

## *Soil Restoration*

### **SUMMARY**

Sustainable and affordable restoration of urban soils by soil amendment

### **SITUATION**

Deindustrialization of urban areas in the past two decades has resulted in a large amount of vacant land (> 3,000 acres) in Ohio cities including Cleveland, Columbus and Cincinnati. Vacant land reuse opportunities include (1) urban agriculture/gardening, that improves the availability of healthy, fresh foods, will improve nutrition and health of residents and (2) creation of parks, playgrounds and other commons. Legacy soil contamination (i.e., lead, others) is a serious barrier to realize land use benefits. Lead in soil is a health risk to kids, especially in cities, and a snag for urban farming. Soil excavation and replacement is very expensive (i.e., \$30,000/acre).

### **RESPONSE**

A new, cheaper way to treat lead in soil has developed. Using inexpensive natural soil amendments, such as bone meal or phosphate fertilizer with compost and other natural organic materials, lead in soil can be remediated at 1/100 less than the next-cheapest option of digging, hauling and soil replacement. This will greatly benefit cash-strapped cities while preserving natural soil resources in urban lots.

### **IMPACT**

Cleveland has 3,000 acres of vacant lots, of which about 900 acres have lead levels that would need treatment to grow food. If the city were to treat those 900 acres with soil amendments to detoxify lead instead of digging, hauling and soil replacement, the savings would total more than \$20 million. Legacy contamination of soil from lead paint and combustion engine exhaust from leaded gasoline is a worldwide problem. Inexpensive soil amendment technology, based on sustainability, can be used to solve this global problem and save trillions of dollars.

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