

ANNUAL REPORT OF COOPERATIVE REGIONAL
RESEARCH PROJECTS
INTERREGIONAL RESEARCH PROJECT NO. 4
IR-4
JANUARY 1 to DECEMBER 31, 1981

1. PROJECT: IR-4 - A National Agricultural Program; Clearances of Pesticides and Biologics for Minor or Special Uses.
2. COOPERATING AGENCIES AND PRINCIPAL LEADERS:

PROJECT PERSONNEL

Administrative Advisory Committee (AA)

Represent

Dr. J.P. Mahlstedt, Iowa State University, Chairman	North Central
Dr. H.D. Brown, Rutgers University	Northeastern
Dr. T.R. Kinney, ARS Administrator	USDA-ARS
Dr. W.I. Thomas, CSRS Administrator	USDA-CSRS
Dr. I.J. Thomason, University of California	Western
Dr. N.P. Thompson, University of Florida	Southern
Dr. R.T. Ross, Designee to the Administrator	USDA-ARS

Technical Representative Committee (TR)

Dr. J.B. Bourke, Cornell University/Geneva, Chairman (Northeastern IR-4 Regional Pesticide Lab Director)	Northeastern
Dr. K.P. Dorschner, USDA/CSRS	USDA-CSRS
Dr. R.H. Kupelian, Rutgers University, Executive Secretary (National Director IR-4 Project)	National
Dr. Fumio Matsumura, Michigan State University (North Central IR-4 Regional Pesticide Lab Director)	North Central
Dr. P.H. Schwartz, Jr., USDA-ARS/Beltsville (National Program Staff Scientist, Pest Control Mat.)	USDA-ARS
Dr. J.N. Seiber, University of California (Western IR-4 Regional Pesticide Lab Director)	Western
Dr. W.B. Wheeler, University of Florida (Southern IR-4 Regional Pesticide Lab Director)	Southern

Consultants Committee

- Mr. C.L. Fletcher, EPA-OPP-RD, Minor Uses Officer (to May 1, 1981)
- Dr. H.J. Korp, EPA-OPP
- Mr. R.J. Otten, NACA Representative
- Mr. D.R. Stubbs, EPA-OPP-RD, Acting Minor Uses Officer (from May, 1981)

EPA Advisors

- Mr. D.M. Baker, Jr., EPA Minor Uses Coordinator
- Ms. F.S. Bishop, EPA-OPP-RD-PCB, Chief
- Mr. D.D. Campt, EPA-OPP-RD, Director
- Mr. J.G. Touhey, EPA-OPP-BFSD, Director

National Headquarters Staff

The following National Headquarters Staff are located at the New Jersey Agricultural Experiment Station, Cook College, Rutgers University, New Brunswick, NJ 08903.

- | | |
|---------------------------------------|-------------------------------------------------------------------|
| Dr. R.H. Kupelian, National Director | Dr. R.T. Guest, Associate Coordinator |
| Dr. W.L. Biehn, Assistant Coordinator | Mrs. D. Infante, Information Specialist |
| Dr. M.E. Burt, Assistant Coordinator | Mr. G.M. Markle, Associate Coordinator and
Recording Secretary |
| Dr. J.E. Elson, Associate Coordinator | Mrs. P.A. Sarica, Administrative Assistant |

IR-4 REGIONAL COORDINATORS AND
STATE LIAISON REPRESENTATIVES

IR-4's field research personnel includes (I) a Regional Coordinator and Laboratory Coordinator for each of the four regions, i.e. Northeastern, Southern, North Central and Western, (II) four (4) USDA-ARS scientists per region representing the disciplines of entomology, plant pathology, weed science and pesticide residue and metabolism chemistry, and (III) an IR-4 state liaison representative for each of the 50 states and the U.S. territories including the District of Columbia, Guam, Puerto Rico and Virgin Islands. The 55 IR-4 State Liaison Representatives are scientists appointed by the Directors of their respective state Agricultural Experiment Stations (SAES) to define the pest control technology needs of the farmers, growers and home owners in their representative states with respect to the production of foods, fibers, feeds, ornamentals, nursery stock, and forestry production.

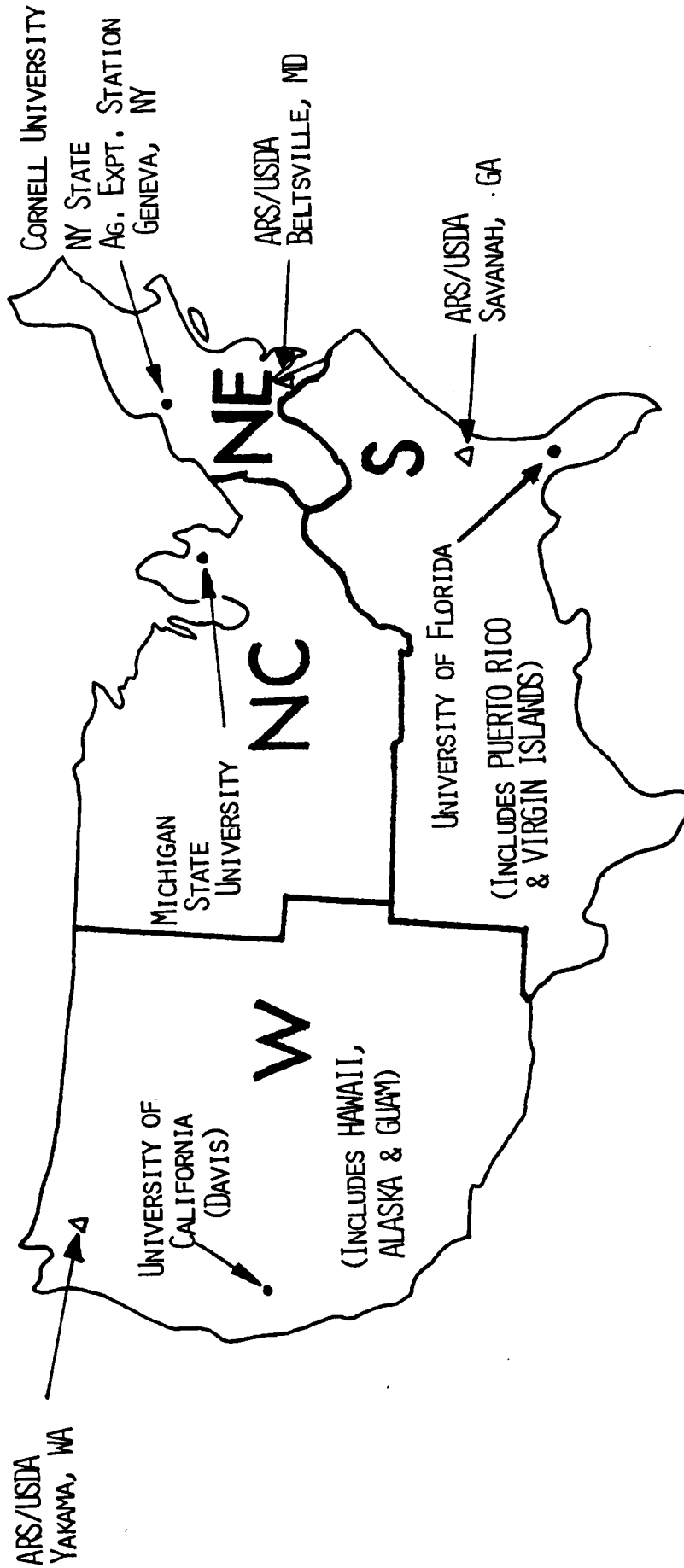
The names and affiliations of the field research personnel described above and the location of the four regional pesticide laboratories and associated USDA-ARS laboratories are shown below. Regional Coordinators are physically located at their respective regional pesticide laboratories.

18 4 ADMINISTRATIVE ADVISORS, REGIONAL LABORATORY DIRECTORS, REGIONAL COORDINATORS, SUPERVISORY CHEMISTS, STATE LIAISON REPRESENTATIVES, & USDA-ARS REGIONAL REPRESENTATIVES

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<u>Northeastern Region</u>			
Dr. Harry D. Brown	(201) 932-9867	Biochemistry & Microbiology
Dr. John B. Burke	(315) 787-2281	Chemistry
Dr. Paul R. Baker	(315) 787-2327	Entomology
Dr. Jerry Spittler	(315) 787-2283	Chemistry
Dr. David A. Kollas	(203) 486-3435	Phenology
Dr. John Schmitz	(202) 738-2526	Entomology
Dr. Grady McDonald	(202) 282-7372	Horticulture
Dr. Howard V. Forsythe, Jr.	(201) 581-7703	Entomology
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Dr. Charles F. Brodel	(603) 295-2212	Entomology
Dr. James Bowman	(603) 962-1159	Entomology
Dr. Kenneth Heilrich	(201) 932-9720	Residue Chemistry
Dr. Paul B. Baker	(315) 787-2327	Entomology
Dr. James E. Boney	(607) 256-3283	Entomology
Dr. Ralph D. Mumm	(814) 863-0844	Entomology
Dr. I. Lincoln Pearson	(401) 792-2358	Horticulture
Dr. George B. MacCollum	(802) 656-2626	Entomology
Dr. Oscar E. Schubert	(304) 293-6023	Weed Science
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Dr. Ralph Feldmeier	(301) 344-3662	Nematology/ Plant Pathology
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Dr. Kenneth R. Hill	(301) 344-2495	Residue Chemistry
<u>North Central Region</u>			
Dr. John P. Mahlstede	(515) 294-4762	Horticulture
Dr. Fauto Matsumura	(317) 353-9430	Entomology
Dr. Satoru Miyazaki	(317) 353-9497	Plant. Analysis & Entomology
Dr. Richard Leivitt	(517) 353-6377	Analytical Chem.
Dr. Richard S. Fawcett	(515) 294-1160	Weed Science
Dr. Herbert J. Mopert	(217) 313-1967	Horticulture
Dr. Paul C. Peckold	(317) 494-4628	Plant Pathology
Dr. Don Cross	(913) 532-5891	Entomology
Dr. Satoru Miyazaki	(317) 353-9497	(See above)
Dr. Richard Behrens	(612) 373-0857	Agonomy & Plant Genetics
Dr. Herbert D. Memphis	(314) 882-2650	Mort., Plant Physiology
Dr. John D. Malwaja	(701) 237-7971	Weed Science
Dr. Royer Gold	(402) 472-1446	Entomology
Dr. Aris Waldron	(614) 422-7541	Entomology (Chem. Control)
Dr. Leon J. Wrage	(605) 688-5121	Agonomy, Weed & Plant Science
Dr. John Neuburg	(608) 262-3274	Entomology
Dr. David K. Reed	(812) 882-4942	Entomology
Dr. Charles Krause	(614) 363-1129	Plant Pathology/ Nematology
Dr. Loyd H. Waz	(217) 333-1277	Weed Science
Dr. William H. Doano	(309) 685-4011	Physical Chem.
<u>National Headquarters Staff</u>			
The following National Headquarters Staff are located at the New Jersey Agricultural Experiment Station, Cook College, Rutgers University, New Brunswick, NJ 08903.			
Dr. R.W. Kupelian	National Director	Dr. R.T. Guest	Associate Coordinator
Dr. W.L. Biehn	Assistant Coordinator	Mrs. B. Infante	Information Specialist
Dr. M.E. Burt	Assistant Coordinator	Mr. G.H. Yarkle	Associate Coordinator and Recording Secretary
Dr. J.E. Elson	Associate Coordinator	Mrs. P.A. Sarica	Administrative Assistant
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Dr. Neal P. Thompson	(904) 392-1784	Plant Physiology
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Dr. Charles W. Meister	(904) 392-1978	Plant Pathology
Dr. Promode Bardalaya	(904) 392-1978	Res. Chemistry
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Dr. Arthur Engelhard	(813) 755-1568	Plant Pathology
Dr. Emmett D. Harris	(606) 542-5855	Entomology
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Dr. John S. Bousnel	(504) 388-6074	Entomology
Dr. William W. Neel	(601) 325-3243	Entomology
Dr. T. Jack Shieets	(919) 737-3391	Weed Science
Dr. O. Norman Wehalm	(405) 624-5531	Entomology/Pl. Pathology
Mr. Rafael Montalvo-Zapata	(809) 767-9705	Chemistry
Dr. William DuBoise	(803) 656-3111	Entomology
Miss Nancy Taylor	(615) 974-7138	Plant Pathology
Dr. Rodney L. Holloway	(713) 845-7026	Entomology
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Mr. Charles S. Creighton	(803) 556-2210	Entomology
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Dr. Norman Glaze	(912) 386-3355	Plant Physiology
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Dr. Jeff Conn	(907) 479-7614	Weed Science
Dr. George W. Ware	(602) 626-1151	Entomology & Pest Residue
Mr. Harold G. Alford	(916) 752-7010	(See above)
Dr. Bert L. Bohmont	(303) 491-5337	Ag. Chemistry & Weed Science
Dr. Claron Bjork	(671) 734-9162	Entomology
Dr. John W. Hylin	(808) 948-8352	Biochemistry
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Dr. William McCollom	(406) 994-3315	Plant Protection & Pest Management
Dr. Ellis Huddelston	(505) 646-3225	Entomology
Dr. Harry G. Smith	(702) 784-6911	Ent. & Parasitology
Dr. James M. Witt	(503) 754-2564	Ag. Chem. & Toxicology
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Dr. Everett Spackman	(307) 766-4261	Entomology
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<u>USDA/ARS National Program Staff</u>			
Dr. Paul H. Schwartz, Jr. National Program Staff... (301) 344-3256. Entomology			

IR-4 REGIONAL RESIDUE LABORATORIES •
AND

ASSOCIATED ARS/USDA LABORATORIES ▲



3. PROGRESS OF WORK AND PRINCIPAL ACCOMPLISHMENTS

(A) RESEARCH PROJECTS:

At the beginning of 1981 there were 1768 food-use clearance requests on file at HQ. By the end of the year an additional 189 had been added giving a total of 1957 requests on file. There were 167 active food-use research projects in 1981; residue samples went to 14 state and USDA-ARS cooperating laboratories and to 12 chemical company laboratories.

The following pesticides/commodities were researched in 1981:

(1) FUNGICIDES AND NEMATOCIDES

Benomyl - beans and mint; Captafol - asparagus; Captan - asparagus, parsley and parsnips; Chlorothalonil - alfalfa, asparagus, cranberries, cucumbers, garlic, leeks, pigeon peas and yams; Ethoprop - root crops; Etridiazole - blueberries, cabbage, and cucurbits; Etridiazole + PCNB - beans, cucumbers, pigeon peas and tomatoes; Etridiazole + thiophanate methyl - beans; Fenamiphos - asparagus, cucumbers, eggplant, peppers and strawberries; Methyl-bromide - onions; Nitrapyrin - potatoes; Oxamyl - beans, blueberries, peppers, spinach and strawberries; PCNB - apples; Thiabendazole - taniers; Thiophanate-methyl - cabbage.

(2) INSECTICIDES AND MITICIDES

Acephate - peaches, pineapple, raspberries and sugarcane; Aldicarb - alfalfa, apples, and snowpeas; Azinphosmethyl - carrots and trefoil; Carbaryl - prickly pear cactus; Carbofuran - sweet sorghum; Chlorpyrifos - alfalfa, collards, cranberries, cucurbits, kale, kohlrabi, pecans, and strawberries; Demeton - alfalfa; Diazinon - apples, asparagus, kiwifruit, and rutabaga; Disulfoton - asparagus; Ethion - mangoes; Fenbutatin-oxide - caneberries, and cucumbers; Fensulfothion - turnips; Fenvalerate - asparagus, beets, Chinese cabbage, onions, peppers, and radish; Fonofos - kohlrabi; Formetanate hydrochloride - alfalfa; Isofenfos - strawberries; Malathion - sunflowers; Methamidophos - alfalfa; Methiocarb - chestnuts, raspberries, small grains and tobacco; Methomyl - sweet potatoes; Mevinphos - endive and watercress; Oxamyl - strawberries; Oxydemeton-methyl - carrots, rape and sesame; Permethrin - peppers and watercress; Propargite - alfalfa; Resmethrin - cattle.

(3) HERBICIDES AND GROWTH REGULATORS

Acifluorfen - strawberries; Alachlor - asparagus, cabbage, onions and sweet potatoes; Ametryn - cassava; Bensulide - asparagus and onions; Bentazon - small grains; Bromoxynil - mint; Chloramben + Metolachlor - beans; DCPA - carrots; Dichlobenil - caneberries; Diclofop - mint; Diflubenzuron - mushrooms; Dinoseb - faba beans; Glyphosate - acerola, asparagus, blackberries, cabbage, cantaloupes, carrots, cassava, cucumbers, kiwifruit, mint, olives, peppers,

pineapples, pumpkin, raspberries, squash, strawberries, tanners, tomatoes and yams; Linuron - parsley; MCPB - mint; Metolachlor - broccoli, cabbage, collards, kale, lettuce, onions, peppers, spinach, strawberries and sweet potatoes; Metribuzin - barley, carrots, cowpeas and tomatoes; Napropamide - basil and cranberries; Napropamide + Pebulate - tomatoes; Norflurazon - blueberries; Oryzalin - Bermuda grass; Paraquat - acerola; Pebulate - peppers; Prometryn - carrots, chervil, coriander, and dill; Pyrazon - Swiss chard; Sodium chlorate - alfalfa; Terbacil - strawberries; Trifluralin - dill and turnips; 2,4-D - radish and small grains.

A comprehensive review of all fruit and vegetable requests was made this year (See Vegetable/Fruit Workshop Section). For the final selection of active projects for the 1982 growing season, 568 candidate projects were reviewed at the Research Planning Meeting in December. When current outstanding data are submitted, 76 of these projects should be completed. Of the remaining 492 candidate projects, 176 were selected for research in 1982.

Comprehensive research protocols were prepared or revised for 197 requests. These protocols assist the researcher and residue laboratory in generating the specific data required for tolerance petitions and label registrations.

(B) DEVELOPMENT AND REGULATORY SUCCESSES

In the calendar year 1981, IR-4 HQ prepared 30 pesticide tolerance petitions and 10 major amendments which were submitted to EPA. The amendments to previously submitted IR-4 petitions answered EPA's responses for the need for additional residue data, and in some cases, for toxicology data. Additionally, 12 petitions are still under review by the manufacturers (potential label registrants) prior to EPA submission.

During the year, 50 tolerances or exemptions were established by EPA based on IR-4 petition submissions, a 263% increase over 1980:

(1) INSECTICIDES AND MITICIDES

Acephate - mint; Azinphosmethyl - trefoil and hay; Methidathion - mango (dormant); Chlorpyrifos - mint hay and oil, chinese cabbage, turnip greens and roots; Modified Atmospheres, CO₂, N₂, Combustion product gas - all raw and processed agricultural products; Hexakis - papaya; Pyrethrins + piperonyl butoxide - sweet potatoes (post);

(2) HERBICIDES AND PLANT GROWTH REGULATORS

Terbacil - asparagus; Diphenamid - raspberry; 2,4-D - citrus (post); Glyphosate - cranberry, guava, papaya, and mango; Ethephon - cucumbers; Chloramben - pigeon pea and forage; Bentazon - Bohemian chili peppers; CDEC - radishes, and upland cress; Paraquat - rhubarb.

Calcium hypochlorite - potatoes; Chlorothalonil - parsnips; Benomyl - eggplant and peppers (bedding plants); Benomyl - Brassica seed treatment - includes broccoli, Brussel sprouts, cabbage, cauliflower, Chinese cabbage, collards, kale, kohlrabi, mustard greens, rutabagas, turnips (roots & tops) and sweet corn, fodder and forage, spinach and sweet potato.

(4) INERT INGREDIENTS

Isophorone - spinach

In addition to the established tolerances or exemptions for 1981, 21 tolerances were proposed in the Federal Register which should be established in early 1982.

In 1981, EPA proposed three amendments to the crop grouping regulations based on IR-4 petitions. These are as follows: (1) inclusion of true yams with sweet potatoes; (2) inclusion of dry bulb onions with garlic for residue analysis purpose; (3) the inclusion of all bean genera under the generic name "beans".

Additionally, three IR-4 crop grouping petitions are still pending at EPA. These are: (1) to define caneberries by listing species and their varieties to be included in the group; (2) to include avocados, mangos, and papayas in the stone fruit group; and (3) to include several Oriental leafy vegetables and cucurbits in the existing groups.

IR-4 submitted the crop grouping petitions to EPA in order to expedite the clearance of many minor crop pesticide uses. The rational incorporation of these concepts into the Code of Federal Regulations will permit great savings in time, manpower and money in obtaining pesticide clearances.

(C) VEGETABLE/FRUIT WORKSHOP

The first IR-4 Vegetable/Fruit Workshop was held in St. Louis in September. A total of 80 delegates representing state agricultural experiment stations, USDA, EPA and industry attended the workshop. Travel funding for this workshop was provided by EPA-OPP (78%) and USDA-ARS (22%).

The objectives of the Workshop were to review and prioritize existing and new IR-4 minor use vegetable and fruit clearance requests and initiate procedures for expediting completion of high priority needs. A total of 710 candidate minor use pesticide requests were reviewed by the discipline working groups. One hundred fifty three insecticide projects, 124 fungicide and nematicide projects, and 165 herbicide and plant growth regulator projects were identified as high priority needs. Valuable comments regarding geographic distribution of crops and pests; potential cooperating researchers; grouping of commodities for purpose of developing data; multiple use patterns; and protocol guidelines were included with reports of the working groups.

Workshop participants served in an advisory capacity to relate minor use pesticide clearance requests to national needs. The workshop functioned, therefore, as a peer review of the IR-4 food-use clearance program and for developing supporting information for use by state and federal IR-4 liaison representatives in establishing regional priorities.

(D) ORNAMENTALS

State and federal funding during the 4½ years the IR-4 Ornamentals Program has been in existence (April 1977-November 1981) has provided support for research on 5250 ornamental projects. During the year 1211 ornamental projects were funded through the IR-4 Program. Data from research reported to date have made it possible for IR-4 to assemble registration packages for 18 insecticides, 18 herbicides and 16 fungicides. During 1981, IR-4 supplied data to support 209 ornamental pesticide registrations, bringing the total number of label registrations on ornamentals to 1178 or an average of 21 clearances per month. Pesticides for which new or expanded labeling on ornamental crops were obtained during 1981 include: Banrot®, Chipco 26019®, Kocide 101®, Triforine, Surflan®, Goal®, Vydate®, and Ficam®.

The fifth IR-4 Ornamentals Workshop was held in Orlando, FL, February 4-6, 1981. The workshop participants reviewed and prioritized the 1700 remaining ornamental pesticide needs and discussed the status of biorational pesticides and new chemicals.

(E) COORDINATION WITH FEDERAL AGENCIES

The coordination between SAES and the USDA/ARS field and laboratory research scientists is excellent. Agricultural Research Service (ARS) scientists cooperated with SAES scientists on 100 food and 440 ornamental specialty use requests. This team work approach is providing the farmers, growers, nurserymen and homeowners with the technologies that will result in increased production efficiency for agricultural commodities. Forty three states participated in the 1981 research projects.

4. USEFULNESS OF FINDINGS:

Without the field work conducted by the SAES, and ARS and the subsequent successful tolerance establishment, minor crop uses would seldom be registered due to the negative economic factors confronting industrial manufacturers. In this sense, IR-4 serves a valuable "bridging" role between American minor crop growers, pesticide producers, and regulatory agencies, i.e. no other federal or state mechanism exists to assure that the fruit, vegetable, and ornamental growers, both large and small, have the pesticide and biological control materials they need to produce good yields of high quality crops. IR-4 continues to be the clearinghouse and communication center for the clearance of safe chemicals, including biological chemicals, which will be the back bone of Integrated Pest Management (IPM) systems.

5. WORK PLANNED FOR NEXT YEAR:

IR-4 will continue to develop data required by EPA for the establishment of minor use tolerances including IPM materials for crop management as necessary, appropriate and as funds permit. Additionally, a similar effort will be expended in developing nonfood uses, i.e. ornamental registration data packages.

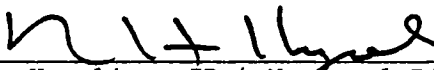
In order to gain maximum benefit from a limited funding base, IR-4 works closely with EPA. Requests will be screened carefully so that projects involving pesticides having data gaps can either be eliminated or delayed as the situation dictates. By doing this, the overall efficiency of all operations will be improved so that time and money are not expended on projects which cannot be successfully concluded at the present time.

The clearance of animal drugs for use in minor food species and minor uses in major food species shall be addressed by the IR-4 Project in FY 82. IR-4 expresses its appreciation to the SAES, Animal Health Science Research Advisory Board, producer organizations, American Veterinary Medical Association, FDA, ARS and CSRS/USDA, U.S. Animal Health Association, Animal Health Institute and Congress, especially Chairman de la Garza (Texas) and the Honorable Jamie Whitten (Mississippi), for providing the support and funding required to initiate this new program.

6. PUBLICATIONS ISSUED:

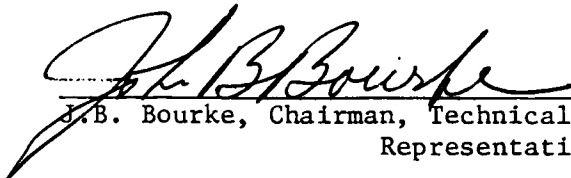
IR-4 acknowledges and appreciates the support received from USDA-CSRS with respect to reproducing and distributing over 2300 copies of the IR-4 Newsletter each quarter.

December 31, 1981

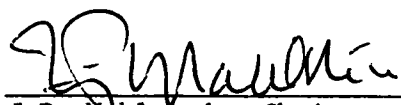

R.H. Kupelian, IR-4 National Director

Approved:

2-19-82
Date


J.B. Bourke, Chairman, Technical
Representative

2/18/82
Date


J.P. Mahlstede, Chairman, Administrative
Advisor