Know Before You Grow

EPA BROWNFIELDS AND LAND REVITALIZATION

Understanding Site Risks for Garden and Growing Activities

When the ideal spot isn't a perfect lot. Local and state brownfield experts can help select a safe garden spot and can guide and oversee actions to make a site safe. This process includes helping you understand risks from potential contaminants and exposures.

TESTING THE SOIL

Do you plan to collect soils from target garden areas or the entire site? Sampling soils across a site helps identify contamination, assess risks and environmental conditions for growing, **and helps protect children or others accessing the site.**

STOP:

A vacant or abandoned lot may be a brownfield site and may be contaminated.

LOOK:

Find out if environmental contaminants are present on the site before creating a garden and inviting community members to enjoy the space.

REACH OUT:

Local and state brownfield experts can help you understand possible hazards on the site, how to reduce your exposure risk and steer you to safe sites for community gardens and commercial agriculture operations. Depending on your reuse, local health or agricultural agencies may assist you as well.

WHERE TO PLANT

Sampling soils identifies contamination, assesses risk and informs safe conditions and locations for growing.

- *Do you plan to plant in the ground?* Testing soil helps determine if soil amendments are needed for growing healthy plants.
- *Do you plan to plant above ground*? Use safe soils to fill raised beds and make areas around raised beds safe for visitors.
- *Do you plan to add child play areas near growing areas?* Make sure all access areas, including playgrounds and paths, are safe for children.

Tip: When you cover garden paths and access areas with clean soil, weed cloth, and mulch, you not only help reduce weeds but also reduce the potential for exposure to soil hazards, minimize soil disturbance, and save water.

Tip: Planting flowers with vegetables can bring pollinators and beneficial insects that boost crops.

PLANNING YOUR PROJECT

Who could be exposed and how to reduce exposure? When planning your project, understand the potential for exposure to contaminants and identify approaches to keep all users safe.

- *Are you planning a community garden*? Gardeners and visitors of all ages need to be safe while at the site, including children who have higher health risks from contamination.
- *Are you planning an urban farm*? Workers may spend more time and may need to consider environmental, agricultural, and food safety practices.
- *How do you plan to grow?* Growing above ground or in a greenhouse requires different preparation than growing in the ground.
- *What do you plan to grow?* Crops that grow below ground may require different actions than crops, such as leafy greens or tomatoes, that grow above ground.

Keep in mind that food production and food safety may be regulated or overseen by health or agricultural agencies, not environmental agencies.
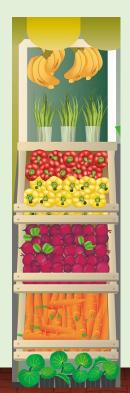
Transforming Brownfields into Community Gardens

ASSESSING CURRENT SITE/SOIL CONDITIONS

CLEANING SITE - REMOVAL/RECYCLING DEBRIS

RAISED PLANTING BEDS WITH CLEAN TOPSOIL

IN GROUND PLANTING BEDS - REMOVAL OF EXISTING SOIL/REPLACED WITH CLEAN TOPSOIL

GREENHOUSE GROWING

ADA ACCESSIBLE RAISED PLANTING BED

ORCHARD

OUR GARDEN CENTER

COMMUNITY GARDEN

Clear Vacant Lot

Prepare Land For Garden

Urban Agriculture Community Garden

OPTION A

UNDERSTANDING YOUR USERS

COMMUNITY GARDEN	COMMERCIAL URBAN FARM
Safety is a top priority in community spaces. Hazards must be removed for the safety of visitors as they garden, play or explore. Remain open to ideas that increase site access and use. Consider the site as a garden and an area for play and celebration. Visitors may interact with the space in different ways than gardeners. They may visit daily or weekly throughout the year while gardeners may visit daily during the planting, growing, and harvest seasons.	A commercial urban farm or larger food production facility may employ workers for shifts during crop planting, watering and soil management, or harvesting. Aquaculture, non-food floriculture or fiber production operations also may be shift work. Consider your plans for using the site as a: • commercial setting (e.g., local food market), • job creation center and workplace, or • industrial activity area. If training students, consider their age and what protections they will need. Do you plan to test the entire site for safety or only planned growing areas? Targeted attention will help reduce worker exposures and create the needed documentation for site operations food safety. Do you plan to keep equipment storage, maintenance and pest management separate from food production areas? State programs may consider this a commercial reuse as part of risk analysis and reuse assessments. Soil capping, hardscape or paving may be used for non-growing and limited access areas, parking and equipment storage.

Tip: Fuels and materials used to operate and maintain equipment and control pests may pose food safety risks and should be stored separately.

Tip: Planting wildflowers, native plants and trees along your site's border provides habitat for pollinators, which improves fruit and vegetable yield, and helps beautify your site.

BEFORE YOU BUY, ACQUIRE OR ACCEPT THE PROPERTY, underline follow these steps to understand the site history and protect your organization from environmental liability. Your State or local brownfield program can help you understand this process. An environmental assessment includes a review of the site history, government records and a visual examination of the site. Assessment information will help you decide which sites are safe for use or may need further investigation and can be cleaned up for growing food.

Tip: Check with your state environmental or agriculture agencies on requirements for soil testing or community garden cleanup.

Tip: When you need brownfields expertise, a qualified environmental professional (QEP) can help you complete a site assessment. FREE help also is available from State and Tribal programs and the U.S. Environmental Protection Agency's (EPA) Targeted Brownfields Assessments (TBA) program.

Ensuring the perfect place is also a safe space

If hazards aren't well understood, reusing a site for a community garden or commercial urban farm can pose short-term and long-term risks. Get expert help!

Tip: FREE help is available from EPA's Technical Assistance to Brownfields Communities (TAB) providers.