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PESTICIDE APPLICATION AND HANDLING TECHNOLOGY: PROPER DISPOSAL OF EMPTY PESTICIDE CONTAINERS

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Recycling has become more and more popular as our awareness of environmental concerns grow. These environmental concerns have led to increased participation in recycling efforts among today's farmers. Many farmers throughout Kentucky are now able to recycle their empty plastic pesticide containers (Five gallon or less) due to a statewide Rinse and Return program. Recycling of empty containers provides a safe means of disposal for applicators, reduces landfill space, and protects our valuable water resources.

The number of container collection and recycling programs is growing rapidly, as well as the number of containers being returned. In 1992, the US agricultural community recycled 1.3 million pounds of rinsed pesticide containers. This increased dramatically the following year when a record 2.4 million pounds were collected, which is particularly noticeable considering that most states, like Kentucky, are only two or three years into their programs. It is estimated that 40 states have established collections for 1994.

The Rinse and Return program in Kentucky has experienced a similar success with this disposal option. Presently, 30 counties are providing collection sites for the Rinse and Return

program, which is a sizable increase considering the program started with only two pilot counties, Hardin and Christian, in 1991. Since its inception, Kentucky's program has grown from about 8,000 containers to more than 135,000 in 1993. Hardin County alone went from about 3,500 jugs to nearly 25,000 in 1993--over a seven fold increase!

The statewide Rinse and Return program is the best way for farmers and applicators to manage and dispose of their containers. It provides applicators with a safe and environmentally conscious alternative to burning, placing jugs in a landfill, or discarding in hollows or sink holes. These latter methods all are harmful to the environment, unlike the recycling program which reduces the potential for groundwater contamination.

The most important step for a successful recycling program is proper rinsing. Returned containers **must** be triple rinsed or pressure rinsed before they can be recycled. With both methods, rinse water should be put in the spray tank for application. **Never** dump rinse water on the ground.

The following steps should be used when triple rinsing a container:

1. Remove cover from the container. Empty the pesticide into the sprayer tank and let the container drain for several seconds.
2. Fill the container 10% to 20% full of water or rinse solution.
3. Secure the cover and swirl the container to rinse all inside surfaces.
4. Remove the cover from the container. Add the rinsate from the container to sprayer tank and let drain for several seconds.
5. Repeat steps 2 through 4 two more times.
6. Puncture container.

The following steps should be used when pressure rinsing a container:

1. Remove cover from the container. Empty the pesticide into the spray tank and let the container drain for several seconds.
2. Continue holding the container upside down over the sprayer tank opening so rinsate will run into the sprayer tank.
3. Insert the pressure-rinse nozzle (Figs. 1 and 2) by puncturing through the bottom of the pesticide container.
4. Rinse for length of time recommended by the manufacturer (generally 30 seconds or more).

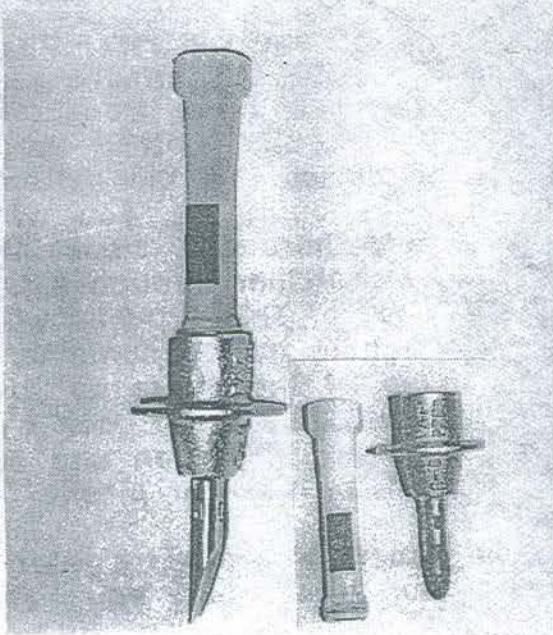


Figure 1.
Pressure rinse nozzle.

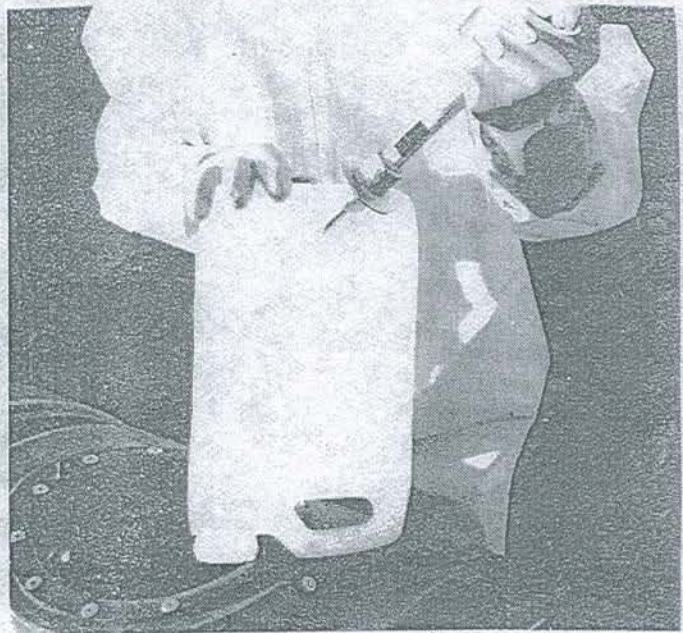


Figure 2.
Pressure rinsing a pesticide container.

It is important to rinse containers immediately after they were emptied. Some pesticide residues dry quickly, and become difficult to remove if left in the jug. After a proper rinsing, dispose of the container caps and remove sleeves and labels from the containers. These are made of different materials that cannot be recycled with the jugs. Containers also should be cleaned on the outside.

Empty containers should be stored in a dry, secure place until the scheduled collection date. Check with your local extension agent about your county's involvement and collection dates and sites. Figure 3 shows Kentucky counties that are actively participating in the Rinse and Return program and those who that interested in participating in upcoming years.

At collection sites, usually county road department facilities, any pesticide container up to five gallons is accepted. Returned containers are inspected to ensure they have been properly rinsed. Unrinsed containers **are not** accepted. Once approved for recycling, containers are run through a chipping machine to reduce their bulk. Materials are then shipped to a facility to be reused in the manufacture of new pesticide containers and other hard-plastic products used on farms.

Pesticide container recycling through the Rinse and Return program gives Kentucky applicators a safe and environmentally conscious method for disposing of their empty containers. Empty containers pose hazards to the environment if burned, buried, or placed in land fills. Empty containers **must** be triple rinsed or pressure rinsed before being returned. If you and your county agent are interested in becoming involved in Kentucky's Rinse and Return program, contact Doug Shepherd, Hardin County Extension Agent, at (502) 765-4121 or Wayne Mattingly, Daviess County Extension Agent, at (502) 685-8480.

