Ohio Administrative Code

Rule 3745-40-08 Requirements for the beneficial use of biosolids: general requirements, prohibitions, isolation distance requirements, site specific requirements, and additional site restrictions for the beneficial use of class B biosolids.

Effective: March 1, 2026

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-40-01 of the Administrative Code.]

(A) General requirements.

(1) The mixing of class B biosolids from different treatment works at an authorized beneficial use site is prohibited, except as provided in paragraph (C) of rule 3745-40-06 of the Administrative Code.

(2) Only exceptional quality biosolids or material derived from exceptional quality biosolids may be distributed for beneficial use (e.g. for lawn or home garden).

(3) Except as provided in paragraphs (A)(4) and (A)(9) of this rule, class B or bulk exceptional quality biosolids shall be beneficially used at the calculated agronomic rate at a beneficial use site. The agronomic rate shall be calculated prior to beneficial use and be the most limiting factor derived from the following:

(a) For soils with soil phosphorus test results less than or equal to fifty-eight parts per million Mehlich III extraction or forty parts per million Bray-Kurtz P1 extraction , the most limiting factor of the following:

(i) The nitrogen agronomic rate.

(ii) A phosphate beneficial use rate of two hundred fifty pounds per acre or less.

(iii) A phosphate beneficial use rate between two hundred fifty pounds per acre and five hundred pounds per acre if both of the following criteria are met:

(a) No additional phosphate application shall be made at the beneficial use site for a minimum of three calendar years.

(b) All biosolids are injected or are incorporated within twenty-four hours of beneficial use.

(b) For soils with soil phosphorus test results greater than fifty-eight parts per million Mehlich III extraction or forty parts per million Bray-Kurtz P1 extraction and less than or equal to one hundred thirty parts per million Mehlich III extraction or one hundred parts per million Bray-Kurtz P1 extraction , the most limiting factor of the following:

(i) The nitrogen agronomic rate.

(ii) A multi-year phosphate agronomic rate.

(c) For soils with soil phosphorus test results greater than one hundred thirty parts per million Mehlich III extraction or one hundred parts per million Bray-Kurtz P1 extraction, beneficial use shall be completed in accordance with the phosphorus index.

(4) For all beneficial use sites, beneficial use of class B or bulk exceptional quality biosolids may be completed in accordance with the phosphorus index.

(5) Except as provided in paragraph (A)(3)(a)(iii) of this rule, the phosphate agronomic rate shall be limited to two hundred fifty pounds per acre.

(6) For all beneficial use sites, the agronomic rate calculations shall include all sources of nitrogen and phosphate such as commercial fertilizer or manure in addition to class B or bulk exceptional quality biosolids.

[Comment: Timing and placement of biosolids should correspond as closely as practical with plant nutrient uptake, cropping system limitations, soil properties, weather conditions, drainage system,

soil biology, and nutrient risk assessment results.]

(7) For all beneficial use sites, the agronomic rate shall be based on the most recent three-year average yield. If the average yield is unknown, the state or county average for that crop may be used.

(8) Special requirement regarding liquid class B or bulk exceptional quality biosolids. The beneficial use of liquid class B or bulk exceptional quality biosolids shall be at or below the calculated agronomic rate or at or below the available water capacity of the upper eight inches of soil, whichever is less at the time of beneficial use.

(9) Special requirement regarding land reclamation sites. The agronomic rate may only be exceeded for land reclamation sites using biosolids provided the beneficial use is in accordance with paragraph (B) of rule 3745-40-03 of the Administrative Code.

(B) Prohibitions and restrictions.

(1) Pollutant ceiling concentrations. No person shall beneficially use biosolids if the concentration of any pollutant in the biosolids exceeds the ceiling concentration limits for the pollutants established in rule 3745-40-04 of the Administrative Code.

(2) Frozen or snow covered ground. No person shall beneficially use class B or bulk exceptional quality biosolids on frozen or snow-covered ground.

[Comment: If biosolids can be injected or same-day incorporated, then the beneficial use site is not frozen.]

(3) Saturated soil. No person shall beneficially use class B or bulk exceptional quality biosolids on a beneficial use site when the top two inches of soil are saturated.

(4) Beginning two years after the effective date of this rule, no person shall beneficially use class B or bulk exceptional quality biosolids within a hydrogeologic setting with a ground water vulnerability index greater than or equal to one hundred seventy.

(5) Precipitation prohibitions and restrictions.

(a) Weather forecasts shall be consulted for a period extending twenty-four hours after the start of beneficial use. The forecast consulted shall be for the municipality nearest the beneficial use site location and be printed out or otherwise recorded and kept on file for each day of beneficial use.

[Comment: Information on hourly forecasts may be located at the national oceanic and atmospheric administration's website: www.weather.gov by entering a zip code or city and state in the box where indicated, selecting "Go", and selecting the "Hourly Weather Forecast" under "More Information."]

(b) For hydrologic soil groups A, B, and C.

(i) No person shall beneficially use class B or bulk exceptional quality biosolids during a precipitation event.

(ii) Except as provided in paragraph (B)(5)(b)(iii) of this rule, no person shall beneficially use class B or bulk exceptional quality biosolids when the forecast indicates that there is at least a fifty per cent chance that 0.5 inches or more of rain will occur within twenty-four hours after the conclusion of each day of beneficial use

(iii) Class B or bulk exceptional quality biosolids may be beneficially used when the forecast indicates that there is at least a fifty per cent chance that 0.5 inches or more of rain will occur within twenty-four hours after beneficial use if either of the following occur:

(a) The biosolids are injected.

(b) The biosolids are immediately incorporated and the forecast does not indicate that there is at least a fifty per cent chance that 0.5 inches or more of rain will occur within six hours after beneficial use.

(c) For hydrologic soil group D.

(i) No person shall beneficially use class B or bulk exceptional quality biosolids during a precipitation event.

(ii) Except as provided in paragraph (B)(5)(c)(iii) of this rule, no person shall beneficially use class B or bulk exceptional quality biosolids when the forecast indicates that there is at least a fifty per cent chance that 0.25 inches or more of rain will occur within twenty-four hours after the conclusion of each day of beneficial use.

(iii) Class B or bulk exceptional quality biosolids may be beneficially used when the forecast indicates that there is at least a fifty per cent chance that 0.25 inches or more of rain will occur within twenty-four hours after beneficial use for any hydrologic soil group D soils if either of the following occur:

(a) The biosolids are injected.

(b) The biosolids are immediately incorporated and the forecast does not indicate that there is at least a fifty per cent chance that 0.25 inches or more of rain will occur within six hours after beneficial use.

[Comment: Information on Ohio hydrologic soil groups can be found on the United States department of agriculture, natural resources conservation services web site at the following link: www.oh.nrcs.usda.gov/technical/soils/.]

(6) No person shall beneficially use class B or bulk exceptional quality biosolids if such beneficial use is likely to adversely affect a threatened or endangered species listed under section four of the Endangered Species Act or pursuant to section 1531.25 of the Revised Code or the species' designated critical habitat.

(C) Isolation distance requirements.

(1) Except as provided in paragraph (C)(2) of this rule, no person shall beneficially use class B or

bulk exceptional quality biosolids within the following isolation distances listed in table C-1 of this rule.

	Surface application isolation distance (feet)	Injected or immediately incorporated isolation (feet)	Applicable biosolids classification
Bedrock	3	3	Class B or bulk exceptional quality
Surface waters of the state and conduits to surface waters of the state	33	33	Class B or bulk exceptional quality
Sinkhole or UIC class V drainage	300 without a grass buffer; 100 with a grass buffer	300 without a grass buffer; 100 with a grass buffer	Class B or bulk exceptional quality
Occupied structure or school	300	100	Class B
Private potable water source	300	100	Class B
Medical care facility	1000	300	Class B
Public drinking water surface water intake	1500	1500	Class B

[Comment: For more information on sinkholes and different classes of UIC injection wells, see Chapter 3745-34 of the Administrative Code.]

(2) No person shall beneficially use class B biosolids or bulk exceptional quality biosolids in any of the following areas:

(a) Within the sanitary isolation distance a public water system maintains for a drinking water supply well, as established in rule 3745-9-04 of the Administrative Code.

(b) Within an emergency management zone for a public water system using surface water.

(c) Within the inner management zone of the following public water systems:

(i) Community water system.

(ii) Non-transient, non-community water system.

(iii) Transient, non-community water system.

If the drinking water source protection area of these public water systems is underlain by karst or fractured bedrock or has been determined to be highly susceptible to contamination, the setback is extended to include the entire drinking water source protection area.

(3) The director or an authorized representative may allow a reduction in isolation distance for those occupied structures that are located adjacent to an authorized beneficial use site, provided such a request is made from both the structure owner and, if applicable, the resident of the occupied structure on forms approved by the director.

(D) Site specific requirements. Any person who beneficially uses class B or bulk exceptional quality biosolids shall meet the following site specific requirements, as applicable:

(1) Beneficial use sites that contain soils prone to flooding. No person shall beneficially use class B or bulk exceptional quality biosolids at a beneficial use site that contains soils prone to flooding, unless same-day incorporation or injection is performed on areas of beneficial use sites that contain soils prone to flooding during periods when flooding is expected.

(2) Ground slope and ground cover. No person shall beneficially use class B or bulk exceptional quality biosolids on food crop, feed crop, fiber crop, or cover crop land over twelve per cent slope or on pasture land or vegetation land over eighteen per cent slope unless one of the following activities is performed:

(a) Same-day incorporation or injection with operations done on the contour.

(b) The crop is established and managed in contour strips with alternate strips of a cover crop, pasture, or vegetation.

(3) Soil sampling. Soil test results shall be less than three years old at the time of beneficial use. Composite soil samples shall be taken for both of the following:

(a) Soil phosphorus. Prior to the beneficial use of class B or bulk exceptional quality biosolids, the

soil phosphorus level is to be analyzed using the Mehlich III extraction method or the Bray-Kurtz P1 extraction method.

[Comment: Mehlich III extraction method is the primary soil P extractant method in Ohio. To convert from Bray-Kurtz P1 extraction to Mehlich III, use the following equation: M3=(Bray P1) x (1.35).]

(b) Soil pH. Minimum soil pH for the beneficial use of class B biosolids is 5.5. If the soil pH at a beneficial use site is less than 5.5, add sufficient liming material such that the class B biosolids and soil mixture pH is calculated to reach 5.5 or greater.

(4) Soil sample collection procedure. Soil samples shall be taken in accordance with the following:

(a) Take a composite sample representing fifteen to twenty acres of area that is uniform in soil series, slope, drainage, erosion, and nutrient application (including biosolids).

(b) Take soil grab samples seventy-five to one hundred feet apart with a minimum of fifteen grab samples in a composite sample.

(c) Take soil grab samples to a plow depth, or within the top eight inches of soil.

(d) Low spots or other unusual areas, such as biosolids or liming material stockpiling areas and fertilizer spills, are not to be included in composite samples and are to be sampled separately.

(e) For row crops, take samples between rows.

(f) For establishing grass pasture crops, collect samples to the rooting zone (three to four inches).

(g) Break up all grab samples and mix them thoroughly before the sample is composited.

[Comment: Further information regarding sampling procedures and test methodology may be found in Ohio state university's factsheet AGF-513 at: https://ohioline.osu.edu/factsheet/AGF-513.]

(5) Beneficial use of liquid class B or bulk exceptional quality biosolids at sites with subsurface tile drainage shall be in accordance with the following requirements:

(a) Visually monitor all subsurface drain outlets before, during, and after beneficial use of biosolids at the beneficial use site and record the results of that monitoring on forms approved by the director or director's authorized representative. Visual monitoring shall be performed at least every three hours during beneficial use, at the end of each beneficial use day, and immediately following the completion of beneficial use. Continue visual monitoring and recording observations at least once every twenty-four hours after completion of beneficial use until biosolids are assimilated into the beneficial use site and are no longer likely to discharge to surface waters of the state or conduits to surface waters of the state.

[Comment: Base the visual monitoring frequency on site specific conditions, including but not limited to, the extensiveness of the subsurface drainage system, proximity of beneficial use area to drain outlets, and the topography of the beneficial use site.]

(b) Have methods or devices to stop or capture subsurface drain flow accessible. If biosolids reach a subsurface drain outlet to surface waters of the state or conduits to surface waters of the state, cease beneficial use of biosolids and stop or capture the flow. Record the use of drain outlet plugs or other devices and how flow was stopped or captured on forms approved by the director or director's authorized representative.

(c) Limit beneficial use rates to the lesser of the available water capacity in the upper eight inches or thirteen thousand five hundred gallons per acre (0.5 inches per acre) per application.

(d) Prior to beneficial use, use a tillage tool that can disrupt or close the preferential flow paths (e.g. worm holes, soil cracks, root channels, etc.) in the soil using horizontal fracturing, or till the surface of the soil three to five inches deep to a condition that will absorb the liquid biosolids and keep it out of preferential flow paths.

(e) If injection is used, only inject biosolids deep enough to cover the biosolids with soil. Till the soil at least three inches below the depth of injection prior to or at the time of beneficial use.

(f) For beneficial use sites where tillage is not an option, plug all tile outlets from the beneficial use site and close all tile stops prior to or at the same time as beneficial use.

(g) The beneficial user or permittee shall develop a standard operating procedure for beneficial use sites with tile drainage to address paragraphs (D)(5)(a) to (D)(5)(f) of this rule.

(E) Additional site restrictions for the beneficial use of class B biosolids.

(1) Harvesting restrictions shall be in accordance with table E-1:

Type of crop	Description of crop grown or purpose of an authorized beneficial use site	Time period before harvesting or grazing after the beneficial use of class B biosolids
Food crops	Harvested parts touch biosolids or soil mixture and are on the surface of the site	Fourteen months
Food crops	Harvested parts below the surface when biosolids remain on the surface of the site for four months or longer prior to incorporation into the soil	Twenty months
Food crops	Harvested parts below the surface when biosolids remain on the surface of the site for less than four months prior to incorporation into the soil	Thirty-eight months
Other food crops, feed crops, and fiber crops	Not applicable	Thirty days
Pasture	Animal grazing	Thirty days
Turf or other vegetation grown for landscaping purposes	Harvested turf to be used on a high potential for public exposure site or a lawn	One year, unless otherwise specified by the director

(2) Public access to a high potential public exposure site is restricted for one year after the beneficial use of class B biosolids.

(3) Public access to a low potential public exposure site is restricted for thirty days after the beneficial use of class B biosolids.

(4) Drag hoses and mobile storage tanks shall not be utilized for the storage, transfer, or beneficial use of biosolids until a standard operating procedure has been developed under paragraph (C) of rule 3745-40-09 of the Administrative Code and a permit to install, if applicable, is obtained.