Compilation of Effectiveness Assessment Measures

The effectiveness of the *Our Water, Our World* Program has been assessed periodically[1] in many ways since the Program's inception in 1998. Below is a compilation of excerpts of the effectiveness assessment information reported in the years listed. Effectiveness assessment information has been reported in 12 of the Program's 23 years of operation. Both outputs and outcomes are reported. The excerpts include both program-wide and local permittee assessments. [Ed. Notes to the reader from the editor of this compilation are shown in brackets]

1999

Although program goals for the first year did not include sales results targets, members of the regional committee have been acutely aware that program observers are eager for some measure of reduced amounts of pesticides reaching Bay Area surface waters. In fact, sales data from 1998 and 1999 for both toxic and less-toxic products was provided by 20 stores that: 1) fully implemented the program and 2) had electronic inventory control. Although these data may not represent all participating stores, these data do provide an indication of the results of the program when it is well implemented by both agency and store staff. Due to this factor and a number of other factors including the idiosyncratic nature of practically every pest season, and the fact that government representatives in a "partnership" with local businesses are in no position to demand cooperation in this sensitive proprietary area, the data is helpful, but not perfect.

Available sales figures indicate that toxic [Ed. i.e., conventional] product types showed more decreases than increases in units sold in 1999. Overall sales of toxic products also declined. In addition, the average number of units of toxic products sold per store in 1999 declined from the previous year. Thus, it appears that the *Our Water, Our World* promotion may have contributed to a reduction in the sale of toxic products during the year in which it was in operation.

Similarly, most less-toxic product types showed increased sales in 1999, compared to 1998. Furthermore, there was an increase in the total number of units of less-toxic products sold in 1999, and there was an increase in the average number of units sold, per store, across all product types. Therefore, the *Our Water, Our World* promotion may have been responsible for an increase in the sale of less-toxic products in 1999.

The net effect on overall sales of decreased conventional product sales and increased less-toxic product sales was positive. This result was supported by feedback from store managers and employees, many of whom said: "This is what our customers want!"

[1] 1999, 2003, 2004, 2010, 2011, 2012, 2013, 2016, 2017, 2018, 2019, and 2020.

2003

Evaluations

The evaluations conducted to-date tend to fall into two categories: surveys of people (attitudes, opinions, behaviors) and surveys about the products. The "people" surveys are either specifically conducted to garner information about the *Our Water, Our World* Promotion or they are more general surveys that include questions about pesticides. The respondents to the more general surveys are picked either randomly or non-randomly. Two kinds of product surveys have been conducted: shelf space surveys and sales data analyses. This organization of evaluations is reiterated below with the names of the evaluations provided by partner agencies shown in *italics*.

- People Surveys
  - Program / Store – These are surveys of program participants in either the stores, events, or both and provide specific information about the program.
    - *CCCSD Program Effectiveness Survey*:
    - *SVSWA Store Manager Survey*
    - *SVSWA Event / Clinic Evaluation*
  - General – These are surveys of the general public and not specific to the program.
    - Non-random selection
      - *MCSTOPPP Calendar Survey*
    - Random selection
      - *UCD Residential Pesticide Use in California*

- Product Surveys
  - Shelf space
    - *Regional Board / DPR sponsored Shelf Surveys*
  - Sales data
    - *Pesticide Distributors Project*

Copies or excerpts of these evaluations are provided in the Appendices. [Ed. Access subject to availability] The most pertinent results are provided below:

People Surveys

Program / Store

CCCSD Program Effectiveness Survey – Central San conducted a survey of store staff and Master Gardeners regarding the effectiveness of the program.

- 100% of the respondents felt that people are more aware, and more willing to try less-toxic methods.
- 83% of store staff felt that customers responded to the *Our Water, Our World* Promotion displays by showing more interest in less-toxic pest control methods/information but also through increased sales of less-toxic pest control products.
- 100% of the store staff felt that their participation in the program has been beneficial to both their store as well as their customers.
- 82% of store staff responded that the store employees would benefit from additional training in IPM.
- 100% of store staff thought the display materials are effective.

SVSWA Store Manager Survey – Salinas Valley Solid Waste Authority conducted a manager survey in the fall of 2002.

- 64% of store managers rated the shelf talkers as most effective at educating customers on less-toxic products.
- Store managers gave the program an overall effectiveness rating of 6.6 out of 10 possible.
- Store managers estimated a 15% increase in the sales of products endorsed by the program.

- The most important reason by far that store managers gave for participating in the program was the possibility of increased sales (40%). Personal interest in less-toxic products (20%) and customer demand / advertising (15%) were secondary reasons.

SVSWA Event / Clinic Evaluation – Throughout the 2002 promotion, Salinas Valley Solid Waste Authority also surveyed participants in events and clinics for the general public and training workshops for store staff.

- At least 95% of participants in events and clinics for the general public said they were helpful, and they were willing to try less-toxic methods/products.
- 100% of the store staff found the training workshops helpful, and 93% were willing to try less-toxic methods/products.
- 100% of the store staff would recommend the workshop to a friend.

General

MCSTOPPP Calendar Survey – MCTOPPP distributed a survey along with 15,000 of its 2003 calendars to members of the general public through 50 local businesses and 48 public agencies and community groups. About 600 teachers and an undetermined number of individuals also received the calendars on request as a result of news articles appearing in local papers.

- 86% of respondents believe that non-toxic or less-toxic pesticides can replace conventional pesticides, at least some of the time.
- 30% of respondents said they would look for a product that is the least toxic if they were to buy a product to manage a pest in their home or garden.
- 21% of respondents had heard of either 1-800 CLEANUP or www.cleanup.org.
- 30% of respondents knew that IPM helps to determine whether, when, and how to treat a pest problem.

UCD Residential Pesticide Use in California – The University of California Statewide IPM Program sponsored a telephone survey to gather information about outdoor pesticide use, pest control practices, and attitudes of residents. Between September 2002 and January 2003, approximately 2,600 households were surveyed in three areas of northern California – Bay Area, Sacramento, and Stockton. Some of the draft results are:

- About 40% of Bay Area residents indicated that they had heard or saw something in the media or on posters, brochures, or billboards about pesticide use and water quality within the last year or so. Of these 40%, more than 79% were able to describe the informational message and/or source of the information.
- Well over half of the respondents in the three northern California areas were aware that pesticides used around homes and gardens affect water quality in local creeks, rivers, and bays. However, only about a quarter of them had made changes in their pest control practices as a result.
- Large home supply stores accounted for 43% of all pesticide sales to residential users in the San Francisco Bay Area. Hardware stores were the second most important source (20%). Retail nurseries accounted for less than 7% of sales.
- The top reason in the Bay Area for choosing a specific product was how fast it works (40.4%) with human health concerns second (32.3%), followed by how long it lasts (27.2%), pet safety (24.4%), and cost (22%). Environmental concerns were significantly higher in the Bay Area (16%) than elsewhere (10%).
- Word-of-mouth was the top source of information (35.1%) regarding pesticide products with store employees being second (26.3%). Store employees were significantly more influential to those older than 30 (all age classes 31 and up were greater than 19% and as high as almost 33%) than those between 18 and 30 (8.6%) as sources of information. Analyses were performed to examine the relationship between reliance on store employees and the types of stores. Store employees were a greater factor in choice among people who purchased pesticides in nurseries (55.6%) and hardware stores (44.4%) than those who purchased them elsewhere (all other store types less than 26%).

Product Surveys

Shelf Space

Regional Board / DPR sponsored Shelf Surveys – The Regional Board sponsored a survey of insecticide products available for sale in two major pesticide retailers in the San Francisco Bay Area in March 2002.

- In general, the nature of the insecticide product mix changed substantially since a previous shelf space survey was conducted a little over a year before in late 2000. Retail sales of chlorpyrifos were phased-out by December 31, 2001 but retail sales of diazinon were not required to be phased-out until December 31, 2002 (indoors) and December 31, 2004 (outdoors).
- By March 2002, all chlorpyrifos products were gone as were most diazinon products. Remaining diazinon products included concentrates, granules, and dusts in small and large quantities. The dusts were especially surprising, as these dust products—including the large quantity product in a 5-pound bag—were not previously observed. Some products were accompanied by shelf talkers saying "Looking for Dursban?" and recommending the product as a replacement.
- A relatively large number of active ingredients are replacing diazinon and chlorpyrifos in retail insecticides. Most of these ingredients are from the pyrethroids family of insecticides.

Sales Data
Pesticide Distributors Project – This project involves working with key account managers and sales representatives from the pesticide distributor companies to promote less-toxic products in the stores. The distributors helped to assess percent increase and decrease of product sales during 2002.

- The major organophosphates of concern showed decreased sales (diazinon –9%; malathion –23%) and another pesticide of concern – carbaryl – showed a 24% decrease.
- One of the emerging pesticides of concern – cyfluthrin – showed an 11% increase in sales.
- Imidacloprid, which is one of the conventional pesticides mentioned as an alternative by the program showed a 20% increase.
- Other alternative products also showed increased sales (neem oil + 36%; soaps +33%; whitefly traps + 11%, iron phosphate baits +10%, and horticultural oil +7%).

Discussion

A review of the evaluations shows the following general results:

Promotion is well designed and positioned – Store managers and other program participants (e.g., Master Gardeners) give the program favorable to very favorable ratings. The display materials and training workshops received very high marks for their effectiveness. The importance of the program being in the stores where purchases are made was reinforced by the result that store employees are the second most important source of consumer information, and that they are particularly important in nurseries and hardware stores, and to adults over 30.

What many customers want – A significant proportion of both residents and consumers are not only receptive to but are asking for information and products for less-toxic pest control. Significant percentages are aware of the issue of pesticides and water quality (about 40%). Among program participants or informed residents, the vast majority is not only willing to try less-toxic methods / products but also believes that less-toxic pesticides can often replace conventional pesticides. Although environmental concerns are not the top reason for choosing a product, it is almost as important as cost to Bay Area residents. And of those that hire someone else to control their pests, more than 80% were somewhat likely or very likely to hire an environmentally friendly pest control operator (PCO).

Promotion is having intended impact – Store managers report that the program is effective at both increasing interest in, as well as the sales of less-toxic products. And the vast majority of program participants (80 – 100%) view the program as beneficial to the stores, their employees, and their customers.

A market in transition – All of the data on products show a market that is in the midst of a major and relatively rapid change or turnover. The turnover is from a few very popular active ingredients (i.e., diazinon and chlorpyrifos) to a number of active ingredients and /or methods for pest control. The change can also be grossly characterized as a split or move from a market dominated by conventional pesticides to one in which conventional pesticides are still the major product type but also a market in which less-toxic products and methods are increasingly available and important.

Remaining challenges – The evaluations also revealed some remaining challenges including:

- Despite the awareness of over half of survey respondents that pesticides used around homes and gardens affect water quality in local creeks, rivers, and bays, only about a quarter of them had made changes in their pest control practices as a result.
- The incomplete and inconsistent presence of the program in large home supply stores – where reportedly 43% of pesticide sales occur – continues to limit the program's effectiveness.
- The top reason in the Bay Area for choosing a specific product is how fast is works (40%).

2004

Evaluations
The evaluations conducted to-date tend to fall into two categories: surveys of people (attitudes, opinions, behaviors) and surveys about the products. The "people" surveys are either specifically conducted to garner information about the *Our Water, Our World* Program or they are more general surveys that include questions about pesticides. The respondents to the more general surveys are picked either randomly or non-randomly. Two kinds of product surveys have been conducted: shelf space surveys and sales data analyses. This organization of evaluations is reiterated below with the names of the evaluations provided by partner agencies shown in *italics*.

- People Surveys
  - Program / Store – These are surveys of program participants in either the stores, events, or both and provide specific information about the program.
    - *BASMAA Promotional Awareness and Effectiveness Study*
    - *USD / Fremont Store Employee Training Survey*
    - *SCVURPPP Store Employee Training Survey*
  - General – These are surveys of the general public and not specific to the program.
    - Non-random selection
      - *USD / Fremont Event Survey*
      - *Alameda Zone 7 Event Survey*
      - *Livermore Event Survey*
      - *Hayward Calendar Survey*
      - *Marin Calendar Survey*
      - *San Francisco Calendar Survey*
    - Random selection
      - *CCCSD Customer Survey*
      - *Fairfield-Suisun Sewer District Survey*
- Product Surveys
  - Shelf space
    - *USEPA-sponsored Shelf Survey*
    - *San Jose-sponsored Shelf Survey*

Copies or excerpts of these evaluations are provided in the Appendices. [Ed. Access subject to availability] The most pertinent results are provided below:

<u>People Surveys</u>
Program / Store

BASMAA Promotional Awareness and Effectiveness Study – Intercept interviews of store customers (first direct, scientific evaluation of target audience)

- 1,290 customers at various participating nurseries and hardware stores in seven Bay Area counties.
- 15% had heard of the program (considered quite a good percentage in retail business, especially for program without paid advertising).
- 27% had seen one of the program items (logo, literature rack sign, shelf tag, fact sheets).
- 30% calculated total awareness (aided and unaided) of the *Our Water, Our World* program.
- 65% of the respondents who had seen any of the program items, said that these items helped them either very much or somewhat in identifying less-toxic products or methods.

USD / Fremont Store Employee Training Survey – The Union Sanitary District conducted a survey of store staff regarding training they received on the program. Twenty-two responses were received.

- 100% of the respondents agreed (14%) or strongly agreed (86%) that the training handouts were useful.
- 100% of store staff agreed (23%) or strongly agreed (77%) that they had learned enough to manage some common pests in less-toxic ways.
- 100% of the store staff agreed (23%) or strongly agreed (77%) that, as a result of the training, they knew more about less-toxic pest management, even though 92% said they were aware of less-toxic pest management prior to the training.
- 50% of store staff noted that customers frequently ask them about less-toxic pest control, while 36% said that customers do so occasionally.
- 96% of store staff feels more comfortable about talking to customers about less-toxic pest control as a result of the training workshop.

SCVURPPP Store Employee Training Survey – The Santa Clara Valley Urban Runoff Pollution Prevention Program conducted a survey of store staff regarding training they received on the program. One hundred thirteen employees attended the trainings and 107 responses were received.

- 97% of the respondents agreed that the training information was useful.
- 51% of the respondents agreed that the information changed their attitude about pesticides.
- 88% of the respondents agreed that the information will help them sell less-toxic products.
- 90% of the respondents agreed that they will recommend the training to co-workers.

General – Non-random selection – The Alameda Countywide Clean Water Program (ACCWP) developed a general survey for use by stormwater co-permittees in Alameda County. The following agencies used the survey as described below:

USD / Fremont Event Survey – The Union Sanitary District conducted the ACCWP survey at the Mission Creek Restoration Celebration in Fremont. Fifty-nine surveys were filled out.

- 24% of respondents rated "damage to the environment caused by pesticides" as one of the two most critical environmental issues facing the community, which tied for fourth highest among six given choices.
- 59% of respondents rated "pesticides" as a stormwater pollutant – tied for the third most common answer out of seven given choices.
- 83% of respondents said that they believed "conventional" pesticides can be replaced some of the time (50%) or all of the time (33%) with non-toxic or less-toxic alternatives that are just as effective, if not better.
- 68% of respondents answered a factor that most influences their decision to buy a pest control product is the product being less-toxic, which was the highest rated answer of the seven given choices. The second most popular answer was "price" (41%).
- 47% of respondents answered "hardware store" as a place where they buy pesticides, followed by "nursery" (35%), "home improvement center" (33%), and "grocery/drug/variety store" (28%).
- 98% of respondents thought pesticides as well as other materials can run off into storm drains and harm aquatic life.
- 67% of respondents have not heard the term "IPM" or "Integrated Pest Management."

Alameda Zone 7 Event Survey – Alameda's Zone 7 Water Agency used the ACCWP survey at an Earth Day 2004 event.

- 36% of respondents rated "damage to the environment caused by pesticides" as one of the two most critical environmental issues facing the community, which was the third highest among six given choices.
- 62% of respondents rated "pesticides" as a stormwater pollutant – tied for the third most common answer out of seven given choices.
- 64% of respondents said that they believed "conventional" pesticides can be replaced some of the time (31%) or all of the time (33%) with non-toxic or less-toxic alternatives that are just as effective, if not better.

- 68% of respondents answered a factor that most influences their decision to buy a pest control product is the product being less-toxic, which was the highest rated answer of the seven given choices. The second most popular answer was "price" (34%).
- 53% of respondents answered "home improvement center" as a place where they buy pesticides, followed by "hardware store" and "grocery/drug/variety store" (35% each), and then "nursery" (22%).
- 84% of respondents thought pesticides as well as other materials can run off into storm drains and harm aquatic life.
- 68% of respondents have not heard the term "IPM" or "Integrated Pest Management."

Livermore Event Survey – The City of Livermore used the ACCWP survey at the Lawrence Livermore National Laboratory Earth Day event and the City of Livermore Earth Day event. Twelve Alameda County residents were surveyed at Lawrence Livermore National Lab Earth Day event and five (all Livermore residents) were survey at the City of Livermore Earth Day event, for a total of 17 respondents.

- 24% of respondents rated "pesticides" as a stormwater pollutant – the least common answer out of seven given choices.
- 82% of respondents said that they believed "conventional" pesticides can be replaced some of the time (29%) or all of the time (53%) with non-toxic or less-toxic alternatives that are just as effective, if not better.
- 41% of respondents answered a factor that most influences their decision to buy a pest control product is the product being less-toxic, which was the highest rated answer of the seven given choices. The second most popular answers were "price" and "quick acting vs. long term" (18% each).
- 59% of respondents answered "hardware store" as a place where they buy pesticides, followed by "nursery" and "home improvement center" (41% each), and then "grocery/drug/variety store" (18%).
- 100% of respondents thought pesticides as well as other materials can run off into storm drains and harm aquatic life.
- 65% of respondents have not heard the term "IPM" or "Integrated Pest Management."

Hayward Calendar Survey – The City of Hayward inserted the ACCWP survey into their 2003 Caring for the Environment calendar (issued December 2002) as a mechanism for distribution. To promote the return of the survey, the survey form included a return postage-paid mailer. Hayward residents as of December 31, 2003 returned a total of 47 completed surveys. In addition, the survey was distributed to City of Hayward employees during Pollution Prevention Week events. City employees as of December 31, 2003 returned a total of 63 completed surveys.

- 23% of residents and 17% of City employees rated "damage to the environment caused by pesticides" as one of the two most critical environmental issues facing the community, which was fourth highest among six given choices.
- 79% of residents and 78% of City employees rated "pesticides" as a stormwater pollutant – the fourth most common answer out of seven given choices.
- 78% of residents and 84% of City employees said that they believed "conventional" pesticides can be replaced some of the time (38% - residents / 54% – employees) or all of the time (40% residents / 30% – employees) with non-toxic or less-toxic alternatives that are just as effective, if not better.
- 55% of residents and 51% of City employees answered a factor that most influences their decision to buy a pest control product is the product being less-toxic, which was the highest rated answer of the seven given choices. "Price" was the fourth most popular answer (40%) for residents and the second most popular answer (40%) for employees.
- 60% of residents and 62% of City employees answered "home improvement center" as a place where they buy pesticides. The top answer was followed closely by "hardware store" (55%) for residents and somewhat less closely (48%) for City employees. "Grocery/drug/variety store" (40% residents / 32% – employees) and "nursery" (38% residents / 24% – employees) were the third and fourth most popular answers of the five given choices.

- 94% of residents and 95% of City employees thought pesticides as well as other materials can run off into storm drains and harm aquatic life.
- 70% of residents and 79% of City employees have not heard the term "IPM" or "Integrated Pest Management."

Marin Calendar Survey – The Marin County Stormwater Pollution Prevention Program distributed 15,000 calendars that included a survey inserted between the calendar pages. Four hundred and twenty-five responses were returned for a response rate of 2.8%.

- 91% of respondents said that they believed "conventional" pesticides can be replaced some of the time (37%) or all of the time (54%) with non-toxic or less-toxic alternatives that are just as effective, if not better.
- 35% of respondents answered "nursery" as the place where they buy pesticides, followed by "hardware store" (19%) and "Home Depot or Costco" (16%), and then "Longs, Rite-Aid" (10%).
- 31% of respondents knew that IPM (Integrated Pest Management) helps people determine whether, when and how to treat a pest problem.
- 35% of respondents said that in the last two years they had switched from using a conventional pesticide to a safer alternative, and 48% said that they hadn't used pesticides in the last 2 years.

San Francisco Calendar Survey – All customers who receive a water bill also received information on how to get a free calendar from the City and County of San Francisco. An insert in the water bill provided information on how customers could call or e-mail the city to receive the calendar. The calendars were also made available at San Francisco's *Our Water, Our World* Program stores, all public library branches, various community centers, garden and flea markets, and outreach events. Overall, about 25,000 were distributed, and 1,161 responses were received back. A survey card was inside each calendar.

- 21% of respondents said that they had seen the *Our Water, Our World* Program logo at their local nursery or hardware store.
- 81% of respondents answered that they do not (35%) or very rarely / only as a last resort (46%) apply chemicals to control pests, weeds, or as a fertilizer.

General – Random selection

CCCSD Customer Survey – CCCSD conducted a survey through their customer newsletter in fall 2003. The newsletter was sent to about 150,000 households/businesses in their service area; 433 were returned.

- Almost half (47%) of respondents had heard or seen information about less-toxic pest control like the *Our Water, Our World* campaign.
- Of the respondents who had heard or seen the information, 26% saw it in a city or special newsletter, 22% in a newspaper, and 15% in the nursery or hardware store itself. "TV" was listed as the source by only 7% of respondents, which is a very positive and significant result since most people when asked for the source of their information by surveys invariably say TV, even when TV was not used as a source by the information provider.
- 48% of respondents said that the information about less-toxic pest control influenced how they garden or what pest control method they use.

Fairfield-Suisun Sewer District Survey – Fairfield-Suisun Sewer District conducted a baseline survey among residents in the District's watershed. 550 residents were surveyed by telephone.

- 57% of respondents said they had seen or heard "less-toxic products" in the last year – more than double the percentage that said they had seen or heard "our water, our world" (27%).
- 80% of respondents were aware that putting pesticides down the drain could harm their local sewer system.

Product Surveys
Shelf Space

USEPA and San Jose-sponsored Shelf Surveys – The U.S. Environmental Protection Agency and the City of San Jose sponsored surveys of insecticide products available for sale in two major pesticide retailers in the San Francisco Bay Area in September 2003 and May 2004, respectively. Both surveys were conducted using the methods used in the March 2002 survey reported on in the 2002-2003 Regional Evaluation Report (BAPPG and BASMAA, 2003).

- Retail sales of chlorpyrifos were phased-out almost two years (by December 31, 2001) before the September 2003 survey and retail sales of indoor diazinon products were phased-out about nine months before (by December 31, 2002). Retail sales of outdoor diazinon products are not required to be phased-out until December 31, 2004. In general, the results of both runs of the survey reflect widely anticipated changes as a result of the phase-outs in the insecticide market away from organophosphorous pesticides and to pyrethroids.

- September 2003 Survey
  - All chlorpyrifos products were gone as were almost all diazinon products. The few observed diazinon products appeared to be remainders based on the low number of containers, absence in other stores of the same chain, and shelf placement in irregular locations. Several pyrethroid products were accompanied by shelf talkers saying "Looking for Diazinon?".
  - Pyrethroids are now dominating the insecticide marketplace. Among products with outdoor structural pest control uses, permethrin is the most common insecticide, followed by cyfluthrin, bifenthrin, and esfenvalerate. Many of these pyrethroid products have the same brand and product names as previous products (with different registration numbers) formulated with diazinon or chlorpyrifos. Displays generally highlight pyrethroid insecticides; in contrast, malathion, carbaryl and other possible diazinon substitutes were not observed in promotional displays. Imidacloprid appears to have lost the urban market inroads it had previously appeared to be making.
  - Participation in the *Our Water, Our World* program may correlate with stocking less-toxic alternative pest control products. It was qualitatively observed that stores participating in the *Our Water, Our World* program had a relatively broad selection of less-toxic products, and a much greater selection than observed in the surveys in the late 1990s, just after when the *Our Water, Our World* program was initiated. The fewest less-toxic products were observed at a store that is not currently participating in the *Our Water, Our World* program.

- May 2004 Survey
  - Pyrethroids are now dominating the insecticide marketplace. Most of the insecticide shelf space at both stores is populated with pyrethroids. While up to one-third of insecticide products do not contain pyrethroids, non-pyrethroid insecticides are more likely to be specialty products like products for house plants, cockroaches, mosquitoes, or snails and thus given limited shelf space.
  - Seasonal displays generally highlighted pyrethroid insecticides or weed-and-feed herbicides. Less-toxic products, such as baits and traps were observed in several promotional displays.
  - Diazinon and chlorpyrifos phase out is evident. No diazinon or chlorpyrifos products were observed.
  - Product mix has not changed meaningfully in the last year. Compared to the previous survey (September 2003), the list of products identified was relatively similar. Between 10 and 20% of the products had been replaced, generally by similar products with different brand names. The changes in product active ingredients, formulations, and sizes were relatively minor and did not appear to reflect any meaningful trend. Product instructions were similar to those observed in recent surveys.

Discussion

A review of the evaluations shows the following general results:

Training is well designed and important – Store employees give the training workshops very high marks for their effectiveness. The importance of the training is reinforced by the result that store employees are an important source of consumer information (50% are asked frequently and 36% occasionally by customers about less-toxic pest control), and that virtually all of the trainees feel more comfortable about talking to customers about less-toxic pest control as a result of the training workshop.

What many customers want – A significant proportion of non-randomly selected residents believe "conventional" pesticides can be replaced some of the time or all of the time with non-toxic or less-toxic alternatives, and a majority rated a product being less-toxic as the most influential factor in their decision to buy a pest control product – even above price.

Program is having intended impact – According to one random selection survey, almost half of respondents have heard or seen information about less-toxic pest control like the *Our Water, Our World* campaign, and the information about less-toxic pest control influenced how they garden or what pest control method they use. According to the other random selection survey, somewhat more than half of respondents had seen or heard information about less-toxic pest control and about one-quarter had seen or heard the term *Our Water, Our World*. Appropriately, a significant majority of non-randomly selected residents have not heard the term "IPM" or "Integrated Pest Management." "Appropriately" because the *Our Water, Our World* program has purposely downplayed the use of these terms. In addition, although pesticides are not rated as one of the top environmental problems, a very significant majority of non-random respondents to the surveys understands that pesticides are a stormwater pollutant and can harm aquatic life.

A changed market – In contrast to the situation a year ago, as reported in the 2002-2003 Regional Evaluation Report (BAPPG and BASMAA, 2003), the transition from diazinon and chlorpyrifos-based products to pyrethroid-based products is complete. In fact, other conventional active ingredients like malathion, carbaryl, and imidacloprid that appeared to be poised to gain market share during the transition away from diazinon and chlorpyrifos now appear not to have done so and maybe even to have declined in importance. As noted in last year's report, the change can also be grossly characterized as a split or move from a market dominated by conventional pesticides to one in which conventional pesticides are still the major product type but also a market in which less-toxic products and methods are increasingly available and important – especially in stores participating in the *Our Water, Our World* program.

Remaining challenges – The surveys also revealed probably the remaining challenge to the program achieving its full potential – the need to be in the stores where the vast majority of pesticide sales occur – given the fact that home improvement centers were the top or one of the top locations to buy pesticides and the direct correlation between the presence of the *Our Water, Our World* Program and the number and variety of less-toxic products available to consumers.

2010

OSH reported "natural insecticides" sales up 8.5% compared to previous year. Home Depot increased their less toxic offerings 17.2%.

2011

OSH reported "natural insecticides" sales down 13.7% compared to the previous year, but sales of all pesticides was also down compared to the previous year.

2012

We worked with one of the major chains to get some sales information on less toxic pesticides sales year-to-year. For the 17 less toxic pesticides chosen by the chain, sales increased an average of 23% over last year (2011/2012 vs. 2010/2011).

2013

- Coordinated program implementation with major chains Home Depot, Orchard Supply Hardware (OSH), and Ace Hardware National. Corporate office of OSH (San Jose) and Home Depot (Atlanta) directed support of the program with their stores. Work with these major chains resulted in year-to-year increases in sales of less-toxic products of:
    - +29% in retail sales – OSH
    - +22-25% - Home Depot

  Our qualitative assessment suggests the following factors (in no particular order) behind these relatively large increases:
    - Early dry spring
    - Improved economy
    - Increased consumer interest and demand in organic and green products
    - Increased selection and higher visibility of less toxic products due to better displays and *Our Water, Our World* participation in end-cap displays
    - Increased participation of *Our Water, Our World* at these retailers (more call frequency as a whole)
    - Increased participation of *Our Water, Our World* with IPM Advocates (see below) at regional road shows and district kick-off meetings where we met with hundreds of employees we never have before reached in such numbers
    - Increased trainings of Home Depot and OSH employees at *Our Water, Our World* stores
    - Increased tablings at these two retailers

2016

Below are some timely quantitative metrics provided by store partners for FY 15-16:

- OSH reported sales in the less toxic and organic category were up 3-4% over the previous year.
- Home Depot reported:
    - They increased their shelf space for less toxic products in their main product aisle by 20% over last year.
    - They merchandized most of these products together in one bay in the main pesticide/garden aisle.
    - Scott's Miracle Gro increased the sales of their less toxic pesticide product line Nature's Care in Home Depot by 30-92%.

2017

Below are some outputs and outcomes for FY 16-17:

- 124 *Our Water, Our World* Store Trainings
- 1,017 employees trained at *Our Water, Our World* stores
- 107 Tabling events at *Our Water, Our World* stores
- 6,577 customers contacted by Advocates at tabling events at stores
- 80 questions researched and answered by technical expert
- Increases over last year in trainings by 11%, trainees by 16% and customers reached at tablings by 30%.
- Home Depot reported that Scott's Miracle Gro increased the sales of their less toxic pesticide product line Nature's Care by 49%.

2018

Below are some outputs and outcomes for FY 17-18:

- 124 *Our Water, Our World* Store Trainings
- 1,038 employees trained at *Our Water, Our World* stores
- 113 Tabling events at *Our Water, Our World* stores
- 7,001 customers contacted by Advocates at tabling events at stores
- 65 questions researched and answered by technical expert
- Increases over last year in trainings by 2%, trainees by 6% and customers reached at tablings by 6%.
- Home Depot reported that Scott's Miracle Gro increased the sales of their less toxic pesticide product line Nature's Care by 5%.
- Home Depot continues to increase their less toxic product offerings by 5-10% over the last year.
- OSH less toxic products increased in units sold by 4% over last year's numbers sold.

2019

Below are some outputs and outcomes for FY 18-19:

- 80 *Our Water, Our World* Store Trainings
- 638 employees trained at *Our Water, Our World* stores
- 104 Tabling events at *Our Water, Our World* stores
- 4,608 customers contacted by Advocates at tabling events at stores
- 44 questions researched and answered by technical expert
- Home Depot reported that Scott's Miracle Gro increased the sales across each category of their less toxic pesticide product line Nature's Care on average by 12.5% - 30%.
- The sales of Sluggo by Monterey are up approximately 35%.
- The sales of the Copper Soap fungicide by Monterey are up approximately 30%.
- Home Depot continues to increase their less toxic product offerings by 8-12% over the last year.

2020

Below are some outputs and outcomes for FY 19-20:

- 36 *Our Water, Our World* Store Trainings
- 301 employees trained at *Our Water, Our World* stores
- 54 outreach events at *Our Water, Our World* stores
- 3,146 customers contacted by Advocates at tabling events at stores and virtual events
- 28 questions researched and answered by technical expert
- Over 30% increase in sales of eco-pesticide categories and an overall 8% increase in sales of eco-products over the previous year (Home Depot Corporate)
- Doubling of Sluggo sales over the previous year
- Over 29% growth in sales of Ortho Ground Clear, a newer eco-herbicide (Scotts Miracle-Gro)
- Over 22% growth in sales of Ortho 3-in-1, pyrethrin and sulfur combination