# KENTUCKY ECONOMIC POISONS REPORT, 1959



INFRARED SPECTROPHOTOMETER FOR ANALYZING PESTICIDES

University of Kentucky
Agricultural Experiment Station
Lexington

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# CONTENTS

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																										age
Companies Licensed Under Kentucky	Ec	on	omi	c	Po	is	on	ıs	Lav	v :	in	19	959	9	•	•			•	•		•				3
Introduction												•		•		•				•						10
Labeling Requirements		50.								•			•		•	•									•	10
Purpose of Pesticide Law														•		•									•	10
Field Inspection												•		•		•								•		10
Fortilizer-Pesticide Mixtures .																										TI
Laboratory Analysis												•			•		•			•						11
Control Officials Association .				1																						12
Explanation of Tables	•			•					•	•	•	•	•		•	•	•	•		.,			•		•	12
Analysis of Pesticides in Fertili	ze	r.	•										•	•	•			•					•	:		15
Analysis of Pesticide Products An	rrai	nge	d	in	A]	Lph	nab	et	ica	al	O	rd	er	D	y	AC	נו	ve		Lng	, re	20.	Lei	IL.	•	13
Analysis of Products Containing N	lix	tur	es	of	t I	es	sti	LCI	Lde	S			•	•	•	•	•					•	•	•	•	30
Ventucky Economic Poisons Law .		100	1	-											•											20

\*David M. Daugherty on leave of absence since May 1, 1959.

\*\* Gary R. Leslie resigned in September, 1959.

Prepared by W. J. Huffman and Bruce Poundstone Analytical data by the Laboratory Staff

### COMPANIES LICENSED UNDER KENTUCKY ECONOMIC POISONS LAW IN 1959

Abbott Laboratories, 1400 Sheridan Road, North Chicago, Illinois Ace Exterminating Company, 3934 Bardstown Road, Louisville 18, Kentucky Aceline Products Corporation, 27 Gorham Street, Rochester 1, New York Acme Quality Paints, Inc., 8250 St. Aubin Avenue, Detroit 11, Michigan Aero-Master, Inc., 325 West Pacific Avenue, St. Louis 19, Missouri "Ag" Supply Company, Old Clarksville Road, Hopkinsville, Kentucky Airkem, Incorporated, 241 East 44th Street, New York 17, New York Airosol Company, Inc., 525 North 11th Street, Neodesha, Kansas Allen-Crowl Company, 1559 Allentown Road - Box 627, Lima, Ohio Allied Chemical Corp., Plastics & Coal Chemical Division, 40 Rector Street, New York 6, N. Y. Allied Chemical Corp., General Chemical Div., 40 Rector St., New York 6, New York Allied Drug Products Company, 16th & Pierce Streets, Chattanooga 1, Tennessee American Aerovap, Inc., 1125 University, Des Moines 14, Iowa American Cyanamid Company, 30 Rockefeller Plaza, New York 20, New York American Exterminator, Inc., 817 Race Street, Cincinnati, Ohio American Lace Paper Company, 4425 N. Port Washington Road, Milwaukee, Wisconsin American-Marietta Company, 901 N. Greenwood Avenue, Kankakee, Illinois American Mothproofing Company, 2510 Hampton Avenue, St. Louis 10, Missouri American Scientific Laboratories, P. O. Box 232, Madison 1, Wisconsin American Sterilizer Company, 2424 West 23rd Street, Erie, Pennsylvania The Antimite Company, 5137 Southwest Avenue, St. Louis 10, Missouri Armour Fertilizer Works, P. O. Box 1088, Nashville, Tennessee Arnold Laboratories, P. O. Box 111, 206 Spring Street, New Castle, Indiana Arnott Chemical & Exterminating Co., Inc., 249 Massachusetts Ave., Indianapolis, Ind. Asco Laboratories, Dracut Road, Hudson, New Hampshire Associated Sales & Supply Company, 5137 Southwest Avenue, St. Louis 10, Missouri Atco Company, 6263 Tuetonia Avenue, Milwaukee, Wisconsin James Austin Company, P. O. Box 387, Mars, Pennsylvania Auto Chlor System, 746 Poplar, Memphis, Tennessee Avon Products, Inc., 30 Rockefeller Plaza, New York 20, New York B. T. Babbitt, Inc., 20 Broadway, Albany 1, New York W. H. Barber Company, 3650 South Homan Avenue, Chicago 32, Illinois Banz Manufacturing Company, Box 542, Portageville, Missouri Bauer & Black, Div. of the Kendall Co., 309 W. Jackson Blvd., Chicago 6, Illinois Ben Venue Laboratories, Inc., 270 Northfield Road, Bedford, Ohio F. W. Berk & Company, Inc., Park Place East, Wood-Ridge, New Jersey Berlou Manufacturing Company, 421 Monroe Street, Marion, Ohio Big Four Feed & Implement Company, Maple & Cemetery Streets, Scottsville, Kentucky Black Leaf Products Company, 105 W. Adams Street, Chicago, Illinois Black Panther Company, Inc., P. O. Box 132, Stanford, North Carolina Bleach Products Company, Inc., 517 Russell Street, Charleston, West Virginia Bluegrass Plant Foods, Inc., 447 North Main, Cynthiana, Kentucky Bohlender lant Chemicals, Inc., Tipp City, Ohio Bonide Chemical Company, 382 N. Genesee Street, Utica 4, New York The Bourbon Company, P. O. Box 466, Lexington, Kentucky Boyer Chemical Company, 1161 Church Street, Evanston, Illinois Boyle-Midway, Inc., 22 East 40th Street, New York 16, New York E. L. Bruce Company, P. O. Box 397, Memphis Tennessee Brulin & Company, Inc., 2939-45 Columbia Avenue, Indianapolis 7, Indiana California Spray-Chemical Corp., Lucas & Ortho Way, Richmond, California Carajon Chemical Company, Inc. P. O. Box 167, Fremont, Michigan Carbola Chemical Company, Inc., Natural Bridge, New York Carbolineum Wood Preserving Co., 528 West Highland Ave., Milwaukee 3, Wisconsin Carson Chemicals, Inc., P. O. Box 182, New Castle, Indiana Cato Oil & Grease Company, 1808 N. E. Ninth Street, Oklahoma City, Oklahoma Cedar Hill Formulae Company, 234 Steele Street, New Britain, Connecticut Cenol Company, Inc., 3240 West Chicago Avenue, Chicago 51, Illinois\_ Center Chemical Company, P. O. Box 1888, Atlanta, Georgia Chambers-Godfrey Manufacturing Company, 304-02 Broadway, Martin, Tennessee Chapman Chemical Company, P. O. Box 3158, Mallory Station, Memphis 9, Tennessee

Chase Products Company, 20th & Gardner Road, Broadview, Illinois Chemagro Corporation, 437 Fifth Avenue, New York 16, New York Chemical Corporation of America, P. O. Drawer 509, Tallahassee, Florida Chemical Formulators, Inc., P. O. Box 26, Nitro, West Virginia Chemistry Hall Laboratories, Inc., 2300 - 30th Avenue West, Bradenton, Florida Chemley Products Company, 5744 North Western Avenue, Chicago 45, Illinois Chemway Corporation, Fairfield Road, Mountain View, New Jersey Chestnut & Anderson Supply, East Ninth Street, Hopkinsville, Kentucky Chipman Chemical Company, Inc., Bound Brook, New Jersey John Clarke & Company, Inc., 420 Lexington Avenue, New York 17, New York Clean Home Products, Inc., 507 N. Cardinal Avenue, St. Louis 3, Missouri W. A. Cleary Corporation, P. O. Box 749, New Brunswick, New Jersey Click Chemical Corporation, 601 South Columbus Avenue, Mount Vernon, New York Coahoma Chemical Company, Inc., P. O. Box 728, Clarksdale, Mississippi E. A. Cohen, Greenville, Kentucky Colgate-Palmolive Company, 300 Park Avenue, New York 22, New York Colonial Products, Inc., 6207 Georgia Avenue, West Palm Beach, Florida Columbian Hog & Cattle Powder Company, 1457 Genesee Street, Kansas City, Missouri Commercial Chemical Company, Box 202, Louisville 18, Kentucky Commonwealth Fertilizer Company, Inc., P. O. Box 388, Russellville, Kentucky Common Sense Manufacturing Co., Inc., 1392 Niagara Street, Buffalo 13, New York Continental Chemiste Corporation, 2256 West Ogden Avenue, Chicago 12, Illinois Cook Chemical Company, 2500 Summit, Kansas City, Missouri Thomas E. Cook Chemical Company, 305 North Main Street, Springfield, Tennessee Wm. Cooper & Nephews, Inc., 1909 North Clifton, Chicago 14, Illinois Cooperative Fertilizer Service, Inc., P. O. Box 65, Camp Taylor Sta., Louisville 13, Ky. Cooperative Seed & Farm Supply Service, Seventh & Main Streets, Richmond, Virginia Cowles Chemical Company, 7016 Euclid Avenue, Cleveland, Ohio S. L. Cowley & Sons Manufacturing Co., 708 West McAlester, Hugo, Oklahoma Crawford Industries, Inc., West First at Darr Street, Oil City, Pennsylvania Cre-O-Tox Chemical Products Company, 2670 Broad Avenue, Memphis Tennessee Cumberland Manufacturing Company, 501 - 25th Avenue N., Nashville, Tennessee Cutter Laboratories, Fourth & Parker Streets, Berkeley 10, California The d-CON Company, Inc., 1450 Broadway, New York 18, New York Dacus Drug Co., Inc., Box 241, Tupelo, Mississippi Darling & Company, 4201 South Ashland, Chicago 8, Illinois Darworth Incorporated, P. O. Box 308, Simsbury, Connecticut Daubert Chemical Company, 4700 South Central Avenue, Chicago 38, Illinois Davis Brothers Co., 205 W. Main Street., Greenfield, Indiana Davison Chemical Company, P. O. Box 350, New Albany, Indiana DeKalb Agricultural Association, Inc., 310 North Fifth Street, DeKalb, Illinois Deseghers, 256 West 31st Street, New York 1, New York Dettelbach Insecticide Co., 4101 Peachtree Road, N. E., Atlanta, Georgia DeSoto Chemical Company, Inc., North DeSoto Avenue, Arcadia, Diamond Alkali Company, 300 Union Commerce Bldg., Cleveland 14, Ohio The Dill Company, Washington Street & McKinley Avenue, Norristown, Pennsylvania J. A. Ditman, P. O. Box 186, Laurel, Maryland Dixi Chemical Company, P. O. Box 1711, Chattanooga, Tennessee Donaldson Company, Inc., 666 Pelham Boulevard, St. Paul 14, Minnesota The Dow Chemical Company, Midland, Michigan The Drackett Products Co., 5020 Spring Grove Avenue, Cincinnati 32, Ohio Driskell Drug Company, 416 Main Street, Carrollton, Kentucky Drugmaster, Inc., 5239 Brown Street, St. Louis 15, Missouri E. I. du Pont de Nemours & Co., 5113 Du Pont Bldg., Wilmington 98, Delaware Economics Laboratory, Inc., 914 Guardian Building, St. Paul, Minnesota Electrolux Corporation, 500 Fifth Avenue, New York 36, New York Emery Industries, Inc., 4200 Carew Tower, Cincinnati 2, Ohio Empire Laboratories, 700 Marietta Street, N. W., Atlanta, Georgia Empire Manufacturing Company, 1111 Grand Avenue, Kansas City, Missouri Henry A. Enrich & Company, Inc., Six East 32nd Street, New York 16, New York Erbrich Products Company, 1120 East 32nd Street, Indianapolis, Indiana

J. C. Everett Company, Inc., 35 East Second Street, Maysville, Kentucky Fairfield Chemical Division, P. O. Box 1616, Baltimore 3, Maryland Farnam Companies, Inc.,711 North First Street, Phoenix, Arizona Federal Chemical Company, 646 Starks Building, Louisville 2, Kentucky Federal Chemical Company, Inc. 2701 Winthrop Avenue, Indianapolis 5, Indiana Alex C. Fergusson Company, 44 East Oregon Avenue, Philadelphia, Pennsylvania R. M. Flowers Company, Inc., 156 West Public Square, Russellville, Kentucky Fly-Cord, Inc., P. O. Box 2006, Savannah, Georgia Food Machinery & Chemical Corporation, 161 East 42nd Street, New York 17, New York Fox Hardware, 19 East Center Street, Madisonville, Kentucky The Frank Tea & Spice Company, 538 East Fifth Street, Cincinnati 2, Ohio Franklin Research Company, 5134 Lancaster Avenue, Philadelphia 31, Pennsylvania Frontier Chemical Company, Box 545, Wichita, Kansas The Fuller Brush Company, 3580 Main Street, Hartford, Connecticut Furst-McNess Company, 120 East Clark Street, Freeport, Illinois Gallowhur Chemical Corporation, North Water Street, Ossining, New York Gamble-Skogmo, Inc., 15 North Eighth Street, Minneapolis 3, Minnesota Garden Hose Spray Company, Inc., 7 Upland Road, Cambridge 40, Massachusetts Garden Products Company, 3246 South Grand Boulevard, St. Louis 18, Missouri Gaston Johnston Corporation, 24-64 45th Street, Long Island City 3, New York Geigy Agricultural Chemicals, P. O. Box 430, Yonkers, New York General Insecticide Company, Inc., P. O. Box 187, Utica, New York Glamorene, Inc., 175 Entin Road, Clifton, New Jersey The Glidden Company, 900 Union Commerce Building, Cleveland 14, Ohio Globe Laboratories, 116 Commerce Street, Fort Worth 2, Texas H. Clay Glover Company, Inc., 60 Hempstead Avenue, West Hempstead, New York Good-Life Chemicals, Inc., 310 South First Street, Effingham, Illinois The Great Atlantic & Pacific Tea Company, 3041 Wilson Avenue, Louisville, Kentucky Great Lakes Chemical Corp., Div. Great Lakes Oil & Chemical Corp, 753 Warner Bldg. Washington 4, D. C. Greever's Incorporated, Chilhowie, Virginia Earl Grissmer Company, P. O. Box 5992, Indianapolis, Indiana Guarantee Pest Control Company, 1317 East 13th Street, Bowling Green, Kentucky Gulf Oil Corporation, P. O. Box 1166, Pittsburgh 30, Pennsylvania J. M. Harris & Company, Inc., P. O. Box 411, Roanoke, Virginia P. F. Harris Manufacturing Company, 101 West Eighth, North Little Rock, Arkansas Harris Products Company, Inc., P. O. Box 4, Miami Beach 39, Florida Harrison Oil Company, 4267 North Port Washington Road, Milwaukee 12, Wisconsin Hartz Mountain Products Corporation, 36 Cooper Square, New York 3, New York Haver-Lockhart Laboratories, 1915 Broadway, P. O. Box 676, Kansas City 41, Missouri Health-Mor, Incorporated, 203 North Wabash Avenue, Chicago 1, Illinois Heller Laboratories, Inc., 3925 Calumet Avenue, Chicago 15, Illinois Hess & Clark, Inc., Seventh & Orange Streets, Ashland, Ohio Hexol, Incorporated, 1500 - 17th Street, San Francisco 7, California Hillenmeyer Nurseries, Georgetown Pike, Lexington, Kentucky Hillyard Sales Company (Eastern), P. O. Box 909, St. Joseph 1, Missouri The Hilo Company, P. O. Box 246, Norwalk, Connecticut Hinton & Company, 67 Murray Street, New York, New York J. I. Holcomb Manufacturing Company, 1601 Barth Avenue, Indianapolis 7, Indiana Hollywood Termite Control Co., 938 N. Eastern Avenue, Los Angeles 63, California Hooker Electrochemical Company, Buffalo Ave. & 47th Streets, Niagara Falls, New York Hopkins Agricultural Chemical Company, 124 S. Dickinson Street, Madison, Wisconsin Hot Shot Quality Products, Inc., 701 N. Main Street, Memphis, Tennessee House of Houston, Inc., 4135 Laguna Street, Coral Gables, Florida Sam Houston Company, P. O. Box 662, Talladega, Alabama The House of Twain, Inc., 609 N. LaSalle Street, Chicago 10, Illinois The Huge Company, Inc., 884-886 Hodiamont Avenue, St. Louis 12, Missouri Hulman & Company Laboratories, 900 Wabash Avenue, Terre Haute, Indiana Humco Laboratory, Inc., 1008 Whitaker Street, Texarkana, Texas Hutson Chemical Company, West Railroad Avenue, Murray, Kentucky Hy-G Corporation, 130 Russ Street, San Francisco 3, California Hydroponic Chemical Company, Copley, Ohio Indiana Farm Bureau Cooperative Ass'n., 47 S. Pennsylvania St., Indianapolis 9, Indiana Industrial Fumigant, 923 State Line, Kansas City, Missouri International Distributors, Inc., 725 South Fifth Street, Memphis, Tennessee International Minerals & Chemical Corporation, P. O. Box 67, Lockland 15, Ohio Irwin-Willert Company, 4044 Park Avenue, St. Louis 10, Missouri Jewel Tea Company, Inc., 1955 West North Avenue, Melrose Park, Illinois Raymond Johns Distributing Company, 1506 W. Main St., Louisville 3, Kentucky S. C. Johnson & Son, Inc., 1525 Howe Street, Racine, Wisconsin H. D. Jones, 310 North Main Street, Glasgow, Kentucky Eck Jones, Route #1, Central City, Kentucky The K-R-O Company, 192 North Limestone Street, Springfield, Ohio Carl Kaster Company, 516 W. Main Street, Louisville 2, Kentucky The Keever Starch Company, 538 East Town Street, Columbus 15, Ohio Kentucky Chemical & Supply Company, 256 West Vine Street, Lexington, Kentucky King Chemical Company, 2336 South Lauderdale, Memphis 6, Tennessee Klenzade Products, Inc., P. O. Box 1020, Beloit, Wisconsin Knapp-Monarch Company, 3501 Bent Avenue, St. Louis 16, Missouri H. Kohnstamm & Company, Inc., 83-93 Park Place, New York 7, New York Koppers Company, Inc., Tar Products Div., 430 Park Ave., New York 22, New York H. B. Fred Kuhls, 6413 Third Avenue, Brooklyn 20, New York Lamb Products Company, 3728 Hilltop Lane, Nashville, Tennessee Lang Brothers, 213 Broadway, Paducah, Kentucky LaSalle Chemical Company, 3601 South Racine, Chicago 9, Illinois Lebanon Chemical Corporation, P. O. Box 532, Lebanon, Pennsylvania Leeco Chemical Company, 2735 N. Ashland Avenue, Chicago 14, Illinois Leeds Chemical Products, Inc., 112 East Walton, Chicago 11, Illinois Dr. L. D. LeGear, Inc., 4161 Beck Avenue, St. Louis 16, Missouri Lehigh Chemical Company, Inc., 5510 New Cut Road, Louisville 14, Kentucky Lehn & Fink Products Corporation, 192 Bloomfield Avenue, Bloomfield, New Jersey Lester Laboratories, Inc., P. O. Box 4897, Atlanta 2, Georgia The Lewy Chemical Company, 707 Broadway, New York 3, New York 0. E. Linck Company, Inc., Route 46 & Valley Road, Clifton, New Jersey Long Manufacturing Company, 991 Williams Street, San Leandro, California Andy Lotshaw Company, 1474 West Hubbard Street, Chicago 22, Illinois Louisville Chemical Company, 601 East Jefferson Street, Louisville, Kentucky Louisiana Fortifying & Mixing Plant, Abbeville, Louisiana Lowe's Incorporated, 212 York Street, Cassopolis, Michigan McCormick & Company, Inc., McCormick Building, Baltimore 2, Maryland McKesson & Robbins, Inc., P. O. Box 548, Bridgeport, Connecticut McLaughlin Gormley King Company, 1715 Fifth Street S. E., Minneapolis 14, Minnesota L. C. McLoney & Sons, 316-7 South Church Street, Cynthiana, Kentucky The Mabex Company, Umbria & Lemonte Streets, Philadelphia, Pennsylvania Magic Manufacturing Company, Charleston, West Virginia Mallinckrodt Chemical Works, 3600 North Second Street, St. Louis 7, Missouri Maloney Chemical Company, 1520 N. Irwin Avenue, Green Bay, Wisconsin Mariah Rodenticide Company, Inc., R.F.D.#1, Hi-Way 41 North, Vincennes, Indiana Masury-Young Company, 76 Roland Street, Boston, Massachusetts Charles R. Mehle, Insecticides, 2712 Baker Avenue, Cincinnati 11, Ohio Merck & Company, Inc., Rahway, New Jersey Michigan Chemical Corporation, 500 N. Bankson Street, St. Louis, Michigan Midland Laboratories, 210-220 Jones Street, Dubuque, Iowa Midwest American Aerovap, 1125 University, Des Moines 14, Iowa Midwest Oil Company, 2500 Minnehaha Avenue, Minneapolis, Minnesota Miles Laboratories, Inc., 1127 Myrtle Street, Elkhart, Indiana Miller Products Company, 607 Del Monte Way, St. Louis 12, Missouri Dumas Milner Corporation 4359 Northview Drive, Jackson, Mississippi Minnesota Paints, Inc., 1101 South Third Street, Minneapolis, Minnesota Minnesota Perlite Corporation, 315 West 86th Street, Minneapolis 20, Minnesota Monsanto Chemical Company, Lindbergh & Olive Street Road, St. Louis 4, Missouri Montgomery Ward & Company, Inc., 619 West Chicago Avenue, Chicago, Illinois E. R. Moore, Georgetown, Kentucky Moorman Manufacturing Company, Quincy, Illinois Morton Chemical Company, 120 S. LaSalle Street, Woodstock, Illinois

Motomco, Incorporated, 89 Terminal Avenue, Clark, New Jersey Murphy Chemical Co., c/o McHutcheson Co., 695 Grand Ave., Box 95, Ridgefield, N. J. Murphy Products Company, 556 Dodge Street, Burlington, Wisconsin Edgar A. Murray Company, Electronic Road, Clinton Corners, New York Mutual Products Company, 509 N. Fourth Street, Minneapolis, Minnesota Napthalene Product Company, P. O. Box 6328, Tarrant, Alabama Nash & Kinsella Laboratories, Inc., 3741 Washington Blvd., St. Louis 8, Missouri National Aluminate Corporation, 6216 West 66th Street, Chicago 38, Illinois National Carbon Co., Div. Union Carbide Corp., 30 E. 42nd St., New York 17, New York National Cooperatives, Inc., 408 First Avenue, Albert Lea, Minnesota National Laboratories, Inc., 4934 Lewis Avenue, Toledo 12, Ohio National Paint & Oil Company, 207 North Second Street, Nashville, Tennessee H. W. Naylor Company, Morris, New York Niagara Chemical Div., Food Machinery & Chem. Corp., 100 Niagara St., Middleport, N. Y. Nip-Co Manufacturing, Inc., 200 Main Street, New Rochelle, New York Northern Industries, Inc., 407 E. Michigan Street, Milwaukee 2, Wisconsin Nott Manufacturing Company, Inc. P. O. Box 87, Mt. Vernon, New York Nuodex Products Company, Cornelius Zabriskie, 110 E. 42nd St., New York 17, N. Y. Odor-Aire, Inc., 330 North Mosley, Wichita, Kansas Olin Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Maryland Olin Mathieson Chemical Corp., Forward House Div., P. O. Box 991, Little Rock, Ark. One-Spot Company, Jessup, Maryland Ottawa Chemical Company, 823 Hamilton Street, Toledo, Ohio Panogen Incorporated, Research Department, Woodstock, Illinois Paper Products, Inc., 18554 South Susana Road, Long Beach 5, California Parke, Davis & Company, Jos. Campau at the River, Detroit 32, Michigan PAX Company, P. O. Box 2310 Salt Lake City 10, Utah S. B. Penick & Company, 50 Church Street, New York 8, New York Penn-Champ Oil Corporation, P. O. Box 191, Butler, Pennsylvania Pennsalt Chemical Corporation, 3 Penn Center Plaza, Philadelphia 2, Pennsylvania Pennsylvania Engineering Co., 1119 21 Howard Street, Philadelphia 23, Pennsylvania Penola Oil Company, 15 West 51st Street, New York 19, New York Perk Products Company, 1338 Lewis Street, Nashville, Tennessee Peoples Farm Supply Company, Smith Grove, Kentucky L. Perrigo Company, Allegan, Michigan Pest Guard Products, Inc., 731 West Davis, Dallas 8, Texas Pet Chemicals, Inc., 1038 N. W. 21st Terrace, Miami, Florida Pfanstiehl Detergent Chemicals, Inc., 669 S. Market Street, Waukegan, Illinois The Pfeiffer Company, 3965 Laclede Avenue, St. Louis 8, Missouri Chas. Pfizer & Company, Inc., 11 Bartlett Street, Brooklyn 6, New York Phelan-Faust Paint Manufacturing Co., 932 Loughborough Avenue., St. Louis 11, Mo. Phelps Dodge Refining Corporation, 300 Park Avenue, New York 22, New York Phoenix Closet Accessories, Inc., 101 N.J.R.R. Avenue, Newark, New Jersey Piatt & Smillie Chemical, Inc., 2322 Olive Street, St. Louis 3, Missouri The Piper Company, Inc., 2152 Yale Avenue, St. Louis 17, Missouri Pitman-Moore Co., Div. Allied Laboratories, P. O. Box 1656, Indianapolis 6, Indiana Pittsburgh Chemical Laboratory, 715 Penn Avenue, Pittsburgh 22, Pennsylvania Pittsburgh Plate Glass Company, New Albany Road, Moorestown, New Jersey Plantabbs Corporation, 1105 Maryland Avenue, Baltimore 1, Maryland Planters Chemical Corporation, 3111 Virginia Beach Blvd., Norfolk, Virginia Plasti-Kote, Inc., 9801 Harvard Road, Cleveland, Ohio Plough, Inc., 3022 Jackson Avenue, Memphis, Tennessee Polk Miller Products Corporation, 2007 N. Hamilton Street, Richmond, Virginia Porter Paint Company, 419 South 14th Street, Louisville, Kentucky B. G. Pratt Company, 204 21st Street, Paterson, New Jersey Pratt Laboratories, Inc., P. O. Box 602, Danville, Kentucky Pratt & Lambert, Inc., 75 Tonawanda Street, Buffalo 7, New York Prentiss Drug & Chemical Company, 101 West 31st Street, New York 1, New York Private Brands, Inc., 300 South Third Street, Kansas City, Kansas The Proctor & Gamble Company, P. O. Box 599, Cincinnati 1, Ohio Protection Products Manufacturing Co., 2305 Superior Ave., Kalamazoo, Michigan

The John Puhl Products Company, 1450 Broadway, New York 18, New York Purex Corporation, Ltd., 9300 Rayo Avenue, South Gate, California Pyrrole Chemical Corporation, 817 Spring Lane, Portsmouth, Ohio Ralston Purina Company, 835 South Eighth Street, St. Louis, Missouri The W. T. Rawleigh Company, 223-225 East Main Street, Freeport, Illinois W. G. Reardon Laboratories, Inc., 330 N. Main Street, Port Chester, New York Reefer-Galler, Inc., 225 Fifth Avenue, New York 10, New York Reilly Tar & Chemical Corp., 1615 Merchant Bank Bldg, Indianapolis 4, Indiana Rex. Research Corporation, 600 Montrose Avenue, Toledo 7, Ohio Rexall Drug Company, 8480 Beverly Boulevard, Los Angeles, 54, California Rigo Manufacturing Company, Inc., 638 Benton Avenue, Nashville, Tennessee Riley Brothers, Inc., 209 North Main Street, Burlington, Iowa Riverdale Chemical Company, 17th & Hanover Streets, Chicago Heights, Illinois Robeson Preservo Company, 208 Merchant Street, Port Huron, Michigan G. S. Robins & Company, 126 Chouteau Avenue, St. Louis 2, Missouri Rodent Control Fund, P. O. Box 395, State College, Mississippi Rohm & Haas Company, 222 W. Washington Square, Philadelphia 5, Pennsylvania Rokeby Chemical Company, Second Street at St. Clair, Marietta, Ohio Roman Cleanser Company, 2700 E. McNichols Road, Detroit 12, Michigan Rotenone Products Company, 110 Eaton Place, East Orange, New Jersey Royal Appliance Manufacturing Company, 1975 E. 61st Street, Cleveland 3, Ohio Royal Lace Paper Works, 99 Gold Street, Brooklyn 1, New York I. D. Russell Company Laboratories, 2463 Harrison Street, Kansas City, Missouri Dr. Salsbury's Laboratories, 500 Gilbert, Charles City, Iowa The Sanfax Company, P. O. Box 604, Atlanta, Georgia Sapo Elixir Chemical Company, 800 E. Big Bend Road, Kirkwood 22, Missouri Saywell Laboratories, 2004 St. Clair Avenue, Cleveland 14, Ohio Scott Industries, 311 Bellevue, Jackson, Tennessee O. M. Scott & Sons Company, Marysville, Ohio Sears, Roebuck & Company, 925 South Homan Avenue, Chicago, Illinois Sennewald Drug Company, Inc., 2723 Chouteau Avenue, St. Louis 3, Missouri Senoret Chemical Company, 610 Gratiot Street, St. Louis 2, Missouri John Sexton & Company, 4501 W. 47th Street, Chicago 32, Illinois Shaker Seed & Feed Company, P. O. Box 6, South Union, Kentucky Shell Oil Company, 50 West 50th Street, New York 20, New York Sherman Laboratories, 5031 Grandy Avenue, Detroit 11, Michigan Shulton, Inc., 697 Route 46, Clifton, New Jersey Sinclair Manufacturing Company, 1125 Brown Avenue, Toledo 7, Ohio The Smith Agricultural Chemical Company, 1850 Kentucky Ave., Indianapolis, Indiana Smith Chemical Company, 1113 Clark Avenue, Ames, Iowa Sno-Wash Distributor, 1523 Obyrne Street, Henderson, Kentucky Southern Agricultural Insecticides, Inc., P. O. Box 324, Palmetto, Florida Southern National Manufacturing Company, Hollister, Missouri The Stadler Fertilizer Company, 1010 Denison Avenue, Cleveland 9, Ohio Stalfort Pressure Pak, Inc., 2012 Hammonds Ferry Road, Baltimore 27, Maryland Standard Laboratories, Inc., 201 Tabor Road, Morris Plains, New Jersey Standard Oil Company, Inc., 430 West Bloom Street, Louisville, Kentucky Sohio Laboratories, 1823 Midland Building, Cleveland 5, Ohio Stanley Home Products, Inc., 42 Arnold Street, Westfield, Massachusetts Stark Brothers Nurseries & Orchards Company, Louisiana, Missouri Stauffer Chemical Company, Lawerence Street, Chauncey, New York Stearn's Electric Paste Company, 111 W. Washington Street, Chicago 2, Illinois The Sterling Company, Inc., 2801-05 Locust Street, St. Louis 3, Missouri Sterwin Chemicals, Inc., 1450 Broadway, New York 18, New York Stim-U-Plant Laboratories, Inc., 2077 Parkwood Avenue, Columbus 19, Ohio J. Strickland & Company, 1400 Ragan, Memphis, Tennessee The Stryon-Beggs Company, 39 South Fourth Street, Newark, Ohio Stull's Chemical, Inc., 3400 Nacogdoches Road, San Antonio, Texas Sun Oil Company, 1608 Walnut Street, Philadelphia 3, Pennsylvania W. R. Sweeney Manufacturing, Inc., 340 South Main, Salisbury, Missouri Swift & Company, Plant Food Division, National Stock Yards, Illinois Tabtrol Company, 7003 Deerfield Road, Baltimore 8, Maryland Ray H. Tanck, Inc., Middleton, Wisconsin The Taylor-Reed Corporation, Glenbrook, Connecticut

Tennessee Copper Company, Copperhill, Tennessee Texize Chemicals, Inc., P. O. Box 1820, Greenville, South Carolina Thompson Chemicals Corporation, 3028 Locust Street, St. Louis 3, Missouri Thompson-Hayward Chemical Company, 2915 Southwest Blvd. Kansas City 8, Missouri Thompson's Sanitary Supply House, 761 East Seventh St., Lexington, Kentucky Tidy House Products Company, 604 West Thomas, Shenandoah, Iowa Tobacco States Chemical Company, P. O. Box 479, Lexington, Kentucky Tom-Cat Products Company, 101 Union Street, Jonesboro, Arkansas Toxite Laboratories, Inc., Cumberland, Indiana Trylon Products Corporation, 2750 N. Wolcott Avenue, Chicago 14, Illinois Tull Chemical Company, P. O. Box 246, Oxford, Alabama Turco Products, Inc., 6135 South Central Avenue, Los Angeles, California Tykor Products, Div. of Borden Company, 350 Madison Avenue, New York 17, New York Union Carbide & Carbon Corp., 30 East 42nd Street, New York 17, New York Unit Chemical Corporation, 4161 Redwood Avenue, Los Angeles 66, California United Co-operatives, Inc., 111 Glamorgan Street, Alliance Ohio United States Borax & Chemical Corporation, 630 Shatto Place, Los Angeles 5, Calif. United States Rubber Company, 1230 Avenue of the Americas, New York 20, New York Universal Electric Products Company, 4200 Sycamore Avenue, Madison 4, Wisconsin Van Brode Milling Company, Inc., 20 Cameron Street, Clinton, Massachusetts R. T. Vanderbilt Company, Inc., 230 Park Avenue, New York 17, New York Vaporette, Inc., 2416 South Harwood, Dallas 1, Texas Vaughan's Seed Company, 601 West Jackson, Chicago 6, Illinois Vestal Laboratories, Inc., 4963 Manchester, St. Louis, Missouri Victrylite Candle Company, P. O. Box 890, Oshkosh, Wisconsin Virginia-Carolina Chemical Corp., Murray Road, St. Bernard Station, Cincinnati, Ohio Virginia-Carolina Chemical Corp., 401 East Main Street, Richmond, Virginia Virginia Smelting Company, West Norfolk, Virginia Walker Remedy Company, 224 Commercial Street, Waterloo, Iowa The J. R. Watkins Company, 150 Liberty Street, Winona, Minnesota Weco Products Company, 20 North Wacker Drive, Chicago 6, Illinois Weedez Corporation, 812 Board of Trade Building, Kansas City, Missouri The Weevil-Cide Company, 1323 Union Avenue, Kansas City, Missouri Weil-Elliott Chemical Company, Inc., 401 N. 37th Street, Louisville, Kentucky S. C. Wells & Company, One Church Street, LeRoy, New York West Disinfecting Company, 42-16 West Street, Long Island City 1, New York Westchester Veterinary Products, Div. of Eastco, Inc., 180 Mamaroneck Avenue, White Plains, New York

Whittmire Research Laboratories, Inc., 339 S. Vandeventer, St. Louis 10, Missouri Wilbert Products Company, Inc., 805 E. 139th Street, New York 54, New York Wisconsin Chemical Products Company, 5117-19 N. 32nd Street., Milwaukee 9, Wisconsin Wood Treating Chemical Company, 5137 Southwest Avenue, St. Louis 10, Missouri Woodlets, Inc., 2048 Niagara Street, Buffalo 7, New York Woolfolk Chemical Works, Ltd., East Main Street, Fort Valley, Georgia Worden Manufacturing Company, P. O. Box 525, Grand Island, Nebraska Wyandotte Chemicals Corporation, 1609 Biddle Avenue, Wyandotte, Michigan Wyeth Laboratories, Div. American Home Products Corp., P. O. Box 8299,

Philadelphia 1, Pennsylvania Yopp Seed Company, 120 South Second Street, Paducah, Kentucky Zep Manufacturing Corporation, 300 South Second Street, Atlanta 1, Georgia

#### INTRODUCTION

This bulletin contains results of analyses of official pesticide samples secured during the period January 1, 1959, through December 31, 1959. Of the 354 samples reported 56 were found to be deficient. Twenty-six samples represented products not registered, as required by the Kentucky Economic Poisons Law, at the time of sampling.

### LABELING REQUIREMENTS

Chemicals eligible for registration under the act must bear a label stating the directions for use which if complied with are considered adequate. With few exceptions, the label must contain a warning or caution statement, designed to prevent injury to man and other vertebrate animals, vegetation or other useful living things.

The label of the product must also contain a guaranteed analysis which shows either the name and percentage of each active ingredient together with the total percentage of the inert ingredients or the names of each active ingredient in the descending order of their percentages together with the name of each and the total percentage of the inert ingredients. The ingredient statement of any product may be of either form except in the case of compounds which are highly toxic to man. The ingredient statement for products containing highly toxic compounds must list the name and percentage of each active ingredient. Highly toxic materials may also be required to be colored or "discolored" for the protection of the public health.

These label requirements provide the public with information as to the uses of and the precautions to be taken in the use of all economic poisons sold in Kentucky.

The name and the address of the manufacturer or registrant must appear on the label. The net weight or measure of the contents of any bottle or package must be stated on the label, and also the name, brand or trade-mark under which the article is sold.

### PURPOSE OF THE PESTICIDE LAW

The Kentucky Economic Poisons Law, though designed primarily to protect the purchaser or consumer of pesticide products, also indirectly benefits the dealers in these products and the general public, even though they may not be directly involved in the purchase or distribution of pesticide chemicals.

Because of the labeling requirements for economic poisons, any individual entirely unconnected with the purchase and distribution of pesticides can be protected knowing that in case of emergency the labeled information shown on the pesticide container may be of extreme importance. Likewise, every housewife who purchases fresh fruits and vegetables from the local grocer is indirectly protected by the labeling of pesticide products whose directions for use indicate safe rates of application which will not leave a dangerous residue of pesticides on fresh fruits and vegetables.

Under the act a manufacturer is required to submit claims he wishes to make for his products in advance of the sale. If the composition of an article is such as to warrant the proposed claims and if the labeling complies with the requirements of the law, the product can be registered. In light of this, dealers not only operate in an orderly market from the standpoint of uniform labeling requirements but by virtue of the authority provided the Director of the Kentucky Agricultural Experiment Station to review proposed claims under the act, the dealer further has reason to believe products are adequate for the purpose intended. This undoubtedly tends to keep ineffective and worthless items of this kind off the market.

### FIELD INSPECTION

In order to adequately enforce the provision of the act, five field inspectors are charged with the important job of bringing the various aspects of the Kentucky Economic Poisons Law to manufacturers, dealers and the general public.

Field inspectors are authorized to collect samples of economic poisons and devices and to enter into any car, warehouse, store, etc., supposed to contain economic poisons

or devices, for the purpose of inspection or sampling. Field inspectors are also authorized to issue and enforce a written or printed stop sale or removal order of a lot of economic poison when the material being offered for sale is in violation of any of the provisions of the Kentucky Economic Poisons Law and to hold this material at a designated place.

Field inspectors are in a position to explain the various aspects of the Kentucky Economics Poison Law so that dealers and consumers of pesticide products will have an understanding of this act.

### FERTILIZER-PESTICIDE MIXTURES

An important group of speciality products are the products in which a pesticide herbicide or other economic poison is incorporated into a fertilizer. Because of the nature of these products, special regulations are employed in their registration. For example, an insecticide incorporated into a fertilizer is manufactured usually to be applied to the ground and, therefore, will be effective only against certain soil-inhabiting pests. Another inherent restriction in the use of these products may be in the method or in the time of application of either of the component parts of the product. For this reason, upon advice of the Departments of Agronomy, Entomology and Botany, and Horticulture the Director of the Kentucky Agricultural Experiment Station has restricted the sale of such fertilizer-pesticide mixtures to specific crops and at definite rates of application. The use of these products is based on the result of scientific experimental evidence. Uses and recommendations will be varied as new evidence is brought to light.

Several fertilizer-insecticide mixtures are made and sold exclusively for use on lawns and other turf as distinguished from application to agricultural crops. Requirements for the registration of this group of fertilizer-pesticide mixtures are less severe and many formulations are acceptable for registration in Kentucky. Additional information regarding fertilizer-pesticide mixtures may be obtained by writing to the Department of Feed and Fertilizer, Kentucky Agricultural Experiment Station.

### LABORATORY ANALYSIS

The field inspection staff regularly samples the various pesticide products offered for sale in Kentucky. These samples are forwarded to the laboratories of the Feed and Fertilizer Department at Lexington for chemical analysis.

One of the most important aspects of the pesticide program is the function of the laboratory in analyzing pesticide products to determine whether or not the contents of a given package equal the guarantee stated by the manufacturer. The complexity of the newer pesticide chemicals is such that special equipment is required to give speedy and reproducible results in the hands of trained personnel.

Usually the materials that are used as pesticides contain, in addition to the active ingredients, one or more components which are chemically similar but which are worthless with respect to insecticidal activity. Often other materials such as solvents, diluents and other agents may prevent an accurate analysis. The separation of the component to be analyzed from materials which would interfere with the analysis is often a long, tedious process.

Through the years scientists have developed many techniques which give results equivalent to those obtained by gravimetric analysis -- that is, weighing the component obtained from a given amount of the material. Often methods of analysis utilizing newer techniques are superior to gravimetric methods. The use of these new methods calls for a wide variety of equipment permitting more thorough coverage of the pesticides offered for sale in the state. Some of the finest equipment available, is employed in the analysis of pesticide products by the Feed and Fertilizer Department.

The chemists of the Department of Feed and Fertilizer employed in the analysis of pesticide products must of necessity be well trained and must have a high sense of scientific honesty in the evaluation of their methods and techniques. Kentucky pesticide chemists cooperate with chemists in other states and with the government in the search for better and more accurate methods.

If the laboratory report shows the composition of the product notably at variance from the guaranteed content, a stop sale is issued. The material may then be returned to the manufacturer or otherwise disposed of.

### CONTROL OFFICIALS ASSOCIATION

Serving as a nerve center for the administration of pesticide laws in the country is the Association of American Pesticide Control Officials, Inc. This organization composed of state and federal control officials supplies information and advice concerning the regulations and operations of pesticide laws in the country with an eye to more effective operation and uniform service among the states.

### EXPLANATION OF TABLES

The following tables are compiled by active ingredient. Manufacturers are listed alphabetically above their respective products. The examinations reported are official samples of pesticide products offered for sale in Kentucky.

Of the 354 samples analyzed during the year from January, 1959, through December 31, 1959, 56 samples were found to be deficient in one or more of the active ingredients guaranteed. This represents over fifteen percent of the number of samples secured. Twenty-six products were not registered when the sample was taken.

The symbols in the right hand column of each table have the following meaning:

- P (Passed) denotes amount of active ingredient was not significantly at variance from the amount guaranteed.
- D (Deficient) denotes the amount of active ingredient found was significantly below the amount guaranteed.
- X (Not registered) denotes the product was not registered in Kentucky at the time the sample was secured.

### ANALYSES OF PESTICIDES IN FERTILIZER

Registrant Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	Remarks
AMERICAN AGRICULTURAL CHEMICAL CO. 5-10-15 Sulfate with Aldrin			
Aldrin	0.15	0.19	P
Aldrin	0.15	0.14	P
Aldrin	0.15	0.19	P
Aldrin	0.50	0.36	X D
Dieldrin	0.375	0.36	X
Dieldrin	0.319	0.50	P
ARMOUR FERTILIZER WORKS 5-10-15 Sulfate with Aldrin			
Aldrin	0.15	0.19	P
6-12-18 Sulfate with 0.15 Aldrin Aldrin	0.15	None	D
5-10-15 Sulfate with 0.15 Aldrin Aldrin	0.15	0.13	P
BLUEGRASS FERTILIZER COMPANY			
5-10-15 Sulfate with 0.2 Aldrin Aldrin	0.20	0.17	P
5-15-0 with 0.318 Dieldrin Dieldrin	0.318	0.33	P
4-12-8 Muriate with 0.318 Dieldrin Dieldrin	0.375	0.16	D
BURLEY BELT FLANT FOOD WORKS, INC.			
4-16-4 Sulfate with Aldrin Aldrin	0.31	0.29	P
4-16-4 Sulfate with Dieldrin Dieldrin	0.25	0.24	P
COMMONWEALTH FERTILIZER COMPANY			
4-12-8 Muriate with .5 Aldrin Aldrin	0.50	0.38	D
COOPERATIVE FERTILIZER SERVICE			
10-10-10 Muriate with Heptachlor Heptachlor	0.40	0.25	D
10-10-10 Muriate with Heptachlor Heptachlor	0.40	0.24	D
DARLING & COMPANY			
5-10-15 Sulfate with 0.50 Aldrin Aldrin	0.50	0.25	D
FEDERAL CHEMICAL COMPANY			
6-12-12 Muriate with 0.5 Heptachlor Heptachlor	0.50	0.09	D
6-12-12 Muriate with 0.5 Heptachlor		0.20	
5-10-15 Sulfate with 0.5 Heptachlor			D
Heptachlor	0.50	0.39	. D

# ANALYSES OF PESTICIDES IN FERTILIZER ( Con't)

Registrant Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
FEDERAL CHEMICAL COMPANY (Con't)			
5-10-15 Sulfate with 0.5 Heptachlor			
Heptachlor 5-10-15 Sulfate with 0.5 Heptachlor	050	0.11	D
Heptachlor	0.50	0.06	D
DAVISON CHEMICAL CO. DIV. W. R. GRACE & C	ю.		
5-10-15 Sulfate with 0.5 Heptachlor			
Heptachlor	0.50	0.27	D
HUTSON CHEMICAL COMPANY			
5-10-15 Sulfate with Aldrin			
Aldrin5-10-15 Sulfate with Aldrin	0.89	1.14	P
Aldrin	1.00	1.12	P
4-12-8 Muriate with Aldrin		4.	
Aldrin	1.00	0.99	P
INTERNATIONAL MINERAL & CHEMICAL CORP.			
3-12-12-Muriate with 0.33 Aldrin			
Aldrin	0.33	0.39	P
10-10-10 Muriate with 0.5 Aldrin	0.50	0.50	
Aldrin	0.50	0.58	P
KNOXVILLE FERTILIZER COMPANY			
4-12-8 Muriate with 0.318 Dieldrin			
Dieldrin	0.37	0.29	D
Aldrin	0.15	0.14	P
LOUISVILLE FERTILIZER COMPANY			
6-12-12 Muriate with 0.25 Heptachlor	0.25	None	D
5-10-15 Sulfate with 0.15 Aldrin	0.25		
Aldrin	0.15	0.11	b
CATTUL ACRICULTURAL CHEMICAL COMPANY			
SMITH AGRICULTURAL CHEMICAL COMPANY 6-10-4 with 2,4-D			
2,4-D	0.70	0.56	P
SWIFT & COMPANY - Ag. Chemical Division Vigoro Bulb Food - Holland Formula			
with Insect Control	0.625	0.07	/ XD
V. C. CHEMICAL CORPORATION			
5-10-15 Sulfate with .3 Aldrin	0.315	0.13	D
4-12-8 Muriate with .3 Aldrin			
Aldrin	0.315	0.40	P

# ANALYSES OF PRODUCTS CONTAINING ALDRIN \*

Registrant	A1	drin	
	Guaranteed	Found	Remarks
Active Ingredient	%	%	
BLUEGRASS SUPPLY COMPANY			
Test-it Aldrin 4 Spray	42.60	42.40	P
Do	42.60	43.20	P
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Aldrin 4 Spray	42.60	43.70	P
Do	42.60	43.10	P
UNITED COOPERATIVES, INC.			
Unico Aldrin Emulsifiable			
Concentrate	23.30	24.90	P
Aldrin Emulsifiable Concentrate	23.30	24.20	P
Do	23.30	24.40	P
Unico Aldrin Emulsifiable			
Concentrate	23.30	24.30	Ë
Aldrin Emulsifiable Concentrate	23.30	26.30	P

<sup>\*</sup> See pages 13 and 14 for Aldrin in Fertilizer.

# ANALYSES OF PRODUCTS CONTAINING GAMMA ISOMER OF BENZENE HEXACHLORIDE

Registrant	Gamma	Isomer of BHC	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
ACME QUALITY PAINTS, INC.			
Acme 5% Lindane Spray	5.00	5.07	P
ANCHOR SERUM COMPANY			
Anchor Louse & Mange			
Powder 12% Gamma BHC	12.00	14.30	Х
CALIFORNIA SPRAY CHEMICAL CORP.			
Isotox Transplanter			
Solution	5.00	7.79	P
Do		5.78	P
Ortho BHC Wettable	6.00	6.08	P
Isotox Liquid Dairy Spray	20.00	19.80	P
Ortho Borer Spray		19,90	P
E. I. DUPONT & DENEMOURS & CO., INC.			
Dupont Lexone 10% Gamma BHC			
Insecticide Wettable Powder	10.00	10,18	P
ELCO PRODUCTS COMPANY			
Pest-O-Kil	100.00	100.00	Х
GLOBE LABORATORIES			
Globe Lindane Concentrate	11.14	11.40	P
KENTUCKY DISTRIBUTORS	20.00	20.50	х
Lindane Concentrate	20.00	20.50	
DR. L. D. LEGEAR MEDICINE COMPANY		0.05	
Louse Powder Contains Lindane.	1.00	0.95	P

# ANALYSES OF PRODUCTS CONTAINING GAMMA ISOMER OF BENZENE HEXACHLORIDE (Con't)

Registrant	Gamma Iso	mer of BHC	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
B. G. PRATT COMPANY			
Pratt's 5% Lindane Insect			
Spray	5.00	5.11	X
Spray			
RALSTON PURINA COMPANY			
Purina Insect Killer	0.50	0.51	P
RIGO MANUFACTURING COMPANY Kill-Ko Lindane Emulsifiable			
	13.00	12.86	P
Concentrate	13.00	12.00	
RIVERDALE CHEMICAL COMPANY			
Riverdale Lindane	25.00	24.90	P
SCIENCE PRODUCTS COMPANY	25 00	25.80	х
25% Lindane Wettable Powder	25.00	23.00	^
THOMPSON-HAYWARD CHEMICAL COMPANY			
Tri-6 120-W For Annual and Field			
Crop Insect Control	12.00	11.00	X
TOBACCO STATES CHEMICAL COMPANY			
Tobacco States #2 Transplanter		10.70	D
Solution		18.70	P P
Do		11.24	P
#1 Transplanter Solution	5.00	5.14	P
5% Lindane Transplanter	5.00	6.24	P
Solution	5.00	0.24	•
UNITED COOPERATIVES, INC.			
Lindane Emulsifiable Concentrate	20.00	19.93	P
Do	20.00	21.00	P
Lindane Wettable Powder	25.00	24.10	P
ANALYSES OF PROL	OUCTS CONTAINING CAR	PTAN	
Registrant	Ca	ıptan	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
CALIFORNIA SPRAY CHEMICAL CO.			
Orthocide - Garden Fungicide	50.00	48.30	P
Do		49.60	P
COOP. SEED & FARM SUPPLY SERVICE, INC.			
Strawberry Dust No. 75	7.50	7.05	_
(Contains Captan)	7.50	7.85	P
STAUFFER CHEMICAL COMPANY			
Stauffer Captan Garden			
Spray	50.00	50.80	P
Captan 50-W	50.00	51.30	P
Do	50.00	52.10	P
THE PARROTT CHEMICAL COMPANY			
Lucky Strike Captan	50.00	/7.50	,
Fungicide	50.00	47.50	X

# ANALYSES OF PRODUCTS CONTAINING CHLORDANE

Registrant		Chlordane		
Product	Guaranteed		Found	Remark
Active Ingredient	%		%	
ACME QUALITY PAINTS, INC.				
Acme 45% Chlordane Spray	45.00		43.10	P
CALIFORNIA SPRAY CHEMICAL CORP. Ortho-Klor 10 Chlordane				
Dust	10.00		10.53	P
Ortho-Klor 44 Chlordane Spray	44.00		45.40	P
Ortho-Klor 72 Chlordane Spray	72.00		76.70	Х
CARBOLA CHEMICAL CO., INC. Carbola 6% Chlordane Dust	6.00		6.68	P
CHEMICAL FORMULATORS, INC.				
Chlordane Concentrate	40.00		38.03	P
I I DIMONE DENEMONING C COMMAND				
E. I. DUPONT DENEMOURS & COMPANY Dupont 72% Chlordane				
Insecticide	72.00		71.00	P
Dupont 6% Chlordane Dust	6.00		5.91	P
DE LECEAR MEDICANE COMPANY				
DR. LEGEAR MEDICINE COMPANY Dr. LeGear's Ant and Roach				
Killer	33.80		34.40	P
IIAGARA CHEMICAL DIVISION	10.00			
10% Chlordane Dust or Spray	10.00		11.20	P
COBACCO BY-PRODUCTS & CHEMICAL CO.				
Black Leaf	45.00		44.20	X
OBACCO STATES CHEMICAL COMPANY				
5% Chlordane Dust	5.00		4.73	P
3% onzozanie paperii i i i i i i i i i i i i i i i i i i	3.00		4.73	
JNITED COOPERATIVES, INC.				
Chlordane 45 Spray	45.00		45.80	P
50% Chlordane Wettable Powder	50.00		51.10	P
10,402,	30.00		31.10	•
ANALYSES OF PROD	UCTS CONTAININ	G COPPER		
Registrant		Copper		
Product	Guaranteed		Found	Remarks
Active Ingredient	%		%	
ACME QUALITY PAINTS, INC.				
Acme Bordeaux Mixture	. 12.75		12.94	P
			22.74	
BOURBON COMPANY, THE				
Bourbon Tomato Dust			8.07	P
Do	. 8.00		8.36	P
CHIPMAN CHEMICAL CO., INC.				
Copper Hydro Bordo	. 13.00		12.48	х
COOPERATIVE SEED & FARM SUPPLY				
Copper Sulphate			25.30	P
Do	. 25.20		25.20	P

# ANALYSES OF PRODUCTS CONTAINING COPPER (Con't)

Registrant	Copper		
	Guaranteed	Found	Remarks
Active Ingredient	%	%	
E. T. DUDOUE ( DE VENCOURS ( D.			
E. I. DUPONT & DE NEMOURS & CO.			
Bordeaux Mixture	13.00	12.50	P
CEMEDAL CHEMICAL DIVICION ALL TED			
GENERAL CHEMICAL DIVISION ALLIED			
Orchard Brand Tribasic Bordeaux Mixture	10.75	10.01	
bordeaux mixture	12.75	13.24	P
J. M. HARRIS & CO., INC.			
Dragon Tomato Dust	7.00	7.12	P
Dragon Tomato age	7.00	7.12	P
NIAGARA CHEMICAL DIVISION - FOOD			
Niagara C.O.C.S.			
Copodust	6.00	6.17	P
TOBACCO STATES CHEMICAL CO., INC.			
Tomato Copper Dust	7.00	7.05	P
Copper Sulphate			
Powered Bluestone	25.20	25.40	P
UNITED COOPERATIVES, INC.			
Unico Copper Fungicide	53.00	52.70	P
Copper Fungicide			
(Basic Copper Sulphate)	53.00	51.80	P
Unico Copper Fungicide	53.00	52.90	P
LICIT FILL TOWN GUENTGAL GO THE			
WEIL-ELLIOTT CHEMICAL CO., INC.	25 22		
Ken Ko Copper Sulphate	25.20	25.30	P
ANALYSES OF PRODI	JCTS CONTAINING DDT		
main to be of the be	CONTRINING DDI		
Registrant	DDT		
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Pest-B-Gon			1
Wettable 50% DDT	50.00	52.10	P
	50.00	52.10 54.80	P P
Wettable 50% DDT			
Wettable 50% DDT Do	50.00	54.80	P
Wettable 50% DDT			
Wettable 50% DDT Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder	50.00	54.80	P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC.	50.00	54.80	P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC. Dupont 50% DDT	50.00	54.80 10.05	P P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC.	50.00	54.80	P
Wettable 50% DDT  Do	50.00	54.80 10.05	P P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC. Dupont 50% DDT Wettable Powder  LOUISVILLE CHEMICAL CO.	50.00 10.00 50.00	54.80 10.05 50.60	P P P
Wettable 50% DDT  Do	50.00 10.00 50.00	54.80 10.05	P P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC. Dupont 50% DDT Wettable Powder  LOUISVILLE CHEMICAL CO. 10% DDT Dust	50.00 10.00 50.00	54.80 10.05 50.60	P P P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC. Dupont 50% DDT Wettable Powder  LOUISVILLE CHEMICAL CO. 10% DDT Dust	50.00 10.00 50.00	54.80 10.05 50.60	P P P
Wettable 50% DDT.  Do	50.00 10.00 50.00 10.00	54.80 10.05 50.60 10.00	P P P
Wettable 50% DDT  Do  COOPERATIVE SEED & FARM SUPPLY SERVICE Poultry Louse Powder  E. I. DUPONT & DE NEMOURS & CO., INC. Dupont 50% DDT Wettable Powder  LOUISVILLE CHEMICAL CO. 10% DDT Dust	50.00 10.00 50.00 10.00	54.80 10.05 50.60	P P P
Wettable 50% DDT.  Do	50.00 10.00 50.00 10.00	54.80 10.05 50.60 10.00	P P P
Wettable 50% DDT.  Do	50.00 10.00 50.00 10.00	54.80 10.05 50.60 10.00	P P P
Wettable 50% DDT.  Do	50.00 10.00 50.00 10.00	54.80 10.05 50.60 10.00	P P P

# ANALYSES OF PRODUCTS CONTAINING DDT (Con';)

Registrant Product		DDT	
Active Ingredient	Guaranteed %	Found	Remark
netave ingredient		%	
RIGO MANUFACTURING CO. (Con't)			
Kill-Ko 25% DDT Concentrate	25.00	25.00	P
TOBACCO STATES CHEMICAL CO.			
10% DDT Ready Mixed Dust	10.00	10.05	P
Do		10.10	P
25% DDT Concentrate	25.00	24.60	P
UNITED COOPERATIVES, INC.			
Unico 50% DDT Wettable			
Powder		49.10	P
Do		51.00	P
Do		51.60	P
Unico DDT Spray Powder	50.00	50.60	P
Unico DDT Emulsifiable Concentrate	01 00		
Concentrate	24.00	24.90	P
ANALYSES OF PRODUCT	S CONTAINING DIE	LDRIN *	
Registrant	Di	eldrin	
	Guaranteed	Found	Remark
Active Ingredient	%	%	
ACME QUALITY PAINTS, INC.			
Acme Dieldrin 18	18.63	19.77	
		13.77	P
		19.77	P
CALIFORNIA SPRAY CHEMICAL CORP.	18.60 18.60	19.10	P
CALIFORNIA SPRAY CHEMICAL CORP. Ortho Dieldrin 1.5 Spray	18.60		
CALIFORNIA SPRAY CHEMICAL CORP. Ortho Dieldrin 1.5 Spray Do	18.60 18.60	19.10 19.20	P P
CALIFORNIA SPRAY CHEMICAL CORP. Ortho Dieldrin 1.5 Spray Do Ortho Dieldrin Spray TOBACCO STATES CHEMICAL CO.	18.60 18.60	19.10 19.20	P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 1b.	18.60 18.60 18.60	19.10 19.20 18.50	P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate	18.60 18.60 18.60	19.10 19.20 18.50	P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60	19.10 19.20 18.50 18.80 17.90	P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60	19.10 19.20 18.50 18.80 17.90 19.90	P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do  Do  10% Dieldrin Granules	18.60 18.60 18.60 18.60 18.60 10.00	19.10 19.20 18.50 18.80 17.90 19.90 10.70	P P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do  Do  10% Dieldrin Granules  50% Dieldrin Seed Dressing	18.60 18.60 18.60 18.60 18.60 10.00 50.00	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10	P P P P P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do  Do  10% Dieldrin Granules	18.60 18.60 18.60 18.60 18.60 10.00	19.10 19.20 18.50 18.80 17.90 19.90 10.70	P P P P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80	P P P P P P P X P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80	P P P P P P P X P
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 2.50	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80 1.97	P P P P P P X P D
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00 2.50	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80 1.97	P P P P P P X P D
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00 2.50	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80 1.97	P P P P P X P D
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  FOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do.  10% Dieldrin Granules  50% Dieldrin Seed Dressing  50% Dieldrin Wettable Powder  Plant Bed & Lawn Saver  UNITED COOPERATIVE, INC.  Unico Dieldrin Emulsifiable  Concentrate  Do.  Do.  Do.  Do.  Do.  Do.  Do.	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00 2.50	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80 1.97	P P P P P X P D
CALIFORNIA SPRAY CHEMICAL CORP.  Ortho Dieldrin 1.5 Spray  Ortho Dieldrin Spray  TOBACCO STATES CHEMICAL CO.  Tobacco States 1.5 lb.  Dieldrin Emulsifiable Concentrate  Do	18.60 18.60 18.60 18.60 18.60 10.00 50.00 50.00 2.50	19.10 19.20 18.50 18.80 17.90 19.90 10.70 50.10 50.80 1.97	P P P P P X P D

<sup>\*</sup> See pages 13 and 14 for Dieldrin in Fertilizer.

# ANALYSES OF PRODUCTS CONTAINING ENDRIN

Registrant		Endrin	
1100001	uaranteed	Found	Remarks
Active Ingredient	%	%	
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Endrin 1.6 Emulsive	18.60	18.80	P
Do		17.03	D
D0	10.00		
CHESTNUT & ANDERSON SUPPLY COMPANY			
Little River Endrin Miscible			
contains 1.6 lbs per gallon	19.50	18.80	P
GENERAL CHEMICAL DIV. ALLIED CHEMICAL			
& DYE CORPORATION			
Orchard Brand GC Endrin			
EM-1.6	19.80	20.00	P
En-1.0			
NIAGARA CHEMICAL DIV. FOOD MACHINERY			
& CHEMICAL CORPORATION			
Niagara Endrin Miscible	19.50	20.70	P
CTAILBEED CHEMICAL COMPANY			
STAUFFER CHEMICAL COMPANY Endrin 1-6E	19.80	19.90	P
Endrin 1-0E	17.00		
THOMPSON-HAYWARD CHEMICAL COMPANY			
Endrin WE-16	18.80	18.30	P
TOBACCO STATES CHEMICAL COMPANY, INC.			
Tobacco States Endrin			
Emulsifiable Concentrate	19.50	18.60	P
Endrin Emulsifiable Concentrate		10.60	
contains 1.6 lbs per gal	19.50	18.60	P
INITED COOPEDATIVES INC			
UNITED COOPERATIVES, INC. Unico Endrin Emulsifiable			
Concentrate	18.90	18.90	P
Do	18.90	19.40	P
Do		19.00	P
WEIL-ELLIOTT CHEMICAL COMPANY			
Ken-Ko Endrin 1.6E	19.00	18.50	P
eventary tropical time			
WOOLFOLK CHEMICAL WORKS, LTD. Endri-Sol	18 50	18.80	P
Endri-Sol	10.50	10:00	
ANALYSES OF PRO	DUCTS CONTAINING	G FERBAM	
Registrant	I	Ferbam	
Product	Guaranteed	Found	Remark
Active Ingredient	%	%	
CALIFORNIA SPRAY CHEMICAL CORP.	76.00	81.40	P
Ferbam 76 Fungicide	70.00	01.40	
E. I. DUPONT & DE NEMOURS & CO.			
Dupont Fermate	76.00	81.10	P
Do	76.00	82.00	P
	CONTRACTOR OF THE PROPERTY OF		
Вот			
GENERAL CHEMICAL DIVISION Orchard Brand Ferbam	76.00	77.90	P
GENERAL CHEMICAL DIVISION	76.00	77.90	<b>P</b>
GENERAL CHEMICAL DIVISION	76.00	77.90 79.80	P P

# ANALYSES OF PRODUCTS CONTAINING FERBAM (Con't)

Registrant		Ferbam	
Product Active Ingredient	Guaranteed	Found %	Remark
Active ingredient	%		
TOBACCO STATES CHEMICAL CO.			
Tobacco States 15%			
Fermate Dust	10.50	11.00	P
WEIL-ELLIOTT CHEMICAL CO.			
Ken-Ko 15% Fermate  Dust	11.40	15.50	P
Base	22.40	25.50	
WOOLFOLK CHEMICAL CO.			
Ferbam Fungicide	76.00	78.40	P
ANALYSES OF PRODU	CTS CONTAINING	MALATHION	
Pagistrant	Ma	lathion	
Registrant Product	Guaranteed	Found	Remark
Active Ingredient	%	%	
ACME QUALITY PAINTS, INC.	50.00	55.30	P
Acme 50% Malathion Spray	50.00	33.30	Р
"AG" SUPPLY COMPANY			
50% Malathion Emulsion	50.00	47.50	P
AMSCO CHEMICAL COMPANY	2.00	2.70	
Hot Shot Fly Bait		2.72	P P
Do	2.00	2.23	
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Malathion 50 Spray	50.00	48.20	P
Do	50.00	49.10	P
Do	50.00	48.10	P
Fly Killer Dry Bait	1.00	0.66	D
COOPERATIVE SEED & FARM SUPPLY			
Statesman 5% Malathion Dust	5.00	5.25	P
Do	5.00	5.18	P
20	5.00		
DACUS DRUG COMPANY			
Kilz Malathion Fly Killer	2.00	2.64	X
DIAMOND BLACK LEAF COMPANY			
Black Leaf 25% Malathion			
Wettable Powder	25.00	26.80	P
DIXI-CHEM COMPANY			
Dixie Kill Malathion	0.00	0.5	
Fly Bait	2.00	0.54	D
EAGLE CHEMICAL COMPANY			
Spra-Kill 50% Malathion			
Spray	50.00	50.40	Х
GLOBE LABORATORIES	FO 00	50.10	
Globe Malathion Compound	50.00	52.10	P
Do	50.00	53.40	P

# ANALYSES OF PRODUCTS CONTAINING MALATHION (Con't)

Registrant		Malathion		
	Guaranteed		Found	Remarks
Active Ingredient	%		%	
LEHIGH CHEMICAL CO., INC.				
Magic Fly Bait	2.00		2.17	P
Do	2.00		2.20	P
RALSTON PURINA COMPANY				
Purina Liquid Building Spray	50.00		51.30	P
Purina Malathion Spray	50.00		53.00	P
Do	50.00		51.90	P
Purina Fly Bait (Sugar Base)	2.00		1.95	P
RIGO MANUFACTURING COMPANY				
Kill-Ko Malathion 50%	FO 00		10.00	
Emulsifiable	50.00		48.90	P
Do	50.00		46.90	D
Do	50.00		46.50	D
Kill-Ko Malathion 5% Dust	5.00		4.98	P
Kill-Ko Fly Bait	2.00		2.58	P
Kill-Ko Malathion Fly Bait	2.00		2.16	P
THOMPSON'S SANITARY SUPPLY HOUSE				
Fly Cry Slats	2.00		1.78	P
TOBACCO STATES CHEMICAL COMPANY				
Tobacco States 50% Malathion				
Emulsion Concentrate	50.00		48.70	D
	50.00		47.90	P
Do				P
Do	50.00		51.90	P
Do	50.00		50.20	P
Do	50.00		48.60	P
	25 00		07.00	
Wettable Powder	25.00		27.00	P
Tobacco States Brand 5% Malathion				
Dust	5.00		4.06	D
Concentrate	57.00		56.80	P
Ooncentrate	37.00		30.00	•
UNITED COOPERATIVES, INC.				
Unico Malathion 51 Spray	51.30		52.40	P
Do	51.30		51.20	P
Do	51.30		51.90	P
Do	51.30		52.90	P
Malathion Spray Powder	25.00		25.10	P
Do	25.00		24.60	P
WETT PETTOTE CURNICAL COMPANY INC				
WEIL-ELLIOTT CHEMICAL COMPANY, INC. Ken-Ko 50% Malathion				
Emulsifiable Concentrate	50.00		46.80	D
			10.00	
WOOLFOLK CHEMICAL WORKS, LTD.				
Security 55% Malathion	55.00		53.40	P
Security 5% Malathion Dust	5.00		4.88	P

### ANALYSES OF PRODUCTS CONTAINING MANEB

Registrant		Maneb		
	aranteed		Found	Remark
Active Ingredient	%		%	
E. I. du PONT & de NEMOURS & CO.				
Manzate	70.00		74.90	P
Do	70.00		79.50	P
ANALYSES OF PRODUCTS	CONTAININ	G METHOXYCHLO	R	
Registrant		Methoxychlor		
[전기: 20kg [전기: 18] [	aranteed		Found	Remark
Active Ingredient	%		%	
E. I. du PONT & de NEMOURS & CO.				
	50.00		52.60	P
50 Technical Methoxychlor DuPont Marlate 50% Technical	30.00		32.00	r
	50.00		54.60	P
Methoxychlor Wettable Powder				P
Dairy Cattle Spray	50.00		53,50	r
GEIGY AGRICULTURAL CHEMICALS				
Geigy Methoxychlor "50"	50.00		53,60	P
NIAGARA CHEMICAL DIVISION				
Methoxycide Miscible	24.00		26.70	P
TOBACCO STATES CHEMICAL COMPANY				
7½% Methoxy Garden Dust	7.50		8.09	P
Do	7.50		7.50	P
D0	7.50		7.30	
ANALYSES OF PROD	UCTS CONTAI	NING NABAM		
Registrant		Nabam		
	uaranteed	THE DELIN	Found	Remark
Active Ingredient	%		, %	
ENTERPRISE CHEMICAL CORPORATION	10.00		22 90	
ENTERPRISE CHEMICAL CORPORATION Nabam Disinfectant	19.00		23.80	x
		ING ROTENONE	23.80	X
Nabam Disinfectant	CTS CONTAIN	ING ROTENONE Rotenone	23.80	X
Nabam Disinfectant	CTS CONTAIN		23.80	X Remark
Nabam Disinfectant	CTS CONTAIN			
Nabam Disinfectant	CTS CONTAIN			
Nabam Disinfectant	CTS CONTAIN uaranteed %		Found %	Remark
Nabam Disinfectant	cts CONTAIN  uaranteed  %		Found %	Remark
Nabam Disinfectant	CTS CONTAIN uaranteed %		Found %	Remark
Nabam Disinfectant	cts CONTAIN  uaranteed  %		Found % 0.76 0,66	Remark
Nabam Disinfectant	cts CONTAIN  uaranteed  %		Found %	Remark
Nabam Disinfectant	CTS CONTAIN  uaranteed  %  0.75 0.75		Found % 0.76 0,66	Remark P P
Nabam Disinfectant	O.75 0.75 1.00		Found % 0.76 0.66	Remark P P
Nabam Disinfectant	0.75 0.75 1.00 1.00		70.76 0.66 0.85	Remark P P P
Registrant Product Active Ingredient  BLACK PANTHER CO., INC. Black Panther Bean Dust  BOURBON COMPANY (THE) Bourbon 1.00% Rotenone Dust Bourbon .75% Rotenone Dust	0.75 0.75 0.75		70.76 0.66 0.85 1.00 0.59	Remark P P P
Registrant Product Active Ingredient  BLACK PANTHER CO., INC. Black Panther Bean Dust. Do.  BOURBON COMPANY (THE) Bourbon 1.00% Rotenone Dust. Do. Bourbon .75% Rotenone Dust. Do. Do. Do. Do.	0.75 0.75 0.75 0.75		0.76 0.66 0.85 1.00 0.59 0.59	Remark P P D D
ANALYSES OF PRODUCE  Registrant Product Active Ingredient  BLACK PANTHER CO., INC. Black Panther Bean Dust. Do	0.75 0.75 0.75 1.00 1.00 0.75 0.75		0.76 0.66 0.85 1.00 0.59 0.59 0.65	Remark  P P P P
Registrant Product Active Ingredient  BLACK PANTHER CO., INC. Black Panther Bean Dust. Do  BOURBON COMPANY (THE) Bourbon 1.00% Rotenone Dust. Do Bourbon .75% Rotenone Dust. Do Do Do Do	0.75 0.75 0.75 0.75		0.76 0.66 0.85 1.00 0.59 0.59	Remark P P D D

# ANALYSES OF PRODUCTS CONTAINING ROTENONE (Con't)

Registrant		tenone	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Rotenone Dust or Spray	. 1.00	0.31	D
Do	. 1.00	0.82	D
Do		0.46	D
COOPERATIVE SEED & FARM SUPPLY		0.70	
Statesman 75 Dust		0.70	P
Do		0.79	P
5% Wettable Rotenone		4.83	P
Do	. 5.00	4.44	D
IAMOND BLACK LEAF COMPANY			
Black Leaf 1.00%			
Rotenone Dust	. 1.00	0.83	D
DATE OF THE PROPERTY WAS			
REEVER'S INCORPORATED	1 67	1.61	
Grub Powder	. 1.67	1.01	Р.
. M. HARRIS & CO., INC.			
Blue Dragon Dust	. 0.75	0.82	P.
OR. L. D. LEGEAR MEDICINE CO.			
Grub Dust	. 1.66	1.59	P
OUISVILLE CHEMICAL COMPANY			
Creal-O-Bug Dust 1% Rotenone	. 1.00	0.92	P
ALSTON PURINA COMPANY			
Purina Grub Killer	. 1.67	1.52	P
Do	경기 보통 (2) 하면 보통 시간에 바꾸어보면 이 경기를 받는데 없는데 없었다.	1.53	P
IGO MANUFACTURING COMPANY			
Gismo Rotenone .75% Bean	0.75	0.42	
Beetle Dust		0.43	D
Kill-Ko 0.5% Rotenone	. 0.50	0.34	D
TOBACCO BY-PRODUCTS & CHEMICAL CORP.			
1.00% Rotenone Dust	. 1.00	0.83	X
Do	. 1.00	0.78	D
Do	. 1.00	0.86	P
Do	. 1.00	0.88	P
Do	. 1.00	0.86	P
Do		0.96	P
Do		0.91	P
Tobacco States Brand Rotenone .75%			
Garden Dust	. 0.75	0.61	P
Do		0.55	D
THE RELEGION CHEMICAL CO. THO			
WEIL-ELLIOTT CHEMICAL CO., INC. Ken-Ko "75" Dust	0.75	0.60	ъ
		0.68	P
Do	. 0.75	0.63	P
Beetle Dust	. 1.00	0.72	D
Do		0.97	P
Do		0.96	P
201111111111111111111111111111111111111			

# ANALYSES OF PRODUCTS CONTAINING ROTENONE (Con't)

Registrant	Rotenone		
Product	Guaranteed	Found	Remark
Active Ingredient	%	%	
WOOLFOLK CHEMICAL WORKS, LTD.			
Cattle Grub Dust	1.50	1.41	P
Mexide 1% Rotenone Dust	1.00	0.94	P
Do	1.00	0.75	D
ANALYSES OF PRODUCTS CO	ONTAINING SODIUM H	YPOCHLORITE	
Registrant	Sodium Hyp		D
Troduct	Guaranteed	Found	Remark
Active Ingredient	%	%	
JAMES AUSTIN COMPANY			
Austin's a-1 Bleach	5.25	4.94	х
Austin s a-1 bleath			
BEST SALES COMPANY			
Best White Laundry Bleach	5.25	4.82	Х
BLEACH PRODUCTS COMPANY	F 0F	F / 0	_
Blink	5.25	5.49	P
CLOBOY COMPANY (THE)			
CLOROX COMPANY (THE) Clorox Disinfectant			
Bleach-Stain Remover	5.25	5.47	P
Clorox	5.25	5.16	P
Clorox	3.23	3.10	
DEL-TOX CHEMICAL COMPANY			
Del-tox Bleach	5.00	4.88	X
Stawite	5.00	4.65	X
ERBRICH PRODUCTS COMPANY			
Time Saver Laundry Bleach	5.25	3.92	D
GREAT ATLANTIC & PACIFIC TEA CO. (THE)			
Bright Sail Brand Laundry		F 16	2
Bleach	5.25	5.16	P
MAGIC MANUFACTURING COMPANY			
MAGIC MANUFACTURING COMPANY Magic Household Bleach	5.25	5.41	P
Do		4.60	D
ро	3.23	7.00	•
MCKNIGHT-KEATON COMPANY			
Chloro-San Household Bleach	5.25	4.91	х
NU-WAY PRODUCTS CO., INC.			
Nu-Way Bleach	5.25	3.18	D
OLIN MATHIESON CHEMICAL CORP.		50.00	
Lo-Bax Special	50.00	52.30	P
TOUR DURIT DEODUCING COUNTY			
JOHN PUHL PRODUCTS COMPANY	E 05	5 10	D
Fleecy White Bleach		5.19	P
Do		5.25	P
Do		5.24	P
Do	5.25	5.30	P

# ANALYSES OF PRODUCTS CONTAINING SODIUM HYPOCHLORITE (Con't)

Registrant	Sodium H	ypochlorite	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	
PUREX CORPORATION, LTD.			
Purex Bleach	5.25	5.07	P
Do		4.81	P
Do		5.29	P
		5.06	P
Do	3.23	5.00	r
ROMAN CLEANSER COMPANY			
Noboil Bleach	5.25	5.07	P
Roman Cleanser Bleach	5.25	5.64	P
Do	5.25	5.20	P
Do		5.87	P
Do		5.09	P
Волити	3.25	3.07	
SINCLAIR COMPANY (THE)			
Sunrae	5.25	5.19	P
White Monday	5.25	4.95	P
Do	5.25	5.24	P
Do	5.25	4.53	D
Do	5.25	4.56	D
Do		5.31	P
TEXIZE CHEMICALS, INC.			
Texize Bleach	5.25	4.24	D
UNIVERSAL MILKING MACHINE DIV.			
NATIONAL COOP., INC. Universal Chlor-O-San	6.40 PRODUCTS CONTAINING	5.15 G TDE	XD
NATIONAL COOP., INC. Universal Chlor-O-San ANALYSES OF		G TDE	XD
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant	PRODUCTS CONTAININ	G TDE	
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant Product	PRODUCTS CONTAINING Guaranteed	G TDE TDE Found	
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant	PRODUCTS CONTAININ	G TDE	XD Remarks
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant Product	PRODUCTS CONTAINING Guaranteed	G TDE TDE Found	
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant Product Active Ingredient	PRODUCTS CONTAINING Guaranteed %	G TDE TDE Found	
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF Registrant Product Active Ingredient  "AG" SUPPLY COMPANY	PRODUCTS CONTAINING Guaranteed %	G TDE  TDE  Found %	Remarks
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust	PRODUCTS CONTAINING Guaranteed %	G TDE  TDE  Found %	Remarks
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 lbs.	PRODUCTS CONTAINING Guaranteed %	TDE Found %	Remarks
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust	PRODUCTS CONTAINING Guaranteed %	G TDE  TDE  Found %	Remarks
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 1bs. TDE (3D) Per gallon	PRODUCTS CONTAINING Guaranteed % 10.00 25.00 25.00	TDE Found % 10.42 24.60 24.40	Remarks P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 1bs. TDE (3D) Per gallon	PRODUCTS CONTAINING Guaranteed % 10.00 25.00 25.00	TDE Found % 10.42	Remarks P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 lbs. TDE (3D) Per gallon	PRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00	TDE Found % 10.42 24.60 24.40	Remarks P P P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 1bs. TDE (3D) Per gallon Ortho TDE 2 Spray Do	PRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00	TDE Found % 10.42 24.60 24.40 24.40	Remarks P P P P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 lbs. TDE (3D) Per gallon Ortho TDE 2 Spray  Ortho TDE 2 Spray  CHESTNUT & ANDERSON SUPPLY COMPANY	PRODUCTS CONTAINING Guaranteed % 10.00 25.00 25.00 25.00 25.00	TDE Found % 10.42 24.60 24.40 24.40	Remarks P P P P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust	PRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	Remarks P P P P
NATIONAL COOP., INC. Universal Chlor-O-San  ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust  CALIFORNIA SPRAY CHEMICAL CORP. Orthene 3-D-2 Spray 2 lbs. TDE (3D) Per gallon Ortho TDE 2 Spray  Ortho TDE 2 Spray  CHESTNUT & ANDERSON SUPPLY COMPANY	PRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00	TDE Found % 10.42 24.60 24.40 24.40	Remarks P P P P
NATIONAL COOP., INC. Universal Chlor-O-San	PRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	Remarks P P P P P
NATIONAL COOP., INC. Universal Chlor-O-San	FRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00 25.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	P P P P P
NATIONAL COOP., INC. Universal Chlor-O-San	FRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00 25.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	Remarks P P P P P
ANALYSES OF  Registrant Product Active Ingredient  "AG" SUPPLY COMPANY Tobacco Worm Dust	FRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00 25.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	P P P P P
NATIONAL COOP., INC. Universal Chlor-O-San	FRODUCTS CONTAINING  Guaranteed % 10.00 25.00 25.00 25.00 25.00 25.00 10.00	TDE Found %  10.42  24.60 24.40 24.40 24.80	P P P P P

# ANALYSES OF PRODUCTS CONTAINING TDE (Con't)

Registrant Product		TDE	
Active Ingredient	Guaranteed %	Found	Remark
	70	%	
RIGO MANUFACTURING COMPANY			
Royal Rothane Tobacco			
Horn Worm Dust	. 10.00	10.08	P
ROHM & HAAS & COMPANY			
Rothane WP-50			
Do	. 50.00	49.60	P
Во	. 50.00	49.80	P
TOBACCO STATES CHEMICAL COMPANY			
Tobacco States 25% Rothane			
Emulsion Concentrate	. 24.20	22.50	
Do	25.00	25.40	D
Do	25.00	24.20	P
Tobacco States 10% Rothane Dust	10.00	10.04	P P
INITED COOPERATION			•
UNITED COOPERATIVES, INC.	,		
Unico TDE Emulsifiable			
Concentrate	23.90	24.20	P
Do	23.90	24.40	P
Do	23.90	24.50	P
Do	23.0	24.10	P
TDE-Dieldrin Emulsifialbe			
Concentrate	23.90	24.70	P
VIRGINIA-CAROLINA CHEMICAL CORP.			
25% TDE Emulsifialbe Concentrate	25.00	25 70	
	25.00	25.70	X
WEIL-ELLIOTT CHEMICAL COMPANY			
Ken-Ko Tobacco Worm and			
Grasshopper Spray	25.00	24.60	P
WOOLFOLK CHEMICAL WORKS, LTD.			
Security Brand 10% 3-D's Dust	10.00		
Do	10.00	10.00	P
25% 3-D's Emulsifiable liquid		10.70	P
Do	25.00	24.70	P
<i>b</i> 0	25.00	24.60	P
ANALYSES OF PRODUC	TS CONTAINING	WARFARIN	
Registrant		Warfarin	
Product	Guaranteed	Found	Remarks
Active Ingredient	%	%	Kemarks
THE COLUMN TWO			
ESS & CLARK, INC. Dr. Hess New Warfarat	0.005		
DI. Hess New Warlarat	0.025	0.024	P
ANALYSES OF PRODUC	CTS CONTAINING	ZINEB	
egistrant			
D 1	Guaranteed	Pound	
Active Ingredient	%	Found %	Remarks
HEMICAL FORMULATORS, INC.			
Chemform Br - Zinch Plister	0.00		
Chemform Br Zineb Blight Dust	8.00	3.74	D
OOPERATIVE SEED & FARM SUPPLY			
Z Dust (contains zineb)	F 00		
Do	5.20	5.60	P
	5.20	5.57	P
Z Dust (contains 6% Dithane			
z 78)	3.90	3.56	P

# ANALYSES OF PRODUCTS CONTAINING ZINEB (Con't)

Registrant	Zin		
Product Active Ingredient	Guaranteed %	Found %	Remarks
	/0	10	
SAM HOUSTON COMPANY			
Houston's Tomato Dust	3.90	3.60	P
ROBERTS CHEMICALS, INC.			
Z neb	65.00	71.50	X
ROHM & HAAS & COMPANY			
Dithane Z-78	65.00	82.40	P
ANALYSES OF PRODUCTS CONTA	AINING MIXTURES OF	PESTICIDES	
Registrant			
Product Active Ingredient	Guaranteed %	Found %	Remarks
CALIFORNIA SPRAY CHEMICAL CORP.			
Ortho Lawn Garden Dieldrin Granules			
Gamma Isomer of BHC	1.00	1.07	P
Dieldrin	4.00	4.13	P
Ortho Fly Killer			
Malathion	29.20	24.50	D.
Gamma Isomer of BHC Ortho Fly Killer M	*	*	*
Malathion	29.20	28.40	P
Gamma Isomer of BHC	10.00	*	*
COOPERATIVE SEED & FARM SUPPLY			
Tobacco Dust #10 - 1.5	10.00	10.05	
Aldrin	10.00	10.05	P P
DM Dust	2.50		
Maneb	4.20	2.44	D
TDE	10.00	*	*
Statesman 675 Dust (contains			
Rotenone & Yellow (Cuprocide) Rotenone	0.75	0.70	P
Copper	5.64	4.82	P
		7.02	
DACUS DRUG COMPANY			
Formula 202 Garden Dust			
Rotenone	0.75	0.88	P *
Surphur	10.00	•	•
J. M. HARRIS & COMPANY			
Copper Dragon			
Rotenone	0.75	0.68	P
Copper Proces	7.00	6.71	P
Copper Dragon Rotenone	0.75	0.82	P
Copper	7.00	7.44	P
SAM HOUSTON COMPANY			
Houston's Rotenone Sulphur-Talc Mixt			
Rotenone	0.75 10.00	0.64	P *
Houston's 50S Rotenone	10.00	•	*
Rotenone	0.50	0.46	P

<sup>\*</sup> Sample not analyzed for this ingredient.

ANALYSES OF PRODUCTS CONTAINING MIXTURES OF PESTICIDES (Con't)

Registrant Product	Guaranteed	Found	Remark
Active Ingredients	%	%	
SAM HOUSTON COMPANY (Con't)			
50-S Derris Mixture			
Rotenone	0.50	0.55	P
Sulphur		*	*
MAYES-HELM & COYLE			
MHC Rhothane-Dieldrin Special	Tobacca S		
TDE	25.00	21 20	WD.
Dieldrin	1.99	21.30	XD *
DICO MANUFACTURINA COMPANY			
RIGO MANUFACTURING COMPANY			
Kill-Ko Tobacco Spray			
TDE		25.40	P
Dieldrin Kill-Ko Tobacco Spray	2.34	2.25	P
TDE	25.00	26.00	
Dieldrin	2.34		P
	2.34	2.14	P
TOBACCO STATES CHEMICAL COMPANY			
Hopper and Worm Spray			
Aldrin		1.96	P
TDE	24.71	20.80	D
Aldrin	1.96	*	*
TDE		22.60	
Potato Spray		22.00	D
Zineb	13.00	14.50	P
TDE		*	*
JNITED COOPERATIVES, INC.			
Unico TDE-Dieldrin Emulsifiable	e Concentra **		
TDE		24.90	P
Dieldrin		1.90	P
2 Estate Fungicide		1.90	r
Zineb		32.20	P
Captan	25.00	23.40	D
TDE-Dieldrin Emulsifiable Conce			
TDE		23.30	P
Dieldrin	1.90	1.97	P
TDE-Dieldrin Emulsifiable Conce			
TDE	23.90	25.50	P
Dieldrin	1.90	1.94	P
TDE-Dieldrin Emulsifiable Conce			
TDE		24.10	P
Dieldrin		1.95	P
TDE-Dieldrin Emulsifiable Conce			
TDE	23.90	24.70	P
Dieldrin	1.90	1.91	P
TDE-Dieldrin Emulsifiable Con e			
TDE	23.90	24.00	P
Dieldrin	1.90	1.98	P
EIL-ELLIOTT CHEMICAL COMPANY			
Ken-Ko Tobacco and Grasshopper	Spray		
TDE	23.30	23.00	P

<sup>\*</sup> Sample not analyzed for this ingredient.

### KENTUCKY ECONOMIC POISON LAW

An act concerning regulation of the manufacture, sale, transportation, distribution and use of economic poisons and devices including fungicides, rodenticides, and herbicides.

217.540 Definitions for KRS 217.540 to 217.640. As used in KRS 217.540 to 217.640, unless the context requires otherwise:

(1) "Economic poison" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, fungi, bacteria, weeds or other forms of plant or animal life or viruses (except viruses on or in living man or other animals) which the Director shall declare to be a pest;

(2) "Device" means any instrument or contrivance intended for trapping, destroying, repelling or mitigating insects or rodents or destroying, repelling, or mitigating fungi, bacteria or weeds, or such other pests as may be designated by the Director, but not including simple mechanical devices such as rat traps or equipment used for the application of economic poisons when sold separately therefrom;

(3) "Insecticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any insects which may be present in any environment whatsoever;

(4) "Fungicide" means any substance or mixture of substances intended for pre-

venting, destroying, repelling or mitigating any fungi or plant disease;

(5) "Rodenticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating rodents or other vertebrate animal which the Director shall declare to be a pest;

(6) "Herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any weed;

(7) "Weed" means any plant which grows where not wanted;

(8) "Insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class Insecta, comprising six-legged, usually winged forms as for example, beetles, bugs, bees, flies and to other allied classes of arthropods whose members are wingless and usually have more than six legs, for example, spiders, mites, ticks, centipedes, and wood lice, also nematodes and other worms, or any other invertebrates which are destructive constitute a liability, and may be classed as pests;

(9) "Fungi" means all non-chlorophyll bearing thallophytes (that is, all non-cholorophyll bearing plants of a lower order than mosses and liverworts) as for example rusts, smuts, mildews, molds, yeasts, bacteria and viruses except those on or in living

man or other animals;

(10) "Ingredient statement" or "guaranteed analysis statement" means either (1) a statement of the name and percentage of each active ingredient together with the total percentage of the inert ingredients, in the economic poisons; and in addition, in case the economic poisons contain arsenic in any form, a statement of the percentage of total and water soluble arsenic, each stated as elemental (metallic) arsenic; or (2) a statement of the name of each active ingredient in the descending order of percentages together with the name of each and total percentage of the inert ingredients, if any there be, in the economic poison (except option one shall apply if the preparation is highly toxic to man, determined as provided in KRS 217.580), and in case the economic poison contains arsenic in any form a statement of the percentage of total and water soluble arsenic, each stated as elemental (metallic) arsenic;

(11) "Active ingredient" means an ingredient which will prevent, destroy, repel, or mitigate insects, fungi, rodents, weeds or other pests;

(12) "Inert ingredient" means an ingredient which is not an active ingredient.

(13) "Antidote" means the most practical immediate treatment in case of poisoning and includes first aid treatment;

(14) "Person" means any individual, partnership, association, corporation or organized group of persons whether incorporated or not;

(15) "Director" means the Director of the Kentucky Agricultural Experiment Station;

(16) "Registrant" means the person registering any economic poison pursuant to the provisions of KRS 217.540 to 217.640;

(17) "Label" means the written, printed or graphic matter on or attached to, the economic poison, device, or the immediate container thereof, and the outside container or wrapper of the retail package, if any there be, of the economic poison or device;

(18) "Labeling" means all labels and other written, printed or graphic matter;

(a) Upon the economic poison or device or any of its containers or wrappers;

(b) Accompanying the economic poison or device at any time;

(c) To which reference is made on the label or in literature accompanying the economic poison or device, except when accurate, non-misleading reference is made to current official publications of the Kentucky Agricultural Experiment Station, the College of Agriculture of the University of Kentucky, the Department of Agriculture, Labor and Statistics, the Department of Health, or similar Federal institutions or other official agencies of this state or other states when such agencies are authorized by law to conduct research in the field of economic poisons;

(19) "Adulterated" means any economic poison the strength or purity of which falls below the professed standard or quality as expressed on labeling, or under which it is sold, or any substance of which has been substituted wholly or in part, or any valuable

constituent of which has been wholly, or in part, abstracted;

(20) "Misbranded" shall mean any economic poison or device:

(a) The labeling of which bears any statement, design or graphic representation relative thereto or to its ingredients which is false or misleading in any particular;

(b) Which is an imitation of or is offered for sale under the name of another economic poison;

(c) The labeling of which bears any false reference to registration under KRS 217.540 to 217.640;

(d) The accompanying label of which does not contain directions for use which are necessary and, if complied with, adequate for the protection of the public;

(e) The label of which does not contain a warning or caution statement which may be necessary and, if complied with, adequate to prevent injury to living man and other vertebrate animals; vegetation, and useful invertebrate animals;

(f) The label of which does not bear an ingredient statement or guaranteed analysis statement on that part of the immediate container and on the outside container or wrapper, if there be one, through which the ingredient statement or guaranteed analysis statement on the immediate container cannot be clearly read, of the retail package which is presented or displayed under customary conditions of purchase;

(g) In which any word, statement, or other information required by or under the authroity of KRS 217.540 to 217.640 to appear on the labeling is not prominently placed thereon with such conspicuousness (as compared with other words, statements, designs or graphic matter in the labeling) and in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use;

(h) Which, in the case of insecticide, fungicide, or herbicide, when used as directed or in accordance with commonly recognized safe practice shall be injurious to living man or other vertebrate animals or vegetation, to which it is applied, or to the person applying such economic poison, excepting pests and weeds. (1956, c. 218 1; effective July 1, 1956)

217.550 Prohibitions relating to the distribution, sale or transportation of economic poisons. It shall be unlawful for any person to distribute, sell or offer for sale within the state or deliver for transportation or transport in intrastate commerce or between points within this state through any point outside this state any of the following:

(1) Any economic poison which is not registered pursuant to the provisions of KRS 217.570, or any economic poison if any of the claims made for it or any of the directions for its use differ in substance from the representation made in connection with its registration, or if the composition of an economic poison differs from its composition as represented in connection with its registration; provided, that in the discretion of the Director, a change in the labeling or formula of an economic poison may be made, within a registration period, without requiring re-registration of the product;

(2) Any economic poison, except in the registrant's or the manufacturer's unbroken immediate container, unless there is affixed to the container, and to the outside container or wrapper of the retail package, if there be one, through which the required information

on the immediate container cannot be clearly read, a label bearing:

(a) The name and address of the manufacturer, registrant or person for whom manufactured;

(b) The name, brand or trade-mark under which said article is sold; and

(c) The net weight or measure of the content subject, however to such reasonable variations as the Director may permit;

(3) Any economic poison which contains any substance or substances in quantities highly toxic to man, determined as provided in KRS 217.580, unless the label shall bear, in addition to any other matter required by KRS 217.540 to 217.640;

(a) The skull and crossbones;

(b) The word "poison" prominently in red, on a background of distinctly contrast color; and

(c) A statement of an antidote for the economic poison;

(4) The economic poisons commonly known as lead arsenate, basic lead arsenate, calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, sodium fluoride, sodium fluosilicate, and barium fluosilicate unless they have been distinctly colored or discolored as provided by regulations issued in accordance with KRS 217.540 to 217.640, or any other white powder economic poison which the Director, after investigation of and after public hearing on the necessity for such action for the protection of the public health and the feasibility of such coloration or discoloration shall be regulation, require to be distinctly colored or discolored; unless it has been so colored or discolored; provided, that the Director may exempt any economic poison, to the extent that it is intended for a particular use or uses, from the coloring or discoloring required or authorized by this subsection if he determines that such coloring or discoloring for such use or uses is not necessary for the protection of the public health;

(5) Any economic poison which is adulterated or misbranded, or any device which is misbranded. (1956, c. 218 2; effective July 1, 1956)

217.560 Unlawful practices. It shall be unlawful:

(1) For any person to detach, alter, deface, or destroy, in whole or in part, any label or labeling provided for in KRS 217.540 to 217.640 or the rules and regulations promulgated hereunder, or to add any substances to, or take any substances from the economic poison in a manner that may defeat the purposes of KRS 217.540 to 217.640;

(2) For any person to use for his own advantage or to reveal, other than to the Director, or officials or employees of the state or officials or employees of the United States Department of Agriculture, or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons for use in the preparation of antidotes, in accordance with such directions as the Director may prescribe, any information relative to formulas of products acquired by authority of KRS 217.570;

(3) For any person to oppose or interfere in any way with the Director or his duly authorized agents in carrying out the duties imposed by KRS 217.540 to 217.640 (1956

c. 218, 3; effective July 1, 1956)

217.570 Registration of economic poison; renewal.

(1) Every economic poison which is distributed, sold or offered for sale within this state or deliverd for transportation or transported in intrastate commerce or between points within the state through any point outside this state shall be registered with the Director. The Director may register and permit the sale of any such economic poison which has been duly registered without protest under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act, but products so registered shall be subject to the inspection fees provided for herein, and to all other provisions of KRS 217.540 to 217.640. All registration of products shall expire on the thirty-first day of December following date of issuance, unless such registration shall be renewed annually, in which event expiration date shall be extended for each year of renewal registration, or until otherwise terminated; Provided that:

(a) Products which have the same formula, and are manufactured by the same person, the labeling of which contains the same claims and the labels of which bear a designation indentifying the product as the same economic poison may be registered as a single economic poison; additional names and labels shall be added by supplement statements during the

current period of registration;

(b) Within the discretion of the Director or his authorized representation, a change in the labeling or formulas of an economic poison may be made within the current period of registration without requiring a re-registration of the product, provided the name of the item is not changed.

(2) The registrant shall file with the Director, a statement containing:

(a) The name and address of the registrant and the name and address of the person whose name will appear on the label, if other than the registrant;

(b) The name of the economic poison;

(c) A complete copy of the labeling accompanying the economic poison and a statement of all claims made and to be made for it including directions for use; and

(d) If requested by the Director, a full description of the tests made and  $r_{\rm e}$ sults thereof upon which the claims are based. In the case of renewal of registration, a statement shall be required only with respect to information which is different from that

furnished when the economic poison was registered or last re-registered;

(3) The registrant, before selling or offereing for sale any economic poison in this state, shall register each brand or grade of such economic poison with the Director upon forms furnished by the Director, and for the purposes of defraying expenses connected with the enforcement of KRS 217.540 to 217.640, shall pay to the Director an annual inspection fee of five dollars for each and every brand or grade to be offered for sale in this state provided, however, that any registrant may register annually any number of brands after the payment of annual fees aggregating fifty dollars. There shall be issued to the registrant by the Director a licnese entitling the registrant to sell all duly registered brands in this state until the expiration of the license;

(4) The Director, whenever he deems it necessary in the administration of KRS 217.540 to 217.640, may require the submission of the complete formula of any economic poison. If it appears to the Director that the composition of the article is such as to warrant the proposed claims for it and if the article and its labeling and other material required to be submitted comply with the requirements of KRS 217.540 to 217.640, he shall

register the article;

(5) If it does not appear to the Director that the article is such as to warrant the proposed claims for it or if the article and its labeling and other material required to be submitted do not comply with the provisions of KRS 217.540 to 217.640, he shall notify the registrant of the manner in which the article, labeling, or other material required to be submitted fail to comply with KRS 217.540 to 217.640, so as to offer the registrant an opportunity to make the necessary corrections.

(6) If, upon receipt, of such notice, the registrant insists that such corrections are not necessary, and requests in writing that the article be registered, the commissioner shall register the article under protest, and such registration shall be accompanied by a warning in writing to the registrant of the apparent failure of the article to comply

with the provisions of KRS 217.540 to 217.640;

(7) The Director is authorized and empowered to refuse to register, or to cancel the registration of any brand of economic poison as herein provided upon satisfactory proof that the registrant has been guilty of fraudulent and deceptive practices in evasions or attempted evasions of the provisions of KRS 217.540 to 217.640 or any rules and regulations promulgated thereunder; provided that no registration shall be revoked or refused until the registrant shall have been given a hearing by the Director;

(8) Notwithstanding any other provisions of KRS 217.540 to 217.640, registration is not required in the case of an economic poison shipped from one plant within this state to another plant within this state operated by the same person. (1956, c. 218

effective July 1, 1956)

217.580 Authority of Director.

(1) The Director is authorized, after opportunity for a hearing:(a) To declare as a pest any form of plant or invertebrate anima To declare as a pest any form of plant or invertebrate animal life or virus which is injurious to plants, animals, articles or substances;

(b) To determine whether economic poisons are highly toxic to man;

(c) To determine standards of coloring or discoloring for economic poisons and to subject economic poisons to the requirements for coloration or discoloration imposed by KRS 217.540 to 217.640.

(2) The Director is further authorized:

(a) To effect the collection and examination of samples of economic poisons and devices to determine compliance with the requirements of KRS 217.540 to 217.640, and he shall have the authority at all reasonable hours to enter into any car, warehouse, store, building, boat, vessel or place supposed to contain economic poisons or devices for the purpose of inspection or sampling, and to procure samples for analysis or examination from any lot, package or parcel of economic poison, or any device;

(b) To publish from time to time, in such forms as he may deem proper, reports of the results of the analyses based on official samples of economic poisons sold within

the state;

- (c) After due public hearing, to make, promulgate, alter, change, rescind such rules and regulations relating to the sale and distribution of economic poisons as he may find necessary to carry into effect the full intent and meaning of KRS 217.540 to 217.640;
- (d) To cooperate with, and enter into agreements with, any other agency of this state, the United States Department of Agriculture, and any other state or agency thereof for the purpose of carrying out the provisions of KRS 217.540 to 217.640 and securing uniformity of regulations (1956, c. 218 6; effective July 1, 1956)

217.590 Violation of KRS 217.540 to 217.640, duties of Director relating to: Penalties.

(1) If it shall appear from examination or evidence that any of the provisions of KRS 217.540 to 217.640 or the rules and regulations issued thereunder have been violated the Director may cause notice of such violations to be given to the registrant, distributor and processor, from whom any samples or evidence was taken. Any party so notified shall be given an opportunity to be heard under such rules and regulations as may be prescribed by the Director. If it appears after such hearing that there have been a sufficient number of violations of KRS 217.540 to 217.640 or the rules and regulations issued thereunder, the Director may certify the facts to the Commonwealth's attorney or the county attorney for the county in which the violation shall have occurred and furnish that officer with a copy of the results of any examination of such sample duly authenticated by the officer making the examination. It shall be the duty of every such attorney to whom the Director shall report any violation of KRS 217.540 to 217.640 to sause proceedings to be prosecuted without delay for the fines and penalties in such cases. Any person convicted of violating any provisions of KRS 217.540 to 217.640 or the rules and regulations issued thereunder shall be adjudged guilty of a misdemeanor and shall be subject to a penalty of not less than twenty-five dollars nor more than five hundred dollars;

(2) Nothing in this section shall be construed as requiring the Director to report minor violations for the institution of proceedings under KRS 217.540 to 217.640 whenever the Director believes that the public interest will be adequately served in the circumstances by a suitable written notice or warning. (1956, c. 218 7; effective July 1,

1956)

217.600 When penalties not applicable. The penalties provided for violations of KRS 217.550 shall not apply to:

(1) Any carrier, while lawfully engaged in transporting an economic poison within this state, if such carrier shall, upon request, permit the Director or his designated agent to copy all records showing the transactions in and movements of the articles;

(2) Public officials of this state and of the federal government engaged in the

performance of their official duties;

(3) The manufacturer or shipper of an economic poison for experimental use only:(a) By or under the supervision of an agency of this state or of the federal govern-

ment authorized by law to conduct research in the field of economic poisons; or

(b) By others if the economic poison is not sold and if the container thereof is plainly and conspicuously marked "For experimental use only - Not to be sold," together with the manufacturer's name and address; provided, however, that if a written permit has been obtained from the Director, economic poisons may be sold for experimental purposes subject to such restrictions and conditions as may be set forth in the permit;

(4) Any preparation, drug or chemical intended to be used or sold solely for medicinal use or for toilet purposes. (1956, c. 218 8; effective July 1, 1956)

217.610 Director to issue written "stop sale, use or removal" order; when; appeal. It shall be the duty of the Director to issue and enforce a written or printed "stop sale, use of removal" order to the owner or custodian of any lot of economic poison and to hold at a designated place when the Director finds said economic poison is being offered or exposed for sale in violation of any of the provisions of KRS 21.7.540 to 217.640 until the law has beem complied with and said economic poison is released in writing by the Director or said violation has been otherwise legally disposed of by written authority; provided, that the owner or custodian of such economic poison shall have the right to appeal from such order to a court of competent jurisdiction in the county where the said economic poison or poisons are found, praying for a judgment as to the jurisdiction of said order and for the discharge of such economic poison from the order prohibiting the sale in accordance with the findings of the court; and provided further that the provisions of this paragraph shall not be construed as limiting the right of the enforcement officer to proceed as authorized by other provisions of KRS 217.540 to 217.640. The Director shall release the economic poison so withdrawn when the requirements of the provisions of KRS 217.540 to 217.640 have beem complied with and upon payment of all costs and expenses incurred in connection with the withdrawal. (1956, c. 218 9; effective July 1, 1956)

217.620 Seizure of economic poison; when. Any lot of economic poison not in compliance with the provisions of KRS 217.540 to 217.640 shall be subject to seizure on complaint of the Director to a court of competent jurisdication in the county in which said economic poison is located. In the event the court finds the said economic poison to be in violation of KRS 217.540 to 217.640 and orders the condemnation of said economic

poison, it shall be disposed of in any manner consistent with the quality of the economic poison and the laws of the state, provided, that in no instance shall the disposition of said economic poison be ordered by the court without first giving the claimant an opportunity to apply to the court for release of said economic poison or for permission to process or relabel said product to bring it into compliance with KRS 217.540 to 217.640 (1956, c. 218 10; effective July 1, 1956)

217.630 Authority vested in Director may be executed by employees of Agricultural Experiment Station. All authority vested in the Director by virtue of the provisions of KRS 217.540 to 217.640 may, with like force and effect, be executed by such employees of the Kentucky Agricultural Experiment Station as the Director from time to time may designate for said purpose. (1956, c. 218 11; effective July 1, 1956)

217.640 Jurisdiction vested in Director; repealing clause. Jurisdiction in all matters pertaining to the distribution, sale and transportation of economic poisons is by KRS 217.540 to 217.640 vested exclusively in the Director and all acts and parts of acts inconsistent with KRS 217.540 to 217.640 are hereby expressly repealed including the provisions of Sections 217.010 to 217.400 of the Kentucky Revised Statutes which cover economic poisons subject to KRS 217.540 to 217.640 (1956, c. 218 13; effective July 1, 1956)