

## Requirements For Application of Domestic Septage to Agricultural Land Utilizing Alkali Addition

### Purpose

This fact sheet summarizes the requirements for land application of domestic septage to agricultural lands utilizing alkali addition. Domestic septage is either liquid or solid material removed from a septic tank, cesspool, portable toilet, or similar device, including an outhouse. Agricultural land is land on which a food crop, feed crop, or fiber crop is grown. Agricultural land also includes land used as pasture. When domestic septage is applied to land as a fertilizer or soil amendment, the requirements in 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*, must be met.

Sewage sludge, including domestic septage, typically includes microbial pollutants like bacteria and viruses which can cause disease. The requirements in Part 503 reduce the risk of disease to humans by requiring treatment and reducing exposure to pathogens. One option for reducing risk of pathogen exposure in Part 503 is alkali addition to domestic septage.

This fact sheet is intended for use by farmers that apply domestic septage to agricultural lands to grow crops. There may be additional requirements in Part 503 for land application of domestic septage that are not applicable to this audience, including land application to a forest, reclamation site, or to public contact sites with high potential for public exposure (*i.e.*, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses). Further, this fact sheet only summarizes the Part 503 regulations for land application of domestic septage. There may be additional state or local regulations that are more stringent. Following this fact sheet may not guarantee compliance with all applicable regulations.

### Background

Section 405(d) of the Clean Water Act (CWA) required the U.S. Environmental Protection Agency (EPA) to develop a regulation to protect public health and the environment from any reasonably anticipated adverse effects of pollutants that might be in sewage sludge. This regulation, 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*, was published on February 19, 1993 (58 FR 9248). 40 CFR Part 503 (or “Part 503”) contains requirements for sewage sludge, including domestic septage, when it is applied to land, incinerated in a sewage sludge incinerator (SSI), or placed on a surface disposal site.

### Requirements under Part 503

Application Rates:

The land application rate for domestic septage shall not exceed the rate calculated using the following equation:

$$AAR = N \div 0.0026$$

Where AAR = Annual Application Rate in gallons per acre per 365-day period and N = amount of nitrogen in pounds per acre per 365-day period needed by the crop or vegetation grown on the land.

Crop and vegetation nitrogen requirements should be obtained from a knowledgeable source such as a state agricultural or environment agency or a local extension service.

**Pathogen & Vector Attraction Reduction:**

The pathogen and vector attraction reduction requirements may be met by utilizing alkali addition and adhering to harvesting restrictions.

1. The pH of domestic septage shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 minutes. A common form of alkali addition is lime.
2. Harvesting restrictions also apply to meet pathogen and vector attraction requirements.

*Harvesting Restrictions:*

1. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of domestic septage.
2. The following requirements for food crops determined by the location of the harvested parts:

<b>Food crop with harvested parts that...</b>	<b>Shall not be harvested for...</b>		<b>Examples of Crops</b>	
Are above the land surface and do not touch the septage/soil surface	30 days after application of domestic septage		Apples Soybeans Pears Almonds Wheat	Oats Cotton Walnuts Corn Barley
Touch the domestic septage/ soil mixture and are totally above the land surface	14 months after application of domestic septage.		Cabbage Celery Cucumbers Eggplant Hay	Lettuce Melons Squash Strawberries Tomatoes
Are below the surface of the land	20 months after application of domestic septage	when incorporated into the soil ≥4 months after application.	Beets Leeks Onions	Radishes Rutabaga Sweet Potatoes
	38 months after application of domestic septage	when incorporated into the soil <4 months after application.	Peanuts Potatoes	Turnips Yams

**Recordkeeping Requirements:**

The following records must be kept for five years:

1. The location (by either street address or latitude and longitude) of each site on which domestic septage is applied.
2. The number of acres in each site on which domestic septage is applied.
3. The date domestic septage is applied to each site.
4. The nitrogen requirement for the crop or vegetation grown on each site during a 365-day period.
5. The rate, in gallons per acre per 365-day period, at which domestic septage is applied to each site.
6. A description of how the pathogen and vector attraction requirements are met.

The following certifying statement must be kept for five years:

“I CERTIFY, UNDER PENALTY OF LAW, THAT THE INFORMATION THAT WILL BE USED TO DETERMINE COMPLIANCE WITH THE PATHOGEN REQUIREMENTS § 503.32(C)(2) AND THE VECTOR ATTRACTION REDUCTION REQUIREMENT IN § 503.33(B)(12) WAS PREPARED UNDER MY DIRECTION AND SUPERVISION IN ACCORDANCE WITH THE SYSTEM DESIGNED TO ENSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THIS INFORMATION. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR FALSE CERTIFICATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.”