

# Home Compost Education and Pesticide Use Reduction Education Program Report 2010-2011



Home Composting Workshop

## 2010-2011 Annual Report

Prepared by P. Vossen and D. Curle  
Sonoma County UC Cooperative Extension

# Home Compost Education & Pesticide Use Reduction Education Program

Annual Report, July 2010-June 2011

This is a report of activities for the first year (July 1, 2010 to June 30, 2011) of the renewed three-year contract from July 1, 2010 to June 30, 2013.

## 1 Results Summary

A total of 27,002 people were reached through approximately 362 events, community gatherings, workshops, farmers' markets, library series talks, and the resource desks. Several thousand more were reached via our website that provides educational information on home composting and pesticide use reduction strategies. 440 school children were also reached in school composting presentations. Based on these efforts, an estimated 2,629 tons of organic materials (kitchen scraps and yard waste) were diverted from the landfill this last year.

## 2 Program Goals and Contracted Tasks

To reduce organic landfill inputs by teaching home composting through volunteer Master Gardeners (MG) at public events, schools, community gatherings, resource desks, and workshops.

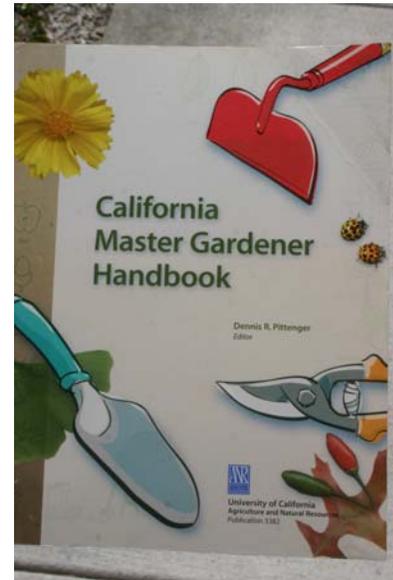
- Provide home composting and pesticide use reduction education (PURE) information via direct contact with 5,000-10,000 county residents at selected major public events such as the Sonoma County Fair, Harvest Fair, Home and Garden Show, Cloverdale Citrus Fair, Sonoma County Jail Industries Nursery bi-annual plant sale, Master Gardener's Bloomin' Backyards educational garden tour, etc. where large numbers of people are gathered (25 event days/year).
- Create an educational demonstration garden at the Sonoma County Fair.
- Provide home composting and PURE information via direct contact with county residents at ten farmers' markets (Healdsburg, Cloverdale, Sebastopol, Oakmont, Sonoma, Santa Rosa, Occidental, Cotati, Windsor and Petaluma), and Master Gardener Library Series presentations at 9 libraries (Cloverdale, Guerneville, Petaluma, Rohnert Park, Sonoma, Healdsburg, Windsor, Sebastopol, and Santa Rosa) for a minimum of 200 Farmers' Market and Library Series days.
- Distribute 10,000 educational brochures on home composting and PURE including UC Consumer Pest Cards, at the events listed above.
- Conduct 20 school classroom presentations, leaving the class with worm composting materials for students and teachers to practice school waste diversion and to effect behavioral change in students.
- Provide a resource desk and phone line to answer composting questions 5 days per week and 4-6 hours per day.

- Collect names of home composters to conduct a survey in 2013 on composting habits and information on their sources of composting information.
- Conduct a postcard survey in 2013, using names of contacts gathered at workshops.
- Estimate landfill diversion based on survey data from 1994-97, 2003-04, 2007-08 and February 2010.

### 3 Background

Since 1993, the University of California Cooperative Extension (UCCE) has provided compost education for county residents with funding from the Sonoma County Waste Management Agency (SCWMA).

In the last nineteen years, the program has reached 304,045 residents with composting brochures, bin distribution programs, educational booths at large public events, library talks, farmers' market information tables, workshops, and by providing a resource desk for call-in/drop-in questions in Santa Rosa and Sonoma. Each year large numbers of people have been reached by concentrating efforts at educational booths at well-attended public events.



Since its inception, the program has reached more than 7,500 residents through compost workshops and clinics. These are in-depth instructional seminars where the participants spend considerable time (1-2 hours) learning about composting and in some cases, making a compost pile. Over the years we have gradually shifted away from conducting long workshops due to declining attendance. Now our efforts focus on events and activities where large numbers of people gather.

In 1994-1997, three surveys were conducted documenting home composting by trained workshop and educational event participants, which provided the benchmark for tonnage diversion up until 2002. According to those surveys we estimated that almost 70% of workshop contacts began or increased composting and reduced their input into the waste stream by 19.5 gallons per household per month.

In 2003-04, a short post card survey was sent to people who received information about home composting from the Master Gardener Program. This survey was designed to gather information about the effectiveness of information dissemination on home composting from mini-demos and event booths. Most of these contacts are much shorter than contacts made at workshops and do not usually include hands-on compost pile construction. This audience of people is not necessarily motivated to attend a long workshop specifically on compost pile construction. Many more contacts are made with

this methodology, but the length and detail of the contacts is diminished. From those responses we estimated that about one-quarter (23.2%) of those, who had received information on composting, started or increased their composting. Those respondents indicated that on average they were composting almost 1 gallon (0.92 gallons) of kitchen waste and almost 4 gallons (3.68 gallons) of yard waste per month. Additionally, almost one-third (29.7%) of the survey respondents indicated that on average they were diverting 13.8 gallons per month of organic materials into the curbside pick-up containers.

In 2007 we conducted another postcard survey of people attending mini demos and information booths. According to that survey, 19.7% of the people receiving compost information from the Master Gardener Program started or increased composting. They also indicated that they were composting 17.9 gallons of kitchen scraps and yard waste per month. Current diversion estimates are based on this survey work.

In February 2010 we conducted another survey to measure impacts of having received information about home composting and pesticide use reduction in the home garden. The survey was distributed both electronically and via conventional mail to 621 contacts (contact information gathered at workshops and farmers' markets). 22% of the survey recipients responded by the deadline (Feb. 22, 2010). In summary, about one-fifth of those receiving information from Master Gardeners were motivated to start or increase back yard composting. This educational effort has led to a significant reduction in landfill inputs over the last few years.

In regard to pesticide usage, most people who received information from Master Gardeners have changed their attitudes toward garden pesticides. Just over one-third tend to leave problems alone instead of treating them with something, another one-third now seek out the lowest possible toxicity products for application, and one-fifth have changed their gardens to include



more appropriate plants that have fewer pest problems. This should lead to less pesticide use in the home garden, cleaner runoff water, and fewer unused toxic pesticides requiring disposal by the Sonoma County Waste Management Agency.

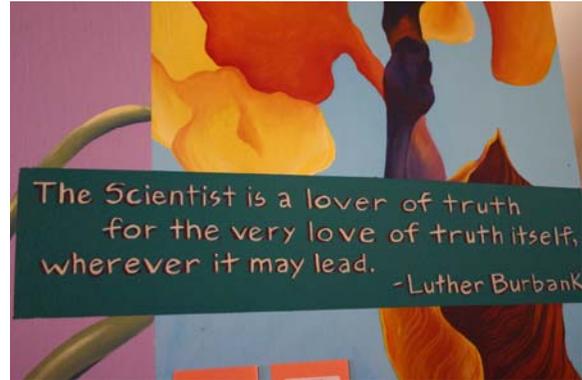
The Compost Education Program is operated primarily by volunteers. The budget reflects maintenance of current educational efforts. There are four unique aspects to this project:

1. Master Gardener (MG) volunteers are under the direction of the University of California Cooperative Extension (UCCE) and connected to UC-based research expertise.
2. Non-biased documentation of the results of educational efforts is conducted periodically in order to re-evaluate and update methodologies of the program. Landfill diversion estimates are based on statistically valid indicators of behavioral

change collected from survey data.

3. Master Gardeners have a broad-based network of community projects and a reputation for providing practical science based information.
4. The volunteer nature of the program provides multiple in-person contacts for homeowners at a substantially lower cost than private contracting.

A part-time MG coordinator (25%) and a core group of about 10 trained volunteers, under the direction of UCCE Horticulture Advisor, Paul Vossen, carried out the Home Compost Education/PURE Program this last year.



#### 4 Objectives Achieved in 2010-11

##### Events, Community Gatherings, and Workshops

The Master Gardeners had booths at seven large public events, community gatherings, and workshops (25 event days) in the county and provided information to 14,772 people. They distributed thousands of brochures and demonstrated home composting with display bins, compost piles, and worm boxes. The events, dates, and number of contacts are listed in Table 1. The demonstration garden at the Sonoma County Fair displayed a home compost system and provided home composting brochures to many contacts. Large audiences were attracted to the garden and received information on composting as in past years.



**Table 1.** Master Gardener Home Composting Education Program at Large Events, Community Gatherings, and Workshops

| <b>EVENT</b>                             | <b>DATE</b>                  | <b># OF CONTACTS</b> |
|--|------------------------------|----------------------|
| Sonoma Co. Fair booth & demo garden      | 7-27 to 8-14 (13 days)       | 11,104               |
| Sonoma County Harvest Fair               | 10-2 to 10-3 (2 days)        | 2,050                |
| Spring Home & Garden Show                | 3-18 to 3-20 (3 days)        | 344                  |
| S.R. Medical Alliance Garden Tour        | 5-20 to 5-21 (2 days)        | 310                  |
| Strawberry Festival (Guerneville)        | 5-28 (1 day)                 | 34                   |
| So. County Jail Industries Nursery Sales | 9-4, 10-2, 4-2, 5-7 (4 days) | 930                  |
| <b>TOTAL</b>                             | <b>25 Event Days</b>         | <b>14,772</b>        |

### Other Educational Events

The Master Gardeners presented information on composting at 337 small-scale events throughout the year. They distributed brochures, made short presentations on home composting and worm composting, and answered questions about starting a home compost pile for 10,379 (8,342 at farmers' markets, small fairs, garden clubs, tours, and 2,037 at library series classes). The event dates and contact numbers are listed in Tables 2 and 3. The farmers' markets have information tables where Master Gardeners provide guidance on plant culture, pest control and composting. The library series events focus on a specific gardening topic and include information and handouts on home composting and pesticide use reduction. Some of the library series talks specifically focus on composting or worm composting.

**Table 2.** Master Gardener Home Composting Education Program Contacts at Farmers' Markets, Small Fairs, Garden Clubs, and Community Gardens

| <b>EVENT</b>                                       | <b>DATE</b>                               | <b># PEOPLE CONTACTED</b> |
|--|---|---------------------------|
| 4 Cotati Farmers' Mkts.                            | 1 <sup>st</sup> Thursday (monthly) 4 mos. | 45                        |
| 12 Cloverdale Farmers' Mkts.                       | June through August                       | 180                       |
| 21 Healdsburg Farmers' Mkts.                       | May through September                     | 333                       |
| 30 Sebastopol Farmers' Mkts.                       | May through November                      | 643                       |
| 83 Sonoma Farmers' Mkts.                           | April - Oct. & Fridays all year           | 808                       |
| 21 Santa Rosa Farmers' Mkts.                       | May through September                     | 798                       |
| 26 Petaluma Farmers' Mkts.                         | May through October                       | 342                       |
| 21 Occidental Farmers' Mkts.                       | May through September                     | 344                       |
| 5 Oakmont Farmers' Mkts.                           | 1 <sup>st</sup> Saturday (monthly) 5 mos. | 137                       |
| 5 Windsor Farmers' Mkts.                           | May, June 2010                            | 310                       |
| Humane Society Garden                              | 40 weeks – all year                       | 1282                      |
| Various Garden Club talks & other community events | All year                                  | 1965                      |
| Harvest For The Hungry                             | February – November                       | 393                       |
| Petaluma Education Garden                          | All year                                  | 290                       |
| Sonoma Garden Park                                 | All year                                  | 472                       |
| <b>TOTAL</b>                                       | <b>312 Events</b>                         | <b>8,342</b>              |

**Table 3.** Master Gardener Home Composting Program Contacts at Library Series Talks

| <b>LIBRARY SERIES</b>        | <b># PEOPLE CONTACTED</b> |
|------------------------------|---------------------------|
| Cloverdale Library Series    | 33                        |
| Guerneville Library Series   | 56                        |
| Healdsburg Library Series    | 127                       |
| Petaluma Library Series      | 308                       |
| Rincon Valley Library Series | 414                       |
| Rohnert Park Library Series  | 254                       |
| Sebastopol Library Series    | 328                       |
| Sonoma Library Series        | 216                       |
| Windsor Library Series       | 301                       |
| <b>TOTAL CONTACTS</b>        | <b>2,037</b>              |

### School Presentations

Master Gardeners made 16 school presentations in classrooms with an average of 25 - 30 students. During this last fiscal year 440 students (K-12) were contacted. The demonstrations were for the length of a normal class period. They were done to develop an environmental awareness and to encourage recycling of organic wastes from the classroom and school. Most presentations included the establishment of a worm box in the classroom. Fliers were sent home with students to encourage parents to compost and recycle. See Table 4 for a list of schools and presentation dates.

**Table 4.** Master Gardener School Presentations

| <b>SCHOOL</b>                         | <b>DATE</b> |
|---------------------------------------|-------------|
| 1 @ Redwood Country Kids Club         | 8-9         |
| 1 @ Gravenstein Elem. School          | 9-30        |
| 1 @ Roseland Head Start School        | 11-4        |
| 1 @ Rincon Charter School             | 10-15       |
| 2 @ Hidden Valley Satellite           | 1-25        |
| 1 @ Matanzas Creek Elem. Sch.         | 2-7         |
| 1 @ Matanzas Creek Elem. Sch.         | 2-10        |
| 2 @ Wilson School                     | 2-11        |
| 1 @ Matanzas Creek Elem. Sch.         | 2-21        |
| 1 @ Roseland Head Start School        | 3-18        |
| 2 @ Cloverdale Ag Days                | 5-6         |
| 1 @ Windsor Boys/Girls Club           | 5-27        |
| 1 @ Forget-Me-Not Farm                | 6-7         |
| 1 @ Bellevue School                   | 6-10        |
| <b>16 Presentations at 11 Schools</b> |             |



## Educational Brochures

The Master Gardeners printed and distributed 10,000 copies of educational brochures about home composting at events, workshops, and schools presentations. Master Gardeners developed all of the educational brochures, except the Renee's Garden Guide, Worm Digest, and Composting Matters.



- *More Hints for Composting*
- *Composting Matters Activity Book*
- *Recycling Tips For Gardeners*
- *Abono Natural (Home Composting in Spanish)*
  - *Worm Composting*
- *Renee's Garden Home Composting Guide*
- *Putting Worms To Work And Keeping Them Happy*

## Resource Desks

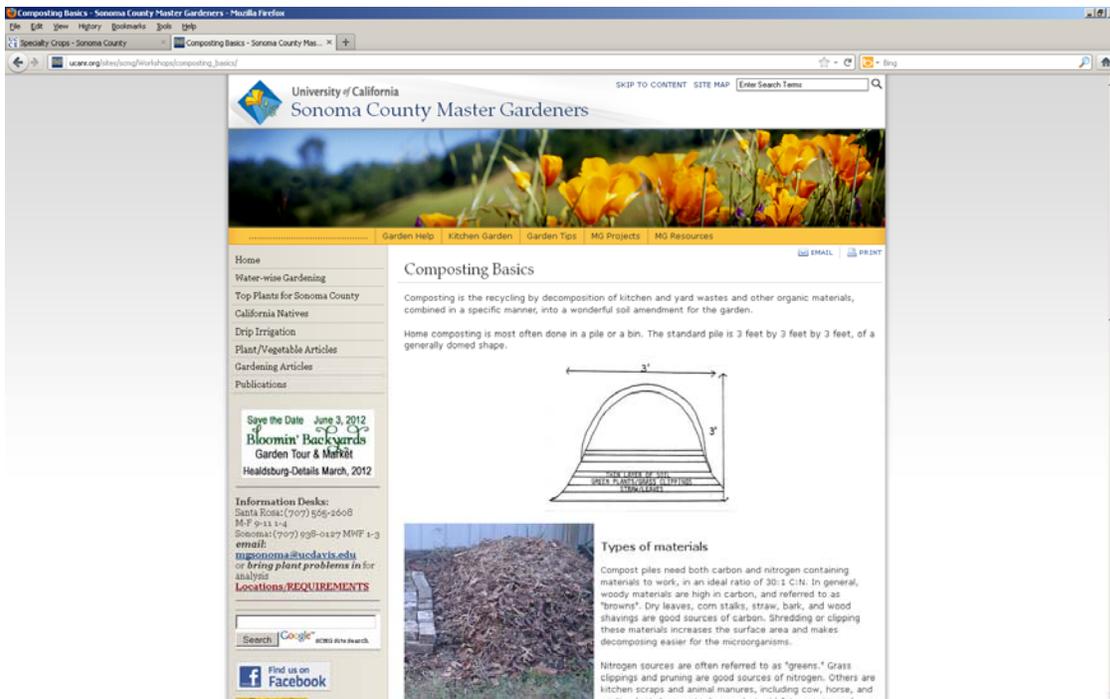
The Master Gardeners maintain a phone answering service for gardening questions in both Santa Rosa five days per week and Sonoma three days per week. They also handle walk-in clientele and questions via email. Trained Master Gardeners answered questions related to home composting from 1,851 people and sent many of those people an appropriate handout on home composting.



**Website ([www.sonomamastergardeners.org](http://www.sonomamastergardeners.org))**

The UCCE Sonoma County Master Gardener website (generating 47,942 visits during FY10-11) offers many resources for the home gardener, including a variety of composting publications that can be accessed at <http://ucanr.org/sites/scmg/Workshops/>

- Composting Tips
- Composting – General
- Compost in a hurry
- Rapid Compost Method
- Worm Composting
- The Compost Pile



## 5 Conclusions and Recommendations

This past fiscal year, 2010-2011, was the first year of a renewed contract that ends June 30, 2013. The home composting program has been teaching backyard composting to homeowners, apartment dwellers, and school children for more than fifteen years. Each year we evaluate the program and make changes to meet the goal of reaching the largest number of people in the least time-consuming and most rewarding ways for the participants and the Master Gardener volunteer trainers. The group is committed to including composting and pesticide use reduction information as an essential part of gardening. Last year 10 Master Gardeners participated in the home compost educational effort as trainers and made 27,002 total contacts, not including school or website contacts:

- Major Events and Workshops 14,772
- Farmers Markets and Library Series 10,379
- Phone Desk, Santa Rosa and Sonoma 1,851
- TOTAL 27,002**
  
- School children 440
- Website 47,942

Home composting education has become an integral part of the Master Gardener program and the volunteers are committed to it. A composting curriculum has been added to the core-training program for all new Master Gardeners, new trainers are added each year, effective publications and handouts have been developed, and there is timely coordination of activities. The Master Gardeners are proud of the success of the home composting program.

A concentration of efforts toward providing information at events where people are already present has greatly increased our numbers of contacts the last few years. Many of those contacts are made during short conversations at Master Gardener educational booths like the demonstration garden and



booth at the Sonoma County Fair, farmers markets, garden tours, garden club talks, festivals, Harvest Fair, community gardens, and library series presentations. Compost talks and demonstrations are a continuation of similar efforts conducted last year where short workshop presentations are accompanied with handouts and a short message on home composting.

## 6 Tonnage Diversion Estimates

The home composting program had direct contact with 27,002 people in FY 2010-11 at six large events and workshops (25 days) and 362 smaller scale events such as: farmers' markets, tours, small fairs, library presentations, and resource desk. The home compost education program also distributed 10,000 composting brochures through educational booths, the Master Gardener desk, and through school presentations (440 youth). Calculations for the tonnage diversion estimates are based on direct contacts with adults only.

Our (University of California) survey in 2010 indicated that: 39% compost greater than 10 gallons of yard waste per week; 33% compost between 2-10 gallons per week; and 28% compost less than 1 gallon per week. For kitchen scraps, 69% are composting between 1-10 gallons per week and 31% are composting less than 1 gallon per week. These results were similar to the average results from 2007 in which 19.7% of the people contacted started or increased home composting. On the average they reduced their landfill input of kitchen scraps and yard waste by 4.14 gallons per week (17.9 gallons per month - 215.3 gallons per year). According to past surveys 25% was kitchen waste and 75% was yard waste. Based on these figures the diversion increase for FY 2010-11 due to the addition of new home composters was:

- $27,002 \times 19.7\% = 5,319$  households beginning or increasing home composting
- **Kitchen scraps\*** diverted = 4.5 gallons per month/household = 23,936 gallons per month = 69.41 tons per month = 833.0 tons per year = 1,423.0 cubic yards per year
- **Yard waste\*** diverted = 13.4 gallons per month/household = 71,275 gallons per month = 149.7 tons per month = 1,796.2 tons per year = 4,236.1 cubic yards per year
- **TOTAL DIVERTED = 2,629.0 tons per year = 5,659.1 yd<sup>3</sup> per year**

\* *Weight and volume calculations for kitchen scraps are based on 70% moisture (5.8 lbs./gallon) (1,171 lbs./yd<sup>3</sup>). Weight and volume calculations for yard waste are based on 50% moisture (4.2 lbs./gallon) (848 lbs./yd<sup>3</sup>). Kitchen scraps represent about 25% and yard waste 75% of the compostable materials based on past survey data.*

