

**3745-56-76 Food-chain crops.**

The director may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this rule. The permit will specify the specific food-chain crops which may be grown.

- (A) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:
  - (1) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (e.g., by grazing); or
  - (2) Will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.
- (B) The owner or operator must make the demonstration required under this paragraph prior to the planting of crops at the facility for all constituents identified in the Appendix to rule 3745-51-11 of the Administrative Code that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.
- (C) In making a demonstration under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or in the case of existing units, operating data, and must:
  - (1) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and
  - (2) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.
- (D) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this paragraph he must obtain a permit for conducting such activities.
- (E) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:
  - (1) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of two mg/kg (dry weight) or less; and

- (a) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate must not exceed:

Time	Annual Cd application (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

- (b) The cumulative application of cadmium from waste must not exceed five kg/ha if the waste and soil mixture has a pH of less than 6.5; and
- (c) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: five kg/ha if soil cation exchange capacity (CEC) is less than five meq/100g; ten kg/ha if soil CEC is 5-15 meq/100g; and twenty kg/ha if soil CEC is greater than fifteen meq/100g; or
- (2) Animal feed must be the only food-chain crop produced;
- (a) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food-chain crops are grown; and
- (b) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternate land uses; and
- (c) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops must not be grown except in compliance with paragraph (E)(2) of this rule.

Effective: 02/11/1992  
119.032 review dates: Exempt  
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Rule amplifies: 3734.12, 6111.05  
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