



Agriculture Cost Share Program

Biosolids Impacts Acknowledgement



For

Closure and Lagoon Biosolids Removal BMPs

ACKNOWLEDGEMENT OF THE POTENTIAL IMPACTS ON A SITE FROM APPLYING LAGOON BIOSOLIDS

As part of either a lagoon closure operation or on-going lagoon biosolids maintenance, the attached plan has been developed to apply biosolids to the following areas:

Track & Field Numbers:

While using animal waste as a source of nutrients for crops in lieu of inorganic fertilizers is an ecologically sound practice, producers should be aware that biosolids that accumulates in a lagoon may have high concentrations of nutrients and/or heavy metals. Accordingly, the quantity of phosphorous and micronutrients in the material to be applied may exceed the fertility requirements of planned crops.

Metals- High concentrations of metals in the soil can impact crop growth or yields. The application of lagoon biosolids has the potential to significantly increase the concentration of metals (particularly copper and zinc) in the soil. NCSU and NCDA&CS recommend that alternative sites for waste application be sought when soil concentrations of zinc (Zn) exceed 142 lbs/ac (Zn-I of 2000) or copper (Cu) exceeds 72 lbs/ac (Cu-I of 2000). A Cu-I or Zn-I of 3000 is recognized as a critical toxic level for some crops. For peanuts, alternative sites are recommended when the Zn-I is 300, and a Zn-I of 500 is recognized as a critical toxic level. Producers should be aware of the post-application Cu and Zn concentrations predicted on the sites planned for biosolid application. Additionally, soil pH should be maintained at 6.0 or above to minimize risk of toxicity.

Phosphorous- Phosphorous (P) concentration in lagoon biosolids may be high. Because P adsorbs onto iron, aluminum, and calcium, the soil can bind and store excess P. When P concentrations reach higher concentrations, there is an increasing potential for P to be transported offsite and become a pollutant of surface waters. This transport may occur through soil erosion, or as a soluble form in surface runoff or



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leaching. An assessment of the risk for P loss to surface water is required as part of a nutrient management plan for permitted operations or those receiving federal or state cost-share assistance. If the potential for P transport offsite is high, then future application of animal waste may not be allowed in a nutrient management plan. Producers should be aware that applying lagoon biosolids may limit the ability to use the site for future animal waste application. Accordingly, applying lagoon biosolids to fields that are planned for future waste applications as part of a nutrient management plan is not advised.

*I understand that applying macronutrients or micronutrients at rates that significantly exceed the expected crop removal could limit the future use of the field as a waste application site, and in some cases, negatively impact future plant growth. I voluntarily agree to apply biosolids to the fields identified above that I own or operate according to the attached nutrient management plan or lagoon closure plan. (*Both landowner and farmer/operator must sign.)*

Landowner Signature and Date

Farmer/Operator Signature and Date