The U.S. Army...
Sustaining the Environment

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Celebrating Earth Day

Earth Day is an international event demonstrating concern and mobilizing support for the environment. Earth Day was first celebrated on April 22, 1970, and rallied more than 20 million Americans to become involved in environmental activities. This event was the largest grassroots movement in U.S. history and created what has become the environmental movement. The event also sparked the first major pieces of environmental legislation: the Clean Air Act and Clean Water Act.

As a worldwide event, Earth Day represents the commitment of the United States and other countries to environmental security. Active-duty military, civilian personnel, families and local community members contribute significantly to the impact of this monumental event.

Although Earth Day is April 22, and many celebrations are scheduled on or near that date, it is important to remember that environmental responsibility is more than a one-day event. Army Earth Day exemplifies a daily commitment to the stewardship of the public resources entrusted to military care. Earth Day is the annual call for public attention toward environmental issues. It also is the best opportunity to bring your community neighbors onto your installation to show how you practice environmental stewardship.

Planning an Earth Day Event

Planning an installationwide Earth Day event is like planning a community appreciation day, only with the environment as the theme. As with all postwide events, planning for Earth Day must begin with getting support from installation leadership early enough to ensure a place on the installation calendar. Approach the commander in early January, and begin holding meetings (as needed) soon after that. Command endorsement is the first step in creating a successful Earth Day event; the next is putting together a good team.

Assembling an Earth Day Team

Creating a team of interested and dedicated individuals is crucial to an event's success. Team members are responsible for selecting sites, dates and activities to support the theme; developing program goals and a budget; generating sponsors and publicity; and providing activities, exhibitors and entertainment.

Your core team members should come from:

1. Post environmental staff. These professionals have valuable experience in all aspects of environmental management and can provide technical support in arranging displays or showcasing the installation's environmental programs, projects and successes. They have valuable contacts with outside environmental agencies that can help put together an exciting and professional event.

2. Public Affairs. The Public Affairs office develops and directs the command media and community relations programs, and deals with a variety of off-post civic leaders and organizations. Public Affairs staff can:
   - Heighten public awareness and encourage attendance by sending articles, announcements and press releases to installation and local media outlets.
   - Function as official spokespeople for off-post media queries.
   - If appropriate, possibly acquire services of an Army band.

3. Director of Personnel Community Activities (DPCA) or Director of Community Activities (DCA). These offices are often responsible for open spaces and parks on installations. Your DCA or DPCA can help reserve space for an event, or suggest ideas for activities at the location. You may wish to request that DPCA coordinate with its marketing office, which can help with many promotional items. Only your DPCA or DCA representative is authorized to accept or acknowledge corporate support such as money, services and products.

4. The post Safety office, Directorate of Public Works, Military Police, medical staff and other support organizations, which can be valuable resources. Restoration Advisory Boards are important links to the community and should be included if your post has one.

Plan a short kickoff meeting at a time and location convenient to all team members. Ask the members to introduce themselves and describe what they can contribute to the team.

Setting Program Goals

Consider the Army Earth Day theme, found on the U.S. Army Environmental Center Web site, as you develop your goals, and set up activities and programs that support this theme. Be selective in the programs or projects you plan to display.

Also, consider your overall installation environmental program in your planning, addressing topics in compliance, conservation, cleanup (installation restoration) and pollution prevention.

Think about the type of event you want. Will your event have a carnival atmosphere with games and clowns, or will it include serious speakers addressing a seated crowd? Either one or a combination of both is appropriate, depending on the audience you want to reach. It is not a good idea, however, to book an entire day of speakers; combine other entertainment (singers, skits or a magician) if you are planning for a seated audience. Remember that games for children are fun and easy to do, and children bring the added bonus of parents.

If the local community has planned an Earth Day celebration, ask about participating in those festivities rather than staging a separate event. Your participation should complement the community event while promoting awareness of the Army's environmental record. By joining in such events, you take the Army message to the community and enhance the Army's reputation as a good neighbor.

Tapping Resources

Make a list of installation and community organizations that can support your Earth Day events. Possibilities include:

- The U.S. Army Environmental Center
- Post graphics staff
- Post print shop
- Post photo lab
- Post Protocol office
- Organizations such as the Officers Wives Club, Company Grade Officers Association, Enlisted Spouses Club and Non-Commissioned Officers Association
- Local and state parks and recreation departments
- State game and fish departments
- Museums and nature centers
- Extension services such as the agricultural extension service
- Environmental organizations and groups such as The Nature Conservancy and Audubon Society

- District and regional offices of state and federal agencies, including the U.S. Environmental Protection Agency
- Youth organizations such as college student unions, scout troops and high school ecology clubs
- Recycling and beautification associations
- Grassroots organizations and civic groups such as the Rotary Club, Jaycees, Kiwanis, Junior League and League of Women Voters
- Retirement groups
- Organic lawn care and pest control companies
- Businesses that produce composters, recycled plastic, lumber products and similar pollution prevention products
- Dance troupes, musicians and artists
- Radio stations, TV stations and newspapers, which may provide free advertising and report on the event

Working with Volunteers

Incorporating volunteers into the planning process can enhance any Earth Day event. Volunteers can add to your accomplishments, and the entire process can build a sense of community among those working on the project.

When you seek volunteers from organizations such as those on the "Tapping Resources" list, ask them to complete a form giving you information on their skills and interests as well as name, address and phone number. Once you have evaluated your volunteers' skills, match people with tasks they will enjoy. Also look for special skills that may create opportunities for programs you may not have already planned. For example, your local Boy Scout troop may have an Eagle Scout who must complete a project and would be willing to do something in combination with your event.

Keep volunteers informed, and make sure they have the resources and time they need to complete their projects. Seek input from volunteers. If you try to include their ideas into your projects, you encourage others to share their thoughts and be creative.

Most people volunteer because they want to make a difference in their community. As you acknowledge their hard work, be sure to point out that the community benefits from their activism. Not only will this specific praise help you keep the volunteers you have, it will encourage others to volunteer at your next event.

Delegating Responsibilities

Choose a coordinator for each of the following event areas:

1. Exhibitors, volunteers and sponsors (Remember that your DPCA or DCA representative is the only one who can procure sponsorship or accept donations.)
2. Entertainment
3. Production
4. Publicity

Make a list of action items for each coordinator and a schedule for completing those actions. If available, use checklists and "lessons learned" from past major public events, such as the installation's community appreciation day.

Action items include:

1. Confirm a date for your event. A weeklong celebration can have the greatest impact, especially if it ends with a parade, festival or luncheon. If you are going to open your event to the public, you may choose to stage your event over the weekend rather than on the traditional Earth Day of April 22. When setting the date, avoid competing events, such as Arbor Day festivities or other community events. Get your date on the installation calendar as soon as possible to avoid potential conflicts.
2. Reserve a location based on:
   - The number of people you expect to attend
   - Climate (don't pick a picnic shelter if it's still cold in your part of the country)
   - Availability (reserve locations ahead of time whenever possible)
   - Suitability (Can you set up booths or tables? Is electricity available? Are rest rooms nearby? Is parking available?)
3. Prepare a draft schedule, keeping in mind that it is likely to change. Have speakers and entertainers commit early to appearance dates and times. Do the same for exhibitors, and give them time to set up and tear down their booths.

4. Coordinate your agenda with the post Security and Protocol offices as soon as possible. Security can help with on-post access and other security concerns. Protocol can help with distinguished visitors and other protocol issues.
5. Compile an invitation list. This can be as simple as inviting all installation personnel, local radio and TV stations, the local newspaper and the city council. Let the post Protocol and Public Affairs offices help you identify your target audience.
6. Order Earth Day posters and flyers. If your installation has a printing office, it can reproduce most Earth Day materials, excluding copyrighted materials. The USAEC Public Affairs Office has a limited amount of Earth Day supplies.
7. Reserve the post marquee(s) through Morale, Welfare and Recreation. Determine ahead of time what you want to say, and include locations and times of all events.
8. Make site arrangements based on your needs. Will traffic cones need to be set out? Will you need to rent portable toilets? Will you need recycling bins as well as trash cans? Determine who is responsible for these items on your installation and make arrangements with them to provide what is needed.

Promoting Your Program

Work with your Public Affairs office to publicize your event through the local media and the post newspaper and bulletins. See if Public Affairs can assign a staff person to coordinate your event publicity. Include with your request pertinent information about your events, such as the who, what, when, where and why. Also include the name and phone number of a committee contact person. Submit news releases to newspapers and radio, local TV and cable stations at least a month in advance. Coordinate national coverage with the Department of Army Public Affairs office after initiating the process through your installation Public Affairs office.

To further promote your program, your Public Affairs office can:

- Host a media day and invite local media to the installation to show off innovative, Earth-friendly systems and processes. Provide the media with a diverse summary of program initiatives and accomplishments. Include an installation tour to show how your post incorporates environmental concerns when meeting its mission objectives. Provide photo opportunities that show success in pollution prevention, conservation, cleanup or compliance.
- Submit articles on the history of Earth Day to installation and local newspapers. Send short, informative sound bites to local radio stations.

- Submit weekly "Did You Know?" environmental trivia briefs to the installation newspaper.

For more information on promoting your Earth Day event, see *Appendix A*.

Sample Programs

Earth Day events should promote environmental education and awareness. The activities and demonstrations described below have proven to be successful Earth Day celebrations. Many of the suggested activities have been selected because they require minimal funds.

Make it a full-circle event; if it generates funds, designate them to support a specific environmental project of interest to the installation and the community. If possible, tie activities to successful programs on your installation.

Environmental Awareness

1. Hold an "eco-thon," an event similar to a walk-a-thon. Have participants collect pledges based on how many Earth Day educational displays they visit, then set up several booths in a field or auditorium. The participants go from booth to booth, learning about ways your post protects the environment. The funds raised can be contributed to an environmental program, such as a riparian forest project.
2. Hold a clothing and household textile drive. Ask people to bring items such as clean clothing, sheets, nylon curtains, drapes, hats, paired socks and paired shoes to a central point like the PX parking lot or post recycling center. Check with the environmental office to see if there is a nearby facility that accepts these items.
3. Conduct an environmental fair to introduce the community to your installation's environmental programs. Show off innovative systems, such as closed-cycle wash racks, nonhazardous paint stripping operations, firing-range bullet traps, small parts washers, drum compactors, oil filter presses and aerosol can disposal systems.
4. Offer environmental tours of recycling centers or (if your installation has one) the hazardous material pharmacy.
5. Set up environmental displays and exhibits.

6. Conduct essay or poster contests at local elementary and middle schools.

7. Hold an Earth Day logo design contest at the local high school or college. Present the winner with a T-shirt made from recycled plastic milk jugs with the school's design silk-screened on the front.

8. Have students decorate grocery bags with environmental messages and donate the bags to the installation commissary.

9. Visit area schools and speak to students about environmental issues. Schedule the visit as soon as possible to get on the school calendar.

10. Make a "humanitree" out of recycled materials and attach leaves cut from discarded paper bags. Write a promise on each leaf related to saving the environment.

11. Invite children to remove rocks and debris from the installation or school playground. Award prizes to the students who collect the most debris.

12. Conduct an installation cleanup day or clean up trash along a stretch of public land.

13. Sponsor a 10K Earth Day run and a children's "fun run."

14. Set up an environmental maze with stakes and surveyor's tape (very low cost). At each break in the path, ask an environmental question, and direct people based on their answers. Wrong answers lead to dead ends, while right answers lead out of the maze.

Energy Conservation

1. Ask everyone on post to ride bicycles to work. Participants could take part in a drawing for a free bicycle (donated by a local vendor).

2. Encourage carpooling, and offer prizes for offices that have the most employees share rides.

3. Display an electric, solar or natural gas vehicle (contact your local utility company for assistance).

4. Conduct a solar bake-off. Set up solar box cookers for participants to try different recipes. Give a prize to the creator of the best recipe (such as nachos, hot dogs or baked potatoes). (See *Appendix B* for directions.)

Natural Resource Conservation

1. Help the Department of Defense (DoD) plant a riparian forest. DoD is involved in a long-term project to assist the Chesapeake Bay Program by planting 200 miles of riparian forest along the rivers and streams that flow to the bay by 2010. Any installation along the Chesapeake can organize its Earth Day celebration around supporting this goal. Riparian forest efforts are ongoing across the nation. For more information, contact the U.S. Army Environmental Center Public Affairs Office.

2. Host a tree-planting ceremony with trees donated from the National Arbor Day Foundation. Choose trees that are indigenous to your area that can provide habitat and food to animals, as well as shade trees.

3. Ask people to dig up unwanted seedlings from their yards and bring them to a common area on post for planting or distribution.

4. Build and install bird houses throughout the installation. Tell participants about the birds you want to attract, why they need artificial nests and the value these birds bring to the local ecosystem.

5. Hold a "bird walk." Contact your local Audubon Society to enlist the help of a skilled bird watcher who can identify and count birds on your installation. Point out which birds are year-round residents and which are migrants, and discuss their habitat requirements. Provide an identification pamphlet.

6. Hold a "tree walk" to identify native and exotic trees. Describe each species' value to the local ecosystem (source of shade and nesting cover, for example). Provide an identification pamphlet.

7. Have a "Paul Bunyan" contest. Find the largest tree in the area. Measure the tree by the number of people that can fit around it by holding hands.

8. Hand out disposable cameras and conduct a wildlife photo contest.

9. Play "habitat hide-and-seek." Create a home for a selected animal. Ask contestants to find the home and identify its occupant.

10. Host a kids' fishing derby at installation ponds, and ask state game biologists to describe their catches to them.

11. Make trails with legends identifying trees and plants. Also, place garbage along the trail, with signs explaining how each item harms the environment. For example, put a sign next to a plastic bag explaining how a turtle can swallow it and die.

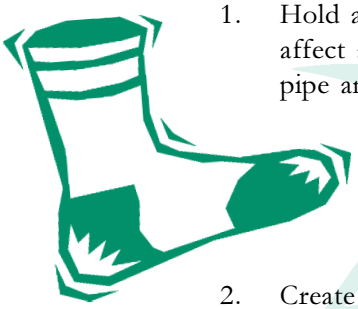
12. Locate and identify edible plants, such as nut and fruit trees, honeysuckles, grapevines, rose petals and mint leaves.

13. Plant pumpkin or sunflower seeds in a common area or start a community garden.

14. Plant flowers in biodegradable pots and donate the pots to a children's hospital or nursing home.
15. Restore a site suffering from erosion.

16. Tour a wildlife area where a conservation project is in progress.

Pollution Prevention



1. Hold a "dirty sock contest" in a parking lot to demonstrate how auto emissions affect air quality. Ask contestants to place a clean white sock over their car's exhaust pipe and run the engine for 30 seconds. The contestant with the dirtiest sock wins a free tune-up at the installation's auto hobby shop, while the one with the cleanest sock wins a trip or other comparable prize. Remember to use all relevant safety precautions during this activity. (Local vendors can donate the socks and prizes, but your DPCA or DCA must coordinate this.)

2. Create a mini environmental disaster using common household supplies (see *Appendix C* for directions).

3. Explain global warming by creating a greenhouse demonstration. Place two shallow cardboard boxes side-by-side in the sunlight. Put a thermometer inside each box, preferably in a shaded area. Place a piece of glass over one of the boxes, creating a tight seal. Within minutes, the temperature in the glass-covered box will rise above that in the uncovered box. For an added touch, measure the rate at which ice cubes melt in the boxes.

4. Stencil on storm sewers: *Do Not Dump — Sewer Drains to Natural Waters.*

Waste Management & Restoration

1. Host a household hazardous waste turn-in day. Reusable items, such as paint, can be donated to the self-help store. The installation can dispose of all other materials.

2. Gather recyclables and let people sell them for tickets. They can use the tickets to buy trees, coloring books or other prizes. (For example: 25 cans or a week's worth of newspapers would earn one ticket; the largest piece of cardboard would earn two tickets, and so on.)

3. Hold a contest in which participants guess the number of aluminum cans packed into the bed of a pickup truck parked outside the recycling center.

4. Create a mini landfill. Dump a load of trash onto the lawn and ask for volunteers to don masks, goggles and gloves and separate the trash. This activity demonstrates the large amount of recyclables that are thrown away and will save the materials from the local landfill (so long as you don't throw recyclables back into the trash).

5. Stage a "Great Balls of Foil" contest in which schools or other organizations create large balls of aluminum foil. Display the balls at your event and weigh or measure them to determine the winner.

6. Demonstrate nontoxic cleaning options. You will need a few basic household ingredients and some dirty cloth, metal and glass (see *Appendix D* for directions).

7. Build a compost pile. You will need dry leaves, dead weeds, shredded cardboard, grass clippings and plants. Put the ingredients in piles so participants can add to the recipe (see *Appendix E* for directions).

8. Build a worm farm (see *Appendix F*).

9. Build a sculpture from recycled materials. Create a large caterpillar or dinosaur from crushed aluminum cans or draw an outline on the ground to fill in with recyclables. Take an aerial photo for the installation newspaper to print.

10. Conduct a tour of an environmental cleanup site and explain the processes.

11. Create a display board that tracks a restoration project from start to finish.

12. Distribute environmental fact sheets describing current installation cleanup, compliance, conservation and pollution prevention projects.

Appendix A

Earth Day Publicity Materials and Army Earth Day Messages

Press releases usually are titled "Press Release" or "News Release" and marked "For Immediate Release." A news release highlights basic information — who, what, when, where, and why — and should always include the name and phone number of a contact person. News releases should be coordinated through the Public Affairs office, which maintains distribution lists of local media. News releases should be distributed to installation publications and local media no later than a month before your event.

Here is an example of a short release or "tickler" that might be distributed to generate interest in Earth Day. Create an additional release closer to the event highlighting specific activities, times and locations.

Army Earth Day
"As part of a year-round commitment to the environment, Army installations will join with local communities to celebrate Earth Day on April 22. Activities include presentations, environmental fairs, nature walks, open houses, recycling demonstrations, tree-planting ceremonies, environmental awareness tours, special activities for students, and other community outreach activities. Contact [installation name] for a complete itinerary of Earth Day activities."

Other approaches for articles and press releases include:

1. Conduct "man on the street" interviews and ask installation personnel questions relating to Earth Day. The questions should prompt answers that incorporate individual thoughts and commitments to environmental concerns, such as "What efforts do you make to protect the environment?" Make sure you approach a representative sampling of installation personnel. Provide the installation newspaper with the quotes and photos of the individuals. Ask the newspaper staff to print one or two per week in March and April, along with reminders of your upcoming events.

2. Highlight environmental professionals or Restoration Advisory Board members who are involved in the environment beyond their daily jobs. For example, highlight an environmental engineer who has a home compost pile that she "feeds" every night.

3. Write an environmental "update" that provides background on programs and highlights specific accomplishments made toward environmental objectives throughout the year. Focus on protection today to preserve the environment for future generations.

4. Inject messages from your installation commander throughout your Earth Day commentary. The messages should include comments on successful environmental programs and calls to vigilance and stewardship. The messages also should emphasize the work force's environmental responsibilities — especially in the areas of compliance and pollution prevention — in achieving mission objectives. Customize the messages to the specific concerns of your location.

5. "Protecting Our National Heritage." Focus on ecosystem management and planning, and the protection of endangered species. Mention if your installation participates in the National Arbor Day Foundation's "Tree City USA" program.

6. Highlight programs that cut red tape to get quick results. Incorporate your post's accomplishments, such as a decrease in violation notices, use of innovative restoration technologies, reductions in hazardous materials use, significant hazardous chemical substitutions, improved recycling capabilities and effective ecosystem management programs.

7. Feature partnerships, such as your Restoration Advisory Board and Base Realignment and Closure accomplishments. Include partnerships with academia and nonprofit environmental organizations such as The Nature Conservancy.

8. Focus on outreach activities in the schools to enhance environmental awareness.

Army Earth Day Messages

You can use the material below when writing speeches and articles, or when speaking generally about the Army's environmental program.

"The Army is a leader in its management of the environment — domestically and internationally."

"The Army is committed to environmental stewardship in all actions, as an integral part of the Army mission."

"Environmental stewardship supports military readiness and quality of life."

"Environmental dollars enhance readiness and quality of life."

"Sound environmental practices are part of everything a soldier does; thus, every day is Earth Day to the Army."

"The Army is a responsible steward of national and natural resources."

"The Army obeys and enforces all local, state and national environmental laws."

"The Army restores, preserves and enhances resources entrusted to its care by the American public."

"The Army is the steward of about 20,000 square miles of land, which equals about half the size of Ohio."

"The Army looks after more than 118 threatened and endangered species on 100 separate installations. Overall, the Defense Department has a higher concentration of threatened and endangered species per acre than any other federal agency, including the Forest Service, the Park Service, the Fish and Wildlife Service or the Bureau of Land Management."

"More than 10,000 Army buildings and other properties meet the criteria for the National Register of Historic Places. The Army preserves these buildings in accordance with applicable federal regulations."

"Army programs protect the quality of life of our people and the economic health of our communities."

"The Army is committed to saving energy, reducing solid waste and generating funds through aggressive pollution prevention efforts."

"The Army works closely with public and private institutions in the United States and around the world to protect and clean the environment."

"The Army works aggressively to find innovative ways to prevent pollution and restore the environment."

"The Army works diligently to find faster, better and cheaper ways to clean up the environment."

"The Army uses relative risk evaluation to ensure that the most serious sites are cleaned first."

"The Army is an environmental steward through adherence to today's compliance issues and cleanup of the results of past practices."

"The Army environmental cleanup program is building a bridge to the future."

"Army cleanup is a model of responsive action, community involvement and streamlined regulatory oversight."

"The Army is committed to total compliance with environmental laws."

"The Army is committed to environmental excellence through stewardship, vigilance and partnership with the community."

"The Army leads the military in exploring ways in which it can preserve biological diversity while enhancing the military mission."

"The Army conducts biological inventories of all its lands to ensure there is no negative impact on rare species."

"The Army incorporates community concern into its environmental decision-making process. Restoration Advisory Boards (RABs) are the cornerstones of installation-community cooperation. The Army has formed RABs at a majority of its installations where environmental vigilance is a way of life. RAB members come from local communities and participate in document review and discussions on prioritization of restoration work. They receive training and information on many aspects of environmental cleanup and the potential impacts of the contamination. An educated public helps to introduce a fresh perspective that is different from that of the Army or its regulatory partners. RABs are helping to transform the cleanup program into an effective and budget-sensitive program. The relatively small amount of money spent to fund these citizen volunteers is a tremendous investment of taxpayer dollars and helps reduce overall cleanup costs."

Appendix B

Building a Solar Box Cooker

1. Find three cardboard boxes that can "nest" inside each other with flaps tucked in. If there are no flaps, line foil-wrapped cardboard between the box walls. Fold down the sides so the boxes are all the same height. The smallest box should measure about 19 inches by 23 inches by 8 inches.

2. Line the smallest (inside) box with aluminum foil.

3. Place a piece of glass or two layers of clear Mylar (20 inches by 24 inches) over the smallest box so there are no air leaks.

4. Place the box outside on a dry surface that will be sunny for several hours. Start cooking in mid-morning for best results. Cook in covered dark pots or wide-mouthed glass jars painted black on the outside. Poke a small hole in each jar lid to allow steam to escape.

Appendix C

Disaster Cleanup Exercise

1. Separate participants into several teams.

2. Fill aluminum pie pans or empty butter tubs with water. Explain that an oil tanker has just sprung a leak on each "lake" and each team must clean up the pollution with minimal effect on the environment.

3. Describe the available cleanup methods, which include containment (using 25-centimeter sections of twine), recovery (using an eyedropper), sinking (using sand), adsorption (using paper towels) and dispersal (using liquid detergent).

4. Allow groups to choose their strategy, then add two drops of motor oil to their water.

5. Discuss what worked best and why. Did all methods eliminate the problem?

6. Remember not to pour the contaminated water on the ground or down the sink when the exercise is complete! Collect it in a bucket and take it to an oil recycling center.

Appendix D

Recipes for a Healthy Environment

Have you ever thought about how many chemicals you use every day? Disinfectants, cleaners and air fresheners all contain chemicals that can damage your health and the environment. You can make several simple substitutions with natural ingredients that work as well or better (in some cases) than traditional cleaners.

These substitutions are made with readily available and natural ingredients. Don't feel a need to suddenly change all the cleaners you have always used; implement a few at a time. Remember, each substitution goes a long way toward creating a chemical-free house, a safer environment and a healthier family.

Floor and Rug Cleaner

- Clean ceramic tile using a solution of ¼ cup baking soda, ½ cup white vinegar, 1 cup ammonia and 1 gallon warm water. This solution also works well as a general cleaner.
- Make floor polish for linoleum and vinyl by mixing 1 part thick boiled starch with 1 part soap suds. Rub this mixture on the floor and polish with a clean, soft, dry cloth. To strip commercial floor wax, pour club soda on the surface, scrub, let soak for a few minutes and wipe clean.

- Clean wood floors by damp-mopping with a mild vegetable-oil soap; dry immediately.
- Make rug and carpet cleaner by mixing ½ cup dishwashing detergent and 1 pint boiling water. Cool and whip into a stiff foam with an electric mixer. With a damp sponge, apply the solution to 4-foot-by-4-foot sections. Wipe off the suds and rinse with a solution of 1 cup vinegar in 1 gallon of warm water. Rinse the rug and wipe, changing the rinse water frequently. Clean your rug on a dry, warm day so you can open the windows to facilitate drying.

Spot Remover

Remove butter, coffee, gravy and chocolate stains by scraping off or sponging up as much of the spot as possible and dabbing it with a cloth dampened in a mixture of 1 teaspoon white vinegar and 1 quart cold water. Or, apply a solution made of equal parts ammonia and water. (Remove the residual ammonia stain with salt and water.)

To remove grease spots:

- Apply a paste of cornstarch and water.
- Cover with baking soda or cornmeal, let dry, and brush off.
- Scrub the spot with toothpaste.
- For grease spots on rugs, sprinkle dry cornstarch on the spot and vacuum.

Furniture Polish

Use olive oil, lemon oil, beeswax, or a mixture of beeswax and olive oil. A combination of 2 teaspoons lemon oil and 1 pint mineral, vegetable, or olive oil in a spray bottle also works.

Metal Polish

- To polish silver, cover the bottom of an aluminum or enameled pan with aluminum foil. Place the silver in the pan. Fill with enough water to cover the silver. Add 1 teaspoon baking soda and 1 teaspoon salt. Boil for 3 minutes. Remove the silver, wash in soapy water, and polish. Do not use this method for silver jewelry or flatware with hollow handles.
- Scrub brass with Worcestershire sauce or toothpaste; or apply tomato ketchup, let sit, and remove when dry. Or, clean it with water in which onions have been boiled. For copper, apply white vinegar and salt, and rub. To polish either brass or copper, use a paste of lemon juice and salt.

Glass Cleaner

- Mix 3 tablespoons ammonia, 1 tablespoon white vinegar and ¾ cup water.
- Mix 2 tablespoons vinegar in 1 quart water.
- Mix 1 quart water with ½ cup vinegar and 1 to 2 tablespoons of lemon juice or rubbing alcohol.

Pour any of these mixtures into a spray bottle.

Oven Cleaner

Commercial oven cleaners usually contain lye, which is extremely toxic. Instead:

- Apply a paste of water and baking soda to the spot, then scrub it with steel wool. (Be careful not to get any of the mixture on the heating elements.)
- Sprinkle salt on spills while they are warm and scrub them off.

Drain Cleaner

- Prevent drain clogs by covering drains with screens to keep out grease, hair, and food scraps. If blockage does occur, pour 1 cup each of baking soda, salt and white vinegar down the drain. Wait 15 minutes and flush with boiling water. Use a plumber's snake or plunger on tough clogs.
- The less-determined can toss a handful of baking soda and ½ cup vinegar down the drain and cover tightly for 1 minute. Rinse with hot water.

Toilet Bowl Cleaner

- Pour ½ cup chlorine bleach into the bowl. Let stand for 30 minutes and scrub clean.
- Scrub with a solution of ½ cup borax in 1 gallon water.

Disinfectant and Germicide

Soapy water works well in place of a disinfectant.

Air Freshener/Deodorizer

Air fresheners do not really freshen air. According to the Earth Works Group, they deaden your nasal passages or coat them with oil so you can no longer smell the offensive odor. Instead, try vinegar or lemon juice in a spray bottle, or set small dishes of vinegar, lemon juice or baking soda around the house. A cotton ball soaked in pure vanilla will overpower odors in the car or refrigerator. Grinding lemons in the garbage disposal will give it a fresher smell.

Source: *Global Environmental Outreach, February 1994.*

Appendix E

Composting Yard Waste

Composting is a biological process during which naturally occurring microorganisms convert organic waste, such as yard trimmings, into a product suitable for mulching, fertilizing or conditioning soil. Adding compost to soil helps it to retain moisture and makes soil easier to till. Plants grow better because the soil has more nutrients, and there is less need for chemical fertilizers.

While starting a compost pile is a bit more involved than raking leaves into a pile, the whole project is not much more complex.

Getting Started

The most low-tech compost pile can be a simple pile of organic material, but that can be messy and unattractive. A simple compost bin can be made from wooden stakes and chicken wire, or an inexpensive plastic collapsible compost bin can be purchased at most garden stores. These kinds of bins are good for military families who move every few years and don't need a permanent structure.

However, if you want to make a lot of compost, the best way to manage the material is in a sturdy wooden box with a large side opening. You will need that opening to reach in to stir the compost, and to transplant it to your garden.

When you have selected your compost container, choose a level spot of about 3 square feet near a water source and preferably out of direct sunlight. Clear the area of sod and grass. The compost bin should not be placed directly on the ground because it will need ventilation from the bottom. A good base for the bin would be a wooden palette, or logs covered by chicken wire.

The three most important components in any compost pile are moisture, oxygen and temperature. An ideal diet for the microorganisms consists of a carbon source (dry, brown yard debris such as leaves and dead weeds) and about one-half to one-third as much of a nitrogen source (wet, green material like grass clippings and plants). Add successive layers of this organic material if possible, but during seasons when dry, brown materials are not available, compost may still be made with only wet, green plant material.

Sprinkle water on the pile after adding each layer of organic material so that the pile maintains the consistency of a squeezed-out sponge, but is not soggy. Also, regularly aerate the pile by turning it and mixing the old layers with the new layers; by poking holes in the pile; or by burying a perforated pipe in the pile to supply a constant stream of fresh air.

Yard debris such as tree branches should be chipped before being added to a compost bin so that it will decompose faster. If a large quantity of chipped wood is added to the compost, it is a good idea to add a small amount of fertilizer to increase the level of nitrogen.

You can speed up the composting process by chopping large material into smaller pieces, keeping the pile moist, and frequently turning the pile. When composting is completed, the resulting soil will appear as a dark, crumbly material uniform in texture.

The compost pile should begin cooking once it is established and should feel warm to the touch. A carefully maintained compost pile can turn waste into compost in as little as six weeks.

What Can and Can't Be Composted?

Most organic materials are acceptable for use as compost, including grass clippings, leaves, coffee grounds and filters, shredded woody yard waste and sawdust, wool and cotton rags, and manure from herbivorous animals, such as cows, horses, sheep and chickens. Many foods can be composted as well, but meats, grease and dairy products should be omitted because they cause odors and attract pests.
Non-organic materials, such as styrofoam, metal, plastic, and charcoal or coal ashes are not suitable for composting. Other materials that should not be composted are diseased plants, food waste that may attract pests, noxious weeds, and pet wastes, which may contain disease.

The Only Option for Yard Waste

According to a 1999 report by the U.S. Composting Council, the United States generates 180 million tons of solid waste each year, a figure that has more than doubled in the past 30 years. This pace is rapidly taking over the nation's landfills, and new sites are difficult to create because of environmental requirements and community objections. In fact, two-thirds of America's landfills have closed since 1970, and one-third of the remaining landfills will close in five years.

Not only is composting an excellent way to increase crop production and promote healthier flower gardens, but it also reduces the strain on our nation's landfills.

Composting Troubleshooting Guide

Symptoms	Problem	Solution
Bad odor	Not enough air	Turn the pile
Dry center	Not enough water	Add water while turning the pile
Damp and warm	Pile is too small	Add more material to center of pile
Damp, sweet-smelling but not warm	Lack of nitrogen	Mix in a nitrogen source (wet, green material)

Appendix F

Building a Worm Farm

Composting organic waste with the help of red wiggler worms is an excellent way to reduce garbage going to landfills while returning vital organic material to the soil. The worms are housed in a container that may be kept inside, allowing year-round composting by everyone, even people living in apartments. Worm farms should be kept in warm, dark and dry places with temperatures between 40-80 degrees. Over time, the worms turn food waste into rich material that can be added to soil.

Worm farms have the added benefit of breeding worms for release in gardens, where they aerate the soil.

Choosing a Container

You can buy worm composting containers or make them out of wood or plastic. An old barrel or box will do nicely.

The size of your container should be proportional to the amount of food waste you produce. As a guide, save your food waste for one week and weigh it, then use a container that is one square foot per pound of food waste. (For five pounds of garbage you will need a five-square-foot box, or several boxes that add up to five square feet.)

Your box(es) should be eight to 12 inches deep. Drill eight to 12 holes in the bottom of the box, each between ¼ - ½ inches in diameter, to provide ventilation and drainage for your worms. Drill more holes in a plastic box because they tend to need more drainage. Put a pan under the box, and raise it on legs (bricks or wooden blocks work well) to allow the worm farm to drain. The escaping liquid can be used as plant fertilizer.

Cover the box to keep the soil moist and dark. Indoor worm farms can have loose covers, but outdoor farms need closed lids to protect their contents from the elements and wildlife. Either way, make sure you provide air holes in the lid so the worms don't suffocate.

Making Your Worms' Bed

Shredded newspaper, dry leaves, peat moss, chopped straw and compost make a good bed. Mix up the bedding to create a richer compost. Toss in a few handfuls of sand to help the worms digest their food.

The bedding should be moist like a wrung-out sponge, and should fill three-quarters of the box. Fluff the bedding for ventilation, then add the worms.

Get Your Worms Here

Red wiggler worms tend to work best in worm farms. Daring worm farmers can collect their little composters from dung heaps, but red worms can also be purchased at bait shops. You will need about two pounds of worms (about 200 worms) for every pound of food waste you produce each day. You can start smaller; the worms will reproduce in short order.

Bon Appetit

Worms like to eat fruit and vegetable peels, pulverized eggshells, tea bags and coffee grounds. Don't compost meats, dairy products, oily foods and grains — they smell and attract pests. Bury the food waste in different areas of the bedding and cover it.

Worm Farm Maintenance

Add food according to the ratio above for about 10 weeks, when the bedding is nearly or completely replaced by brown and earthy-looking worm castings. The castings will take up much less space than the original bedding.

Separate the worms from the compost as soon as the bedding runs out, or they will die. The easiest method is to shift the compost to one side, then put in new bedding and food scraps. The worms will slowly migrate to the bedding. Once they have all moved, you can extract the compost as needed.

If you want to remove the compost all at once, dump your farm and separate the worms by hand. Kids enjoy this method, and it is a great opportunity to teach them about worms and their place in the ecosystem. This method also allows you to remove the tiny, lemon-shaped worm cocoons that contain between two and 20 baby worms, and place them in the new bedding to hatch.

Using the Compost

Worm compost can be added to potting soil for house plants, and can be spread on top of the potted soil as mulch. It can enrich garden soil or condition lawns.

Problems and Solutions

Problem	Cause	Solution
Strong, unpleasant odor	Lack of oxygen	Cut back on food and gently stir contents to improve ventilation
Wet bedding	Poor drainage	Check drain holes for blockage Drill more holes if necessary Cut back on food if drain holes are clear
Worms leave bedding	Bedding may be acidic	Reduce citrus peels in food and add a little garden lime
Farm draws fruit flies	Too much food or food on surface	Cover surface of compost in bin

Source: *City Farmer, 1995*

Appendix G

Earth Day Organizer's Guide Survey

The U.S. Army Environmental Center wants to know how this guide was useful to you_in planning your Earth Day event. Your ideas will help USAEC put together a similar guide for future Earth Days.

Did this guide help you plan for Earth Day?

Did you use any resources available from USAEC? Did they help?

Would you like to see different materials? What kind?

Did you try any programs that did not work, or that you would tell other installations to avoid?

Did we miss anything?

Please share one success story from this year's event.

Please add any other comments or suggestions on this page and fax it to the USAEC Public Affairs Office at (410) 436-1693.

Notes

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