

# HOME COMPOST EDUCATION REPORT 2006-07

*Paul Vossen & Deborah Curle, University of California Cooperative Extension, Sonoma County*

This is a report of activities for the third year (July 1, 2006 to June 30, 2007) of the three-year contract (amendment no. 4) from July 1, 2004 to June 30, 2007 funded by the Sonoma County Waste Management Agency.

## Program Goal and Contracted Tasks

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

- Provide home composting 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 Shows, Cloverdale Citrus Fair, Sonoma County Jail Industries Nursery bi-annual plant sale, Master Gardener's Bloomin' Backyards garden tour, etc. where large numbers of people are gathered (25 event days/year).
- Distribute 10,000 educational brochures at the above events.
- Provide 6 outdoor hand-on workshops when significant audiences can be guaranteed.
- Provide 40 school classroom presentations plus worm composting materials for students and teachers to divert school waste 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 06-07 on composting habits and information on their sources of composting information.
- Conduct a postcard survey using names of contacts gathered at workshops.
- Estimate landfill diversion based on survey data from 1994-97, 2003-04, and 2007

## 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 twelve years, the program reached 211,090 residents with composting brochures, bin distribution programs, educational booths at large public events, library talks, farmers' market booths, workshops, and by providing a resource desk for call-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. Additionally, last year approximately 920 children were contacted in school classroom presentations (25-30 students per class).

Since its inception, the program has reached 6,181 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. In 2006-07, 1,220 people were taught through workshops, even though we are not currently focusing on this educational method. Through this contact method (1994-97, 2001-2004, & 2006) we developed a database of participants for survey purposes.

Three years of survey results (1994-97) documenting home composting by trained workshop and educational event participants provided the benchmark for tonnage diversion up until last year. 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 Master Gardener information dissemination on home composting from mini-demos and information 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 are not as strong. 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.

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 17 trained volunteers, under the direction of UCCE Horticulture Advisor, Paul Vossen, carried out the Home Compost Education Program this last year.

## **SUMMARY OF OBJECTIVES ACHIEVED IN 2006-07**

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

The Master Gardeners had booths at seven large public events, community gatherings, and workshops (28 event days) in the county and provided information to 15,470 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.



*Master Gardener display garden at the Sonoma County Fair with information on home composting, pesticide use reduction, and appropriate plant selection.*

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

<b>EVENT</b>	<b>DATE</b>	<b># OF CONTACTS</b>
Sonoma Co. Fair booth & demo garden	7-25 to 8-7 (14 days)	9,481
Fall Home Show	9-15 to 9-17 (3 days)	1,355
Cloverdale Citrus Fair	2-16 to 2-18 (3 days)	232
Sonoma County Harvest Fair	10-6 to 10-8 (3 days)	505
Spring Home & Garden Show	3-16 to 3-18 (3 days)	3,772
S.R. Medical Alliance Garden Tour	5-25 to 5-26 (2 days)	125
<b>TOTAL</b>	<b>28 Event Days</b>	<b>15,470</b>

**Other Educational Events**

The Master Gardeners presented information on composting at 280 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 5,387 people (4,589 at farmers markets, small fairs, garden clubs, tours, and 798 at library series classes). The event dates and contact numbers are listed in Tables 2 and 3. The farmers markets have booths where Master Gardeners provide information 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. 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 Tours**

<b>EVENT</b>	<b>DATE</b>	<b># PEOPLE CONTACTED</b>
21 Healdsburg Farmers Mkts.	May through September	571
30 Sebastopol Farmers Mkts.	May through November	329
83 Sonoma Farmers Mkts.	April - Oct. & Fridays all year	246
21 Santa Rosa Farmers Mkts.	May through September	879
26 Petaluma Farmers Mkts.	May through October	593
21 Occidental Farmers Mkts.	May through September	174
30 Windsor Farmers Mkts.	May through November	312
Jail Industries Plant Sale	April 7, May 5	28
Blue Spruce Lodge Garden	March – November	70
Badger Park Garden	March – October	116
Humane Society Garden	40 weeks – all year	553
Various Garden Club Talks	All year	132
Harvest For The Hungry	February – November	308
Sonoma Garden Park	All year	199
Petaluma Community Garden	All year	79
<b>TOTAL CONTACTS</b>		<b>4,589</b>

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

<b>LIBRARY SERIES</b>	<b># PEOPLE CONTACTED</b>
Healdsburg Library Series	101
Petaluma Library Series	201
Rincon Valley Library Series	95
Rohnert Park Library Series	58
Sebastopol Library Series	99
Sonoma Library Series	110
Windsor Library Series	134
<b>TOTAL LIBRARY SERIES CONTACTS</b>	<b>798</b>

**School Presentations**

Master Gardeners made 32 school presentations in classrooms with an average of 25 - 30 students. During this last fiscal year 920 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.

**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*
- *Worm Composting*
- *Abono Natural (Home Composting in Spanish)*
- *Renee's Garden Home Composting Guide*
- *Putting Worms To Work And Keeping Them Happy*

**Table 4. Master Gardener School Presentations**

<b>SCHOOL</b>	<b>DATE</b>
1 @ Forget-Me-Not-Farm	7-25
1 @ Kenwood School	9-1
1 @ Oak Grove School	9-13
1 @ Helen Lehman School	9-15
1 @ Santa Rosa Christian School	10-5
2 @ Presbyterian Preschool	10-19
1 @ Montgomery High School	11-1
2 @ Alexander Valley School	11-8
1 @ Red Barn Montessori	11-29
1 @ Guerneville School	12-1
1 @ Meadowview School.	12-4
1 @ Childskind Preschool	12-6
1 @ Cherry Valley School	2-24
1 @ McNear Elementary School	3-14
1 @ Doyle Park School	4-4
2 @ Windsor Spring Camp	4-13
2 @ Spring Creek School	4-19
1 @ Mary Collins School	4-21
1 @ Windsor Preschool	5-8
3 @ Cloverdale Ag. Day	5-11
2 @ Med. Alliance Garden Tour	5-18,19
1 @ KidsCenter Preschool	5-21
1 @ Mark West School	5-25
1 @ Salmon Creek School.	5-30
1 @ Forget-Me-Not Farm	6-19
<b>32 Presentations at 25 Schools</b>	

## **Resource Desk**

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 2,229 people and sent many of those people an appropriate handout on home composting. These contacts, with name and address, were a source of feedback from our postcard survey on behavioral change in handling compostable materials in the home landscape and for dealing with organic kitchen waste.



*Master Gardener, Betty Miller, working at the Santa Rosa office desk*

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

The UCCE Sonoma County Master Gardener website was recently revised and improved. It offers many resources for the home gardener, including a variety of composting publications that can be viewed by the general public. The website generated 7,555 contacts during FY 2006-07.



*Master Gardeners demonstrating worm composting to school children*

## **Conclusions & Recommendations**

This past fiscal year, 2006-2007, was the final year in a 3-year contract ending June 30, 2007. The home composting program has been teaching backyard composting to homeowners, apartment dwellers, and school children for fourteen years. Every 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 information as an essential part of gardening. Last year 17 Master Gardeners participated in the home compost educational effort as trainers and made 31,561 total contacts, including contacts through our website:

- Major Events and Workshops – 15,470
- Farmers Markets and Library Series – 5,387
  - School children – 920
- Phone Desk, Santa Rosa and Sonoma – 2,229
  - Website – 7,555

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. If the Sonoma County Waste Management Agency continues to fund the program for coordination support, it could continue indefinitely.

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. The program fell short of our goal of conducting 40 school classroom presentations; only 32 were completed. This was due to a change in the volunteer leadership involved in coordinating these events and a drop off in the number of Master Gardener volunteers interested in working in schools with children.

### **Future Considerations for the Project**

Our recommendation is to continue the countywide Home Compost Education Program delivered through the University of California Cooperative Extension volunteer Master Gardeners. The program is flexible enough to include special efforts and new ideas for increasing the numbers of contacts or improving the volume of materials diverted from the waste stream. The focus should continue to be to provide short presentations and handout materials to county residents and encourage home composting and reduction of compostable materials entering the landfill, plus the side effect of increasing overall awareness of the waste stream.

In order to continue reaching large numbers of people, booths will continue to be set up at appropriate events to inform people about home composting. It is more efficient to go where the people are rather than try to attract them to an event to teach them how to compost. We have determined that information delivered in short talks accompanied by handouts reaches the largest number of people and through our post card surveys about ¼ of those reached start or increase their home composting.

We continue to teach a few traditional workshops that are stand-alone programs, which demonstrate home composting with hands on methodology. When only a few of these are done each year, if they are well publicized, and when they are held at easily accessible locations, they have been fairly well attended. There are a couple of Master Gardener compost trainers that are willing to continue to teach them if an audience can be generated. Other venues of information delivery such as school community gatherings have also been successful and will be explored more for presentations where adults and students interact and where Master Gardener volunteers can deliver a home composting workshop. One very successful educational event was the Bloomin Backyards garden tour, which will be offered every other year (next BB garden tour scheduled for June 2008).

Continuation of training sessions in school classrooms is recommended, but reducing the number of presentations from 40 to 20 is preferred. Sending information materials home with school children should encourage parent participation and exposing children to composting at a young age is very positive for their awareness of the waste stream. This next year's budget, through the County of Sonoma, will provide for printing of essential educational materials and operating supplies. The part-time program coordinator position is essential in providing the volunteer training, support, and supervision to conduct the program.



## Postcard Survey

In June 2007, a postcard surveys was sent out to 931 households in Sonoma County. Names and addresses were acquired from Healdsburg library and community garden talks, Petaluma library series talks, Windsor library and compost workshops, Sebastopol library series talks and Santa Rosa workshops at home and garden shows. A total of 285 surveys were returned by June 30, for a return rate of 30.6%.

Past surveys in 1994 – 1997 gathered detailed information from attendees at composting workshops. These workshops were fairly long, 1-2 hours, hands-on presentations designed to teach motivated households how to build and use compost piles in their back yards. That data strongly indicated that close to 70% of the people contacted started or increased home composting. On the average they reduced their garbage input of kitchen scraps by 2.5 gallons / household / month and yard waste by 13.2 gallons / household / month.

This survey was designed to gather information about the effectiveness of Master Gardener information dissemination on home composting from mini-demos and information 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 are not as strong.

The primary question answered by this survey relates to the change in behavior of people receiving information from a Master Gardener on home composting. We essentially wanted to know if the efforts to get people to start or increase their home composting were actually working, and if so, by how much. The results of this survey are given below.

Out of 285 respondents, 119 (41.8%) indicated that they remembered receiving information on home composting from a University of California Master Gardener. It should be noted that almost all of them had received information on home composting, which was available at one of the events they attended. After giving them information on home composting during various Master Gardener activities at talks and booths, attendees were asked if they could be sent a survey or more information later. Those who gave us their addresses were sent the postcard survey.

When asked if they had started or increased home composting of kitchen scraps or yard waste due to the information they had received, we obtained a total of 76 negative responses and 56 positive responses. So, just under half, 47% of the 119 respondents, who remembered they had received information, responded positively and 64% said that they had not acted on the information received. Since we know, however, that the surveys were sent only to people who had received information on home composting, a more accurate rate of information adoption would be the 56 out of 285 who had returned the surveys (19.7%). In other words, just under one-fifth of the people informed by UC Master Gardeners about home composting, started or increased their composting.

When asked to estimate the amount of material they are now composting per week we received 184 positive responses indicating that two-thirds (67.6%) were composting. There was a large range in the amount of material they were composting from ¼ gallon to over 10 gallons each week. Most of the households are composting about 1 to 5 gallons per week. Nine indicated ¼ gallon, thirteen households indicated ½ gallon; four, ¾ gallon; thirty-six, 1 gallon; fifty, 2 gallons; forty-two, 5 gallons; nine, 10 gallons; and twenty-one households said > 10 gallons per week.

Of those households that indicated that they were not composting all of their kitchen scraps or yard waste, we asked them where it was going. Forty-nine (29%) of the households responded that they were putting their compostable materials into the trash. Another 62.7% were putting it in the curbside yard waste can and 3.6% indicated they were taking it to the landfill. Three wrote in that they fed their kitchen scraps to their chickens and/or goats, and four indicated that they put their kitchen scraps into the garbage disposal.

This short postcard survey indicates that a significant percentage of people who have received information on home composting from the Master Gardener Program do, in fact, use the information to start or increase their level of composting. It also indicates that an even larger percentage of people are already composting at some level, and a significant number of households who are not composting are putting their compostable organic materials into the curbside yard waste can.

Below is the post card survey that was sent out:

**Compost Survey Post Card**

1. Has your household received information about home composting from the University of California Master Gardeners?  
No \_\_\_\_\_ go to # 3      Yes \_\_\_\_\_

2. Did you start, or increase, home composting of kitchen scraps or yard waste due to the information you received?  
No \_\_\_\_\_      Yes \_\_\_\_\_

3. If you are composting now, please estimate the amount of material you are composting each week.  
None \_\_\_\_\_, 1/4 gallon \_\_\_\_\_, 1/2 gallon \_\_\_\_\_, 3/4 gallon \_\_\_\_\_,  
1 gallon \_\_\_\_\_, 2 gallons \_\_\_\_\_, 5 gallons \_\_\_\_\_, 10 gallons \_\_\_\_\_,  
More than 10 gallons \_\_\_\_\_, Other (please specify) \_\_\_\_\_.

4. If you are not composting all your kitchen scraps or yard waste, where is it going?  
In with the regular trash? \_\_\_\_\_,  
Curbside pick up in the yard waste can \_\_\_\_\_,  
I take it to the landfill myself \_\_\_\_\_, Other (please specify) \_\_\_\_\_.

**Thank you. If you have any questions, comments, or would like to provide more detailed information please contact (707) 565-2621**

## Tonnage Diversion Estimates

The home composting program had direct contact with 25,730 people in FY 2006-07 at seven large events and workshops (28 days) and 280 smaller scale events such as: farmers markets, tours, small fairs, and library presentations. The home compost education program also distributed 10,000 composting brochures through educational booths, the Master Gardener desk, and through school presentations (920 youth). Calculations for the tonnage diversion estimates are based on direct adult contacts only, therefore, total contacts for the year were 24,497.

Our (University of California) survey\*\* in 2007 indicated that 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, so that means they were composting 1.04 gallons of kitchen scraps and 3.1 gallons of yard waste per week. Based on these figures the diversion increase for FY 2006-07 due to the addition of new home composters was:

- $24,497 \times 19.7\% = 4,826$  households beginning or increasing home composting
- **Kitchen scraps\*** diverted = 4.5 gallons per month/household = 21,717 gallons per month = 63.0 tons per month = 756.0 tons per year = 1,286.2 cubic yards per year
- **Yard waste\*** diverted = 13.4 gallons per month/household = 64,668.4 gallons per month = 187.5 tons per month = 2,250.0 tons per year = 3,825.0 cubic yards per year
- **TOTAL DIVERTED = 3,006.0 tons per year = 5,111.2 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 20% and yard waste 80% of the compostable materials based on past survey data.*

*\*\* Tonnage diversion figures this year are greater than what they were estimated to be in the last three years based on our updated postcard survey data. Factors influencing that change may be: actual changed in composting habits, survey data collection methodology, different educational methods, and number of people reached with composting information.*

**Paul Vossen and Deborah Curle**  
133 Aviation Blvd. # 109  
Santa Rosa, CA 95403  
(707) 565-2621  
[pmvossen@ucdavis.edu](mailto:pmvossen@ucdavis.edu)  
[dcurlle@ucdavis.edu](mailto:dcurlle@ucdavis.edu)