

BIOSOLIDS MANAGEMENT

Biosolids Management: Class A vs. Class B

Biosolids—or sewage sludge—are commonly identified as being either Class A or Class B in quality. The distinction between Class A and Class B refers only to the pathogen content of the biosolids. Pathogens are disease-causing organisms, of which Class A biosolids contain only a fraction compared to Class B. Depending on how the biosolids are handled, Class A versus Class B may not matter, but if the biosolids are to be land-applied in an approved management program it is an important distinction.

Class A = Class B + Management Practices + Site Restrictions

While Class A and Class B biosolids are not equal in their quality, they can be in a management program. The formula above explains how. Land disposal of Class A or Class B are equally acceptable as long as the disposal of Class B is done with greater controls. For example, sites receiving Class B biosolids can't be harvested for food crops or turf, they also can't be used for animal grazing for a specified time length of time after the application.

Vector Attraction Reduction (VAR)

VAR is another requirement of biosolids that are land-applied. Vectors are insects, birds, rodents—living organisms that can come into contact with the biosolids and carry or spread the disease-causing pathogens in the biosolids. If vector attraction is reduced, the risk of human contact with pathogens is also reduced. Either Class A or Class B, all land-applied biosolids must meet VAR.

Ways to achieve VAR include (1) treating the biosolids by prescribed methods, (2) reducing the volatile solids in the biosolids by quantifiable amounts, or (3) injecting the biosolids or incorporating it into the soil after it has been applied.

Dry vs. Liquid

The distinction between Class A and Class B does not include a dryness requirement; either can be wet or dry. While the definitions of dry and liquid can vary, a common approach to defining dry biosolids is to say that it is the “cake” material created by a centrifuge, belt press, screw press, drying bed, or reed bed—possessing a solids content greater than 10%. Most liquid biosolids are less than 5%.

Both dry and liquid can be land-applied. From a regulatory perspective (whether the biosolids are dry or liquid) the land application program is not affected as long as the loading rates per acre for nitrogen or other potential contaminants do not exceed prescribed limits. Nitrogen loading rates are based on the uptake rate of the crop grown on the site.

Which is Better? Class A or Class B? Dry or Liquid?

Generally, the choices between Class A versus Class B or dry versus liquid are local ones and take into account the owner's and the public's perception of the end product. Sometimes, dry product is better received by the public than wet product, even if it is Class B. And the value of Class A is lost if the product is a wet one. Generally, it is true that the costs of biosolids management are greatest when producing a dry, Class A product, but the costs must be weighed against the benefits with respect to public acceptance, ease of disposal, and potential for sale of the end product.

