgroSciences has a new formulation being introduced as a preplant, preemergence or early post-emergence soybean herbicide to control broadleaf weeds (Ag Chem News, 2/15/98).

### **Python (flumetsulam)—New Formulation**

Dow AgroSciences is marketing this new formulation for use on corn (Ag Chem News, 3/15/98).

### **Skirmish (chlorimuron-ethyl)—Postemergence Herbicide**

This is the brand name for this postemergence soybean herbicide being marketed by FMC (Ag Chem News, 2/15/98).

### **Weedar 64 (2,4-D)—Label Additions**

Use on apples, pears, stonefruit and nut orchards has been added to the label of Rhone Poulenc's Weedar (Ag Chem News, 2/15/98).

## **FUNGICIDES:**

### **Freshgard 25 (SOPP)—Requested Label Deletions**

The EPA has received a request to delete from the label use on apples, cantaloupes, carrots, cherries, cucumbers, peaches, peppers, plums and tomatoes for FMC's Freshgard 25. Unless withdrawn, this will become effective on 6-22-98 (Ag Chem News, 2/15/98).

### **Funginex (triforine)—Requested Label Deletions**

The EPA has received a request to delete from the label use on apples, cherries, plums, asparagus, blueberries and cranberries for American Cyanamid's Funginex. Unless withdrawn, this will be effective on 6-22-98 (Ag Chem News, 2/15/98).

### **Password (fenhexamid)—New Fungicide**

This is Bayer's new hydroxyanilide-type fungicide that is used to control brown rot in grapes and citrus and grey mold in peaches. It is a 50% wettable granule (Ag Chem News, 2/15/98).

### **Penncozeb)—Label Addition**

Elf Atochem added to their Penncozeb 80 label use on Christmas trees to control needles cast, pine gold rust and brown spot (Ag Chem News, 2/15/98).

### **Rally (myclobutanil)—Tolerances Extended**

The EPA has extended the time-limited residue tolerances on cucurbits for Rohm & Haas' Rally until 11-30-98 (Ag Chem News, 2/15/98).

### **Ridomil Gold EC (mefenoxam)—Label Additions**

Use on cole crops, clover and grasses has been added to the label of Novartis' Ridomil Gold EC (Ag Chem News, 2/15/98).

### **Topsin-M (thiophanate-methyl)—Requested Label Deletion**

The EPA has received a request to delete use on celery from Elf Atochem's Topsin-M label. Unless withdrawn, this will be effective on 6-22-98 (Ag Chem News, 2/15/98).

### **Vanguard (cyprodinal)—Expected Registration**

Registration on stone fruits to control brown rot, apples to control scab, and grapes to control Botrytis is expected for Novartis' Vanguard in 1998 (Ag Chem News, 2/15/98).



## MISCELLANEOUS:

### American Cyanamid—Herbicide-Resistant Corn

American Cyanamid has signed an agreement with Garst Seed Co. to develop and market herbicide-resistant corn and herbicide to go along with it under the Lightning trade name (Ag Chem News, 2/15/98).

### Dow AgroSciences—New Marketing

Dow AgroSciences granted Novartis the exclusive right to market Broadstrike + Dual and Broadstrike SF + Dual herbicide on corn and soybeans. Dow AgroSciences will no longer market these herbicides (Ag Chem News, 3/15/98).

### Mesuro 50 HBT—New Bird Repellent

Gowan Company it expected to sell Mesuro 50 HBT Bird Repellent for corn seed this year under a 24c registration (approval and assignment of SLN number pending). Mesuro 50 HBT may be used on any kind of corn seed: field corn, corn grown for seed, sweet corn, and popcorn. It is used as a dry seed dressing applied to corn seed in the planter hopper box to give it a bird repellent coating and prevent stand reduction due to birds pulling corn seedlings to feed on the kernels.



## News Extras



### EPA Urged to Adopt New *Bt* Resistance Management Plans

The Union of Concerned Scientists (UCS) has urged the EPA to mandate large refuges for all *Bt* transgenic crops planted in the United States this spring. Their concern is that the EPA's current management plans are insufficient to prevent development of insect resistance to the *Bt* toxins. In nature, the toxins are produced by the soil bacterium *Bacillus thuringiensis*, and have been used for 50 years by gardeners and organic farms in spray form to control insects.

In 1997, nearly 9 million acres of crops genetically engineered to produce *Bt* toxins were planted in the United States, including 7 million acres of *Bt* corn, 1.7 million acres of *Bt* cotton and 25,000 acres of *Bt* potato. UCS scientist Margaret Mellon expressed the urgent need to address the resistance issue considering the fact that millions of acres of *Bt* crops have already been planted. Currently the EPA mandates a refuge strategy only for *Bt* cotton.

The UCS contracted with six independent scientists to develop resistance management plans. Their recommendations were compiled in the report "Now or Never: Serious New Plans to Save a Natural Pest Control." David Andow and Bill Hutchinson of the University of Minnesota, recommend no more than 50% of a corn crop should be planted in *Bt* corn. The non-*Bt* corn can be sprayed to control pests, but should not be exposed to *Bt* insecticide.

Another recommendation to EPA by David Ferro of the University of Massachusetts and Mark Whalon of Michigan State University is a requirement for a 20% refuge of non-*Bt* potato as part of a resistance management plan for *Bt* transgenic potatoes. The potato refuges should be planted within 500 meters of the *Bt*-potato fields and growers should rotate another crop

through the potato acreage at least every third year. In addition, the use of in-furrow and foliar imidacloprid (Admire) in non-*Bt* refuges should be avoided. Also included in the report are recommendations for resistance management of *Bt* cotton.

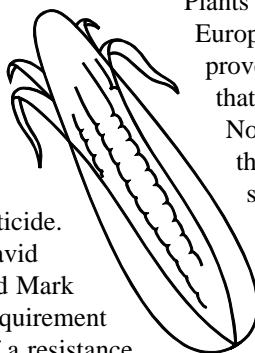
According to UCS scientist Jane Rissler "*Bt* is the queen of pesticides." She noted that in 1992, *Bt* insecticide sprays were used to treat more than 2 million acres of crops in the United States. She also added "*Bt* will not be saved unless we have new resistance plans and there won't be new plans unless EPA requires them" (Pest. & Tox. Chem. News, 2/4/98).

Copies of the UCS report are \$14.95 plus 20% shipping from UCS Publications, Department N, Two Brattle Square, Cambridge, MA 02238-9105 or call 617-547-5552.

### Europe Responds Pro- and Con- to *Bt* crops

The European Union's Scientific Committee on Plants recommended marketing of transgenic corn in Europe. The committee's decision must now be approved by each of the 15 member states in a meeting that was scheduled for mid-March. *Bt* corn from Novartis, based in Switzerland, is already allowed in the European market. If a majority of the member states back the committee's decision, then additional *Bt* corn from AgrEvo, based in Germany, and Monsanto, based in the U.S., will be allowed. Until EU approval is granted, the 1997 corn crop from the U.S. (where many *Bt* corn hybrids are approved) cannot be imported into Europe.

Meanwhile, elsewhere in Europe, protests against genetically modified food is making news. The Soil Association, an organic food group in England, is asking



the UK's largest grocery stores to stop selling transgenic food by the year 2000. Prince Charles has given his support to the group's cause. Across the Channel, Greenpeace charged that the Netherlands is breaking EU rules by importing *Bt* corn (see above). Although no evidence was found to support Greenpeace's allegations, the European Commission stated it would take action against any of the fifteen EU states that violated the import rules (Pest. & Tox. Chem. News, 2/26/98 and 3/5/1998).

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### **EPA Issues New Labeling Requirements for Total Release Foggers**

The EPA signed a final rule on total release fogger pesticide flammability labeling on February 4, 1998. The foggers, sometimes called "bug bombs," are used in homes to kill cockroaches, fleas, and other pests. The current labeling was considered to pose an unreasonable risk to pesticide users and property from fires and explosions that can be caused by a build-up of extremely flammable propellants. The additional flammability label warnings required by this rule are expected to reduce the potential for fires and explosions by alerting consumers to the dangers of total release foggers. The required labeling includes warnings for consumers to limit the number of foggers used (i.e., no more than one fogger per room, do not use in enclosed spaces, etc.) and to eliminate all ignition sources (i.e., pilot lights, running electrical appliances that cycle off and on, etc.). In addition, a graphic symbol depicting "fire" will be added to the product label.

The rules will be effective 60 days after their Feb. 18 publication in the Federal Register. This action is in response to fire incidents and explosions by total release foggers over the past several years. The New York City Fire Department, for example, reported 40 incidents of fires or explosions within a 12-year period, 28% of which resulted in personal injuries. The EPA has received reports of fogger-related incidents from around the country and believes that many unreported incidents are occurring (Press Advisory, EPA, 2/13/1998).

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### **Impregnated Food Packaging Now Under FDA**

Under a final rule published in the Federal Register in March, EPA will transfer jurisdiction for pesticide-impregnated food packaging to the Food and Drug Administration. Up to now, food packaging was regulated under the Federal Food, Drug, and Cosmetic Act (FFDCA) by both FDA and EPA. FDA regulated the actual materials (for example paper, glue, and plastic) used to package food, while EPA was involved in setting tolerances or exemptions to tolerances for packaging materials impregnated with pesticides (for example, an insect repellent). Under the final rule, duplication of

duties will be eliminated by giving FDA sole regulation of impregnated packaging under FFDCA (Pest. & Tox. Chem. News, 3/5/98).

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### **Two Tennessee Men Arrested on Pesticide Charges: More Methyl Parathion!**

On February 13, Robert E. Kelly, Jr. and Robert E. Kelly, III of Kelly Spraying Service in Memphis, Tennessee were arrested on a 42-count federal indictment which alleges that they illegally applied methyl parathion inside homes. The charges allege that Robert Kelly, Jr. purchased at least 280 gallons of the restricted-use pesticide in Mississippi between 1992 and 1996. Methyl parathion is licensed for outdoor agricultural use only. Outside the pesticide degrades rapidly when exposed to sunlight. Used indoors, the pesticide can stay potent for up to two years. Human exposure to methyl parathion can produce headaches, nausea, vomiting, blurred vision, difficulty breathing, coma, and death. The defendants are alleged to have sprayed the pesticide in homes without disclosing its nature and health hazards to customers. The defendants face maximum penalties of up to one year in prison and a fine of up to \$100,000 for each count. The case was investigated by EPA's Criminal Investigation Division, the FBI, and the Tennessee Department of Agriculture (Press Advisory, EPA, February 20, 1998).

In a related story, Margaret Stewart of Clarksdale, Mississippi appeared in court recently on charges that she illegally sold endosulfan to the public in milk and bleach containers. Endosulfan (trade name Thiodan) is an organophosphate insecticide. If convicted, Stewart faces a maximum \$200,000 fine plus two years in jail (Pest. Tox. Chem. News, 3/5/1998).

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### **Goldman Suggests Timing for OPPTS Restructuring is Better in 2000-2001**

EPA Assistant Administrator Lynn Goldman has suggested that the reorganization of EPA's Office of Prevention, Pesticides and Toxic Substances (OPPTS) (reported in the Jan/Feb edition of Pesticide Notes) should be delayed until the office relocates to the new Federal Triangle Building in downtown Washington in 2000-2001. Goldman believes coinciding the reorganization with the move will give the office a better chance to carry out "core work" such as the 1996 Food Quality Protection Act and the 1993 Government Performance and Results Act. Goldman added that this plan would resolve "inefficiencies and logistical challenges" as a result of shared support services (dockets, libraries, etc.) being located in diverse locations.

In the meantime, Goldman wants to assemble a small group of about 15 people to work part-time for a year on OPPTS' short- and long-term goals, including boosting consumer protection and right-to-know. According to



Goldman's memo, EPA Region 3 Counsel Marcia Mulkey will begin as OPP director on February 2 as planned. Steve Johnson will remain as deputy director of OPP "for the foreseeable future" and Susie Hazen will continue as division director of OPPTS' Environmental Assistance Division. The December 9 memo to OPPTS staff also said that Johnson would direct a new Office of Consumer Safety and Right-to-Know, with Hazen as deputy director (Pest. & Tox. Chem. News 1/28/98).

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### Scientists Raise Concerns About Children's Nondietary Exposure To Chlorpyrifos On Toys

A new study in the January issue of *Environmental Health Perspectives* found that chlorpyrifos (Dursban) accumulates on children's toys and other objects after the insecticide is used indoors, posing a potential public health concern. Researchers from the Environmental and Occupational Health Sciences Institute of Rutgers University conducted the study. In the study, two apartments were treated with a Dursban formulation containing 41.5% chlorpyrifos. The concentration of the pesticide was then measured on toys, plush objects and other surfaces over the following two weeks. The study, "Accumulation of Chlorpyrifos on Residential Surfaces and Toys Accessible to Children,"

(Gurunathan, et al., *Environmental Health Perspectives* 109:9-16, January 1998) found that children from 3 to 6 years of age might be exposed to an estimated total dermal and non-dietary oral dose of 208 micrograms/kilogram/day of chlorpyrifos, well above the EPA's current reference dose of 3 micrograms/kilogram/day.

Researchers applied Dursban, which is manufactured by Dow AgroSciences, in a broadcast treatment according to label instructions. Windows were opened and fans used to ventilate the treated rooms for the recommended four hours. After an additional hour, groups of plastic and plush toys were placed in the rooms. The toys were periodically removed to measure surface chlorpyrifos contamination. Toys were washed with solvents that extract 100% of the Dursban residue.

Results of their studies lead the researchers to conclude that children with "high frequency mouthing behaviors are considered as high candidates for acute exposure to chlorpyrifos residues." However, a water extraction—not a part of this study—would have been helpful in determining actual exposure to children mouthing the toys. Chlorpyrifos is used to treat termites in crawlspaces and slab-type construction dwellings, and for cockroach control using crack and crevice treatment. The authors of the study warned that broadcast applications present the greatest potential for exposure in a



home, because the pesticide is ubiquitously applied to large surfaces such as carpeting.

A representative from Dow AgroSciences said, however, that Dursban is no longer registered for broadcast treatment, and that exposure from labeled crack and crevice treatment is small in comparison. Chlorpyrifos has been used more frequently in U.S. homes than other pesticides because it is a broad-spectrum organophosphate insecticide that gained popularity after the availability of aldrin, dieldrin and chlordane declined (Pest. & Tox. Chem. News 1/28/98).

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### EPA Petitioned to Disclose Inerts

On January 20, in two separate filings, the EPA was asked by the attorneys general of eight states and one territory, and a coalition of 180 environmental and activist groups to amend its pesticide labeling regulations to require disclosure of all inert ingredients. The attorneys general filed the administrative petition on behalf of Alaska, Connecticut, Guam, Massachusetts, Minnesota, New Hampshire, New York and Wisconsin.

New York Attorney General Dennis Vacco said, "To most consumers, the word inert denotes something harmless.... In many cases with pesticides, nothing could be further from the truth." The identities of ingredients that are not intended to kill a target organism are not required by FIFRA to appear on product labels unless they present a hazard to human health or the environment. However, only 12 of the over 2,500 "inert" substances are required to be listed by the EPA. The attorneys general argue that "EPA clearly has neither the resources nor the desire to meaningfully implement its discretionary power to determine whether the many inert ingredients pose [this] hazard..."

The origin of such discretionary secrecy dates back to 1947, when Congress added trade secret language to FIFRA. Given today's focus on the community's right-to-know, the attorneys general argue that this provision has been rendered "obsolete." They added that, "Companies can now use commonly available 'reverse engineering' techniques to find out the inert ingredients in competitors' products." Thus, the chemical identities of these compounds are not necessarily a trade secret within the industry. The attorneys general also point out that the identities of many inert ingredients are listed in Material Safety Data Sheets (MSDS).

The EPA has been seeking voluntary substitution of the term "other ingredients" for "inert ingredients" as part of the EPA's Consumer Labeling Initiative unveiled in 1996. This voluntary substitution is pending enactment of regulations requiring substitution. However the attorneys general say that this is "an incremental step toward dispelling a common misconception [that inerts are necessarily non-toxic], it fails to address the larger problem" (Pest. & Tox. Chem. News 1/21/98).



## Update on Montreal Protocol Actions Regarding Methyl Bromide

An update on the Montreal Protocol was given by Charlie Rawls, executive assistant to Richard Rominger, deputy secretary of the U.S. Department of Agriculture, at the 1997 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions in San Diego, California, November 3-5. Rawls reported that the 1997 meeting of the Parties to the Montreal Protocol approved two exemptions:

- An emergency-use provision, which will allow a country to use up to 20 tons of methyl bromide in emergency situations such as unanticipated pest outbreaks or infestations.
- A “critical-use” exemption to allow use of ethyl bromide where no available alternatives exist after the phaseout date.

In 1992, the Montreal Protocol agreed to freeze production and use of methyl bromide at 1991 levels in developed countries on January 1, 1995, and at the 1995-98 average in developing countries on January 1, 2002. Actions taken at the September 9-17, 1997 meeting in Canada are shown in the table. The original phaseout in developed countries was 2010; that date was moved up in the September meeting.

### 1997 Montreal Protocol

Action	Developed Countries (except U.S.)	Developing Countries	U.S.
<b>Interim cuts</b>	<b>% reduction</b>		
1999	25 percent	0 percent	
2001	50 percent	0 percent	100%
2003	70 percent	review	
2005	---	20 percent	
Phaseout	2005	2015	
Exemptions	Quarantine and preshipment	Quarantine and preshipment	Quarantine and preshipment
	Critical Use* Emergency*	Critical Use* Emergency*	Critical Use* Emergency*

\*Effective only after the phaseout.

Rawls reported that USDA agencies will work together to study the impact the ban will have on the U.S. agricultural economy. He added that the “agencies will work with EPA and with industry and growers...to gather data and review the process of economic analysis.” Rawls said, “Through cooperative agreements, we hope to calculate the economic impact of the methyl bromide phaseout on produc-



ers, consumers and our trade situation. The first phase of the study is well under way and the full report is expected by June or July 1998.”

One problem is the divergence between the mandates of the U.S. Clean Air Act (which requires a complete phaseout by 2001) and the Montreal Protocol. Legislation is needed to address these differences. Rawls said that “a reasonable approach would be to consider amending the Clean Air Act to ensure the regulations governing use, production, import, or export of methyl bromide in the United States be no more stringent or restrictive than those required by the Montreal Protocol. This would bring the United States in line with other developed countries and provide certainty for those with an interest in the production or use of methyl bromide” (Methyl Bromide Alternatives, January 1998, USDA).

Meanwhile, research into alternatives is accelerating. Preplant fumigation accounts for 75% of the methyl bromide use in the U.S., with the remaining 25% used in post-harvest treatments. Methyl iodide, which does not affect ozone, might replace some uses of methyl bromide. Some other synthetics replacements are chloropicrin, dazomet, and metam sodium, all of which exhibit problems. Chloropicrin and metam sodium are not as efficacious on certain crops; dazomet can be phytotoxic. Solarization—heating soil under clear plastic using sunlight—kills a broad spectrum of insects, weeds, and pathogens, and may be further developed as a methyl bromide replacement (Pest. Tox. Chem. News, 3/5/1998)

### San Francisco First Major Urban School District to Ban Most Pesticides

San Francisco’s Board of Education unanimously voted February 10 to strictly limit pesticide use in public schools becoming the first major urban school district in the United States to ban most pesticides. The policy immediately bans the use of US Environmental Protection Agency (EPA) acute toxicity Category I and II pesticides, and EPA Carcinogenicity Categories A, B, and C on school district owned or leased property. About 66,000 children attend San Francisco’s city and county public schools and preschools at 175 sites.


Jon Rainwater of the San Francisco League of Conservation Voters, said the new policy will “focus on measures that don’t use any pesticides.” More specifically, the policy requires the district to:

- Monitor to determine pest populations.
- Use biological, cultural and physical controls to minimize health, environmental and financial risks.
- Use chemical controls only as a “last resort.”
- Use chemical controls that pose the least possible hazard to people, property and the environment.
- Carefully monitor treatments to evaluate their effectiveness.



- Distribute a fact sheet outlining the District's Integrated Pest Management (IPM) program at the beginning of each school year.
- Document pesticide applications, and make that information available to the public.
- Establish an IPM committee to develop guidelines and oversee implementation of the policy.


- Designate an IPM coordinator for the district.
- The policy also stipulates that, beginning January 1, 1999, the school district may only use pesticides identified by the San Francisco Department of the Environment as "reduced-risk pesticides" (Pest. & Tox. Chem. News, 2/26/98).



**Residue Cup**

## Food Quality Protection Act Information

For more information, contact a regional MDA office or Dr. Christina DiFonzo, MSU  
Pesticide Education Program (517) 353-5328.



### Congress and EPA Trade Letters Over FQPA Implementation

In January, Members of the House Committee on Agriculture sent a letter to Lynn Goldman, EPA Assistant Administrator, regarding FQPA implementation. That letter focused on the review of OPs and carbamates, and urged EPA to use data call-in to gather reliable information for assessing tolerances, rather than relying on default assumptions. In a recent return letter, Dr. Goldman acknowledged the Congressmen's concerns, particularly about OPs and carbamates, but said "our decisions on these and all other chemicals will continue to be based on sound science and reliable information. While we are interested in new information that could help us to refine our analysis, the Agency already had considerable data upon which to evaluate these chemicals." Goldman said EPA was "mindful of the potential impacts on minor crop growers," and that she would work with growers and others groups to avoid adverse consequences. Finally, she stated EPA was "committed to a process that is well grounded in the best available science and that allows for broad stakeholder input," pointing out the scientific advisory committees who are reviewing EPA policy issues.

In a second letter dated March 10, Congressmen Tom Bliley (R-VA) and John Dingell (D-MI), both of the House Commerce Committee, expressed further concern about FQPA implementation to Dr. Goldman. The congressmen questioned the use of "unrealistic, inappropriate" default assumptions and computer models in place of real data. They stated that when Congress passed FQPA, it was intended to be implemented using the best available science, and that it had given EPA authority to use data call-in to gather information needed to make sound decisions. The letter states "Using an exposure level that is unrealistic or biologically implausible...will not increase safety, and may have the unintended unfortunate consequence of unnecessary loss of important crop protection tools." They also made it clear that EPA should not measure success of FQPA implementation based on the number of pesticides or registrations

dropped from the market. The congressmen further raised the issue that the EPA's implementation policies and procedures "have not been transparent, consistent, or communicated effectively or evenly to all stakeholders."

### Michigan Senate Panel Hears Testimony on FQPA Draft Resolution

The Michigan Senate Committee on Farming, Agribusiness, and Food Systems held an FQPA-related hearing on March 19, 1998, in Grand Rapids. The Committee, chaired by George McManus, heard testimony related to two Senate Resolutions asking Congress to direct EPA to "clarify standards under the Food Quality Protection Act of 1996, and to increase support for certain food quality protection." Ten parties testified at the hearing, including Mark Whalon from the MSU Pesticide Alternatives Lab; Dan Wyant, Michigan Department of Agriculture; Doug Darling, Chair of the Michigan Agriculture Commission; Farm Bureau; Michigan Agricultural Business Association; and a number of growers and processors. The draft resolution, supported by all who testified, urged Congress to direct the EPA:

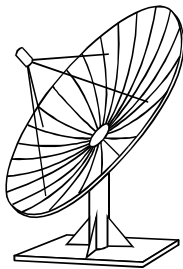
- "to initiate immediately appropriate administrative rule-making to ensure that the policies and standards the Agency intends to apply in evaluating pesticide tolerances are subject to thorough public notice and comment prior to final tolerance determination being made;
- "to use its authority under the FQPA to provide interested persons the opportunity to produce data needed to evaluate a pesticide tolerance so that the Agency can avoid the use of unrealistic default assumptions in making pesticide tolerance decisions;
- "clarify the role of section 18 of the FQPA as its provisions relate to the establishment of tolerances;
- "increase support for biological control and pesticide alternatives for both agriculture research services and the nations' land grant universities."



In a nutshell, the committee is sending a message similar to that of MSU, MDA, Farm Bureau and other groups to have EPA to open the FQPA process, use good data when making FQPA decisions, streamline the Section 18 process, and increase funding for research into alternatives.

### First State-Wide Satellite Conference Held in March

MSU Extension and Michigan Farm Bureau cooperated on a first-ever satellite conference on March 25<sup>th</sup>. The conference, shown at 84 locations in Michigan and targeted for growers, dealt with the potential impacts of FQPA in the state. MSU provided the background information on the law, while speakers from Farm Bureau discussed impacts. Viewers were able to fax and phone in questions to the speakers—calls came from as far away as Spokane, Washington. At the end of the conference, growers were encouraged by Farm Bureau to write letters to Congress so that a “grower voice” is heard in the FQPA debate. Some take home messages from both MSU Extension and Farm Bureau: 1) support the intent of FQPA—safety of children and our food supply are important; 2) base FQPA decisions on as much real pesticide use and residue data as possible; and 3) support the development of alternatives to OPs, carbamates, and B2 carcinogens. American Farm Bureau recently announced that FQPA is their Number 1 priority “until it is resolved.”



### Spring IR-4 Conference Will Feature FQPA and Leonard Gianessi

The 2<sup>nd</sup> annual Michigan IR-4 Conference will devote significant time to FQPA in April. IR-4 is a federal agricultural program that clears chemical and biological pest controls for use on minor/specialty crops. This includes vegetable, fruit, nuts, and herbs, as well as ornamental, greenhouse, landscape, shade tree, flower, and turf crops. The state IR-4 program for Michigan, as well as the North-Central regional program, is based at Michigan State University.

The conference agenda includes an overview of FQPA by Dr. Chris DiFonzo (MSU), an analysis of impacts by Dr. Mark Whalon (MSU), and an examination of the role of IR-4 in dealing with FQPA issues by Dr. Bob Hollingworth (MSU Food Safety and Toxicology Director). The exciting featured speaker is Leonard Gianessi with NCFAP, the National Center for Food and Ag Policy, in Washington D.C. He is under contract with EPA to collect and summarize pesticide use data from across the country, data that will be integral in FQPA decision-making.

The IR-4 conference is scheduled for 9:00 a.m. to 3:00 p.m. on Friday, April 24, in Room 162 of the National Food Safety and Toxicology Building at MSU. Commodity organizations, growers, county extension agents, and interested MSU faculty are especially encouraged to attend. To attend the conference, provide a head-count for lunch, and get directions to campus, contact Satoru Miyazaki, IR-4 NCR Field Coordinator: phone 517-353-9497; fax 517-432-2098; email ncrir4@pilot.msu.edu.

### USDA Programs and FQPA Implementation

Those of you interested in FQPA may not be familiar with the role of various programs of USDA in FQPA implementation.

One you may have heard of is *PDP, the Pesticide Data Program*. PDP began in 1991. The program is designed to provide actual data on pesticide exposure through the diet, food consumption, and pesticide use. PDP thus collects data that is critical for making dietary risk assessments for setting tolerances under FQPA. Four different agencies in USDA are involved in PDP activities: AMS, ARS, ERS, and NASS.

*AMS, Agricultural Marketing Service:* AMS manages PDP residue sampling and testing activities of USDA and cooperating states, including Michigan. The 10 states, representing more than half of the nation's population, collect and test commodities using nationally standardized laboratory methods. Samples are collected close to the point of consumption, for example, from grocery stores. Examples of products collected in 1997 are fresh pears, potatoes, spinach, and tomatoes; canned or frozen green beans and peaches; apple and orange juice; wheat; and whole milk. AMS also cooperates with other USDA agencies to collect and test grain for pesticide residues. Testing is conducted in state laboratories using EPA's GLP, or Good Lab Practices, and is designed to detect low levels of pesticide residues. The labs test for organochlorine, organophosphate, organonitrogen, organosulfur, and carbamate classes of insecticides. A total of 75 pesticides are included in the vegetable, fruit, grain, and milk testing program. AMS is responsible for publishing annual summaries of residue detections.

*ARS, Agricultural Research Service:* ARS has several functions within USDA, but in relation to the PDP program, ARS does national surveys to determine individual food intake. For example, a recent 3-year study collected information on the food intake of over 16,000 people. ARS then relates consumption data to pesticide residue data collected in other programs.

*ERS, Economic Research Service:* Economic data collected by AMS and NASS flows to the ERS, which uses the data to determine the impact that regulations, such as FQPA, and changes in production practices might have on U.S. agricultural production, the U.S. food supply,



and consumers. ERS also examines the economic impact of pest-control alternatives; alternatives will become critical if OPs, carbamates, and fungicides registrations are lost under FQPA.

*NASS, National Agricultural Statistics Service:* NASS is the survey and statistics part of the USDA. NASS collects information and makes estimates on such things as crop production, inventories, utilization of agricultural commodities, crop prices, cost of production (farm inputs and labor), farm numbers, and most importantly for FQPA, agricultural chemical usage. NASS is based in Washington D.C., but has 45 state offices, including one in Michigan (MASS). The Michigan Agricultural Statistics Office compiles and publishes the annual Michigan Agricultural Statistics and County Statistics. In the pesticide arena, the role of NASS is to conduct reliable surveys of fruit, vegetable, and field crop producers on pesticide use, pest-management practices, and economic considerations. NASS then publishes state-level reports on the results of their chemical use surveys, providing such information as percent of acreage sprayed and total amount of product applied. In Michigan in 1998, NASS plans to survey asparagus, cabbage, cantaloupe, carrots, cauliflower, celery, cucumbers, dry onions, bell peppers, snap beans, strawberries, sweet corn, and tomatoes.

NASS releases numerous reports each month. Some of these reports are free, others must be purchased. A quick check of the Agricultural Statistics Calendar for April 1998 shows that reports will be issued in dairy products, cheddar cheese production, eggs, poultry slaughter, potato stocks, milk production, cattle, sheep, agricultural prices, floriculture crops, catfish production, peanut stocks, and more. Many of these reports can be obtained via email at no charge. You can call the Agricultural Statistics Hotline at 1-800-727-9540 or publication/diskette sales at 1-800-999-6779 for more details. Or, NASS has a web site at <http://www.usda.gov/nass/> (USDA PDP Progress report; Jim Smith, NASS).

#### **FQPA Tidbits:**

- A priority setting working group from **EDSTAC**, the Endocrine Disruptor Screening and Testing Advisory Committee, has announced six “high priority mixtures” of chemicals that should be included in an endocrine disrupter testing program. FQPA mandates screening of all pesticides for estrogenic effects. The working group has recommended that the following mixtures also be tested:
  - gasoline;
  - disinfection by-products;
  - chemicals found in hazardous waste sites;
  - phyto- (plant-based) estrogens found in soy-based infant formula;

- contaminants in human breast milk; and
- pesticide and fertilizer mixtures found in groundwater.

Final recommendations for the testing program may be available by June 1998. The program must be presented to Congress by August 1998 and implemented by August 1999 (Pest. Tox. Chem. News, March 12, 1998)

- A draft version of the **Consumer Right-to-Know brochure** (see Pesticide Notes, Jan/Feb 1998) circulated early this year, and was met with criticism from virtually everyone. Comments to EPA from the food industry included that the brochure could alarm or confuse the public and cause people to reduce consumption of fresh produce; that the brochure does not clearly state that the U.S. food supply is safe; that it contained too much “organic food” propaganda; and that grocery stores would be reluctant to display it. Environmental groups, however, were concerned that the brochure did not talk more about the potential effects of pesticides, did not go far enough in suggesting ways to reduce exposure, and that the cartoon version played down the dangers of pesticides.
- Robin Rosenbaum of the Michigan Department of Agriculture reports 17 individual **Section 18** applications for this field season. This is seven more applications than MDA has ever handled in a given year. Other states, such as Washington, report a similar upsurge in Section 18 applications.
- On March 16, Zeneca voluntarily withdrew all state **Section 18** applications (including the Michigan application) for Reflex on dry beans or snap beans. The withdrawal was made to avoid a formal denial from EPA due to FQPA risk-cup concerns. Not only is Reflex classified as a class C carcinogen by EPA, it was also detected in groundwater in North Carolina. Under new FQPA tolerance-setting procedures, the additional exposure to Reflex on dry beans would overflow the risk cup. Zeneca will gather more data and look ahead to 1999 for another section 18 application (K. Renner, MSU Crops and Soils Department).
- EPA still has not clarified how it will handle common mechanism and aggregate exposure in risk assessments of OPs, carbamates, and B2 carcinogens under FQPA. It is clear, however, that there isn’t much room in the **OP risk cup**. Steve Johnson, Deputy Director of EPA’s Pesticide Program, described the risk cup containing just chlorpyrifos (i.e., Dursban and Lorsban) as “gushing over” (St. Louis FQPA Workshop, February 1998) and the whole OP risk cup as “overflowing with dietary exposure alone” without including water, residential, and other exposures (Washington CPDA meeting, February 1998). Several EPA officials have indicated some

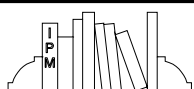


OPs will likely be dropped, but no specific actions have been taken.

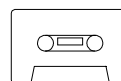
- Gerber is going to limit **OP applications** by its fruit growers in Michigan this season. This is in direct response to the issue of OP residues in baby food, most recently raised in the Environmental Working Group's report "Overexposed" (see Jan/Feb 1998 Pesticide Notes).
- Christmas tree growers had the opportunity to participate in a **pesticide use survey** during the Michigan Christmas Tree Association winter meeting in March during ANR week. Dr. Deb McCullough

from the MSU Department of Entomology developed the survey. It targeted pesticide use on four different tree species. Information from the survey will be summarized and passed on to EPA, as well as published in a future edition of the Christmas Tree Journal.

- On a lighter note, EPA notified the Specialty Coffee Association of America that the registration for terbufos on coffee would not be renewed due to FQPA aggregate exposure issues. Apparently this pesticide is not heavily used in coffee production, so the impact will be minimal. But Geez Louise, don't mess with my morning latte.



## Resources



### Publications from Purdue Pesticide Programs

The following publications are available from Purdue Pesticide Programs. These publications are written for professionals who work in government, universities, associations, and also for the general public. Some of the listed publications are downloadable in Portable Document Format (PDF) through their website at [www.btny.purdue.edu/PPP](http://www.btny.purdue.edu/PPP). A single copy of each publication is also available upon request by calling the Purdue Cooperative Extension Service Media Distribution Center at (765) 494-6795.

- Pesticides and Personal Safety (PPP-20)
- Pesticides and Container Management (PPP-21)
- Pesticides and Food Safety (PPP-22)
- Pesticides and the Label (PPP-24)
- Pesticides and Applicator Certification (PPP-25)
- Pesticides and Their Proper Storage (PPP-26)
- Pesticides and Commercial Vehicle Maintenance (PPP-27)
- Pesticides and Spill Management (PPP-28)
- Pesticides and the Home, Lawn, and Garden (PPP-29)
- Pesticides and Wildlife (PPP-30)
- Pesticides and Formulation Technology (PPP-31)
- Pesticides and Community Right-to-Know (PPP-32)
- Pesticides and the Balancing Act (PPP-33)
- Pesticides and Pest Prevention Strategies for the Home, Lawn and Garden (PPP-34)
- Pesticides and Water Quality Principles, Policies and Programs (PPP-35)
- Pesticides and the Law (PPP-36)
- Pesticides and Material Safety Data Sheets (PPP-37)
- Pesticides and Personal Protective Equipment (PPP-38)
- Pesticide Safety and Calibration Math for the Homeowner (PPP-39)
- Pesticide Toxicology, Evaluating Safety and Risk (PPP-40)
- Pesticides and Ecological Risk Assessment (PPP-41)

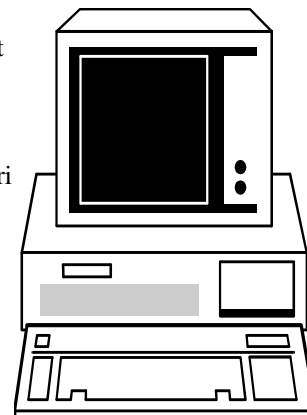
### Michigan Hazardous Materials Training Center Courses

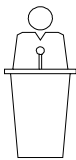
The Michigan Hazardous Materials Training Center provides training courses for individuals and companies that must deal with various aspects of hazardous materials including planning, inspection, response, mitigation and cleanup activities. The courses and workshops were developed to meet a variety of planning and training requirements and recommendations of OSHA, EPA, MIOSHA, NFPA, MDPH-EMS and other applicable rules and regulations. Upon successful completion of a course, students are issued Michigan State Police certificate of completion. For a 1998 course catalog contact the training center at (517) 322-1190 (address: 7426 Osborn, Lansing, MI 48913) or get the latest course and schedule updates on the Internet at [hazmatems.com](http://hazmatems.com).

### Agricultural Conferences, Meetings, & Seminars on the Internet: <http://www.agnic.org/mtg/>

### University of Missouri Extension Publication

University of Missouri extension publication on cleaning sprayers, "Cleaning field sprayer to avoid crop injury" is available on the web at [www.missouri.edu/](http://www.missouri.edu/). At that web site, select menu screens in the following order: Service, MU Extension, Publications, Missouri Publications Library on Request, Agriculture, Crops, Weed control. Reference bulletin number G04852 (Jim Kells, Crops and Soils).





## Pesticide Applicator Recertification Seminars

This partial listing of recertification seminars was provided by MDA. Certified applicators and registered technicians may earn recertification credits by attending these programs. For additional information, call the MDA Lansing office at (517) 373-1087.

**NOTE:** Renewal of pesticide applicator certification credentials can be done by taking the appropriate exam(s) or by obtaining the necessary number of recertification credits by attending approved seminars.



4/13-14	Tuscola Cnty Mosquito Cntrl	Caro, MI	6	Com Core, 7F	(517)672-3748
4/16	Degesh America Recert Trng	Charlottesville, VA	4	ST, CM, SO, GH	(540)234-9281
4/20-21	Utility Arborist Assoc. Mtg.	St. Petersburg, FL	3	3B, 6	(941)379-7216
4/22	Midland Cnty Mosquito Cntrl	Sanford, MI	4	Com Core, 7F	(517)687-5044
4/23	Midland Cnty Mosquito Cntrl	Sanford, MI	4	Com Core, 7F	(517)687-5044
5/11-15	Good Mnfrtg Pract-Food Indus	Danville, IL	14	7A	(217)442-1800
6/16	Farmer's Day	Ann Arbor, MI	4	Any	(734)971-0079

Instructions for recertification training seminar attendance and training seminar dates are posted at the MDA website: [http:// www.mda.state.mi.us/pestf1.html](http://www.mda.state.mi.us/pestf1.html).

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