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ENVIRONMENT



AGRICULTURE



FOOD

CENTER FOR SUSTAINABLE AGRICULTURE



UNIVERSITY OF VERMONT

EXTENSION

CULTIVATING HEALTHY COMMUNITIES

Land History

Conducting a risk assessment for your farm

Knowing the history of your farm property and structures including prior uses will help you better understand how to protect the quality and safety of produce by identifying **potential sources of contamination**. The three main types of contamination are:

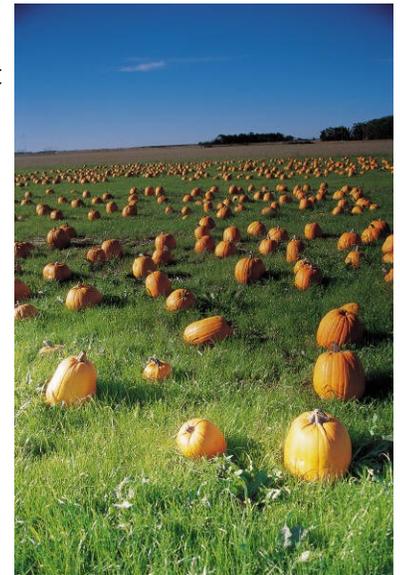
Physical – Contaminants such as glass, metal, and plastics are often found at current or previous on-farm dumpsites, outbuildings, or home sites.

Chemical – Contamination of soil may result from previous application of persistent pesticides on fields, high lead levels surrounding old buildings with lead paint and pipes, or fuel oils spilling from vehicles and tanks.

Biological – Pathogens may be present in soils located near carcass burial and manure storage sites, including fields receiving runoff from these areas.

Useful **tools** for performing a land use risk assessment:

- Obtain or draw a **map** of your farm. See box below for resources.
- **Talk** to former land owners, neighbors and others who may be familiar with the land and building use history. If the land is new to you ask them about activities in the last couple years.
- If you have reason to suspect the soil where you will be planting might be contaminated, get a **soil test** for heavy metals or hydrocarbons. See box on reverse for labs that conduct these tests. Soil testing for pathogens is usually not recommended because of the expense and difficulty interpreting results. It is better to delay planting or adopt practices that reduce risk.



Free maps of your farm can be obtained through the following websites:

- Directions for obtaining a Natural Resources Conservation Service soil survey map are at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> This site allows you to create a soil map for your farm, explore soil properties, and determine which areas are suitable for cultivation.
- Make a Google Map at: <https://maps.google.com/> Type the farm address in the box at the top. Click on the “Treasure” box in the upper right and then the “Satellite” box that appears immediately to the left of it. Zoom in or out to capture the entire property. Right click on gray area to save or print.
- The Natural Resources Atlas provides geographic and environmental features, including water quality and hazardous waste sites. Create a map at: <http://anrmaps.vermont.gov/websites/anra/>

Consider including the following on your farm map:

- Fields that you plan to cultivate in the upcoming growing season and in future growing seasons.
- Areas not suitable for cultivation (e.g., pasture, forested areas, old home sites, farm dumpsites, etc.).
- Buildings, structures, roadways, and water sources (surface waters, springs, and well heads).
- Drawing the movement of water in the case of heavy rains or flooding can help you decide if you need to establish berms or gutters protect food crops from flood waters or runoff. These waters can potentially contain raw manure, pesticides and/or fuel oils from your farm or a neighboring operation.
- Drawing regular entry and travel avenues for wild animals can help you decide what to plant where and determine fencing needs.



A Note on Flooding

With **flooding** comes the potential for field and food contamination with physical, chemical, and biological agents. **Physical** debris is usually clearly visible and can often be removed by hand. **Chemical** contamination is difficult to determine as chemicals such as pesticides and fuel oil are often not visible or easily detectable. Knowledge of potential upstream contaminants is an important part of your risk assessment. Testing for heavy metals and other compounds may be necessary on a case-by-case basis. Flooded fields and produce are generally considered contaminated with **biological** agents, or pathogens, that can make people sick. Do not harvest food crops when the edible portion has been touched by flood waters; rather, turn them under. Pathogens will decrease over time; if your field flooded, incorporate compost and allow at least 30 days before replanting a crop for human consumption. For questions about flooded produce fields contact the Produce Safety Outreach Coordinator at UVM Extension at 802.656.5459 .

The following laboratories can test soils for heavy metals:

- University of Vermont—The heavy metals option provides lead, nickel, cadmium, and chromium levels, which can be used as a preliminary screening to determine possible contamination. **\$15 (metals only) - \$24 (metals and basic soil test)** http://pss.uvm.edu/ag_testing/?Page=soils.html
- Cornell Nutrient Analysis Laboratory tests for additional elements and metals. Use form S, #2020, Total Elemental Analysis/Heavy Metal Screening. **~\$36** <http://cnal.cals.cornell.edu/forms/index.html>

To figure out what your results mean, see Interpreting the Results of Soil Tests for Heavy Metals: http://www.uvm.edu/vtvegandberry/factsheets/interpreting_heavy_metals_soil_tests.pdf

Soil testing for hydrocarbons is available at Endyne in Williston. **~\$75** <http://www.endynelabs.com/>

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