Urban Community Gardens:
Tips for Safe Gardening

UNIVERSITY OF LOUISVILLE
SUPERFUND RESEARCH CENTER

Some Crops Can Grow Safely in Contaminated Soils:

Vegetable, Fruits, and Seeds

- Tomatoes
- Eggplant
- Peppers
- Squash (summer and winter)
- Corn
- Cucumber
- Melons
- Peas (shelled)
- Beans (shelled)
- Berries

Tree Fruits

- Apples
- Pears

Why Build a Community Garden?

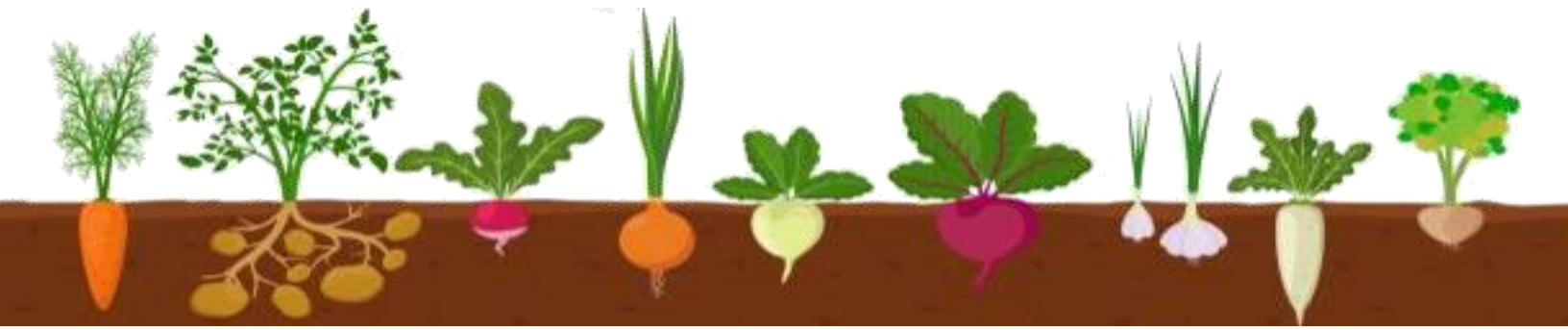
Building a community garden is not as simple it seems. It is important to think through every part of the project before beginning. Pre-planning provides the garden with the best chance of being safe and successful. If urban gardens are well-designed and supported by the community, they can bring about many positive changes. For example, urban gardens can build a stronger sense of community, decrease crime, and turn vacant lots into healthy green spaces. Community gardens can also offer economic benefits and income opportunities for gardeners as well as a ready supply of healthy food. Additionally, these projects can provide chances for people of all ages to come together to learn about agriculture and gardening. Children who garden are more likely to try, like, and eat more vegetables, leading to better health. Community gardens can also help the environment by reducing flooding, decreasing erosion, and improving air quality.

Contamination of Urban Gardens

One of the main safety concerns of urban gardens is contamination. Fruits and vegetables can be contaminated when there are contaminants in the air or soil. The levels and types of contaminants present depend on the property. Properties can be contaminated from past use, nearby industry, and chemicals. Some crops can grow safely in contaminated soil, but others are more likely to become contaminated and pose a health risk (see side panel).

Common Sources of Contamination

General Source	Specific Contaminant(s)
Paint (before 1978)	Lead
High Traffic Areas	Lead, Zinc, PAHs
Treated Lumber	Arsenic, Chromium, Copper
Burning Wastes	PAHs, Dioxins
Coal Ash	Molybdenum, Sulfur
Sewage Sludge	Cadmium, Copper, Zinc, Lead
Commercial/Industrial Site Use	PAHs, Lead, Other heavy metals
Pesticides	Lead, Arsenic, Mercury



Some Crops Can't Grow Safely in Contaminated Soils:

Green Leafy Vegetables

- Lettuce
- Spinach
- Swiss chard
- Beet leaves
- Cabbage
- Kale
- Collards

Root Crops

- Carrots
- Potatoes
- Turnips
- Onions

Other Vegetables

- Broccoli
- Cauliflower
- Green beans
- Snow peas

How to Reduce Contamination of Urban Gardens

There are some natural barriers that limit the transfer of contaminants into garden crops. For example, some crops are able to prevent or reduce the levels of toxic metals that can enter their fruits and seeds. There are also a number of simple practices that urban gardeners can use to help manage soil contamination and reduce personal exposure.

Methods of Reducing Contamination and Personal Exposure

Physical Controls

- Test soil toxicity.
- If soil is found to be contaminated, construct raised beds using clean soil brought in from an outside source.
- Mulch walkways to reduce dust and soil collecting on the plants.
- Don't grow edible plants directly adjacent to buildings, where levels of heavy metals like lead may be higher.
- Adjust acidity of the soil to reduce the levels of heavy metals that plants can absorb into seeds and fruits.
- Plant crops suitable for growing in contaminated soils.

Personal Habits

- Wear gloves when gardening.
- Wash hands immediately after working in the garden.
- Clean tools, gloves, and shoes before going indoors to avoid bringing contaminated soil into the home.
- Watch small children around the garden to stop them from eating soil.
- Wash fruits and vegetables before storing or eating.
- Peel root crops and remove outer leaves of leafy vegetables before eating.

Testing Soil for Contamination: What You Need to Know

It is important to determine soil contaminant levels. Soil testing can measure the levels of contaminants. This should be the first step in ensuring the health and safety of individuals involved in urban gardening projects. In Louisville, soil testing can be performed by the Jefferson County Cooperative Extension and the University of Kentucky's College of Agriculture, Food and Environment. This testing can provide information about soil quality and the level of lead in the soil. The Cooperative Extension also provides feedback on whether the site is suitable for use as an urban garden. More information can be found here: https://jefferson.ca.uky.edu/content/soil-tests.

Sources

Best Management Practices for Urban Gardens. Lexington, KY: University of Kentucky College of Agriculture, Food and Environment and Louisville, KY: Jefferson County Cooperative Extension Service. Available at: http://louisville.edu/cepm/project-areas-1/brownfields-and-safe-soil/english/ctg_best-management-practices-for-urban-gardens.

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Additional Resources

Food in Neighborhoods Community Coalition: https://foodinneighborhoods.org/

Jefferson County Cooperative Extension & UK College of Agriculture, Food and Environment: https://jefferson.ca.uky.edu/content/horticulture

Louisville Grows: https://louisvillegrows.org/

University of Louisville Center for Environmental Policy and Management Safe Garden Guide: https://louisville.edu/cepm/project-areas-1/brownfields-and-safe-soil/gardenguide

University of Louisville Center for Environmental Policy and Management Safe Soil Resources: http://louisville.edu/cepm/project-areas-1/brownfields-and-safe-soil/soilresources