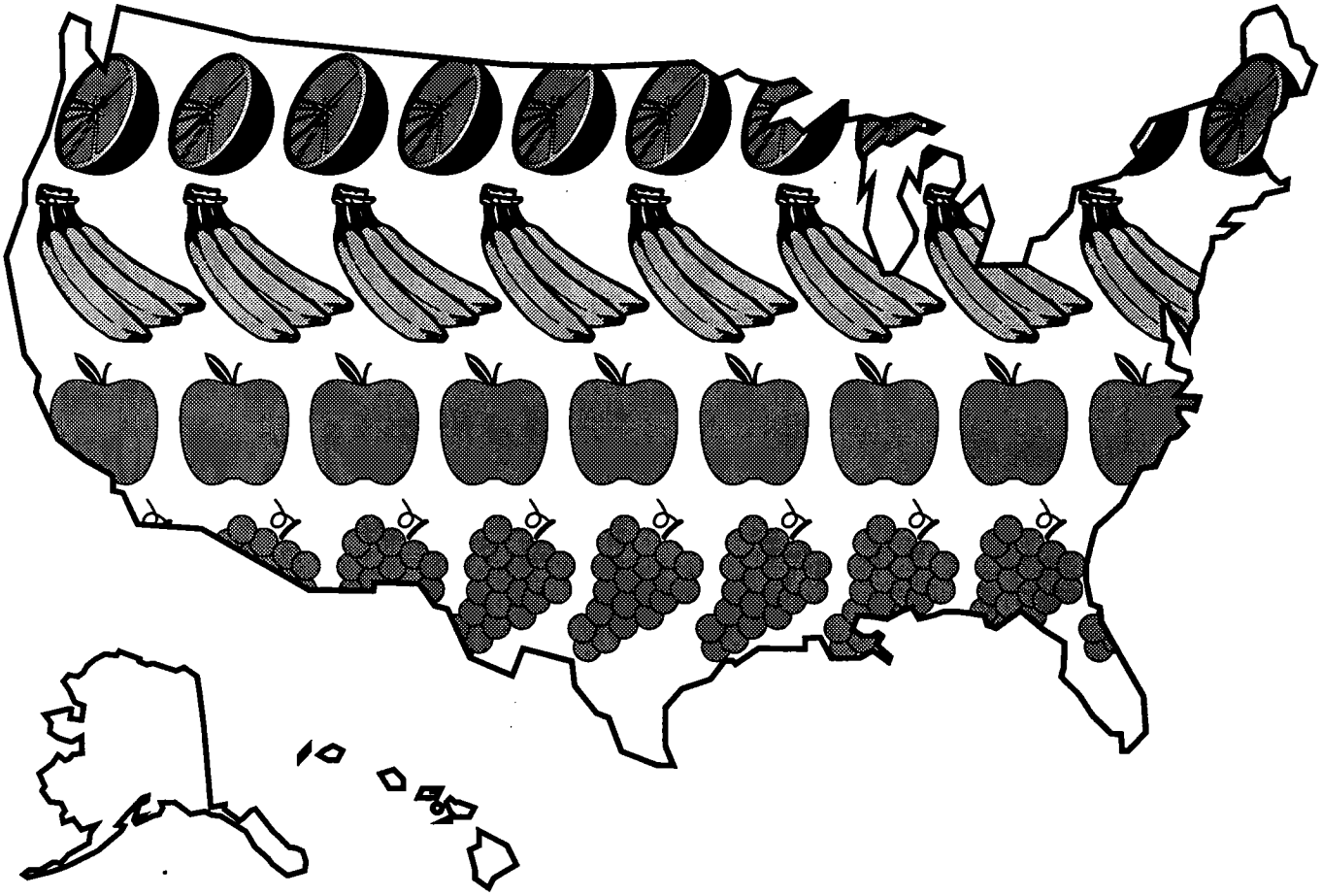
Pesticide Data Program (PDP)

Summary of 1992 Data



U.S. Department of Agriculture • Agricultural Marketing Service
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United States
Department of
Agriculture

Agricultural
Marketing
Service

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To the Reader:

The Pesticide Data Program (PDP) was implemented in May 1991 by the Agricultural Marketing Service of the United States Department of Agriculture to collect comprehensive data on pesticide residues in selected fresh fruits and vegetables. PDP was designed to provide government agencies with an improved data base to respond more effectively to food safety issues. The main recipient of the program's data is the Environmental Protection Agency, which uses this information to support its risk assessment process.

PDP is funded by Congress and operated through agreements with participating States, which have the responsibility for sample collection and analysis. Through the end of 1992, there were six participating States: California, Florida, Michigan, New York, Texas, and Washington.

PDP operations were expanded in January 1993 to include three new participating States. The addition of these States--Colorado, North Carolina, and Ohio--increased the segment of the Nation's population represented by PDP sampling to approximately 50 percent and provided for greater regional diversity.

If you have any questions or comments regarding this summary, please contact William J. Franks, Jr., Director, or Robert L. Epstein, Deputy Director, of the Science Division at (202) 720-5231.

Sincerely,

Lon Hatamiya

LON HATAMIYA
Administrator

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EXECUTIVE SUMMARY

In May 1991, the U.S. Department of Agriculture (USDA) implemented the Pesticide Data Program (PDP) to collect comprehensive data on pesticide residues in selected fresh fruits and vegetables. PDP is a multi-agency program with planning, policy, and procedural efforts coordinated among USDA, the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). Day-to-day program operations are managed by the Science Division of USDA's Agricultural Marketing Service (AMS). Data produced by PDP is collected as close to the consumer as possible, with samples prepared as if for human consumption (washed, peeled, cored, etc.). PDP data is available to EPA to determine dietary exposure to pesticide residues, and thus better estimate risk to the consumer. Commodities were chosen for inclusion in the program based on their level of consumption by the American public. Pesticides targeted for data collection were selected by EPA in consultation with USDA and were chosen based on dietary exposure considerations. The EPA list of pesticides consists of compounds with acute and chronic endpoints, including suspected carcinogens. PDP data is also available for use by EPA to address pesticide reregistration and special review needs. An overview of program management and operations is shown in Figure A. Pesticides in PDP are shown in Figure B.

Agreements were established with agencies in six States (California, Florida, Michigan, New York, Texas, and Washington) to collect and analyze PDP samples. These States were selected because they represent diverse geographic areas of the country, approximately 40 percent of the Nation's population, and a large percentage of the fresh fruits and vegetables grown in the United States. Participating States were assigned a number of samples to collect per commodity each month, which was based on the State's population. This number was the same for all commodities and remained constant throughout the year. To allow for collection as close to the consumer level as possible, samples were gathered at sites such as terminal markets and large distribution centers. Sampling at these locations also provided information on the origin of the sample, the use of post-harvest fungicides, and pesticide degradation that occurred during transit and storage.

Sampling guidelines, written by AMS and provided to all participating States, required that sampling dates and sites be selected at random. Also included in the guidelines were specific sampling techniques to be utilized by the sample collectors. Strict adherence to the guidelines and uniformity of sampling techniques were emphasized. Participating States were responsible for providing AMS with quarterly sampling plans indicating the dates and sites to be sampled for each month of the quarter. Quality assurance/quality control (QA/QC) criteria, which are based on EPA's Good Laboratory Practices (GLPs), were established by AMS for the participating laboratories. To facilitate meeting these criteria, each laboratory was provided with similar instrumentation and training on instrument use.

Presented in this summary are the PDP findings for calendar year 1992. The number of commodities included in the program increased from 7 to 10 in February, and once again

FIGURE A

OVERVIEW OF PDP MANAGEMENT AND OPERATIONS

Risk Assessment

- National Inferences
- Reregistration and Special Review of Pesticides by EPA

Interagency Coordination

- Memorandum of Understanding (USDA, EPA, FDA)
- Executive Steering Committee
- Long Range Planning
- Semi-Annual Plans

Federal and State Cooperation

- Cooperative Agreements with States:
  California, Colorado, Florida, Michigan, New York, North Carolina, Ohio, Texas, Washington
- Allocation of Funding

Sampling

- Statistically Defensible
  Proportional to Site Volume
  Proportional to State Population
- Near Consumer Level
- Standard Operating Procedures
- Retains Origin of Product

Laboratory Analysis

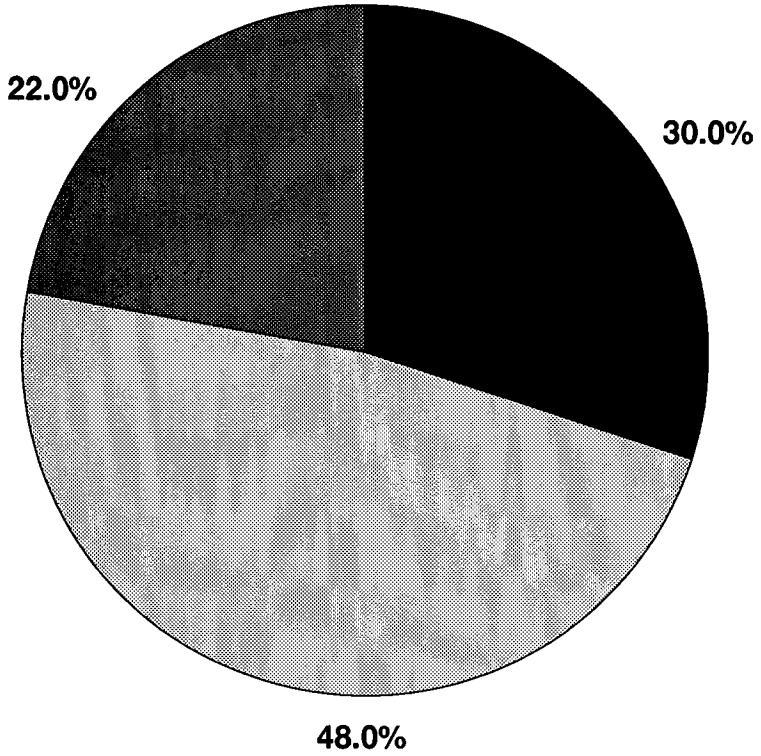
- Targeted Pesticide List
- Standard Operating Procedures
- Quality Assurance System
  EPA GLPs
  Proficiency Check Sample Program
- Residue Verification

Data Management

- Oracle Based System
- Electronic Transfer of Data
- Profile Search and Data Collation

Figure B

Pesticides in PDP



Original EPA List (16)

2,4-D
Acephate
Atrazine*
Benomyl
Bromoxynil*
Chlorpyrifos
Dicloran
Dicofol
Hexachlorobenzene (HCB)*
Iprodione
Lindane
Methamidophos
Methoxychlor
Pentachlorobenzene
Permethrins
Quintozene (PCNB)

Additional EPA List (12)

Azinphos-methyl
Chlorothalonil
Diazinon
Dichlorvos
Disulfoton sulfone
Endosulfans
Ethion
Fenamiphos*
Malathion*
Methidathion
Mevinphos
Parathion-methyl

Other (26)

Anilazine
Captan
Carbaryl
Chlorpropham
Cypermethrin
DCPA
DDE+DDT+TDE
Demeton
Demeton-S Sulfone
Dimethoate
Diphenylamine
Ethoprop
Imazalil
Myclobutanil
O-phenyphenol
Omethoate
Parathion
Phorate Sulfone
Phosalone
Phosmet
Propargite
Thiabendazole
Trifluralin
Vinclozolin

* Not detected

SECTION 1.0 - INTRODUCTION

The U.S. Department of Agriculture (USDA) implemented the Pesticide Data Program (PDP) in May 1991 to collect data on pesticide residues in selected fresh fruits and vegetables. Overall program planning and policy procedures are coordinated among USDA, the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). PDP residue data, which is collected as close to the consumer as possible, is available to EPA to determine dietary exposure to pesticide residues, and thus better estimate risk to the consumer. PDP also assists EPA in addressing pesticide reregistration and special review needs by providing residue data needed to complete these processes.

USDA's Agricultural Marketing Service (AMS) was charged with the implementation and day-to-day management of PDP activities with the cooperating state agencies. This includes all residue sampling and testing procedures, development and maintenance of the automated information management system, and reporting of residue data. AMS also consults with EPA and FDA to determine data needs and program planning.

Additionally, three other USDA agencies participate in PDP operations: National Agricultural Statistics Service (NASS), Economic Research Service (ERS), and Human Nutrition Information Service (HNIS). NASS provides agricultural chemical usage data and support of the PDP sampling protocol; ERS analyzes NASS and AMS data and assesses the economic implications of alternative pest control; and, HNIS conducts surveys of food intake to provide information for EPA's risk assessment studies.

To implement the Pesticide Data Program, AMS established agreements with Departments of Agriculture in six States: California, Florida, Michigan, New York, Texas, and Washington. These States were selected because they represent diverse geographic areas of the country, approximately 40 percent of the Nation's population, and a large percentage of the fresh fruits and vegetables grown in the United States. Participating States were assigned a number of samples to collect per commodity each month, which was based on the State's population. This number was the same for all commodities and remained constant throughout the year.

There are other States to which a significant amount of produce is distributed through the participating States. They are: Alaska, Connecticut, Hawaii, Massachusetts, Nevada, New Jersey, and Vermont. Although these States are not participating in the program, PDP data will apply to a significant portion of their population as well. Figure 1.0 shows the location of the participating States and their geographical distribution areas.

AMS works with EPA to develop the list of pesticides and commodities targeted for data collection by PDP. Commodities chosen for inclusion in the program are among those most prevalently consumed by the American public. The EPA list consists of pesticides whose toxicity is under evaluation by this Agency (i.e., pesticides with acute and chronic endpoints including suspected carcinogens). The list is revised periodically to address current EPA data needs. Program operations were designed so these revisions in the testing profile can be

In January 1993, AMS established agreements with Colorado, North Carolina, and Ohio to begin collecting samples for PDP. Under these agreements, all samples collected by these three States would be sent to one or more of the other participating laboratories for analysis. With the addition of these States, the segment of the Nation's population represented by PDP sampling was increased to approximately 50 percent, including produce directly distributed to nearby States such as New Mexico and Wyoming.

Testing for five N-methyl carbamates began in January. Formetanate analysis for apples and peaches started in July 1993, and for oranges in October.

Figure 1.0

Participating States and Their Geographical Distributon Areas

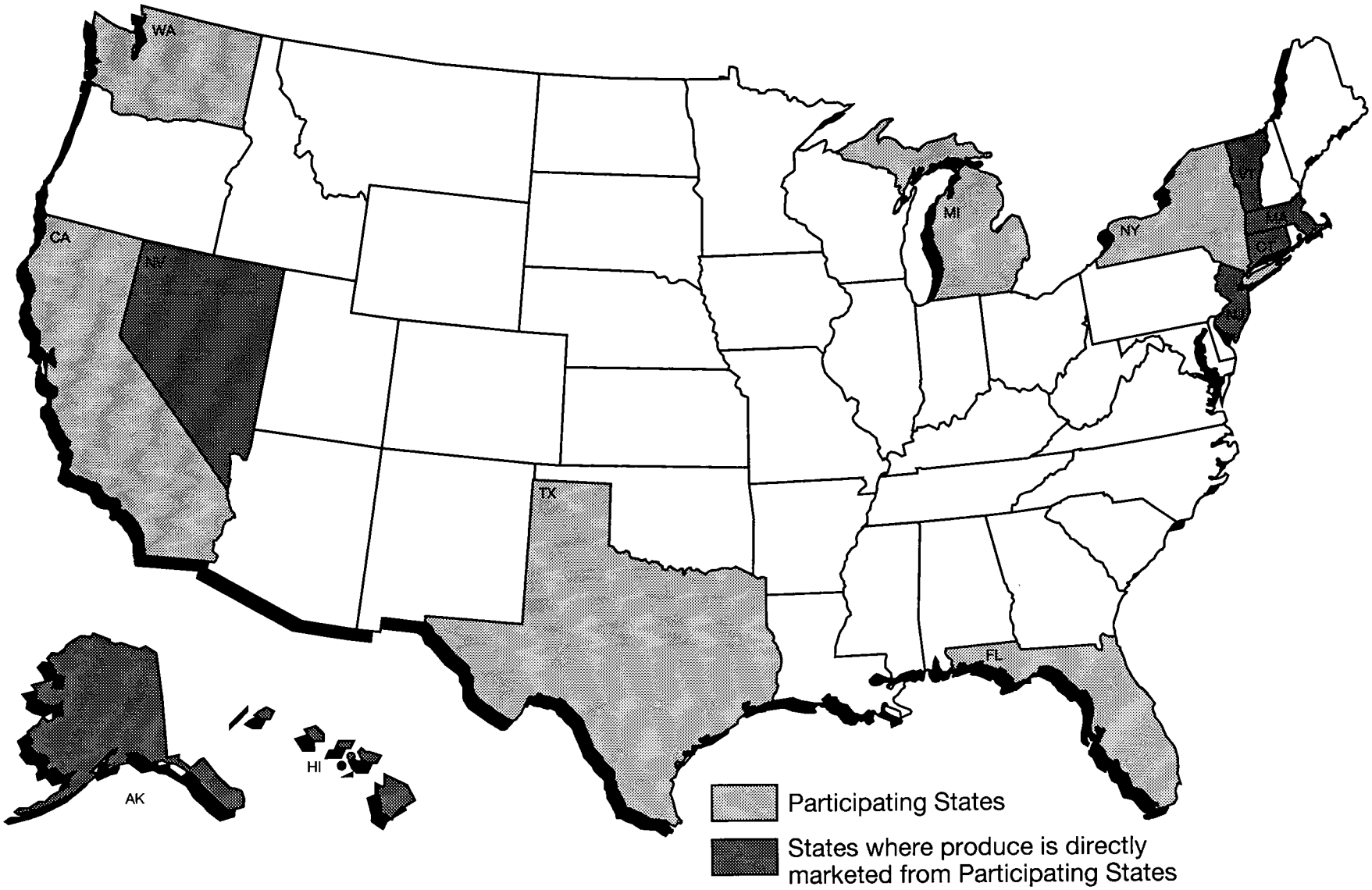


TABLE 1.0. FREQUENCY OF OCCURRENCE OF EPA-TARGETED PESTICIDES IN PDP COMMODITIES (1992)
APPLES-GRAPEFRUIT*

PESTICIDE (mo./yr.)	Apples (9/91)		Bananas (9/91)		Broccoli (10/92)		Carrots (10/92)		Celery (2/92)		Grapefruit (8/91)	
	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives
Acephate (11/91)	567	0	564	0	153	0	153	0	508	136	567	0
Atrazine (3/92)	460	0	460	0	153	0	153	0	456	0	463	0
Benomyl (5/92)	406	49	406	3	139	0	0	0	0	0	0	0
Bromoxynil (4/92)	212	0	0	0	0	0	0	0	0	0	213	0
Chlorpyrifos (5/91)	567	100	564	0	153	8	153	0	508	2	567	1
Dicloran (5/91)	567	0	564	0	153	0	153	0	508	140	567	0
Dicofol (10/91)	567	9	564	0	153	0	153	0	508	0	567	1
HCB@ (5/91)	567	0	564	0	153	0	153	0	508	0	567	0
Iprodione (5/91)	567	1	564	0	153	0	153	44	508	13	567	0
Lindane (5/91)	567	0	564	0	153	0	153	0	508	3	567	0
Methamidophos (11/91)	567	0	564	0	153	4	153	0	508	58	567	0

TABLE 1.0 FREQUENCY OF OCCURRENCE OF EPA-TARGETED PESTICIDES IN PDP COMMODITIES (1992) GRAPES-POTATOES*

PESTICIDE (mo./yr.)	Grapes (5/91)		Green Beans (2/92)		Lettuce (5/91)		Oranges (8/91)		Peaches (2/92)		Potatoes (5/91)	
	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives	No. Analyzed	No. of Positives
Acephate (11/91)	552	0	466	118	565	36	569	0	360	2	568	0
Atrazine (3/92)	450	0	440	0	462	0	465	0	307	0	465	0
Benomyl (5/92)	0	0	376	34	0	0	0	0	0	0	0	0
Bromoxynil (4/92)	212	0	0	0	0	0	188	0	0	0	216	0
Chlorpyrifos (5/91)	552	24	466	1	565	3	569	18	360	31	568	0
Dicloran (5/91)	552	35	466	5	565	2	569	0	360	168	568	5
Dicofol (10/91)	552	23	466	0	565	0	569	2	360	0	568	0
HCB@ (5/91)	552	0	466	0	565	0	569	0	360	0	568	0
Iprodione (5/91)	552	161	466	2	565	3	569	0	360	196	568	0
Lindane (5/91)	552	0	466	0	565	0	569	0	360	0	568	0
Methamidophos (11/91)	552	1	466	129	565	15	569	0	360	2	568	6

SECTION 2.0 - SAMPLING OVERVIEW

PDP's sampling protocol was designed to be objective and random. This was accomplished by requiring that: (1) the number of samples collected each month be proportional to State population; (2) sampling dates and sites be selected at random; and (3) no predetermination be made regarding product variety or origin. The procedures used for sample collection also effectively removed the impact of many sources of systemic bias. As a result, PDP data generated during 1992 should produce reasonably good estimates of the prevalence of pesticide residues in the food supply. Nevertheless, because PDP data will ultimately be used to make national inferences for dietary risk assessment, AMS enlisted the services of USDA's National Agricultural Statistics Service (NASS) to increase the statistical defensibility of PDP's sampling protocol.

To accomplish this objective, NASS introduced a "site weighting" method by which the probability of a site being selected is proportional to the volume of produce it distributes. Implemented in January 1993, this method will allow users of PDP data to make virtually unbiased estimates of the prevalence of pesticide residues in commodities collected in the nine participating States. In addition, this procedure makes it possible to quantify the accuracy of these estimates for both the nine States and the Nation as a whole. NASS will continue to provide long-term maintenance for PDP's sampling and estimation systems.

PDP samples were collected by the six participating States at sites such as terminal markets and large distribution centers. These sites were chosen for sample collection because they are the last stopover before produce reaches retailers (and subsequently consumers), and because grower and packer information is still available at these locations. Data collected closer to the time of consumption provides a better picture of exposure to pesticide residues. This is because residues measured at these sites take into account pesticide degradation that occurs during transit and storage, as well as residues resulting from the application of post-harvest fungicides.

The volume of produce distributed by the State sampling sites varies greatly depending on their geographic location and the area they serve. In the larger States, such as Texas, as many as 161,500 tons of produce may be distributed by one site in a given year. Each participating State was responsible for researching and compiling its list of appropriate sampling sites, which varied in number from 18 in Washington to 284 in California.

As discussed in the Introduction (section 1.0), the States were assigned a number of samples to collect per commodity each month, based on population. This number was the same for all commodities and remained constant throughout the year. Sample assignments were as follows: California-14, Florida-8, Michigan-7, New York-9, Texas-9, and Washington-5.

Representatives of each participating State were trained in PDP sampling procedures, and were responsible for training the sample collectors in their respective States. Uniformity of sampling technique and strict adherence to PDP sampling procedures were emphasized.

came from Chile; and (4) the majority of celery, green beans, grapefruit, and oranges originated from either California or Florida. Figure 2.0 shows the percentage of imported versus domestic samples per commodity. Figure 2.1 gives the geographic origin of domestic samples.

Appendix 3 gives the number of samples collected each month by commodity, and the breakdown of number and percentage of imported versus domestic. As Appendix 3 indicates, 1,114 (19.4 percent) of the samples were imported, and 4,636 (80.6 percent) were domestic. Celery, green beans, and peaches were not included in the program until February; therefore, their sample totals are lower. The same applies to broccoli and carrots, which were added to the program in October. Additionally, a great degree of seasonal variability was noted in the number of import versus domestic samples for both grapes and peaches.

TABLE 2.0 SAMPLES COLLECTED PER COMMODITY BY EACH PARTICIPATING STATE

	California	Florida	Michigan	New York	Texas	Washington	Total/Comm
Apples	168	94	84	108	107	57	618
Bananas	167	92	84	108	107	57	615
Broccoli	42	23	21	26	27	14	153
Carrots	42	24	21	26	27	13	153
Celery	136	78	70	90	88	46	508
Grapefruit	155	85	76	99	98	54	567
Grapes	146	87	77	98	92	52	552
Green Beans	140	85	75	98	90	34	522
Lettuce	154	86	77	98	97	53	565
Oranges	154	87	77	99	98	54	569
Peaches	110	41	50	69	59	31	360
Potatoes	154	86	76	99	98	55	568
Total/State	1,568	868	788	1,018	988	520	5,750

Figure 2.0

Commodity Distribution Percentages

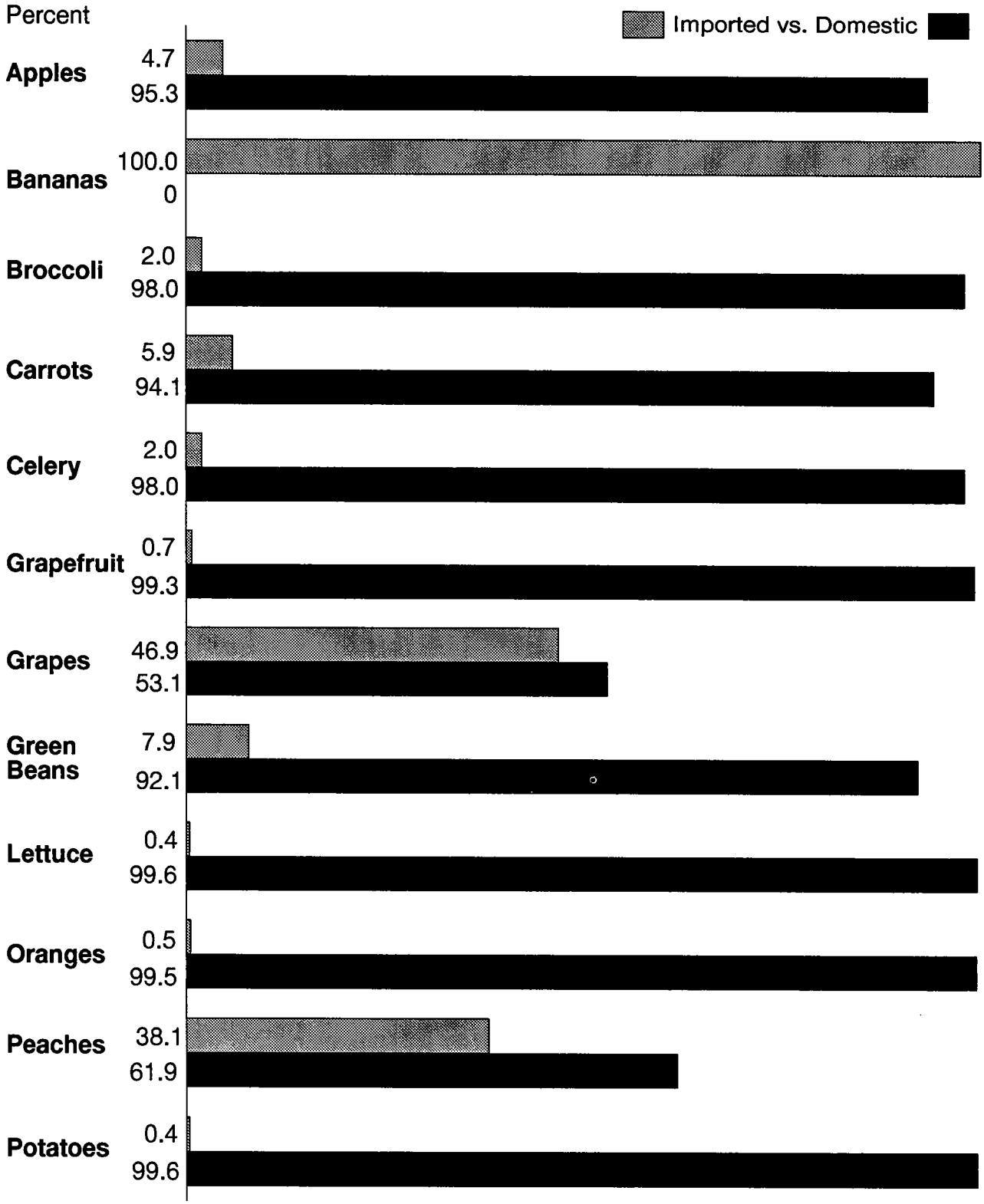
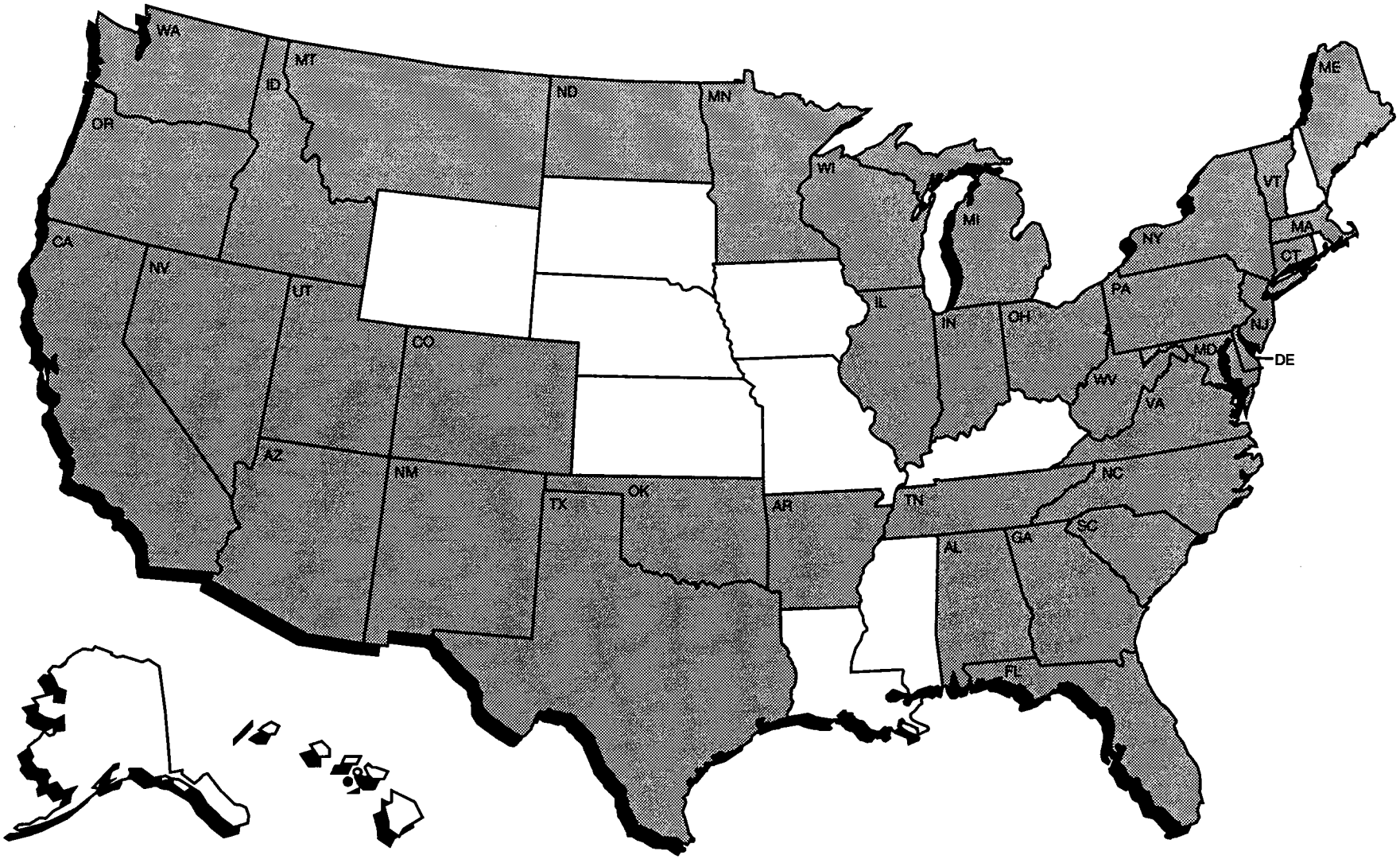


Figure 2.1

Origin of Domestic Samples



SECTION 3.0 - LABORATORY OVERVIEW

During 1992, PDP laboratories performed analyses on 5,750 samples. Most of the pesticides in the program were analyzed using general multiresidue methods (MRMs), which are capable of detecting several compounds simultaneously. Benomyl, bromoxynil, and 2,4-D, which are not detectable by MRMs, were analyzed by USDA's Animal and Plant Health Inspection Service (APHIS) laboratory using selective multiresidue methods.

3.1 Quality Assurance Program

To achieve data equivalency among participating laboratories, PDP required adherence to rigorous quality assurance/quality control (QA/QC) criteria. To demonstrate the suitability of analytical methods, as well as the proficiency of the technical staff, laboratories were required to perform method validation studies for each pesticide/commodity pair.

PDP's quality assurance program encompasses five elements:

- Proficiency Check Samples - All facilities were required to participate in the PDP Check Sample Program. Periodically (approximately every 4 months), three to four prepared commodities, containing several pesticides of known quantities, were sent to the participating laboratories and tested under the same conditions as routine samples. The resulting data were used to determine performance equivalency among the testing laboratories, and to evaluate individual laboratory performance.

- Quality Control - Since quality control requirements are the same for one sample as for several samples, it is more economical and efficient to collect and process the samples as a set. Laboratories were permitted to refrigerate incoming samples of the same commodity for up to 72 hours, to allow for different sample arrival times from the collection sites. PDP quality control guidelines require that samples be tested as part of an analytical set, which includes the sample set and the following components:

  1. **Reagent Blank:** An amount of distilled water, equivalent to the natural moisture content of the commodity, is run through the entire analytical process to determine glassware cleanliness and system integrity.

  2. **Matrix Blank:** A previously analyzed sample of the same commodity, which contains either very low concentrations of known residues or no detectable residues, is divided into two portions. The first portion is used to give background information on naturally occurring chemicals, and the second one is used to prepare a matrix spike.

  3. **Matrix Spike(s):** A portion(s) of matrix blank is spiked with all pesticides of interest to PDP prior to extraction. The matrix spike is used to determine the accuracy of the analyst and instrument performance.

3.3 Sample Analysis

Variations of the Luke extraction procedures developed by FDA were used by Florida, Michigan, New York, and Texas. California and Washington used the multiresidue method developed by the California Department of Food and Agriculture (CDFA). Sample extraction and cleanup preparation procedures, to achieve the levels of detection required by the program, were based on organic solvent/partition procedures.

Various types of chromatography were used for the initial identification and quantitation of pesticides. Confirmation was accomplished by mass spectrometry or by alternate detection systems when applicable. Confirmation was deemed necessary due to the complexity of commodity matrices and the low concentration levels of detected residues. The confirmatory analysis provided an extra measure of confidence in both the identification of the pesticide residue and its concentration.

Average limits of detection (LODs) and limits of quantitation (LOQs) for testing laboratories are shown in Appendix 4.

SECTION 4.0 - SAMPLE RESULTS

All commodities were screened for selected organochlorine, organophosphate, and organonitrogen compounds. The advanced analytical technology utilized by PDP laboratories allows for the detection of residues present at very low concentrations. As a result, a significant number of samples tested were found to contain residues--albeit, at low levels, and substantially below tolerances.

Table 4.0 provides a summary of all residue detections per commodity. These results are explained in further detail in Tables 4.1 and 4.2, and shown graphically in Figure 4.0. Table 4.1 compares the mean residue concentration of selected pesticides to established tolerances (pesticides detected in less than ten percent of the samples are not included). Of the 40 pesticide/commodity pairs listed in Table 4.1, only 5 pairs resulted in a mean concentration which exceeded 10 percent of the tolerance: thiabendazole/bananas, imazalil/grapefruit, dimethoate/grapes, myclobutanil/grapes, and acephate/green beans. Five pairs (DDE/carrots, permethrins/celery, captan/grapes, iprodione/grapes, and captan/peaches) had mean concentrations below 1 percent of the established tolerance. Table 4.2 shows the number of residues found in different concentration ranges, from 1-9 parts per billion (ppb) to greater than 1 part per million (ppm). As seen in this table, approximately 56 percent of the residues found in all commodities were below 0.1 ppm, and 8.5 percent of the detections were below 10 ppb. Figure 4.0 shows in more detail the distribution of residues for commodity-pesticide pairs with at least 10 percent detections.

4.1 Discussion of Results

As Appendix 5 shows, 5,592 samples were analyzed for all PDP compounds except benomyl and 2,4-D which were tested only in selected commodities. Of these, 61.2 percent were found to contain detectable residues. The percentage of samples with residues varied from 88.5 percent for apples to 35.3 percent for broccoli. The number of different pesticides detected per commodity ranged from 4 in bananas to 25 in apples. Additional samples of apples (51 samples), bananas (51), and green beans (56) were collected for benomyl and thiabendazole analyses only, bringing the total to 5,750. Benomyl and thiabendazole results, including these additional samples, are discussed in section 4.2. Pesticides detected included insecticides, herbicides, fungicides, and growth regulators (see Appendix 6). Also detected were DDT and its metabolites, although their presence is due to environmental contamination, not the result of crop application.

Appendix 7 gives the distribution of residue occurrences by pesticide. The appendix shows all pesticides detected by PDP divided into three parts as follows: (A) EPA-targeted pesticides; (B) additional EPA-targeted pesticides; and (C) other pesticides. The EPA-targeted pesticides, listed in section A, are those included in the program from its inception through May 1992. Pesticides in section B, although already monitored by PDP, were added to EPA's targeted pesticide list in November 1992. Section C lists other pesticides included in the program. Listed below each pesticide are these commodities in which the pesticide was detected and the States where the samples were collected. Appendix 7 also gives a

analyzed in 46 of the samples only). The total number of residues found was 854. This total includes multiple residues detected in single samples, which ranged from 2 samples containing 6 different residues to 127 samples containing 2 residues. Violations were reported for 18 domestic samples containing residues of DCPA (11), quintozene (3), chlorpyrifos (2), and iprodione (2), for which no tolerance has been established for celery.

Grapefruit

Out of 567 samples analyzed, 260 (45.9 percent) had at least 1 detectable residue. Nine different pesticides were found. Thiabendazole and imazalil, both post-harvest fungicides, were the most frequently detected. The total number of residues found, including multiple residues, was 332. No tolerance violations were reported.

Grapes

Out of 552 samples analyzed, 381 (69.0 percent) were found to contain at least 1 detectable residue. Twenty-one different pesticides were detected. Most frequently found were iprodione, captan, vinclozolin, and myclobutanil. The total number of residues found was 756. This total includes multiple residues detected in single samples, which ranged from 1 sample containing 6 different residues to 113 samples containing 2 residues. Violations were reported for five samples, one domestic and four imported commodities. Two of these violations were for residues for which no tolerance has been established for grapes (diphenylamine and methamidophos), and 3 for residues exceeding the tolerance level (parathion-1, chlorpyrifos-1, dimethoate-1).

Green Beans

Out of 466 samples analyzed, 279 (59.9 percent) were found to contain at least 1 detectable residue. Twenty four different pesticides were detected. Most frequently found were methamidophos, endosulfans, and acephate. The total number of residues found was 576. This total includes multiple residues detected in single samples, which ranged from 7 samples containing 5 different residues to 84 samples containing 2 residues. Violations were reported for 22 samples, 15 domestic and 7 imported commodities. Twenty-one of these violations were for residues for which no tolerance has been established for green beans (methamidophos-18, permethrins-3), and 1 for residues exceeding the tolerance level (acephate-methamidophos combined).

Lettuce

Of 565 samples analyzed, 201 (35.6 percent) had at least 1 detectable residue. Nineteen different pesticides were found. The most frequently found pesticides were permethrins and endosulfans. The total number of residues found, including multiple residues, was 297. Multiple residues found in single samples ranged from 1 containing 5 different residues to 42 which had 2 residues. Violations were reported for 5 domestic samples. Of these, 4 were

Dicloran

Dicloran, a fungicide with pre- and post-harvest use on fruits and vegetables, was analyzed for in all 5,592 samples. Residues were found in 355 (6.3 percent) of the samples tested, although most of the occurrences were in celery and peaches. Concentrations detected ranged from 5 ppb to 4.1 ppm. None of the residues found exceeded the tolerance level.

Diphenylamine

Analysis of this fungicide was performed in 4,762 samples and residues were found in 174 (3.7 percent) of the samples. Almost all residues were detected in apples, in concentrations ranging from 13 ppb to 3.7 ppm. A violation was found in 1 grape sample for residues where no tolerance was established.

Thiabendazole

Thiabendazole is a fungicide with registered uses on fruits and vegetables. Although this compound is not an EPA-targeted pesticide, PDP added thiabendazole to its testing profile because it was being detected frequently in the organonitrogen screen. A total of 4,812 samples were tested for this fungicide in 1992, with residues detected in 1,000 (20.8 percent) of the samples. The rate of occurrence, however, was mainly localized to four commodities, with residues detected in 293 of the apple samples tested, 194 of the bananas, 210 of the grapefruit, and 250 of the oranges. Since most thiabendazole applications are done post-harvest, these results appear to indicate that this compound penetrates the peelings of bananas, grapefruit, and oranges because they were removed prior to analysis. Detected residues ranged from a low of 4 ppb to a high of 4.8 ppm. Violative residues were found in five samples, four of which were for residues exceeding the tolerance level, and one for residues where no tolerance was established.

4.3 Environmental Contaminants

DDT, DDE, and TDE

A total of 5,592 samples were screened for DDT and its metabolites DDE and TDE. Use of DDT has been prohibited in the United States since 1972. However, due to the persistence of this chemical in the environment, residues of this insecticide, and/or its metabolites, were found in apples, broccoli, celery, carrots, green beans, lettuce, peaches, and potatoes. DDT residues were found in 11 samples, 8 of which were potatoes. DDT residues were detected in concentrations ranging from 5 ppb to 38 ppb. DDE residues were found in 149 samples, with most positives detected in potatoes (56 positives), carrots (41), and celery (28). DDE residues were detected in concentrations ranging from 2 ppb to 0.13 ppm. TDE residues were found in one carrot sample at 2 ppb.

4.7 Tolerance Violations

Tolerances, which are the maximum amount of residue that is allowed in or on a food crop, are established by EPA. A violation occurs when a residue is found which exceeds tolerance levels, or when a residue is found for which there is no tolerance for that particular crop. With the exception of meat, poultry, and egg products, for which USDA is responsible, tolerances for all other foods are enforced by FDA. In order to take prompt corrective action, samples collected under enforcement programs have to be analyzed within hours of collection. Since PDP samples are not collected for this purpose, emphasis is placed on searching for residues at the lowest detectable levels rather than on quick sample turnaround. In fact, because of the complexity of the sample analysis requirements and the data review process, it may take 1 month or longer to complete a sample set.

During 1992, 63 samples were found to contain 66 violative residues (double violations were found in 3 of the samples), 15 of which were detected in imported commodities. As Appendix 9 indicates, 53 samples found in violation had residues where no tolerance was established by EPA for that pesticide/commodity pair, and 10 had residues which exceeded the tolerance. Under the Memorandum of Understanding signed by USDA, EPA, and FDA, the Pesticide Data Program is required to inform FDA of any violative residues found. PDP data may assist FDA by pinpointing areas where closer surveillance may be required.

TABLE 4.0 SUMMARY OF RESIDUE DETECTIONS PER COMMODITY

COMMODITY	Samples Analyzed for all PDP Compounds[1]	Samples with Residues		# of Different Pesticides Detected	Total # of Residues Detected
		Number	Percent		
Apples	567	502	88.5	25	1,096
Bananas	564	209	37.1	4	221
Broccoli[2]	153	54	35.3	7	63
Carrots[2]	153	88	57.5	10	145
Celery[3]	508	409	80.5	21	854
Grapefruit	567	260	45.9	9	332
Grapes	552	381	69.0	21	756
Green Beans[3]	466	279	59.9	24	576
Lettuce	565	201	35.6	19	297
Oranges	569	329	57.8	11	482
Peaches	360	307	85.3	22	677
Potatoes	568	404	71.1	16	530
TOTALS	5,592	3,423	61.2	49	6,029

[1] Number of samples excludes those analyzed for benomyl and thiabendazole only.
[2] Commodity added to the program in October 1992.
[3] Commodity added to the program in February 1992.

TABLE 4.1 CONCENTRATION DETECTED vs. ESTABLISHED TOLERANCES
(Pesticides detected in less than ten percent of the samples are not included)

Commodity/ Pesticide	Tolerance (ppm)	Percentage of Samples with Detected Residues	Mean of Residues Found (ppm)	Percent of Tolerance
APPLES				
Azinphos-Methyl	2.0	31.4	0.083	4.2
Benomyl	7.0	12.1	0.11	1.6
Chlorpyrifos	1.5	17.6	0.043	2.9
Diphenylamine	10	30.5	0.67	6.7
Endosulfans	2.0	13.2	0.022	1.1
Thiabendazole	10	56.5	0.62	6.2
BANANAS				
Thiabendazole	0.4	37.5	0.090	22.5
BROCCOLI				
DCPA (Dacthal)	5	23.5	0.37	7.4
CARROTS				
DDE[AL]	3	26.8	0.018	0.60
Diazinon	0.75	12.4	0.010	1.3
Iprodione	5.0	28.8	0.083	1.7
CELERY				
Acephate	10	26.8	0.12	1.2
Chlorothalonil	15	32.3	0.24	1.6
Diazinon	0.7	13.2	0.040	5.7
Dicloran	15	27.6	0.25	1.7
Methamidophos	1	11.4	0.024	2.4
Permethrins	20.0	38.6	0.087	0.44
GRAPEFRUIT				
Imazalil	10	15.3	1.06	10.6
Thiabendazole	10	54.0	0.14	1.4

TABLE 4.1 CONCENTRATION DETECTED vs. ESTABLISHED TOLERANCES
(Pesticides detected in less than ten percent of the samples are not included)

Commodity/ Pesticide	Tolerance (ppm)	Percentage of Samples with Detected Residues	Mean of Residues Found (ppm)	Percent of Tolerance
POTATOES				
Chlorpropham	50	59.3	1.44	2.9
DDE[AL]	1	9.9	0.012	1.2
Thiabendazole	10	13.8	0.61	6.1

AL Action Levels (ALs) are established by FDA and are not considered to be the same as Tolerances. Although there is no registered use for DDT in the U.S., ALs were established for DDT and its metabolites due to their persistence in the environment.

NT Under 40CFR 180.315 there is no tolerance for methamidophos in green beans. However, 40CFR 180.108 specifies that for a mixture of acephate and its metabolite methamidophos there is a tolerance of 3 ppm of which not more than 1 ppm can be methamidophos, only if acephate is present.

TABLE 4.2 DISTRIBUTION OF PESTICIDE RESIDUE CONCENTRATIONS BY COMMODITY

Residue Range	COMMODITIES											
	Apples	Bananas	Broccoli	Carrots	Celery	Grape-fruit	Grapes	Green beans	Lettuce	Oranges	Peaches	Potatoes
1-9 ppb	72	1	13	26	109	19	25	60	66	27	47	48
Percentage	6.6%	0.4%	20.6%	17.9%	12.8%	5.7%	3.3%	10.4%	22.2%	5.6%	7.0%	9.0%
10-99 ppb	480	164	47	103	483	191	337	261	169	178	252	180
Percentage	43.8%	74.2%	74.6%	71.0%	56.5%	57.5%	44.6%	45.3%	56.9%	36.9%	37.1%	34.0%
.10-.99ppm	454	55	3	16	246	121	358	233	56	273	281	141
Percentage	41.4%	24.9%	4.8%	11.0%	28.8%	36.4%	47.3%	40.5%	18.8%	56.6%	41.6%	26.6%
> 1.0 ppm	90	1	0	0	16	1	36	22	6	4	97	161
Percentage	8.2%	0.4%	--	--	1.9%	0.3%	4.8%	3.8%	2.0%	0.8%	14.3%	30.4%
TOTAL	1096	221	63	145	854	332	756	576	297	482	677	530

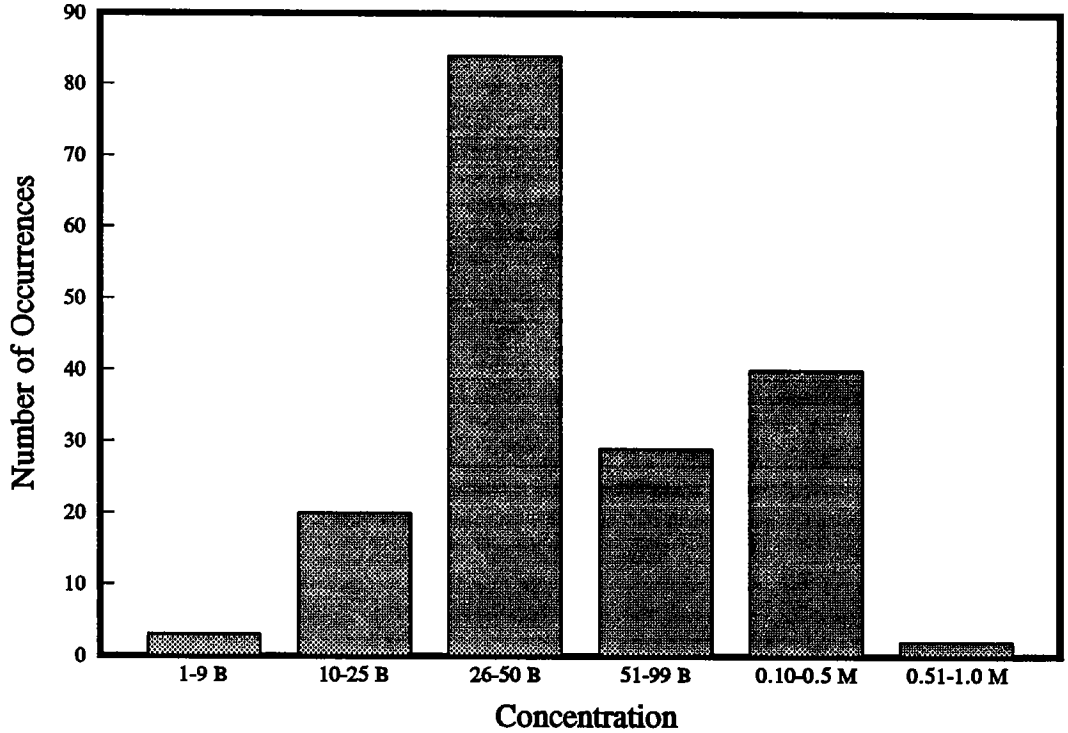
ALL COMMODITIES				
Number of Residues Ranging 1-9 ppb	Number of Residues Ranging 10-99 ppb	Number of Residues Ranging 0.10-0.99 ppm	Number of Residues Greater Than 1.0 ppm	GRAND TOTAL
513	2845	2237	434	6029
8.5%	47.2%	37.1%	7.2%	100%

Figure 4.0 Index
Distribution of Residue Concentrations for Selected Commodities

Commodity/Pesticide Pair	Tolerance (ppm)	Page No.
Apples/Azinphos-Methyl	2.0	43
Apples/Benomyl	7.0	43
Apples/Chlorpyrifos	1.5	44
Apples/Diphenylamine	10	44
Apples/Endosulfans	2.0	45
Apples/Thiabendazole	10	45
Bananas/Thiabendazole	0.4	46
Broccoli/DCPA (Dacthal)	5	46
Carrots/DDE[AL]	3	47
Carrots/Diazinon	0.75	47
Carrots/Iprodione	5.0	48
Celery/Acephate	10	48
Celery/Chlorothalonil	15	49
Celery/Diazinon	0.7	49
Celery/Dicloran	15	50
Celery/Methamidophos	1	50
Celery/Permethrins	20.0	51
Grapefruit/Imazalil	10	51
Grapefruit/Thiabendazole	10	52
Grapes/Captan	50	52
Grapes/Dimethoate	1	53
Grapes/Iprodione	60.0	53
Grapes/Myclobutanil	1.0	54
Grapes/Vinclozolin	6.0	54
Green Beans/Acephate	3	55
Green Beans/Endosulfans	2.0	55
Green Beans/Methamidophos	NT	56

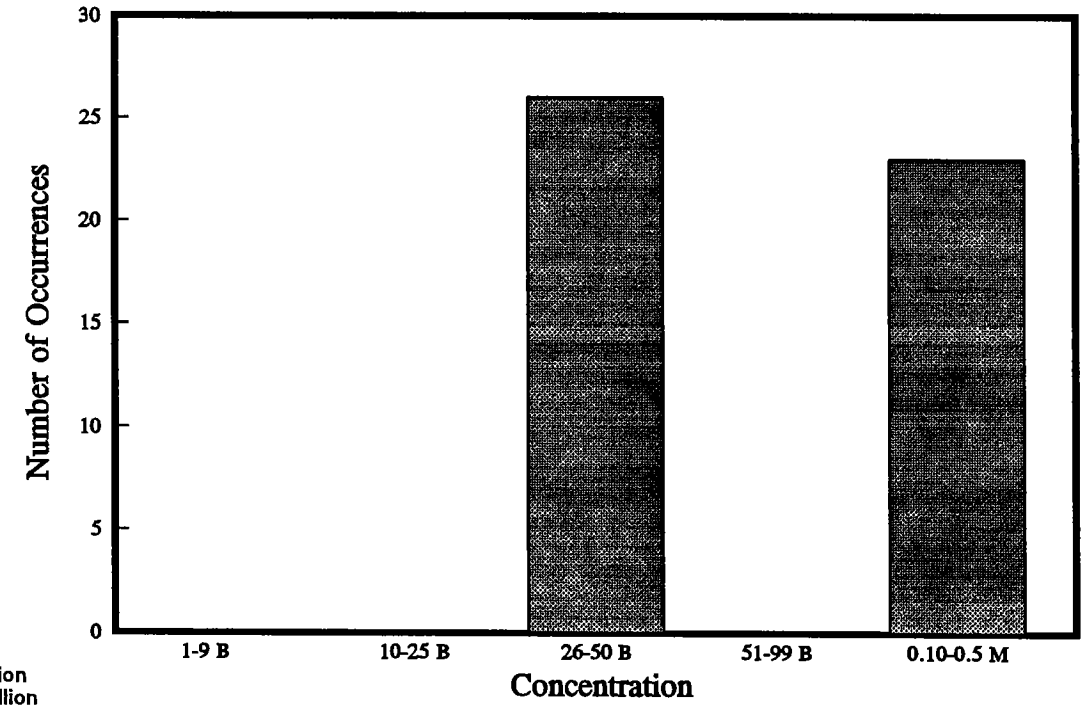
567 samples tested
178 detections (31.4%)
min 9 ppb - max 0.62 ppm

Apples/Azinphos-Methyl



406 samples tested
49 detections (12.1%)
min 50 ppb - max 0.42 ppm

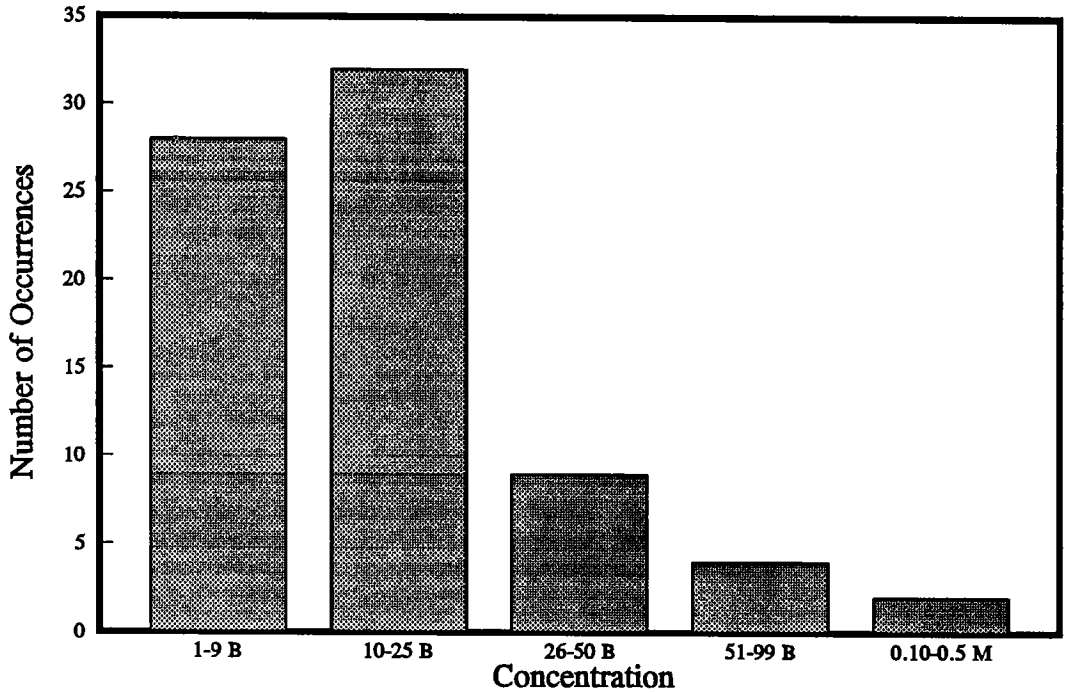
Apples/Benomyl



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

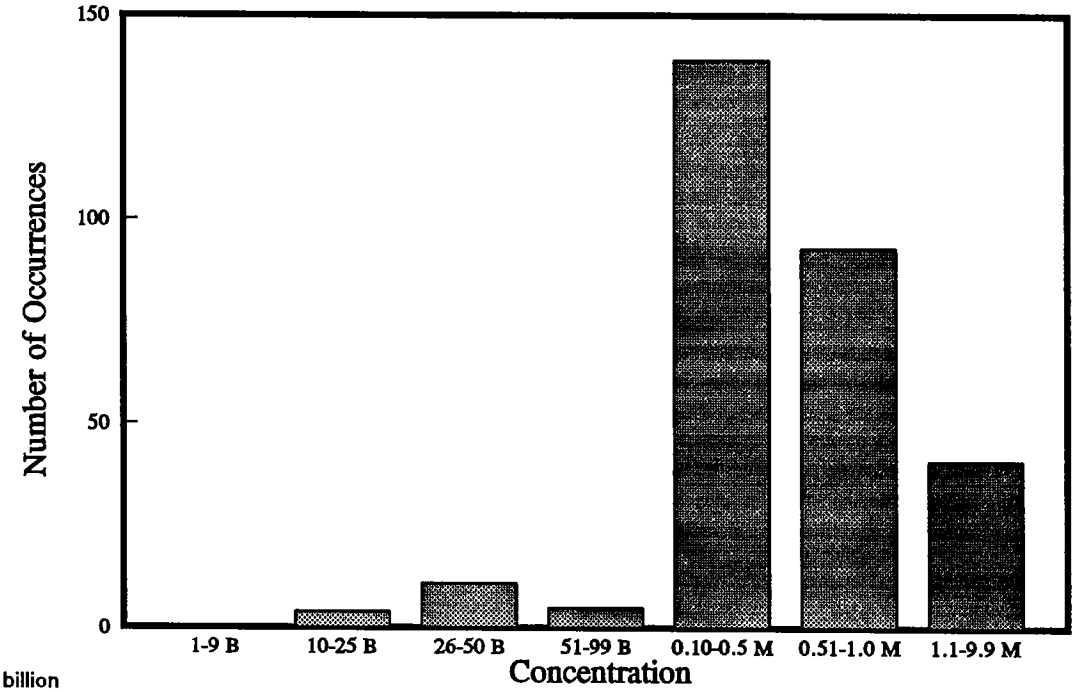
567 samples tested
75 detections (13.2%)
min 3 ppb - max 0.28 ppm

Apples/Endosulfans



519 samples tested
293 detections (56.5%)
min 15 ppb - max 4.8 ppm

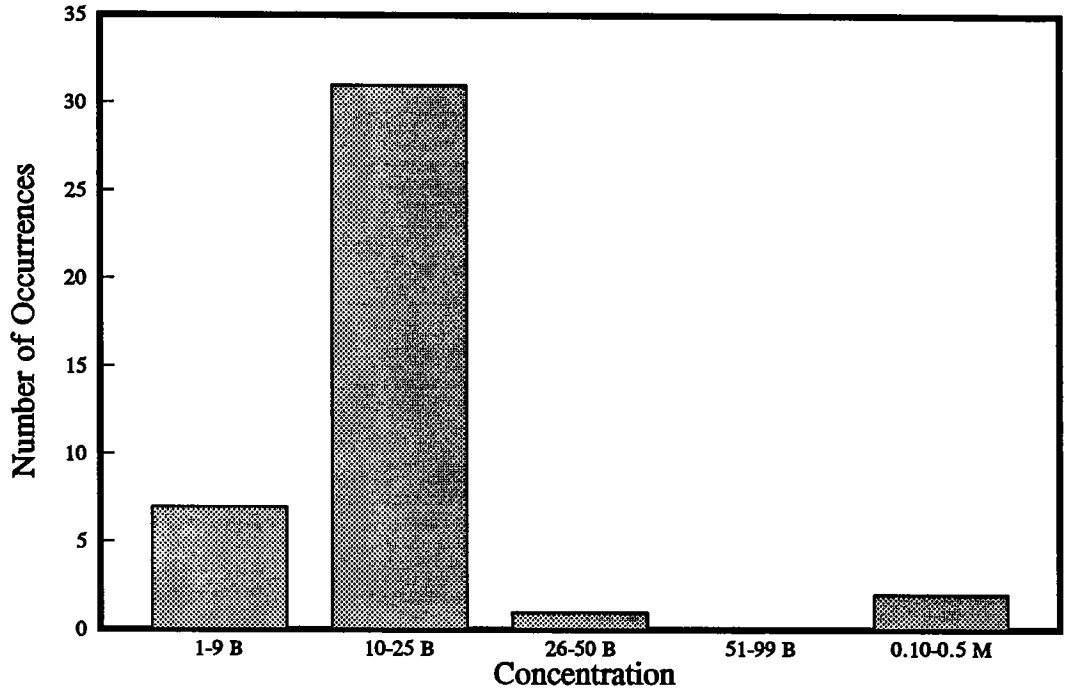
Apples/Thiabendazole



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

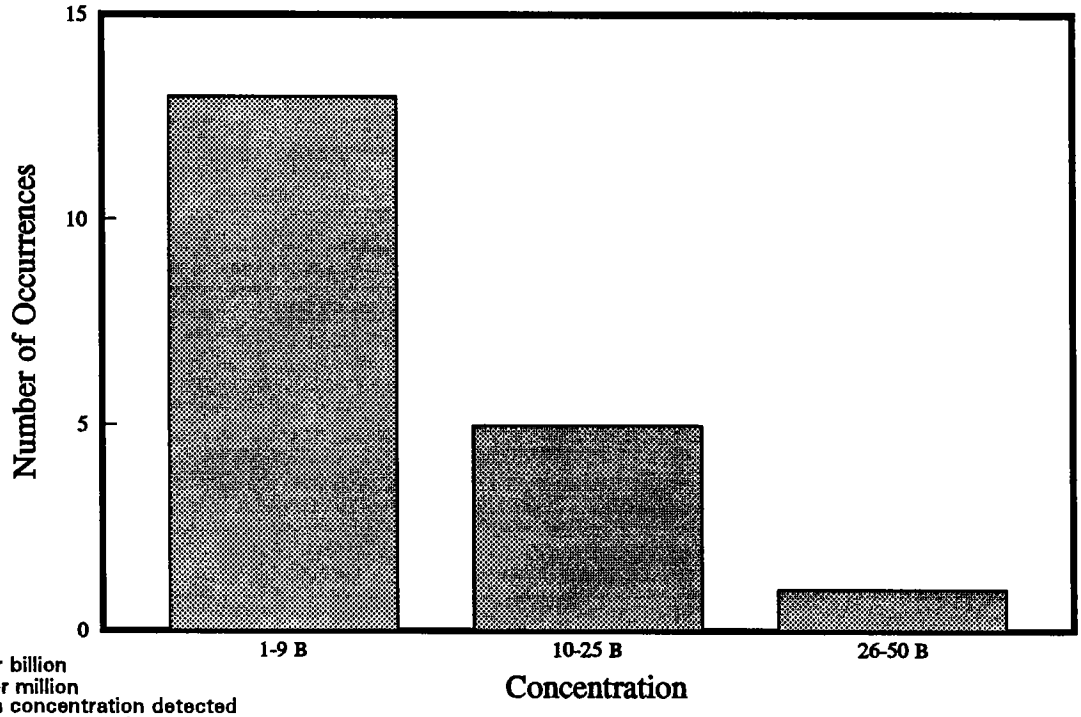
153 samples tested
41 detections (26.8%)
min 2 ppb - max 0.13 ppm

Carrots/DDE



153 samples tested
19 detections (12.4%)
min 5 ppb - max 27 ppb

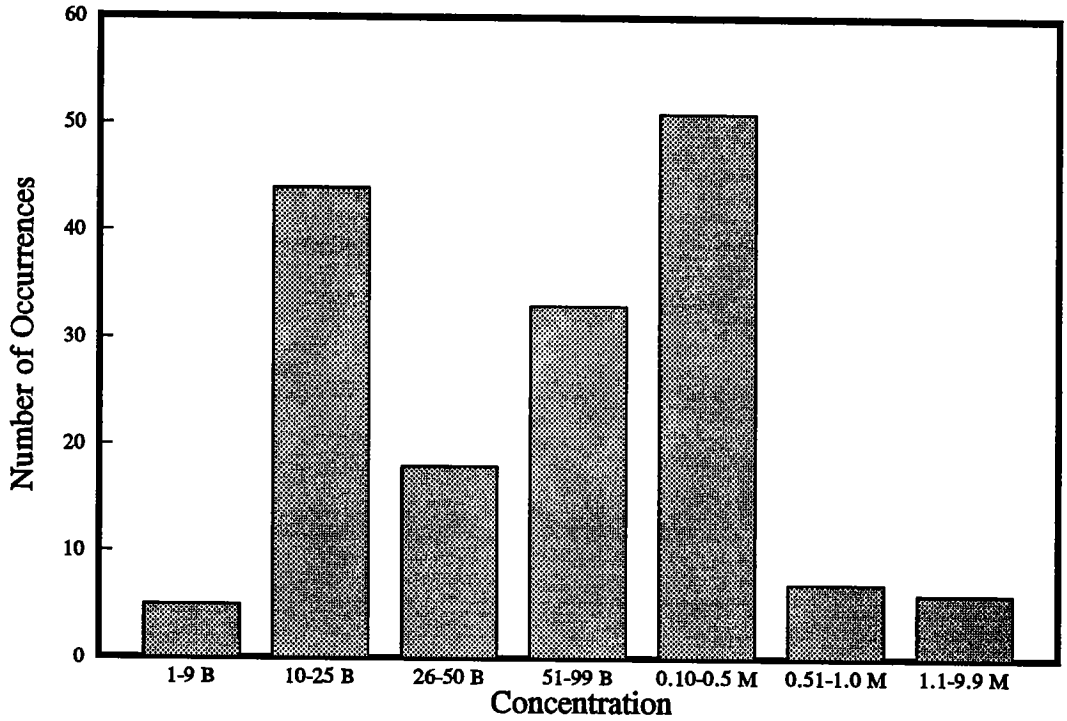
Carrots/Diazinon



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

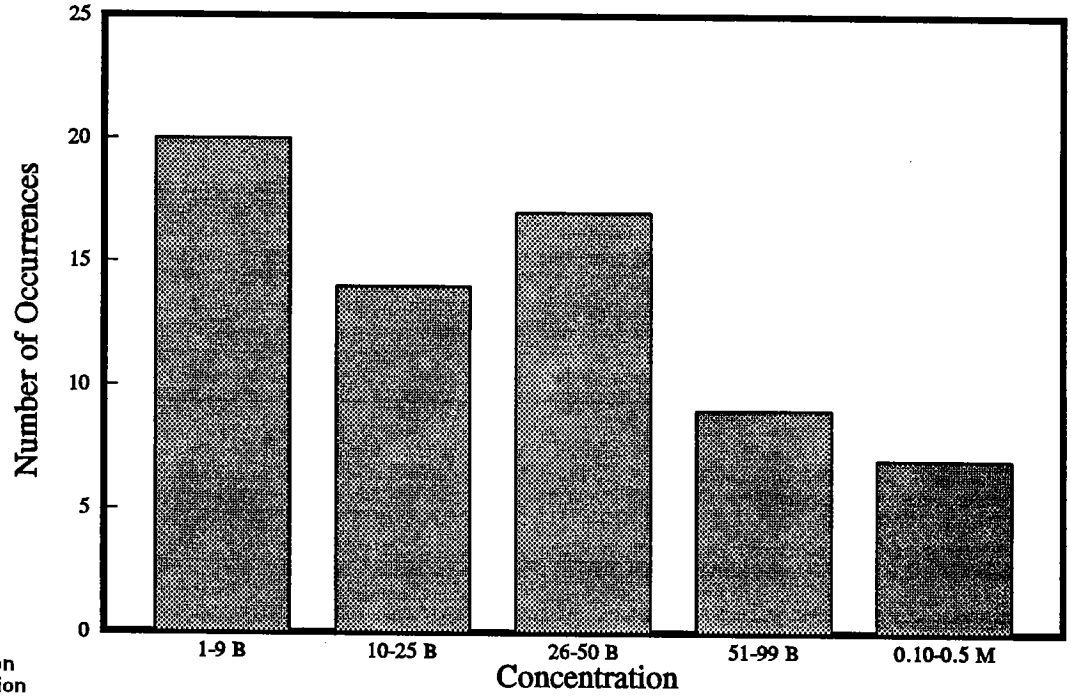
508 samples tested
164 detections (32.3%)
min 2 ppb - max 5.9 ppm

Celery/Chlorothalonil



508 samples tested
67 detections (13.2%)
min 5 ppb - max 0.27 ppm

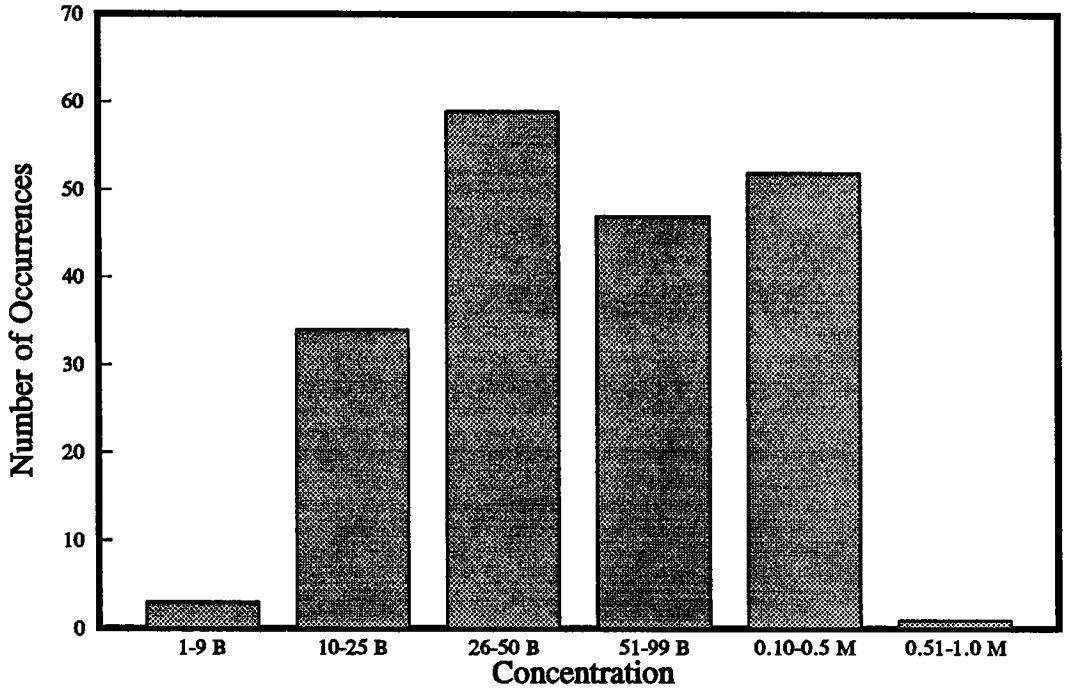
Celery/Diazinon



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

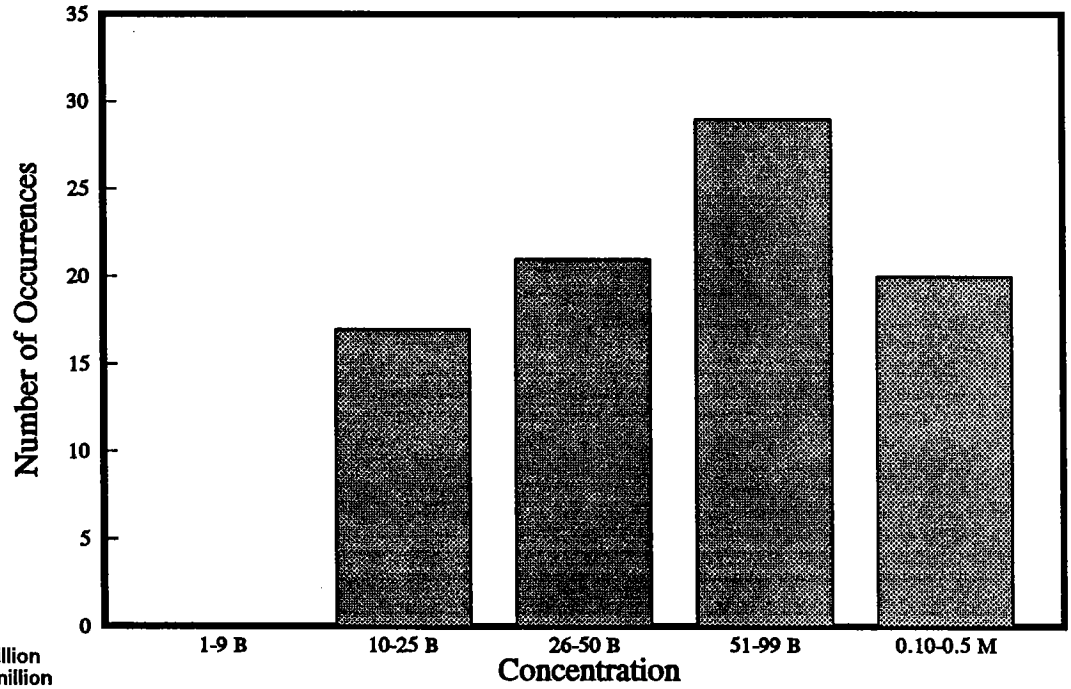
508 samples tested
196 detections (38.6%)
min 8 ppb - max 0.59 ppm

Celery/Permethrins



567 samples tested
87 detections (15.3%)
min 15 ppb - max 0.33 ppm

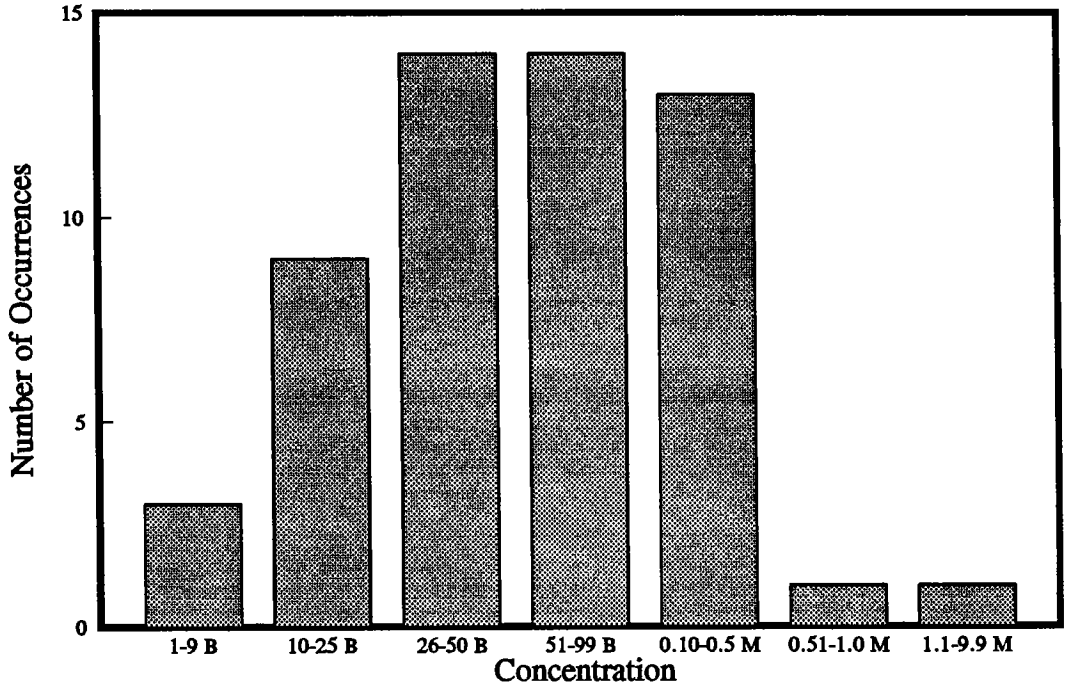
Grapefruit/Imazalil



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

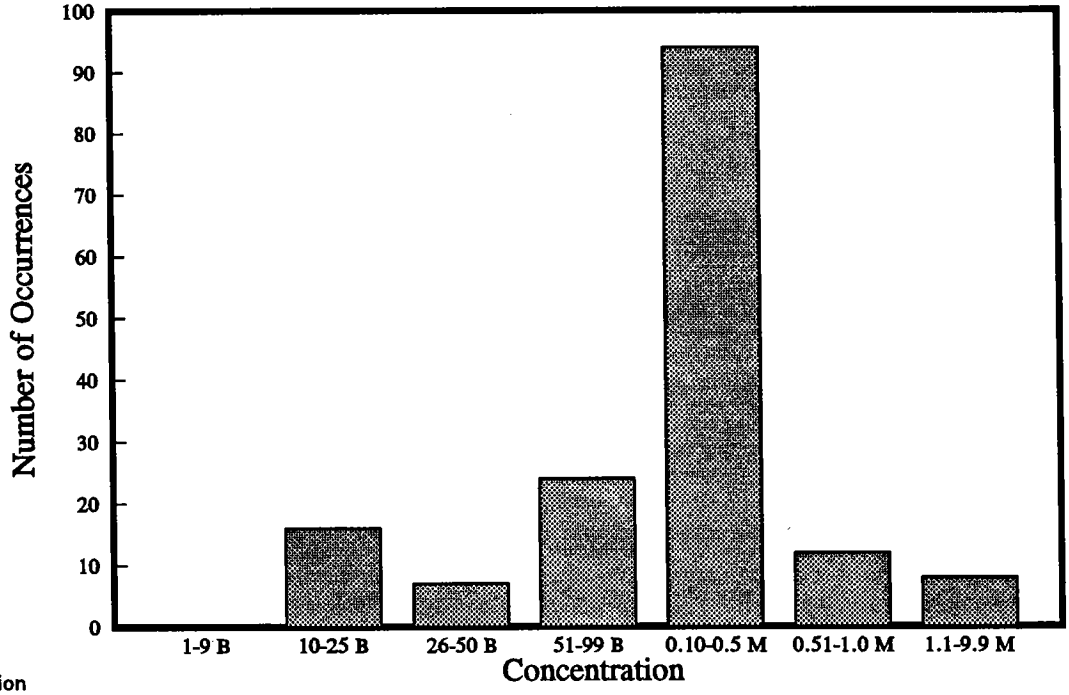
552 samples tested
55 detections (10.0%)
min 4 ppb - max 1.5 ppm

Grapes/Dimethoate



552 samples tested
161 detections (29.2%)
min 14 ppb - max 3.0 ppm

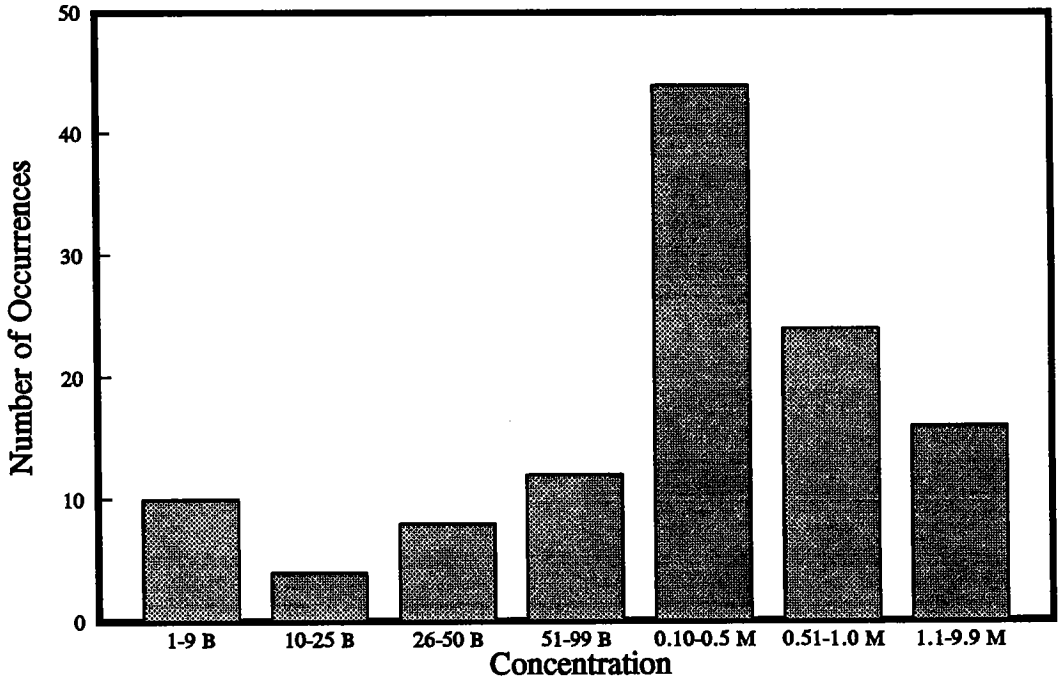
Grapes/Iprodione



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

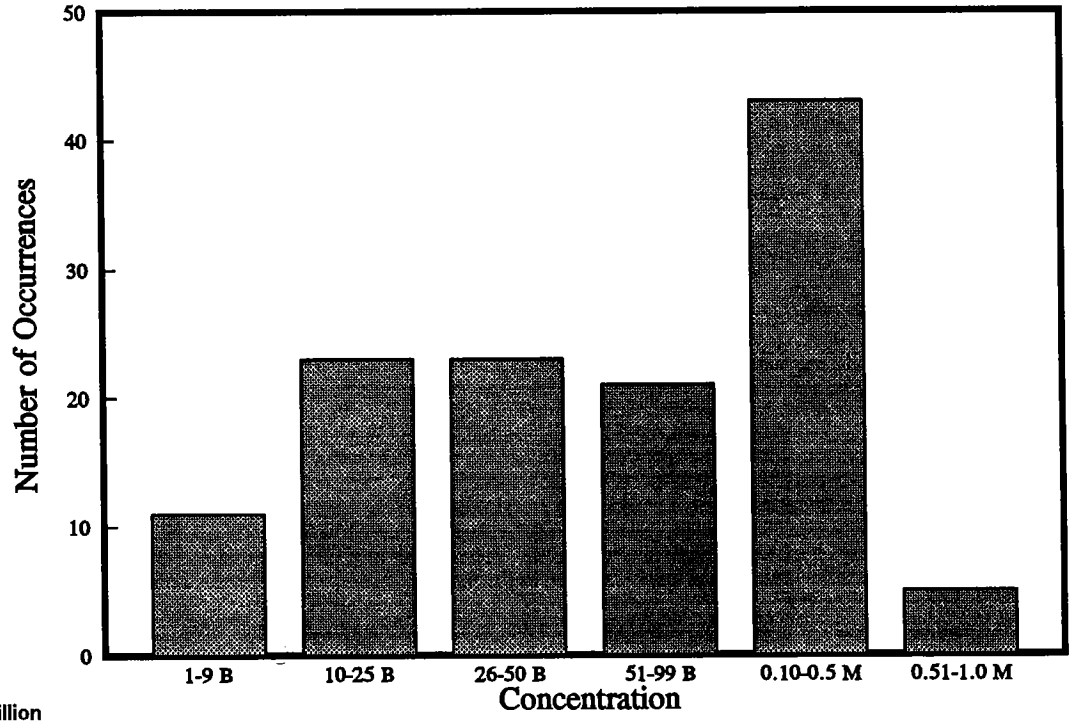
466 samples tested
118 detections (25.3%)
min 5 ppb - max 3.3 ppm

Green Beans/Acephate



466 samples tested
126 detections (27.0%)
min 3 ppb - max 1.0 ppm

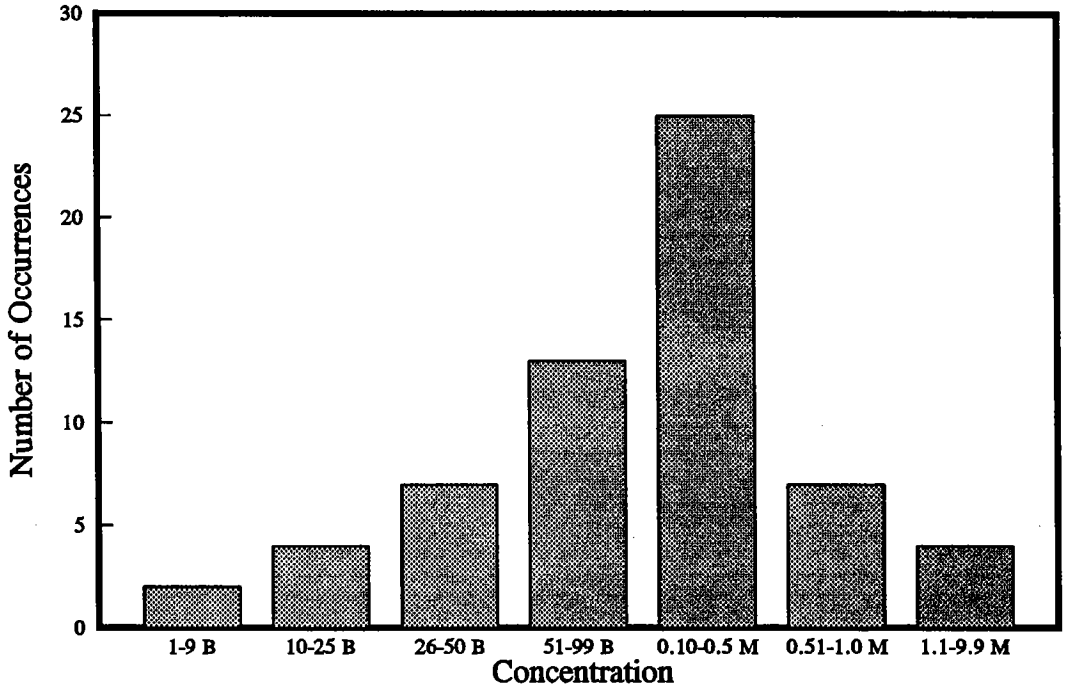
Green Beans/Endosulfans



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

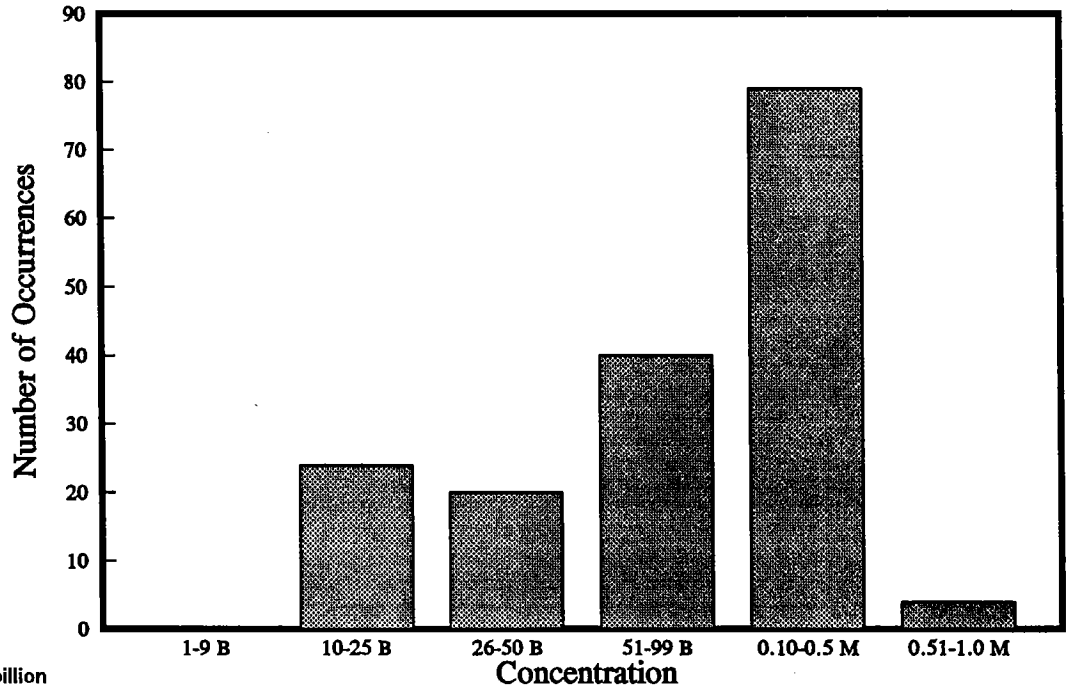
565 samples tested
62 detections (11.0%)
min 5 ppb - max 1.9 ppm

Lettuce/Permethrins



569 samples tested
167 detections (29.3%)
min 10 ppb - max 0.94 ppm

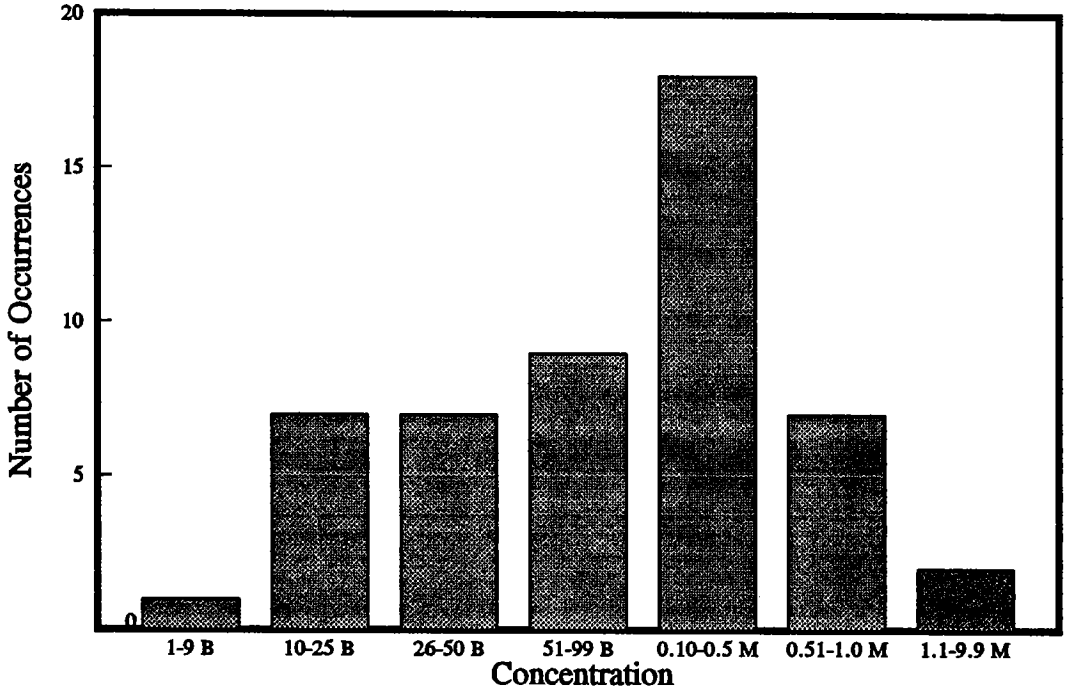
Oranges/Imazalil



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

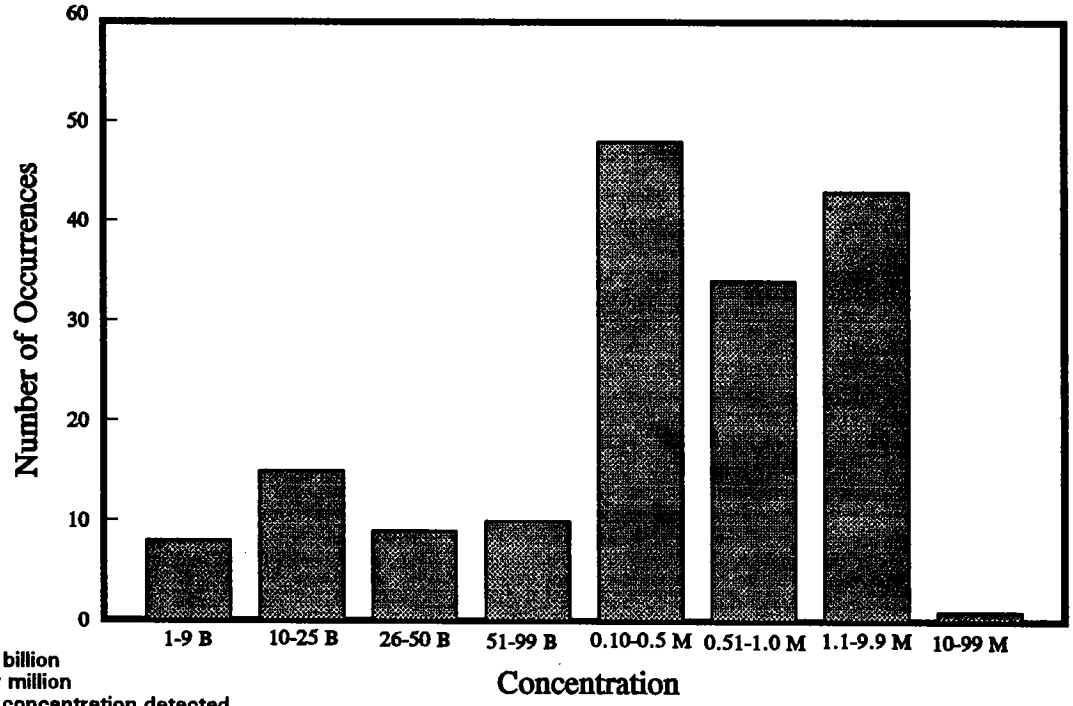
360 samples tested
51 detections (14.2%)
min 5 ppb - max 2.2 ppm

Peaches/Captan



360 samples tested
168 detections (46.7%)
min 5 ppb - max 0.23 ppm

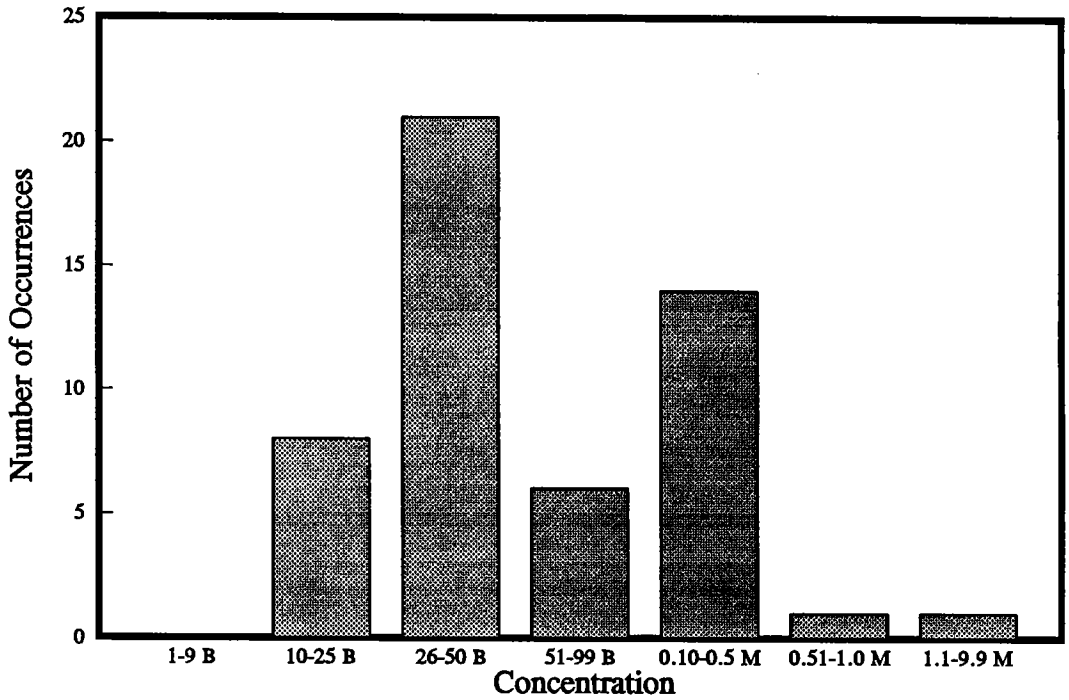
Peaches/Dicloran



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

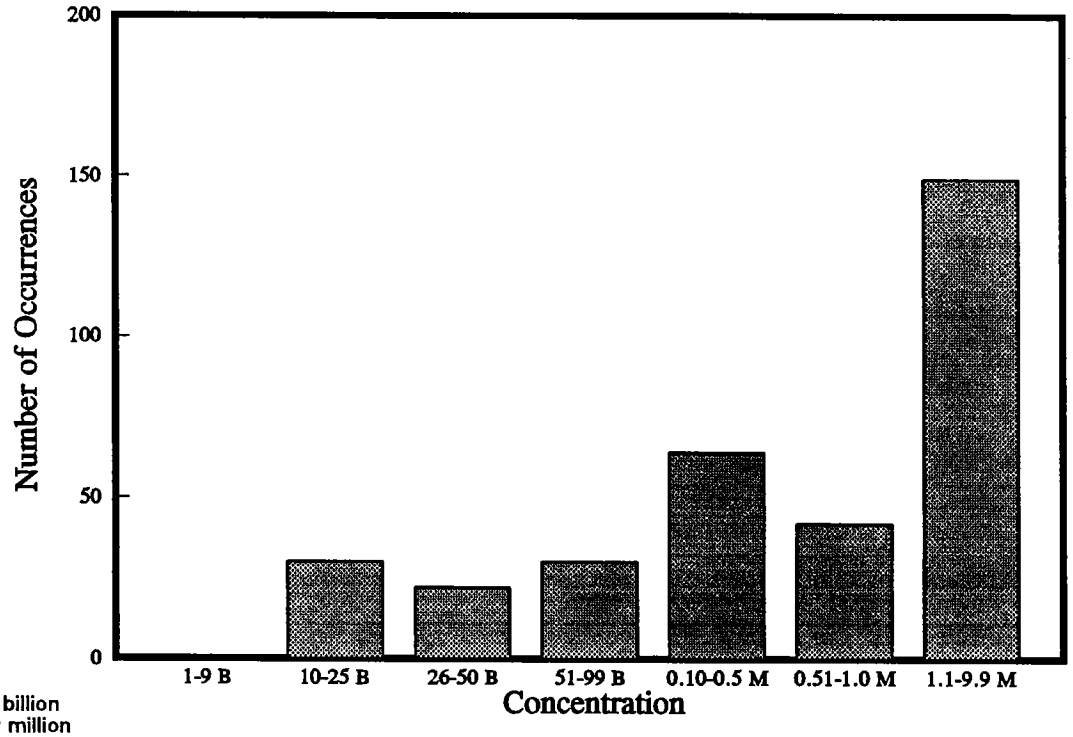
360 samples tested
51 detections (14.2%)
min 15 ppb - max 2.9 ppm

Peaches/Phosmet



568 samples tested
337 detections (59.3%)
min 13 ppb - max 9.6 ppm

Potatoes/Chlorpropham



ppb - parts per billion
ppm - parts per million
min - minimum concentration detected
max - maximum concentration detected

APPENDIX 1

SAMPLING REGIONS BY STATE

REGION	NUMBER OF SITES	PERCENT SITES	NUMBER OF SAMPLES	PERCENT SAMPLES
CALIFORNIA				
AVENAL	1	0.4	5	0.3
BAKERSFIELD	3	1.1	18	1.1
BYRON	1	0.4	0	0.0
CHICO	1	0.4	5	0.3
COLTON	1	0.4	3	0.2
DELANO	1	0.4	0	0.0
EAST BAY (OAKLAND)	31	10.9	293	18.7
FAIRFIELD	2	0.7	3	0.2
FRESNO	10	3.5	57	3.6
LAKE TAHOE	1	0.4	3	0.2
LOS ANGELES BASIN	119	41.9	632	40.3
MADERA	1	0.4	9	0.6
MERCED	1	0.4	11	0.7
MONTEREY BAY AREA	4	1.4	12	0.8
OXNARD AREA	2	0.7	0	0.0
REDDING	2	0.7	8	0.5
SACRAMENTO	28	9.9	92	5.9
SAN DIEGO AREA	11	3.9	23	1.5
SAN JOSE	1	0.4	13	0.8
SAN LUIS OBISPO AREA	2	0.7	6	0.4
STOCKTON AREA	6	2.1	20	1.3
UKIAH	1	0.4	2	0.1
VISALIA	1	0.4	4	0.3
WEST BAY (SAN FRAN)	52	18.3	347	22.1
YUBA CITY AREA	1	0.4	2	0.1
TOTAL:	**284**	**100.0**	**1568**	**100.0%**
FLORIDA				
GREEN COVE SPRINGS	1	4.2	38	4.4
JACKSONVILLE	5	20.8	226	26.0
LAKELAND	1	4.2	51	5.9
MIAMI	3	12.5	43	5.0
ORLANDO	2	8.3	91	10.5
PLANT CITY	2	8.3	45	5.2
POMPANO BEACH	5	20.8	181	20.9
TAMPA/ST. PETERSBURG	5	20.8	193	22.2
TOTAL:	**24**	**100.0**	**868**	**100.0%**
MICHIGAN				
ANN ARBOR AREA	4	8.3	59	7.5
BATTLE CREEK	1	2.1	20	2.5
BAY CITY AREA	1	2.1	17	2.2
BRIGHTON	1	2.1	25	3.2
CADILLAC	1	2.1	29	3.7
DECATUR	1	2.1	21	2.7
DETROIT AREA	18	37.5	275	34.9
FLINT	2	4.2	21	2.7
GRAND RAPIDS	7	14.6	130	16.5
KALAMAZOO	1	2.1	14	1.8
LANSING	6	12.5	98	12.4
NILES	1	2.1	25	3.2
SAGINAW	1	2.1	35	4.4
STANDISH	1	2.1	19	2.4
TRAVERSE CITY	2	4.2	0	0.0
TOTAL:	**48**	**100.0**	**788**	**100.0**

APPENDIX 1

SAMPLING REGIONS BY STATE

REGION	NUMBER OF SITES	PERCENT SITES	NUMBER OF SAMPLES	PERCENT SAMPLES
NEW YORK				
ALBANY	13	6.9	123	12.1
ALBION	1	0.5	0	0.0
BUFFALO	28	14.8	142	13.9
BYRON	1	0.5	0	0.0
CANASTOTA	3	1.6	3	0.3
CASTILE	1	0.5	0	0.0
CHITTENANGO	2	1.1	0	0.0
HORSEHEADS	1	0.5	12	1.2
ITHACA	1	0.5	13	1.3
JAMESTOWN	4	2.1	32	3.1
LOCKPORT/BATAVIA	1	0.5	1	0.1
LONG ISLAND	13	6.9	66	6.5
MARION	2	1.1	1	0.1
NEW YORK CITY	80	42.3	395	38.8
NORWICH	1	0.5	14	1.4
ONTARIO	1	0.5	0	0.0
OSWEGO	3	1.6	0	0.0
PLATTSBURG AREA	1	0.5	0	0.0
ROCHESTER	9	4.8	78	7.7
SCHOHARIE	1	0.5	1	0.1
SOUTHEAST NEW YORK	13	6.9	54	5.3
SYRACUSE	8	4.2	73	7.2
WILLSBORO	1	0.5	10	1.0
TOTAL:	**189**	**100.00**	**1018**	**100.0**
TEXAS				
AMARILLO	1	3.1	37	3.7
BRENHAM	1	3.1	42	4.3
DALLAS/FORT WORTH	8	25.0	289	29.3
EL PASO	1	3.1	44	4.5
HOUSTON	8	25.0	290	29.4
LUBBOCK	2	6.3	61	6.2
LUFKIN	3	9.4	37	3.7
SAN ANTONIO	7	21.9	153	15.5
TYLER	1	3.1	35	3.5
TOTAL:	**32**	**100.0**	**988**	**100.0**
WASHINGTON				
SEATTLE/TACOMA	14	77.8	414	79.6
SPOKANE	3	16.7	65	12.5
YAKIMA	1	5.6	41	7.9
TOTAL:	**18**	**100.0**	**520**	**100.0**
TOTAL:	**595**		**5750**	

APPENDIX 2

SAMPLE PROFILE BY ORIGIN (Domestic/Import)*

STATE	AP	BN	BR	CE	CR	GB	GF	GR	LT	OG	PC	PO	TOTAL
States = 37													
ALABAMA	0	0	0	0	0	0	0	0	0	0	0	1	1
ARIZONA	0	0	2	0	0	1	43	2	23	11	1	5	88
ARKANSAS	0	0	1	0	0	0	0	0	4	1	0	0	6
CALIFORNIA	49	0	129	378	86	142	247	279	485	442	145	94	2476
COLORADO	2	0	1	0	8	1	0	1	0	0	0	13	26
CONNECTICUT	1	0	0	0	0	0	0	0	0	0	0	0	1
DELAWARE	0	0	0	0	0	3	0	0	0	0	0	3	6
FLORIDA	1	0	0	65	4	184	238	2	20	95	5	25	639
GEORGIA	1	0	0	0	0	29	0	0	0	0	18	0	48
IDAHO	34	0	0	0	0	0	0	0	0	0	0	116	150
ILLINOIS	1	0	0	0	0	1	0	0	0	0	0	0	2
INDIANA	1	0	0	0	0	0	0	0	0	0	0	0	1
MAINE	0	0	0	0	0	0	0	0	0	0	0	15	15
MARYLAND	1	0	0	0	0	0	0	0	0	0	0	0	1
MASSACHUSETTS	6	0	0	0	0	0	0	0	0	0	0	0	6
MICHIGAN	32	0	0	22	29	22	1	0	2	1	6	36	151
MINNESOTA	1	0	0	0	0	0	0	1	1	3	0	8	14
MONTANA	0	0	0	0	0	0	0	0	0	0	0	2	2
NEVADA	0	0	0	0	0	0	0	0	0	0	0	5	5
NEW JERSEY	1	0	0	0	0	12	0	0	3	0	8	0	24
NEW MEXICO	0	0	0	0	0	0	0	0	4	0	0	1	5
NEW YORK	60	0	2	5	0	31	0	2	4	3	2	50	159
NORTH CAROLINA	2	0	0	0	0	8	1	0	0	0	1	0	12
NORTH DAKOTA	0	0	0	0	0	0	0	0	0	0	0	1	1
OHIO	0	0	0	0	0	6	0	0	0	0	0	0	6
OKLAHOMA	0	0	0	0	0	0	0	0	0	0	0	3	3
OREGON	5	0	1	0	0	0	0	0	0	0	0	51	57
PENNSYLVANIA	5	0	0	0	0	0	0	0	0	0	4	0	9
SOUTH CAROLINA	0	0	0	0	0	3	0	0	0	0	12	0	15
TENNESSEE	0	0	0	0	0	13	0	0	0	0	0	0	13
TEXAS	0	0	6	17	7	9	23	0	1	8	9	31	111
UTAH	7	0	0	0	0	0	0	0	0	0	0	1	8
VERMONT	5	0	0	0	0	0	0	0	0	0	0	0	5
VIRGINIA	0	0	0	0	0	3	0	1	0	0	0	0	4
WASHINGTON	372	0	8	11	10	12	10	5	16	2	8	83	537
WEST VIRGINIA	2	0	0	0	0	0	0	0	0	0	4	0	6
WISCONSIN	0	0	1	0	0	0	0	0	0	0	0	22	23
TOTAL	589	0	151	498	144	480	563	293	563	566	223	566	4636

APPENDIX 2

SAMPLE PROFILE BY ORIGIN (Domestic/Import)*

COUNTRY	AP	BN	BR	CE	CR	GB	GF	GR	LT	OG	PC	PO	TOTAL
Countries = 16													
ARGENTINA	2	0	0	0	0	0	0	0	0	0	0	0	2
AUSTRALIA	0	0	0	0	0	0	0	0	0	2	0	0	2
BAHAMAS	0	0	0	0	0	0	4	0	0	0	0	0	4
CANADA	7	0	0	5	8	0	0	0	2	0	1	1	24
CHILE	3	3	0	0	0	0	0	229	0	0	122	0	357
COLOMBIA	0	78	0	0	0	0	0	0	0	0	0	0	78
COSTA RICA	0	107	0	0	0	0	0	0	0	0	0	0	107
ECUADOR	0	185	0	0	0	0	0	0	0	0	0	0	185
GUATEMALA	0	51	0	2	0	0	0	0	0	0	0	0	53
HONDURAS	0	46	0	0	0	0	0	0	0	0	0	0	46
MEXICO	0	98	2	3	1	40	0	18	0	0	8	0	170
MOROCCO	0	0	0	0	0	0	0	0	0	1	0	0	1
NEW ZEALAND	16	0	0	0	0	0	0	0	0	0	2	0	18
PANAMA	0	6	0	0	0	0	0	0	0	0	0	0	6
SOUTH AFRICA	1	0	0	0	0	0	0	0	0	0	0	0	1
VENEZUELA	0	10	0	0	0	0	0	0	0	0	0	0	10
TOTAL	29	584	2	10	9	40	4	247	2	3	133	1	1064
Origin Not Available =	0	31#	0	0	0	2@	0	12#	0	0	4#	1#	50
GRAND TOTAL:	618	615	153	508	153	522	567	552	565	569	360	568	5750

* Sample origin is identified by grower or packing company. States indicated for various commodities may be packing company locations only and not sample origin.

Imported sample(s).

@ One domestic sample and one imported sample.

AP–APPLES
BN–BANANAS
BR–BROCCOLI
CE–CELERY
CR–CARROTS
GB–GREEN BEANS
GF–GRAPEFRUIT
GR–GRAPES
LT–LETTUCE
OG–ORANGES
PC–PEACHES
PO–POTATOES

APPENDIX 3

SAMPLING PERIOD AND DISTRIBUTION BY COMMODITY

COMMODITY	SAMPLING PERIOD	TOTAL # OF SAMPLES	IMPORT SAMPLES		DOMESTIC SAMPLES	
			NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
APPLES	January	52	1	1.9	51	98.1
	February	52	2	3.8	50	96.2
	March	52	1	1.9	51	98.1
	April	52	0	0.0	52	100.0
	May	51	5	9.8	46	90.2
	June	51	7	13.7	44	86.3
	July	52	6	11.5	46	88.5
	August	51	4	7.8	47	92.2
	September	50	1	2.0	49	98.0
	October	52	0	0.0	52	100.0
	November	52	0	0.0	52	100.0
	December	51	2	3.9	49	96.1
Total:		618	29	4.7	589	95.3
BANANAS	January	52	52	100.0	0	0.0
	February	52	52	100.0	0	0.0
	March	52	52	100.0	0	0.0
	April	52	52	100.0	0	0.0
	May	52	52	100.0	0	0.0
	June	51	51	100.0	0	0.0
	July	51	51	100.0	0	0.0
	August	51	51	100.0	0	0.0
	September	51	51	100.0	0	0.0
	October	51	51	100.0	0	0.0
	November	50	50	100.0	0	0.0
	December	50	50	100.0	0	0.0
Total:		615	615	100.0	0	0.0
BROCCOLI	October	52	1	1.9	51	98.1
	November	51	1	2.0	50	98.0
	December	50	1	2.0	49	98.0
Total:		153	3	2.0	150	98.0

APPENDIX 3

SAMPLING PERIOD AND DISTRIBUTION BY COMMODITY

COMMODITY	SAMPLING PERIOD	TOTAL # OF SAMPLES	IMPORT SAMPLES		DOMESTIC SAMPLES	
			NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
CARROTS	October	52	2	3.8	50	96.2
	November	51	5	9.8	46	90.2
	December	50	2	4.0	48	96.0
Total:		153	9	5.9	144	94.1
CELERY	February	52	0	0.0	52	100.0
	March	52	1	1.9	51	98.1
	April	52	2	3.8	50	96.2
	May	51	0	0.0	51	100.0
	June	52	0	0.0	52	100.0
	July	49	1	2.0	48	98.0
	September	51	4	7.8	47	92.2
	October	52	2	3.8	50	96.2
	November	47	0	0.0	47	100.0
	December	50	0	0.0	50	100.0
Total:		508	10	2.0	498	98.0
GRAPEFRUIT	January	52	2	3.8	50	96.2
	February	52	0	0.0	52	100.0
	March	51	1	2.0	50	98.0
	April	52	0	0.0	52	100.0
	May	52	0	0.0	52	100.0
	June	52	0	0.0	52	100.0
	July	52	0	0.0	52	100.0
	September	49	0	0.0	49	100.0
	October	52	0	0.0	52	100.0
	November	52	0	0.0	52	100.0
	December	51	1	2.0	50	98.0
Total:		567	4	0.7	563	99.3

APPENDIX 3

SAMPLING PERIOD AND DISTRIBUTION BY COMMODITY

COMMODITY	SAMPLING PERIOD	TOTAL # OF SAMPLES	IMPORT SAMPLES		DOMESTIC SAMPLES	
			NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
GRAPES	January	51	42	82.4	9	17.6
	February	52	50	96.2	2	3.8
	March	52	51	98.1	1	1.9
	April	52	52	100.0	0	0.0
	May	45	41	91.1	4	8.9
	June	45	17	37.8	28	62.2
	July	52	4	7.7	48	92.3
	September	52	0	0.0	52	100.0
	October	52	0	0.0	52	100.0
	November	49	0	0.0	49	100.0
	December	50	2	4.0	48	96.0
Total:		552	259	46.9	293	53.1
GREEN BEANS	February	37	9	24.3	28	75.7
	March	50	10	20.0	40	80.0
	April	50	4	8.0	46	92.0
	May	52	1	1.9	51	98.1
	June	50	0	0.0	50	100.0
	July	50	1	2.0	49	98.0
	August	45	0	0.0	45	100.0
	September	47	0	0.0	47	100.0
	October	48	1	2.1	47	97.9
	November	46	1	2.2	45	97.8
	December	47	14	29.8	33	70.2
Total:		522	41	7.9	481	92.1

APPENDIX 3

SAMPLING PERIOD AND DISTRIBUTION BY COMMODITY

COMMODITY	SAMPLING PERIOD	TOTAL # OF SAMPLES	IMPORT SAMPLES		DOMESTIC SAMPLES	
			NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
LETTUCE	January	51	0	0.0	51	100.0
	February	52	0	0.0	52	100.0
	March	52	0	0.0	52	100.0
	April	51	0	0.0	51	100.0
	May	52	0	0.0	52	100.0
	June	52	0	0.0	52	100.0
	July	49	2	4.1	47	95.9
	September	51	0	0.0	51	100.0
	October	52	0	0.0	52	100.0
	November	52	0	0.0	52	100.0
	December	51	0	0.0	51	100.0
Total:		565	2	0.4	563	99.6
ORANGES	January	52	0	0.0	52	100.0
	February	52	1	1.9	51	98.1
	March	52	0	0.0	52	100.0
	April	52	0	0.0	52	100.0
	May	52	0	0.0	52	100.0
	June	51	0	0.0	51	100.0
	July	51	0	0.0	51	100.0
	September	52	2	3.8	50	96.2
	October	52	0	0.0	52	100.0
	November	51	0	0.0	51	100.0
	December	52	0	0.0	52	100.0
Total:		569	3	0.5	566	99.5

APPENDIX 3

SAMPLING PERIOD AND DISTRIBUTION BY COMMODITY

COMMODITY	SAMPLING PERIOD	TOTAL # OF SAMPLES	IMPORT SAMPLES		DOMESTIC SAMPLES	
			NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
PEACHES	February	50	49	98.0	1	2.0
	March	46	46	100.0	0	0.0
	April	22	9	40.9	13	59.1
	May	39	1	2.6	38	97.4
	June	49	0	0.0	49	100.0
	July	48	1	2.1	47	97.9
	September	48	1	2.1	47	97.9
	October	24	0	0.0	24	100.0
	November	7	3	42.9	4	57.1
	December	27	27	100.0	0	0.0
Total:		360	137	38.1	223	61.9
POTATOES	January	51	0	0.0	51	100.0
	February	52	1	1.9	51	98.1
	March	51	0	0.0	51	100.0
	April	51	0	0.0	51	100.0
	May	52	0	0.0	52	100.0
	June	52	0	0.0	52	100.0
	July	52	1	1.9	51	98.1
	September	52	0	0.0	52	100.0
	October	52	0	0.0	52	100.0
	November	51	0	0.0	51	100.0
	December	52	0	0.0	52	100.0
Total:		568	2	0.4	566	99.6
	GRAND TOTAL:	5750*	1114	19.4	4636	80.6

* Total includes samples where state or country is unknown.

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

CALIFORNIA-GULFPORT, MS

PESTICIDE	California			Florida 1**			Florida 2**			Gulfport, MS APHIS Lab***		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
ACEPHATE	FPD	3	10	NPD	5	17	NPD	15	50	NA	NA	NA
ANILAZINE	—	—	—	—	—	—	—	—	—	NA	NA	NA
ATRAZINE	ELCD	20	50				NPD	15	50	NA	NA	NA
AZINPHOS-METHYL	FPD	20	50	NPD	30	100	NPD	17	57	NA	NA	NA
BENOMYL	This is a selective multiresidue method that is performed only at APHIS.									UV FLRD	50	100
BROMOXYNIL	—	—	—	—	—	—	—	—	—	ECD	2	5
CAPTAN	ELCD	20	50	ECD	6	20	—	—	—	NA	NA	NA
CARBARYL	FLRD	15	50	FLRD	20	66	—	—	—	NA	NA	NA
CHLORPYRIFOS	ELCD	8	25	ECD	3	10	NPD	6	20	NA	NA	NA
	FPD	3	10	—	—	—	—	—	—	NA	NA	NA
CHLOROTHALONIL	ELCD	20	50	NPD	20	66	ELCD	5	17	NA	NA	NA
CHLORPROPHAM	ELCD	10	25	NPD	20	66	ELCD	22	73	NA	NA	NA
CYPERMETHRIN	—	—	—	—	—	—	—	—	—	NA	NA	NA
2,4-D	—	—	—	—	—	—	—	—	—	ECD	6	20
DCPA (DACTHAL)	ELCD	10	25	ECD	4	13	ELCD	4	13	NA	NA	NA
DDD (TDE)	ELCD	10	25	ECD	3	10	ELCD	3	10	NA	NA	NA
DDE	ELCD	10	25	ECD	3	10	ELCD	3	10	NA	NA	NA

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

PESTICIDE	California			Florida 1**			Florida 2**			Gulfport, MS APHIS Lab***		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
DDT	ELCD	10	25	ECD	3	10	ELCD	5	17	NA	NA	NA
DIAZINON	FPD	3	10	NPD	4	13	NPD	6	20	NA	NA	NA
DICHLORVOS (DDVP)	FPD	3	10	---	---	---	---	---	---	NA	NA	NA
DICLORAN	ELCD	8	25	ECD	3	10	ELCD	8	27	NA	NA	NA
DICOFOL	ELCD	20	50	ECD	10	33	ELCD	9	30	NA	NA	NA
DIMETHOATE	FPD	3	10	NPD	11	36	NPD	6	20	NA	NA	NA
DIPHENYLAMINE	MSD	10	30	NPD	10	33	---	---	---	NA	NA	NA
DISULFOTON SULFONE	FPD	3	10	---	---	---	FPD	2	7	NA	NA	NA
2,4-D	ELCD	10	30	---	---	---	---	---	---	NA	NA	NA
ENDOSULFAN I	ELCD	3	10	ECD	3	10	ELCD	2	7	NA	NA	NA
ENDOSULFAN II	ELCD	3	10	ECD	3	10	ELCD	3	10	NA	NA	NA
ENDOSULFAN SULFATE	ELCD	3	10	ECD	3	10	ELCD	6	20	NA	NA	NA
ETHION	FPD	3	10	NPD	6	20	NPD	3	10	NA	NA	NA
ETHOPROP	---	---	---	---	---	---	---	---	---	NA	NA	NA
HCB	ELCD	3	10	ECD	3	10	ELCD	4	13	NA	NA	NA
IMAZALIL	MSD	10	30	---	---	---	NPD	7	23	NA	NA	NA
IPRODIONE	ELCD	20	50	ECD	40	130	ELCD	30	100	NA	NA	NA
LINDANE	ELCD	3	10	ECD	5	17	ELCD	3	10	NA	NA	NA

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

PESTICIDE	California			Florida 1**			Florida 2**			Gulfport, MS APHIS Lab***		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
MALATHION	—	—	—	—	—	—	—	—	—	NA	NA	NA
METHAMIDOPHOS	FPD	3	10	NPD	5	17	NPD	9	30	NA	NA	NA
METHIDATHION	FPD	3	10	—	—	—	NPD	1	3	NA	NA	NA
METHOXYCHLOR	ELCD	20	50	ECD	8	25	ELCD	30	100	NA	NA	NA
MEVINPHOS	FPD	3	10	—	—	—	—	—	—	NA	NA	NA
MYCLOBUTANIL	MSD	10	30	NPD	10	33	ELCD	36	120	NA	NA	NA
OMETHOATE	FPD	3	10	FPD	11	36	—	—	—	NA	NA	NA
PCB	ELCD	3	10	ECD	3	10	ELCD	6	20	NA	NA	NA
PCNB	ELCD	3	10	ECD	3	10	ELCD	4	13	NA	NA	NA
PARATHION-ETHYL	FPD	3	10	NPD	3	10	FPD	5	17	NA	NA	NA
PARATHION-METHYL	FPD	3	10	NPD	8	26	FPD	2	7	NA	NA	NA
PERMETHRIN CIS	ELCD	8	25	—	—	—	—	—	—	NA	NA	NA
PERMETHRIN TRANS	ELCD	8	25	—	—	—	—	—	—	NA	NA	NA
TOTAL PERMETHRIN	—	—	—	ECD	16	75	ELCD	120	400	NA	NA	NA
o-PHENYLPHENOL	MSD	10	30	—	—	—	—	—	—	NA	NA	NA
PHORATE SULFONE	—	—	—	—	—	—	—	—	—	NA	NA	NA
PHOSALONE	—	—	—	ECD	140	420	—	—	—	NA	NA	NA
PHOSMET METHYL	FPD	10	25	NPD	8	26	NPD	15	50	NA	NA	NA

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

PESTICIDE	California			Florida 1**			Florida 2**			Gulfport, MS APHIS Lab***		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
PROPARGITE	—	—	—	ECD	151	500	—	—	—	NA	NA	NA
THIABENDAZOLE	MSD	10	30	NPD	40	130	NPD	3	10	UV FLRD	50	100
TRIFLURALIN	ELCD	10	30	—	—	—	—	—	—	NA	NA	NA
VINCLOZOLIN	ELCD	10	25	ECD	4	13	ELCD	9	30	NA	NA	NA

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

MICHIGAN-WASHINGTON

PESTICIDE	Michigan			New York			Texas			Washington		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
ACEPHATE	FPD	5	18	FPD	4	12	FPD	5	16	NPD	49	160
ANILAZINE	---	---	---	---	---	---	---	---	---	ECD	3	9
ATRAZINE	ELCD	28	92	ELCD	20	60	NPD	49	160	NPD	14	48
AZINPHOS-METHYL	FPD	29	95	FPD	25	80	FPD	24	80	FPD	46	150
BENOMYL	This is a selective multiresidue method that is performed only at APHIS.											
BROMOXYNIL	---	---	---	ECD	2	5	---	---	---	---	---	---
CAPTAN	ELCD	16	54	ELCD	7	20	ECD	12	40	ECD	3	9
CARBARYL	---	---	---	FLRD	10	40	---	---	---	FLRD	36	120
CHLORPYRIFOS	ELCD	11	37	FPD	3	10	FPD	6	20	ECD	8	26
CHLOROTHALONIL	ELCD	30	100	ELCD	8	25	ECD	7	24	ECD	5	17
CHLORPROPHAM	ELCD	20	66	ELCD	15	40	ECD	60	200	ECD	35	120
CYPERMETHRIN	---	---	---	---	---	---	ECD	26	87	---	---	---
2,4-D	---	---	---	ECD	7	20	---	---	---	---	---	---
DCPA (DACTHAL)	ELCD	7	25	---	---	---	ECD	7	24	ECD	1	3
DDD (TDE)	---	---	---	---	---	---	---	---	---	---	---	---
DDE	ELCD	6	21	ELCD	3	8	ECD	7	24	ECD	1	4
DDT	---	---	---	ELCD	7	20	---	---	---	---	---	---
DIAZINON	FPD	5	18	FPD	4	12	FPD	4	12	FPD	16	55

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

PESTICIDE	Michigan			New York			Texas			Washington		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
DICHLORVOS (DDVP)	---	---	---	---	---	---	FPD	3	10	---	---	---
DICLORAN	ELCD	8	27	ELCD	7	20	ECD	5	16	ECD	3	10
DICOFOL	ELCD	15	50	ELCD	5	16	ECD	18	60	ECD	13	43
DIMETHOATE	FPD	6	19	FPD	3	8	FPD	6	20	FPD	14	46
DIPHENYLAMINE	NPD	9	24	NPD	8	25	---	---	---	NPD	140	480
DISULFOTON SULFONE	---	---	---	---	---	---	---	---	---	NPD	60	200
ENDOSULFAN I	ELCD	6	20	ELCD	2	6	ECD	7	24	ECD	1	4
ENDOSULFAN II	ELCD	6	19	ELCD	3	10	ECD	7	24	ECD	2	5
ENDOSULFAN SULFATE	ELCD	9	31	ELCD	7	20	ECD	7	24	ECD	20	60
ETHION	FPD	4	14	FPD	1	4	FPD	4	12	FPD	16	54
ETHOPROP	---	---	---	FPD	2	5	---	---	---	---	---	---
HCB	ELCD	4	12	ELCD	2	6	ECD	3	10	ECD	3	10
IMAZALIL	ELCD	15	50	ELCD	10	30	NPD	53	175	NPD	66	220
IPRODIONE	ELCD	60	200	ELCD	17	50	ECD	9	28	ECD	24	80
LINDANE	ELCD	4	14	ELCD	3	10	ECD	6	20	ECD	5	17
MALATHION	---	---	---	---	---	---	FPD	4	12	NPD	60	200
METHAMIDOPHOS	FPD	3	11	FPD	3	8	FPD	4	12	NPD	15	51
METHIDATHION	FPD	6	20	FPD	3	8	FPD	10	32	FPD	28	93
METHOXYCHLOR	ELCD	26	87	ELCD	7	20	ECD	9	30	ECD	22	72

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

PESTICIDE	Michigan			New York			Texas			Washington		
	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ	D	LOD	LOQ
MEVINPHOS	---	---	---	FPD	3	10	FPD	4	12	NPD	77	260
MYCLOBUTANIL	ELCD	46	150	ELCD	12	50	NPD	53	175	NPD	34	110
OMETHOATE	FPD	9	28	FPD	5	16	---	---	---	NPD	100	350
PCB	ELCD	4	14	ELCD	2	5	ECD	2	7	ECD	3	10
PCNB	ELCD	6	19	ELCD	3	10	ECD	4	13	ECD	3	10
PARATHION-ETHYL	FPD	5	16	FPD	2	6	FPD	6	20	FPD	17	58
PARATHION-METHYL	FPD	5	15	FPD	3	8	FPD	6	20	FPD	9	29
PERMETHRIN CIS	ELCD	30	100	ELCD	5	16	ECD	26	87	ECD	11	36
PERMETHRIN TRANS	ELCD	30	100	ELCD	5	16	ECD	26	87	ECD	12	39
o-PHENYLPHENOL	---	---	---	---	---	---	---	---	---	---	---	---
PHORATE SULFONE	---	---	---	FPD	3	10	---	---	---	---	---	---
PHOSALONE	---	---	---	FPD	7	20	---	---	---	---	---	---
PHOSMET METHYL	FPD	16	52	FPD	10	30	FPD	24	80	FPD	41	140
PROPARGITE	---	---	---	---	---	---	AED	87	290	---	---	---
THIABENDAZOLE	NPD	83	274	NPD	10	30	NPD	60	200	NPD	76	250
TRIFLURALIN	---	---	---	---	---	---	---	---	---	---	---	---
VINCLOZOLIN	ELCD	4	13	ELCD	5	16	ECD	15	48	ECD	2	5

APPENDIX 4 AVERAGE LODS AND LOQS REPORTED TO PDP TESTING FACILITIES FOR SAMPLES ANALYZED IN 1992* (Averaged Across all Matrices Under Routine Operating Conditions)

* All LODs (Levels of Detection) and LOQs (Levels of Quantitation) are in ppb (parts per billion).
Abbreviations used:

D	Detector used by the laboratory for analysis of the pesticide
NA	Not applicable, analysis not performed at that laboratory
---	Not available
AED	Atomic Emission Detector
ECD	Electron Capture Detector
ELCD	Electrolytic Conductivity Detector
FLRD	Fluorescence Detector
FPD	Flame Photometric Detector
MSD	Mass Spectrometry Detector
UV	Ultraviolet Detector

** Florida 1 is located in Tallahassee, Florida. The Tallahassee laboratory analyzed apples, bananas, celery, green beans, grapes, lettuce, peaches and potatoes. Florida 2 is located in Winter Haven, Florida. The Winter Haven laboratory analyzed broccoli, carrots, grapefruit, and oranges.

*** For the benomyl and thiabendazole detected at APHIS, the UV is the primary detector and the FLRD is the confirmation detector. Both of the detected concentrations must agree (within specified percentages) before results are reported out.

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
APPLES			
Azinphos-Methyl	567	178	31.4
Benomyl	406	49	12.1
Captan	567	45	7.9
Carbaryl	567	3	0.5
Chlorothalonil (V-1)	567	1	0.2
Chlorpropham (V-1)	567	1	0.2
Chlorpyrifos	567	100	17.6
DDE	567	1	0.2
Diazinon	567	14	2.5
Dicofol	567	9	1.6
Dimethoate	567	29	5.1
Diphenylamine	567	173	30.5
Endosulfans	567	75	13.2
Ethion	567	19	3.4
Iprodione (V-1)	567	1	0.2
Methoxychlor	567	3	0.5
Myclobutanil	567	1	0.2
O-Phenylphenol (CA only)	154	7	4.5
Omethoate	567	17	3.0
Parathion	567	11	1.9
Parathion-Methyl	567	46	8.1
Phosalone	567	2	0.4
Phosmet	567	17	3.0
Thiabendazole*	519	293	56.5
Vinclozolin (V-1)	567	1	0.2
	Total Residues Detected:	1096	

Total number of samples analyzed: 567 ** + 51 (benomyl/thiabendazole results only) = 618
Total number of samples with positive findings: 502
Percent of samples with residues detected: 88.5
Number of different pesticides detected: 25

BANANAS			
Benomyl	406	3	0.7
Ethoprop (NY only)	99	1	1.0
Imazalil (X-1)	564	23	4.1
Thiabendazole (X-4)*	518	194	37.5
	Total Residues Detected:	221	

Total number of samples analyzed: 564 ** + 51 (benomyl/thiabendazole results only) = 615
Total number of samples with positive findings: 209
Percent of samples with residues detected: 37.1
Number of different pesticides detected: 4

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
BROCCOLI			
Chlorothalonil	153	2	1.3
Chlorpyrifos	153	8	5.2
DCPA	153	36	23.5
DDE	153	1	0.7
Endosulfans	153	10	6.5
Methamidophos	153	4	2.6
Permethrins	153	2	1.3
	Total Residues Detected:	63	

Total number of samples analyzed: 153
Total number of samples with positive findings: 54
Percent of samples with residues detected: 35.3
Number of different pesticides detected: 7

CARROTS			
DDE	153	41	26.8
Diazinon	153	19	12.4
Dimethoate (V-1)	153	1	0.7
Endosulfans	153	4	2.6
Iprodione	153	44	28.8
Parathion	153	3	2.0
Parathion-Methyl	153	2	1.3
TDE	153	1	0.7
Thiabendazole	153	1	0.7
Trifluralin (CA only)	42	29	69.0
	Total Residues Detected:	145	

Total number of samples analyzed: 153
Total number of samples with positive findings: 88
Percent of samples with residues detected: 57.5
Number of different pesticides detected: 10

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
CELERY			
Acephate	508	136	26.8
Anilazine (WA & CA only)	46	10	21.7
Azinphos-Methyl	508	2	0.4
Chlorothalonil	508	164	32.3
Chlorpyrifos (V-2)	508	2	0.4
DCPA (V-11)	508	11	2.2
DDE	508	28	5.5
DDT	508	1	0.2
Diazinon	508	67	13.2
Dicloran	508	140	27.6
Dimethoate	508	2	0.4
Endosulfans	508	9	1.8
Iprodione (V-2)	508	13	2.6
Lindane	508	3	0.6
Methamidophos	508	58	11.4
Mevinphos	508	2	0.4
Omethoate	508	1	0.2
Parathion	508	3	0.6
Parathion-Methyl	508	3	0.6
Permethrins	508	196	38.6
Quintozene (V-3)	508	3	0.6
	Total Residues Detected:	854	

Total number of samples analyzed: 508
Total number of samples with positive findings: 409
Percent of samples with residues detected: 80.5
Number of different pesticides detected: 21

GRAPEFRUIT			
2,4-D	252	5	2.0
Chlorpyrifos	567	1	0.2
Diazinon	567	10	1.8
Dicofol	567	1	0.2
Ethion	567	15	2.6
Imazalil	567	87	15.3
O-Phenylphenol (CA only)	154	1	0.6
Phosmet	567	2	0.4
Thiabendazole*	389	210	54.0
	Total Residues Detected:	332	

Total number of samples analyzed: 567
Total number of samples with positive findings: 260
Percent of samples with residues detected: 45.9
Number of different pesticides detected: 9

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
GRAPES			
Azinphos-Methyl	552	4	0.7
Captan	552	154	27.9
Carbaryl	552	1	0.2
Chlorpyrifos (X-1)	552	24	4.3
Diazinon	552	11	2.0
Dicloran	552	35	6.3
Dicofol	552	23	4.2
Dimethoate (X-1)	552	55	10.0
Diphenylamine (V-1)	552	1	0.2
Endosulfans	552	22	4.0
Iprodione	552	161	29.2
Methamidophos (V-1)	552	1	0.2
Methoxychlor	552	3	0.5
Mevinphos	552	1	0.2
Myclobutanil	552	94	17.0
Omethoate	552	24	4.3
Parathion (X-1)	552	4	0.7
Parathion-Methyl	552	2	0.4
Phosmet	552	5	0.9
Thiabendazole*	388	1	0.3
Vinclozolin	552	130	23.6
	Total Residues Detected:	756	

Total number of samples analyzed: 552
Total number of samples with positive findings: 381
Percent of samples with residues detected: 69.0
Number of different pesticides detected: 21

GREEN BEANS			
Acephate (X-1)	466	118	25.3
Azinphos-Methyl	466	16	3.4
Benomyl	376	34	9.0
Captan	466	1	0.2
Carbaryl	466	2	0.4
Chlorothalonil	466	33	7.1
Chlorpyrifos	466	1	0.2
DCPA	466	24	5.2
DDE	466	10	2.1
Demeton (NY only)	89	1	1.1
Demeton-S (NY only)	89	2	2.2
Diazinon	466	4	0.9
Dicloran	466	5	1.1
Dimethoate	466	30	6.4
Endosulfans	466	126	27.0
Ethion	466	1	0.2
Iprodione	466	2	0.4
Methamidophos (V-18)	466	129	27.7
Omethoate	466	18	3.9
Parathion	466	2	0.4
Parathion-Methyl	466	2	0.4
Permethrins (V-3)	466	3	0.6
Quintozene	466	7	1.5
Vinclozolin	466	5	1.1
	Total Residues Detected:	576	

Total number of samples analyzed: 466 **, *** + 56 (benomyl/thiabendazole results only) = 522
Total number of samples with positive findings: 279
Percent of samples with residues detected: 59.9
Number of different pesticides detected: 24

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
LETTUCE			
Acephate	565	36	6.4
Chlorothalonil (V−1)	565	1	0.2
Chlorpyrifos (V−3)	565	3	0.5
Cypermethrin	565	2	0.4
DCPA	565	25	4.4
DDE	565	12	2.1
DDT	565	1	0.2
Diazinon	565	10	1.8
Dicloran	565	2	0.4
Dimethoate	565	44	7.8
Disulfoton Sulfone (CA only)	154	3	1.9
Endosulfans (X−1)	565	63	11.2
Iprodione	565	3	0.5
Methamidophos	565	15	2.7
Methoxychlor	565	5	0.9
Mevinphos	565	5	0.9
Omethoate	565	4	0.7
Parathion−Methyl	565	1	0.2
Permethrins	565	62	11.0
	Total Residues Detected:	297	

Total number of samples analyzed: 565
Total number of samples with positive findings: 201
Percent of samples with residues detected: 35.6
Number of different pesticides detected: 19

ORANGES			
2,4−D	215	2	0.9
Chlorpyrifos	569	18	3.2
Diazinon	569	3	0.5
Dicofol	569	2	0.4
Dimethoate	569	4	0.7
Ethion	569	14	2.5
Imazalil	569	167	29.3
Methidathion	569	16	2.8
O−Phenylphenol (CA only)	154	5	3.2
Omethoate	569	1	0.2
Thiabendazole*	392	250	63.8
	Total Residues Detected:	482	

Total number of samples analyzed: 569
Total number of samples with positive findings: 329
Percent of samples with residues detected: 57.8
Number of different pesticides detected: 11

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
PEACHES			
Acephate (V-2)	360	2	0.6
Azinphos-Methyl	360	45	12.5
Captan	360	51	14.2
Carbaryl	360	3	0.8
Chlorpyrifos	360	31	8.6
DDT	360	1	0.3
Diazinon	360	27	7.5
Dichlorvos (CA only)	110	1	0.9
Dicloran	360	168	46.7
Dimethoate (V-1)	360	1	0.3
Endosulfans	360	20	5.6
Iprodione	360	196	54.4
Methamidophos (V-2)	360	2	0.6
Methoxychlor	360	3	0.8
Mevinphos	360	3	0.8
Parathion	360	11	3.1
Parathion-Methyl	360	42	11.7
Permethrins	360	10	2.8
Phosmet	360	51	14.2
Propargite (FL only)	41	3	7.3
Thiabendazole (V-1)*	230	1	0.4
Vinclozolin	360	5	1.4
	Total Residues Detected:	677	

Total number of samples analyzed: 360
Total number of samples with positive findings: 307
Percent of samples with residues detected: 85.3
Number of different pesticides detected: 22

APPENDIX 5

DISTRIBUTION OF RESIDUES DETECTED BY COMMODITY

COMMODITY/PESTICIDE	NUMBER OF SAMPLES ANALYZED	NUMBER OF SAMPLES WITH RESIDUES DETECTED	PERCENT OF SAMPLES WITH RESIDUES DETECTED
POTATOES			
2,4-D	216	6	2.8
Azinphos-Methyl	568	1	0.2
Chlorpropham	568	337	59.3
DDE	568	56	9.9
DDT	568	8	1.4
Diazinon	568	1	0.2
Dicloran	568	5	0.9
Dimethoate	568	1	0.2
Endosulfans	568	45	7.9
Methamidophos	568	6	1.1
Methidathion	568	1	0.2
Methoxychlor	568	2	0.4
Pentachlorobenzene	465	5	1.1
Phorate Sulfone (NY only)	99	3	3.0
Quintozene	568	3	0.5
Thiabendazole*	363	50	13.8
	Total Residues Detected:	530	

Total number of samples analyzed: 568
Total number of samples with positive findings: 404
Percent of samples with residues detected: 71.1
Number of different pesticides detected: 16

GRAND TOTALS

NUMBER OF DIFFERENT PESTICIDES DETECTED	SAMPLES		
	NUMBER ANALYZED **, ***	NUMBER WITH RESIDUES DETECTED	PERCENT WITH RESIDUES DETECTED
49	5592	3423	61.2
NUMBER OF RESIDUES DETECTED	+ 158 (benomyl & thiabendazole results only) = 5750		
6029			

(V) Residue was found where no tolerance was established by EPA.

(X) Residue was found which exceeds EPA tolerance.

* Implementation of Thiabendazole analysis was delayed in California.

** Number shown as total excludes August samples for which only Benomyl analysis was performed.

*** Some samples were discarded due to poor condition upon arrival at one of the testing facilities.

APPENDIX 6 PESTICIDES DETECTED BY PDP AND THEIR CHEMICAL ACTIONS

PESTICIDE	CHEMICAL ACTIONS
2,4-D	Pre- and Post-Harvest Herbicide
Acephate	Insecticide, weak Cholinesterase Inhibitor (the metabolite is Methamidophos)
Anilazine	Fungicide, leaf action
Azinphos-Methyl	Insecticide, Cholinesterase Inhibitor
Benomyl	Pre- and Post-Harvest Fungicide
Captan	Protectant Pre- and Post-Harvest Fungicide
Carbaryl	Insecticide, weak Cholinesterase Inhibitor
Chlorothalonil	Fungicide, leaf action
Chloropropham	Herbicide/Growth Regulator Pre- and Post-Emergence
Chlorpyrifos	Insecticide, Cholinesterase Inhibitor
Cypermethrin	Insecticide (cis/trans isomers 1:1 curative action)
DDE	Degradation Product of DDT
DDT	Insecticide (All uses canceled, degrades to DDE and TDE)
Dacthal (DCPA)	Herbicide
Demeton	Systemic Insecticide/Acaricide Mixture of Demeton-O isomer and Demeton-S isomer
Demeton-S Sulfone	Metabolite of Demeton-S
Diazinon	Insecticide, Cholinesterase Inhibitor
Dichlorvos (DDVP)	Insecticide/Acaricide Post-Harvest Fumigant and Penetrant Action
Dicloran	Pre-Harvest Fungicide
Dicofol	Acaricide (the metabolite is dichlorobenzophenone)

APPENDIX 6 PESTICIDES DETECTED BY PDP AND THEIR CHEMICAL ACTIONS

PESTICIDE	CHEMICAL ACTIONS
Dimethoate	Insecticide/Acaricide Cholinesterase Inhibitor
Diphenylamine	Pre- and Post-Harvest Fungicide
Disulfoton Sulfone	Insecticide/Acaricide Cholinesterase Inhibitor (Oxidized to Sulfone in plants)
Endosulfans	Insecticide/Acaricide, contact action
Ethion	Insecticide/Acaricide, contact action Cholinesterase Inhibitor
Ethoprop	Nematocide/Insecticide (soil insecticide)
Imazalil	Post-Harvest Fungicide
Iprodione	Fungicide
Lindane	Herbicide, Gamma isomer of BHC
Malathion	Insecticide, Cholinesterase Inhibitor
Methamidophos	Insecticide/Acaricide Cholinesterase Inhibitor
Methidathion	Fungicide, contact action
Methoxychlor	Insecticide/Acaricide food storage control spray
Mevinphos	Insecticide/Acaricide Cholinesterase Inhibitor
Myclobutanil	Fungicide
Omethoate	Insecticide/Acaricide Cholinesterase Inhibitor
Parathion	Insecticide/Acaricide Cholinesterase Inhibitor
Parathion-Methyl	Insecticide/Acaricide Cholinesterase Inhibitor

APPENDIX 6 PESTICIDES DETECTED BY PDP AND THEIR CHEMICAL ACTIONS

PESTICIDE	CHEMICAL ACTIONS
Permethrins	Insecticide, repellent
o-Phenylphenol	Fungicide, Used for Post-Harvest Applications
Phorate Sulfone	Insecticide/Acaricide Cholinesterase Inhibitor
Phosalone	Insecticide/Acaricide Cholinesterase Inhibitor
Phosmet	Insecticide/Acaricide Cholinesterase Inhibitor
Propargite	Acaricide, residual killing action
Quintozene (PCNB)	Soil Fungicide, seed dressing agent
TDE	Degradation Product of DDT Also known as DDD
Thiabendazole	Pre- and Post-Harvest Fungicide
Trifluralin	Selective Pre-emergence Herbicide
Vinclozolin	Fungicide, contact action

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
A. EPA – TARGETED PESTICIDES						
2,4–D						
GRAPEFRUIT	FL, MI, TX	252	5	2.0	10B	10B
ORANGES	NY	215	2	0.9	10B	10B
POTATOES	CA, FL, MI, NY, TX	216	6	2.8	35B	70B
		Total # of samples with residues detected =				13
ACEPHATE						
CELERY	CA, FL, MI, NY, TX, WA	508	136	26.8	5B	1.7M
GREEN BEANS	CA, FL, MI, NY, TX, WA	466	118	25.3	5B	3.3M
LETTUCE	CA, FL, MI, NY, TX	565	36	6.4	6B	.77M
PEACHES	NY	360	2	0.6	6B	24B
		Total # of samples with residues detected =				292
BENOMYL						
APPLES	CA, FL, MI, NY, TX, WA	406	49	12.1	50B	.42M
BANANAS	CA, FL, MI	406	3	0.7	50B	.12M
GREEN BEANS	CA, FL, MI, NY, TX, WA	376	34	9.0	50B	.89M
		Total # of samples with residues detected =				86
CHLORPYRIFOS						
APPLES	CA, FL, MI, NY, TX, WA	567	100	17.6	4B	.64M
BROCCOLI	TX	153	8	5.2	10B	.14M
CELERY	FL, NY	508	2	0.4	5B	5B
GREEN BEANS	WA	466	1	0.2	13B	13B
GRAPEFRUIT	TX	567	1	0.2	10B	10B
GRAPES	CA, FL, MI, NY, TX, WA	552	24	4.3	5B	.77M
LETTUCE	NY, TX	565	3	0.5	10B	91B
ORANGES	CA, MI, NY, TX, WA	569	18	3.2	5B	13B
PEACHES	CA, FL, MI, NY, TX, WA	360	31	8.6	4B	66B
		Total # of samples with residues detected =				188
DICLORAN						
CELERY	CA, FL, MI, NY, TX, WA	508	140	27.6	5B	4.1M
GREEN BEANS	CA, FL, TX, WA	466	5	1.1	5B	.55M
GRAPES	CA, FL, MI, NY, TX, WA	552	35	6.3	8B	1.1M
LETTUCE	CA, WA	565	2	0.4	5B	53B
PEACHES	CA, FL, MI, NY, TX, WA	360	168	46.7	5B	.23M
POTATOES	CA, FL, MI, NY, WA	568	5	0.9	5B	.20M
		Total # of samples with residues detected =				355
DICOFOL						
APPLES	FL, MI, NY, TX	567	9	1.6	11B	.19M
GRAPEFRUIT	NY	567	1	0.2	30B	30B
GRAPES	CA, FL, MI, NY, TX, WA	552	23	4.2	8B	4.0M
ORANGES	NY, TX	569	2	0.4	30B	36B
		Total # of samples with residues detected =				35

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
A. EPA – TARGETED PESTICIDES						
IPRODIONE						
APPLES	NY	567	1	0.2	25B	25B
CELERY	CA, NY, TX, WA	508	13	2.6	25B	.29M
CARROTS	CA, FL, MI, NY, TX, WA	153	44	28.8	25B	.35M
GREEN BEANS	NY, TX	466	2	0.4	25B	.88M
GRAPES	CA, FL, MI, NY, TX, WA	552	161	29.2	14B	3.0M
LETTUCE	CA, NY, WA	565	3	0.5	25B	1.2M
PEACHES	CA, FL, MI, NY, TX, WA	360	196	54.4	14B	16M
		Total # of samples with residues detected =				420
LINDANE						
CELERY	CA, NY, WA	508	3	0.6	10B	.34M
		Total # of samples with residues detected =				3
METHAMIDOPHOS						
BROCCOLI	TX	153	4	2.6	20B	.10M
CELERY	CA, FL, MI, NY, TX, WA	508	58	11.4	4B	.27M
GREEN BEANS	CA, FL, MI, NY, TX, WA	466	129	27.7	4B	1.8M
GRAPES	NY	552	1	0.2	8B	8B
LETTUCE	CA, MI, NY, TX	565	15	2.7	4B	45B
PEACHES	NY	360	2	0.6	4B	4B
POTATOES	CA, TX	568	6	1.1	5B	13B
		Total # of samples with residues detected =				215
METHOXYCHLOR						
APPLES	CA, FL, NY	567	3	0.5	49B	.58M
GRAPES	CA, TX	552	3	0.5	25B	4.0M
LETTUCE	CA	565	5	0.9	25B	58B
PEACHES	CA	360	3	0.8	22B	25B
POTATOES	CA	568	2	0.4	25B	25B
		Total # of samples with residues detected =				16
PENTACHLOROBENZENE						
POTATOES	CA, WA	465	5	1.1	5B	14B
		Total # of samples with residues detected =				5
PERMETHRINS						
BROCCOLI	NY	153	2	1.3	8B	47B
CELERY	CA, FL, MI, NY, TX, WA	508	196	38.6	8B	.59M
GREEN BEANS	CA, MI	466	3	0.6	23B	.85M
LETTUCE	CA, FL, MI, NY, TX, WA	565	62	11.0	5B	1.9M
PEACHES	CA, FL, MI, NY	360	10	2.8	8B	.24M
		Total # of samples with residues detected =				273
QUINTOZENE						
CELERY	TX, WA	508	3	0.6	5B	14B
GREEN BEANS	CA, FL, MI, TX, WA	466	7	1.5	5B	8B
POTATOES	CA, FL	568	3	0.5	5B	19B
		Total # of samples with residues detected =				13

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
B. ADDITIONAL EPA – TARGETED PESTICIDES						
AZINPHOS-METHYL						
APPLES	CA, FL, MI, NY, TX, WA	567	178	31.4	9B	.62M
CELERY	MI	508	2	0.4	48B	.11M
GREEN BEANS	FL, MI, NY, TX	466	16	3.4	40B	.38M
GRAPES	NY, TX	552	4	0.7	40B	.57M
PEACHES	CA, MI, NY, TX	360	45	12.5	4B	.74M
POTATOES	TX	568	1	0.2	40B	40B
		Total # of samples with residues detected =				246
CHLOROTHALONIL						
APPLES	FL	567	1	0.2	23B	23B
BROCCOLI	TX	153	2	1.3	12B	37B
CELERY	CA, FL, MI, NY, TX, WA	508	164	32.3	2B	5.9M
GREEN BEANS	CA, FL, NY, TX, WA	466	33	7.1	5B	1.6M
LETTUCE	FL	565	1	0.2	.23M	.23M
		Total # of samples with residues detected =				201
DIAZINON						
APPLES	CA, NY, TX	567	14	2.5	5B	73B
CELERY	CA, FL, MI, NY, TX, WA	508	67	13.2	5B	.27M
CARROTS	CA, FL, MI, NY, WA	153	19	12.4	5B	27B
GREEN BEANS	TX, WA	466	4	0.9	6B	99B
GRAPEFRUIT	TX	567	10	1.8	3B	28B
GRAPES	NY, TX	552	11	2.0	6B	14B
LETTUCE	CA, MI, TX	565	10	1.8	5B	63B
ORANGES	TX	569	3	0.5	6B	6B
PEACHES	CA, FL, MI, NY, TX	360	27	7.5	5B	.40M
POTATOES	CA	568	1	0.2	11B	11B
		Total # of samples with residues detected =				166
DICHLORVOS						
PEACHES	CA	110	1	0.9	59B	59B
		Total # of samples with residues detected =				1
DISULFOTON SULFONE						
LETTUCE	CA	154	3	1.9	42B	.16M
		Total # of samples with residues detected =				3
ENDOSULFANS						
APPLES	CA, FL, MI, NY, TX, WA	567	75	13.2	3B	.28M
BROCCOLI	CA, NY, TX, WA	153	10	6.5	2B	.12M
CELERY	MI, NY, TX, WA	508	9	1.8	4B	1.0M
CARROTS	MI, WA	153	4	2.6	2B	43B
GREEN BEANS	CA, FL, MI, NY, TX, WA	466	126	27.0	3B	1.0M
GRAPES	CA, FL, MI, NY, TX	552	22	4.0	3B	.11M
LETTUCE	CA, FL, MI, NY, TX, WA	565	63	11.2	2B	4.2M
PEACHES	CA, FL, MI, NY, TX, WA	360	20	5.6	3B	97B
POTATOES	CA, FL, MI, NY, TX, WA	568	45	7.9	4B	.97M
		Total # of samples with residues detected =				374

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
B. ADDITIONAL EPA – TARGETED PESTICIDES						
ETHION						
APPLES	CA, FL, MI, NY, TX, WA	567	19	3.4	6B	1.7M
GREEN BEANS	MI	466	1	0.2	5B	5B
GRAPEFRUIT	CA, FL, MI, NY, TX	567	15	2.6	2B	27B
ORANGES	FL, MI, NY, TX	569	14	2.5	4B	25B
		Total # of samples with residues detected =				49
METHIDATHION						
ORANGES	CA, MI, NY, TX	569	16	2.8	4B	43B
POTATOES	TX	568	1	0.2	16B	16B
		Total # of samples with residues detected =				17
MEVINPHOS						
CELERY	CA	508	2	0.4	5B	20B
GRAPES	NY	552	1	0.2	15B	15B
LETTUCE	CA, WA	565	5	0.9	5B	.13M
PEACHES	NY	360	3	0.8	.10M	.18M
		Total # of samples with residues detected =				11
PARATHION–METHYL						
APPLES	CA, MI, NY, TX	567	46	8.1	1B	81B
CELERY	FL, MI	508	3	0.6	31B	62B
CARROTS	MI	153	2	1.3	8B	8B
GREEN BEANS	MI, NY	466	2	0.4	8B	.16M
GRAPES	CA, NY	552	2	0.4	15B	32B
LETTUCE	WA	565	1	0.2	.21M	.21M
PEACHES	CA, FL, MI, NY, TX	360	42	11.7	4B	.12M
		Total # of samples with residues detected =				98

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
C. OTHER PESTICIDES						
ANILAZINE						
CELERY	CA, WA	46	10	21.7	.83M	2.2M
		Total # of samples with residues detected =				10
CAPTAN						
APPLES	CA, FL, MI, NY, TX, WA	567	45	7.9	10B	19M
GREEN BEANS	CA	466	1	0.2	25B	25B
GRAPES	CA, FL, MI, NY, TX, WA	552	154	27.9	5B	3.4M
PEACHES	CA, FL, MI, NY, TX, WA	360	51	14.2	5B	2.2M
		Total # of samples with residues detected =				251
CARBARYL						
APPLES	FL, WA	567	3	0.5	80B	.27M
GREEN BEANS	NY	466	2	0.4	.29M	.69M
GRAPES	CA	552	1	0.2	.13M	.13M
PEACHES	FL, NY	360	3	0.8	33B	2.3M
		Total # of samples with residues detected =				9
CHLORPROPHAM						
APPLES	NY	567	1	0.2	28B	28B
POTATOES	CA, FL, MI, NY, TX, WA	568	337	59.3	13B	9.6M
		Total # of samples with residues detected =				338
CYPERMETHRIN						
LETTUCE	MI, TX	565	2	0.4	.18M	.34M
		Total # of samples with residues detected =				2
DCPA						
BROCCOLI	CA, FL, MI, TX, WA	153	36	23.5	2B	34B
CELERY	CA, FL, TX, WA	508	11	2.2	5B	41B
GREEN BEANS	CA, FL, TX, WA	466	24	5.2	2B	.13M
LETTUCE	CA, MI, TX, WA	565	25	4.4	2B	.12M
		Total # of samples with residues detected =				96
DDE * (Degradation product of DDT)						
APPLES	FL	567	1	0.2	21B	21B
BROCCOLI	FL	153	1	0.7	4B	4B
CELERY	CA, FL, MI, NY, TX	508	28	5.5	4B	31B
CARROTS	CA, FL, MI, NY, TX, WA	153	41	26.8	2B	.13M
GREEN BEANS	CA, TX, WA	466	10	2.1	2B	13B
LETTUCE	CA, MI, NY, WA	565	12	2.1	2B	17B
POTATOES	CA, FL, MI, NY, TX, WA	568	56	9.9	2B	53B
		Total # of samples with residues detected =				149

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
C. OTHER PESTICIDES						
DDT						
CELERY	NY	508	1	0.2	10B	10B
LETTUCE	NY	565	1	0.2	27B	27B
PEACHES	NY	360	1	0.3	10B	10B
POTATOES	CA, NY	568	8	1.4	5B	38B
		Total # of samples with residues detected =				11
DEMETON						
GREEN BEANS	NY	89	1	1.1	87B	87B
		Total # of samples with residues detected =				1
DEMETON–SULFONE						
GREEN BEANS	NY	89	2	2.2	11B	13B
		Total # of samples with residues detected =				2
DIMETHOATE						
APPLES	CA, FL, MI, NY, TX	567	29	5.1	10B	.27M
CELERY	NY, TX	508	2	0.4	14B	44B
CARROTS	TX	153	1	0.7	10B	10B
GREEN BEANS	CA, FL, MI, NY, TX	466	30	6.4	5B	1.2M
GRAPES	CA, FL, MI, NY, TX, WA	552	55	10.0	4B	1.5M
LETTUCE	CA, MI, NY, TX	565	44	7.8	4B	.21M
ORANGES	FL, MI, NY, TX	569	4	0.7	10B	18B
PEACHES	MI	360	1	0.3	10B	10B
POTATOES	TX	568	1	0.2	10B	10B
		Total # of samples with residues detected =				167
DIPHENYLAMINE						
APPLES	CA, FL, MI, NY, WA	567	173	30.5	13B	3.7M
GRAPES	CA	552	1	0.2	15B	15B
		Total # of samples with residues detected =				174
ETHOPROP						
BANANAS	NY	99	1	1.0	3B	3B
		Total # of samples with residues detected =				1
IMAZALIL						
BANANAS	CA, MI, NY, TX	564	23	4.1	15B	.24M
GRAPEFRUIT	CA, FL, MI, NY, TX	567	87	15.3	15B	.33M
ORANGES	CA, FL, MI, NY, TX, WA	569	167	29.3	10B	.94M
		Total # of samples with residues detected =				277

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
C. OTHER PESTICIDES						
MYCLOBUTANIL						
APPLES	NY	567	1	0.2	25B	25B
GRAPES	CA, FL, MI, NY, TX, WA	552	94	17.0	12B	.53M
		Total # of samples with residues detected =				95
O–PHENYLPHENOL						
APPLES	CA	154	7	4.5	15B	.12M
GRAPEFRUIT	CA	154	1	0.6	15B	15B
ORANGES	CA	154	5	3.2	15B	58B
		Total # of samples with residues detected =				13
OMETHOATE						
APPLES	FL, MI, NY	567	17	3.0	8B	.38M
CELERY	NY	508	1	0.2	22B	22B
GREEN BEANS	FL, MI, NY	466	18	3.9	8B	.49M
GRAPES	FL, MI, NY	552	24	4.3	8B	.52M
LETTUCE	CA, MI, NY	565	4	0.7	16B	88B
ORANGES	NY	569	1	0.2	75B	75B
		Total # of samples with residues detected =				65
PARATHION						
APPLES	CA, NY	567	11	1.9	5B	75B
CELERY	NY	508	3	0.6	3B	68B
CARROTS	NY	153	3	2.0	3B	12B
GREEN BEANS	NY, TX	466	2	0.4	36B	.11M
GRAPES	CA, FL, MI, NY	552	4	0.7	27B	2.7M
PEACHES	FL, MI, NY	360	11	3.1	6B	.10M
		Total # of samples with residues detected =				34
PHORATE SULFONE						
POTATOES	NY	99	3	3.0	13B	.12M
		Total # of samples with residues detected =				3
PHOSALONE						
APPLES	FL, NY	567	2	0.4	.43M	.54M
		Total # of samples with residues detected =				2
PHOSMET						
APPLES	CA, MI, NY, TX	567	17	3.0	11B	.26M
GRAPEFRUIT	TX	567	2	0.4	40B	40B
GRAPES	CA, MI, NY, TX	552	5	0.9	58B	.25M
PEACHES	CA, FL, MI, NY, TX, WA	360	51	14.2	15B	2.9M
		Total # of samples with residues detected =				75

APPENDIX 7

DISTRIBUTION OF RESIDUES DETECTED BY PESTICIDE

COMMODITIES	STATES WHERE SAMPLES WERE COLLECTED	SUMMARY OF RESULTS				
		NUMBER OF SAMPLES	SAMPLES WITH RESIDUES DETECTED			
			NUMBER	%	Minimum Value	Maximum Value
C. OTHER PESTICIDES						
PROPARGITE						
PEACHES	FL	41	3	7.3	.74M	1.3M
Total # of samples with residues detected =						3
TDE * (Degradation product of DDT)						
CARROTS	FL	153	1	0.7	2B	2B
Total # of samples with residues detected =						1
THIABENDAZOLE						
APPLES	CA, FL, MI, NY, TX, WA	519	293	56.5	15B	4.8M
BANANAS	CA, FL, MI, NY, TX, WA	518	194	37.5	10B	1.5M
CARROTS	MI	153	1	0.7	12B	12B
GRAPEFRUIT	CA, FL, MI, NY, TX, WA	389	210	54.0	10B	1.6M
GRAPES	FL	388	1	0.3	.22M	.22M
ORANGES	CA, FL, MI, NY, TX, WA	392	250	63.8	6B	1.6M
PEACHES	MI	230	1	0.4	95B	95B
POTATOES	CA, FL, MI, NY, TX, WA	363	50	13.8	4B	2.7M
Total # of samples with residues detected =						1000
TRIFLURALIN						
CARROTS	CA	42	29	69.0	25B	.12M
Total # of samples with residues detected =						29
VINCLOZOLIN						
APPLES	NY	567	1	0.2	30B	30B
GREEN BEANS	NY	466	5	1.1	29B	.25M
GRAPES	CA, FL, MI, NY, TX, WA	552	130	23.6	3B	2.3M
PEACHES	FL, MI, NY	360	5	1.4	18B	.41M
Total # of samples with residues detected =						141
TOTAL NUMBER OF DIFFERENT RESIDUES DETECTED:		49				
TOTAL NUMBER OF SAMPLES ANALYZED:		5750				

APPENDIX 8

MULTIPLE PESTICIDE RESIDUES DETECTED

APPLES

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
8	1	0.2	CAPTAN (1), AZINPHOS-METHYL (1), ENDOSULFANS (1) **AP
7	2	0.4	AZINPHOS-METHYL (2), DIPHENYLAMINE (2), THIABENDAZOLE (2)
6	2	0.4	PARATHION-METHYL (2), THIABENDAZOLE (2), CHLORPYRIFOS (2)
5	20	3.5	AZINPHOS-METHYL (16), THIABENDAZOLE (13), DIPHENYLAMINE (12)
4	43	7.6	THIABENDAZOLE (34), DIPHENYLAMINE (25), AZINPHOS-METHYL (24)
3	93	16.4	THIABENDAZOLE (63), DIPHENYLAMINE (46), AZINPHOS-METHYL (44)
2	161	28.4	THIABENDAZOLE (98), DIPHENYLAMINE (63), AZINPHOS-METHYL (53)
1	184	32.5	THIABENDAZOLE (78), AZINPHOS-METHYL (37), DIPHENYLAMINE (23)
0	112	19.8	
TOTAL # OF SAMPLES:	567 + 51 (BENOMYL/THIABENDAZOLE RESULTS ONLY)=618		
TOTAL # OF RESIDUES DETECTED	1096		

BANANAS

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
2	10	1.8	THIABENDAZOLE (10), IMAZALIL (8), ETHOPROP (1)
1	201	35.6	THIABENDAZOLE (184), IMAZALIL (15), BENOMYL (2)
0	404	71.6	
TOTAL # OF SAMPLES:	564 + 51 (BENOMYL/THIABENDAZOLE RESULTS ONLY)=615		
TOTAL # OF RESIDUES DETECTED	221		

BROCCOLI

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
3	1	0.7	ENDOSULFANS (1), CHLORPYRIFOS (1), CHLOROTHALONIL (1)
2	7	4.6	ENDOSULFANS (5), DCPA (3), CHLORPYRIFOS (3)
1	46	30.1	DCPA (33), ENDOSULFANS (4), CHLORPYRIFOS (4)
0	99	64.7	
TOTAL # OF SAMPLES:	153		
TOTAL # OF RESIDUES DETECTED	63		

APPENDIX 8

MULTIPLE PESTICIDE RESIDUES DETECTED

CARROTS

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
4	2	1.3	DIAZINON (2), TRIFLURALIN (2), DDE (2)
3	14	9.2	IPRODIONE (13), TRIFLURALIN (10), DDE (9)
2	26	17.0	IPRODIONE (19), DDE (14), TRIFLURALIN (12)
1	46	30.1	DDE (16), IPRODIONE (10), DIAZINON (8)
0	65	42.5	
TOTAL # OF SAMPLES:	153		
TOTAL # OF RESIDUES DETECTED		145	

CELERY

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
6	2	0.4	DIAZINON (2), DICLORAN (2), CHLOROTHALONIL (2)
5	14	2.8	ACEPHATE (13), PERMETHRINS (11), DICLORAN (10)
4	32	6.3	ACEPHATE (26), PERMETHRINS (25), DICLORAN (21)
3	78	15.4	ACEPHATE (48), PERMETHRINS (46), DICLORAN (37)
2	127	25.0	PERMETHRINS (71), CHLOROTHALONIL (63), DICLORAN (33)
1	156	30.7	PERMETHRINS (41), DICLORAN (37), CHLOROTHALONIL (35)
0	99	19.5	
TOTAL # OF SAMPLES:	508		
TOTAL # OF RESIDUES DETECTED		854	

GRAPEFRUIT

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
3	4	0.7	THIABENDAZOLE (4), IMAZALIL (4), 2,4-D (1)
2	63	11.1	THIABENDAZOLE (57), IMAZALIL (52), ETHION (9)
1	193	34.0	THIABENDAZOLE (149), IMAZALIL (31), DIAZINON (7)
0	307	54.1	
TOTAL # OF SAMPLES:	567		
TOTAL # OF RESIDUES DETECTED		332	

APPENDIX 8

MULTIPLE PESTICIDE RESIDUES DETECTED

GRAPES

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
6	1	0.2	CAPTAN (1), CHLORPYRIFOS (1), DIMETHOATE (1) **GR
5	11	2.0	DIMETHOATE (10), OMETHOATE (8), IPRODIONE (8)
4	25	4.5	DIMETHOATE (18), CAPTAN (14), VINCLOZOLIN (14)
3	69	12.5	IPRODIONE (43), CAPTAN (40), VINCLOZOLIN (37)
2	113	20.5	CAPTAN (64), IPRODIONE (58), VINCLOZOLIN (53)
1	162	29.3	IPRODIONE (38), MYCLOBUTANIL (37), CAPTAN (29)
0	171	31.0	
TOTAL # OF SAMPLES:	552		
TOTAL # OF RESIDUES DETECTED		756	

GREEN BEANS

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
5	7	1.5	METHAMIDOPHOS (7), ACEPHATE (7), ENDOSULFANS (5)
4	24	5.2	ACEPHATE (22), METHAMIDOPHOS (20), ENDOSULFANS (15)
3	54	11.6	METHAMIDOPHOS (44), ACEPHATE (42), ENDOSULFANS (34)
2	84	18.0	METHAMIDOPHOS (48), ACEPHATE (44), ENDOSULFANS (23)
1	115	24.7	ENDOSULFANS (49), DCPA (15), BENOMYL (13)
0	238	51.1	
TOTAL # OF SAMPLES:	466 + 56 (BENOMYL/THIABENDAZOLE RESULTS ONLY)=522		
TOTAL # OF RESIDUES DETECTED		576	

APPENDIX 8

MULTIPLE PESTICIDE RESIDUES DETECTED

LETTUCE

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
5	1	0.2	ENDOSULFANS (1), CHLORPYRIFOS (1), METHAMIDOPHOS (1) **LT
4	5	0.9	ACEPHATE (4), PERMETHRINS (4), DCPA (2)
3	18	3.2	PERMETHRINS (11), ENDOSULFANS (9), DCPA (7)
2	42	7.4	ACEPHATE (15), PERMETHRINS (15), DCPA (10)
1	135	23.9	ENDOSULFANS (44), PERMETHRINS (31), DIMETHOATE (28)
0	364	64.4	
TOTAL # OF SAMPLES:	565		
TOTAL # OF RESIDUES DETECTED		297	

ORANGES

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
4	3	0.5	THIABENDAZOLE (3), METHIDATHION (3), IMAZALIL (2)
3	13	2.3	THIABENDAZOLE (13), IMAZALIL (12), CHLORPYRIFOS (5)
2	118	20.7	THIABENDAZOLE (110), IMAZALIL (96), CHLORPYRIFOS (8)
1	195	34.3	THIABENDAZOLE (124), IMAZALIL (57), ETHION (4)
0	240	42.2	
TOTAL # OF SAMPLES:	569		
TOTAL # OF RESIDUES DETECTED		482	

PEACHES

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
7	1	0.3	CAPTAN (1), AZINPHOS-METHYL (1), PARATHION-METHYL (1) **PC
5	9	2.5	DICLORAN (9), IPRODIONE (9), PARATHION-METHYL (7)
4	30	8.3	IPRODIONE (26), DICLORAN (22), CAPTAN (17)
3	66	18.3	IPRODIONE (50), DICLORAN (44), PHOSMET (25)
2	105	29.2	IPRODIONE (73), DICLORAN (58), CHLORPYRIFOS (14)
1	96	26.7	IPRODIONE (37), DICLORAN (34), AZINPHOS-METHYL (10)
0	53	14.7	
TOTAL # OF SAMPLES:	360		
TOTAL # OF RESIDUES DETECTED		677	

APPENDIX 8

MULTIPLE PESTICIDE RESIDUES DETECTED

POTATOES

A	B	C	D
# OF RESIDUES DETECTED/SAMPLE	SAMPLES #	%	3 MOST FREQUENTLY DETECTED PESTICIDES (*)
4	1	0.2	DDT (1), CHLORPROPHAM (1), ENDOSULFANS (1) **PO
3	17	3.0	CHLORPROPHAM (14), ENDOSULFANS (13), DDE (11)
2	89	15.7	CHLORPROPHAM (73), THIABENDAZOLE (35), DDE (31)
1	297	52.3	CHLORPROPHAM (249), ENDOSULFANS (14), DDE (13)
0	164	28.9	
TOTAL # OF SAMPLES:	568		
TOTAL # OF RESIDUES DETECTED		530	

* Number of samples with detectable residues
**AP – Additional compounds detected: dimethoate, diphenylamine, omethoate, thiabendazole, and vinclozolin
**GR – Additional compounds detected: iprodione, omethoate, and vinclozolin
**LT – Additional compounds detected: acephate and permethrins
**PC – Additional compounds detected: dicloran, iprodione, parathion, phosmet
**PO – Additional compounds detected: DDE

APPENDIX 9 TOLERANCE VIOLATIONS REPORTED TO FDA

ITEM NO. *	COLLECTION DATE	STATE	PESTICIDE	COMMODITY	TOLERANCE	CONCENTRATION DETECTED
1	92-01-15	Florida	Chlorothalonil	Lettuce	No Tolerance	0.23 ppm
2	92-02-10 (1)	New York	Thiabendazole	Bananas	0.4 ppm	0.56 ppm
3	92-02-10 (1)	Texas	Methamidophos	Green Beans	No Tolerance	6 ppb **
4	92-02-11	Florida	Acephate Methamidophos	Snap Beans	3 ppm Combined Tolerance	3.8 ppm
5	92-02-11	Florida	Methamidophos	Green Beans	No Tolerance	0.46 ppm
6	92-02-20	New York	Methamidophos	Green Beans	No Tolerance	46 ppb
7	92-03-02	New York	Vinclozolin	Apples	No Tolerance	30 ppb
8	92-03-02	New York	Chlorpropham	Apples	No Tolerance	28 ppb
9	92-03-03	Texas	DCPA (Dacthal)	Celery	No Tolerance	41 ppb
10	92-03-03	Texas	DCPA (Dacthal)	Celery	No Tolerance	12 ppb **
11	92-03-04 (1)	California	Permethrins	Green Beans	No Tolerance	0.85 ppm
12	92-03-04 (1)	California	Methamidophos	Green Beans	No Tolerance	0.11 ppm
13	92-03-05 (1)	New York	Parathion	Grapes	1 ppm	2.7 ppm
14	92-03-09	New York	Methamidophos	Green Beans	No Tolerance	4 ppb **
15	92-03-09 (1)	Texas	Methamidophos	Green Beans	No Tolerance	12 ppb
16	92-03-23	Michigan	Methamidophos	Green Beans	No Tolerance	27 ppb **
17	92-04-02 (1)	New York	Methamidophos	Grapes	No Tolerance	8 ppb
18	92-04-07	Florida	Methamidophos	Green Beans	No Tolerance	27 ppb
19	92-04-09 (1)	Michigan	Chlorpyrifos	Grapes	0.5 ppm	0.77 ppm

APPENDIX 9 TOLERANCE VIOLATIONS REPORTED TO FDA

ITEM NO. *	COLLECTION DATE	STATE	PESTICIDE	COMMODITY	TOLERANCE	CONCENTRATION DETECTED
20	92-04-15	Washington	Methamidophos	Green Beans	No Tolerance	1.8 ppm
21	92-04-23	Michigan	Methamidophos	Green Beans	No Tolerance	19 ppb **
22	92-04-23	Michigan	Methamidophos	Green Beans	No Tolerance	0.49 ppm
23	92-04-23	Michigan	Methamidophos	Green Beans	No Tolerance	19 ppb **
24	92-04-27	New York	Chlorpyrifos	Lettuce	No Tolerance	10 ppb
25	92-04-27 (1)	Washington	Dimethoate	Grapes	1 ppm	1.5 ppm
26	92-05-04	Texas	Iprodione (2)	Celery	No Tolerance	49 ppb
27	92-05-12	Florida	Chlorothalonil	Apples	No Tolerance	23 ppb **
28	92-05-12	New York	Iprodione (2)	Celery	No Tolerance	0.29 ppm
29	92-05-13	Michigan	Dimethoate	Peaches	No Tolerance	10 ppb **
30	92-06-03	Texas	DCPA (Dacthal)	Celery	No Tolerance	12 ppb **
31	92-06-10	Washington	Methamidophos	Green Beans	No Tolerance	58 ppb
32	92-07-02	Texas	Quintozene	Celery	No Tolerance	14 ppb
33	92-07-10	Florida	DCPA (Dacthal)	Celery	No Tolerance	9 ppb
34	92-07-16 (1)	California	Imazalil	Bananas	0.2 ppm	0.24 ppm
35	92-07-20	Washington	DCPA (Dacthal)	Celery	No Tolerance	30 ppb
36	92-07-20	Washington	DCPA (Dacthal)	Celery	No Tolerance	21 ppb
37	92-07-21	New York	Chlorpyrifos	Celery	No Tolerance	5 ppb **
38	92-08-04 (1)	New York (tested at APHIS)	Thiabendazole	Bananas	0.4 ppm	1.5 ppm

APPENDIX 9 TOLERANCE VIOLATIONS REPORTED TO FDA

ITEM NO. *	COLLECTION DATE	STATE	PESTICIDE	COMMODITY	TOLERANCE	CONCENTRATION DETECTED
39-1	92-09-01	New York	Acephate	Peaches	No Tolerance	24 ppb
39-2	92-09-01	New York	Methamidophos	Peaches	No Tolerance	4 ppb **
40-1	92-09-01	New York	Acephate	Peaches	No Tolerance	6 ppb **
40-2	92-09-01	New York	Methamidophos	Peaches	No Tolerance	4 ppb **
41	92-09-08	Michigan	Permethrins	Green Beans	No Tolerance	13 ppb $_{cis}$ ** 10 ppb $_{trans}$ **
42	92-09-09	Texas	Chloropyrifos	Lettuce	No Tolerance	37 ppb
43	92-09-16 (1)	Florida	Thiabendazole	Bananas	0.4 ppm	0.53 ppm
44	92-09-24	Michigan	Thiabendazole	Peaches	No Tolerance	95 ppb
45	92-10-19	New York	Iprodione	Apples	No Tolerance	25 ppb **
46	92-10-27	Washington	DCPA (Dacthal)	Celery	No Tolerance	7 ppb
47	92-10-28	Michigan	Permethrins	Green Beans	No Tolerance	34 ppb
48	92-11-17	Washington	Quintozene	Celery	No Tolerance	5 ppb **
49-1	92-11-17	Washington	DCPA (Dacthal)	Celery	No Tolerance	5 ppb
49-2	92-11-17	Washington	Quintozene	Celery	No Tolerance	5 ppb **
50	92-11-20	Florida	Chlorpyrifos	Celery	No Tolerance	5 ppb **
51	92-11-30	Michigan	Methamidophos	Green Beans	No Tolerance	61 ppb
52	92-11-30	Texas	Dimethoate	Carrots	No Tolerance	10 ppb **
53	92-12-09	California	Diphenylamine	Grapes	No Tolerance	15 ppb **
54	92-12-15	Texas	Methamidophos	Green Beans	No Tolerance	6 ppb **

APPENDIX 9 TOLERANCE VIOLATIONS REPORTED TO FDA

ITEM NO. *	COLLECTION DATE	STATE	PESTICIDE	COMMODITY	TOLERANCE	CONCENTRATION DETECTED
55	92-12-16	Texas	Chlorpyrifos	Lettuce	No Tolerance	91 ppb
56	92-12-16	Texas	Endosulfans	Lettuce	2.0 ppm	4.2 ppm
57	92-12-21 (1)	California	Methamidophos	Green Beans	No Tolerance	5 ppb **
58	92-12-21 (1)	California	Methamidophos	Green Beans	No Tolerance	5 ppb **
59	92-12-21 (1)	California	Methamidophos	Green Beans	No Tolerance	5 ppb **
60	92-12-28	Michigan	Thiabendazole	Bananas	0.40 ppm	0.70 ppm
61	92-12-28	California	DCPA (Dacthal)	Celery	No Tolerance	13 ppb **
62	92-12-29	California	DCPA (Dacthal)	Celery	No Tolerance	13 ppb **
63	92-12-29	California	DCPA (Dacthal)	Celery	No Tolerance	13 ppb **

* If the item number is followed by -1 and -2, then the sample contains two violative pesticide residues.

** The reported concentration is above the LOD (Level of Detection), but less than the LOQ (Level of Quantitation), therefore the pesticide has been detected, but the laboratory cannot accurately quantitate the residue. The concentration reported is one-half the LOQ.

(1) Imported commodity

(2) There is a FIFRA Section 18 Emergency Exemption for iprodione in celery dated July 21, 1992. This exemption does not apply to items 26 and 28 since these two samples were collected in May before the exemption existed.

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