

### Land Application Principles

1. Waste-derived material can be applied to the land provided it results in a sufficient benefit and an acceptable level of risk to human health and the environment.<sup>1</sup>
2. Even if the material presents no inherent risks from exposure, land application should not create nuisance conditions, nor cause unacceptable resource impacts by over-application or misapplication of otherwise beneficial material.<sup>2</sup>
3. The concentration of a constituent in the environment does not necessarily define the acceptable level of risk, but may justify application of naturally occurring<sup>3</sup> concentrations in some circumstances.
  - a. Solely because a constituent naturally occurs at a given concentration somewhere in the state does not support allowing its application at that concentration everywhere in the state.
  - b. A constituent can be applied at a concentration above what would otherwise be considered as presenting an acceptable level of risk provided there is a bona fide benefit to the application and the concentration is at or below the naturally occurring concentration at the site of application<sup>4</sup>.
4. The level of risk that is acceptable may vary with the amount of benefit derived from land application. However, because of practical difficulties with assessing the amount of benefit derived from a specific application, variations in acceptable risk should be described in terms of categories of application.<sup>5</sup>
5. When assessing risk, realistic exposure assumptions for the proposed use in question should be used.

---

<sup>1</sup> A corollary of this principle is that there are some types of materials or some circumstances in which land application should not be allowed because of insufficient benefit and/or unacceptable risk.

<sup>2</sup> For example, over- or misapplication of a material containing only otherwise beneficially nutrients could harm surface water resources.

<sup>3</sup> “Naturally occurring” means without human contribution.

<sup>4</sup> Background concentrations at the site of application could be determined through site-specific testing or adequate information on regional soil data.

<sup>5</sup> For example, a different level of risk may be accepted for land application that benefits soil productivity than one a waste byproduct is used as a substitute for a resource such as sand.

- a. Management controls<sup>6</sup> on application can affect exposure assumptions used to assess risk provided there is adequate assurance that the controls will be followed. The nature of the necessary assurances depends on the duration and magnitude of the potential harm.
- b. Uniform and conservative exposure assumptions should be used when a material is likely to be used in a wide variety of situations by a wide variety of people.<sup>7</sup> More site-specific and less conservative assumptions can be used when a material is likely to be used by a small number of relatively sophisticated users.<sup>8</sup>
- c. Exposure assumptions should account for the likely persistence of the material in the environment and the potential for a constituent to accumulate over time with repeated applications.

#### Parking Lot Issues

1. Should avoiding a risk associated with alternative disposal/use options for a given material be considered a “benefit” of land application?
2. When should a “product” and a waste-derived material be similarly regulated for the same use?
3. Are there opportunities to consider specific industrial by-products as something other than a “waste” for purpose of regulatory oversight?

---

<sup>6</sup> For example, conditions on how the material is applied (e.g., limitations on volume of application, incorporation of material into the soil) and long term controls (e.g., maintenance of exposure barriers).

<sup>7</sup> For example, material bagged for use by homeowners.

<sup>8</sup> For example, bulk application of material for nutrient value by agricultural operations.