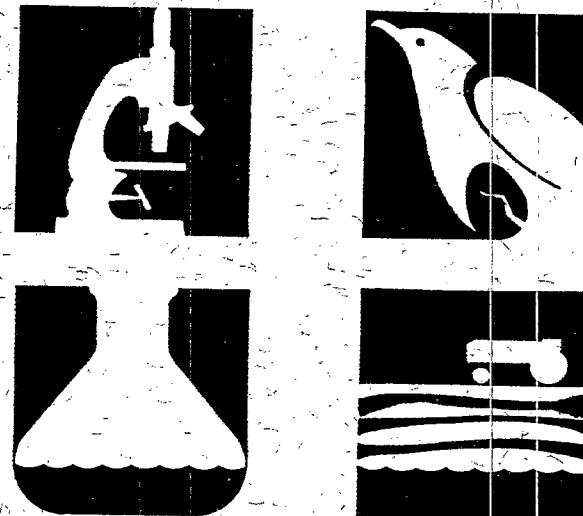
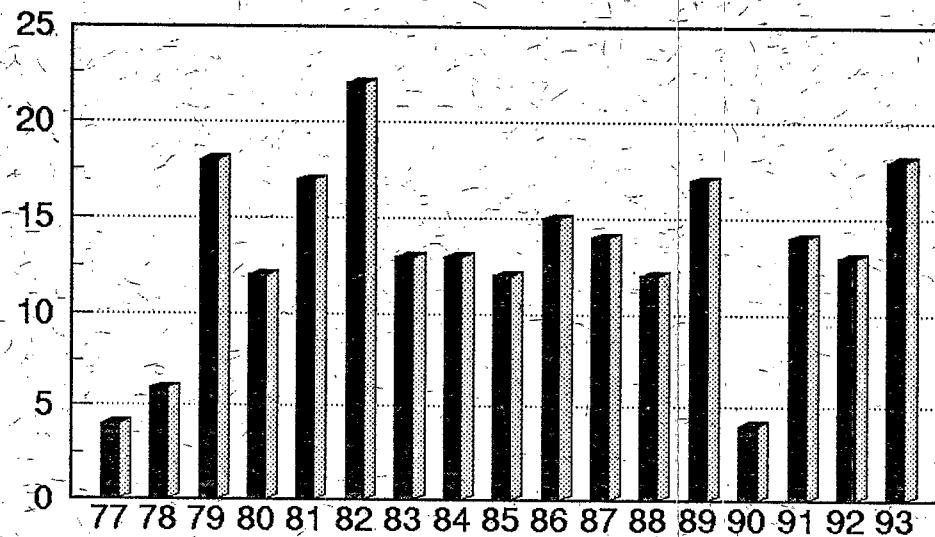




Chemicals Registered For The First Time As Pesticidal Active Ingredients Under FIFRA



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**CHEMICALS REGISTERED FOR THE FIRST TIME
AS PESTICIDAL ACTIVE INGREDIENTS UNDER
FIFRA**

**Economic Analysis Branch
Biological and Economic Analysis Division**

**OFFICE OF PESTICIDE PROGRAMS
U.S. ENVIRONMENTAL PROTECTION AGENCY**

December 1994

CHEMICALS REGISTERED FOR THE FIRST TIME AS PESTICIDAL ACTIVE INGREDIENTS UNDER FIFRA

The purpose of this report is to provide a summary of chemicals registered for the first time as pesticidal active ingredients under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended in 1988. Data have been assembled on registrations of new active ingredients by date registered, trade name, common name, initial registrant, and type. Registration of new chemicals for pest control is one indicator of technological progress in the pesticide industry.

Presented in Table 1 is a summary of all first-time chemicals registered as pesticides, by calendar year and type, covering the period 1971 through March, 1994. Table 2 summarizes data presented in Table 1 for the 24-year period (1971-94) in terms of totals, ranges (highest year, lowest year), and an annual average. Sources of these data are current records of the Agency on a chemical-by-chemical basis for the period 1971-94.

Certain chemicals are registered for more than one use (e.g., insecticides and nematicides). Detailed definitions of the "pesticide-use types" are presented in Appendix III. Chemical-by-chemical registration identifications are presented in Table 3 of this report. The last column, "Pesticide Type", shows that the majority of the newly registered chemicals fall under "Others". This rubric encompasses: attractants, antifoulants, algicides, antimicrobials (sterilizers, tuberculocides, disinfectants, virucides, fungistats, and algicides), biological fungicides and insecticides, chemical ripeners, dessicants, defoliants, feeding deterrents, fumigants, miticides (acaricides), preservatives, plant growth regulators, pheromones, and repellents. Note that only partial reporting is available for 1994. Chemicals first registered under both conditional and unconditional circumstances are identified in this table.

Chemical Code numbers are presented, in square brackets, in Table 3 for all first-time registered chemicals from 1971 to March 1994.

Appendix II shows the chemical names by reference number. Appendix I contains three bar charts and three pie charts that show the total first-time registrations for new active-ingredient pesticides for the calendar years 1991-1993. The remainder of Appendix I consists of additional bar charts demonstrating the trend in first-time registered pesticidal active ingredients by type for calendar years 1977-93. The charts present the trend for annual new registrations by type and totals for the same period.

During the 24-year period from 1971 through 1994, an average of 14 chemicals per year (Tables 1 and 2), were registered as active ingredients. The total number of chemical active-

ingredient combinations registered was 330 during the same period. Insecticides and herbicides were by far the most commonly registered (totalling 190 uses), followed by fungicides (42 uses) and bactericides/slimicides (34 uses). Only ten nematicides and six rodenticides were registered during the past 24 years (Table 2). As many as 35 new chemicals were registered in a given calendar year (1975). The fewest new registrations occurred in different years (1971/4 uses; 1978/5 uses; 1977 and 1990/6 uses; and 1976/9 uses), Table 2. The data on new registration of chemicals during the last 24 years do not show trends, up or down, in the number of new registrations.

This report is updated once a year to reflect new registrations each calendar year. In future we will add economic data on number of acres treated with the newly registered chemicals and their share of the market. For additional information, please contact:

Jihad A. Alsadek, Ph.D.
Economic Analysis Branch
Biological And Economic Analysis Division
(703) 308-8140

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APPENDIX I

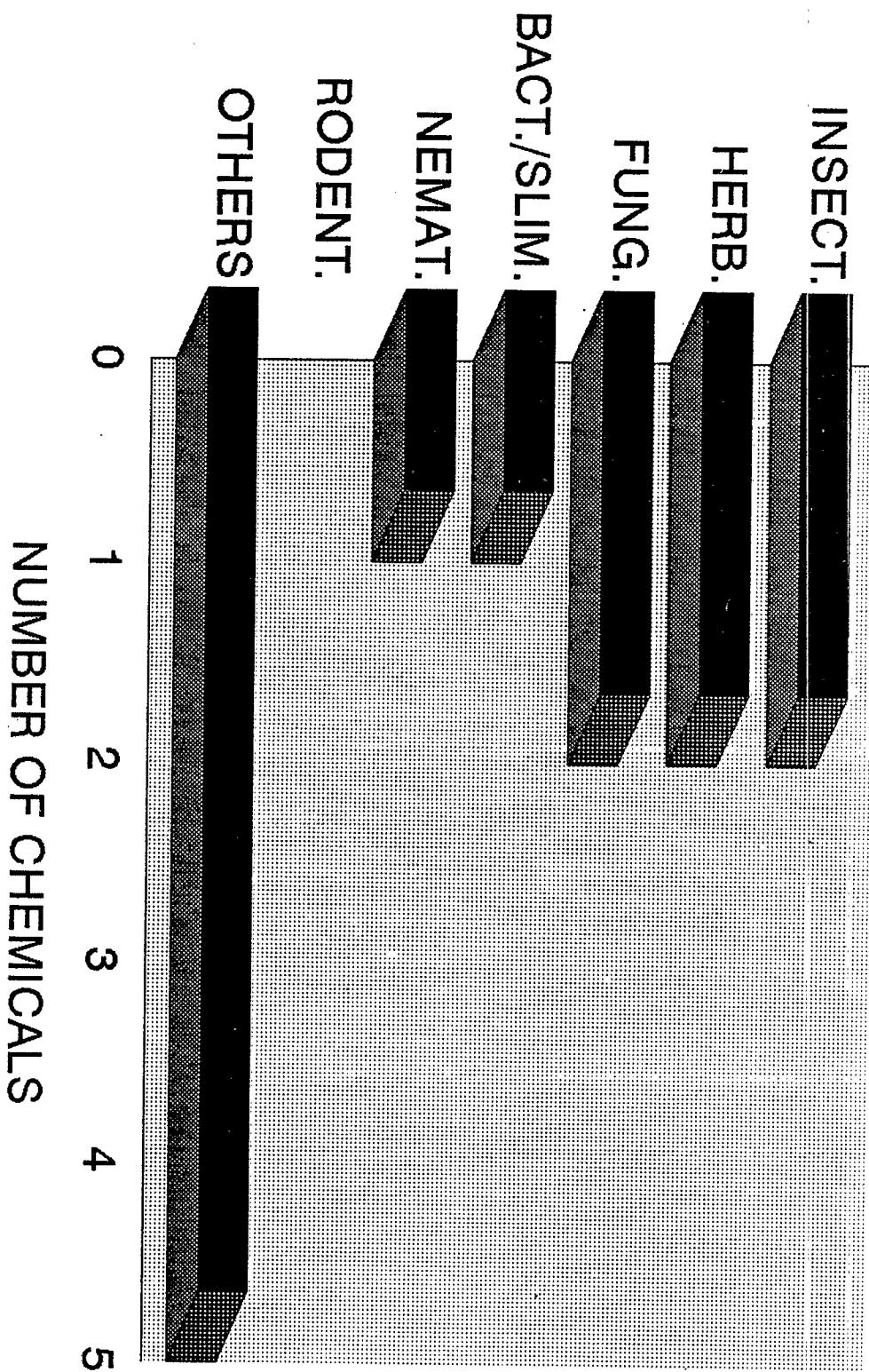
CHARTS

Three bar charts and three pie charts show total first-time registrations, by pesticide type, for new active ingredient pesticides for calendar years 1991-93. Additional bar charts show the trend in first-time registered pesticidal active ingredients for all pesticide types in terms of total uses, and total chemicals registered for calendar years 1977-93.

1991 TOTAL CHEMICALS REGISTERED

NEW ACTIVE INGREDIENTS

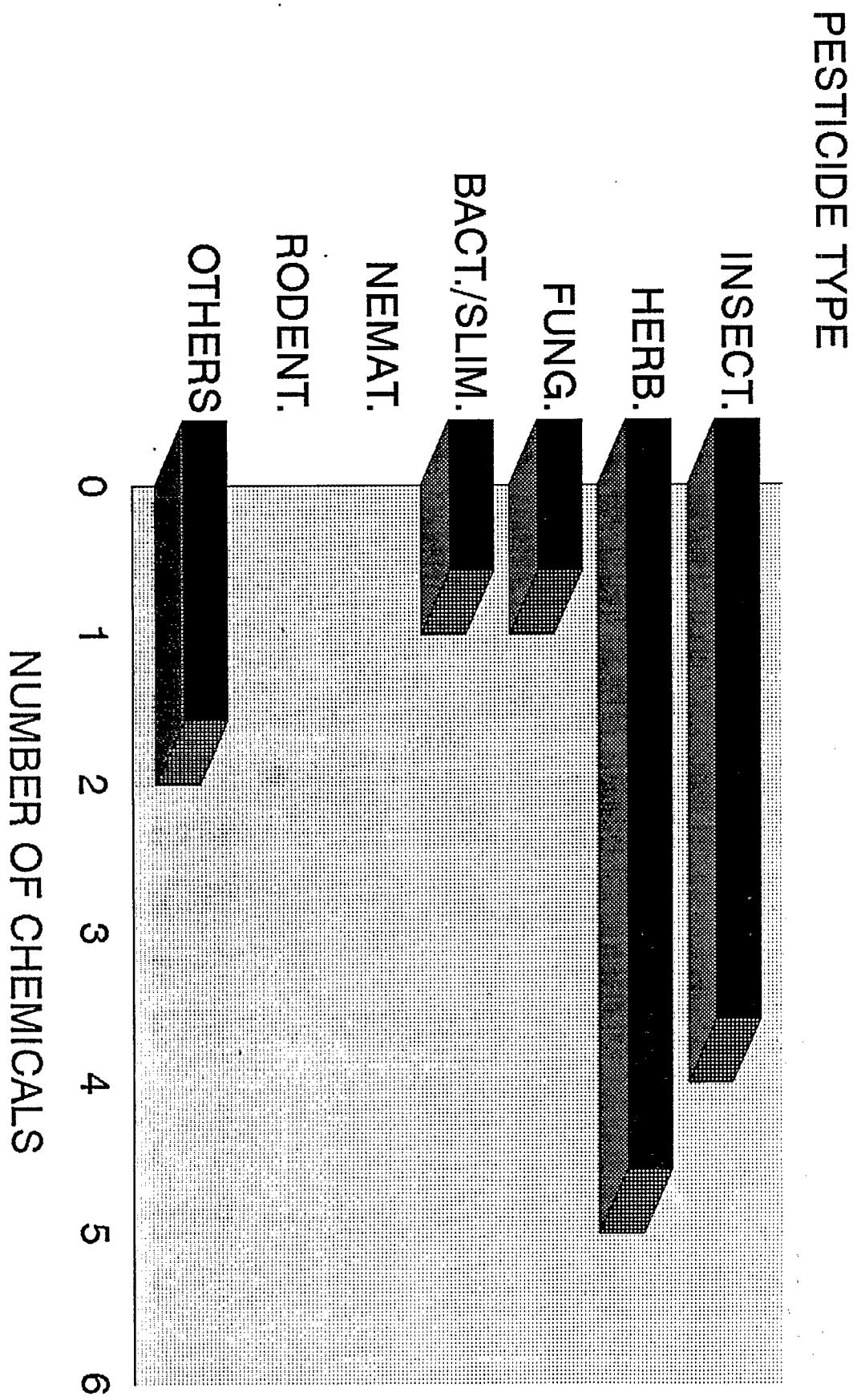
PESTICIDE TYPE



Source: TABLE 1

1992 TOTAL CHEMICALS REGISTERED

NEW ACTIVE INGREDIENTS

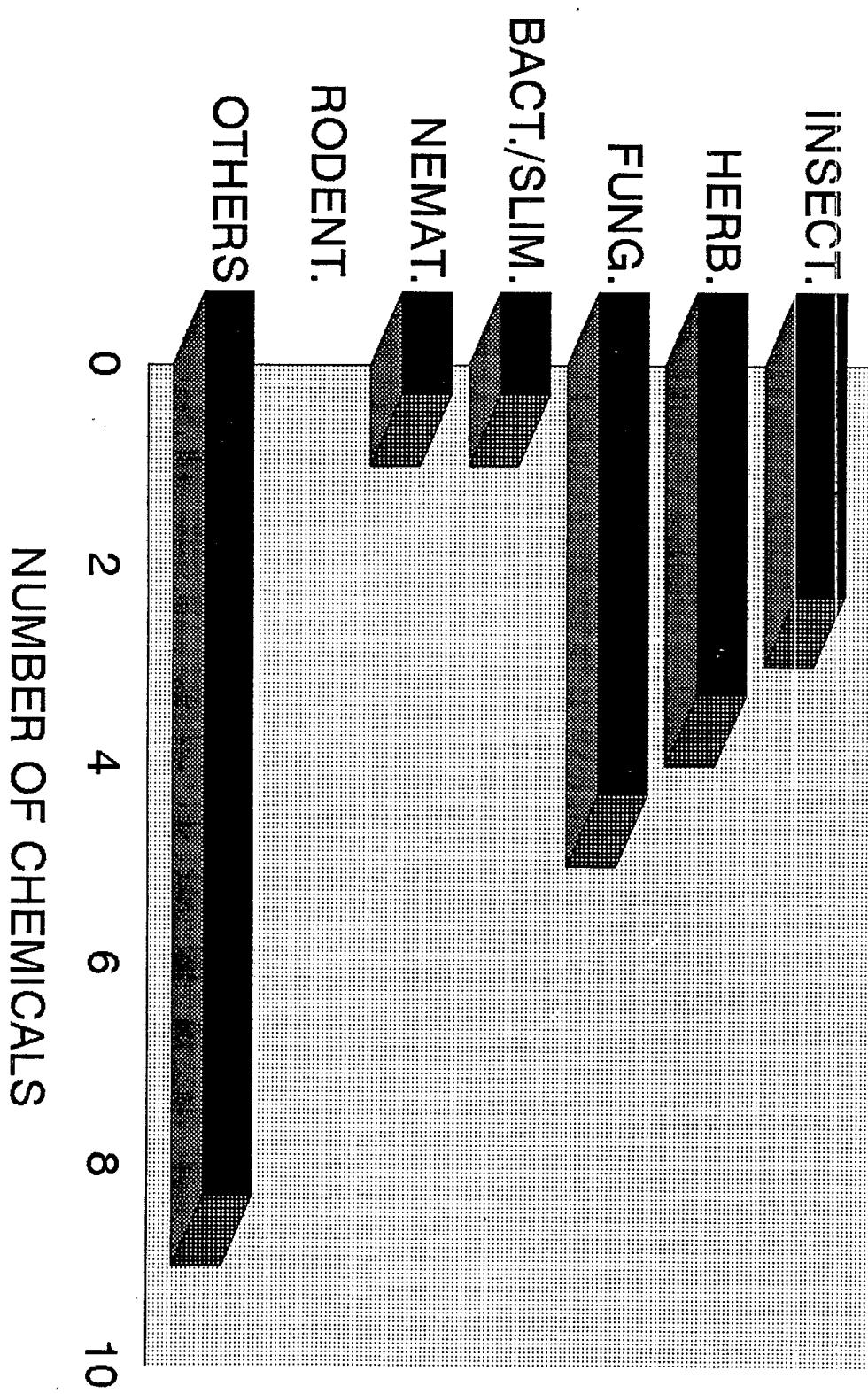


Source: TABLE 1

1993 TOTAL CHEMICALS REGISTERED

NEW ACTIVE INGREDIENTS

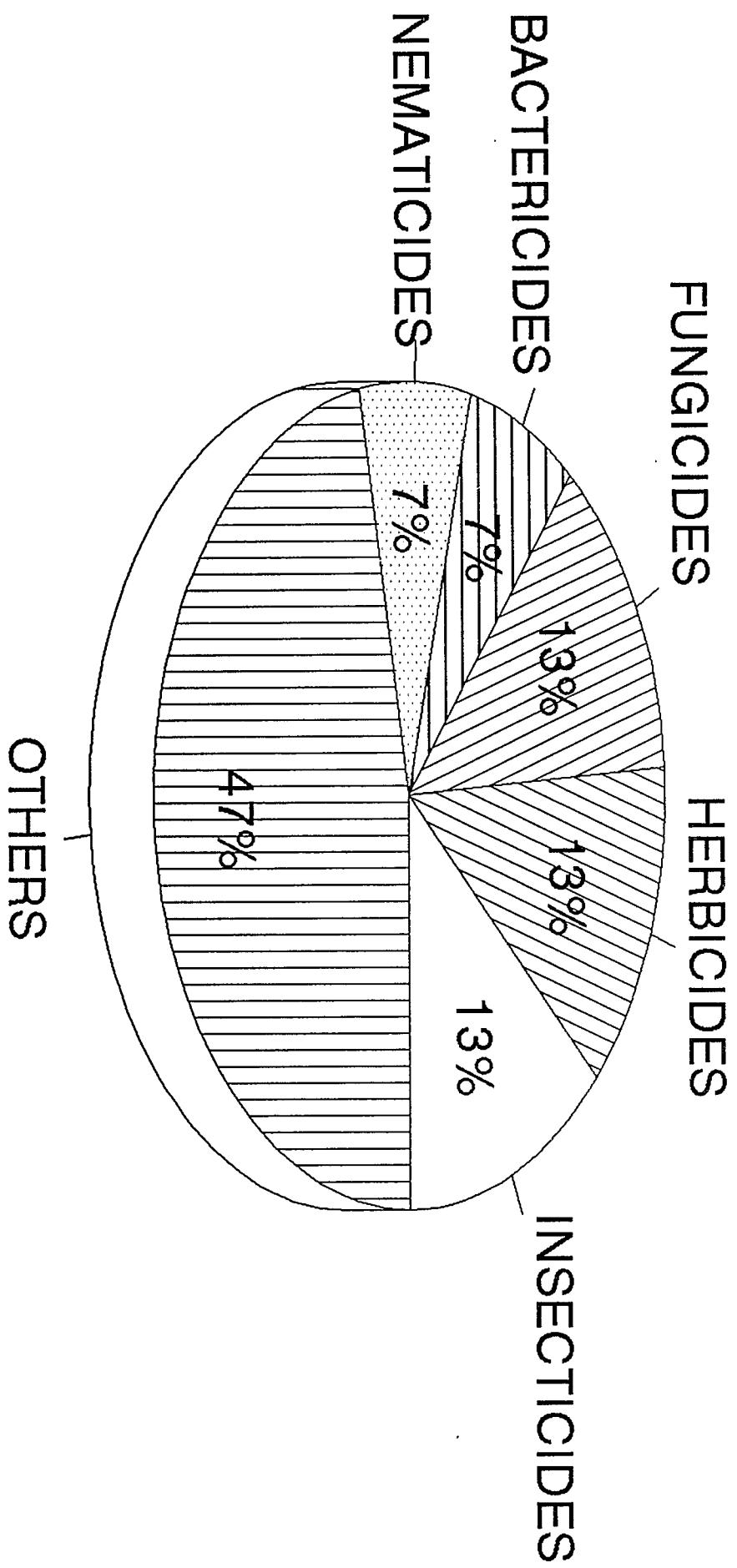
PESTICIDE TYPE



SOURCE: TABLE 1

1991 TOTAL USES REGISTERED

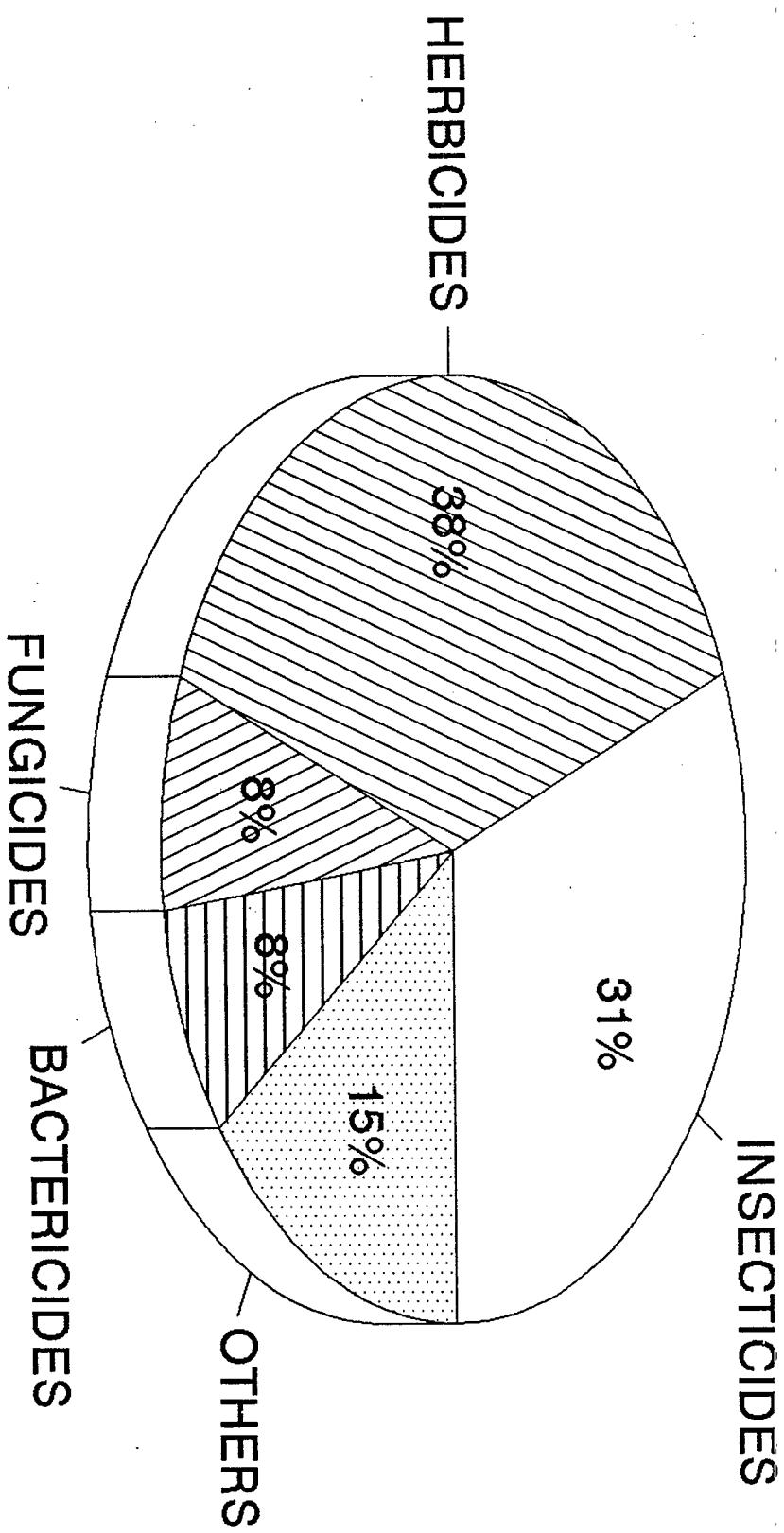
NEW ACTIVE INGREDIENTS



SOURCE: TABLE 1

1992 TOTAL USES REGISTERED

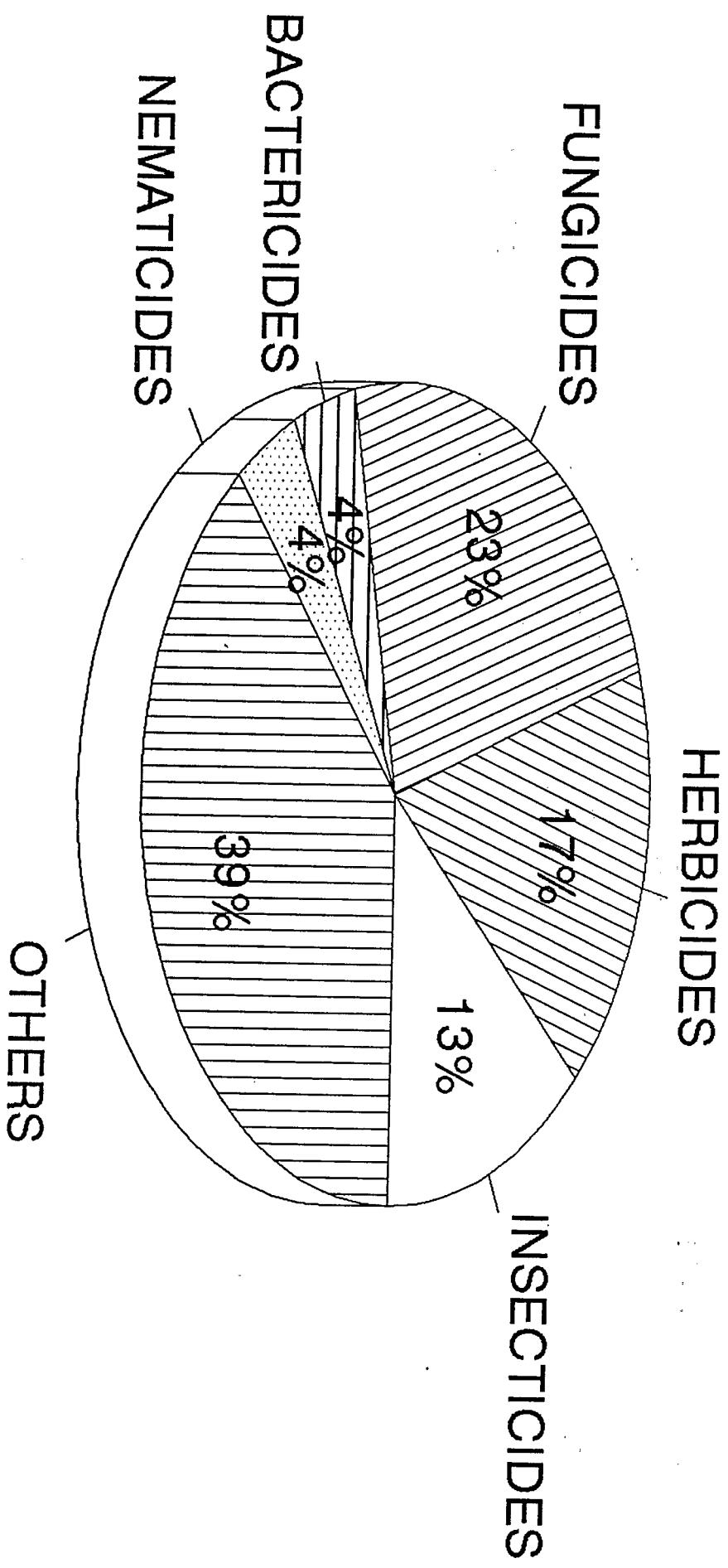
NEW ACTIVE INGREDIENTS



Source: TABLE 1

1993 TOTAL USES REGISTERED

NEW ACTIVE INGREDIENTS

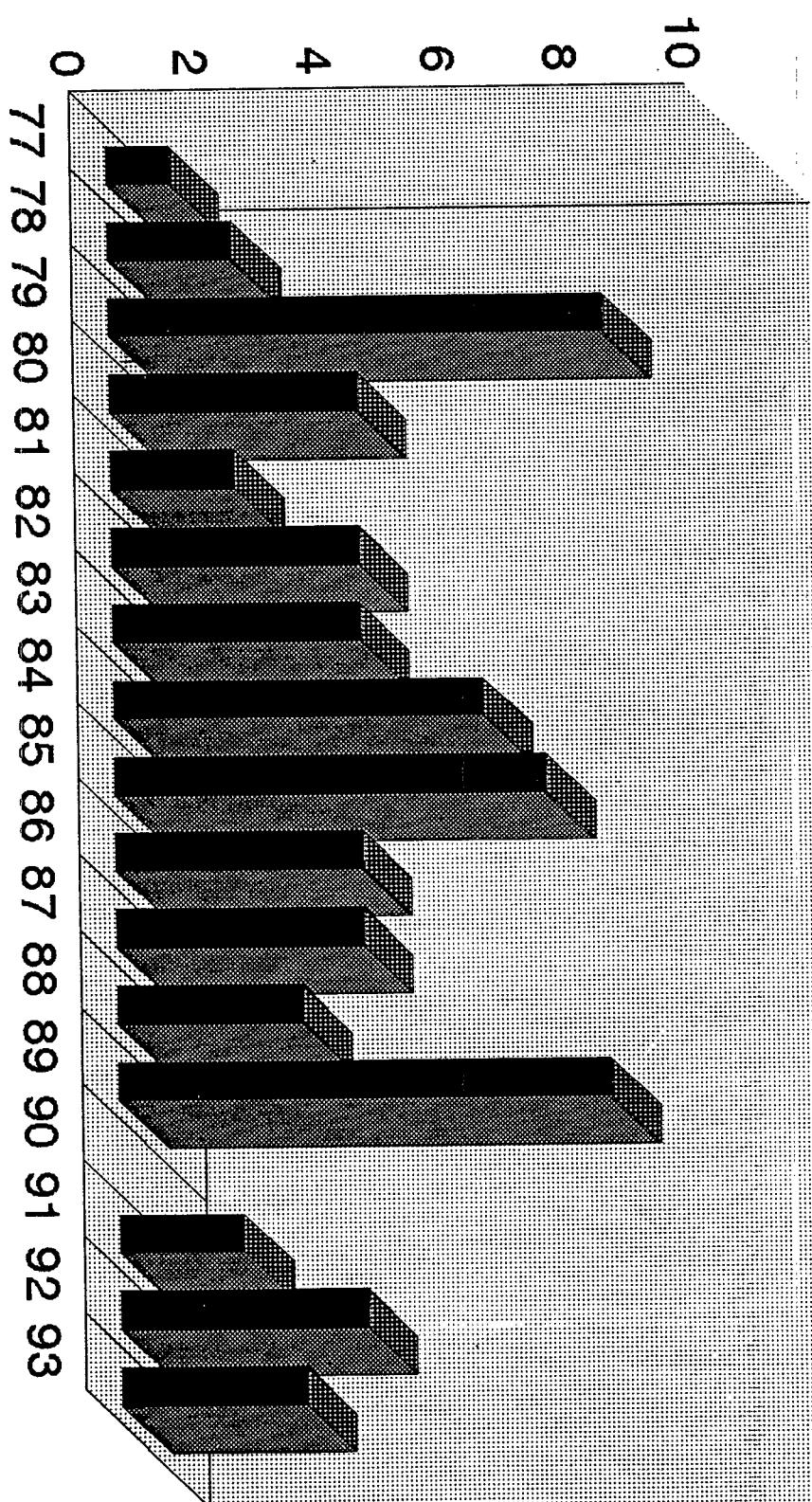


SOURCE: TABLE 1

INSECTICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

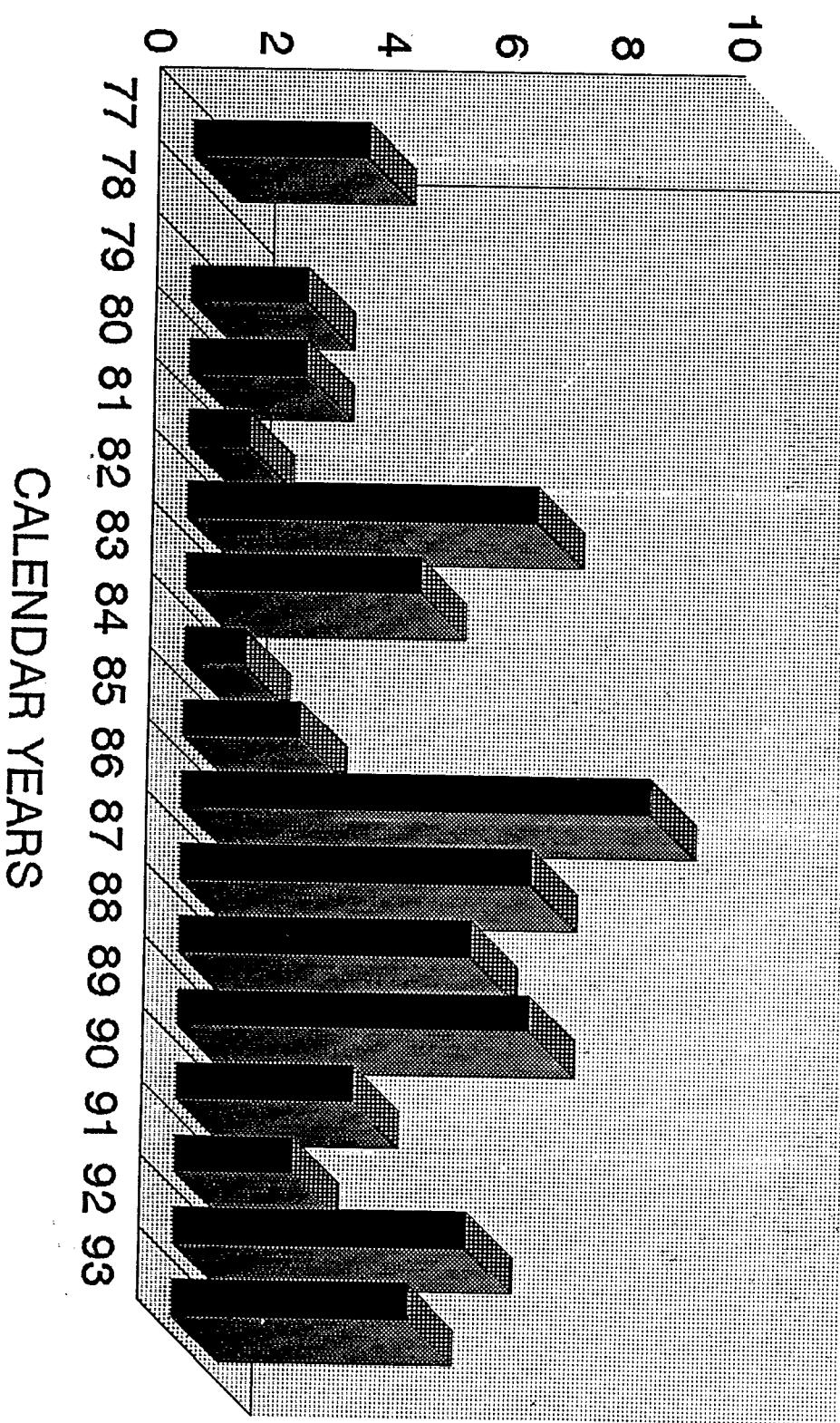


SOURCE: TABLE 1

HERBICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

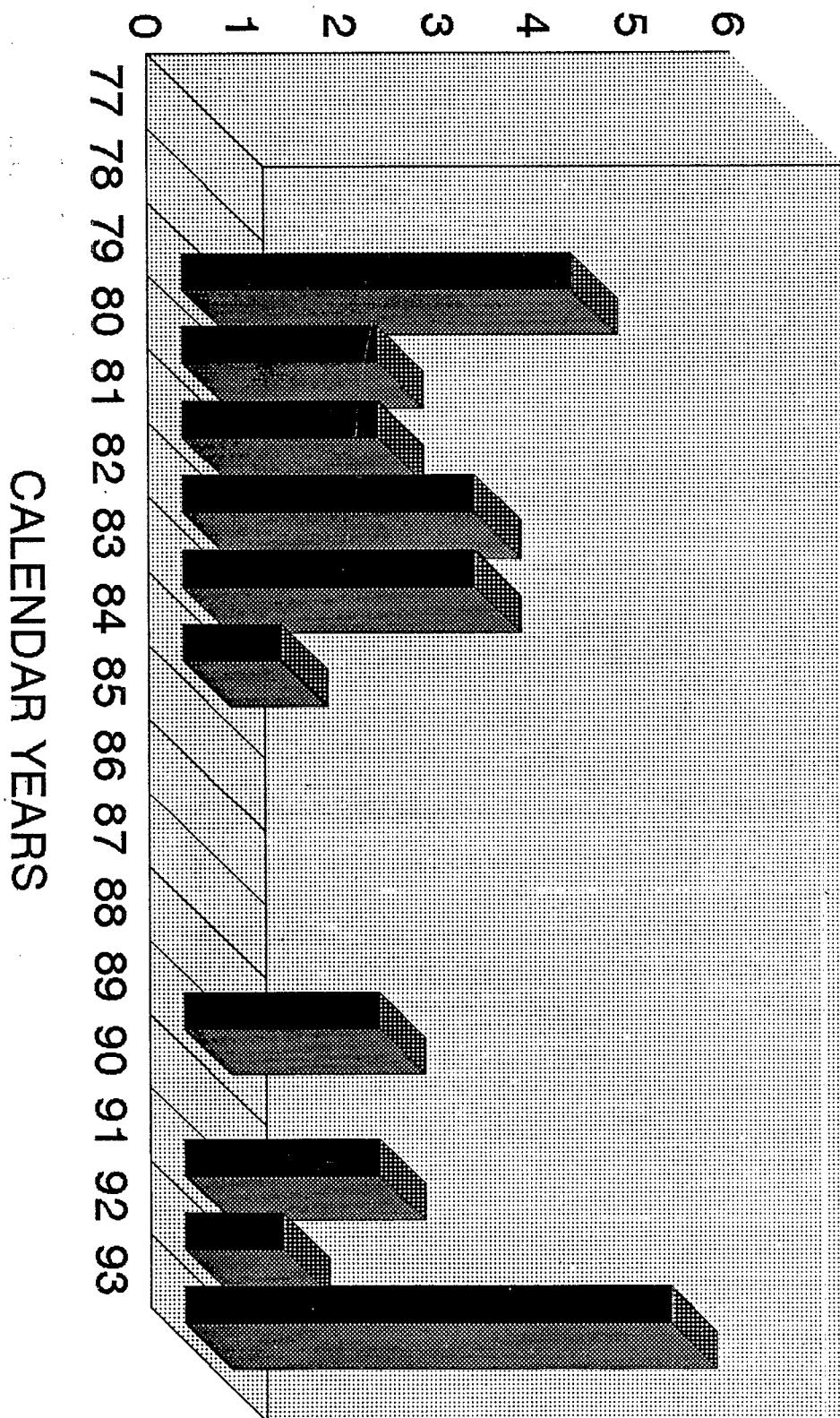


SOURCE: TABLE 1

FUNGICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

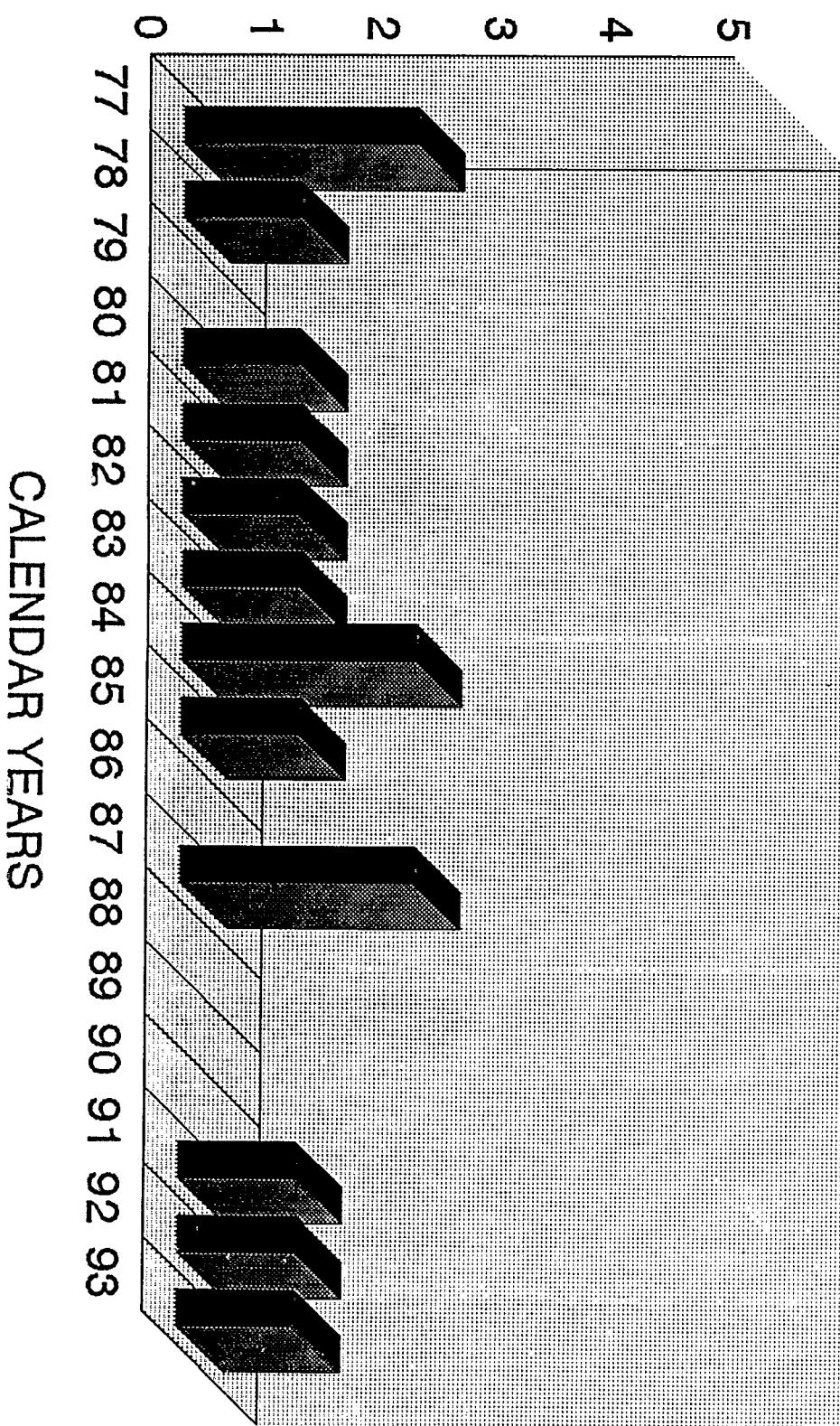


SOURCE: TABLE 1

BACTERICIDES/SLIMICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

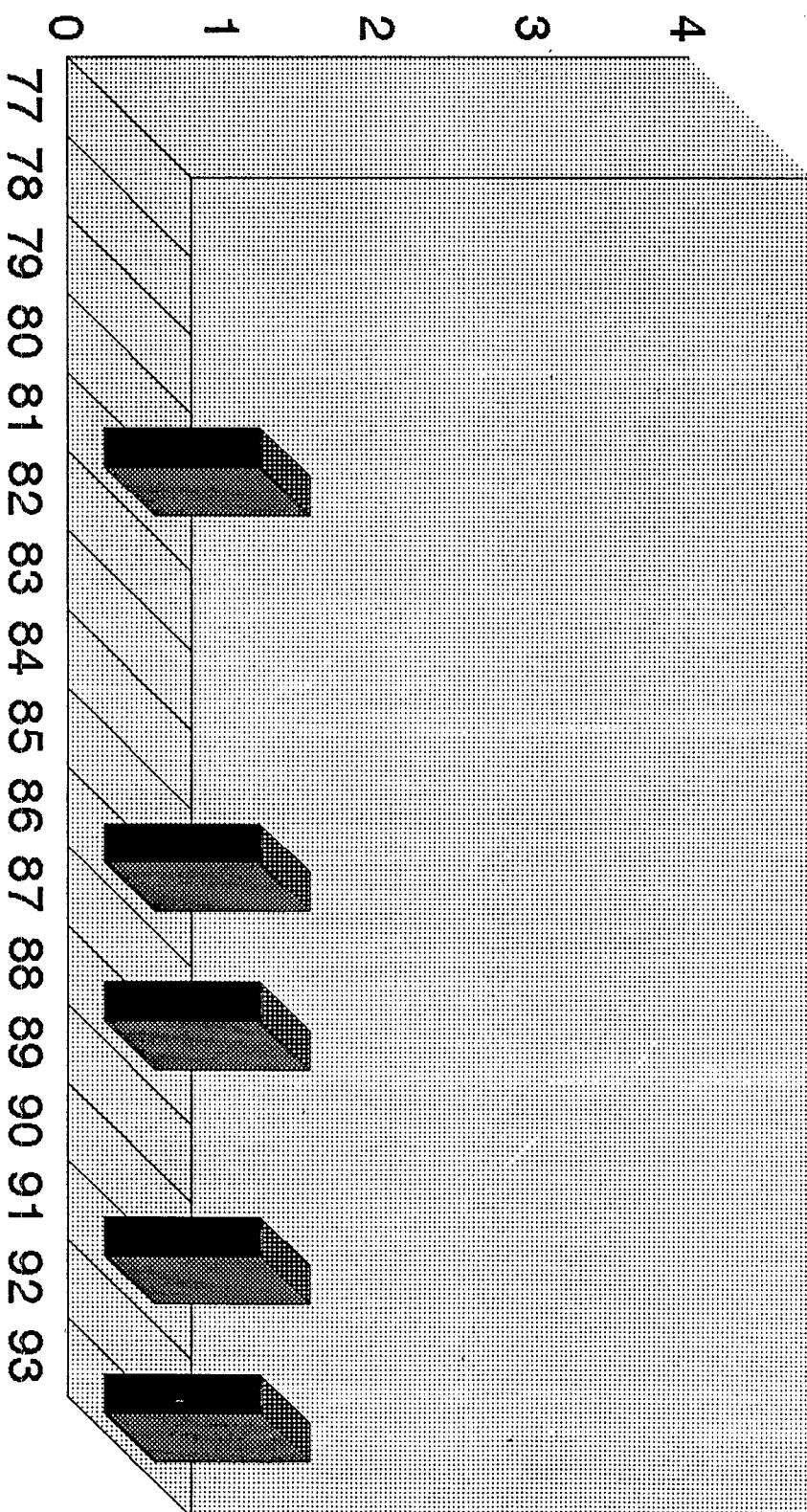


SOURCE: TABLE 1

NEMATICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS



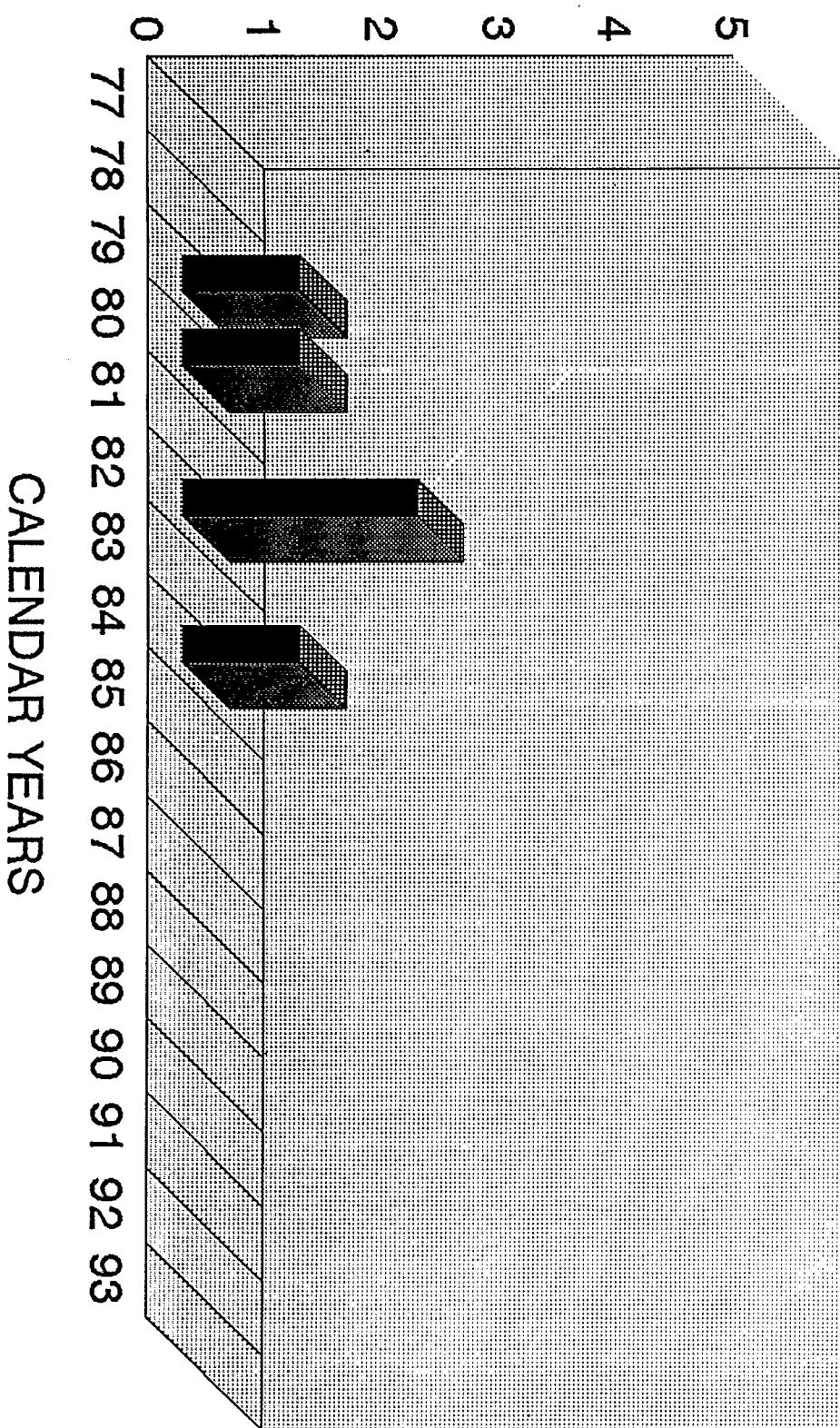
CALENDAR YEARS

SOURCE: TABLE 1

RODENTICIDES

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

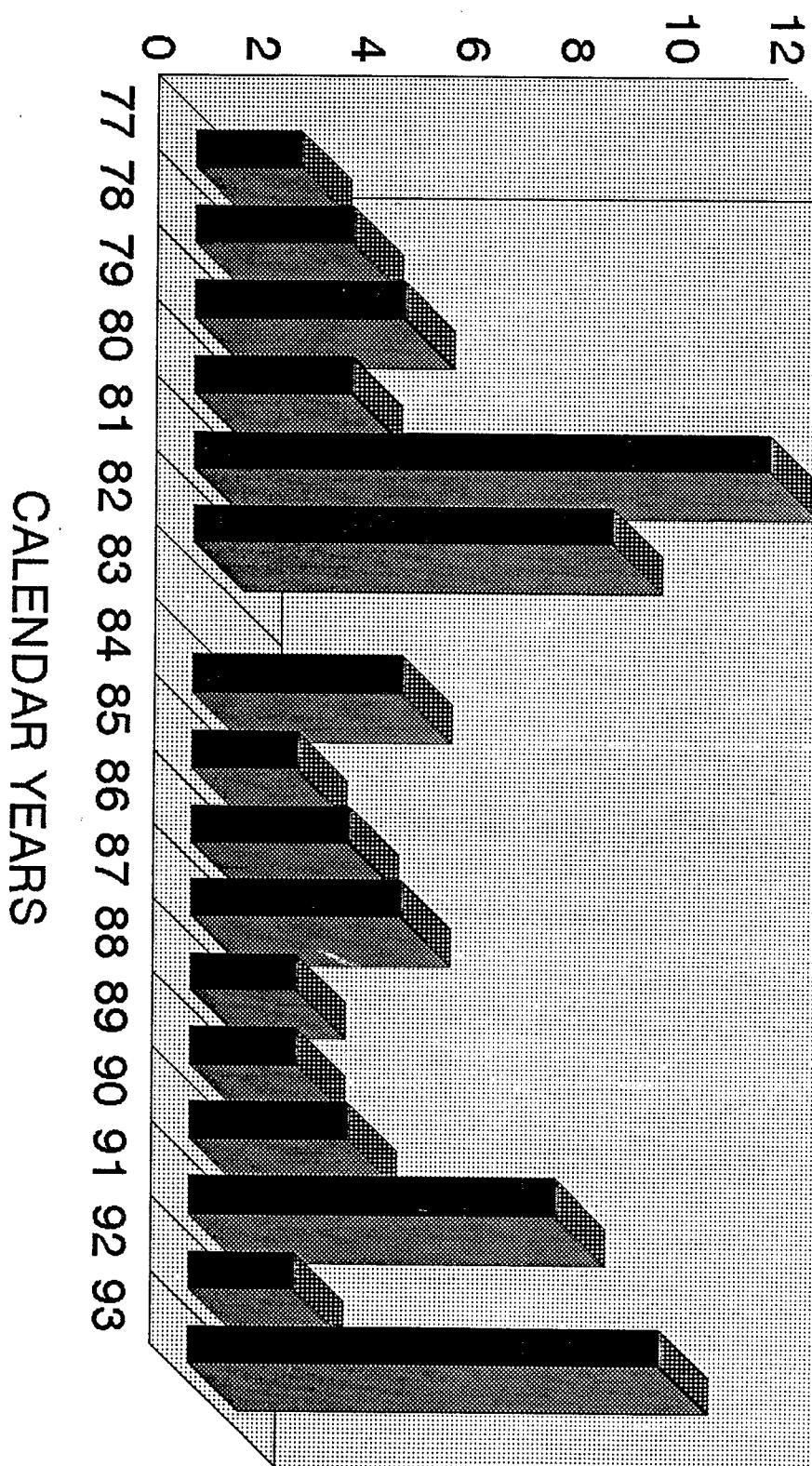


SOURCE: TABLE 1

OTHERS

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF REGISTRATIONS

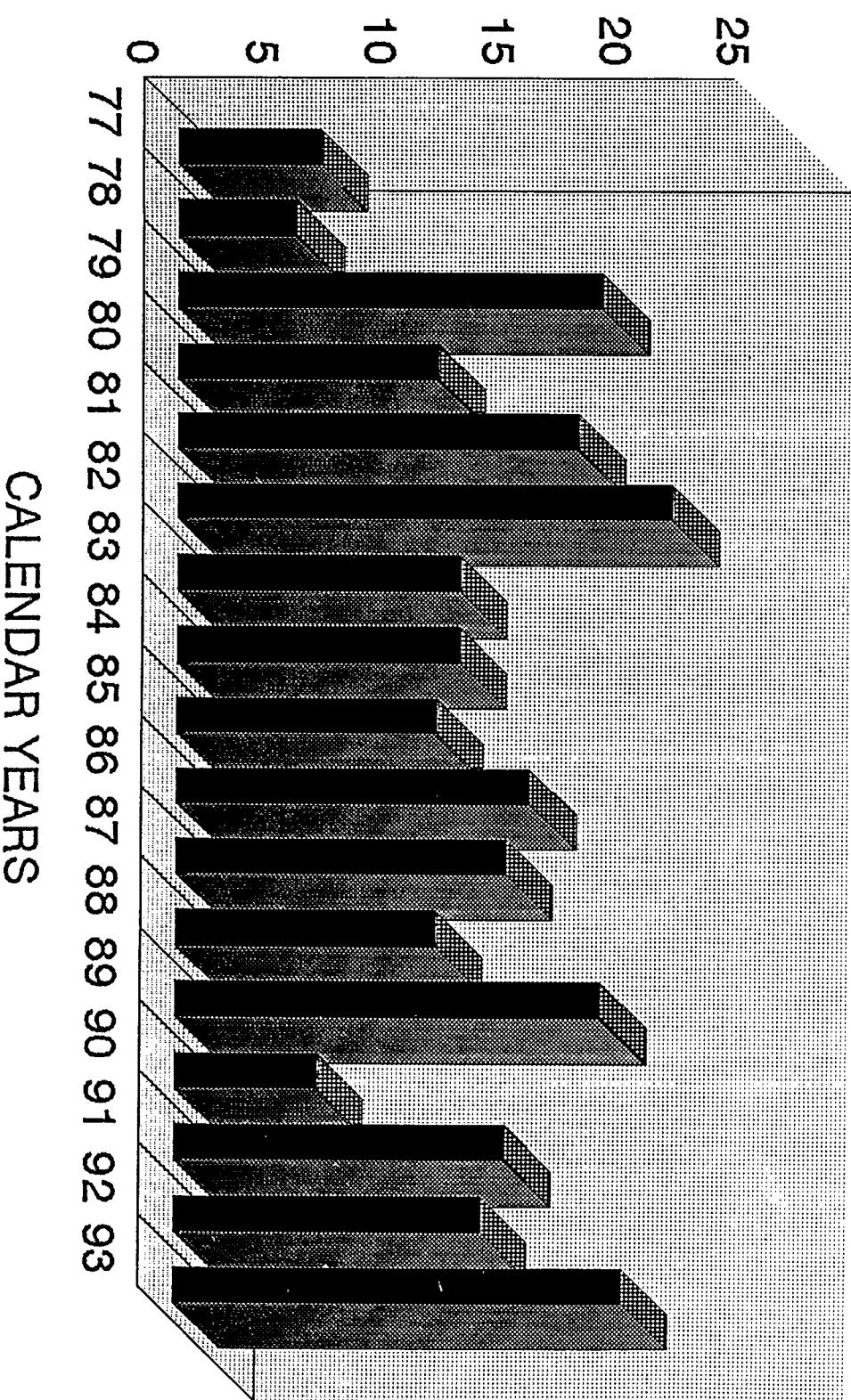


SOURCE: TABLE 1

TOTAL CHEMICALS REGISTERED

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF NEW AIS REGISTERED



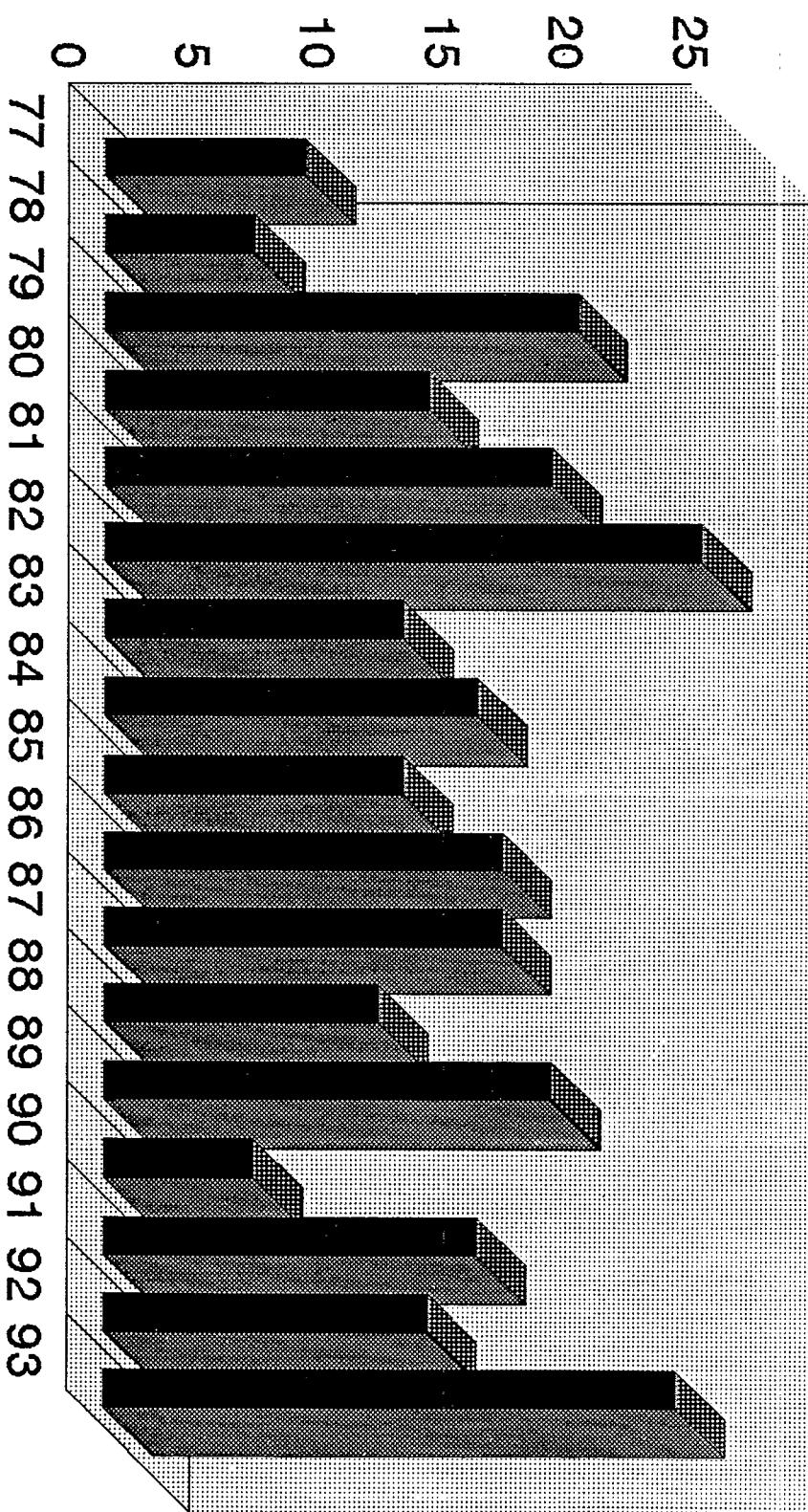
SOURCE: TABLE 1

TOTAL USES REGISTERED

FIRST-TIME REGISTERED ACTIVE INGREDIENTS

NUMBER OF USES

CALENDAR YEARS



SOURCE: TABLE 1

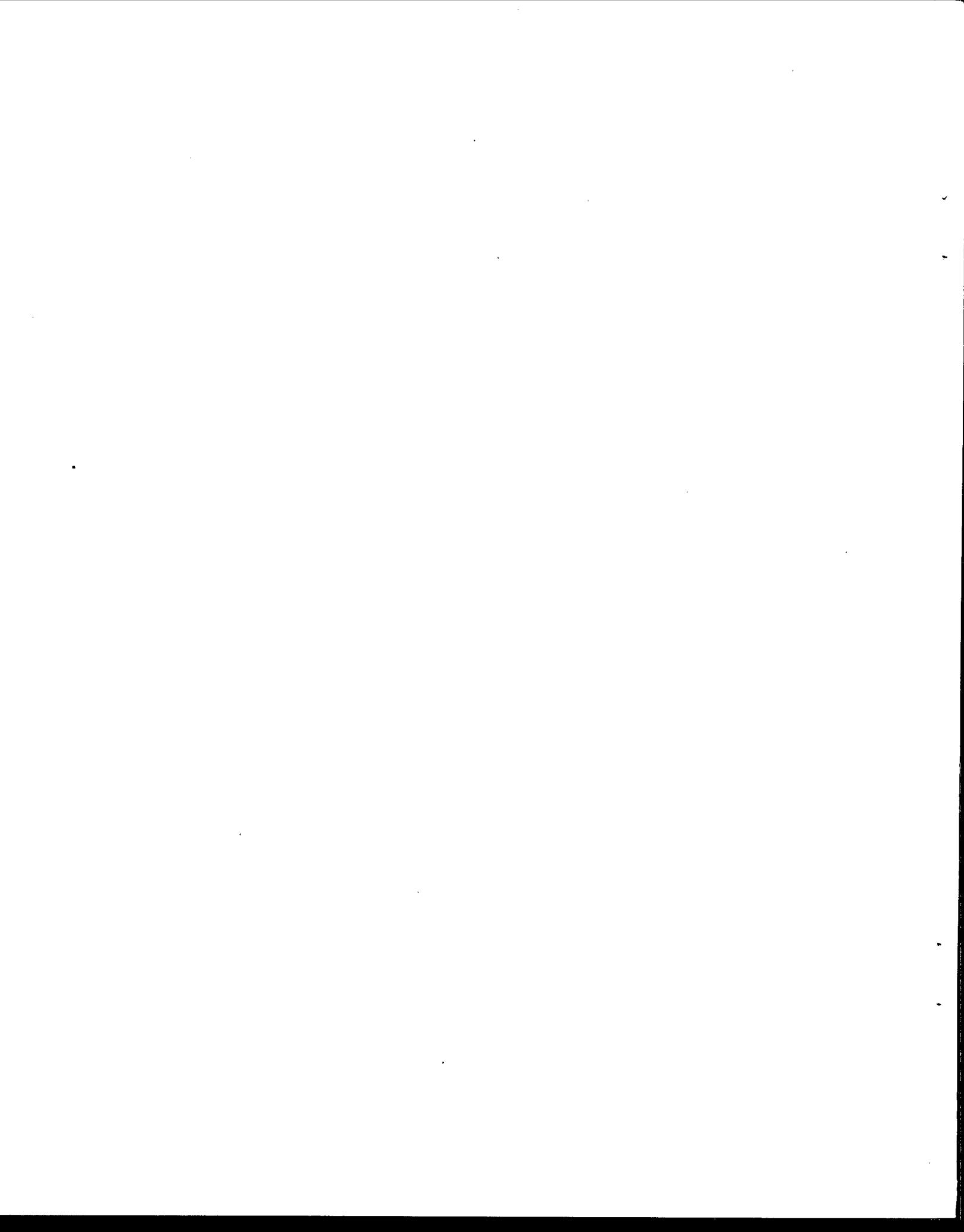


Table 1: Number of Chemicals Registered for the First Time as Pesticides under FIFRA by Calendar Year (1971-1994), and Pesticide Type.

Year Chemicals Registered	Insecticides	Herbicides	Fungicides	Bactericides/ Slimicides	Nematicides	Rodenticides	Others	Total New AIs Registered ¹
1971	1	1	1	1	0	0	0	1
1972	6	4	5	3	1	0	0	10
1973	5	4	5	3	1	0	0	3
1974	5	8	3	1	3	1	2	18 (21)
1975	10	11	2	8	0	0	0	2
1976	2	2	1	3	0	0	0	18 (23)
1977	1	3	0	2	0	0	0	13
1978	2	0	0	1	0	0	0	4
1979	8	2	4	0	0	0	0	9 (12)
1980	4	2	2	1	0	0	0	2
1981	2	1	2	1	1	0	1	6 (8)
1982	4	6	3	1	0	0	0	3
1983	4	4	3	1	0	0	0	5 (6)
1984	6	1	1	2	0	1	1	4
1985	7	2	0	1	0	0	0	18 (19)
1986	4	8	0	0	1	0	0	3
1987	4	6	0	2	0	0	0	3
1988	3	5	0	0	1	0	2	15 (16)
								11 (11)

Table 1: Number of Chemicals Registered for the First Time as Pesticides under FIFRA by Calendar Year (1971-1994), and Pesticide Type.

Year Chemicals Registered	Insecticides	Herbicides	Fungicides	Bactericides/ Slamicides	Nematicides	Rodenticides	Others	Total New AIs Registered ¹
1989	8	6	2	0	0	0	2	18 (18)
1990	0	3	0	0	0	0	3	6 (6)
1991	2	2	2	1	1	0	5	14 (15)
1992	4	5	1	1	0	0	2	13 (13)
1993	3	4	5	1	1	0	9	19 (23)
1994*	3	1	0	0	0	1	5 (5)	

* Complete through March 18, 1994.

1. Bracketed values show that many of the new active ingredients registered can be effective against two or more pest types.

Table 2: Number Of Chemicals Registered For The First Time As Pesticides During the 24-year Period 1971-94:
Total, Highest and Lowest Years, and the Annual Average.

Data (24 Years)	Insecticides	Herbicides	Fungicides	Bactericides/ Slimicides	Nematicides	Rodenticides	Others	Total New AIs Registered
Total	99	91	42	34	10	6	101	330
Highest Year	10	11	5	8	3	2	13	35
Lowest Year	0	0	0	0	0	0	0	4
Annual Average ¹	4.13	3.79	1.75	1.42	0.42	0.25	4.21	13.75

Source: Summary Of Table 1.

1. Annual averages are calculated by dividing total values by 24 years.

Table 3: New Chemicals¹ First Registered under FIFRA, by Date, Name, Registrant and Type, 1971-Date.

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
CALENDAR 1971				
5/13/71	Florel Plant Growth	Ethephon [099801]	Rhone Poulenc	PGR
6/30/71	Dipel	B.T. Subsp. Kurstaki [006402]	FMC	I
9/20/71	Skane M-8	Ocithilinone [099901]	Rohm & Haas	B,F
12/6/71	Bladex	Cyanazine [100101]	Shell	H
CALENDAR 1972				
1/5/72	Residol-Plus	Coconut Oil [218700]	West Chemical	I
1/17/72	Scent-Off	Oil of Orange, Bergamot Oil, Trans-Alpha-Ionone, Geraniol [040517, 129029, 129030, 597501]	Plantabbs	RP
2/9/72	Paarlan	Isopropalin [100201]	Elanco	H
2/16/72	Supracide	Methidathion [100301]	Ciba-Geigy	I
2/16/72	Outfox	Cyprazine [100401]	Gulf	H
4/2/72	Thuricide	Bacillus Thurengiensis (Berlinger) [006402]	Southern Agriculture	I
4/6/72	Nemacur	Fenamiphos [100601]	Mobay	N
4/22/72	Mesurol	Methiocarb [100501]	Mobay	I
7/12/72	Amical 77	1 [101001]	Abbott	F,B,P
7/12/72	Amical 48	2 [101002]	Abbott	F,B,P
8/1/72	Monitor	Methamidophos [101201]	Chevron	I
8/9/72	Sencor	Metribuzin [101101]	Mobay	H
8/23/72	Plictran	Cyhexatin [101601]	Dow	I
9/13/72	Metasol J-26	3 [101301]	Merck	F
9/20/72	XD-7287L	4 [101801]	Dow	B,F,AL,P,S
9/28/72	Dowpon NF	Dalapon [028901]	Dow	H,PGR
10/11/72	Giv-gard BNS	5 [101401]	Givaudance	F,AL,S,P
10/11/72	Kerb	Pronamide [101701]	Rohm & Haas	H

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
CALENDAR 1973				
1/4/73	Nellite	Diamidafos [102101]	Dow	N
1/16/73	Topsin-M	Thiophanate-Methyl [102001]	Pennwalt	F
2/15/73	Landrin	6 [102400,102401,102402]	Shell	I
2/22/73	A-Rest Solution	Ancymidol [108601]	Dow Elance	PGR
3/30/73	Sancap	Dipropetryn [104401]	Ciba-Geigy	H
4/9/73	Technical AMEX-820	Butralin [106501]	Rhone-Poulenc Ag.	H,PGR
4/13/73	Torak	Dialifor [102501]	Hercules	I
5/10/73	Japanese Beetle Bait	2-Phenethylpropionate [102601]	Ellicsco	I(PH)
5/23/73	Orthene	Acephate [103301]	Chevron	I(PH)
6/15/73	Cleary's Turf Fungicide	Thiophanate-Ethyl [103401]	W.A. Cleary	F
6/21/73	Devrinol	Napromide [103001]	Stauffer	H
8/14/73	XD-7603	7 [102801]	Dow	F,B
8/21/73	Busan 52	8 [102901,051704]	Buckman	F
9/13/73	Lursect	Putrescent-Whole Egg Solids [105101]	MGX	RP
10/23/73	Muscamone	(Z)-9-Tricosene [103201]	Thuron	I(PH)
11/1/73	Tolban	Profluralin [106601]	Ciba-Geigy	H
11/2/73	Nopcocide DS-649	9 [103101]	Nopco	B,F
11/20/73	Hocut CA	10 [105601]	Aenreco	B
CALENDAR 1974				
1/1/74	Pirimor	Pirimicarb [106101]	ICI	I
1/14/74	Esbiol TM Intermediate 3336	Esbiothrin [004003,004004]	MGK	I
1/21/74	Norflurazon Technical	Norflurazon [105801]	Sandoz	H
3/15/74	Surflan	Oryzalin [104201]	Elanco	H
4/4/74	Vydate	Oxamyl [103801]	DuPont	N,I

DATE REGISTERED	TRADE NAME	COMMON NAME* CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
4/5/74	Roundup	Isopropylamine Glyphosate [103601]	Monsanto	H
4/11/74	Prefox	Etiolate [103702]	Gulf	H
5/13/74	Basagran	Bentazon-Sodium Salt [103901]	BASF	H
6/12/74	Troysan 192	11 [104001]	Troy Chem. Co.	AM
7/22/74	Tenox IBP-2 Grain Pr.	Isobutyric Acid [101502]	Farmers Union Central Exchange	F
8/7/74	Spike	Tebuthiuron [105501]	Elanco	H
8/29/74	RH-787	Pyrinuron (Vacor) [104501]	Rohm & Haas	R
9/27/74	Cidial	Phenthroate [104901]	Thompson-Hayward	I
10/3/74	Smite	Sodium Azide [107701]	PPG Industries	F,H,N
10/21/74	EP-475	Desmedipham [104801]	NOR-AM	H
11/6/74	Bioban P-1487	12 [100801,100802]	CSC	P,S
11/15/74	DE-488	T-Butylhydroperoxide [?]	Betz	F,B
12/11/74	Counter	Terbufos [105001]	American Cyanamid	I,N

CALENDAR 1975

1/20/75	Visco 1152	13 [107601]	Nalco	S
1/23/75	Bolero	Thiobencarb [108401]	Chevron	H
2/3/75	Vendex	Fenbutatin-Oxide [104601]	Shell	I
2/7/75	Sustar (7182-3)	Diethanolamine Fluoridamid [105701]	3M	PGR
2/13/75	Basalin	Fluchloralin [108701]	BASF	H
2/13/75	Gardoprime	Terbuthylazine [080814]	Ciba-Geigy	H
2/27/75	Modown	Bifenox [104301]	Mobil	H
3/4/75	Altosid	Methoprene [105401]	Zoecon	I(GR)
3/10/75	Polaris	Glyphosine [103602]	Monsanto	CR

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
3/13/75	Potable-Aquatablets	Tetraglycine-Hydroperoxide [046923]	Wisconsin Pharmacal Co.	B,AM
3/20/75	Sumithion	Fenitrothion [105901]	Sumitomo	I
3/25/75	Probe	Methazole [106001]	Velsicol	H
3/28/75	Cosan 265	14 [106801]	Cosan Chemical Corp.	I,F
3/31/75	U-36,059	Amitraz [106201]	Upjohn Co.	I
4/24/75	Primicid	Pirimiphos-Ethyl [108101]	ICI	I
5/23/75	Visco P-25-F	2-Nitro-1-Butylphosphate [056902]	Nalco	B
6/23/75	Ficam	Bendiocarb [105201]	Fisons	I
7/7/75	Avenge	Difenoquat Methyl Sulphate [106401]	American Cyanamid	H
7/9/75	T.B.Q Germicidal Detergent	Hyamine 3500, Ethoxylated Cocoamine [069105,079097]	Vestal Labs	B,S,AM,P,M
7/25/75	Mark II	Silver Chloride [072506]	Electrolux Corp.	B
7/29/75	Prowl	Pendimethalin [108501]	American Cyanamid	H
8/4/75	Dow Corning 5700	X9-5700 [107401]	Dow Corning Corp.	AM
8/12/75	Krenite	Fosamine Ammonium [106701]	DuPont	PGR
9/16/75	Asulox	Sodium Asulam [106902]	Rhone-Poulenc	H
9/18/75	Troysan KK-108A	15 [107801]	Troy Chem. Co.	AL
9/19/75	Plondrel	Ditalimfos [106301]	Dow Chemical Co.	F
10/16/75	S-2539 Forte	16 [069005]	Sumitomo	I
10/17/75	Biomet 204	Triphenyltin Fluoride [083602]	M&T	H,AF,AL
10/23/75	4WC3 17	17 [067321]	Nalco	B
10/24/75	Asulam, Technical	Asulam [106901]	Rhone-Poulenc	H

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
10/30/75	Nuosept 95	18 [107004]	Auls America, Inc.	S,P
11/13/75	Velpar	Hexazinone [107201]	DuPont	H
12/2/75	Elcar	Nuclear Polyhedrosis Virus Of Heliothis Zea [107301]	Sandoz	I
12/22/75	Enstar	Kinoprene [107501]	Zoecon	I(GR)
12/22/75	Epic Algaecide	19 [169138]	Epic Chem. Co.	B
CALENDAR 1976				
1/1/76	Hydro-Giene	Cuprous Iodide [108301]	Water Science	B
1/1/76	Cobex	Dinitramine [102301]	U.S. Borax	H
1/12/76	Funginex	Triforine [107901]	EM Labs	F
3/10/76	Destun	Perfluidone [108001]	3M	H
4/6/76	Dibromantin	20 [006317]	Filter International	S,P,M
5/6/76	Dimilin	Diflubenzuron [108201]	Thompson-Haywood	I(GR)
6/3/76	Steri-Chem DM 40	21 [083202]	Thompson Research	B
6/9/76	Uniquat CB-50	22 [046621]	Lonza	M,P
8/11/76	Biocontrol-1	NPH Tussock Moth [107302]	USDA	I(PH)
CALENDAR 1977				
4/1/77	Metolachlor, Technical	Metolachlor [108801]	Ciba-Geigy	H
4/7/77	BK LFI 2	23 [046924]	Pennwalt	B
4/19/77	Kathon WT	24 [107103,107104]	Rohm & Haas	S,P,AM
5/24/77	Ronstar	Oxadiazon [109001]	Chipman	H
8/30/77	Zardex	Cycloprate [115601]	Zoecon	I
12/7/77	Nortron	Ethofumesate [110601]	Fisons	H
CALENDAR 1978				
2/9/78	Gossyplure	25 [114103]	Conrel	I

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
2/22/78	Embark	Mefluidide [114002]	3M	PGR
4/12/78	Gypchek	NPH [107301]	USDA	I
7/7/78	Cytex	Cytokinin [116801]	A&P Research	PGR
12/22/78	-	Tributyltin-Methacrylate [83120]	Courtalds	AF,B

CALENDAR 1979

1/4/79	Galltrol-A	Agrobacterium Radiobacter [114201]	AG Biochem	F
1/23/79	Iprodione	26 [109801]	Chipman-Rhodia	F
2/14/79	Bolstar	Sulprofos [111501]	Mobay	I
2/27/79	Embark (2-S)	Diethanolamine Mefluidide [114002]	3M	H,PGR
3/9/79	Promalin	27 [116901,116902]	Abbott	PGR
3/13/79	Pydrin	Fenvalerate [109301]	DuPont Agri. Products	I
4/7/79	Atrinal	Dikegulac Sodium [109601]	Hoffman-LaRoche	PGR
4/11/79	Pounce/Ambush	Permethrin [109701]	FMC/ICI	I
4/19/79	Fumi-Cel	Magnesium Phosphide [066504]	Degeschin	I(FU)
5/8/79	Garlon	Triethylammonium Triclopyr [116001]	Dow	H
5/17/79	Goal	Oxyfluorfen [111601]	Rohm & Haas	H
5/28/79	Plant Pin	Butoxycarboxim [113001]	Henley	I
6/12/79	Ridomil	Metalaxyl [113501]	Ciba-Geigy	F
6/29/79	Bag-A-Bug	(R,Z)-5-(Idecenyl) dihydro-2(3H)-furanone [?]	Baker Chemical	I(PH)
8/20/79	Disparlure	28 [114301]	Hercon	I(PH)
8/20/79	Grandlure	29 [112401,112402,112403,112404]	Hercon	I(PH)
8/27/79	Bayleton	Triadimefon [109901]	Mobay	F
11/2/79	Talon	Brodifacoum [112701]	ICI	R

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
CALENDAR 1980				
2/22/80	Propetamphos	Propetamphos [113601]	Sandoz	I
2/26/80	Milban	Dodemorph Acetate [110401]	Mallenckrodt	F
3/31/80	Hoelon	Diclofop-Methyl [110902]	American Hoechst	H
4/2/80	Metasol D	Dazomet, Sodium Salt [035607]	Calgon	B,F,M
4/10/80	Blazer	Sodium Acifluorfen [114402]	Rohm & Haas	H
4/17/80	Pix	Mepiquat Chloride [109101]	BASF	PGR
5/9/80	Noloc	Nosema Locustae [117001]	Sandoz	I
8/20/80	Amdro	Hydramethylnon [118401]	American Cyanamid	I
8/22/80	Amaze (Oftanol)	Isofenphos [109401]	Mobay	I
10/29/80	Nomate Shootgard	30 [?]	Conrel	PH
12/5/80	Maki	Bromadiolone [112001]	Chempar	R
CALENDAR 1981				
2/11/81	Ronilan	Vinclozolin [113201]	BASF	F
2/24/81	N-Maleimide	31 [113701]	Abbott	P
3/6/81	Hefty Dog and Cat Repellent	Cinnamic Aldehyde [040506]	Mobile	RP
3/25/81	De Vine	Phytophthora Palmivora [111301]	Abbott	H
4/14/81	Bollex	32 [118501]	U.S. Soil	FD
5/1/81	N-Trap Elm Bark Beetle	33 [?]	Conrel	PH
5/11/81	Aquashade	34 [110303]	Aquashade	AL
7/28/81	Mycar 1	Hirsutella Thompsonii [?]	Abbott Labs.	I
8/3/81	Baguacil	35 [?]	ICI	D
8/14/81	Tilt (OGA-64250)	Propiconazole [122101]	Ciba-Geigy	F
8/24/81	Ultrafresh DM-50	Tributyltin Maleate [083118]	Thompson	BF
9/9/81	Accel	36 [110001]	Shell	PGR

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
9/28/81	Nem-a-Tak	Fosthietan [113301]	American Cyanamid Co.	N,I
11/3/81	Embark (2-L)	Mefluidide, Potassium Salt [114003]	3M	PGR
11/5/81	-	Tributyltin-Methacrylate [?]	M&T Chemicals	AF
11/6/81	Fruit Builders Fish Oil	Fish Oil [112401]	Fruit Builders, Inc.	RP
11/17/81	Paraclox	Paraclox [114901]	Rousell	S

CALENDAR 1982

1/15/82	Pay Off	Flucythrinate [118301]	American Cyanamide	I
1/18/82	Intersept	37 [129079,129080]	Interface Co.	AM,F
2/1/82	Nomate Suppress 2	(E)-4-Tridecen-1-Yl, Acetate (Z)-4-tridecen-1-Yl [?]	Albany Int.	I(PH)
2/3/82	Prevex	Propamocarb [119302]	Norm-Am	F
2/3/82	Previcur N	Propamocarb hydrochloride [119302]	Nor-Am	F
2/8/82	Oust	Sulfometuron Methyl [122001]	DuPont	H
2/12/82	Antor	Diethatyl-Ethyl [?]	BFC Chemicals	H
2/19/82	Marstat PN	38 [129079,129080]	Chemmar Associates	D
4/13/82	Luretape/Bagworm	39 [123401]	Hercon	I(PH)*

* Initial 3(C)(5) registration paperwork completed by USDA.

5/24/82	Poast	Sethoxydim [121001]	BASF	H
6/25/82	Dropp	Thidiazuron [120301]	NOR-AM	D,PGR
6/29/82	Curacron	Profenofos [011401]	Ciba-Geigy	I
6/30/82	Collego	Colletrichum Gleosporoides Spores [?]	Upjohn	H
7/23/82	Glean	Chlorsulfuron [118601]	DuPont	H
7/26/82	Fungisol	DEBC [115001]	J.J. Mauget Co.	F

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
8/9/82	Epibloc	40 [117101]	Pestoon Systs. Inc.	R
8/13/82	Harvade	Dimethipin [118901]	Uniroyal	PGR,DF
10/14/82	VEL 4359 50W	Dicamba, Aluminum Salt [129042]	Velsicol Chemical Corp.	H
10/21/82	Bromethalin Bait	Bromethalin [112802]	Elanco	R
11/8/82	Requat	41 [169160]	Wm. G. Roessler	AM
11/24/82	Metronidazole	42 [120401]	Searle & Co.	S

CALENDAR 1983

2/18/83	Pro-Drone, MV-678	43 [119501]	Stauffer	I(PH)
2/25/83	Neochek-S	Preserve [107304]	U.S.D.A. Forest Service	I
3/18/83	Nomate-Blockaide	Decatriene [125901]	Albany International	I(PH)
3/25/83	Mavrik Aquaflow	Fluvalinate [109302]	Zoecon Corp.	I
4/4/83	Mandate	Octanoic Acid & Decanoic acid [128919, 128955]	Ecolab	B
4/20/83	Fusilade 4E	Fluazifop-Butyl [122805]	ICI	H
5/27/83	Prime +	Flumetralin [123001]	Ciba-Geigy	H
7/18/83	Fungaflor	Imazalil [111901]	Janssen R&D Inc.	F
8/2/83	Aliette	Fosetyl-AL [123301]	Rhone-Poulenc	F
8/25/83	Belclene 310	Dimethametryn [080815]	Ciba-Geigy	H
9/21/83	Cosan 145	44 [123702]	Cosan Chem. Co.	F
11/28/83	Sonalan	Ethalfluralin [113101]	Elanco	H

CALENDAR 1984

1/29/84	Triacon	45 [116201]	Biochem. Rsch.	PGR
2/10/84	Larvin	Thiodicarb [114501]	Union Carbide	I
2/15/84	Arosurf MSF	Arosurf [124601]	Sherex	I

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
5/2/84	Periplanone-B	Lure & Kill Roach & Ant Killer with Sex Lure [124801]	Hercon Environmental Co.	I(A)
5/23/84	Altozar	Hydroprene [486300]	Zoecon' Corp.	I(GR)
6/12/84	Cymbush/Ammo	Cypermethrin [109702]	ICI/FMC	I
7/31/84	Arsenal	Izamethapyr, Isopropylamine salt [128829]	American Cyanamid	H
8/2/84	Bronopol or Onyxide 500	46 [216400]	Boots	AM,S
9/12/84	Dantochlor	Hydantoin [128826]	Glyco Inc.	AM,AF,S
9/25/84	Actellic	Pirimiphos-Methyl [108102]	ICI	I
11/9/84	Quintox	Cholecalciferol [202901]	Bell Labs	R
11/13/84	Rubigan	Fenarimol [206600]	Elanco	F

CALENDAR 1985

1/9/85	Flea Killer Plus	S-Methoprene [105402]	Johnson	I(GR)
1/23/85	PP005 2E Herbicide	Fluazifop-P-Butyl [122809]	Zeneca	H
2/21/85	Magna CP-1	Potassium Cresylate [128870]	Magna Technologies	AM
3/8/85	GlycoServe	MDM Hydantoin, DMDM hydantoin [115501,115502]	Glyco Inc.	AM,S
5/9/85	Larvadex Premix	Cyromazine [121301]	Ciba-Geigy	I(GR)
6/6/85	Clipper 50WP	Pacllobutrazol [125601]	ICI Americas	H(PGR)
7/1/85	Reldan	Chlorpyrifos-Methyl [059102]	Dow	I
7/9/85	Margosan-0-Concentrate	Azadirachtin, Neem [121701]	Vikwood	I
9/6/85	Scout X-TRA	Tralomethrin [121501]	Roussel-Uclaf	I
10/2/85	Talstar	Bifenthrin [128825]	FMC	I
10/3/85	Linalool	Linalool [128838]	Pet Chemicals	I

CALENDAR 1986

1/16/86	Standak	Aldoxycarb [110801]	Union Carbide	I, N
2/10/86	Tandem	Tridiphane [123901]	Dow Chemical	H

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
2/20/86	Zoecon RF-316	(7S)-Hydroprene [128966]	Sandoz	I(GR)
3/20/86	Scepter Herbicide	Imazaquin [128840]	American Cyanamid	H
3/20/86	Scepter	Ammonium Imazaquin [128848]	American Cyanamid	H
3/21/86	Sonar	Fluridone [112900]	Elanco Products	H(Aquatic)
3/24/86	Hybrex	Fenridazole-Potassium [119001]	Rohm & Haas	HA
3/27/86	Command	Dimethazole [125401]	FMC	H
3/28/86	Ally	Metsulfuron-Methyl [122010]	E.I. Dupont	H
4/4/86	Classic	Chlorimuron-Ethyl [128901]	E.I. Dupont	H
4/18/86	Affirm, Avid, Agri-Mek	Abamectin (Avermectin B ₁) [122804]	Merck & Co., Inc. MSD Aged Div.	I(MI)
4/25/86	Harmony	Thifensulfuron-Methyl Pinnacle [128845]	DuPont	H
9/15/86	YEA	Chitosan [128930]	Natural Ag.-Benthic Labs, Inc.	PGR
12/3/86	Isomate-M	Pheromone Dispensers [128906, 128907, 128908]	Biocontrol, Ltd, Australia *	PH
12/29/86	Asana XL	Esfenvalerate [109303]	DuPont	I(GR)

CALENDAR 1987

1/2/87	EnstarII Growth Regulator	S-Kinoprene [107502]	Sandoz Agro.	I(GR)
1/30/87	Whip, Furore	Fenoxaprop-Ethyl [128701]	American Hoescht Agro-Vet Co.	H
3/18/87	Cobra	Lactofen [128888]	PPG Industries, Inc.	H
3/23/87	Lontrel	Clopyralid [117403]	Dow Chemical	H
3/23/87	Arsenal	Imazapyr [128821]	American Cyanamid	H

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
4/7/87	Stirrup	Farnesol, Nerolidol [128910,128911]	Fermon Chemicals, Inc.	PH
4/10/87	Reflex	Fomesafen [123802]	ICI Plant Protection Div.	H
6/25/87	Triumph, Miral	Isazophos (CGA-12223) [126901]	Ciba-Geigy Corp.	I
8/5/87	LN-2	Liquid Nitrogen [128934]	Blizzard Systems	I
8/7/87	Busan 1024	47 [128889]	Buckman Labs. Inc.	B
9/2/87	Moth-Away	Mint Herbs, Rosemary Herbs, Thyme Herbs, Clove (Crushed) [128892,128893,128894]	Sun-Ray Ind.	FD,RP
10/6/87	Bromine Chloride	Bromine Chloride [020504]	Great Lakes Chemical Corp. Ethyl Corporation	S
10/16/87	Baythroid	Cyfluthrin [128831]	Miles	I
12/30/87	ENQUIK (N-Tac)	Urea Sulfate [128961]	Unocal	H,D

CALENDAR 1988

1/29/88	Sharp Shooter Weed and grass killer	Potassium Salts Of Acids [079021,217500]	Safer, Ltd.	H
2/17/88	Nematrol	Ground Sesame Stalks [128970]	Bob McBrayer Co.	N
3/3/88	Dagger G	Pseudomonas fluorescens [006440]	Ecogen, Inc.	BF
4/11/88	Assert	AC 222,293 [128842]	American Cyanamid Co.	H
4/25/88	Buctril 4	Bromoxynil Heptanoate [128920]	Rhone-Poulenc	H
4/29/88	Propel	Lactic Acid [128929]	Brae Agricultural Service	PGR
5/12/88	San Diego (M-ONE)	Bacillus Thuringiensis [128946]	Mycogen.Inc.	I(M)

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
5/13/88	Karate	Lambda-Cyhalothrin [128897]	ICI Agrochemicals Co.	I(MI)
6/10/88	Assure/DPX-6202	Quizalofop-Ethyl [128711]	E.I. DuPont de Nemours	H
9/7/88	Glyphosate-Trimesium Int.	Glyphosate [417300]	Monsanto	H
12/12/88	Trident	Bacillus Thuringiensis tenebrionis [006405]	Sandoz	I(M)
CALENDAR 1989				
1/13/89	Force	Tefluthrin [128912]	ICI Agrochemicals Co.	I
2/2/89	Rally	Myclobutanil Systhane [128857]	Rohm & Haas	F
2/17/89	Londax	Bensulfuron Methyl Ester [128820]	E.I. Dupont de Nemours	H
2/22/89	Cutless	Flurprimidol [125701]	ELANCO	PGR
3/7/89	Pursuit	Imazethapyr [128922]	American Cyanamid	H
3/8/89	Pursuit Herbicide	Imazethapyr, Ammonium Salt [128923]	American Cyanamide	H
3/10/89	Apollo	Clofentezine [125501]	NORAM	I(MI)
3/23/89	GX-071	Sulfluramid [128992]	Griffin	I
4/13/89	Savey	Hexythiazox [128849]	Dupont	I(MI)
4/24/89	Confront	Triclopyr [116001]	Dow	H
4/28/89	Baytan	Triadimenol [127201]	Mobay	F
6/16/89	Prolan	Isoxaben [125851]	ELANCO	H
6/30/89	Express	Tribenuron-Methyl [128887]	E.I. Dupont de Nemours	H
7/31/89	Binab T	Trichoderma Harzianum ATTC [128903]	Binab, USA	BF
9/11/89	Tech. Muscalure	(E)-9-Tricosene [103202]	Denka	I(PH)

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
9/21/89	Cutluss Bioinsecticide	B.T. Kurstaki (EG 2371) [006423]	Ecogen	I(M)
9/21/89	Cordon Bioinsecticide	B.T. Kurstaki (EG 2348) [006424]	Ecogen	I(M)
12/22/89	Danitol	Fenpropathrin [127901]	Sumitomo Chemical Company	I(MI)

CALENDAR 1990

1/9/90	Touchdown	Sulfosate [128501]	ICI American	H
5/11/90	Beacon, Rifle	Primisulfuron-Methyl [128973]	Ciba-Geigy Ag. Div.	H
6/29/90	Accent	Nicosulfuron (DPX-V9636) [129008]	DuPont Ag. Prod.	H
7/9/90	Grape Berry Moth Pheromone	11-Tetradecenyl Acetates [128980,129019]	Iocontrol, Ltd.	PH
11/21/90	WRC GL-21	Gliocladium Virens G-21 [129000]	W. R. Grace	BF
11/27/90	Kodak F-STOP	Trichoderma -Harzianum [119202]	Eastman Kodak	BF

CALENDAR 1991

2/5/91	Foil	EC 2424 [006422]	Ecogen	I(M)
2/28/91	Isomate C	Pheromone [001509,001510,129028]	Biocontrol, Ltd.	PH
6/18/91	Dimension	Dithiopyr [128994]	Monsanto Co.	H
6/27/91	MVP	B.t. Var. Kurstaki encapsulated delta endotoxin of [006409]	Mycogen Corp.	BI
6/27/91	M-ONE Plus	B.t. Var. Sandiego encapsulated delta endotoxin of [006410]	Mycogen Corp.	BI
7/3/91	XE-1019D Technical Ortho Prunit Tree Growth Regulator S-3307	Uniconazole (Sumagit) [128976]	Sumitomo Chemical Co., Ltd.	PGR

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
7/15/91	FIREBRAKE ZB	Zinc Borate [128859]	1624 U.S. BORAX RESEARCH CORP.	F
8/8/91	-	Lagenidium Giganteum [129084]	CA Dept. Of Health Services.	BI
8/15/91	Tiller Herbicide	Fenoxaprop-Ethyl [?]	Hoechst Celanese	H
8/21/91	NA	Bacillus Sphaericus [119801]	NA	B
8/27/91	Steris 20-D	Sodium Perborate monohydrate, acetylsalicylic acid [011105,129061]	Steris Corp.	BF
10/4/91	S2703 Forte	Cyphenothrin(BSI) [129013]	Sumitomo Chemical Co., Ltd.	I
10/24/91	A 815/NF- 114/Procure Triflumidazole Trifmine Procure Terraguard	Triflumizole [128879]	Nippon Soda Co., Ltd. Uniroyal Chemical Co., Inc.	F
12/28/92	Blue Circle	Pseudomonas Cepacia Type Wisconsin [006419]	Stine Microbial Products	BF,N

CALENDAR 1992

1/28/92	Select	Clethodim [121011]	Chevron Chemical Co.	H
2/7/92	Rydex/Endurance	Prodiamine [110201]	Sandoz Crop Protection Corp.	H
2/27/92	Sandofan/Recoil	Oxadixyl [126701]	Sandoz Ltd.	F
3/26/92	CGA 131036	Triasulfuron (Amber) [128969]	Ciba-Geigy Ag. Div. Ciba-Geigy Ltd.	H
6/1/92	Fury Insecticide	Zeta-Cypermethrin [129064]	FMC Corp.	I
7/10/92	GUS 2000 Biofungicide Concentrate, Kodiak	Bacillus Subtilis [129068]	Gustafon Inc.	BF

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
8/19/92	Econosan Acid Sanitizer	Decanoic Acid [128955]	West Agro.	B
8/20/92	Xentari	Bacillus Thuringiensis Var. Aizawai [006403]	Abbott Laboratory	I(M)
9/8/92	Agree	Bacillus Thuringiensis Aizawai Strain GC-91 [006426]	Ciba Geigy Corporation	I(M)
9/17/92	Frostban	Pseudomonas Syringae 742 RS [006411,006438,006439]	Frost Technology Inc.	BF
10/13/92	Facet	Quinclorac [128974]	BASF	H
10/23/92	Tough	Pyridate [128834]	Agrolinz, Inc.	H
12/9/92	Scimitar	Cyhalothrin [128867]	Zeneca	I
CALENDAR 1993				
2/10/93	Roach-Repel	Cinnamomum [129066]	R.C.G., Inc.	RP,FD
2/11/93	Cimectacarb (Promo/Vision)	Trinexapac-Ethyl [112602]	Ciba-Geigy	GR
3/5/93	Frontier Herbicide	Dimethenamid [129051]	Sandoz Agro.	H
4/13/93	Mycostop Biofungicide	Streptomyces Griseoviridis [129069]	Kemira Agro. OY	BF
4/21/93	Rootall	S-Phenyl Indolbutanethiolate [128958]	Gro Tech. Incorporated	PGR
5/11/93	Spod-X Wettable Powder	Spodoptera Exigua NPV [129078]	Crop Genetics International	I(M)
5/11/93	Bio Path	Metarhyzium Anisopliae Strain ESF1 [129056]	Eco Science Corporation, Roussel Uclaf Corp.	BI
6/17/93	Enzone	Sodium Tetrathiocarbonate [128904]	Unocal	I(MI),F,N
6/29/93	Ignite ISC Herbicide	Glufosinate-Ammonium [128850]	Hoechst	H
8/5/93	BMP-123	Bacillus Thuringiensis Subsp. Kurstaki HD-263 [006407]	Becker Microbial Product, Inc.	I(M)

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
8/9/93	Prostar, Folistar	Flutolanil [128975]	Nor-AM Chemical Co.	F
8/26/93	Bioban CS-1246	Oxazolidine [128909]	Angus Chemical Co.	P
9/8/93	Fungisol	Methyl 2-Benzimidazolecarbamate [128872]	J.J. Mauget Co.	F
9/30/93	Sinesto B	Coco Alkyl Trimethyl ammonium chloride [129012]	Akzo Chemical Incorporated	F
10/4/93	Dr. Biosedge	Puccinia cunaliculate lagerheim [129085]	Tifton Innovation Corporation	H
10/20/93	Broadstrike	Flumetsulam [129016]	Dow Elanco	H
10/20/93	DTEA Antimicrobial	2-(Decylthio)Ethanamine hydrochloride [128963]	Dow Chemical Co.	AM,S,M
11/29/93	Dormex	Hydrogen Cyanamide [014002]	SKW Trostberg Ag.	PGR
12/22/93	Sentinel Turf Fungicide	Cyproconazole [128993]	Sandoz Agro, Inc.	F

CALENDAR 1994

2/28/94	Anti-Foulant C-9211M	48 [128101]	Rohm & Haas	AF
3/2/94	Deltamethrin Tech.	Striker [978051]	Roussel Uclaf	I
3/10/94	NAF-46	Hexaflumuron [118202]	Dow Elanco	I(PH)
3/11/94	Harness.	Acetochlor [121601]	Zeneca, Inc., Monsanto Agri. Co., Acetochlor Reg. Partnership	H
3/18/94	NTN 33893	Imidacloprid [129099]	Miles	I

DATE REGISTERED	TRADE NAME	COMMON NAME ^a CHEMICAL CODE [...]	REGISTRANT	PESTICIDE TYPE ^b
1. Fifteen new ai chemicals have been dropped because they do not have registered products (AIB, Torelle, Edolan U, IF-21, Kathon 886, Lignasan BLP, Nibroxane, Nomage, Luretape, Nomate Vantage, Erythrosine B, Doo Not, Capsicum, Mon 4620, Clandosan 618).				
[..] Chemical code number, and [?] Chemical code number is missing.				
- Not available.				
* Kennedy Consultants in U.S.				
** Registration application withdrawn by company before completion.				
a See Appendix II for numbered entries.				
b See Appendix III for explanation of pesticide-use types.				

APPENDIX II

Chemical Names by Reference Number

No known common names existed for these chemicals at the time of initial registration.
Their chemical names are listed below by reference number.

1. P-Chlorophenyl Diiodomethyl Sulfone.
2. Diiodomethyl P-Tolyl Sulfone.
3. Potassium N-[(Nitroethyl)Benzyl] Ethylenediamine.
4. 2,2-Dibromo-3-nitrilopropionamide.
5. Beta-Bromo-Beta-Nitrostyrene.
6. 3,4,5-Trimethylphenyl Methylcarbamate and 2,3,5-Trimethylphenyl Methylcarbamate.
7. 2,3,5-Trichloro-4-(Propylsulfonyl)Pyridine.
8. Potassium N-Hydroxymethyl-N-Methyldithiocarbamate + 2-Mercaptobenzothiazole, Sodium Salt.
9. 3,3,4,4,-Tetrachlorotetrahydrothiophene-1,1-Dioxide.
10. Hexahydro-1,3,5-Tris(2-Hydroxypropyl)-s-Triazine.
11. 2-[(Hydroxymethyl)Amino]-2-Methyl-1-Propanol.
12. 4(2-Nitrobutyl)Morpholine and 4,4'-(2-Ethyl-2-Nitrotrimethylene) Dimorpholine.
13. 3-Alkoxy*-2-hydroxypropyl trimethyl ammonium chloride*(100%C12-C)14.1,1'(2-Butylene)Bis(Triaza-1-Azoniadamantane.
14. 1,1'-(2-Butenylene)bis(3,5,7-triaza-1-azoniaadamantane chloride).
15. 3-Iodo-2-PropynylButylcarbamate.
16. 3-Phenoxybenzyl D-Cis and Trans-2,2-Dimethyl-3-(2-Methylpropenyl)CyclopropaneCarboxylate.

17. Alkyl(60%C14,30%C16,5%C12,5%C18)Dimethylbenzyl Ammonium Chloride+Alkyl(68%C12,32%C14).Dimethyl Benzyl Ammonium Chloride+N-(2-Cyanoethyl)-N'-Alkyl(C6-C18)-1,3-Diaminopropane.
18. 5-(Hydroxymethyl)-1-Aza-3,7-Dioxabicyclo(3.3.0) Octane + % Hydroxypoly[Methyleneoxy(74%C2,21%C3,4%C4,1%C5)] Methyl-1-aza-3,7-Dioxabicyclo(3.3.0)Octane
19. Tris(2-Hydroxyethyl)Benzyl Ammonium Chloride and Alkyl(70%C12,24%C14,5%C16,1%C10)Dimethyl Benzyl Ammonium Chloride
20. 1,3-Dibromo-5,5-Dimethylhydantoin.
21. Tripropyltin Methacrylate.
22. 2-(Coco Akyl)-1-Benzyl-1-(Hydroxyethyl)-2-Imidazolinium Chloride.
23. Poly(Oxyethylene)Ethanol Monoesters of 5-(or 6-)Carboxy-4-Hexyl-2-Cyclohexane-1-Octanoic Acid-Iodine Complex.
24. 5-Chloro-2-Methyl-3(2H)-Isothiazolone, and 2-Methyl-3(2H)-Isothiozolone.
25. 7,11-Hexadecadien-1-01, Acetate, (Z,E)-, 7,11-Hexadecadien-1-01, Acetate, (Z,Z)-7,11-Hexadecadien-1-01, Acetate.
26. 3-(3,5-Dichlorophenyl)-N-(1-Methylethyl)-2,4-Dioxo-1-Imidazolidine Carboxamide.
27. N-(Phenylmethyl)-1H-Purin-6-Amine.
28. Cis-7,8-Epoxy-2-Methyloctadecane.
29. (E)-(3,3-Dimethylcyclohexylidene)Acetaldehyde+(Z)-(3,3-Dimethylcyclohexylidene)Acetaldehyde+(Z)-2-(3,3-Dimethylcyclohexylidene)Ethanol+(IR-Cis)-1-Methyl-2-(1-Methylethenyl)Cyclobutane Ethanol.
30. (Z)-6-Dodecenyl Acetate,(E)-6-Dodecenyl Acetate.
31. N-(2-Methyl-1-Naphthyl)Maleimide.
32. Methyl Alpha-Eleostearate;Methyl Ester of (E,Z,E)9,11,13-Octadecatrienoic Acid.

33. (2)-11-Hexadecenal, (Z)-9-Tetradecenal, or (-)-a-Cubebene;(-)-4-Methyl-3-Heptanol;-A-Multistriatin.
34. Aquashade.
35. Poly(Iminoimidocarbonyliminoimidocarbonyliminohexamethylene Hydrochloride).
36. N-(Phenylmethyl)-9-(Tetrahydro-2H-Pyran-2-Yl)-9H-Purin-6-Amine.
37. Phosphoric Acid, Mono(2-Ethylhexyl)Ester, Phosphoric Acid, Mono(2-Ethylhexyl)Ester'(Compounds With Diethanolamine-N-Coco Alkyl Derivatives), Phosphoric Acid, Bis(2-Ethylhexyl)Ester(Compounds With Diethanolamine-N-Coco Aklyl Derivatives).
38. Dodecyl Bis(Hydroxyethyl)Diocetyl Ammonium Phosphate and Dodecylbis(Hydroxyethyl)Octyl Hydrogen Ammonium Phosphate.
39. 1-Methylbutyldecanoate.
40. 3-Chloro-1,2-Propanediol[Alpha-Clorohydrin,Alpha-Monochlorohydrin, 3-Chloro-1,2-Dihydroxypropane, 3-Cgloropropylene Glycol.
41. N,N-Didecyl-N-Methyl-3-(Trimethoxysilyl)Propanaminium Chlorides.
42. 2-Methyl-5-Nitriomidazole-1-Ethanol.
43. 1-(8-Methoxy-4,8-Dimethylnonyl-4(1-Methylethyl)Benzene.
44. Methanol, [[[2-(Dihydro-5-Methyl-3(2H)-Oxazolyl)-1-Methyl] Ethoxy]Methoxy]Methoxyl].
45. -1-Triacontanol.
46. 2-Bromo-2-Nitropropane-1,3-Diol.
47. Methyl-3,5,7-Triaza-1-Azoniaticyclododecane Chloride.
48. 4,5-Dichloro-2-Octyl-3(2H)-Isothiozolone.

APPENDIX III

EXPLANATION OF PESTICIDE-USE TYPES

A -	Attractant
AF -	Antifoulant
AL -	Algicide
AM -	Antimicrobial (Sterilizer, Tuberculocide, Disinfectant, Virucide, Fungicide/Fungistat, Algicide)
B -	Bactericide
BF -	Biological Fungicide
BI -	Biological Insecticide
CR -	Chemical Ripener
D -	Desicant
DF -	Defoliant
F -	Fungicide
FD -	Feeding Deterrent
FU -	Fumigant
GR -	Growth Regulator
H -	Herbicide
HA -	Hybridizing Agent
I -	Insecticide
M -	Molluscicide
MI -	Miticide (acaricide)
N -	Nematicide
P -	Preservative
PGR-	Plant Growth Regulator

PH - Pheromone

R - Rodenticide

RP - Repellent

S - Slimicide

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