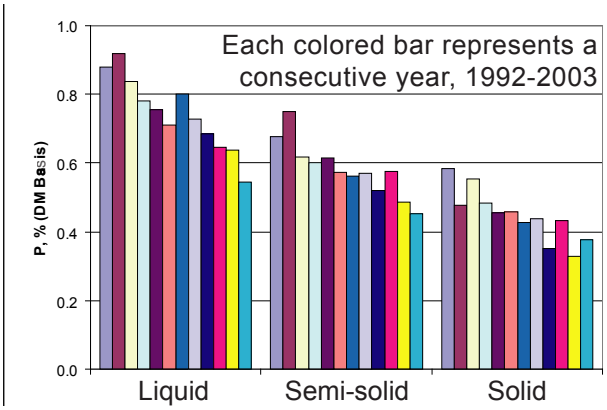
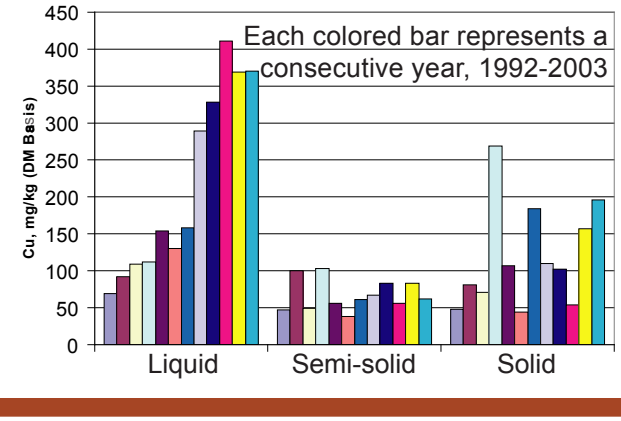
Manure Copper Up, Phosphorus Down.

Dairy manure has been changing. A study that analyzed 1,800 dairy manure samples from Vermont between 1992 and 2003 showed that there's been about a 30% decrease in the phosphorus content of manure and greater than a 3-fold increase in the copper content of liquid manure.

Phosphorus content of manure, 1992-2003.



Copper content of manure, 1992-2003.



Phosphorus

- Decrease is a result of reduced phosphorus in dairy rations which has been documented in TMRs in Wisconsin in the past 5 years.
- Decrease has positive environmental impact: Less phosphorus loading where runoff is a concern.
- Decrease also has an agronomic impact: Must account for lower phosphorus when determining fertilizer rates.

Copper

- Increase is presumably due to increase in use of copper sulfate foot baths.
- Increase raises concerns about crop and animal toxicity when manure is land applied.

Other conclusions:

- There's a high variability of nutrient content, even when adjusted for dry matter.
- This emphasizes the importance of analysis versus reliance on book values.
- The study also looked at the amount of total nitrogen, ammonia nitrogen, potassium, magnesium, calcium, manganese, iron, zinc, and boron in manure but found no consistent trends with these nutrients.

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