

transport to surface waters. This may reduce the field-specific risk rating to a level consistent with manure application at a nitrogen rate in accordance with the technical standard established by the Director.

When establishing technical standards for nutrient management, the permitting authority also shall include appropriate flexibilities for any CAFO to implement nutrient management practices to comply with the standards. Flexibilities should include consideration of multi-year phosphorus application (also called phosphorus banking) on fields that do not have a high potential for phosphorus runoff to surface water, implementation of phosphorus-based nutrient management phased-in over time, and other components as determined appropriate by the Director.

EPA recognizes that, under some conditions, CAFOs may experience practical difficulties in applying manure nutrients to fields at a low phosphorus rate. Application equipment at some CAFOs may be unable to deliver the small phosphorus amount needed by crops in a single year. Thus, EPA is clarifying in this rule that CAFOs may elect to use a multi-year phosphorus application rate in accordance with the technical standards established by the Director. A multi-year approach allows a single application of phosphorus applied as manure at a rate equal to the recommended phosphorus application rate or estimated phosphorus removal in harvested plant biomass for the crop rotation or multiple years in the crop sequence. Crop rotations may vary in length depending on the crops produced, geographic area, and other site-specific conditions. For example, a two-year rotation may be common in some areas, while a three-year rotation may be more common in others. Rotations involving grains or hays, such as alfalfa, may run for five or more years. In other instances, crops are produced in a continuous cycle. Many wastewater spray fields are permanently in hay and grasses. In practice, multi-year phosphorus applications typically would be based on applying manure nutrients at a rate achievable with a CAFOs application equipment, and determining the removal rate in order to calculate the length of time until the next manure nutrient application window. Thus, multi-year applications may provide the phosphorus needed for a few to many years. The field would not receive additional phosphorus applications until the amount applied in the single year had been removed through plant uptake and harvest. However, under any multi-year

application, the rate at which manure nutrients are applied would not exceed the annual nitrogen recommendation of the year of application. Nor would application be made on sites determined inappropriate based on a high potential for phosphorus runoff to surface water. The appropriateness of multi-year phosphorus application would be based on a field-specific risk assessment in accordance with the technical standard established by the Director.

*What did EPA propose?* The proposed rule included ELGs that would have required CAFOs to develop and submit a certified Permit Nutrient Plan, which would be reviewed annually and recertified every five years, and would have limited manure spreading on all land owned or under the operational control of the CAFO to the nitrogen-based rate, unless soil or other field conditions at the CAFO warranted limiting the application rate to the more stringent phosphorus-based rate. EPA also proposed to require a series of land application BMPs, including those listed above in this section of the preamble.

*What were the key comments?* EPA received a number of comments supporting the type and frequency of manure, litter, process wastewater, and soil sampling. Some commenters were opposed to establishing the proposed phosphorus-based standard in nutrient management plans, while other commenters stated that EPA should establish phosphorus-based standards for all CAFOs. In addition, some commenters were opposed to the inclusion of specific manure, litter, or wastewater application rates in NPDES permits, but supported the development of site-specific rates in a nutrient management plan.

EPA received many comments on the requirement to prohibit land application of manure, litter, and other process wastewaters within a 100-foot setback. Some commenters supported the 100-foot setback; however, the majority of commenters expressed opposition to establishment of a setback, in many cases stating that the setback restriction will unnecessarily reduce the available acreage for manure application and will be costly to implement because of its inflexibility. The commenters also stated that it should be left to States or a nutrient management planner to determine whether a setback or vegetated buffer is warranted, and to determine the size of such areas. The proposed rule considered allowing CAFOs to establish a 35-foot vegetated buffer strip as an alternative to the 100-foot setback. Many commenters were in favor of an approach that offers

flexibility to the CAFO and to the nutrient management planner to incorporate site-specific considerations while utilizing the maximum amount of manure nutrients on site. They suggested that in cases where the operation can demonstrate that manure application will not affect surface water, such as when application occurs down-gradient of the surface water, no setback or buffer should be required.

The SBAR Panel noted the high cost of phosphorus-based application relative to nitrogen-based application and supported EPA's intent to require the use of a phosphorus-based application rates only where determined necessary based on field-specific conditions. According to the SBAR Panel, if the soil is not phosphorus-limited, then nitrogen-based application should be allowed. The SBAR Panel recommended that EPA consider leaving the determination of whether to require the use of phosphorus-based rates to BPJ and that EPA work with USDA in exploring such an approach.

*Rationale.* The nutrient-based limitations in this rule will reduce the discharge of nitrogen, phosphorus, and other pollutants in field runoff by restricting the amount of manure, litter, and other process wastewaters that may be applied to the amount that is appropriate for agricultural purposes, according to technical standards established by the permitting authority. Application of manure, litter, and other process wastewaters in excess of the crop's nutrient requirements increases the pollutant runoff from fields because the crop does not need these nutrients, increasing the likelihood of their being released to the environment. In many cases, the application of manure at a nitrogen-based rate is consistent with appropriate agricultural utilization of nutrients. Soils are able to retain the amounts of phosphorus that would be applied, or other site-specific conditions (e.g., the types of conditions assessed through the phosphorus index approach) are such that the runoff of phosphorus and other pollutants or the likelihood of the pollutants reaching surface waters are adequately controlled.

However, allowing all manure to be spread at the nitrogen-based application rate may not always ensure appropriate agricultural utilization of nutrients. In areas that have high to very high phosphorus buildup in the soils, allowing continued application at a nitrogen-based rate could allow for continued discharge of phosphorus from the CAFO's cropland and consequently may not adequately control phosphorus discharges from these areas. In addition,