

Testing for contaminants:

Many times people wish to test soil for possible contaminants. They may be concerned about poor growth of lawn or ornamentals, or starting their first vegetable or fruit planting on a site. The MSU soil lab does not test for environmental contaminants. One example of a prominent regional lab that does provide this service is A&L Great Lakes in Ft. Wayne IN.

<http://www.algreatlakes.com> On their site you can find testing options, sampling and submittal forms.

Here are 3 things you may want to consider in regard to testing soil, and following that, there is more information on types of contaminant testing (water, air..) and whom to contact.

1. There is no one test for all contaminants: it will take many separate tests, some quite expensive, to rule out many possible contaminants.
2. For diagnosing plant problems, a test for contaminants is least likely to contribute to a solution. Soil nutrient testing, tissue sampling and sending plant samples to MSU Diagnostic Services should be tried first. Even if herbicide use is suspected, it may be very difficult to document from soil residues if that caused plant damage. Early symptoms on the plants are more likely to help in that diagnosis.
3. Unless you have history of the site or other pertinent information suggesting pollution, the risk of contaminants in the soil affecting fruits and vegetables grown in it, or affecting those who eat the produce, is very small. Most substances degrade in soil, and many are not taken up by plants even when fairly high concentrations are present in the soil.

Types of Tests for contaminants

Water testing Potential contaminants of water include items of natural origin and those resulting from human activities. Common reasons for testing water may be the presence of unusual taste, appearance or odor, or the need to check the suitability of a new water supply for drinking, irrigation or other uses. Most routine water tests can detect common contaminants -- e.g., iron,

nitrates or bacteria -- that are either esthetic or health concerns. Specialized tests are required to detect more unusual pollutants, such as pesticides or gasoline. Your local health department should be your first contact agency for water issues. (For more details on water testing, see Extension bulletin [WQO2, Testing of Private Wells.](#))

Soil testing For home gardeners, soil analysis provides guidelines on meeting the nutrient needs of lawns, fruits and vegetables. Analysis of your soil can also help you select the most effective and environmentally sound pesticide application rates for your conditions. Concerns about the physical and chemical properties of your soil, as well as possible contaminants, should be directed to your county MSU Extension office. Questions about soil testing needed for the proper installation of septic or water systems should be directed to your local health department.

Air testing Most air testing is performed to detect particulates and volatile (easily vaporized) compounds that may pose an environmental and/or health threat. If you suspect that the air in your home is contaminated by air particulates, such as asbestos fibers, or by volatile compounds, such as formaldehyde, you should contact your local health department. If it cannot provide test services, it can make referrals and may give you advice on what steps you can take to alleviate your concern. When you are concerned about exposure to particulates or volatiles in the workplace air, you should contact the Michigan Department of Public Health. If you have any questions about outdoor air quality, such as nearby emissions or peculiar odors, the Michigan Department of Natural Resources is the first agency to contact.

Feed and food testing Foods and feeds are usually tested to determine nutritional content and value or to detect contaminants, such as mold toxins or pesticides. Routine testing of commercially available foods and feeds is the responsibility of the Michigan Department of Agriculture (MDA) and is done to enforce regulations on nutritional content labeling and to determine if contaminants in foods and feeds exceed federal tolerance levels. Foods grown privately by farmers or gardeners for human or animal consumption are not routinely tested by regulatory agencies. In some instances, you may want to have food tested because of concern about contaminants that may cause some adverse health effect -- e.g., pesticide residues in fruits and vegetables or bacterial contamination of dairy products. If you suspect contamination of commercial or privately grown food, contact the food Division of the Michigan Department of Agriculture or your local health department. Contact your county Cooperative Extension Service

office, the Michigan Department of Agriculture (Food Division) or local veterinarian if you need information about nutritional or contaminant testing of feeds.

Plant/insect/nematode testing Plant testing services include identification, disease diagnosis, nutrient composition determination and some contaminant analysis. Analysis of insects and nematodes is generally limited to identification of crop pests. Some inorganic and contaminant analysis of plants is done by private laboratories, while plant disease diagnosis and identification of plants, insects and nematodes is done at MSU. Before requesting this testing, consult your county Extension office for advice.

Biological specimen testing Testing of biological specimens (blood, urine, tissue) is usually done only at the request of professionals such as physicians and veterinarian. They may use the services of private, MDPH or MDA laboratories, depending on the tests required and the circumstances of the situation, or they may perform the tests themselves. To reiterate, the majority of this biological specimen testing is performed under recommendations of a veterinarian or physician and is not directly available. At MSU, however, the Animal Health Diagnostic Laboratory does offer, to the public, consultation and testing services involving animal problems. Questions about biological testing should be directed to the appropriate professional -- e.g., physician or veterinarian.

Substance to be Tested: Initial Contact

Water: Local health department

Soil: (suitability for septic system) Local health department

Soil: (composition or contaminants) County MSU Extension

Air :(home) Local health department

Air:(workplace) Michigan Department of Public Health (Division of Occupational Health)
(517)335-8250

Air: (outdoor) Michigan Department of Natural Resources (Air Quality Division) (517)373-7023

Food: Michigan Department of Agriculture (Food Division) (517) 373-1060 or local health department

Feed: County Cooperative Extension Service office or Michigan Department of Agriculture (Food Division) (517)373-1060 or veterinarian

Plant/insect/nematode: County MSU Extension office

Biological specimen: Physician or veterinarian or MSU Animal Health Diagnostic Laboratory (517)353-1683

For general information call the MSU Center for Environmental Toxicology at (517) 353-6469.

This information comes from Michigan State University Extension bulletin E-2016, Testing for Contaminants.