

Body Balance: Protect Your Body from Pollution with a Healthy Lifestyle

The Connection between Pollution and Nutrition

Pollution is the presence of contaminants in our environment. Pollution can be found in air, water, soil, and food. These contaminants tend to have negative effects on the environment and on health. Some contaminants may have more obvious effects than others.

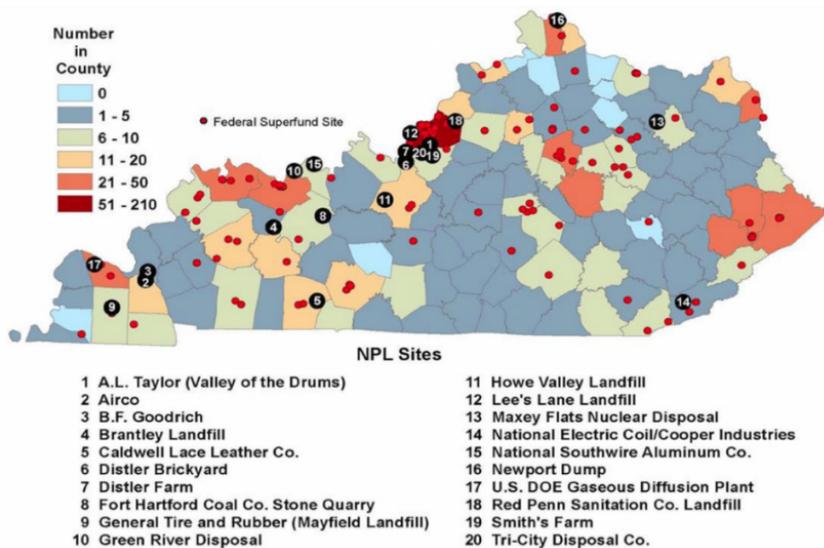
Pollution increases compounds called free radicals in the body. Too many free radicals in the body cause oxidative stress. Oxidative stress can increase the risk for cancer and

other chronic diseases because cells are damaged more easily and do not repair themselves as well. Pollution in the environment cannot always be avoided. However, eating for good health may help reduce the effects of pollution in the body. Choosing more nutritious foods, such as those high in phytonutrients, may reduce oxidative stress and protect the body from the negative health effects of pollution. Phytonutrients are found in plant foods including fruits, vegetables, legumes and whole grains.

Kentucky is home to approximately 125 federal Superfund sites. This includes 14 active U.S. Environmental Protection Agency (EPA) National Priority List (NPL) Superfund hazardous waste sites and 1,000 state-designated Superfund sites. A Superfund site is an uncontrolled or abandoned place where hazardous waste is located. Hazardous waste sites are a priority for cleanup because they can release chemicals that may affect local ecosystems or people. Hazardous waste sites are placed on the EPA NPL indicating further investigation and cleanup by the federal Superfund Program is needed.

University of Kentucky Superfund Research Program

The University of Kentucky received funding from the National Institute of Environmental Health Sciences (NIEHS) to study pollution. The purpose is



to collaborate with a nationwide family of Superfund Research Programs to investigate pollution in these areas, as well as to help clean up contaminated sites. University of Kentucky Superfund Research Center (UK-SRC) focuses its research efforts on the positive impact nutrition has in lessening the negative health effects and disease outcomes associated with pollution or chemical exposure, specifically outcomes associated with chlorinated organic compounds, such as polychlorinated biphenyls (PCBs). PCBs are prevalent in most Superfund hazardous waste sites, including those found in Kentucky. The research of the UKSRP includes how lifestyle behaviors, such as nutrition and physical activity, may help protect people from these chlorinated organic compounds, as well as ways to detect and clean up these pollutants.

Pollution from PCBs

PCBs were used for decades in many industrial applications. Although commercial production of PCBs was banned in the U.S. in 1979, PCBs persist in the environment because they are a long-lasting chemical. Their residue can be found in Superfund sites across Ken-

tucky. A Superfund site is land that has been contaminated by hazardous waste, such as PCBs. The Environmental Protection Agency (EPA) is involved in working with these sites until they no longer pose a threat to human health and the environment. PCBs easily enter the food chain and, after consumption, accumulate in the fatty tissues of humans and animals. Eating fish, meat, and dairy, especially if they are high fat, increases the risk of exposure. These foods may contain small amounts of PCBs. The EPA has cleaned many PCB sites. Because PCBs are so long-lasting, some can still be found in people, animals, and the environment today.

Where Is Pollution in My County?

Check out this website from the Environmental Protection Agency (<http://www.epa.gov/myenvironment/>) to determine the location of pollution sites in various counties. Simply enter the zip code, then select “land” and “superfund.” These sites are nationally recognized areas of pollution that researchers and the government are working to clean up.

To learn more about nutritional strategies that can help reduce the negative effects of pollutants and hazardous chemicals on the body refer to other publications in the *Body Balance: Protect Your Body from Pollution with a Healthy Lifestyle* series as well as the Inter-Program (IP) publications 76 and 77. Good nutrition is one of our best defenses for staying healthy, even in the presence of environmental pollutants.

Reference

Superfund: National Priorities List (NPL). (2015, October 05). Retrieved January 20, 2016, from <http://www.epa.gov/superfund/superfund-national-priorities-list-npl>
Adapted from IP-76 and IP-77

This publication is made possible in part by grant number P42 ES007380 from the National Institute of Environmental Health Sciences, NIH. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIEHS, NIH.

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