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Pesticide Reregistration Progress Report

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Contents

INTRODUCTION

The Pesticide Reregistration Progress Report is produced quarterly by the Special Review and Reregistration Division (SRRD), Office of Pesticide Programs (OPP), U.S. Environmental Protection Agency (EPA), to provide information on progress towards pesticide reregistration as mandated under the 1988 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Progress is reported both for the current quarter of the fiscal year[1] and cumulatively.

This issue of the Progress Report describes the status of reregistration through the fourth quarter fiscal year 1994 (FY 94). Eighty-one REDs have been completed since 1991 representing 120 chemicals/active ingredients (AIs), 3,521 products and 500 tolerances. Approximately 601 products have completed the process and have been reregistered. Please see Appendix A for a more detailed cumulative summary.

[1] The fiscal year runs from October through September, and is divided into four quarters: the first quarter consists of October, November, December; the second quarter consists of January, February, March; the third quarter consists of April, May, June; and the fourth quarter consists of July, August, September.

I. PESTICIDE REREGISTRATION

A. Reregistration Process Background

EPA is required by law to reregister existing pesticides that originally were registered years ago when the standards for government approval were less stringent than they are today. This comprehensive reevaluation of pesticide safety is critical to protecting human health and the environment. In 1988, Congress amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to strengthen and accelerate EPA's reregistration program. The nine-year reregistration scheme mandated by "FIFRA '88" applies to each registered pesticide product containing an active ingredient initially registered before November 1, 1984.

In 1988, approximately 600 groups of related pesticide active ingredients, or "cases," representing 1,150 active ingredients in 45,000 formulated products, required reevaluation. As FIFRA '88 directed, EPA divided these 600 cases into four lists: List A, B, C and D.

List A - List A consisted of the 194 chemical cases (or 350 individual active ingredients) for which EPA had issued Registration Standards prior to the effective date of FIFRA '88. Most pesticides with food-related uses are on List A.

List B, C and D - The remaining pesticides were divided into three lists based upon their potential for exposure and other factors, with List B being of highest concern and D of least. Some of the classification criteria included potential for residues of concern in food or drinking water, significance of outstanding data requirements, potential for worker exposure, Special Review or restricted use status, and unintended adverse effects to animals and plants.

FIFRA '88 established mandatory reregistration timeframes and duties. The five phases of the reregistration process are:

Phase 1: Listing of Active Ingredients - EPA published Lists A, B, C, and D within 10 months of FIFRA '88 and asked registrants of these pesticides whether they intended to seek reregistration.

Phase 2: Declaration of Intent and Identification of Studies - Registrants were required to notify EPA whether or not they intended to reregister their products; to identify and commit to providing necessary new studies; and to pay the first installment of the reregistration fee. During this phase, EPA issued guidance to registrants for preparing their Phase 2 and Phase 3 responses. Phase 2 activities were completed in 1990.

Phase 3: Summarization of Studies - Registrants were required to submit summaries and reformatted acceptable studies, "flag" studies indicating adverse effects, re-commit to satisfying all applicable data requirements, and pay the final installment of the reregistration fee. Phase 3 ended in October 1990.

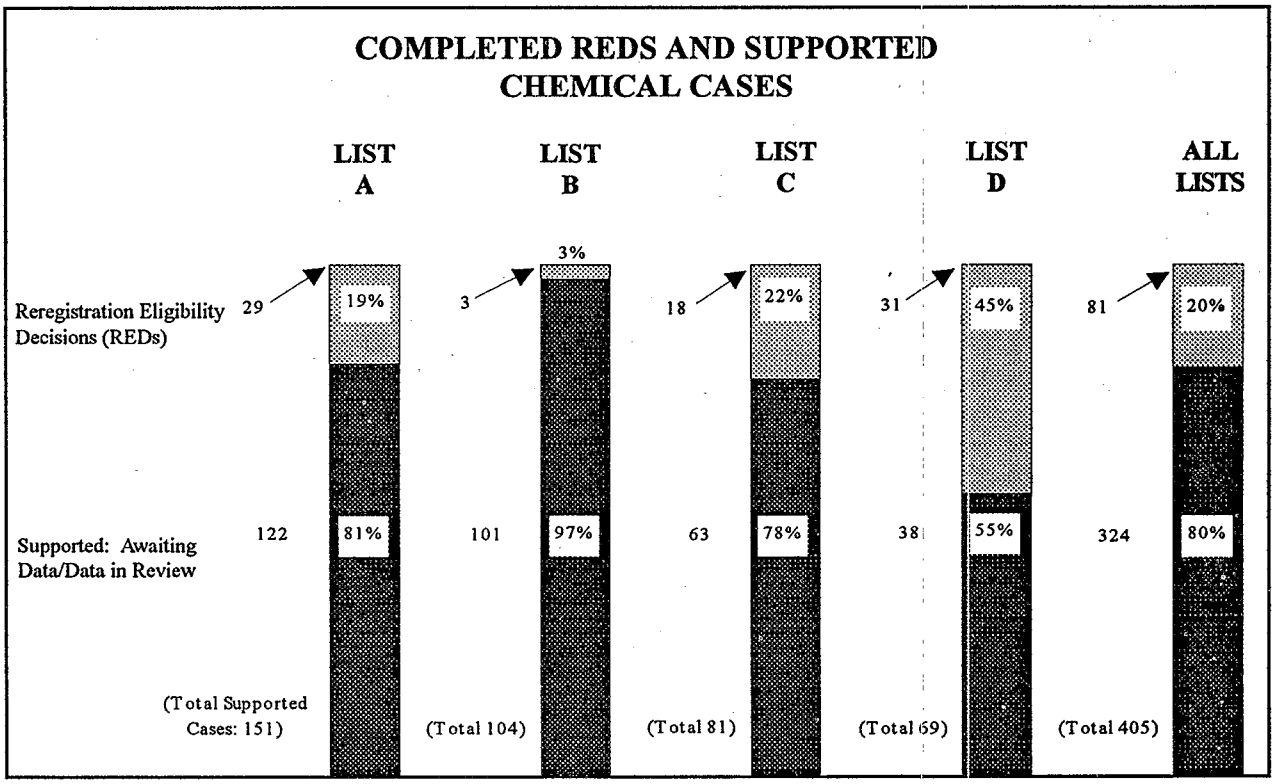
Phase 4: EPA Review and Data Call-In's - In Phase 4, EPA reviewed all Phase 2 and 3 submissions and required registrants to meet any unfulfilled data requirements within four years. Phase 4 was completed in 1994.

Phase 5: Reregistration Decisions - In this phase, EPA reviews all the studies that have been submitted for a chemical case, and decides whether or not to reregister products containing the active ingredients in that case. A pesticide will be considered eligible for reregistration if its data base is substantially complete, and if it does not cause unreasonable adverse effects to people or the environment when it is used according to product label directions and restrictions.

B. Current Status of Reregistration

Figure 1 shows the status of supported chemical cases in Lists A, B, C, D, and all lists combined, through the end of fiscal year 1994. Each column shows the total number of supported chemical cases currently on each list. Also shown are the numbers and percentages of those cases that have REDs completed, and cases that are in the category of Awaiting Data/Data in Review. Of the total of 612 cases[2] (representing 1,138 AI's) that were eligible for reregistration in 1988, 405 (representing 590 AI's) still are supported while 207 are not supported by their registrants. A list of REDs completed appears in Appendix A, Cumulative Summary of Reregistration Actions.

Figure 1
Current Status of Reregistration - Supported Chemical Cases - Fourth Quarter FY 94



Note: These numbers change frequently as the reregistration process continues. Percentage discrepancies may result from rounding.

[2] This number was originally 611 cases, which became 612 when two active ingredients were separated to become individual cases.

II. REREGISTRATION PROGRESS

A. REDs Completed This Quarter

This section summarizes RED production during the fourth quarter of fiscal year 1994, and summarizes the information in the individual REDs.

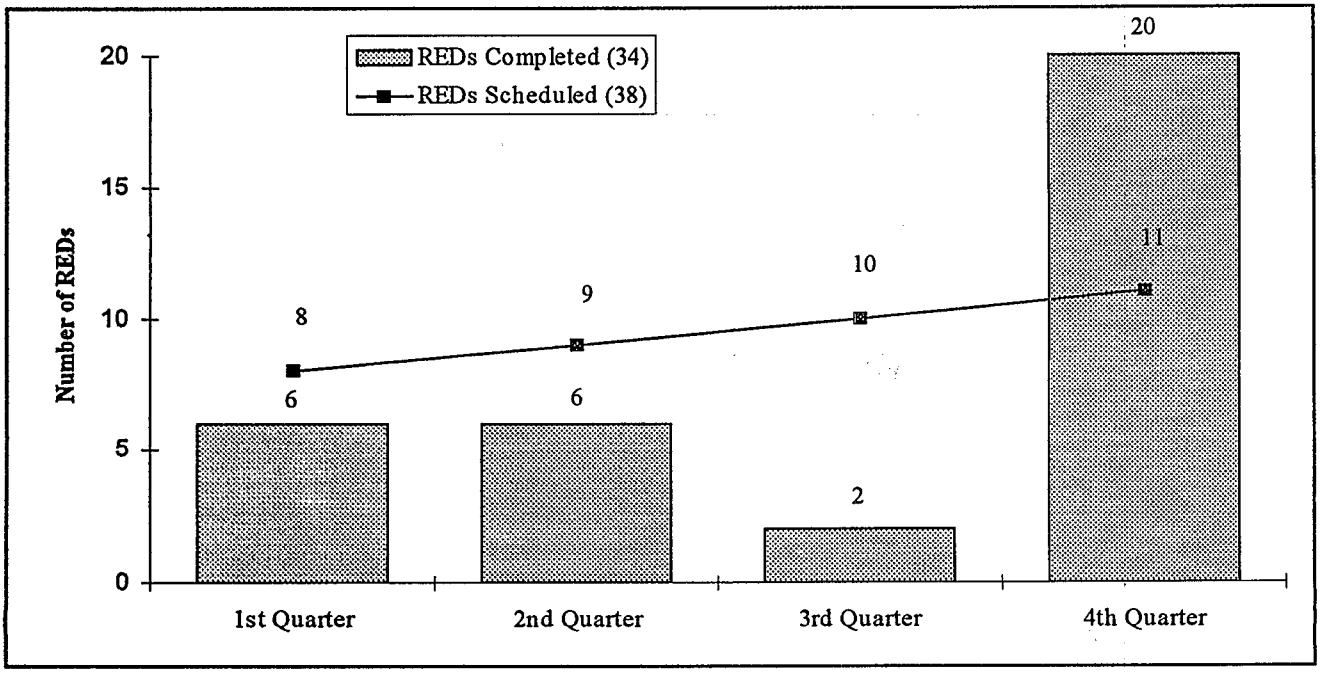
In reviewing pesticides for reregistration, EPA gathers a substantially complete set of data on each chemical case, examines related health and environmental effects, and attempts to mitigate effects of concern. This evaluation and risk management process is complete when EPA is satisfied that the pesticide(s), used in accordance with approved labeling, will not pose unreasonable risks to human health or the environment.

When some or all uses of a pesticide are determined to be eligible for reregistration (or when another regulatory conclusion has been reached), EPA issues a Reregistration Eligibility Decision (RED), usually embodied in a RED document. About 14 months later, once certain product-specific data and revised labeling are submitted and approved, EPA begins reregistering single-active ingredient products containing the pesticides included in these REDs. Products that contain active ingredients in addition to these will not be reregistered until all of their active ingredients are eligible for reregistration.

FY 94 REDs Production

Figure 2 shows the number of REDs scheduled to be completed by quarter during fiscal year 1994, and the number actually completed through the fourth quarter. Twenty REDs were completed in the fourth quarter, covering a total of 21 chemicals and 430 products. Thirty-four REDs were completed in fiscal year 1994. The target for the fiscal year was 38 REDs. A total of 81 REDs have been completed to date. Further information about the completed REDs can be found in Appendix A, Cumulative Summary of Reregistration Actions.

Figure 2
REDs Scheduled and Completed by Quarter - FY 94



4th Quarter RED Summaries

During the fourth quarter of fiscal year 1994, EPA completed the REDs summarized below:

Bentazon - Bentazon, or Basagran, is a selective, postemergent herbicide used to control broadleaf weeds and sedges primarily in soybeans, but also in other food and feed crops including alfalfa, beans, corn, peanuts, peas, peppers, peppermint, rice, sorghum and spearmint, and on ornamental lawns and turf. All uses are eligible for reregistration.

Bentazon is slightly acutely toxic by all routes (Toxicity Category III) and is a skin sensitizer. It is classified as a "Group E" carcinogen—a chemical showing evidence of non-carcinogenicity to humans—but it causes some developmental toxicity effects in rats and rabbits.

People may be exposed to bentazon residues through their diets. Based on EPA's dietary risk assessments, however, dietary exposure to the uses supported for reregistration is not of concern. Potential developmental toxicity effects among workers also are not of concern based on the Agency's assessment that worker risks are low, and do not warrant the establishment of PPE requirements beyond those required by the WPS.

Leaching through soil is a major route of dissipation for bentazon, which has been detected in well water in four out of eight states sampled. Bentazon exceeds levels of concern for ground water quality and also may impact the quality of surface water. EPA's Office of Water has established a Health Advisory for bentazon. OPP is requiring a ground water label advisory, and is limiting the amount of bentazon that may be applied annually per acre. The registrant has agreed to prepare educational materials for users, dealers and distributors on ground and surface water protection. Use of bentazon is not expected to pose a serious environmental threat. Several confirmatory generic studies are required. For additional information, please contact Eric Feris by E-Mail at FERIS.ERIC@EPAMAIL.EPA.GOV, or at 703-308-8048, via relay (1-800-828-1140).

Chlorine - Chlorine is used in water treatment to disinfect drinking water, swimming pools and other types of water reservoirs. It is used as a disinfectant and algicide in food processing, pulp and paper mill, and commercial and industrial water cooling systems. Chlorine also is used in washing meat, fresh produce and seeds to control decay-causing microorganisms. All uses are eligible for reregistration. However, chlorine products registered for use in swimming pools and industrial food processing plants are begin classified as Restricted Use Pesticides and must bear appropriate labeling starting between April 30, 1996, and October 31, 1996.

Risk to the public is not anticipated from consuming food or water treated with chlorine. However, EPA has serious concerns about applicator and post-application exposure to chlorine gas because it is highly toxic via all routes of exposure. Based on human incident reports, the greatest risk is to applicators, other workers and bystanders from accidental exposure resulting from use of chlorine gas in swimming pools and industrial food settings. To mitigate this risk, EPA is classifying relevant products as Restricted Use Pesticides, and is requiring significant revisions to product labeling so it will contain sufficient specific use information.

Chlorine is very highly toxic to fish and freshwater invertebrates. If acute levels of concern are exceeded in receiving waters from facilities using chlorine, a significant risk to aquatic

organisms and endangered aquatic organisms can be expected. However, effluent discharges containing chlorine are regulated under NPDES permits, and the maximum concentration allowed in each effluent stream is set on a site-specific basis to achieve the lowest possible concentrations of chlorine in each receiving stream. No significant adverse effects to aquatic organisms are anticipated from discharges of chlorine under this permitting system. For additional information, please contact Tom Myers at 703-308-8074.

Chloroxylenol - Chloroxylenol is an antimicrobial used to control bacteria, algae and fungi in adhesives, emulsions, paints and wash tanks. It also is used to sanitize bathroom premises, diaper pails, laundry equipment, human bedding and pet living quarters in households, hospitals and other institutions. Use practice limitations prohibit discharge into lakes, streams or other public waters except under an NPDES permit.

All uses of chloroxylenol are eligible for reregistration. However, EPA is concerned with the potential formation of dioxins and chlorinated dioxin impurities during the manufacture of chloroxylenol, and with the effect of these impurities on human health and the environment. The Agency is requiring the registrant to fully satisfy technical chemistry data requirements addressing this concern. A reassessment of the risk posed by chloroxylenol may be required, depending on the results of these studies.

Chloroxylenol generally is of moderate to low acute toxicity, but causes severe eye irritation (Toxicity Category I). Since it is not applied to food or feed crops and is not used in food handling establishments, no dietary risk is expected. FDA regulates the use of this pesticide as a food packaging adhesive. No toxicological endpoints of concern have been identified for chloroxylenol except eye irritation. Personal protective equipment (PPE) may be required for some end-use products on a case-by-case basis, but is not required for all chloroxylenol products at this time.

Chloroxylenol is practically non-toxic to birds, moderately toxic to freshwater invertebrates and highly toxic to fish. However, exposure to terrestrial and aquatic organisms is extremely minimal since chloroxylenol has almost all indoor uses. The sole outdoor use, on pet living quarters, will not result in significant environmental exposure. Therefore, when used according to label directions, chloroxylenol poses only a minimal risk to terrestrial and aquatic organisms. For additional information, please contact Yvonne Brown at 703-308-8073.

DBNPA - DBNPA is a biocide used in a variety of industrial processes to control algae, bacteria, fungi and yeasts. Use practice limitations require a National Pollutant Discharge Elimination System (NPDES) permit for discharges to waterways. Most uses of DBNPA are eligible for reregistration. However, because the risk to non-target organisms outweighs the potential benefits associated with the use of DBNPA in single flow-through cooling towers, this use is ineligible for reregistration. EPA will take appropriate action against DBNPA products labeled for this use.

DBNPA is corrosive to the eyes (Toxicity Category I), can kill skin tissue exposed at high levels for a prolonged period of time, and is a developmental toxicant in rabbits which produces structural alterations in fetuses at doses that are not toxic to the mother. Several human incidents have been reported involving acute exposure to DBNPA after spills or misuse. One food-related use, in food grade paper and paperboard, is regulated by FDA. Residential exposure and risk are not of concern since DBNPA has no residential uses.

Handlers of DBNPA may be at risk for acute or developmental toxicity effects, particularly those using open pouring methods to add the pesticide

to cooling towers. EPA is requiring use of appropriate PPE through the RED to mitigate these risks to workers.

Without any mitigation measures, DBNPA poses a high risk to aquatic organisms. To mitigate these risks, EPA is requiring secondary biological treatment of waste water for all uses of DBNPA except use in waste water treatment systems (since biological degradation readily occurs there, anyway); in secondary oil recovery systems (where biological treatment is not feasible, but EPA is less concerned about this use pattern); and in single flow-through cooling tower systems (which is not eligible for reregistration).

The use of DBNPA in single flow-through cooling tower systems poses an unacceptable risk to aquatic organisms. Secondary biological effluent treatment is not practical for this use; thus, the risks it poses to aquatic organisms cannot be mitigated. Meanwhile, the benefits it affords are low or non-existent—the amount of DBNPA used for this purpose is negligible and registered alternatives are less costly. Therefore, the use of DBNPA in single flow-through cooling tower systems is not eligible for reregistration, and EPA will take appropriate regulatory action against DBNPA products labeled for this use. For additional information, please contact Richard Gebken at 703-308-8591.

DCDIC - Disodium cyanodithioimidocarbonate or DCDIC is a microbicide/microbistat used in water treatment systems. It is used as an industrial biocide and slimicide to control slime-forming bacteria, algae and fungi in food processing water systems (cane and beet sugar mills), pulp and paper mill water systems, other commercial/industrial water cooling systems, and secondary oil recovery injection water. All uses are eligible for reregistration.

DCDIC generally is of moderate acute toxicity but causes eye irritation (Toxicity Category I). Although DCDIC has two food uses (sugar beets and sugar cane) and one food tolerance for food contact with food grade paper, paperboard and adhesives, all are under FDA's purview.

The open pouring method of applying DCDIC to cooling tower water poses the greatest risk of developmental toxicity to applicators. However, EPA's worst case exposure assessment probably results in an overestimate of risk; the actual risk to workers is expected to be low when appropriate protective equipment and clothing are used, as required by the RED document. The secondary oil recovery use of DCDIC normally would require extensive data regarding potential ground water impacts. However, properly encased injection wells preclude contact between materials placed down the well and any aquifer in the area; so EPA believes the chemical is not likely to present a hazard to ground water through this use. Other aquatic industrial uses carry National Pollutant Discharge Elimination System (NPDES) permit restrictions, limiting industrial discharges to acceptable levels for each site.

DCDIC is moderately to highly toxic to aquatic/estuarine invertebrates. Freshwater aquatic invertebrates, estuarine and marine aquatic invertebrates may be at risk from effluent at high exposure sites. In addition, these high exposure case scenarios exceed the levels of concern for endangered fish at certain industrial sites, and those for endangered aquatic invertebrates at all sites. Effluent containing DCDIC should not be discharged into aquatic habitats where endangered species are known to live. Endangered species labeling may be required in the future.

While the use of DCDIC as a pesticide is regulated by EPA's Office of Pesticide Programs under FIFRA, the discharge of effluent containing DCDIC to surface waters is regulated under

the NPDES permit program administered by EPA's Office of Water (OW) with the states. The NPDES process takes local conditions into account in issuing permits for the discharge of pollutants to bodies of water. EPA's OPP and OW will share information and cooperate in overseeing the use of biocides such as DCDIC.

For additional information, please contact Bonnie Adler at 703-308-8523.

Difenzoquat - Difenzoquat is a post-emergent herbicide used to control wild oats in wheat (primarily) and barley. Marketed under the trade name Avenge, difenzoquat is applied by ground or aerially, once per growing season. All uses are eligible for reregistration.

Although difenzoquat is used on food/feed crops, people are exposed to only extremely low level residues in their diets, posing no known risks. Difenzoquat generally is of low acute toxicity but poses a risk of acute eye irritation to workers. To mitigate this risk, a 48-hour restricted entry interval (REI) will be maintained. People who must reenter treated areas during this time must wear prescribed protective clothing and equipment including protective eyewear.

Current uses of difenzoquat do not pose any unreasonable threat to the environment. Since it is a herbicide that is applied aerially, difenzoquat could pose a high risk to terrestrial and aquatic plants, including endangered plant species. Additional, confirmatory data are required to assess these risks. Several other confirmatory studies also are required. For additional information, please contact Andy Ertman at 703-308-8063.

Fenbutatin-Oxide or Vendex - Fenbutatin-oxide or Vendex is a miticide or acaricide used to control mites, aphids, thrips, mealybugs, whiteflies and scale primarily on orange and grapefruit crops, but also on other citrus, apple, stone fruit, nut tree and food crops, and on ornamentals. To ensure that the risks to fish and aquatic organisms are not unreasonable, EPA is classifying fenbutatin-oxide as a Restricted Use Pesticide and is requiring the registrant to implement certain risk reduction measures. Provided that these measures are implemented, all products are eligible for reregistration.

Fenbutatin-oxide generally is of low acute toxicity but is a severe eye irritant. It poses no significant chronic health risks and is classified as a Group E carcinogen; that is, a chemical that poses no known cancer risk for humans. Although people may be exposed to residues of fenbutatin-oxide in many fruits and other foods, the chronic dietary risk from such exposure is minimal.

Workers and other users may be exposed to fenbutatin-oxide during and after application to food crops and ornamentals. To mitigate the risk of eye irritation during these activities, EPA is requiring a 48-hour REI and the use of PPE including protective eyewear for all agricultural uses within the scope of the WPS, and more stringent entry restrictions for non-WPS occupational and residential uses.

Fenbutatin-oxide is persistent in the environment, with no major route of dissipation. It also is relatively immobile so it is not expected to leach. However, fenbutatin-oxide is very highly toxic to freshwater, estuarine and marine fish and invertebrates. Since it persists in the environment long after application, the potential for serious contamination of the ecosystem is substantial.

To mitigate the risks posed by fenbutatin-oxide to freshwater and estuarine aquatic organisms, EPA is classifying fenbutatin-oxide as a Restricted Use Pesticide "due to very high toxicity to aquatic organisms." The Agency also is employing risk reduction measures for uses in the

State of Florida including: reducing application rates; requiring label directions to minimize spray drift; and developing additional modeling and monitoring.

Several additional generic studies as well as product specific data and implementation of risk reduction measures are required for reregistration. For additional information, please contact Susan Jennings at 703-308-8021.

HEXAZINONE - Hexazinone is a herbicide used to control a broad spectrum of weeds including undesirable woody plants in alfalfa, rangeland and pasture, woodland, pineapples, sugarcane and blueberries. It is also used on ornamental plants, forest trees and other non-crop areas. Although a number of risk mitigation measures are imposed by the RED, all uses of hexazinone are eligible for reregistration.

Hexazinone generally is of relatively low acute toxicity but is a severe eye irritant (Toxicity Category I). It is not classifiable as to human carcinogenicity (Group D carcinogen) and does not cause other toxic effects of concern. The dietary risk posed by hexazinone is expected to be minimal. Most tolerances were reassessed and other existing tolerances are considered protective until confirmatory data are available for reassessment. A lifetime Health Advisory sets a maximum level of exposure to hexazinone from drinking water.

Exposure to workers and other applicators generally is not expected to pose undue risks, due to hexazinone's overall low acute toxicity. However, based on toxicity concerns regarding primary eye irritation, a 48-hour rather than a 24-hour REI is required.

Hexazinone exceeds the levels of concern for both aquatic and terrestrial plants, and exceeds levels of concern for small mammals at several of the higher application rates. It also is likely to have a significant impact on ground water quality, and may affect surface water. Therefore, a number of risk mitigation measures are required, including:

- All product labels must carry a ground water advisory;
- Registrants must report any ground water detections to EPA;
- The registrant must prepare a re port summarizing ongoing re search regarding ground water detections in the State of Maine;
- The registrant must submit educational materials under development regarding product stewardship and addressing the potential for ground water con tamination;
- A prospective ground water monitoring study must be con ducted;
- Precautionary label language will be required to address surface water concerns;
- To address risks to nontarget plants and small mammals, the maximum application rate must be reduced;
- In the future, spray drift manage ment labeling may be required, endangered species precautionary labeling will be required, and hexazinone may be classified as a Restricted Use Pesticide for ground water concerns.

A number of confirmatory generic studies are required. For additional information, please contact Andy Ertman at 703-308-8063.

Limonene - Limonene is a naturally occurring chemical which is used in many food products, soaps and perfumes for its lemon-like flavor and odor. Limonene also is a registered active ingredient in 15 pesticide products used as insecti-

cides, insect repellents, and dog and cat repellents. These products are used for flea and tick control on pets, as an insecticide spray, an outdoor dog and cat repellent, a fly repellent tablecloth, a mosquito larvicide, and an insect repellent for use on humans. Use practice limitations include a label prohibition against use on weanling kittens and a caution against use of undiluted product. All uses are eligible for reregistration.

Limonene is among those pesticide active ingredients for which a reduced set of generic data requirements is appropriate for registration or reregistration. Limonene is naturally occurring, has been established as an inert, is exempt from the requirement of a tolerance, and is recognized as safe by FDA. Its effects are well known and documented in scientific literature; additional testing would not likely provide any new findings. Adequate information is available to characterize its risks to humans and animals.

Dietary exposure to limonene is not a concern because limonene occurs naturally in foods, is used as a flavoring agent, is generally recognized as safe by FDA, and has only one food-related pesticide use (as an insect repellent impregnating tablecloths) that EPA has exempted from tolerance requirements.

People may be exposed to limonene when applying flea and tick control shampoos, dips or sprays to their pets, when applying animal repellent granules or insecticide sprays, or when using impregnated tablecloths. Skin irritation and sensitization or eye irritation may occur from these uses. In addition, adverse reactions may occur in some pets, especially cats, treated with the flea and tick control products. Additional precautionary statements are required on limonene product labeling to reduce the potential for adverse effects among users and treated pets.

Application of the granular product is expected to pose minimal risk to birds, mammals and aquatic species based on limonene's low level or lack of toxicity to these species. The mosquito larvicide use produces an oily film that is expected to dissipate rapidly, posing no major ecological concern for freshwater invertebrates or other aquatic species. For additional information, please contact Emily Mitchell at 703-308-8583.

M-Cresol and Xylenol - M-cresol and xylenol, when formulated together, have bacteriostatic activity against agents that cause crown gall, olive knot and burr knot in fruit, ornamental and shade trees and ornamental woody shrubs and vines. The pesticide product that contains these two active ingredients, Gallex, is brushed or painted onto the infected areas of trees and ornamentals. Although usage data are not available, EPA assumes that the volume of use is relatively low. All uses of m-cresol and xylenol in Gallex are eligible for reregistration.

Dietary exposure to m-cresol and xylenol is not a concern since residues of these pesticides do not remain in the fruit or nuts of treated trees. Applicators face acute toxicity hazards to the skin and eyes. However, these risks will be mitigated by use of Personal Protective Equipment (PPE), as required by the RED. EPA does not expect significant health risks from short term residential/occupational exposure to m-cresol and xylenol, when used properly as directed. EPA did not conduct an environmental risk assessment for m-cresol and xylenol and did not require any data on environmental fate or ecotoxicity. The current use pattern of these pesticides and their low volume of use will result in very low environmental exposure, resulting in no threat to wildlife. Non-target organisms including endangered species are not expected to be adversely affected from this use. For additional information, please contact Paul Lewis at 703-308-8018.

Mercaptobenzothiazole - This case includes two active ingredients, the sodium and zinc salts of 2-mercaptobenzothiazole, which are used as fungicides, microbiocides and bacteriostats. They are used as preservatives for adhesives, latex and oil paints, paper products, metal working cutting fluids and textile fibers. All uses are eligible for reregistration. The sodium and zinc salts are not registered for any food or feed related uses, so no dietary risks are posed. The potential for residential exposure and risk is very low.

The acid of 2-mercaptobenzothiazole is classified as a non-quantifiable "Group C" or possible human carcinogen. The sodium salt is in Toxicity Category I, indicating the highest degree of acute toxicity, for skin and eye effects. Margins of Exposure (MOEs) were calculated to quantify the risk to certain applicators/mixers/loaders. The MOEs were found to exceed 100 by several orders of magnitude. An MOE over 100 does not trigger a risk concern.

The metal working cutting fluid use of the sodium salt of 2-mercaptobenzothiazole is the only use pattern where effluent containing the chemical is discharged into aquatic environments, potentially exposing non-target aquatic organisms, including endangered species. This use pattern under typical exposure scenarios, poses minimal risk to endangered aquatic species. However, under high exposure scenarios, the Level of Concern (LOC) is exceeded. The Agency, therefore, has determined that effluent containing sodium 2-mercaptobenzothiazole should not be discharged into streams and other waterways where endangered aquatic organisms are known to reside. When the Agency completes its Endangered Species Program, additional precautionary labeling may be required to mitigate the risk to endangered species. For additional information, please contact Kathleen Depukat at 703-308-8587.

Metalaxyl - Metalaxyl is a systemic fungicide used to control plant diseases caused by water-mold fungi. It is used on many food and feed crops and on non-food, residential and greenhouse crops such as tobacco, ornamental plants, trees, shrubs, vines, lawns and turf. All uses are eligible for reregistration.

Metalaxyl generally is of low acute toxicity but is an eye irritant. It has been classified as a Group E carcinogen; that is, a chemical showing evidence of non-carcinogenicity for humans. Although people may be exposed to residues of metalaxyl in many foods, the chronic dietary risk from all uses is minimal. Application and post-application risks to workers and others also are minimal because metalaxyl has no toxicological endpoints of concern. Since metalaxyl can irritate the eyes, a 24-hour restricted entry interval (REI) is being imposed and use of personal protective equipment (PPE) is required.

Metalaxyl is persistent and mobile, leaches in many soils, has the potential to reach ground water, and has been detected in ground water in five states. To reduce the possibility of ground water contamination, EPA is requiring a ground water label advisory for metalaxyl end use products, and the registrant will conduct a user education program if levels are detected in groundwater at or above 400 ppb. Metalaxyl poses minimal if any risks to terrestrial and aquatic animals and plants. EPA is requiring a number of confirmatory generic as well as product specific studies for reregistration. For additional information, please contact Judy Loranger at 703-308-8056.

Mevinphos - Mevinphos is an insecticide used on vegetables and fruits, mainly lettuce and cole crops. Mevinphos is not eligible for reregistration because all registrations have been voluntarily canceled. However, because it is so acutely toxic that even a small exposure, whether

by mistake, accident or through routine activity, can cause serious poisonings, EPA would have found mevinphos ineligible for reregistration.

Mevinphos is extremely toxic to mammals by all routes of exposure and has been placed in Toxicity Category I for all acute effects. It has a steep dose-response curve; the difference between a nonlethal and a lethal dose is small. Mevinphos poses no known chronic health effects but may be slightly mutagenic. A preliminary risk assessment for acute dietary exposure indicated a concern, particularly for infants and children. An incomplete database prevented the Agency from fully evaluating mevinphos' risks to wildlife.

EPA's Acute Worker Risk Strategy project ranked mevinphos among the five pesticides warranting accelerated action, based primarily on human incident data. When risk reduction measures proposed by the registrant failed to allay Agency concerns, EPA determined mevinphos to be unsafe for any use and was prepared to issue a Notice of Intent to Suspend all registrations on June 30, 1994, when the registrant submitted a request for voluntary cancellation. EPA accepted this request, and on July 1, 1994, issued a Cancellation Order for all mevinphos registrations, effective immediately. Relevant documents were published in the *Federal Register* on August 1, 1994.

No one may sell or distribute existing stocks of canceled mevinphos products after December 31, 1994. Mevinphos may be used in accordance with previously-approved labeling through February 28, 1995. No one may use existing stocks of canceled pesticide products containing mevinphos after February 28, 1995.

For additional information, please contact Josh First at 703-308-8032.

Nuosept 145 - Nuosept 145® is an organic preservative registered for industrial indoor, non-food use in latex paint (in cans), resin emulsions, building adhesives, dispersed colors, pigment slurries and ready-to-mix joint cements. This microbiocide/microbiostat is used to control slime-forming bacteria and fungi. All uses are eligible for reregistration.

Current use practice limitations prohibit discharge of effluent containing Nuosept 145® into streams or other public waters except under an NPDES permit, and use in connection with feed, food, or drinking water.

Since Nuosept 145® is not registered for any food or feed related uses, no dietary risks are posed. There are no health concerns for residential exposure or for long-term occupational exposure. There is a potential for acute respiratory, skin and eye effects from occupational exposure to the Nuosept 145® technical, particularly from the open poring method of application.

Based on available data and considering its use patterns, environmental risk posed by Nuosept 145® technical, as it is diluted in the treated product, such exposures do not warrant special restrictions. For additional information, please contact Kathleen Depukat at 703-308-8587.

Oil of Citronella - Citronella is one of 31 pesticide active ingredients that EPA has proposed to exempt from regulation under FIFRA, pursuant to section 25(b) of the Act. As explained in the proposed rule published in the *Federal Register* on September 15, 1994, citronella is used as an insect repellant in candles, and in other products used directly on human skin. Citronella also is widely used for non pesticidal uses such as perfumery. Citronella is an essential oil listed as GRAS (Generally Recognized as Safe) by FDA. Exposure to and effects on humans or the environment attributable to use of citronella as an insect repellent are

indistinguishable from exposure/effects from its use as a fragrance/perfume. EPA believes it is unnecessary to regulate citronella as a pesticide in order to carry out the purposes of FIFRA.

EPA is now considering comments received during the 60 day public comment period. Although reregistration of citronella has ceased, products will remain registered until a final decision concerning the deregulation of citronella is made. For additional information, please contact Virginia Dietrich at 703-308-8157.

Oryzalin - Oryzalin is a herbicide used to control grasses, weeds, woody shrubs and vines in a variety of fruit, nut and non-food crop sites. Oryzalin is used most on residential and other lawns and turf, almond orchards and grapes. Other use sites include berries and orchard crops, ornamentals and shade trees, Christmas tree plantations, fencerows/hedgerows, nonagricultural rights of way and uncultivated areas. All uses of oryzalin are eligible for reregistration **except** use on residential lawns and turf, for which EPA does not currently have enough information to make an eligibility decision.

Oryzalin generally is of moderate acute toxicity but is carcinogenic in animal studies and has been classified as a Group C, possible human carcinogen. Although several food crop uses are registered, dietary exposure and risk to the general population are very low.

Of greater concern is the risk posed to handlers, field workers and others who come into contact with treated foliage, crops or lawns. Exposure and risk to applicators will be mitigated by the use of personal protective equipment (PPE) beyond that required by the Worker Protection Standard (WPS). Post-application reentry workers must observe a 24-hour restricted entry interval (REI), which is twice as stringent as that set by the WPS. The residential lawn and turfgrass use is not eligible for reregistration until post-application exposure studies are submitted and evaluated.

Although parent oryzalin is not mobile, the registrant is conducting a study to determine the leaching potential of its degradates. Since it is a herbicide, oryzalin poses an acute risk to non-target plants, including threatened and endangered plants, from runoff and spray drift, as well as to endangered aquatic species in shallow water adjacent to treated areas. These risks will be addressed through the Endangered Species Protection Program. The registrant has agreed to take measures to reduce oryzalin's environmental risks which include prohibiting aerial application (except to agricultural crops in California) to reduce spray drift, and limiting the amount, frequency and timing of applications per year. Many confirmatory studies are required. For additional information, please contact Judy Coombs at 703-308-8046.

Piperalin - Piperalin is a fungicide used to control powdery mildew on ornamental plants, shrubs, vines and trees grown in commercial green houses. Currently, only one product is registered which contains this active ingredient. Use practice limitations include a recommendation to use with three specific surfactants, and prohibitions against entering treated areas without personal protective equipment (PPE) for 12 hours, applying the pesticide through any type of irrigation system, applying directly to water or wetlands, and contaminating water, food or feed.

Piperalin has no registered food uses so no dietary risks are posed. Even though applicators can be exposed to significant amounts of piperalin, this pesticide poses little toxicity concern. Workers' exposure will be minimized through product labeling requirements.

Piperalin is practically nontoxic to birds, highly toxic to fish, and moderately toxic to aquatic invertebrates. However, birds and mammals will not be significantly exposed to piperalin through consumption of insect and plant food containing residues of this pesticide. Exposure to fish and aquatic invertebrates also is not expected to occur since piperalin is used only inside greenhouses, and since labeling prohibits use practices that would contaminate water. No significant risks to birds, fish or aquatic invertebrates, including endangered species, are expected. For additional information, please contact Sue Rathman at 703-308-8069.

Sodium Cyanide - Sodium cyanide is a single dose poison used in the M-44 ejector device on pastures, range and forest land to control coyote, red fox, gray fox and wild dog populations that prey upon (or are likely to prey upon) livestock, poultry or endangered species, or that are vectors of communicable diseases. All uses are eligible for reregistration.

The currently registered uses of sodium cyanide are subject to multiple use restrictions to minimize potential adverse impacts on man and the environment. As a Restricted Use Pesticide, sodium cyanide may be applied only by trained, certified applicators under the direct supervision of a government agency. Sodium cyanide is not registered for use in residential environments, so risks are not posed to the general population. Risk of acute toxicity to applicators is mitigated by the pesticide's use restrictions and Restricted Use Pesticide classification.

Because of the specific nature of sodium cyanide's registered use pattern, the Agency has concerns for the potential risk of acute toxicity to non-target animals. Sodium cyanide is considered a high acute risk pesticide for terrestrial vertebrates, including non-target and endangered species. While the label restrictions were designed to minimize risk to non-target species, additional restrictions on the use of sodium cyanide were outlined for species at risk in a March 1993 U.S. Fish and Wildlife Service Biologial Opinion and are being imposed through the RED.

The Agency does not anticipate significant environmental exposure to sodium cyanide when it is used as an encapsulated material together with the M-44 ejector device. The environmental impact is expected to be minimal because of sodium cyanide's mode of application, as well as its degradation pattern in the environment. For additional information, please contact Kathleen Depukat at 703-308-8587.

(Z)-9-Tricosene or Muscalure - (Z)-9-tricosene is the sex-attractant pheromone of the female housefly. This biochemical pesticide is used for fly control in food/feed handling establishments, livestock premises and residential areas. Label restrictions prohibit use near food and feed. All uses are eligible for reregistration.

Certain chemistry issues must be resolved, and the Agency is requiring confirmatory data to correct these deficiencies and accurately characterize the technical chemistry of (Z)-9-tricosene. The potential risks to humans from both non-dietary and dietary routes are considered negligible. Because the active ingredients are impregnated or embedded in a solid polymeric matrix shell, there is low potential for exposure and there are no toxicological concerns.

(Z)-9-tricosene has low toxicity to mammalian species. It is practically non-toxic to birds and freshwater fish on an acute oral basis, and to birds on a subacute dietary basis. However, (Z)-9-tricosene is very highly toxic, even in low doses, to waterfowl for reproductive effects and is also highly toxic to freshwater invertebrates.

For (Z)-9-tricosene products that are formulated as bait stations and strips, the Agency assumes that exposure to terrestrial and aquatic species will be minimal. For products formulated

as crystals or granules, minimal acute effects to terrestrial species can be expected. However, effects to aquatic invertebrates may occur if direct application of the chemical accidentally occurs. These products also could pose a risk of reproductive effects to endangered avian species. Registrants are required to modify their products to substantially reduce exposure to birds. For additional information, please contact Tom Myers at 703-308-8074.

B. RED Candidates for Fiscal Year 1995

Table 1 shows the RED candidates for fiscal year 1995. It is likely that for some of these chemicals, REDs will be postponed until the next fiscal year. It is also possible that some new chemicals may be added. The target for fiscal year 1995 is a total of 40 REDs.

Table 1
RED Candidates for FY 95

List A

Alachlor	Copper Sulfate	Fenamiphos	Prometryn
Amitraz	Coumaphos	Fenitrothion	Sodium Omadine
Asulam	DCPA	Linuron	Terbufos
Bromacil	Diflubenzuron	Metolachlor	Trichlorfon
Captan	Diquat Dibromide	Nabam	Trifluralin
Chlorpropham	Ethephon	Naled	
Copper Compounds II	Ethion	Picloram	

List B

Bis(trichloromethyl)sulfone	Fosamine Ammonium	Starlicide	4-CPA and Salts
Ethalfluralin	O-Benzyl-P-Chlorophenol	Torbuthylazine	

List C

Alkylimida Zolines	Cellosolve Ester	Dowicil 100	
Ancymidol	Chlorhexidine Derivatives	Fluoroacetic Acid	
Bromohydroxyacetophenone	Dimethoxane	Propamocarb	

List D

Aliphatic Alcohols
Polybutene

C. Suspended Chemical Cases

EPA may issue a Notice of Intent to Suspend (NOITS) a pesticide product based on a finding that the registrant has failed to submit data under the requirement(s) of a FIFRA section 3(c)(2)(B) or a 4(d)(6) Data Call-In (DCI). Events that may result in the issuance of a NOITS include failing to provide adequate responses or data on time during the reregistration process or the Special Review process.

Suspension is an Agency action which affects the legal status of a pesticide product registration. After a suspension becomes final and effective, the pesticide registrant subject to suspension may not legally distribute, sell, use, offer for sale, hold for sale, ship, or deliver to any person the product(s) subject to the suspension. The product registration, however, remains in existence.

Suspension of the registration of each product will become final unless, within 30 days of receipt, one of the following actions is taken by the registrant: 1) compliance with the Agency's requirements is shown, 2) the registration is withdrawn, or the use which triggered the requirements is withdrawn, or 3) a hearing with EPA is requested.

EPA's Office of Enforcement and Compliance Assurance (OECA), formerly the Office of Compliance Monitoring (OCM), has initiated 780 NOITS actions for non-compliance with FIFRA resulting in 112 product suspensions from November 1989 to July 1994. In other cases, various outcomes resulted; for example, suspensions did not occur because data were submitted after the NOITS's were issued, or the matters were settled resulting in data submission.

D. Data Submitted for Reregistration

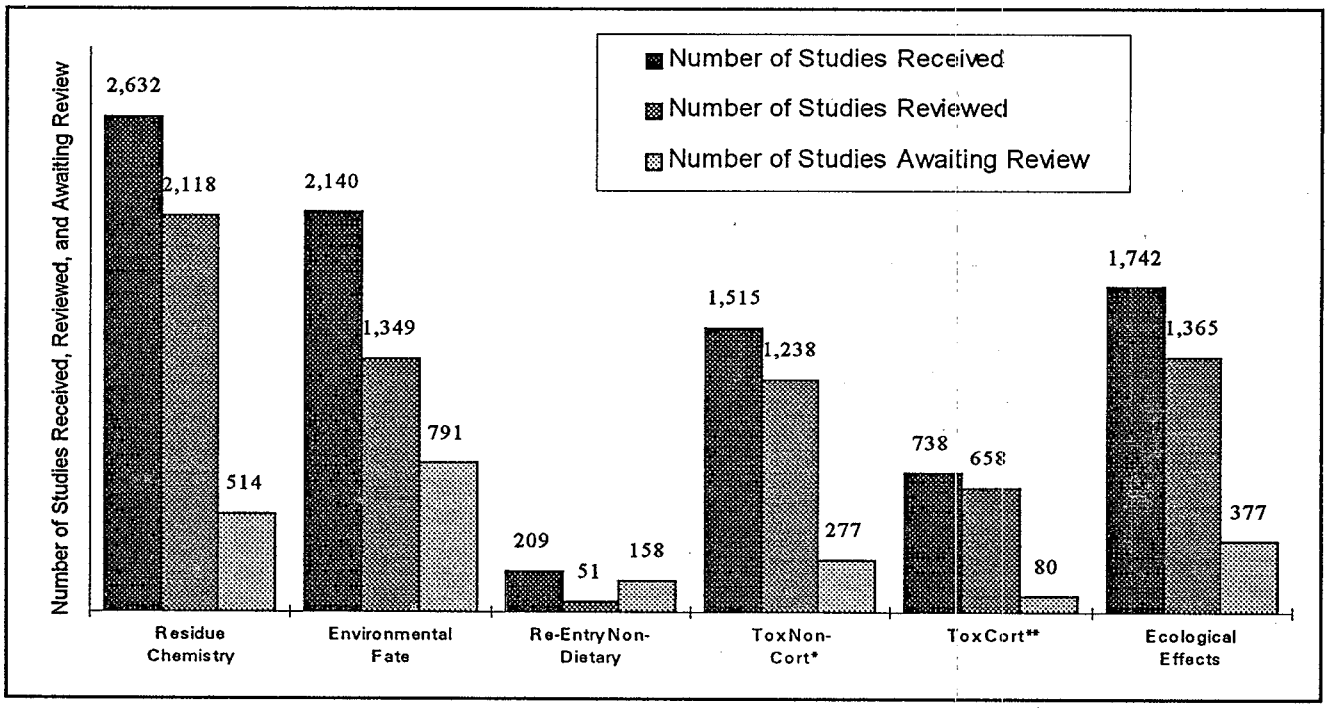
While EPA has formally evaluated the risks of only 81 chemical cases or 120 active ingredients for which REDs have been completed, the Agency actually has obtained a substantial amount of information on the remaining chemicals.

Figure 3 shows the total number of studies received, reviewed, and awaiting review by discipline for List A chemicals. The studies were submitted in response to the Registration Standards issued prior to FIFRA '88, as well as subsequent Data Call-In Notices.

Figures 4, 5, and 6 show the total number of studies received, reviewed, and awaiting review so far for List B, C, and D chemicals respectively in response to Data Call-Ins under FIFRA '88.

Figure 7 shows the cumulative totals of studies received, reviewed, and awaiting review for all lists by discipline and combined totals.

Figure 3
List A - Total Studies Received, Reviewed, and Awaiting Review as of Fourth Quarter FY 94



**TOX (CORT): Chronic Feeding, Carcinogenicity (Oncogenicity), Reproduction, and Developmental Toxicity (Teratology).

* TOX (Non-CORT): These studies measure toxicity of pesticides in other than CORT studies.

Figure 4
List B - Total Studies Received, Reviewed, and Awaiting Review as of Fourth Quarter FY 94

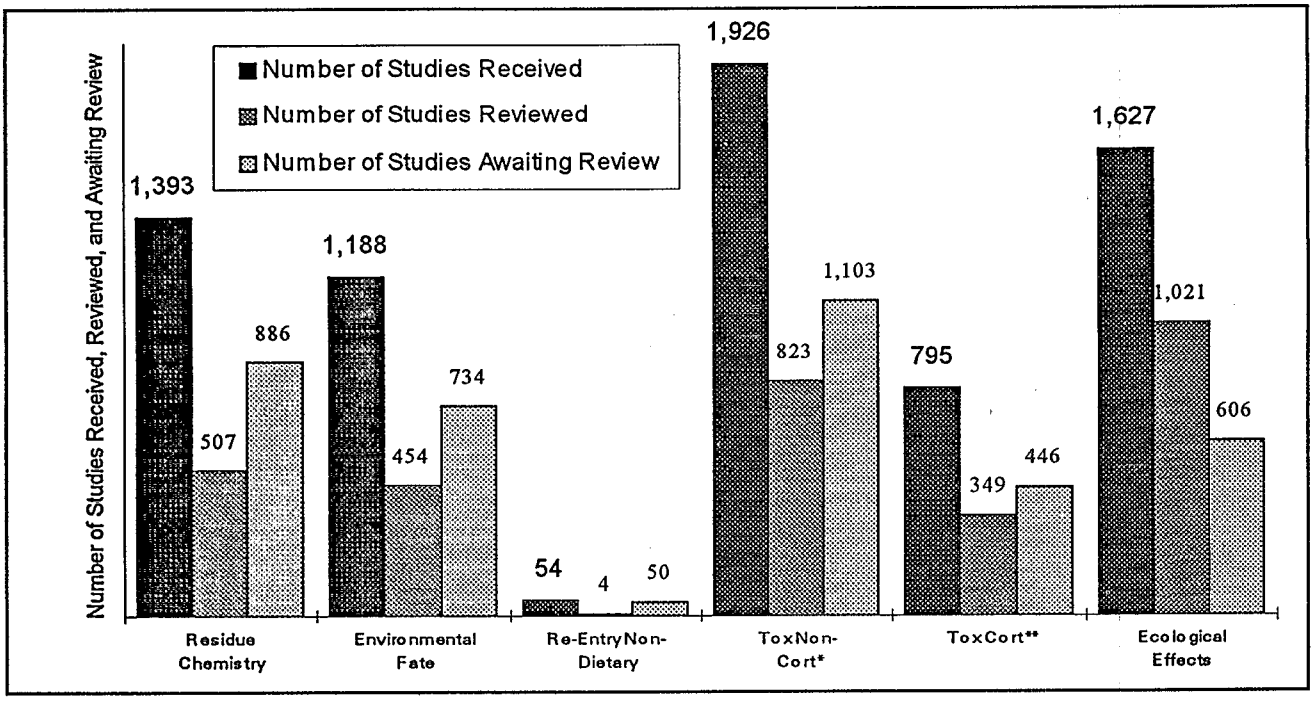
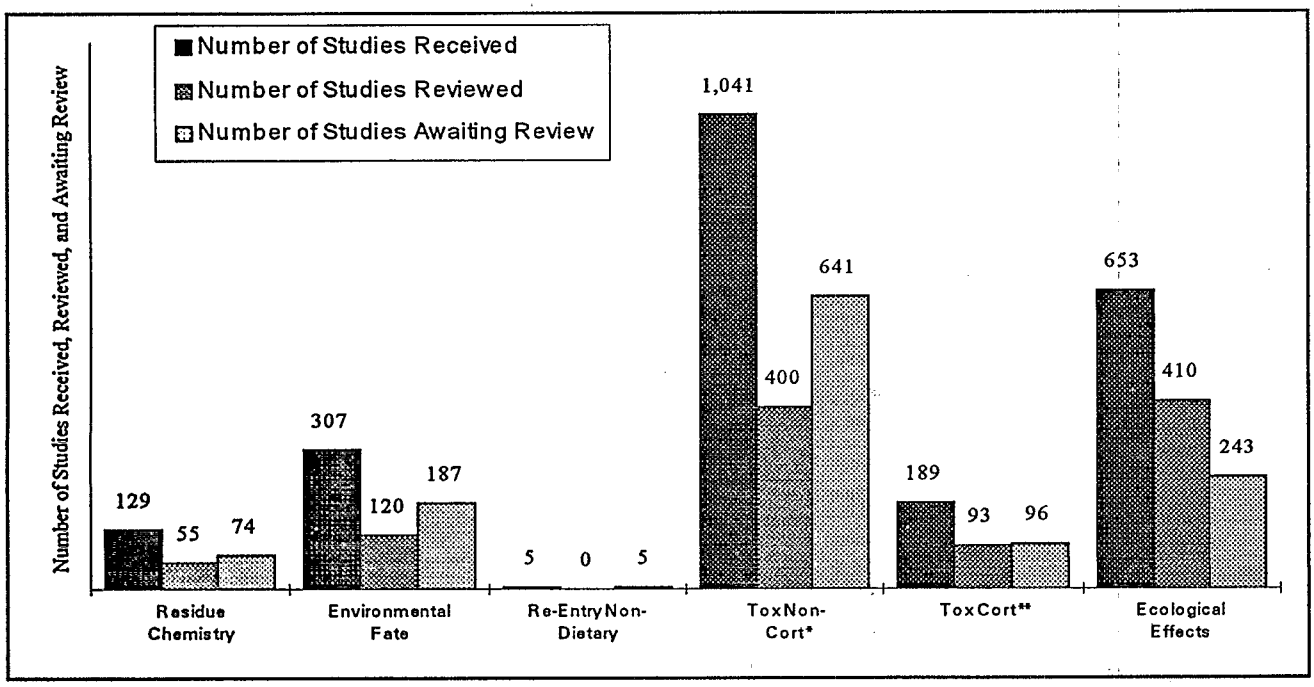


Figure 5
List C - Total Studies Received, Reviewed, and Awaiting Review as of Fourth Quarter FY 94



**TOX (CORT): Chronic Feeding, Carcinogenicity (Oncogenicity), Reproduction, and Developmental Toxicity (Teratology).

* TOX (Non-CORT): These studies measure toxicity of pesticides in other than CORT studies.

Figure 6
List D - Total Studies Received, Reviewed, and Awaiting Review as of Fourth Quarter FY 94

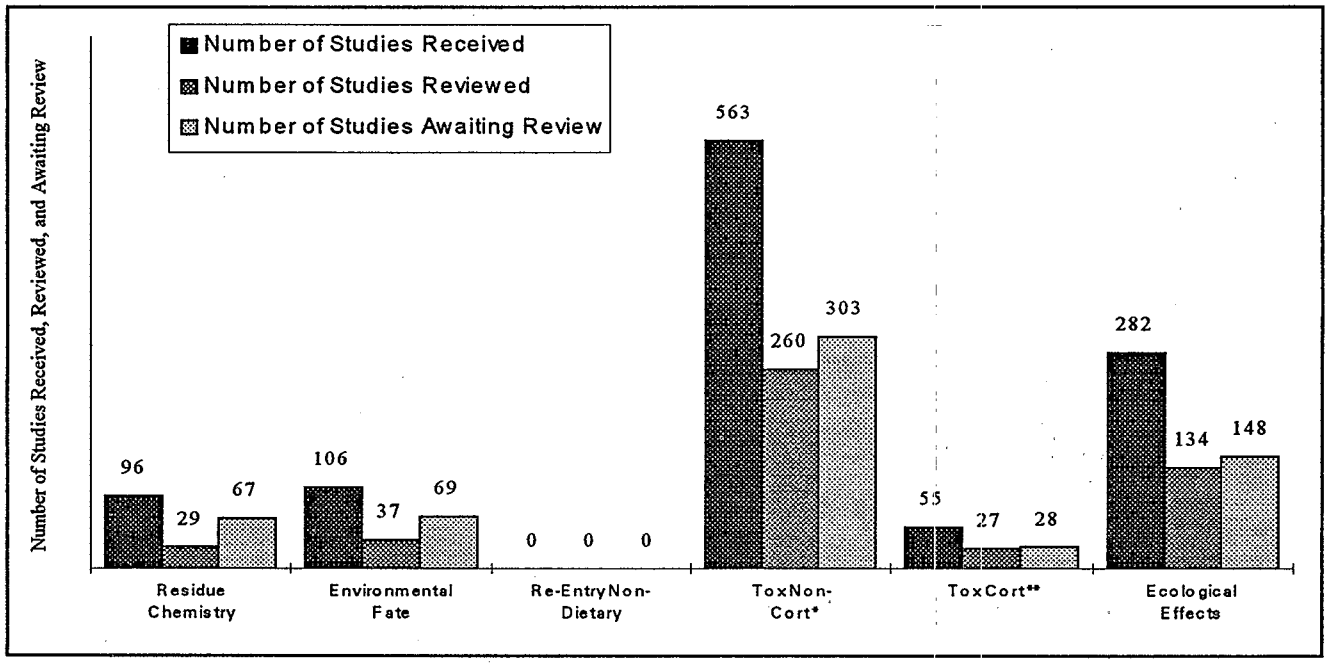
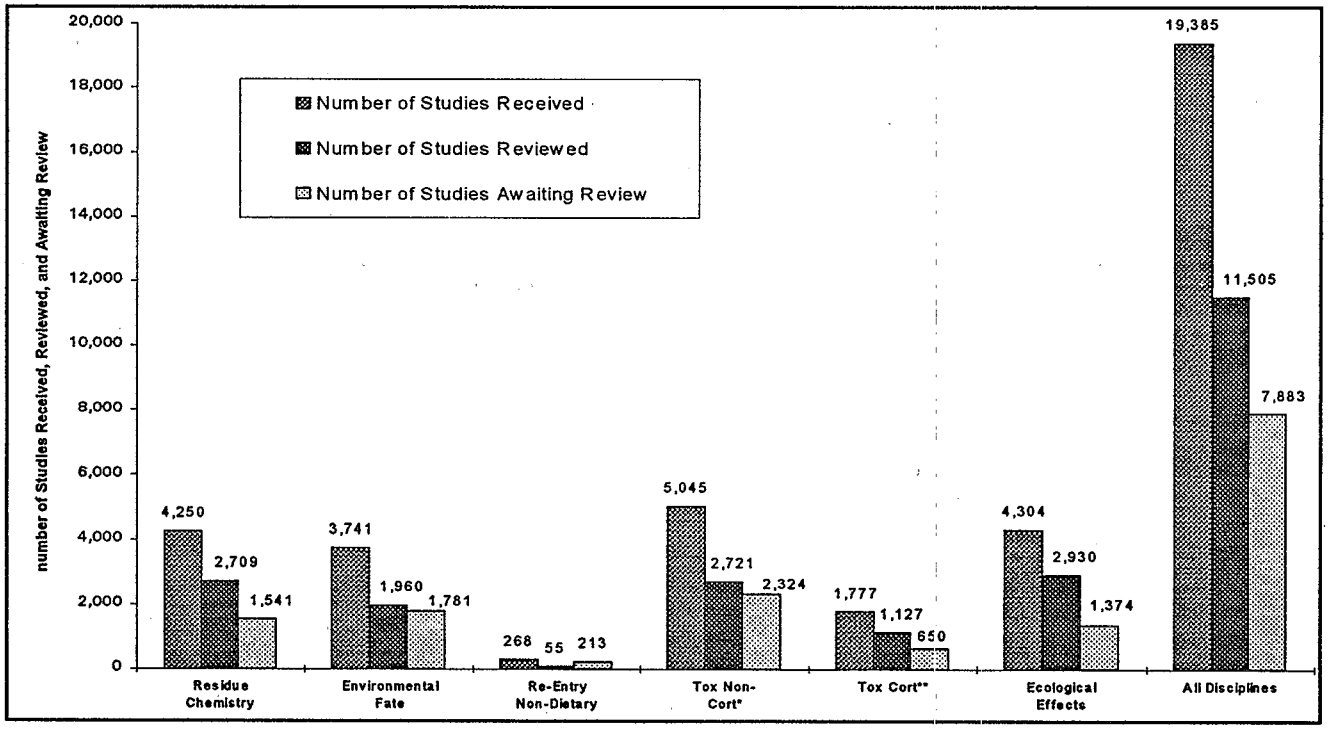


Figure 7
Lists A, B, C, D - Cumulative Studies Received, Reviewed, and Awaiting Review as of Fourth Quarter FY 94



**TOX (CORT): Chronic Feeding, Carcinogenicity (Oncogenicity), Reproduction, and Developmental Toxicity (Teratology).

* TOX (Non-CORT): These studies measure toxicity of pesticides in other than CORT studies.

III. OTHER MEASURES OF PROGRESS

A. Minor Uses

Table 2 provides information from the U.S. Department of Agriculture, National Agricultural Pesticide Impact Assessment Program (NAPIAP). The Reregistration Notification Network (RNN) provides information to interested parties on recent or impending pesticide cancellations. The information here was first published in the RNN, July 1994. For further information on any of the following pesticides, contact your NAPIAP State Liaison Representative or USDA at 301-504-8846.

Table 2
Proposed Use Cancellations or Tolerance Revocations - Fourth Quarter FY 94

Chemical	Products	Affected Uses
Alachlor	Lasso	EPA has revoked the tolerances for residues of alachlor on or in COTTON FORAGE, COTTONSEED, SUNFLOWER SEED, PEA FORAGE, PEA HAY, PEAS WITH THE PODS REMOVED, and POTATOES as of 8/3/94.
Captan, ethylene oxide, mancozeb, oxyfluorfen, propargite, propylene oxide, simazine		EPA is proposing to revoke certain food additive regulations for several pesticides that the EPA has decided induce cancer in animals and is therefore in violation of the Delany Clause of the FFDCA. Those food additive regulations proposed for revocation are captan in RAISINS; ethylene oxide in GROUND SPICES; mancozeb in BRAN of OATS, BARLEY, and RYE; mancozeb in FLOURS of OATS, BARLEY, RYE, and WHEAT; oxyfluorfen in PEPPERMINT, SPEARMINT, SOYBEAN, and COTTONSEED OILS; propargite in DRIED TEA, RAISINS, and DRIED FIGS; propylene oxide in GLACE FRUIT, COCOA, GUMS, PROCESSED NUTMEATS (EXCEPT PEANUTS), DRIED PRUNES, STARCH, and PROCESSED SPICES; and simazine in SUGARCANE MOLASSES, POTABLE WATER, and SUGARCANE SYRUP.
Carbophenothion	Trithion	EPA revoked all tolerances for residues of the insecticide carbophenothion as of 7/13/94. The last registered uses of this pesticide were cancelled in 1989. No action levels are being recommended to replace these revoked tolerances.
Demeton	Systox	EPA revoked all tolerances for residues of demeton as of 8/3/94. All product registrations for this insecticide and miticide were cancelled by October of 1989. This pesticide was once registered on over 45 fruits, vegetables, grains, and animal feeds.
Disulfoton	Di-Syston	Miles Inc. plans to delete the use on ALFALFA and CLOVER from its labels of Di-Syston (disulfoton) due to the cost of reregistration on 11/15/94. The only other registrant (a reformulator) of this insecticide-miticide with an alfalfa use is expected to follow their lead.

Table 2, cont.
Proposed Use Cancellations or Tolerance Revocations - Fourth Quarter FY 94

Chemical	Products	Affected Uses
Ethylan	Perthane	EPA has revoked the tolerances for residues of ethylan on or in APPLES, BROCCOLI, BRUSSELS SPROUTS, CABBAGE, CAULIFLOWER, CHERRIES, KOHLRABI, LETTUCE, MEAT, MILK, PEARS, and SPINACH as of 9/30/94. EPA is not recommending action levels for this pesticide.
Etridiazole	Terrazole	EPA has proposed the revocation of the tolerance for residues of etridiazole in or on TOMATOES. Several tolerances and registrations for etridiazole on other crops remain unaffected by this decision.
Mancozeb		EPA has removed the food additive regulation for mancozeb on RAISINS. It has been determined that this food additive regulation is not needed because any residues of mancozeb on raisins are covered by the tolerance set for grapes, the raw commodity of raisins. This rule responds to a petition submitted by the Mancozeb Task Force, which requested that EPA revoke the food additive regulation for mancozeb on raisins.
Mevinphos	Phosdrin	EPA announced on 6/30/94 that it has received and accepted a formal request from Amvac Chemical Corporation to immediately cancel all registrations of the insecticide-miticide mevinphos (Phosdrin). EPA has determined that the use of mevinphos products pose an unacceptable risk of exposure to agricultural workers. Amvac has agreed to immediately stop the production of mevinphos for sale or distribution in the U.S. Existing stocks of mevinphos may be sold and distributed through 12/31/94, after which Amvac has agreed to recall all unsold mevinphos products from dealers and distributors. Users may use existing stocks through 2/28/95.
o-Phenylphenol	Dowicide (R) 1 Antimicrobial, OPP	The Dow Chemical Company plans to delete APPLES, CANTALOUPES, CARROTS, CHERRIES, KUMQUATS, PINEAPPLES, and SWEET POTATOES from its labels of o-phenylphenol due to reregistration costs. Dow will defend the uses of OPP on CITRUS crops and PEARS. The remaining registered uses of OPP will likely be cancelled as EPA completes a review of other registrants' OPP products. Dealers and users may distribute, sell, and use existing stocks of OPP until such stocks are depleted.

Table 2, cont.
Proposed Use Cancellations or Tolerance Revocations - Fourth Quarter FY 94

Chemical	Products	Affected Uses
Oxythioquinox	Morestan	Miles Inc. plans to delete the use on MACADAMIA NUTS from its labels of Morestan due to the cost of reregistration on 11/15/94.
Perfluidone	Destun	PBI/Gordon Corporation plans to voluntarily cancel the use of perfluidone on TOBACCO due to the cost of reregistration. This is the last registered use of this herbicide; it has not been marketed in the U.S. for several years.
Phosmet	Imidan	The Gowan Company plans to delete from their labels the final labeled use of phosmet on CORN and CITRUS due to the cost of reregistration. This action will be final for this insecticide as of 11/15/94.
Terbutryn	Igran	EPA has proposed the revocation of all tolerances for residues of terbutryn on or in BARLEY, SORGHUM, and WHEAT.
Tetrachlorvinphos	Rabon	EPA has proposed the revocation of tolerances for residues of tetrachlorvinphos on or in APPLES, CHERRIES, CORN, CRANBERRIES, PEACHES, PEARS, and TOMATOES. Tetrachlorvinphos is still registered for a variety of livestock uses.

B. Rejection Rate Analysis

The Rejection Rate Analysis was conducted to address the high rate of rejected studies submitted to OPP during the reregistration process. EPA discovered that the submission of unacceptable studies is the most significant factor in delaying REDs. Conducting replacement studies can add several years to the reregistration process.

EPA's study of rejection rates, with the cooperation and active involvement of the pesticide industry, is an intensive effort to analyze rejected studies and understand the reasons for rejection. The resulting reports for each discipline should minimize the reoccurrence of deficiencies in future studies as the Agency enters the major data submission phase of reregistration.

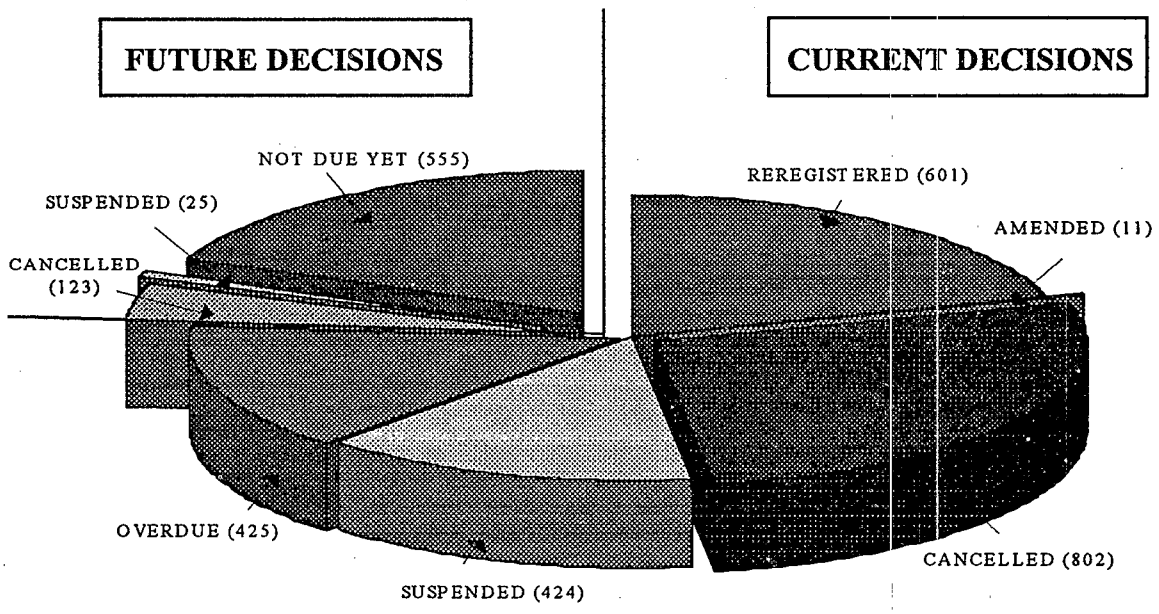
The Residue Chemistry, Toxicology, Environmental Fate, and Occupational and Residential Exposure Chapters of the Rejection Rate Analysis all have been completed and are available from U.S. EPA NCEPI, telephone (513) 891-6561, Fax (513) 891-6685. See Appendix B, Other Sources of Information, for the publication numbers of these documents.

The Ecological Effects chapter was completed this fall and is currently being printed.

C. Product Reregistration Status

Figure 8 shows the status of products subject to Reregistration Eligibility Decisions (REDs) issued to date. Overall a total of 601 products have been reregistered, 925 have been voluntarily cancelled, 449 have been suspended, and 980 are pending. "Current Decisions" covers those products for which EPA should have made a decision to reregister as of October 3, 1994. In this category, 601 products have been reregistered, 11 registrations have been amended, 802 products have been voluntarily cancelled, 424 product registrations have been suspended, and 425 still need a decision, for a total of 2,263 products. "Future Decisions" includes the 703 products for which the Agency's product reregistration decision is not yet due. In this category, 123 products have been voluntarily cancelled, 25 suspended, and 555 are progressing toward a reregistration decision.

Figure 8
Product Reregistration Status of 2,966 Products for 60 REDs* as of October 3, 1994



* Involves 97 active ingredients. As of 10/3/94, EPA has issued product specific data call-in's for 60 REDs covering/including 2,966 products.

[3] According to FIFRA, the Agency should reach a reregistration decision on each product 14 months after issuance of a RED, provided that the registrant(s) submit(s) acceptable data on time.

IV. TOPICS OF THE QUARTER

A. Avian Granular Risk Reduction Initiative

In May 1992, EPA issued the Comparative Analysis of Acute Avian Risk From Granular Pesticides (AGA). The analysis found that 14 granular compounds pose potentially high risk to birds due to their high acute toxicity and availability in the environment. Field evidence of bird deaths indicate that birds consume pesticide granules as grit or with food items. In many cases, only a few of the tiny granules can kill a bird.

Shortly after the AGA was issued, EPA met with the principal registrants of the granular pesticides identified in the analysis to encourage them to initiate voluntary avian risk reduction measures before the Agency considered what further regulatory action would be taken. The avian granular initiative was intended to foster the rapid implementation of interim, common-sense measures to reduce avian exposure, so that these basic measures could be factored into further assessment of the risks posed by these compounds. EPA's objective was to identify and communicate risk concerns early in the regulatory process, allowing registrants time to address these concerns prior to reregistration decisions or other regulatory action. The Agency's approach was generally well received by the companies involved, and it is believed that most companies submitted meaningful avian risk reduction packages.

EPA's initiative has produced positive results in a relatively short time. Through a combination of reduced pesticide applications, lower application rates and more complete incorporation of the granules into the soil, some product labels have shown marked reduction in the amount of pesticide potentially available to birds and other wildlife. In addition to changes to product levels, registrants' responses included ongoing and proposed research and education material for pesticides users. Among the research and education materials which EPA finds most useful are programs that incorporate pest management strategies focusing on diagnosing pest infestation levels to determine if pesticide applications are needed, and, if so, applying only the amount of pesticide necessary.

The focus of the avian granular initiative was limited to one endpoint and one formulation. EPA is currently nearing completion of a project to identify the chemicals that exceed other ecological endpoints of concern. That report will be available by early next year.

For further information on the Avian Granular Risk Reduction Initiative contact: Margaret Rice, SRRD/OPP (7508W), EPA, 401 M Street, S.W., Washington, D.C. 20460, telephone (703) 308-8039.

B. Ecological Rejection Rate Analysis - Final Chapter

This chapter is the joint effort of industry, EFED, and SRRD. In addition to discussing current rejection rates and factors, it also became a forum for expressing divergent perspectives on the way avian risk is assessed.

The chapter notes that rejection rates for some testing requirements, such as avian acute oral toxicity, have improved over time. Rejection rates for others, like avian and aquatic reproduction studies, fish toxicity, and avian chronic dietary testing, have not declined. On average, rejection rates for ecological effects declined from 36% prior to 1986 to the current rate of 20%.

EPA and industry scientists met in April 1994 to improve understanding of factors leading to ecological effects study rejection. The rejection rate analysis cites industry comments on each rejection factor and EPA's response to them. Some issues involving specific elements of testing were worked out during the April meeting. Other issues, including methodologies for fish full life-cycle and terrestrial and aquatic nontarget plant testing, and the larger issue of avian risk assessment, remain to be resolved. OPP hopes that these outstanding issues can be resolved in the future by workgroups in which industry is represented.

The Ecological Effects chapter will be available to the public in the next few months. Earlier analyses on Residue Chemistry, Worker Exposure, Toxicology, and Environmental Fate can be obtained from NCEPI, PO Box 42419, Cincinnati, OH 45242-0419, telephone (513) 489-8190. OPP hopes to make all the chapters available on its electronic bulletin board in the future.

C. New Industry-Wide Task Forces

Outdoor Residential Task Force:

An industry-wide Outdoor Residential Exposure Task Force has been formed to share the cost of satisfying generic exposure data requirements for application and reentry activities at residential lawns, grass or turf. These data requirements will be levied through a Data Call-In Notice to be issued the end of the calendar year 1994, to all registrants who have products registered for use on residential lawns, grass or turf. The Notice will require dermal and inhalation exposure data from mixing, loading, and applying products at these sites (study guideline numbers 231 and 232); dermal and inhalation exposure data on persons who reenter treated areas (guideline studies 133-3 and 133-4); and foliar dissipation residue data (guideline study 132-1(a)). Those desiring further information may contact: Mr. Harold Himmelman, Task Force Counsel (202) 789-6012; Dr. Timothy Pastoor , Task Force Administrative Chairman (302) 886-5578; or Dr. Monty Eberhart, Task Force Technical Chairman (816) 242-2654.

Agricultural Reentry Exposure Task Force:

An industry-wide Agricultural Reentry Exposure Task Force has been organized to share the cost of developing a generic agricultural reentry exposure data base to satisfy post application reentry data requirements. These data requirements will be levied through a Data Call-In Notice which will be issued to all registrants who have products registered for use on an agricultural crop. The Data Call-In will require dermal and inhalation exposure data on persons who reenter treated areas (guideline 133-3 and 133-4) and foliar dissipation residue data (guideline

132-1(a)). Those desiring further information on the task force may contact: Mr. Harold Himmelman, Counsel, (202) 780-6012; Dr. Timothy Pastoor, Task Force Administrative Chairman (302) 886-5578; or Dr. Edgar Day, Task Force Technical Chairman (317) 337-3667.

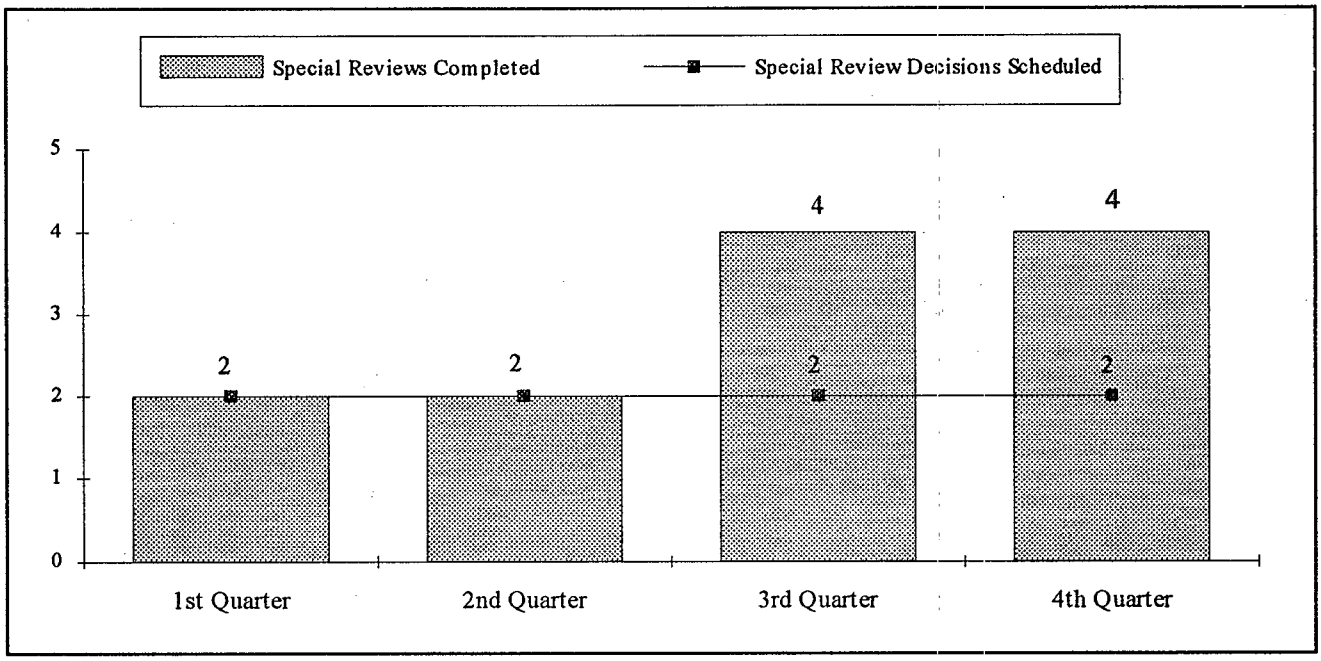
V. SPECIAL REVIEW DECISIONS

This section summarizes the significant regulatory decisions made on chemicals in the Special Review process during the fourth quarter, fiscal year 1994. The formal Special Review process for chemicals which have met or exceeded risk criteria of unreasonable adverse effects is set forth in 40 CFR Part 154.

Special Review decisions represent major EPA actions which may ultimately cancel, deny, or reclassify the registration of pesticide products, because uses of the products may cause unreasonable adverse effects on human health or the environment. In addition, Special Review decisions may establish policy or guidelines on which other environmental decisions relating to pesticide registrations are based.

Figure 9, Special Review Decisions Scheduled and Completed, shows that OPP exceeded the scheduled target completing four special review decisions for the fourth quarter of FY 94. The target for FY 94 was a total of eight special review decisions; 12 decisions were made. For further information on Special Review chemicals, please call (703) 308-8010.

Figure 9
Special Review Decisions Scheduled and Completed - FY 94



4th Quarter Special Review Decision Summaries

Mevinphos - EPA accepted a request for voluntary cancellation of all uses of mevinphos from Amvac, the sole technical manufacturer of the chemical. AMVAC submitted this request in response to plans by the Agency to issue Notice of Intent to Suspend or Cancel due to unreasonable risks posed to persons exposed to mevinphos. This voluntary cancellation is also regarded as a Reregistration Eligibility Decision by EPA. As part of the cancellation agreement, all mevinphos products will be subject to recall by Amvac as of December 31, 1994. Last date

for use of existing stocks has been set for February 28, 1995.

EBDC (Leafy Green Decision) - In response to the EBDC Notice of Intent to Cancel/Position Document 4, green growers and processors had requested a hearing on EPA's decision to cancel the uses of EBDC fungicides on leafy greens. After consideration of new residue data that were generated, EPA maintains its original decision to cancel these uses. This decision is based on estimates of risk posed to non-Hispanic blacks from EBDC-treated greens.

EBDC (Subpart D Decision) - The Agency granted the subpart D request to allow more than one EBDC fungicide to be used on a particular crop within a growing season. In granting this type of use, the Agency stipulated that the total amount of EBDCs used could not exceed the maximum allowance established in the Position Document 4.

Avian Granular Risk Reduction - The Agency issued a progress report which outlined the risk reduction measures that were instituted as a result of the avian granular risk reduction initiative. This initiative provided an analysis of the risks posed to avian species from the use of granular pesticides. The final progress report also indicated those areas that still needed addressing by pesticide registrants to further reduce avian risk. (See separate article under Topics of the Quarter).

Tolerance Revocations

During the fourth quarter of fiscal year 1994, SRRD processed two tolerance related actions. A description of each follows.

Carbophenothion - Effective July 13, 1994, the Agency revoked all raw agricultural commodity tolerances, all food additive tolerances and all feed tolerances for residues of the insecticide carbophenothion because all registered uses of carbophenothion on these commodities have been cancelled. This action, a final rule, was published in the **Federal Register** on July 13, 1994 (59 FR 35629). The tolerances for these commodities were listed in 40 CFR 180.156, 40 CFR 185.700, and 40 CFR 186.700.

Perthane - Effective September 30, 1994, the Agency revoked tolerances for residues of 1,1-dichloro-2,2-bis(p-ethylphenyl)ethane (also known as perthane) in or on raw agricultural commodities because all uses of perthane on these commodities have been cancelled. This action, a final rule, was published in the **Federal Register** on August 31, 1994 (59 FR 44930). The tolerances for these commodities were listed in 40 CFR 180.139.

VI. CALENDAR OF EVENTS (FY 1995)

1st Quarter FY 95	2nd Quarter FY 95
• 10 REDs are scheduled to be completed. • 2 Special review decisions are scheduled to be completed.	• 2 Special review decisions are scheduled to be completed.

Appendix A. Cumulative Summary of Reregistration Actions

The following is a cumulative summary of the reregistration actions completed to date. OPP has completed REDs and summary fact sheets for each of the pesticides (cases) listed below. Copies of the REDs and the fact sheets may be obtained during the public comment period from the Docket, Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs, U.S. Environmental Protection Agency, Washington, DC 20460 Tel: (703) 305-5805. Electronic copies of all RED fact sheets and all recent fiscal year 1994 REDs can be downloaded from the Pesticide Special Review and Reregistration Information System at 703-308-7224, and also can be reached on the Internet via *FEDWORLD.GOV* and EPA's gopher server, *EARTH1.EPA.GOV*. RED documents issued since April 1994 are available free of charge while supplies last from the National Center for Environmental Publications and Information (NCEPI), P.O. Box 42419, Cincinnati, OH 45242-0419, Tel: (513) 489-8190, Fax: (513) 489-8695. After the comment period, documents are available from the National Technical Service (NTIS), Attention: Order Desk, 5285 Port Royal Rd., Springfield, VA 22161, Tel: (703) 487-4650.

CUMULATIVE RED TOTALS

Total REDs = 81
Total Chemicals/AI's Covered = 120
Total Products Covered = 3,521
Total Tolerances Reassessed = 500

DATA CALL-IN SUMMARY

Fiscal Year	Number of DCIs Issued
FY 1990	27
FY 1991	159
FY 1992	97
FY 1993	93
FY 1994	77
Total	453

FY 91 REDs Summary

RED Case Name	List	Date Signed	# Chemicals/AIs Covered	# Products* Covered	Total Tolerances
1. Carbon and Carbon Dioxide	D				
2. Dried Blood	D	9/91	2	9	0
3. Fosetyl-Al (Aliette)	A	9/91	1	3	0
4. Heliothis zea (NPV)	A	12/90	1	2	24
5. Methoprene	A	12/90	1	1	0
6. Potassium Bromide	A	3/91	1	63	23
7. Propionic Acid	D	6/91	1	2	0
8. Silicon Dioxide/Silica Gel	D	9/91	1	14	0
9. Sodium and Calcium Hypochlorites	A	9/91	2	75	0
10. Sodium and Potassium Nitrates	D	9/91	2	770	0
11. Sodium Diacetate	D	9/91	2	6	0
12. Sulfur	A	9/91	1	2	0
13. Warfarin	A	3/91	1	332	0
		6/91	2	76	0
	Totals		18	1,355	47

* The number of products listed reflects the number registered at the time the RED was completed. This number is constantly changing.

FY 92 REDs Summary

RED Case Name	List	Date Signed	# Chemicals/AIs Covered	# Products* Covered	Total Tolerances
14. Alkyl Amine Hydrochloride	C	8/92	1	3	0
15. Allium Sativum (Garlic)	D	6/92	1	4	0
16. Bone Oil	C	---**	1	2	N/A
17. Capsaicin	D	6/92	1	8	0
18. Chlorinated Isocyanurates	A	9/92	5	741	0
19. Citric Acid	D	6/92	1	3	0
20. Ethylene	C	9/92	1	8	0
21. Heptachlor	A	3/92	1	2	0
22. Indole-3-Butyric Acid (IBA)	B	8/92	1	31	0
23. Nosema Locustae	D	9/92	1	6	0
24. Putrescent Whole Egg Solids	D	6/92	1	6	1
25. Soap Salts	D	9/92	2	25	0
26. Sodium Hydroxide	D	9/92	1	9	0
27. Streptomycin	A	9/92	2	26	14
28. Zinc Salts	D	8/92	2	7	0
Totals			22	881	15

** Voluntarily cancelled

FY 93 REDs Summary

RED Case Name	List	Date Signed	# Chemicals/AIs Covered	# Products* Covered	Total Tolerances
29. Biobor	C	6/93	2	12	0
30. Boric Acid	A	9/93	7	189	1
31. Butylate	A	9/93	1	14	3
32. Cedarwood Oil	C	9/93	1	5	0
33. Daminozide	A	9/93	1	4	0
34. Eugenol***	D	9/93	1	5	1
35. Glyphosate	A	9/93	2	56	126
36. Inorganic Halides	D	9/93	2	35	0
37. Iron Salts	D	3/93	3	5	0
38. Menthol	D	9/93	1	1	1
39. OBPA	A	6/93	1	15	0
40. Oxalic Acid	D	12/92	1	4	0
41. Oxytetracycline	A	3/93	3	7	2
42. PEP(phenylethyl Propionate)***	C	9/93	1	5	0
43. Silver	D	7/93	1	65	0
44. Sodium Lauryl Sulfate	D	9/93	1	2	1
45. Sulfuryl Fluoride	A	9/93	1	1	0
46. Thymol	C	9/93	1	5	0
47. Tris(hydroxymethyl)nitromethane	C	9/93	1	9	0
Totals			32	439	135

* The number of products listed reflects the number registered at the time the RED was completed. This number is constantly changing.

** Voluntarily cancelled.

*** Exempted from regulation as pesticides under Section 25(b) of FIFRA.

FY 94 REDs Summary

RED Case Name	List	Date Signed	# Chemicals/AIs Covered	# Products* Covered	Total Tolerances
48. Barium Metaborate	A	12/93	1	3	0
49. Bromine	D	12/93	1	4	1
50. Lithium Hypochlorite	C	12/93	1	40	0
51. Mineral Acids	D	12/93	4	212	0
52. Peroxy Compounds	D	12/93	3	23	0
53. Vegetable and Flower Oils	D	12/93	6****	32	0
54. 2-[(Hydroxymethyl) Amino] Ethanol or Ethanolamine	C	3/94	2	3	0
55. Hexadecadienol Acetates	D	3/94	2	18	0
56. Methiocarb	A	3/94	1	22	0
57. Periplanone B	B	3/94	1	1	0
58. Pronamide	A	3/94	1	18	46
59. Tebuthiuron	A	3/94	1	12	15
60. Maleic Hydrazide	A	6/94	2	26	4
61. N6-Benzyladenine	B	6/94	1	2	0
62. Bentazon	A	9/94	1	14	45
63. Chlorine	D	9/94	1	72	0
64. Chloromxylenol	C	9/94	1	7	0
65. Cosan 145 or Nuosept 145	C	9/94	1	2	0
66. Cresol	D	9/94	1	1	0
67. DBNPA	C	9/94	1	46	0
68. DCDIC	C	9/94	1	80	0
69. Difenzoquat	A	9/94	1	2	22
70. Fenbutatin-Oxide or Vendex	A	9/94	1	10	44
71. Hexazinone	A	9/94	1	20	11
72. Limonene	C	9/94	1	15	0
73. Mercaptobenzothiazole	B	9/94	2	5	0
74. Metalaxyl	A	9/94	1	81	95
75. Mevinphos**	A	9/94	1	0	0
76. Muscalure a(z)-a-Tricosene	D	9/94	1	11	0
77. Oil of Citronella***	C	9/94	1	17	0
78. Oryzalin	A	9/94	1	38	20
79. Piperalin	C	9/94	1	1	0
80. Sodium Cyanide	C	9/94	1	7	0
81. Xylenol	D	9/94	1	1	0
Totals			48	846	303

* The number of products listed reflects the number registered at the time the RED was completed. This number is constantly changing.

** Voluntarily cancelled.

*** Exempted from regulation as pesticides under Section 25(b) of FIFRA.

**** One A.I., "essential oils" will become 24 A.I.s after the RED is issued; many of these will eventually be declared inert ingredients.

Appendix B. Other Sources of Information

For documents or further information on reregistration issues related to this progress report, please contact the following sources.

The following publications are available from:

NCEPI
P.O. Box 42419
Cincinnati, OH 45242-0419
Tel: (513) 489-8190
Fax: (513) 489-8695

- Catalog of OPP Publications and Other Information Media, March 1994
  Publication Number: EPA 730-B-94-001
  Lists titles and ordering information for many types of documents published by the Office of Pesticide Programs.

- Pesticide Reregistration Pamphlet, May 1992
  Publication Number: EPA 700-K92-004

- Status of Pesticides in Reregistration and Special Review (Rainbow Report), June 1994
  Publication Number: EPA 738-R-94-003

- Rejection Rate Analysis, Residue Chemistry Chapter, June 1992
  Publication Number: EPA 738-R-92-001

- Rejection Rate Analysis, Residue Chemistry Guidance on Conducting Plant and Livestock Metabolism Studies, July 1992
  Publication Number: EPA 738-B-92-001.

- Rejection Rate Analysis, Residue Chemistry Guidance for:
  Storage Stability
  Theoretical Concentration Factors
  Raw Data Guidance, February 1993
  Publication Number: EPA 737-R-93-001.

- Rejection Rate Analysis, Residue Chemistry/ Environmental Fate Guidance for:
  Conducting Rotational Crop Studies, February 1993
  Publication Number: EPA 738-B-93-001.

  Rejection Rate Analysis, Environmental Fate Chapter, August 1993
  Publication Number: EPA 738-R-93-010

- Rejection Rate Analysis, Toxicology Chapter, July 1993
  Publication Number: EPA 738-R-93-004

- Rejection Rate Analysis, Occupational and Residential Exposure Chapter, August 1993
  Publication Number: EPA 738-R-93-008

- Rejection Rate Analysis, Residue Chemistry Guidance for:
  Updated Livestock Feed Tables
  Aspirated Grain Fractions
  Calculating Livestock Dietary Exposure
  Number and Location of Domestic Crop Field Trials, June 1994
  Publication Number: EPA 738-K-94-001.

Federal Register Publication of Lists A, B, C and D

List A: FR 2/2/89, pages 7740-7750
List B: FR 5/25/89, pages 22706-22714
List C: FR 7/24/89, pages 30846-43396
List D: FR 10/24/89, pages 43388-43396
For information contact: (703) 305-5805

Status of Chemicals in Special Review, April 1994
For information contact: (703) 308-8173

National Pesticide Telecommunications Network (NPTN)
For information about pesticide poisoning symptoms and general information:
Tel: 1-800-858-7378; Fax: 806-743-3094

Comments

EPA welcomes your comments on this progress report and on activities related to reregistration. Please address your comments to:

Attention: Ed Setren
Pesticide Reregistration Progress Report
Special Review and Reregistration Division (7508W)
United States Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

For more copies of this report (Publication Number: EPA 738-R-94-014) or to be added to the "SRRD MABELS" mailing list, please write or fax to the following address:

U.S. EPA, NCEPI
P.O. Box 42419
Cincinnati, OH 45242-0419
Telephone: (513) 489-8190
Fax: (513) 489-8695