



Soil contamination
& growing food
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To cover...

- Introduction to LCC Contaminated Land team
 - what we do and why?
- Awareness of contamination
- What information does the LCC CL team hold?
- Suggested approach to addressing contamination

LCC Contaminated Land team

- Based in City Development department
- Respond to Planning Consultations re contamination issues
- Implement LCC's Contaminated Land Inspection Strategy
- Respond to environmental search enquiries
 - www.leeds.gov.uk/contaminatedland



What type of contamination might be present on urban food growing sites?

- All types of contamination could be present in the soil including:
 - Heavy metals
 - eg arsenic, lead, cadmium
 - Organic pollutants
 - eg fuel including vapours, polyaromatic hydrocarbons (PAHs are produced as byproducts of burning of organic material), pesticides
 - Mineral fibres
 - eg asbestos

Why might contamination be present on urban food growing sites?

- Previous use of the site
- Atmospheric deposition
- Historic use of contaminated fill for site levelling
- Bonfires
- Use of ash/mineral wastes for making paths
- Leakages, spillages & dumping of hydrocarbons
- Etc.
 - <http://qros.us/Contamination%20of%20soils%20in%20domestic%20gardens%20and%20allotments-%20A%20brief%20overview.pdf>
- Biochar?
 - <http://www.parliament.uk/documents/post/postpn358-biochar.pdf>

Why is proven contamination a problem on food growing sites?

- Exposure of contamination to human health can be via:
 - Consumption of home grown produce containing elevated concentrations of potential contaminants
 - Ingestion of contaminated soils
 - Inhalation of contaminated dust
 - Inhalation of vapour contamination
 - Dermal contact

Berlin Study (European Commission – 5 July 2012)

- Urban food growing → central Berlin
- High, medium & low traffic burden sites
- Cd, Cr, Pb, Zn, Ni, Cu in fruits, root/stem veg & leafy veg/herbs
- Levels of metals contaminants differed widely depending on metal & specific crop species
 - Eg tomatoes contained higher levels of Pb than chard
- Urban food growing not automatically 'healthy' or 'safe' compared to supermarket products as overall metal levels were significantly higher in urban grown food, so
 - Advised to choose planting sites carefully, based on distance and barriers to traffic
 - Weigh up pollution risks v. societal benefits of urban horticulture
 - <http://ec.europa.eu/environment/integration/research/newsalert/pdf/291na1.pdf>

What information does the LCC CL team hold?

- The historical uses of a site including whether site is part of a former landfill
- Contamination issues in the planning history of a site
- The status of a site under LCC's Contaminated Land Inspection Strategy
- <http://www.leeds.gov.uk/council/Pages/Contaminated-Land---Environmental-Searches.aspx>

Suggested approach to addressing contamination

- Choice of site
- Desk Study
- Site Investigation
 - Soil sampling
 - Crop testing
- Clean up (remediation) works or finding other solutions

Conclusion

- Be aware of potential contamination issues when choosing sites
- If in doubt, do desk study/site investigation or find other solutions to address contamination issues
- Contact LCC's Contaminated Land team to see what information we hold

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Thank you for
listening!

Any Questions?

