

Nutrient Losses When Storing Poultry Litter in the Field

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THE ISSUES

- Temporary field storage is common in the Delmarva Region
- Delaware law requires stored litter to be in a conical shape (A shape), at least 6-ft tall, 100 ft from water, and 200 ft from a residence
- Typically, this litter is uncovered
- Is there a basis for requiring litter to be covered after 14 days?
- Most growers say covering is “not practical”





Current Level of Knowledge

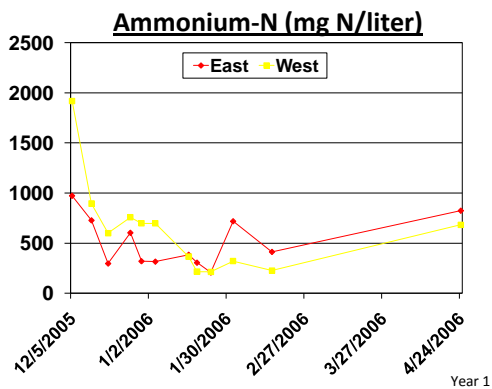
- No information on nutrient losses from “production-size” litter piles
- All previous information on nutrient losses is from small “research-size” piles
- The DNMC et al. decided that information was needed on production-size litter piles

Objectives of this Work

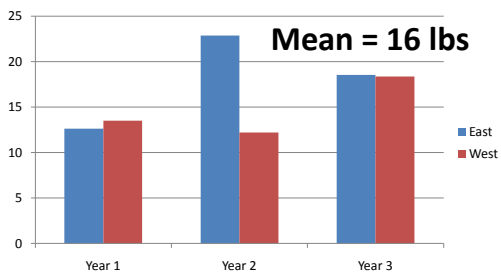
- Determine the quantity and types of nutrients being lost from production-size piles
- Evaluate the impact of storage length (i.e., number of days) on nutrient losses
- Evaluate “alternative” methods of storage (i.e., something other than “nothing” or using a poly cover)

DATA Runoff

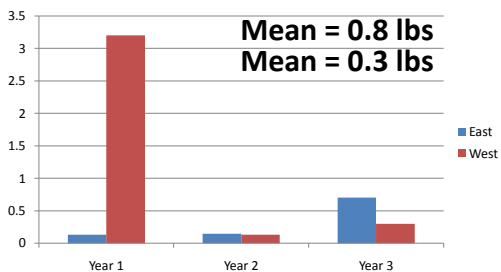




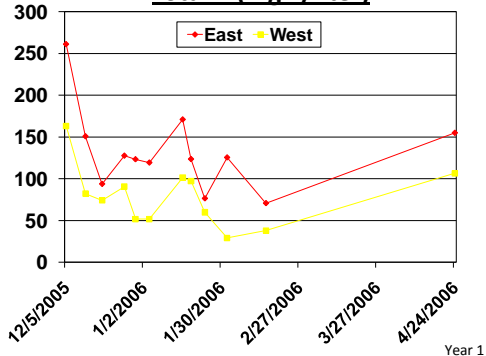
Ammonium-N (lbs) in 100' x 18'



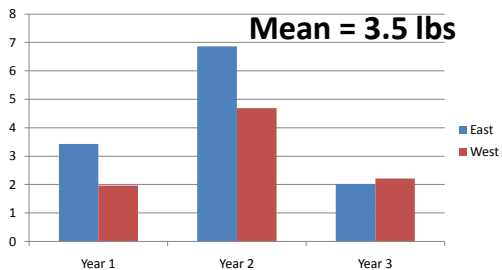
Nitrate-N (lbs) in 100' x 18'



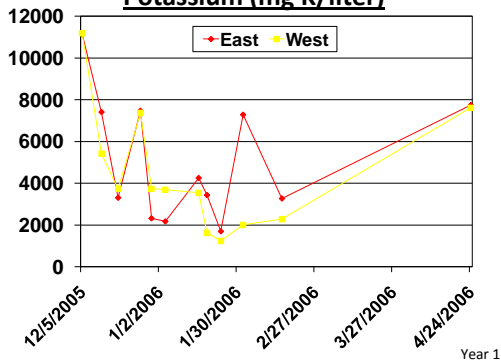
Total P (mg P/liter)



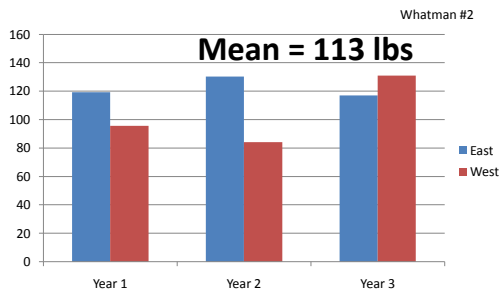
Total P (lbs) in 100' x 18'

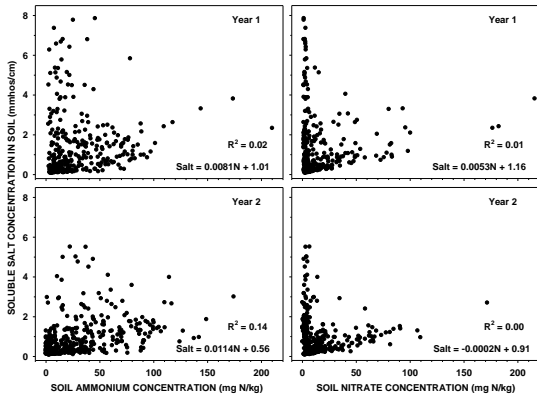


Potassium (mg K/liter)



Potassium (lbs) in 100' x 18'







Summary and Conclusions

- Nutrients are being lost from litter piles
- The nutrient being lost in the greatest amounts (about 8 times) is potassium
- Potassium concentrations are the main contributor to soluble salts concentrations
- Poly covers provided no benefit for N losses
- Nitrogen is lost from piles both as leachate (edges) and probably as ammonia gas
- These amounts should be kept in perspective
- Piled litter is safer than spreading at wrong time
