

# OPEN BURNING

Amanda Abnee Gumbert, Forestry and Natural Resources - Extension; Eric Byrd, Kentucky Business Environmental Assistance Program; Elizabeth Robb and Roberta Burnes, Kentucky Division for Air Quality; and Kate Shanks, Kentucky Energy and Environment Cabinet



Disposing of our waste items by open burning has been a way of life for many years. Many of us grew up with a backyard burn barrel, and some of us may still use such a disposal device. However, today's waste contains more plastics and other synthetic materials than ever before. These materials release more harmful chemicals when burned than the cardboard and paper packaging of the past. Open burning can negatively impact our environment and our health. Many respiratory diseases such as asthma, emphysema, chronic bronchitis, and nervous system disorders have been linked to open burning. Children, the elderly, and individuals with compromised immune systems are especially vulnerable to the health impacts of open burning.

## HOW DOES OPEN BURNING APPLY TO ME?

### *Laws and Regulations*

Kentucky's open burning regulation applies to all Kentuckians, whether they are individual residents, large or small businesses, government entities, individual government officials, or a community of people.

Local ordinances may be more stringent than state regulations but cannot be less stringent. Some open burning activities permitted by state law may be prohibited at the local level, so be sure to check with your local government concerning local ordinances before open burning.

The Kentucky Division for Air Quality does not issue burn permits. Some local fire departments may issue burn permits to people for outdoor burning. It is important to remember that a burn permit does not allow you to ignore state regulations, and it is up to you educate yourself about permissible open burning – regardless of whether you have a burn permit or not.

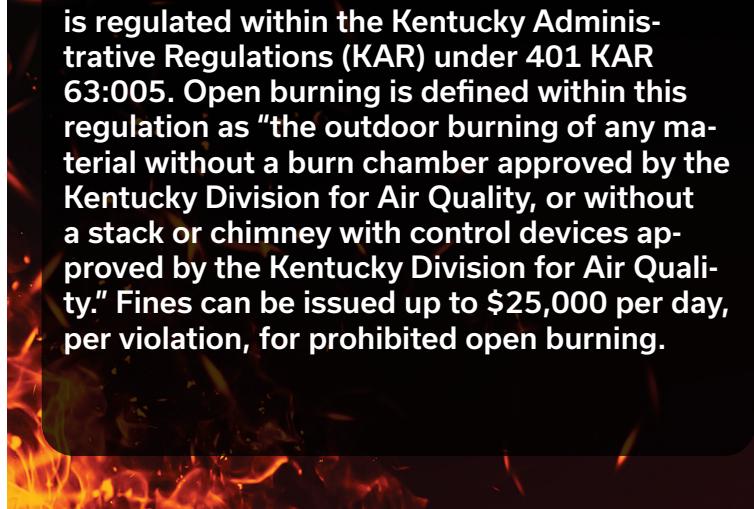
Certain kinds of open burning may require additional approval. Contact the Kentucky Division for Air Quality if you are:

- A fire department interested in conducting a live fire training involving the burning of a structure
- A local government wishing to stage a site for the open burning of large amounts of storm debris. [The Kentucky Division of Waste Management should also be contacted to approve storm debris staging and disposal sites.]



### OPEN BURNING

is regulated within the Kentucky Administrative Regulations (KAR) under 401 KAR 63:005. Open burning is defined within this regulation as "the outdoor burning of any material without a burn chamber approved by the Kentucky Division for Air Quality, or without a stack or chimney with control devices approved by the Kentucky Division for Air Quality." Fines can be issued up to \$25,000 per day, per violation, for prohibited open burning.



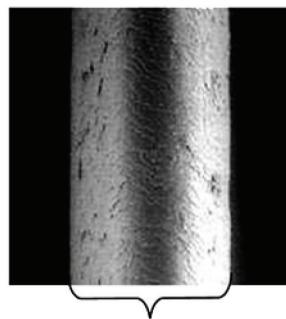
# ENVIRONMENTAL HEALTH IMPACTS OF OPEN BURNING

What you need to know to protect your health and the environment

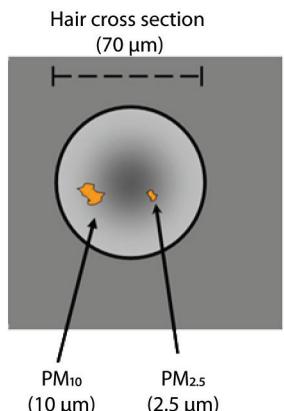
## Hazardous Pollutants

Smoke from burn barrels can pollute our air, water, and soil. This smoke may contain harmful pollutants such as particulate matter (Figure 1), sulfur dioxide, lead, mercury, volatile organic compounds, and corrosives. Ashes containing these same compounds can settle on lakes and rivers or be washed into streams during heavy rains. These pollutants can have immediate and long-term health effects on you and your neighbors, including:

- Asthma, emphysema, or other respiratory illnesses
- Nervous system, kidney, or liver damage
- Reproductive or developmental disorders
- Headaches, dizziness, and fatigue

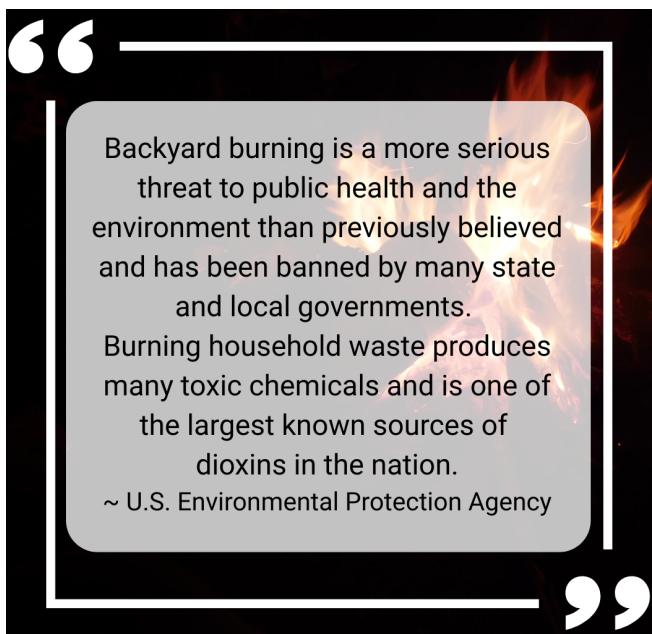


Human Hair (70  $\mu\text{m}$  diameter)



M. Lipsett, California Office of Environmental Health Hazard Assessment

**Figure 1.** Particulate matter: a complex mixture of extremely small particles and liquid droplets.



Dioxins are among the most dangerous contaminants emitted by open burning. Dioxins are highly toxic, long-lasting organic compounds. They are dangerous even at extremely low levels and have been linked to several health problems, including cancer, developmental or reproductive disorders, and birth defects.

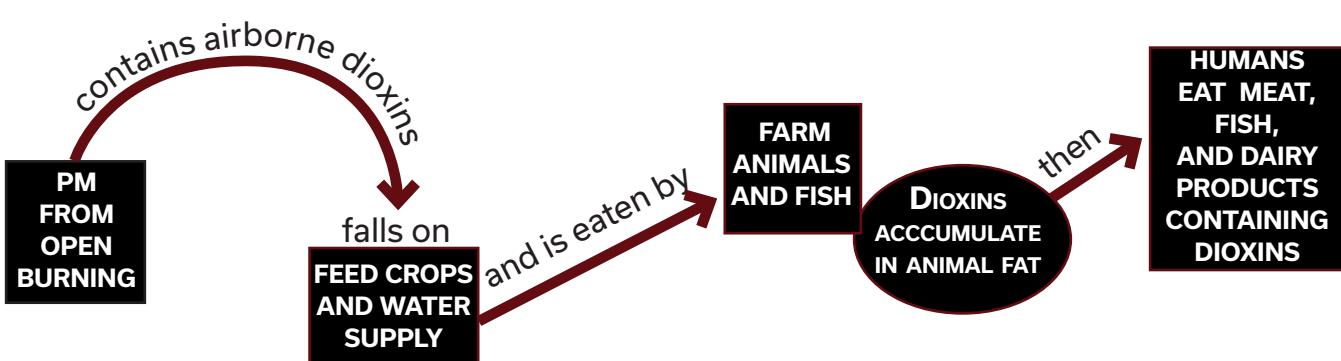
Dioxins are formed when products containing carbon and chlorine are burned. Even very small amounts of chlorine can produce dioxins. Low levels of chlorine are present in most household materials. Because burn barrels do not have the same strict controls and high temperatures as municipal incinerators, barrel burning has the potential to release significant amounts of dioxins.

## Exposure to Pollutants in the Food Chain

Dioxins accumulate in the food chain when these compounds settle onto feed crops or water supplies, which are then eaten by domestic meat and dairy animals. Dioxins accumulate in the fatty tissues of animals, fish, and shellfish, and then in humans when we consume them or products made from them (Figure 2).

The ash residue from backyard burning can contain toxic pollutants, such as mercury, lead, chromium, and arsenic, which can contaminate vegetables if scattered in gardens. Children can swallow toxic materials from dirt on their hands while playing near discarded ash.

**Figure 2.** Dioxins attach to particulate matter (PM) and enter the food chain.



## PER 401 KAR 63:005 SECTION 3. PROHIBITION OF OPEN BURNING

Except as provided in Sections 4 and 5 of this administrative regulation, open burning shall be prohibited.

### The Following Open Burning Activities are Allowed Under Section 4:

1. Fires set for the cooking of food for human consumption;
2. Fires set for recreational or ceremonial purposes;
3. Small fires set by construction and other workers for comfort heating purposes if:
  - a. The ambient temperature is below fifty (50) degrees Fahrenheit;
  - b. Excessive or unusual smoke is not created;
  - c. Only clean lumber or vegetative matter is burned; and
  - d. The fire is burned in a container not exceeding 55 gallons in size;
4. Fires set for the purpose of weed abatement, disease, and pest prevention;
5. Fires set for prevention of a fire hazard, including the disposal of dangerous materials if no safe alternative is available;
6. Fires set for the purpose of instruction and training of public and industrial employees in the methods of fighting fires as set forth in Section 6 of this administrative regulation;
7. Fires set for recognized agricultural, silvicultural, range, ecological, and wildlife management practices;
8. Fires set by individual homeowners for burning of leaves except in cities greater than 8,000 population located in a Priority I Region;
9. Fires for disposal of household rubbish\* originating at dwellings of five family units or less, if the fires are maintained by the occupant of the dwelling at the dwelling, except in cities greater than 8,000 population located in a Priority I Region;
10. Fires set for the purpose of disposing of accidental spills or leaks of crude oil, petroleum products or other organic materials, and the disposal of absorbent material used in their removal, if no other economically feasible means of disposal is available and practical. Permission shall be obtained from



Fires set for cooking food (item 1) are allowed within the parameters of Section 4.

the cabinet prior to burning;

11. Fires set for disposal of natural growth for land clearing and maintenance, and trees and tree limbs felled by storms if no extraneous materials, such as tires or heavy oil which tend to produce dense smoke, are used to cause ignition or aid combustion and the burning is done on days when conditions do not pose a threat of igniting a forest fire. In regions classified Priority I, with respect to particulate matter pursuant to 401 KAR 50:020, Appendix A, the emissions from these fires shall not be equal to or greater than 40 percent opacity;
12. Heating ropes that are set on fire to repair steel rails during cold weather; and
13. Fires set by county or municipal governments to dispose of wood waste or clean lumber. This activity shall not be considered in violation of 401 KAR 47:030, Section 10.

**\*Rubbish is defined as waste material and trash normally accumulated by a family in a residence in the course of ordinary day-to-day living, except for garbage, cans, glass, plastic, or other potentially hazardous waste materials.**

## Ozone Season Restrictions

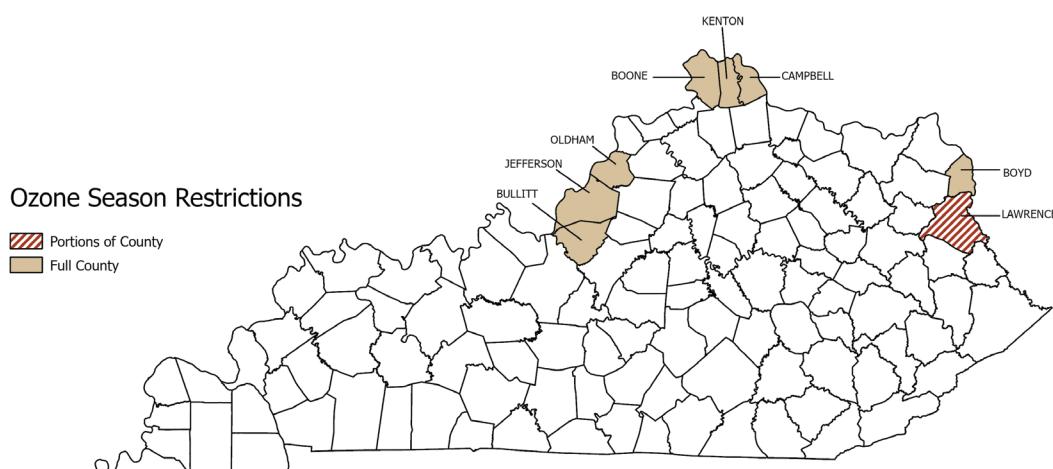
From May 1 through Sept. 30, open burning in Boone, Boyd, Bullitt, Campbell, Jefferson, Kenton, Lawrence (partial), and Oldham counties is restricted to protect air quality. These counties are currently or were previously designated nonattainment for ozone and/or particulate matter because their air pollution levels exceeded those permitted by the federal Clean Air Act (Figure 3). During ozone season, outdoor burning of household rubbish, brush, tree limbs, leaves, and natural growth from land clearing are not permitted in these counties. Open burning is restricted year-round in Jefferson County, not just during ozone season. Ozone season restrictions to open burning apply only to a small portion of Lawrence County.

During these months, the only open burning activities allowed shall be:

- a. Fires set for the cooking of food for human consumption;
- b. Fires set for prevention of a fire hazard, including disposal of dangerous materials if no safe alternative is available;
- c. Fires set for the purpose of bona fide instruction and training of public and industrial employees in the methods of fighting fires;
- d. Fires set for recognized agricultural, silvicultural, range, ecological, and wildlife management practices;
- e. Fires set for the purpose of disposing of accidental spills or leaks of crude oil, petroleum products or other organic materials, and the disposal of absorbent material used in their removal, if no other economically feasible means of disposal is available and practical. Permission shall be obtained from the cabinet prior to burning; and
- f. Fires set for recreational or ceremonial purposes.

Contact the Kentucky Division for Air Quality for specific boundaries and additional information regarding ozone season restrictions.

**Figure 3.** Counties with Ozone Season Restrictions on Open Burning



## Fire Hazard Season Restrictions

Per [KRS 149.400](#), from Feb. 15 to April 30, and Oct. 1 – Dec. 15th; burning within 150 feet of any woodland or brushland is allowed only in the evening hours between 6 PM and 6 AM.

## Fire Emergency Restrictions

All open burning is prohibited when a fire emergency is declared. Check with your county judge/executive or the Division of Forestry's county burn ban page for the most up-to-date information at [eec.ky.gov/CountyBurnBan](http://eec.ky.gov/CountyBurnBan).

Burning of approved materials should be done in a common sense manner. Nearly half of Kentucky's wildfires occur when open burning gets out of control. Following these guidelines and always staying with your fire should help minimize the problem of environmental contamination and wildfires occurring from open burning.

## Tips

- Do NOT locate fires near streams, sinkholes, or under/over utility lines because environmental contamination and fire hazards are a real danger in these areas.
- Locate fires away from nearby residences or businesses.
- Always locate fires 150 feet from nearest forested area to reduce risk year round.
- Remember it is illegal to burn anything within 150 feet of any woodland or brushland between the hours of 6 a.m. to 6 p.m. during fire season.
- Check local city/county ordinances.

# OPEN BURNING OF THESE ITEMS IS PROHIBITED AT ALL TIMES:

## Agriculture

Animal bedding  
Hay muck piles (horse manure/hay)



**PROHIBITED**

## Construction

Asbestos materials  
Buildings  
(houses, barns, trailers, and garages)  
Construction debris  
Demolition debris  
Drywall  
Shingles



## Wood Materials

Fence posts  
Painted wood  
Furniture  
Pallets  
Sawdust  
Treated wood  
Wood chips and shavings  
Wood mulch

## Chemical Containers

Agricultural  
(fertilizer, pesticide, etc.)  
Household rubbish  
(including aerosol cans)



## Miscellaneous

Coated wire  
Insulation  
Garbage  
(defined as putrescible animal or vegetable matter.)  
Motor oil  
Plastic  
Rubber  
Tires  
Used oil  
Waste  
Generated by businesses, schools, hospitals, churches, and farms

# ALTERNATIVES TO OPEN BURNING:

## Reduce

- Purchase wisely and avoid buying products that are overly packaged.
- Purchase items that contain recycled material.
- Buy only items you really need.
- Buy as few items containing hazardous materials as possible.
- Take advantage of a "community bank," a system of tools and materials that are available for a community's use. If your community does not have one available, think about starting one.

## Reuse

- Find art schools or technical vocational schools to reuse metals, wire, and other material for educational or art projects.
- Have equipment and other items repaired instead of buying new ones.

## Recycle

- Utilize recycling services that will accept aluminum, steel, copper, glass, paper, cardboard, and other products to reduce processing of raw material.

## Composting

- Yard waste and most food scraps can be turned into nutrient-rich compost. Contact your local Cooperative Extension Service for more information.

## Tire Collection Events

- The Kentucky Division of Waste Management offers free waste tire collection events for Kentucky residents. These events occur every three years on a rotating basis for each county. Learn more at <https://eec.ky.gov/WasteTires>.

## Household Hazardous Waste Drives

- Look for local household hazardous waste drives sponsored by your county solid waste coordinator. Check local listings or visit [eec.ky.gov/RLA](https://eec.ky.gov/RLA) to find your solid waste coordinator.

## Kentucky Department of Agriculture's Rinse and Return Program

- Farmers are encouraged to participate in this

program by rinsing their pesticide containers and taking them to designated drop-off locations for recycling. Visit <https://www.kyagr.com/consumer/pest-and-recycling.html> to learn more.

## Freecycle

- The Freecycle Network is a grassroots effort that is a mechanism for trading goods. Once connected to a network, people can post the items they would like to give away for free or can use the site to find items. This keeps items such as old furniture, clothing, housewares, etc., from ending up in a burn barrel. Check out <https://www.freecycle.org/>.



## Fundraisers

- Fundraisers that require people to collect recyclables such as cell phones and ink cartridges are a great way to keep these items out of burn barrels while raising money for important causes. Do an online search using keywords such as "environmental fundraisers" for more information.

## Donate

- Give usable items to charitable organizations such as thrift stores, reuse centers, churches, community centers, etc.

## Take Waste to an Approved Landfill

- And when all other options are exhausted, take waste material to an approved solid waste landfill. DO NOT LITTER.



# SAFE AND LEGAL BURNING CHECKLIST

**Follow these basic steps for safe and legal open burning:**

- Learn before you burn. Check local ordinances and visit the Kentucky Division for Air Quality's website at [eec.ky.gov/burn](http://eec.ky.gov/burn) for more information.
- Check for forest fire danger alerts or government-declared bans.
- Only burn after there has been at least  $\frac{1}{2}$  inch of soaking rain and winds are less than 5 mph. Make sure that the area overhead is cleared of flammable material before starting a fire.
- Clear a 5-foot area around your burn site to serve as a fuel break.
- Keep burn piles under 10 feet in diameter and 2 feet high.
- Do not burn if the wind can spread the fire.
- Never start a fire at the bottom of a slope.
- Keep tools handy to control the flames. These include water hose, buckets of water or sand, rakes, shovels, or towels.
- Have telephone numbers handy and notify your local fire department or local Kentucky Division of Forestry office if a fire becomes uncontrollable.
- When burning paper products, use a barrel, fireplace, or pit with a weighted screen.
- Attend all fires until the last spark is out.
- Never burn barns or buildings.
- Never burn pesticide containers. Triple rinse and return to special collection sites in your county.
- Fire training must follow National Fire Protection Association guidelines and requires written permission from the Kentucky Fire Commission and the Kentucky Division for Air Quality before the training takes place.
- Do not illegally burn or dump your trash. Instead, reduce, reuse, and recycle.

# STILL NOT SURE ABOUT OPENING BURNING?

Email [burnlaw@ky.gov](mailto:burnlaw@ky.gov) or contact your regional air quality office:

Division for Air Quality (502) 564-3999

## REGIONAL OFFICES

Ashland	(606) 929-5285
Bowling Green	(270) 746-7475
Florence	(859) 525-4923
Frankfort	(502) 564-3358
Hazard	(606) 435-6022
London	(606) 330-2080
Owensboro	(270) 687-7304
Paducah	(270) 898-8468

Louisville Metro Air Pollution (502) 574-6000

Control District

Environmental Compliance (502) 782-6189

Assistance Program

University of Kentucky Cooperative Extension Service check local listings

Kentucky Division of Forestry (502) 564-4496

Kentucky Fire Marshal's Office (502) 573-0388

Kentucky Department of Agriculture (502) 573-0282

Kentucky Division of Waste Management (502) 564-6716

Kentucky Department of Fish and Wildlife Resources (800) 858-1549

This publication is a product of the Environmental and Natural Resource Issues Task Force Air Quality Focus Group. The focus group includes partners from the Kentucky Environmental Compliance Assistance Program, the Kentucky Energy and Environment Cabinet, the Kentucky Division for Air Quality, and the Kentucky Cooperative Extension Service.



## Cooperative Extension Service

Agriculture and Natural Resources  
Family and Consumer Sciences  
4-H Youth Development  
Community and Economic Development

## MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.

Lexington, KY 40506 Issued 1-2006; Revised 12-2025



 Disabilities accommodated with prior notification.