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Comments from the Coordinator

In this issue we feature, earlier than normal, the **1999 Michigan Restricted Use Pesticide list**, produced by Robin Rosenbaum at the Michigan Department of Agriculture. This list gives the brand name, EPA registration number, and registrant for all restricted use products registered with the MDA. Products not on the list may be general use, or their application may have been withdrawn, forgotten, or late to MDA. Once again, thanks to Robin.

On another note, this month marks the transition of the Pesticide Research Center at MSU to a new organization, CIPS—**Center for Integrated Plant Systems**. The name change reflects a broader mission for the center and a focus on a strategic, rapid-response to ag problems. CIPS will be headed by Dr. Mark Whalon, and include research programs in such areas as agricultural ecology, biological control, pesticide alternatives, pest management policy, and resistance management, as well as an outreach component via the Ag Weather Program, Diagnostic Services, the IPM Program, and the Pesticide Education Program.

Christina DiFonzo

Pesticide Education Coordinator/Field Crops Entomologist

Michigan Restricted Use Pesticide Listing 1998-99 (Arranged by Brand Name), Robin Rosenbaum, Registration Program Manager, Michigan Department of Agriculture

BRAND NAME	EPA NUMBER	REGISTRANT
98-2	8622-12	AMERIBROM
98-2 CONTAINS2% CHLOROPICRIN	8622-12-40926	HYYIELD-BROMINE INC
AATREX NINE-O HERBICIDE	100-585	CIBA-GEIGY CORPORATION
AATREX 4L HERBICIDE	100-497	CIBA-GEIGY CORPORATION
AATREX NINE-O HERBICIDE	100-585	NOVARTIS CROP PROTECTION INC
AATREX 4L HERBICIDE	100-497	NOVARTIS CROP PROTECTION INC
AATREX CLASS	100-585-1381	CENEX/LAND O'LAKES AGONOMY
AATREX ACCU-PAK	100-756	CIBA-GEIGY CORPORATION
ACCESS HERBICIDE	62719-57	DOWLENCO CO.
AGRI-MEK 0.15 EC	100-898	NOVARTIS CROP PROTECTION INC
AGRI-MEK 0.15 EC	618-98	MERCK & COMPANY INC.
AMBUSH 25W INSECTICIDE IN WSP	10182-110	ZENECA INC.
AMBUSH INSECTICIDE	10182-18	ZENECA INC.
AMBUSH 25W INSECTICIDE	10182-35	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 O.
ASTRO 3.2EC INSECTICIDE	279-3014	FMC CORP/AGRI CHEMICAL GROUP
ASTRO 25WP INSECTICIDE	279-3051	FMC CORP/AGRI CHEMICAL GROUP
ATRAZINE 4L	100-497-2935	WILBUR-ELLIS COMPANY
ATRAZINE 90DF	100-585-68119	WILFARM
ATRAZINE 4L, CORNBELT	11773-1	VAN DIEST SUPPLY COMPANY
ATRAZINE 90DF, CORNBELT	11773-13	VAN DIEST SUPPLY COMPANY
ATRAZINE 4L HERBICIDE	1386-647	UNIVERSAL COOPERATIVES, INC.
ATRAZINE 4L HERBICIDE	19713-11	DREXEL CHEMICAL COMPANY
ATRAZINE 90DF	19713-76	DREXEL CHEMICAL COMPANY
ATRAZINE 4L	2749-336-2935	WILBUR-ELLIS COMPANY
ATRAZINE 90	2749-485	ACETO AGRICULTURAL CHEMICALS CORP
ATRAZINE 90	2749-485-1386	UNIVERSAL COOPERATIVES, INC.
ATRAZINE 90 DF	2749-485-68119	WILFARM
ATRAZINE 90 WDG	34704-622	PLATTE CHEMICAL CO.
ATRAZINE 4L HERBICIDE, CLEAN CROP	34704-69	PLATTE CHEMICAL CO.
ATRAZINE 90 DF HERBICIDE	35915-3-60063	SOSTRAM CORPORATION
ATRAZINE 4L (TENKOZ)	35915-4-55467	TENKOZ INC
ATRAZINE 4L HERBICIDE	35915-4-60063	SOSTRAM CORPORATION
ATRAZINE 4L HERBICIDE	5905-470	HELENA CHEMICAL COMPANY
ATRAZINE 4L	5905-470-38167	SETRE CHEMICAL COMPANY
ATRAZINE 4L	68119-4	WILFARM
ATRAZINE 90DF	9779-253	RIVERSIDE/TERRA CORPORATION
ATRAZINE 90DF	9779-253	TERRA INTERNATIONAL INC
ATRAZINE 4L	9779-255	RIVERSIDE/TERRA CORPORATION
ATRAZINE 4L	9779-255	TERRA INTERNATIONAL INC
AVITROL CONCENTRATE	11649-10	AVITROL CORPORATION
AVITROL FC CORN CHOPS - 99	11649-12	AVITROL CORPORATION
AVITROL MIXED GRAINS	11649-4	AVITROL CORPORATION
AVITROL DOUBLE STRENGTH CORN CHOPS	11649-5	AVITROL CORPORATION
AVITROL CORN CHOPS	11649-6	AVITROL CORPORATION
AVITROL WHOLE CORN	11649-7	AVITROL CORPORATION
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&ORNAMENTAL INSECTICIDE	10182-400-10404	LESCO INC
BAYLUSCIDE 70% WETTABLE POWDER	6704-87	FISH & WILDLIFE SERVICE
BAYLUSCIDE 3.2% GRANULAR	6704-91	FISH & WILDLIFE SERVICE
BAYTHROID 2 EMULSIFIABLE	3125-351	BAYER CORPORATION
BICEP	100-645	CIBA-GEIGY CORPORATION
BICEP II	100-710	CIBA-GEIGY CORPORATION
BICEP LITE HERBICIDE	100-731	CIBA-GEIGY CORPORATION
BICEP LITE II	100-766	NOVARTIS CROP PROTECTION INC
BICEP II MAGNUM	100-817	NOVARTIS CROP PROTECTION INC
BICEP II HERBICIDE	100-710	NOVARTIS CROP PROTECTION INC
BICEP LITE II	100-766	CIBA-GEIGY CORPORATION
BICEP II MAGNUM	100-817	CIBA-GEIGY CORPORATION
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-33 SOIL FUMIGANT	5785-24-37733	REDDICK FUMIGANTS
BRO-MEAN C-O	5785-11-37733	REDDICK FUMIGANTS
BRO-MEAN C-2PRE	5785-22-37733	REDDICK FUMIGANTS
BROM-O-GAS SOIL FUMIGANT	5785-4	GREAT LAKES CHEMICAL CORP.
BROM-O-GAS 2% SOIL FUMIGANT	5785-42	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
BULLET HERBICIDE	524-418	MONSANTO AGRICULTURAL PRODUCTS CO
CCA TYPE C WOOD PRESERVATIVE 50%	10465-26	CSI
CCA-C CONCENTRATE 60%	62190-14	HICKSON CORPORATION
CCA TYPE-C WOOD PRESERVATIVE 60%	10465-28	CSI
CCA CONCENTRATE 50% WOOD PRESERVATIVE	62190-2	HICKSON CORPORATION
CHEMINOVA METHYL 4EC	67760-29	CHEMINOVA, INC.
CHLOR-O-PIC	5785-17	GREAT LAKES CHEMICAL CORP.



BRAND NAME**EPA NUMBER****REGISTRANT**

CHLOR-O-PIC, DOUGLAS	5785-17-1015	DOUGLAS CHEMICAL COMPANY
COAL TAR CREOSOTE (PRESSURE APPLICATIONS)	61468-1	KOPPERS INDUSTRIES INC
COMPOUND DRC-1339 98% CONC	56228-28	USDA, ANIMAL DAMAGE CONTROL
COMPOUND DRC-1339 CONCENTRATE	56228-10	USDA, ANIMAL DAMAGE CONTROL
COMPOUND DRC-1339 98% CONCENTRATE	56228-29	USDA, ANIMAL DAMAGE CONTROL
COMPOUND DRC-1339 CONC STAGING	56228-30	USDA, ANIMAL DAMAGE CONTROL
COMPOUND DRC-1339 CONCENTRATE	56228-17	USDA, ANIMAL DAMAGE CONTROL
CONTOUR HERBICIDE	241-353	AMERICAN CYANAMID COMPANY
CO-RAL COUMAPHOS EMULSIFIABLE	11556-23	BAYER CORP., AGRICULTURE DIV.
COUNTER CR LOCK 'N LOAD	241-314	AMERICAN CYANAMID COMPANY
COUNTER 15G LOCK 'N LOAD	241-238	AMERICAN CYANAMID COMPANY
COUNTER 15G SYSTEMIC NEMATICIDE	241-238	AMERICAN CYANAMID COMPANY
COUNTER CR	241-314	AMERICAN CYANAMID COMPANY
CROPSTAR GB HERBICIDE	524-296	MONSANTO AGRICULTURAL PRODUCTS CO
CY-PRO 90DF HERBICIDE	1812-365	GRIFFIN CORPORATION
CY-PRO 4L	1812-366	GRIFFIN CORPORATION
CY-PRO AT 4L HERBICIDE	1812-367	GRIFFIN CORPORATION
CY-PRO AT DF HERBICIDE	1812-368	GRIFFIN CORPORATION
DANITOL 2.4 EC SPRAY	59639-35	VALENT U.S.A. CORPORATION
DECLARE EMULSIFIABLE CONCENTRATE	1812-405	GRIFFIN CORPORATION
DELTAGARD GC GRANULAR INSECTICIDE	432-837-45639	AGREVO USA COMPANY
DELTAGARD GC 5SC INSECTICIDE	432-835-45639	AGREVO USA COMPANY
DETIA FUMEX HYDROGEN PHOSPHIDE	40285-16	DEGESCH AMERICA, INC.
DIAZINON 50W, CLEAN CROP	100-460-34704	PLATTE CHEMICAL CO.
DIAZINON (D.Z.N.) AG500	100-461	NOVARTIS CROP PROTECTION INC
DIAZINON AG600 WBC INSECTICIDE	100-784-10404	LESCO INC
DIAZINON 4EC (AG)	1386-599	UNIVERSAL COOPERATIVES, INC.
DIAZINON G-14, CLEAN CROP	34704-230	PLATTE CHEMICAL CO.
DIAZINON 500-AG, CLEAN CROP	34704-231	PLATTE CHEMICAL CO.
DIAZINON 4AG	9779-210	TERRA INTERNATIONAL INC
DIAZINON (D-Z-N) 50W INSECTICIDE	100-460	CIBA-GEIGY CORPORATION
DIAZINON (D-Z-N) 50W INSECTICIDE	100-460	NOVARTIS CROP PROTECTION INC
DIAZINON (D-Z-N) AG500 INSECTICIDE	100-461	CIBA-GEIGY CORPORATION
DIAZINON (D-Z-N) 14G GRANULAR	100-469	CIBA-GEIGY CORPORATION
DIAZINON (D.Z.N.) AG600 WBC	100-784	CIBA-GEIGY CORPORATION
DIAZINON (D-Z-N) AG600 WBC	100-784	NOVARTIS CROP PROTECTION INC
DIAZINON 500 INSECTICIDE	10404-11	LESCO INC
DIAZINON 3.33% + 31-5-7 FERTILIZER	10404-14	LESCO INC
DIAZINON INSECTICIDE	19713-91	DREXEL CHEMICAL COMPANY
DIAZINON 14G	2935-408	WILBUR-ELLIS COMPANY
DIAZINON 50W	51036-108	MICRO FLO COMPANY
DIAZINON 14G	51036-70	MICRO FLO COMPANY
DIAZINON AG500	51036-71	MICRO FLO COMPANY
DIAZINON AG500	5905-248	HELENA CHEMICAL COMPANY
DIAZINON AG500	5905-248-38167	SETRE CHEMICAL COMPANY
DIAZINON 50W, PRENTOX	655-456	PRENTISS INCORPORATED
DIAZINON AG5000, PRENTOX	655-459	PRENTISS INCORPORATED
DIAZINON 4AG	9779-210	RIVERSIDE/TERRA CORPORATION
DICAMBA + ATRAZINE	7969-136-51036	MICRO FLO COMPANY
DIMILIN 4L	37100-54-400	UNIROYAL CHEMICAL COMPANY, INC.
DIMILIN 25W	37100-8-400	UNIROYAL CHEMICAL COMPANY, INC.
DIMILIN 2L	400-461	UNIROYAL CHEMICAL COMPANY, INC.
DIMILIN 25W	400-465	UNIROYAL CHEMICAL COMPANY, INC.
DIMILIN 4L	400-474	UNIROYAL CHEMICAL COMPANY, INC.
DI-SYSTON 8 EMULSIFIABLE SYSTEMIC	3125-307	BAYER CORPORATION
DI-SYSTON 15% GRANULAR SYSTEMIC	3125-172	BAYER CORPORATION
DITRAC TRACKING POWDER	12455-56	BELL LABORATORIES, INC.
DOUBLEPLAY SELECTIVE HERBICIDE	10182-388	ZENECA INC.
DYFONATE 4-EC INSECTICIDE	10182-212	ZENECA INC.
EXTRAZINE II 4L HERBICIDE	352-500	E.I. DU PONT DE NEMOURS AND CO.
EXTRAZINE II DF HERBICIDE	352-577	E.I. DU PONT DE NEMOURS AND CO.
FIELDMASTER CORN HERBICIDE	524-497	MONSANTO AGRICULTURAL PRODUCTS CO
FOAM-COAT VAPOROOTER	9993-2	AIRRIGATION ENGINEERING CO., INC.
FORCE 1.5G INSECTICIDE	10182-130	ZENECA INC.
FORCE 3G INSECTICIDE	10182-373	ZENECA INC.
FORCE'S MOUS-CON NO. 2	814-9	CARAJON CHEMICAL COMPANY, INC.
FORTRESS 5G GRANULAR INSECTICI	352-552	E.I. DU PONT DE NEMOURS AND CO.
FORTRESS 2.5G GRANULAR INSECTICIDE	352-579	E.I. DU PONT DE NEMOURS AND CO.
FULEX DITHIO INSECTICIDAL SMOK	1327-38	FULLER SYSTEM, INC.
FULEX NICOTINE FUMIGATOR	1327-41	FULLER SYSTEM, INC.
FULTIME HERBICIDE	10182-419	ZENECA INC.
FUMI-CEL	40285-8	DEGESCH AMERICA, INC.
FUMI-STRIP	40285-8	DEGESCH AMERICA, INC.
FUMITOXIN/ALUMINUM PHOSPHIDE B	AGS 5857-6	PESTCON SYSTEMS INC
FUMITOXIN TABLETS	5857-1	PESTCON SYSTEMS INC
FUMITOXIN PELLETS	5857-2	PESTCON SYSTEMS INC
FURADAN 15 GRANULES NEMATICIDE	279-3023	FMC CORP/AGRI CHEMICAL GROUP
FURADAN 4F INSECTICIDE-NEMATICIDE	279-2876	FMC CORP/AGRI CHEMICAL GROUP
GASTOXIN FUMIGATION TABLETS	43743-1	BERNARDO CHEMICALS LIMITED
GASTOXIN FUMIGATION PELLETS	43743-2	BERNARDO CHEMICALS LIMITED
GASTOXIN FUMIGATION SACHET CHAIN	43743-3	BERNARDO CHEMICALS LIMITED
GASTOXIN FUMIGATION SACHETS	43743-3	BERNARDO CHEMICALS LIMITED
GENESIS	524-479	MONSANTO AGRICULTURAL PRODUCTS CO
GRAMOXONE EXTRA HERBICIDE	10182-280	ZENECA INC.
GUARDSMAN HERBICIDE	55947-150	SANDOZ AGRO INC
GUTHION 2S EMULSIFIABLE INSECTICIDE	3125-123	BAYER CORPORATION
GUTHION 50% WETTABLE POWDER*	3125-193	BAYER CORPORATION
GUTHION 3 FLOWABLE INSECTICIDE	3125-338	BAYER CORPORATION
HARNESS PLUS HERBICIDE	524-476	MONSANTO AGRICULTURAL PRODUCTS CO
HARNESS XTRA	524-480	MONSANTO AGRICULTURAL PRODUCTS CO
HARNESS HERBICIDE	524-73	MONSANTO AGRICULTURAL PRODUCTS CO
HARNESS PLUS EC HERBICIDE	524-473	MONSANTO AGRICULTURAL PRODUCTS CO
HARNESS XTRA 5.6L	524-485	MONSANTO AGRICULTURAL PRODUCTS CO
HARNESS 20G	524-487	MONSANTO AGRICULTURAL PRODUCTS CO
HEADLINE B HERBICIDE	7969-100	BASF CORPORATION



BRAND NAME

HOELON 3EC
 HOLLOW HEART CONC WOOD PRES CO*
 INJECT A CIDE (CONTAINS METASYSTOX-R)
 INJECT A CIDE B(CONTAINS TECHNICAL
 JUDGE
 JUDGE MT
 K-33-C (72%) WOOD PRESERVATIVE
 K-33-C (50%) WOOD PRESERVATIVE
 K-33-A(50%) WOOD PRESERVATIVE
 KERB 50-W A SELECTIVE HERBICIDE WSP
 KERB WSP TURF & ORNAMENTAL HERBICIDE
 KNOX OUT GH
 LADDOK S-12 HERBICIDE
 LAMPRICIDE SEA LAMPREY LARVICIDE
 LANNATE INSECTICIDE
 LANNATE SP INSECTICIDE
 LANNATE LV INSECTICIDE
 LARIAT
 LASSO II GRANULAR
 LASSO HERBICIDE BY MONSANTO
 LEAD OFF HERBICIDE
 LINDANE 20%
 LINDANE 20% EMULSIFIABLE CONC
 LINDANE 20 EC
 MAGNACIDE B MICROBIOCIDE
 MAGTOXIN PREPAC SPOT FUMIGANT
 MARKSMAN HERBICIDE
 MESUROL 75-W
 MESUROL 75% WETTABLE POWDER
 METABROM 100
 METASYSTOX-R SPRAY CONCENTRATE
 METASYSTOX-R2 ORNAMENTAL INSECTICIDE
 METH-O-GAS COMMODITY FUMIGANT
 METH-O-GAS Q
 METH-O-GAS 100 COMMODITY FUMIGANT
 METHYL PARATHION, CLEAN CROP
 METHYL BROMIDE 98%
 MICRO-TECH
 MISTY WEEDTROL VF*
 MITC-FUME
 MOCAP EC
 MOCAP 10% GRANULAR (TURF)
 MON 8411 HERBICIDE
 MON 58420 HERBICIDE
 MONITOR 4 LIQUID INSECTICIDE
 MONITOR 4 SPRAY
 MOXY + ATRAZINE
 MOXY + ATRAZINE
 MUSTANG 1.5 EW INSECTICIDE
 NEMACUR 3 EMULSIFIABLE SYSTEMIC
 NEMACUR 3 TURF
 NEMACUR 15% GRANULAR
 NEMACUR 10% TURF AND ORNAMENTAL
 NEMACUR 10% TURF NEMATICIDE
 NICOTINE SMOKE GENERATOR
 NOXFISH FISH TOXICANT
 NUSYN-NOXFISH FISH TOXICANT
 OPTION II HERBICIDE
 OSMOPLASTIC WOOD PRESERVING COMPOUND
 OSMOPLASTIC WOOD PRESERVING COMPOUND
 OSMOSE MITC-FUME
 PARATHION 8 AQUA
 PARTNER CUSTOM BLEND HERBICIDE
 PARTNER WDG
 PENNCAP-M MICROENCAPSULATED INSECTICIDE
 PHORATE 20G, CLEAN CROP
 PHORATE 20G
 PHORATE 20G
 PHORATE 20G
 PELLETS, DOUGLAS
 PHOSFUME TABLETS, DOUGLAS
 PHOSTOXIN TABLET PREPAC
 PHOSTOXIN TABLETS-R
 PHOSTOXIN PREPAC ROPE
 PHOSTOXIN PELLETS
 PIC-BROM 33 PREPLANT SOIL FUMIGANT
 PLANTFUME 103 SMOKE GENERATOR
 POL-NU 15-15
 POL-NU PAK
 POUNCE 3.2 EC INSECTICIDE
 POUNCE 25 WP INSECTICIDE
 POUNCE 1.5 G INSECTICIDE
 POUNCE WSB INSECTICIDE
 PRO-TEX
 QUICK KILL*
 RAMROD AND ATRAZINE FLOWABLE
 REGENT 80 WG INSECTICIDE
 REGENT 4SC INSECTICIDE
 REWARD AQUATIC AND NONCROP HERBICIDE*
 RID-A-BIRD 1100 PERCH SOLUTION
 RIDALL-ZINC RODENT FIELD & AG BAIT
 RIDALL-ZINC TRACKING POWDER
 ROO-PRU SUPER TRI PAK
 ROZOL BLUE TRACKING POWDER
 ROZOL TRACKING POWDER

EPA NUMBER

45639-173
 3008-8
 7946-10
 7946-11
 524-314-9779
 524-344-9779
 3008-17
 3008-36
 3008-42
 707-159
 707-159
 4581-379-1001
 7969-100
 6704-45
 352-342
 352-342
 352-384
 524-329
 524-296
 524-314
 352-600
 19713-308
 655-579
 8660-52-51036
 10707-10
 40285-12
 55947-39
 10163-231
 3125-288-10163
 8622-16
 10163-220
 10163-220
 5785-41
 5785-41
 5785-11
 34704-10
 8536-19-8853
 524-344
 8123-37-10807
 54289-2-3008
 264-458
 264-497
 524-488
 524-493
 3125-280
 59639-56
 51036-255-9779
 51036-255-9779
 279-3126
 3125-283
 3125-283
 3125-236
 3125-237
 3125-237
 8241-9
 432-172
 432-550
 45639-185
 3008-56
 3008-68
 69850-1-3008
 2935-483
 524-403
 524-403
 4581-292
 34704-259
 34704-259-2749
 9779-293
 9779-293
 59209-2-1015
 59209-1-1015
 40285-14
 40285-1
 40285-13
 40285-3
 8536-05-8853
 8241-10
 1022-408-50534
 1022-240-50534
 279-3014
 279-3051
 279-3059
 279-3083
 1812-351
 10088-13-55127
 524-328
 264-570
 264-582
 10182-404
 7579-2
 7173-195
 7173-197
 64945-3
 7173-172
 7173-113

REGISTRANT

AGREVO USA COMPANY
 OSMOSE WOOD PRESERVING CO OF AM INC
 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 & HAAS COMPANY
 ROHM & HAAS COMPANY
 CLEARY CORP.
 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
 E.I. DU PONT DE NEMOURS AND CO.
 DREXEL CHEMICAL COMPANY
 PRENTISS INCORPORATED
 MICRO FLO COMPANY
 BAKER PETROLITE CORPORATION
 DEGESCH AMERICA, INC.
 SANDOZ AGRO INC
 GOWAN COMPANY
 GOWAN COMPANY
 AMERIBROM INC
 GOWAN COMPANY
 GOWAN COMPANY
 GREAT LAKES CHEMICAL CORP.
 GREAT LAKES CHEMICAL CORP.
 GREAT LAKES CHEMICAL CORP.
 PLATTE CHEMICAL CO.
 HENDRIX AND DAIL, INC.
 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
 MONSANTO AGRICULTURAL PRODUCTS CO
 BAYER CORPORATION
 VALENT U.S.A. CORPORATION
 RIVERSIDE/TERRA CORPORATION
 TERRA INTERNATIONAL INC
 FMC CORP/AGRI CHEMICAL GROUP
 BAYER CORPORATION
 BAYER CORPORATION
 BAYER CORPORATION
 BAYER CORPORATION
 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
 OSMOSE WOOD PRESERVING CO OF AM INC
 WILBUR-ELLIS COMPANY
 MONSANTO AGRICULTURAL PRODUCTS CO
 MONSANTO AGRICULTURAL PRODUCTS CO
 ELF ATOCHEM NORTH AMER., AG. CHEM.
 PLATTE CHEMICAL CO.
 ACETO AGRICULT. CHEMICALS CORPOR
 RIVERSIDE/TERRA CORPORATION
 TERRA INTERNATIONAL INC PHOSFUME
 DOUGLAS CHEMICAL COMPANY
 DOUGLAS CHEMICAL COMPANY
 DEGESCH AMERICA, INC.
 DEGESCH AMERICA, INC.
 DEGESCH AMERICA, INC.
 HENDRIX AND DAIL, INC.
 PLANT PRODUCTS CORPORATION
 ISK BIOSCIENCES CORPORATION
 ISK BIOSCIENCES CORPORATION
 FMC CORP/AGRI CHEMICAL GROUP
 FMC CORP/AGRI CHEMICAL GROUP
 FMC CORP/AGRI CHEMICAL GROUP
 FMC CORP/AGRI CHEMICAL GROUP
 GRIFFIN CORPORATION
 TECH-LINE PRODUCTS
 MONSANTO AGRICULTURAL PRODUCTS CO
 RHONE POULENC AG COMPANY
 RHONE POULENC AG COMPANY
 ZENECA INC.
 RID-A-BIRD INC
 LIPHATECH INC
 LIPHATECH INC
 CONNESS CO.
 LIPHATECH INC
 LIPHATECH INC



BRAND NAME

SANAFOAM VAPOROOTER II
 SBP-1382 40 MF SOLUBLE DILUTABLE CONC
 SCIMITAR GC INSECTICIDE
 SCOURGE 4% + 12% MF F2
 SCOURGE 18% + 54% MF F2
 SCOUT X-TRA INSECTICIDE
 SEA LAMPREY LARAVICIDE
 SEWEROUT
 SEWEROUT-D (SUBPACK)
 SEWEROUT-M(SUBPACK)
 SEWEROUT II
 SEWEROUT II-M (SUBPACK)
 SEWEROUT II FOAMING FUMIGANT
 SEWEROUT II-D (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
 SUPRACIDE 25WP
 SUPRACIDE 25WP
 SURPASS 100 HERBICIDE
 SURPASS 20-G GRANULAR HERBICIDE
 SURPASS EC HERBICIDE
 SYNPREN-FISH TOXICANT LIQUID
 TALSTAR NURSERY FLOWABLE MITICIDE
 TALSTAR-N NURSERY(PRESSURETREATMENTBRAND)
 TALSTAR GC FLOWABLE MITICIDE
 TALSTAR GC GRANULAR INSECT
 TAME 2.4 EC SPRAY
 TELONE C-17
 TELONE II SOIL FUMIGANT
 TEMIK ALDICARB PESTICIDE 15% GRANULAR
 TEMIK BRAND 15G LOCK 'N LOAD
 TEMPO 20 WP GOLF COURSE INSECTICIDE
 TERR-O-GAS 98
 TERR-O-GAS 67 PREPLANT SOIL FUMIGANT
 TFM BAR
 THIMET 15-G LOCK 'N LOAD
 THIMET 15-G SOIL AND SYSTEMIC
 THIMET 20-G LOCK 'N LOAD CLOSE
 THIMET 20-G SOIL AND SYSTEMIC
 TIMBERFUME
 TIMBERFUME II
 TIMBERLIFE WOOD PRESERVING COMPOUND
 TIMBERLIFE WOOD PRESERVING COMPOUND
 TOPCIDE O/S
 TOPNOTCH NO-TILL HERBICIDE
 TORDON K HERBICIDE
 TORDON 101 WEED AND BRUSH KILLER
 TRI-CON 67/33
 TRI-FORM 30
 TRIUMPH 4E
 TURCAM 2 1/2G INSECTICIDE
 TURCAM 2-1/2 G
 TURCAM
 TURFGO TURCAM 2.5G INSECTICIDE
 VENDEX 50WP MITICIDE, DU PONT
 VIKANE FUMIGANT
 VULCAN GLAZD PENTA
 VYDATE L INSECTICIDE/NEMATICIDE
 WARRIORINSECTICIDE
 WARRIORTINSECTICIDE
 WEEVIL-CIDETABLETS
 WEEVIL-CIDPELLETS
 WEEVIL-CIDEGASBAGS
 WOLMANACCONCENTRATE 60%
 WOLMANACCONCENTRATE 50%
 ZINC PHOSPHIDE BAIT, HOPKINS
 ZINC PHOSPHIDE PELLETS
 ZINC PHOSPHIDE ON OATS
 ZINC PHOSPHIDE ON WHEAT
 ZINC PHOSPHIDE CONC
 ZINC PHOSPHIDE OAT BAIT
 ZINC PHOSPHIDE CORN BAIT
 ZP TRACKING POWDER
 ZPRODENT BAIT AG

EPA NUMBER

9993-3
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 10182-400
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 432-667
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 62190-2
 2393-185
 2393-521
 56228-14
 56228-3
 56228-6
 61282-14
 61282-20
 12455-16
 12455-17

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.
 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
 ZENECA INC.
 ZENECA INC.
 ZENECA INC.
 PRENTISS INCORPORATED
 FMC CORP/AGRI CHEMICAL GROUP
 WHITMIRE MICRO-GEN RESRCH LAB INC
 FMC CORP/AGRI CHEMICAL GROUP
 FMC CORP/AGRI CHEMICAL GROUP
 VALENT U.S.A. CORPORATION
 DOWELANCO CO.
 DOWELANCO CO.
 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
 NOR-AM CHEMICAL COMPANY
 AGREVO USA 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.
 ZENECA INC.
 UNITED PHOSPHORUS INC
 UNITED PHOSPHORUS INC
 UNITED PHOSPHORUS INC
 HICKSON CORPORATION
 HICKSON CORPORATION
 HICO, INC.
 HICO, INC.
 USDA, ANIMAL DAMAGE CONTROL
 USDA, ANIMAL DAMAGE CONTROL
 USDA, ANIMAL DAMAGE CONTROL
 HACCO, INC.
 HACCO, INC.
 BELL LABORATORIES, INC.
 BELL LABORATORIES, INC.

*Restricted in Michigan only pursuant to Regulation No. 633 as ammended. Because these products are not federally restricted, they do not bare 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

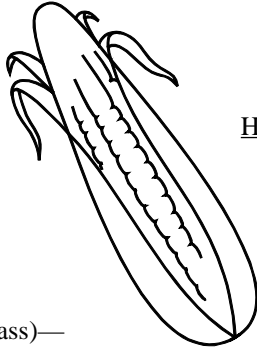
The following information provides registration status of particular pesticides and should not be considered as pesticide recommendations by MSU Extension.



Products Under Development

Herbicides

- BAS-662 H (diflufenzopyr; BASF)—applied to register this new active ingredient to be formulated into a herbicide for use on corn.
- Clodinafop 2E (clodinafop-propargyl; Novartis)—applied to register this new active ingredient for use on wheat to control wild oats, foxtails and Persian darnel.



Tolerances Proposed

Insecticides

- Aphistar (triazamate; Rohm & Hass)—proposed tolerances of 2.5 ppm on leafy green vegetables, 12.5 ppm on head and stem brassica crops, 5.75 ppm on leafy brassica crops, and 0.1 ppm on apples.
- Applaud (buprofezin; AgrEvo)—proposed tolerances of 5 ppm on head lettuce, 13 ppm on leaf lettuce, and 0.5 ppm on cucumbers.
- Capture (bifenthrin; FMC)—proposed tolerances of 0.05 ppm on sweet corn grain and 3 ppm on forage.
- Tracer (spinosad; Dow AgroSciences)—proposed tolerances of 0.02 ppm on corn grain, 1 ppm on forage fodder straw and hay of cereals, 0.3 ppm on legume vegetables, 0.3 ppm on cucumbers, 1 ppm on sorghum grain, 0.2 ppm on stone fruits, and 0.02 ppm on wheat grain.

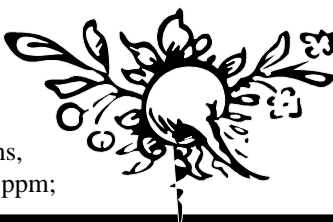
Herbicides

- Gramoxone (paraquat; Zeneca)—proposed tolerances of 0.05 ppm on corn grain and 3 ppm on forage.

Tolerances Established

Insecticides

- Cypermethrin (FMC/Zeneca)—tolerances established on green onions at 6 ppm as a result of the IR-4 Project.
- Gaucho (imidacloprid; Gustafson/Bayer)—tolerances established on barley grain, sugar beet roots, cereal grains, and sweet corn at 0.05 ppm;



sugarbeet tops, wheat grain, hay, and straw at 0.5 ppm; sugarbeet molasses at 0.3 ppm; wheat forage at 7 ppm; and foliage and legume vegetables at 2.5 ppm.

- Savey (hexythiozox; Gowan/BASF)—tolerances on apples established at 0.02 ppm and on pears at 0.3 ppm.

Herbicides

- Aim (carfentrazone-ethyl; FMC)—residue tolerances on corn grain, fodder and forage, soybean seed, and wheat grain established at 0.1 ppm.
- Starane (fluroxypyr-methyl; Dow AgroSciences)—residue tolerances on barley, wheat, and oats established at 0.5 ppm.

Fungicides

- Acrobat (dimethomorph; American Cyanamid)—residue tolerances established on potatoes at 0.05 ppm.
- Maxim (fludioxonil; Novartis)—residue tolerances on sunflower, leafy and brassica vegetables, legume vegetables, fruiting vegetables, cucumbers, and grass at 0.01 ppm; established on root and tuber vegetables, bulb vegetables, and cereal grain at 0.02 ppm.

Registrations/Label Additions

Insecticides

- Asana (esfenvalerate; DuPont)—use on head lettuce and sugarbeets added to the label.
- Distance (pyriproxyfen; Valent)—received registration for use on ornamentals grown in greenhouses for control of whiteflies, fungus gnats, and scale.
- Multicide Roach Spray 27341 (imiprothrin; MGK) and Raid Ant & Roach 17 (imiprothrin; S.C. Johnson)—received registration for this new active ingredient for use on household ants, roaches, crickets and other pests.

Herbicides

- Aim (carfentrazone-ethyl; FMC)—received registration for use as a postemergence herbicide on corn. Applied from emergence until the 8-leaf stage (about 24 inches tall).



- Balance (isoxaflutole; Rhone-Poulenc)—received registration for use on field corn and will be marketed this next season in Arizona, Indiana, Illinois, Iowa, Kansas, Kentucky, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, and Wyoming.
- Firstrate (chlorosulam-methyl; Dow AgroSciences)—applied for a change use pattern for this soybean herbicide so it can be applied by air.
- Lexus (flupyr-sulfuron-methyl; DuPont)—received registration for use on cereals to control broadleaf weeds and blackgrass.
- Liberty ATX (glufosinate-ammonium/atrazine; AgrEvo)—received registration for use on Liberty Link corn hybrids.
- Prism (clethodim; Valent)—use on alfalfa, dry beans and tomatoes for postemergence grass control added to the label.
- Pursuit (imazethapyr; American Cyanamid)—application by air on alfalfa added to the label.

Fungicides

- Agrygent (gentamicin sulfate; Quimica Agronomica)—registration for control of fire blight in apples and pears is in the final process.
- Allegiance FL (metalaxyl; Gustafson)—higher application rates approved for this seed treatment on soybeans, sunflower, grain crops, peas, turfgrass, and forage legumes.
- Curzate 60DF (cymoxanil; DuPont)—new active ingredient conditionally registered for use on potatoes to control late blight.
- Mankocide (copper hydroxide/mancozeb; Griffin)—use on turf added to the label.
- Maxim 4FS (fludioxonil; Novartis)—granted expanded registration for this seed treatment to over 200 different crops.

Label Deletions

Insecticides

- Guthion (azinphos-methyl; Bayer)—unless withdrawn, label deletions for use on apricots, beans, oats, clover, pasture grasses, soybeans, barley, peas and wheat will be effective on 3/29/99.
- Lindane (Drexel)—unless withdrawn, all uses will be deleted from the label except for seed treatment and the treatment of dogs



- and timber, effective on 3/29/99.
- Lindane (Inquinosa)—unless withdrawn, the following uses will be deleted from the label effective 2/22/99: alfalfa, beans, beets, carrots, cherries, clover, cucumbers, grapes, lentils, melons, mint, mushrooms, onions, peaches, peas, pears, peppers, plums, pumpkins, rape, soybeans, squash, strawberries, sugarbeets, sunflower, tomatoes, watermelon, livestock ornamental trees and shrubs, turf, non-crop areas and food-handling facilities.
- SPB-1382 (resmethrin; AgrEvo)—unless withdrawn, use on dogs and cats will be deleted effective 2/22/99.



Miscellaneous

- **Agrevo** has acquired Cargill Hybrid Seeds, which produces hybrid sunflowers and corn in the U.S. and Canadian markets.
- **Cheminova**, which manufactures glyphosate, has been given permission by Monsanto to use its glyphosate (Glyphos) branded products over the top of Roundup Ready Soybeans in the U.S. next year.
- **Liberty Link** (glufosinate ammonium tolerant) **sugarbeet**, developed by Agrevo, is expected to receive EPA approval by the second or third quarter of 1999.
- **Monsanto** will lower its technology fee for Yield Gard corn next year. Monsanto has also announced it is lowering the U.S. price on various Roundup formulations effective immediately. They will increase the technology fee for Roundup Ready Soybeans from \$5.00 to \$6.50/bag. The proposed merger between Monsanto and Cyanamid has been cancelled.
- **Manufacturers of rodenticides** may be required by the EPA to add dyes and bittering agents to reduce incidents of accidental poisoning.

(Source: *Ag. Chem. News*, 10/15/98 & 11/15/98)





Michigan Agricultural Mediation Program

The Michigan Agricultural Mediation Program (MAMP) provides mediation on agricultural issues as a public service of Michigan's community Dispute Resolution Program. Since 1990, over 30,000 Michigan citizens have successfully resolved disputes in mediation through the **Community Dispute Resolution Program**. The success and experience in this program paved the way for extending mediation to more complex disputes, such as those in the agricultural area.

What is mediation?

Mediation is a voluntary process that allows participants to resolve problems or disputes without resorting to litigation or appeals. In the mediation process, a trained neutral third party (the mediator) is used to facilitate problem-solving discussions. The mediator will not act as a judge or an advocate, and will not decide who is at fault or how the dispute should be resolved. The mediator will use communication and negotiation skills to assist the parties in resolving their dispute.

Who are mediators?

Mediators are volunteers trained through Michigan's network of **Community Dispute Resolution Centers** (see list attached to the back of this issue of *Pesticide Notes*). They completed a 40-hour training course and a supervised internship and have received training on specialized agricultural topics. In more complex cases, a person known as an "advisor" will be assigned to a case to assist the farmer in preparing for mediation.

What happens in the mediation process?

Mediation provides a neutral confidential setting with a trained facilitator to enable parties to work out a solution that meets the interests of both sides. During the mediation process, each party has an opportunity to explain, from his/her point of view, what the dispute is over, what the issues are, and how she/he would like to see the situation resolved. After each side has presented information, the mediator clarifies the issues and reframes them in neutral language that focuses on the issues, not on the people involved. The parties, with the mediator's assistance, can then begin to discuss various options to resolve each issue raised.

How can mediation be used to resolve agricultural disputes?

Mediation can be used to resolve virtually any agricultural dispute: agricultural credit, crop insurance, labor disputes, contract disputes, compliance with federal

programs, wetlands issues, oil and gas leases, stray voltage and pesticide applications. In some cases, farmers request mediation in response to an adverse determination letter from a federal USDA official.

Because of the wide range of issues that may be involved agricultural mediation can be complex. Mediation is sufficiently flexible, though, to include multiple parties in the mediation process, such as government officials, bankers and other lenders, citizen and environmental groups, neighbors, and family members.

Trying mediation does not prevent anyone from pursuing other legal remedies. If mediation does not resolve the dispute, a farmer can still file a formal appeal with the proper agency or seek other legal remedies.

Benefits of Mediation

- ❖ Participants control the outcome
- ❖ Mediation can preserve relationships
- ❖ Mediation is flexible
- ❖ Mediation is creative
- ❖ Mediation is confidential
- ❖ Mediation can be fast
- ❖ Mediation saves money
- ❖ Mediation is likely to be successful

Can other experts be used to find workable solutions?

Yes. In addition to the special training the mediators and advisors receive on agricultural mediation, there may be times when more technical information is necessary. The Centers can work closely with other professionals, such as MSU Extension personnel or agricultural consultants, to serve as "impartial experts." The impartial expert could be someone who does not act as an advisor during the mediation, but acts to provide information. The impartial expert may be called upon to help the parties develop a mutually acceptable farm plan with technically and/or economically reasonable means of compliance with federal requirements, for example. This person could provide information before the actual mediation session takes place, and/or could participate in the mediation session in a neutral role.



What is the outcome of mediation?

Participation in mediation is voluntary, and mediators do not force anyone to reach agreement or to accept particular settlement terms. Mediators help the parties develop and agree upon a realistic, workable solution to their problem, based on their needs and interests. If people work out an agreement both parties can accept, the agreement is written down in clear, specific language and each party signs it. The result is an enforceable contract.

To learn more about agricultural mediation, call: 1-800-8-RESOLV (1-800-873-7658). For mediation assistance, mail or fax your request to the following:
Michigan Agricultural Mediation Program
P.O. Box 30048
Lansing, MI 48909
FAX: 1-517-373-8922

Be sure to include the date, your name, address, county, telephone and fax number, and a brief description of the nature of the dispute. Indicate if the request for mediation is in response to an adverse notice or letter sent by the USDA. If so, attach a copy of the USDA letter/notice to the request. The written notice must be postmarked or faxed by you no later than 18 calendar days after the date of the determination decision. The appeal period will be postponed while mediation takes place.

Methyl Bromide Phase-Out Delayed

The FY 1999 Ag Appropriations bill signed by President Clinton on October 21 contained a Congressional rider which extends the phase-out period for methyl bromide. The rider was introduced by Representative Vic Fazio from California, where methyl bromide is extensively used in soil fumigation. Under the Clean Air Act, the original target date for full phase-out was 2001. The new schedule is as follows:

- 25% reduction by 1999
- 50% reduction by 2001
- 75% reduction by 2003
- 100% reduction by 2005

This change harmonizes the U.S. phase-out schedule with that of the United Nations Montreal Protocol signed by 167 nations (including most European countries) several years ago. Along with the change in the phase-out timeline, the new legislation also provides for exemptions of commodities being exported or imported in order to comply with phytosanitary regulations. It also allows for exemptions of "critical use" of methyl bromide after 2005 (based on *Pest. & Tox. Chem. News*; 10/29/98).



Transgenic Talk

In October, the European Union (EU) scientific committee, citing concerns about insufficient risk assessment, turned down a genetically modified high amylopectin potato. Ironically, a separate advisory group in the United Kingdom had previously said the crop "did not pose a risk to human health and the environment." The new potato, developed by the Dutch company Avebe, is modified for high starch production for extraction purposes. The EU committee was concerned about the antibiotic-resistance marker gene used in the potato, and its possible transfer to other organisms in the environment. The potato issue adds to a growing debate within the European Union government that there should be a halt to new introductions of genetically modified plants. In October, the United Kingdom announced a 1-year moratorium on introduction of genetically modified crops. France recently changed its mind about allowing *Bt* corn from Novartis to be grown in that country (based on *Pest. & Tox. Chem. News*, 11/12/98).

As of September 1, the EU requires manufacturers to label products that contain genetically modified ingredients, such as corn or soybean. Soybean oil is exempted from these requirements. Since nearly 2/3 of the processed foods in Europe and the U.S. contain some form of soybeans, many products will escape the labeling requirements, at least for now.


Shoppers in England were recently polled about genetically modified foods. An environmental group reported that 58% of those polled wanted grocery stores to stop selling GM food, while 27% said the stores should continue to provide such products (based on *Pest. & Tox. Chem. News*, 11/29/98).

Back in the U.S., debate continues about the size of the refuge required for *Bt* corn. Most, if not all, university scientists in the Midwest agree that a refuge of non-*Bt* corn is needed adjacent to a *Bt* corn planting. The idea is that the non-*Bt* corn will produce susceptible moths that will mate with any surviving individual resistant moths generated in the *Bt* corn, thereby delaying the formation of resistance in the population. Research and extension entomologists in the Midwest, including those at MSU, currently recommend a 20% / 40% strategy, i.e., plant a refuge of 20% non-*Bt* corn if it will not be sprayed for corn borer, and 40% if the non-*Bt* field will be sprayed. EPA has been inconsistent in its handling of refuge guidelines when *Bt* crops are registered, requiring specific refuges in some cases but not others. For example, in May EPA approved AgrEvo's new "StarLink" hybrid with a 25% / 40% refuge combination. Novartis and AgrEvo have both come out in favor of a consistent refuge policy, and support the 20% / 40% strategy. Past EPA approvals of Monsanto hybrids did not require a refuge of a specific size, although Monsanto requires its growers to sign a document saying they will follow company refuge guidelines set at 5% / 20%. The com-



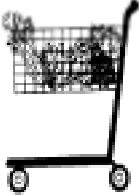
pany has agreed to increase the unsprayed refuge to 10% in 1999. However, it does not agree with the 20% unsprayed refuge recommended by university researchers, based on company surveys which suggest growers would be unlikely to leave that much of the crop unprotected.

Meanwhile, environmental groups, farmers, ag scientists, and others are pressuring EPA to require "reasonably large refuges" of all non-*Bt* crops (corn, cotton, and potato), beginning in 1999 (based on *Pest. & Tox. Chem. News*, 9/24/98, 10/8/98)



Food Quality Protection Act Information

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



TRAC Process Continues

Last spring, after Vice President Al Gore sent a letter to EPA and USDA urging better cooperation and openness in the implementation of FQPA, the EPA formed TRAC, the Tolerance Reassessment Advisory Committee. TRAC, comprised of 52 total representatives from agriculture, environmental and consumer groups, universities, retailers, and industry, is chaired by deputy administrators from both EPA and USDA. Mark Whalon, Director of the Pesticide Research Center at MSU, is one of the members. TRAC met 5 times this summer/fall. During these meetings, EPA explained how it would do risk assessment when carrying out FQPA, and the TRAC members had an opportunity to respond. After the first TRAC meeting, two subcommittees were formed to deal with risk assessment and risk mitigation. The Risk Assessment Committee discussed issues related to data, and transparency of the EPA process to the public. It also developed an example risk assessment of an OP. The Risk Mitigation Committee discussed the transition from OPs, the development of alternatives, and the criteria for evaluating alternatives.

Considering the various interest groups represented in the room and their various agendas, the TRAC process has obviously been tedious and contentious. One of the members, the Environmental Working Group (EWG), actually quit TRAC in late October. The group released a letter to Vice President Gore saying "we cannot point to any tangible action the administration has taken as the result of TRAC...that actually will protect children from pesticides. By consuming enormous amounts of staff time, particularly by EPA pesticide program staff, the process served only to delay implementation of the FQPA." However, TRAC has been valuable for those of us at MSU because EPA has finally revealed some of its thinking on FQPA implementation.

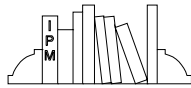
EPA Lists Nine FQPA Science Policy Issues

In a Federal Register notice on October 29, EPA outlined nine science policy issues that it will work on as it implements FQPA. The nine are:

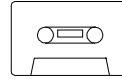
- 1. The 10x safety factor:** Establish clear criteria for applying the factor, and determine what kinds of toxicology and exposure data are needed for assessing risks to kids.
- 2. Monte-Carlo analysis:** If and how should EPA use Monte Carlo analysis, a statistical technique to model the probability of exposure to a pesticide.
- 3. Assessing "no-detect" residues:** How should EPA interpret a non-detectable levels of pesticide in risk assessments? As "zeroes" or as some other number?
- 4. Estimating dietary exposure:** How can EPA realistically estimate exposure to pesticides residues in food?
- 5. Estimating drinking water exposure:** EPA will address the shortcomings of its current drinking water model, which may significantly overestimate residue exposures via drinking water.
- 6. Estimating residential exposure:** EPA will address the need for residential monitoring data for use in aggregate exposure assessments.
- 7. Aggregating exposure:** How can all exposures to pesticides be taken into consideration in a risk assessment?
- 8. Common mode of action:** How can a cumulative risk assessment be done for a group of pesticides with a common mode of toxicity, for example, organophosphates.
- 9. Selecting appropriate toxicological endpoints:** Specifically for OPs, how should cholinesterase inhibition be measured in health studies.

EPA will seek public comment into these issues, and will publish policy papers as decisions are made about each.





Resources



Education Materials

The USDA Economic Research Service has a variety of **state fact sheets** that you can access on line. The sheets were updated in September 1998, and contain information on the following: population; per-capita income; poverty rate; unemployment rate; % employment change; total number of jobs; % of crop, wood, and pasture land; number and types of farms; farm size; farm sales; farm income; top export commodities; and top 5 counties in ag sales. Access the sheets at <http://www.econ.ag.gov/facts>.

A list of **federally registered restricted use pesticides (RUPs)** are available from the University of Nebraska at <http://www.ianr.unl.edu/pubs/>.

The **National Antimicrobial Information Network (NAIN)** is available to medical professionals, trade groups, and the general public on a toll-free number in the U.S. The hotline is staffed by specialists and can provide information on antimicrobial products (such as disinfectants, sanitizers, etc.), interpreting product labels, list of manufacturers, toxicology, environmental fate, health effects, regulation and registration, and product safety. The hotline will also field complaints about products and forward them to the EPA. NAIN is a cooperative effort between EPA and Oregon State University. Phone

number: 1-800-447-6349. Hours of phone operation are daily between 10:30am - 7:30 pm EST. After hours fax 541-737-0761 or email nain@ace.orst.edu.

Several publications available on the web from **Rutgers**. They require Acrobat Reader to be viewed. *Quality of Agricultural Produce: Consumer preferences and perceptions.*

Consumer Response and Perception of Integrated Pest Management. Farmers' markets: consumer trends, preferences, and characteristics. The web address is <http://aesop.rutgers.edu/~agecon/agmkt.htm>.

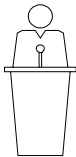
Michigan Mosquito Control Association (MMCA) Annual Meeting

The MMCA Annual Meeting will be held February 4-5, 1999 at the Southgate Holiday Inn, Southgate, Michigan. For further information contact:

Gloria Katch, Program Chairman
Saginaw County Mosquito Abatement Commission
211 Congress Street
Saginaw, MI 48602
Phone: (517)755-5751

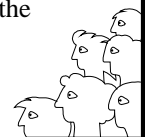


Pesticide Applicator Recertification Seminars



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.



Date	Seminar	Location	Credit	Category	Phone #
12/14	CORE Manual Review	Allegan, MI	2	ANY	(616)673-0370
12/14	Pesticide Applicator Training	Charlotte, MI	2	ANY	(517)543-2310
12/15	Tuscola County Grower Meeting	Ubyly, MI	3	Priv, Com Core,1A	(517)672-3870
12/15	Pesticide Training Program	Hastings, MI	5	ANY	(616)948-4862
12/16	Pesticide Applicator Training Mtng	Battle Creek, MI	3	Priv, Com Core,1A	(616)781-0784
12/17	'98 MSU Agron Update for SE MI	York Twp., MI	3	Priv,1A	(734)971-0079
12/18	Safe and Effective Pesticide Use	Ionia, MI	2	ANY	(616)527-5357
12/18	1999 Agribusiness Pest Mngmnt	Saginaw, MI	3	Priv, Com Core,1A	(517) 799-2233
12/21	Pesticide Applicator Cert. Prog.	Mt Clemens, MI	3	ANY	(810)469-5180
1/4/99	Great Lakes Trade-Insect/disease Clnc	Lansing, MI	2	Priv, Com Core,3B	(517)381-0437
1/4	Great Lakes Trade Expo-Grwrs Conf	Lansing, MI	2	Priv, Com Core,3B	(517)381-0437
1/4	Great Lakes Trade-Insect/disease PM	Lansing, MI	2	Priv, Com Core,3B	(517)381-0437



Date	Seminar	Location	Credit	Category	Phone #
1/5	Great Lakes Trade Expo-Pest runoff	Lansing, MI	1	Priv, Com Core,3B	(517)381-0437
1/6	Great Lakes Trade Expo-Rsch update	Lansing, MI	1	Priv, Com Core,3B	(517)381-0437
1/6	Great Lakes Trade-Award Win Plnts	Lansing, MI	1	Priv, Com Core,3B	(517)381-0437
1/6	Great Lakes Trade-Resp. Protection	Lansing, MI	1	Priv, Com Core	(517)381-0437
1/6	Pesticide Applicator Cert. Prog.	Mt. Clemens, MI	3	ANY	(810)469-5180
1/12	Review '98 On-Farm Rsrch/Exam	Adrian, MI	1	Priv,1A	(734)971-0079
1/12	Grower Meeting	Merrill, MI	2	Priv,1A	(517)695-2269
1/11	'99 MABA Wnter Conf-Prof Appl Inst	Lansing, MI	2	ANY	(517)336-0223
1/12	'99 MABA Wnter Conf-Insect/Disease	Lansing, MI	1	Priv,1A	(517)336-0223
1/12	'99 MABA Wnter Conf-Site Specific	Lansing, MI	1	Priv,1A,1B,1C	(517)336-0223
1/13	'99 MABA Wnter Conf-Agri Busin	Lansing, MI	2	ANY	(517)336-0223
1/13	'99 MABA Wnter Conf-Fruit Culture	Lansing, MI	2	Priv, 1C	(517)336-0223
1/13	'99 MABA Wnter Conf-Weed Cntrl	Lansing, MI	2	Priv, 1A	(517)336-0223
1/13	'99 MABA Wnter Conf-Veg Culture	Lansing, MI	2	Priv, 1B	(517)336-0223
1/14	Core Manual Review	Moline, MI	2	ANY	(616)673-0370
1/11-15	Good Manuf Pract for Food Industry	Danville, IL	14	7A,7C,8	(217)442-1800
1/19	Grower Meeting	Merrill, MI	2	Priv, Com Core,1A	(517)695-2269
1/21	RUP Core Training Meeting	Paw Paw, MI	2	ANY	(616)657-7745
1/18	MI Turfgrass Conf-ID Orn Diseases	East Lansing, MI	2	3B	(517)355-0209
1/18	MI Turfgrass Conf-Weed ID	East Lansing, MI	2	3A	(517)355-0209
1/18	MI Turfgrass Conf-Calc. for Appl.	East Lansing, MI	4	Com Core, 3A,3B,5,6	(517)355-0209
1/18	MI Turfgrass Conf-Weed ID	East Lansing, MI	2	3A, 3B	(517)355-0209
1/18	MI Turfgrass Conf-Soil/Plant Relat.	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/18	MI Trfgrss Conf-Monday Night Open	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/19	MI Trfgrss Conf-Turf Mgmt for Env.	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/19	MI Trfgrss Conf-Why Turgrass Die	East Lansing, MI	1	3A	(517)355-0209
1/19	MI Trfgrss Conf-Pesticide Selection	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/19	MI Trfgrss Conf-Gen Session/Rsch	East Lansing, MI	1	Com Core, 3A, 3B	(517)355-0209
1/20	MI Turfgrass Conf-Insect Pests	East Lansing, MI	1	3B	(517)355-0209
1/20	MI Turfgrass Conf-Gen Session I	East Lansing, MI	1	3A	(517)355-0209
1/20	MI Turfgrass Conf-Aft. Session-Golf	East Lansing, MI	1	3A	(517)355-0209
1/20	MI Trfgrss Conf-Lawn Care/Grounds	East Lansing, MI	1	3A,3B	(517)355-0209
1/21	MI Trfgrss Conf-IPM Theory&Pract	East Lansing, MI	1	Com Core,3A,3B,5,6	(517)355-0209
1/21	MI Trfgrss Conf-Morn. Session-Golf	East Lansing, MI	1	3A	(517)355-0209
1/21	MI Turfgrass Conf-Athletic Fields	East Lansing, MI	1	3A	(517)355-0209
1/21	MI Trfgrss Conf-Morn Sess-Grounds	East Lansing, MI	1	3A	(517)355-0209
1/21	MI Trfgrss Conf-Environ. Stresses	East Lansing, MI	1	3A	(517)355-0209
1/21	MI Trfgrss Conf-Key to Healthy Lawn	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/21	MI Trfgrss Conf-Sports Turf Culture	East Lansing, MI	1	Com Core, 3A	(517)355-0209
1/26	1999 Weed Management Meeting	Chesaning, MI	2	Com Core,1A,1B	(517)799-2233
1/26	Grower Meeting	Merrill, MI	2	Priv,1A,1B	(517)695-2269
1/27	Tuscola County Grower Meeting	Caro, MI	3	Priv, Com Core,1A	(517)672-3870
1/27	SE Michigan Agronomy Day	Milan, MI	2	Priv,1A	(734)971-0079
1/29	Core Manual Review	Kalamazoo, MI	2	ANY	(616)673-0370
2/2	Core Manual Review	Allendale, MI	2	ANY	(616)673-0370
2/2	Grower Service Meeting	Merrill, MI	2	Priv,1A,1B	(517)643-7293
2/3	Pesticide Applicator Cert. Prog.	Mt. Clemens, MI	3	ANY	(810)469-5180
2/9	Grower Meeting	Merrill, MI	2	Priv,1A,1B	(517)695-2269
2/9	Grower Meeting	Merrill, MI	2	Priv,1A,1B	(517)695-2269
2/15	Branch Co. Farmers Day-Grndwtr	Coldwater, MI	1	ANY	(616)781-0785
2/15	Branch Co. Farmers Day-Insect	Coldwater, MI	1	Priv, 1A	(616)781-0785
2/15	Branch Co. Farmers-Sybean Nematode	Coldwater, MI	1	Priv, 1A	(616)781-0785
2/15	Branch Co. Farmers-Precision Agr.	Coldwater, MI	1	ANY	(616)781-0785
2/16	Grower Meeting	Merrill, MI	2	Priv, Com Core	(517)695-2269
2/17	Core Manual Review	Hamilton, MI	2	ANY	(616)673-0370



Date	Seminar	Location	Credit	Category	Phone #
2/17	Pesticide Training Program	Hastings, MI	2	ANY	(616)948-4862
2/17	Disease and Insect Mgmt Wrkshp	Flint, MI	4	3A,3B	(242)858-0887
2/18	RUP Core Training Meeting	Paw Paw, MI	2	ANY	(616)657-7745
2/22	Review 98 On-Farm Rsrch/Exam Prep	Ann Arbor, MI	1	Priv,1A	(734)971-0079
2/20-22	SAF Insect & Disease Mgmt on Orn.	Ft. Lauderdale, FL	5	Priv	(703)836-8700
2/22-26	Good Manuf Pract for Food Industry	Dansville, IL	14	7A,7C,8	(217)442-1800
3/4	Selectn of Hardy Perfrmnce Plant Mat	Flint, MI	2	3A,3B	(242)858-0887
3/9	Core Manual Review	Allendale, MI	2	ANY	(616)673-0370
3/9	Review 98 On-Farm Rsrch/Exam Prep	Adrian, MI	1	Priv,1A	(734)971-0079
3/16	Pesticide Applicator Training	Flint, MI	2	ANY	(242)858-0887
3/22-26	Good Manuf Pract for Food Industry	Dansville, IL	14	7A,7C,8	(217)442-1800
3/23	RUP Core Training Meeting	Paw Paw, MI	2	ANY	(616)657-7745
3/23	Pesticide Applicator Training	Flint, MI	2	ANY	(242)858-0887
3/23	Pesticide Applicator Training-Turf	Flint, MI	2	3A	(242)858-0887
3/30	Pesticide Applicator Training	Flint, MI	2	ANY	(242)858-0887
3/30	Pesticide Applicator Training-Orn.	Flint, MI	2	3B	(242)858-0887
3/31	Pesticide Applicator Cert. Program	Mt. Clemens, MI	3	ANY	(810)469-5180

Instructions for recertification training seminar attendance and training seminar dates are posted at the MDA website: <http://www.mda.state.mi.us/industry/semsked.html>

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