What's new with manure: long term trends

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Introduction

- **Expanded interest in knowing the nutrient content of manure.**
- **New species and management categories established.**

Acknowledgment

- **Data for this summary was provided by the following laboratories.**
  - **AgSource Laboratory**
  - **Dairyland Laboratory**
  - **Rock River Laboratory**
  - **UW Soil and Forage Laboratory**

Laboratory Data

- 22,903 lab values from 1998-2008 were summarized by management (liquid vs. solid) and species
- Includes 10,476 liquid dairy, 4,769 solid dairy, 408 solid beef, 1,720 solid poultry, 1,045 liquid swine and 141 solid swine samples, as well as smaller numbers of samples for other species

"Book Values"

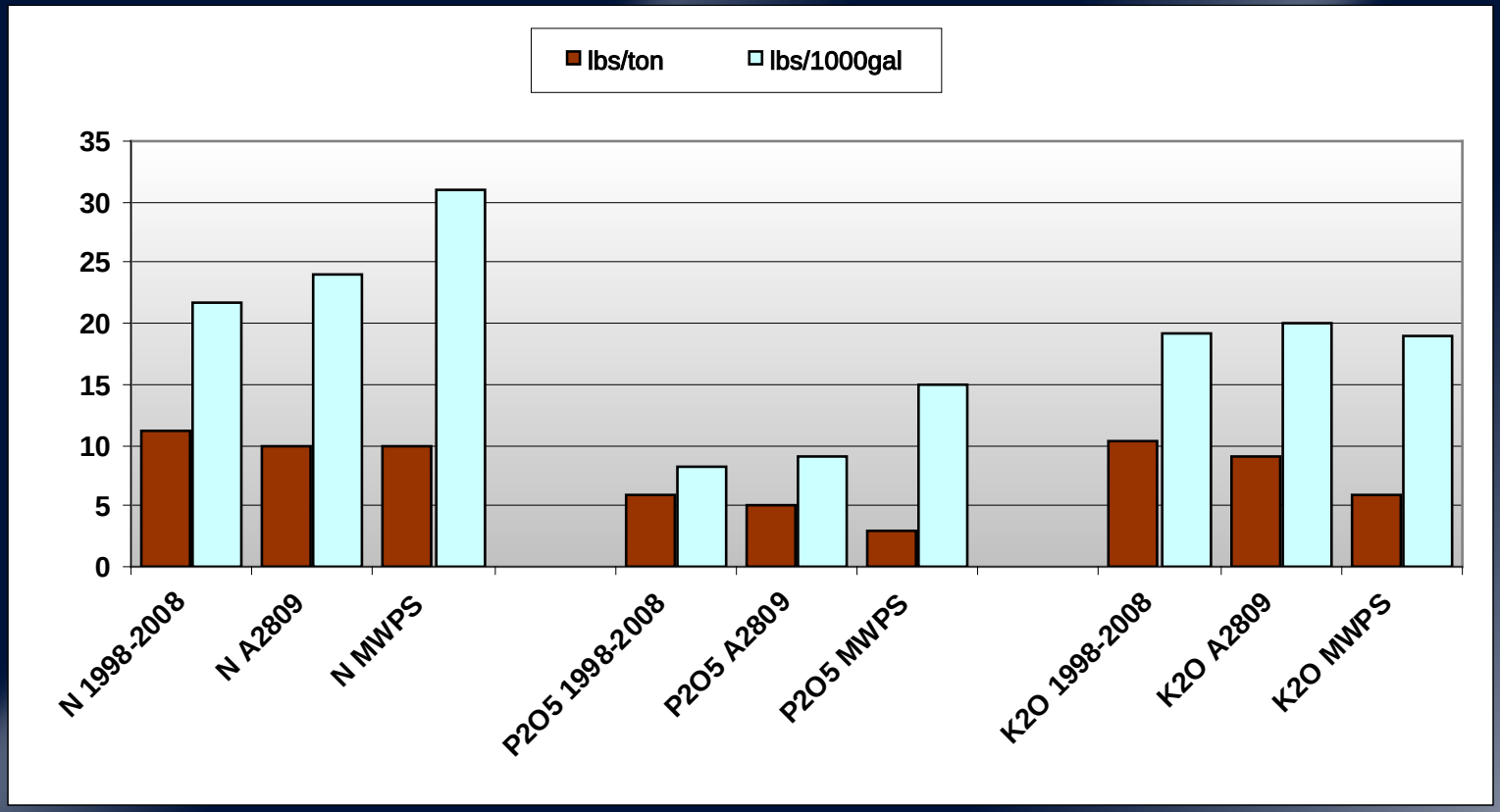
- Nutrient concentrations can be estimated using "book" values for available N, P_2O_5, and K_2O
- Testing is needed to determine if a farm is typical and to establish an individual farm "typical" value
- If management and feeding practices do not change, manure analysis values will not vary significantly on a farm

*Estimated first-year nutrient availability of various manures**

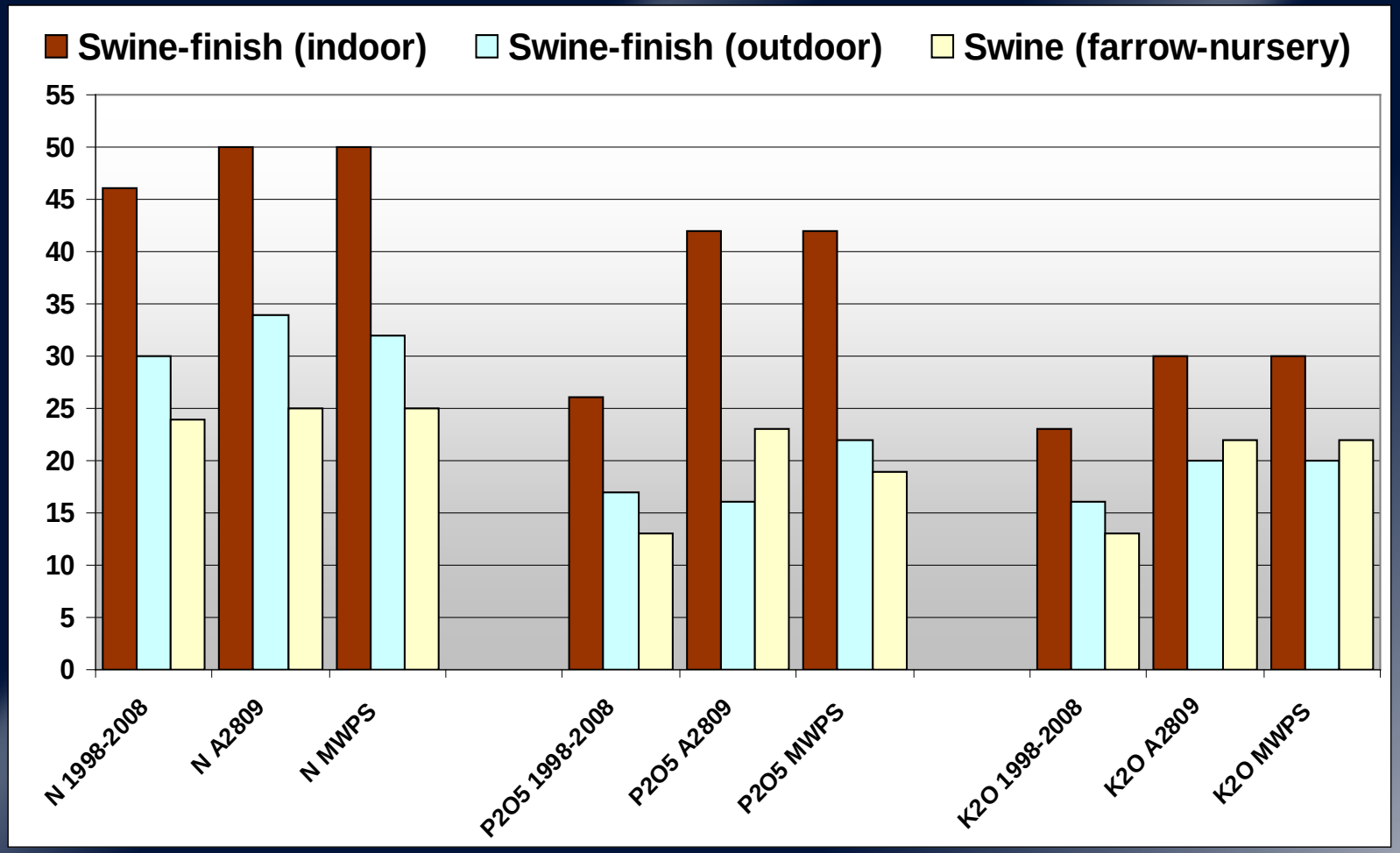
Species	N	P_2O_5	K_2O	S
Dairy, surface applied	30%	60%	80%	60%
Dairy, incorporated	40%	60%	80%	60%
Beef, surface applied	25%	60%	80%	60%
Beef, incorporated	35%	60%	80%	60%
Swine, solid surface applied	50%	60%	80%	60%
Swine, solid incorporated	65%	60%	80%	60%
Poultry, solid surface applied	50%	60%	80%	60%
Poultry, solid incorporated	60%	60%	80%	60%

* If manure has been applied to the same field at similar rates for 2 consecutive years, increase the nutrient values an additional 10%. If manure has been applied to the same field at similar rates for three or more consecutive years, increase the nutrient values by 15%.

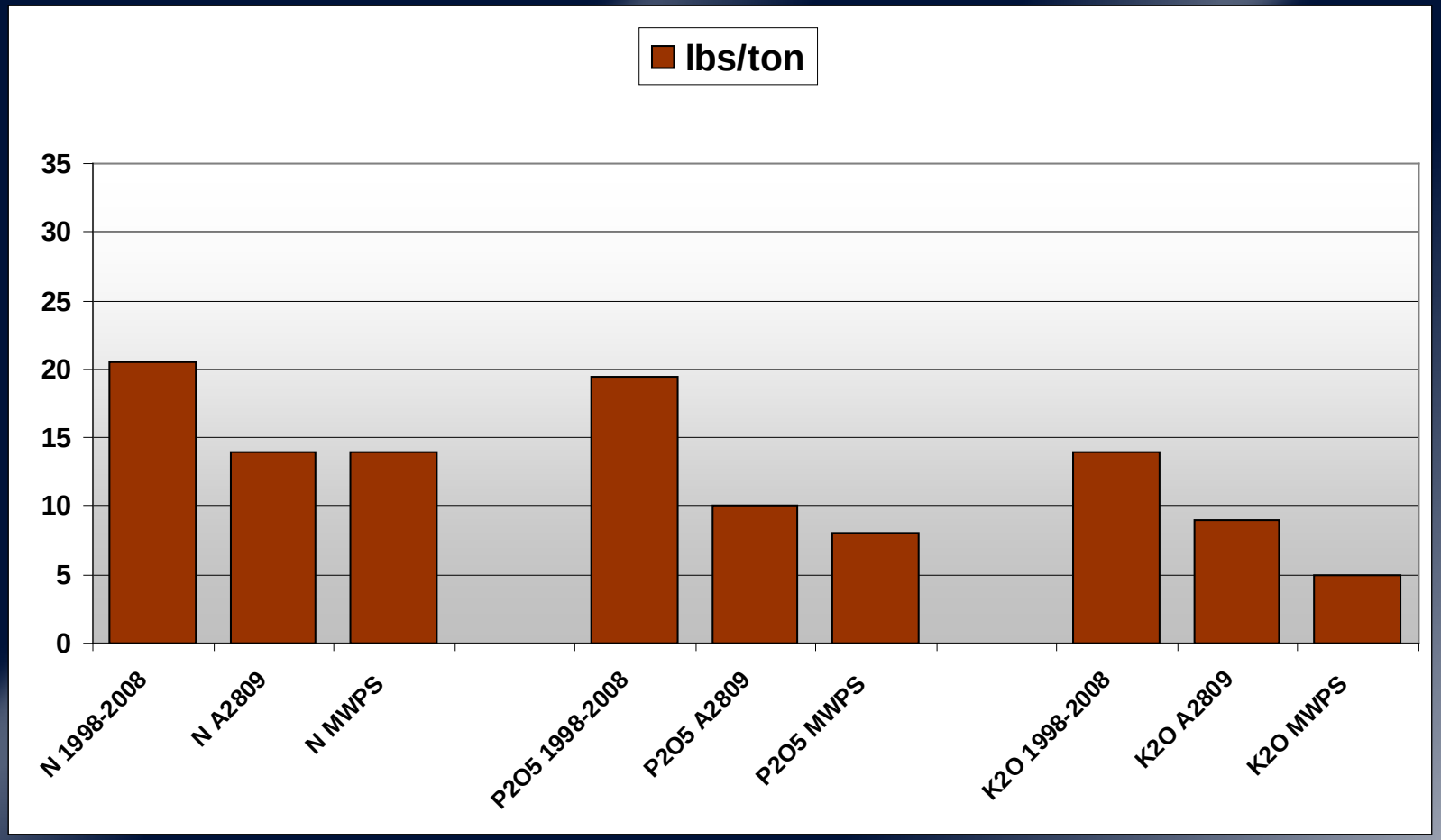
Comparison of dairy manure summary results with existing book values



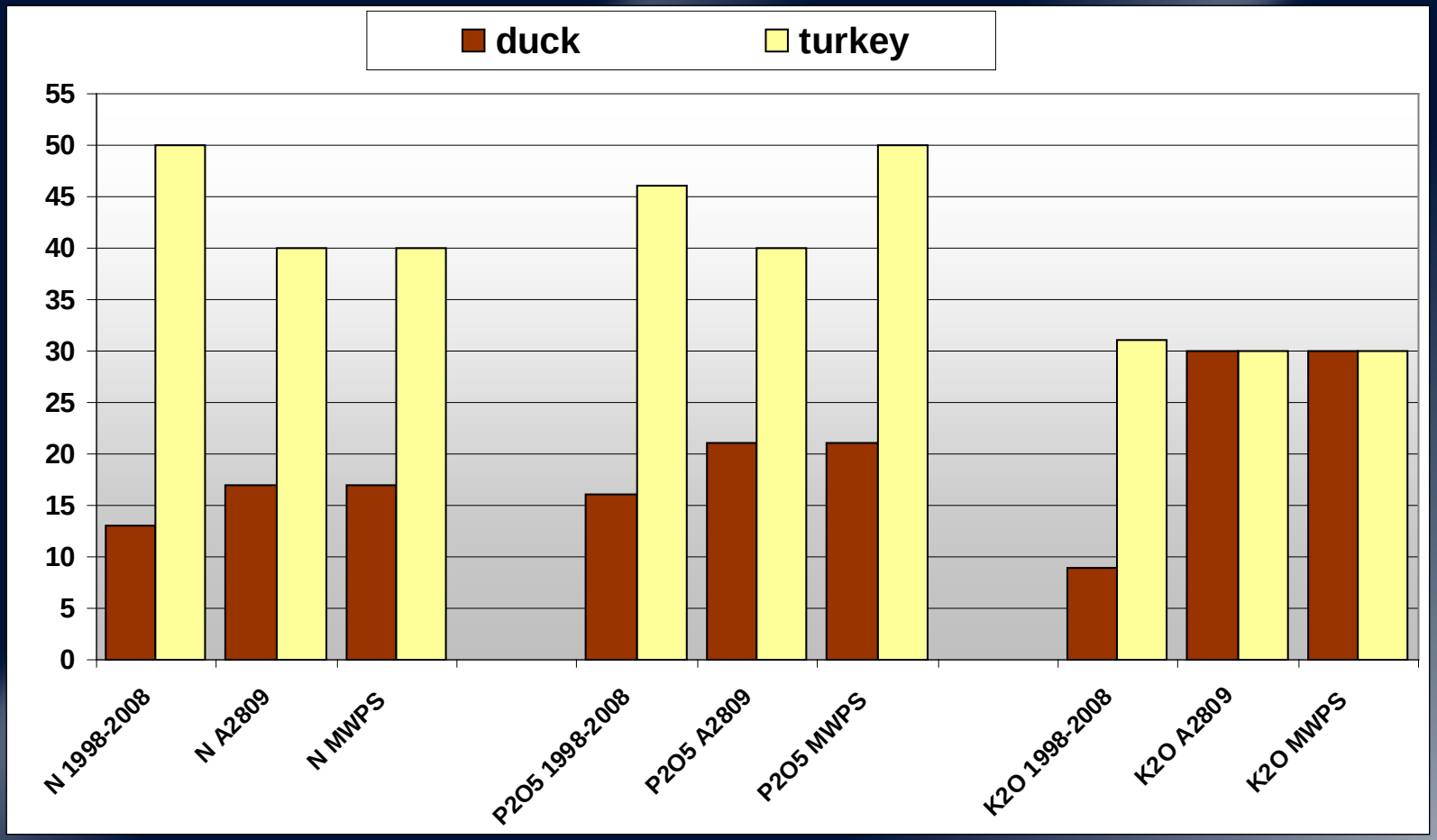
Comparison of liquid swine manure summary results with book values



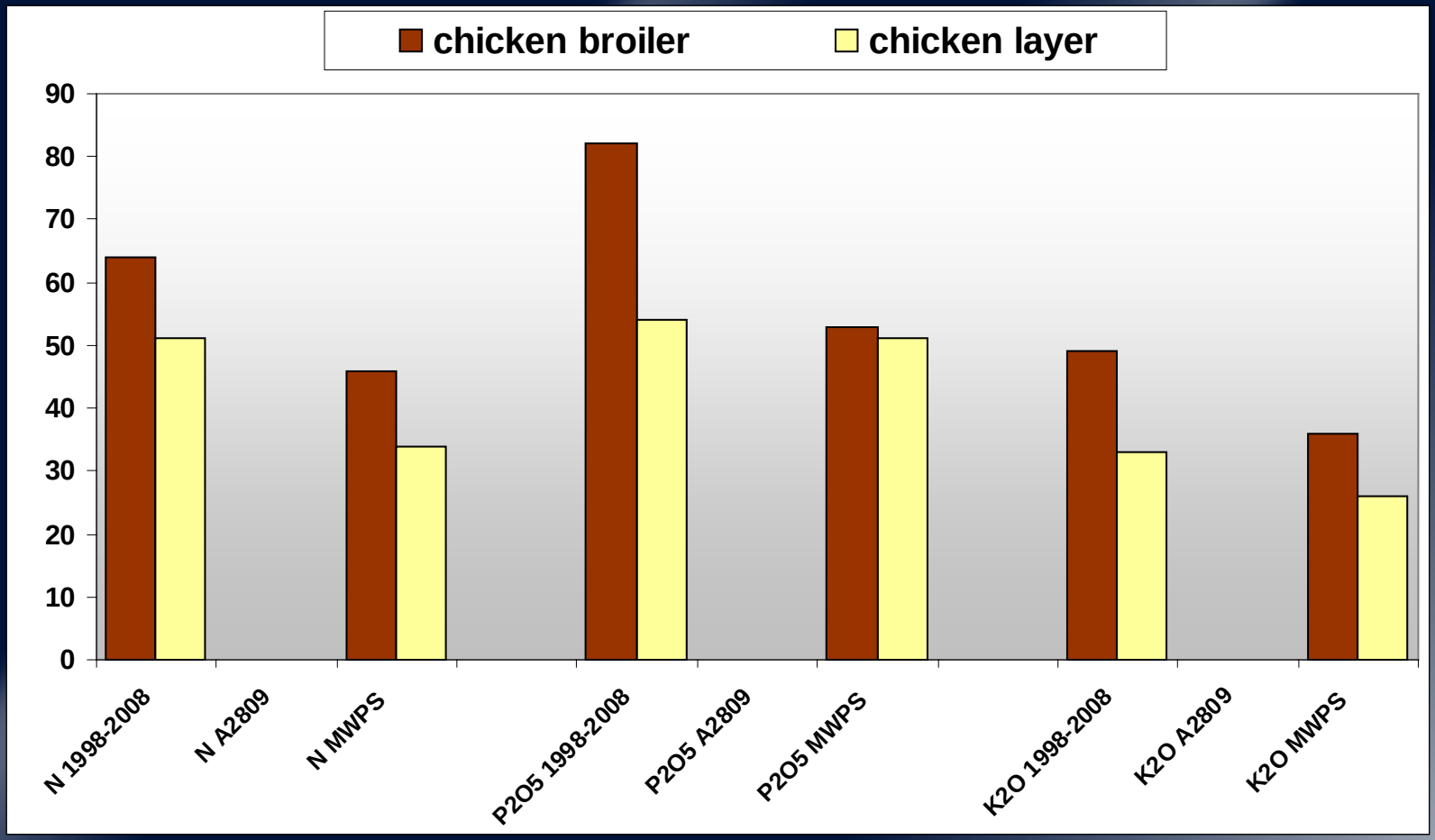
Comparison of solid swine manure summary results with book values



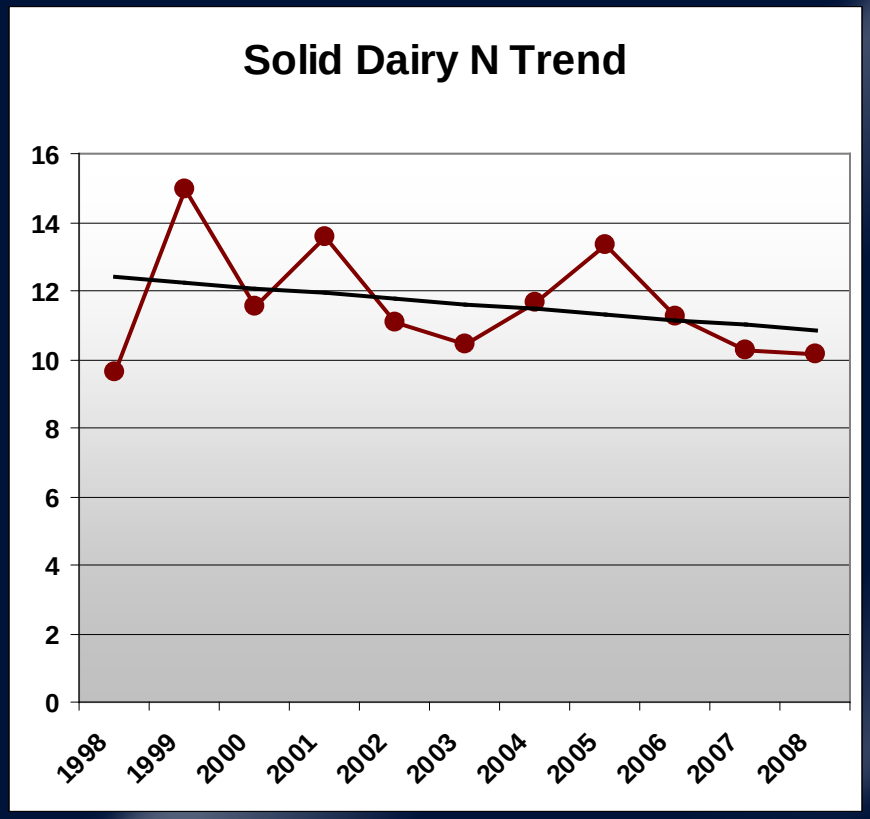
Comparison of solid poultry manure summary results with book values

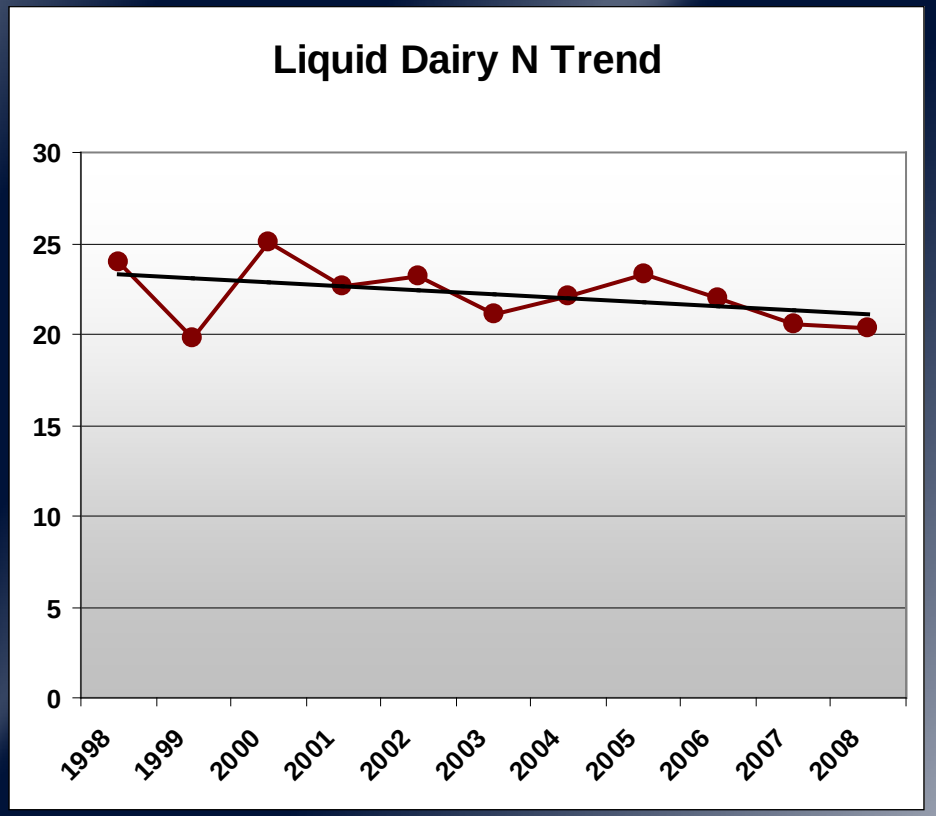


Comparison of solid chicken manure summary results with book values

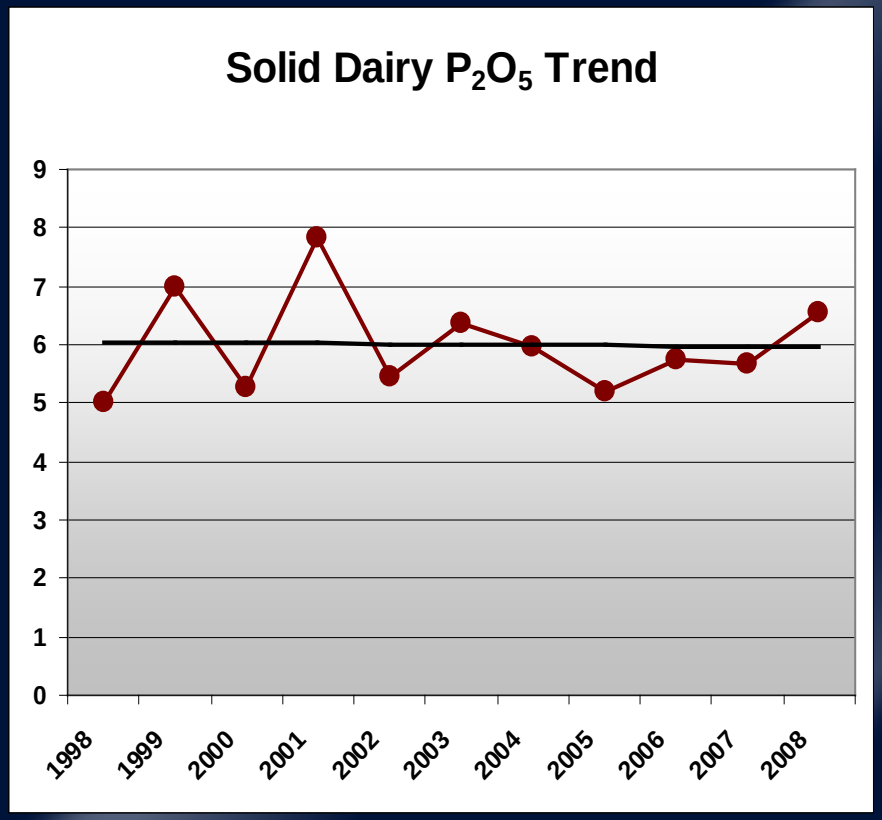


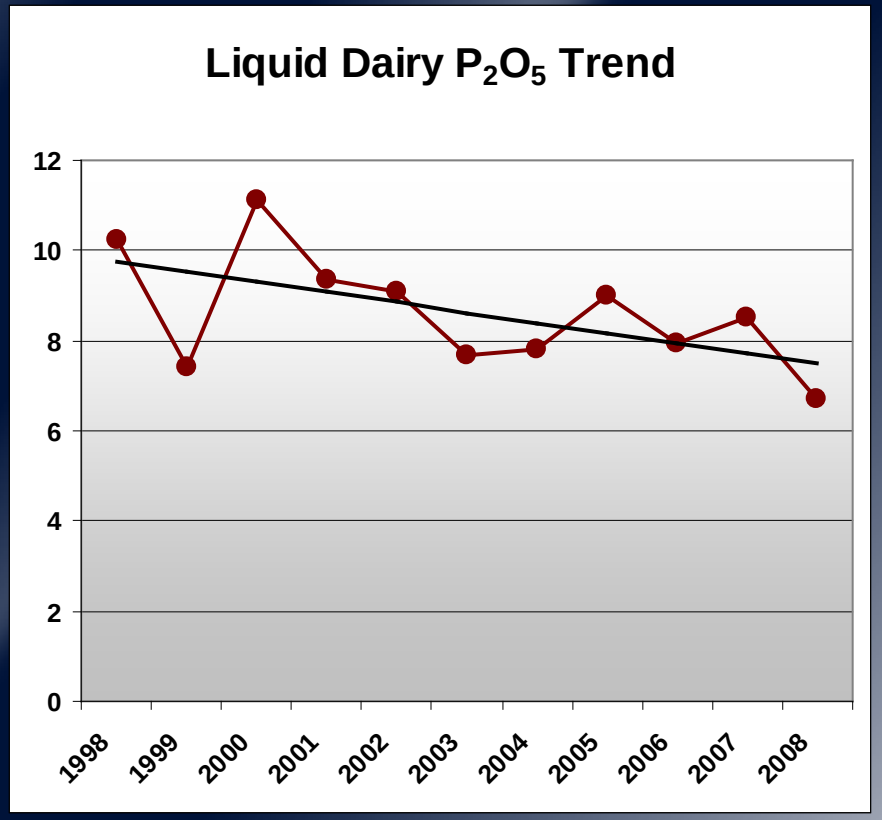
Long term trends in N content of dairy manure



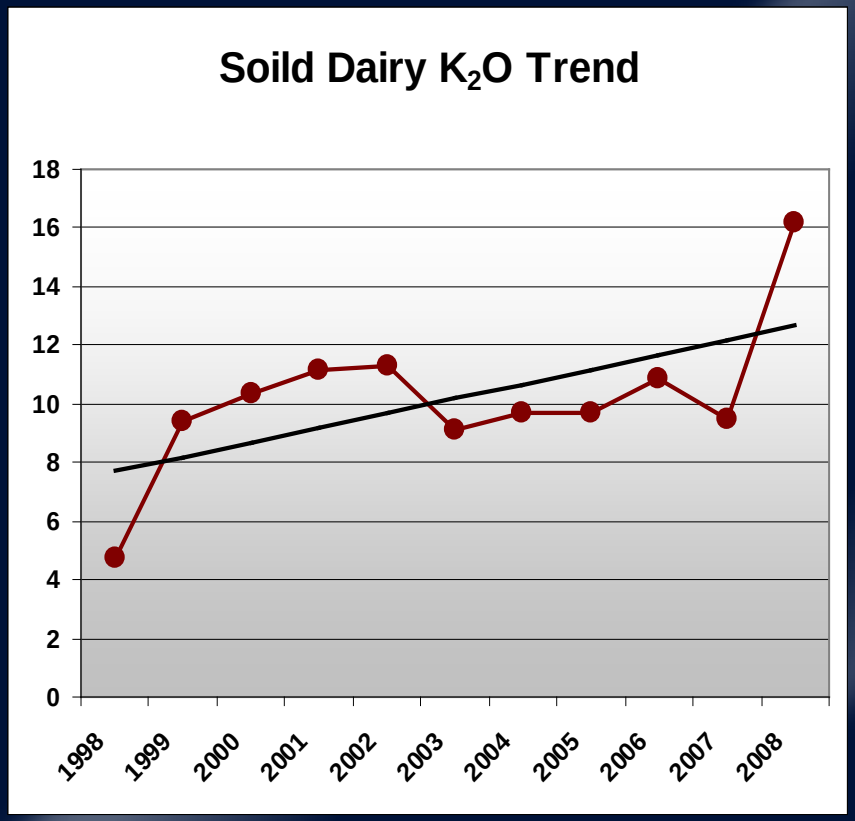


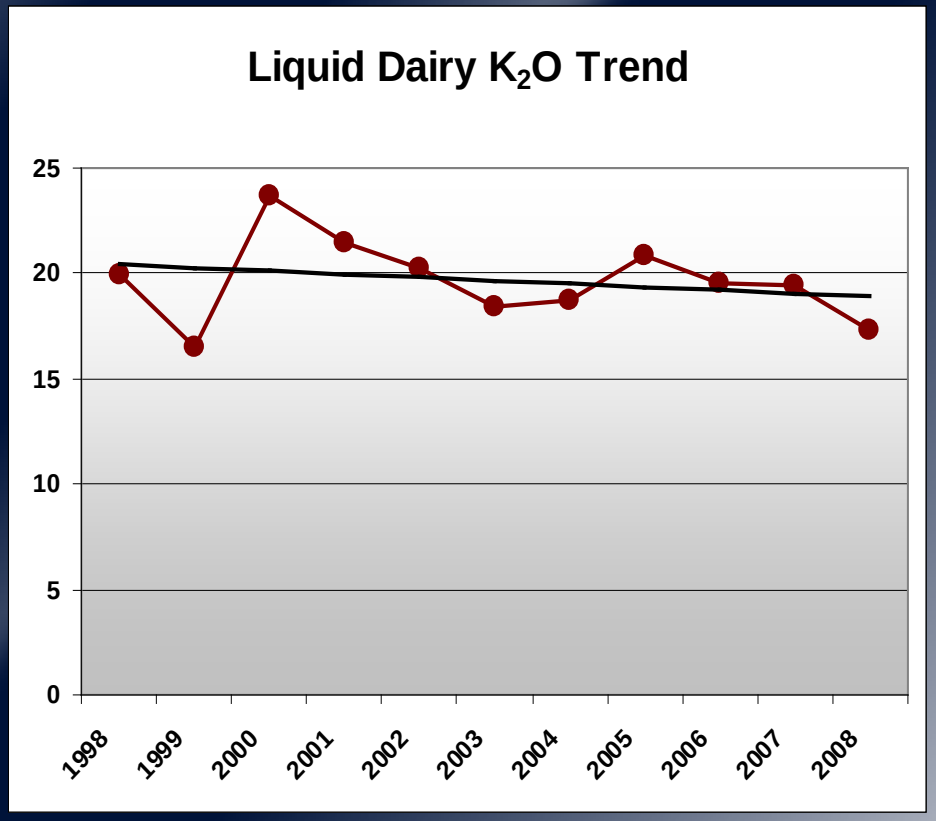
Long term trends in P content of dairy manure



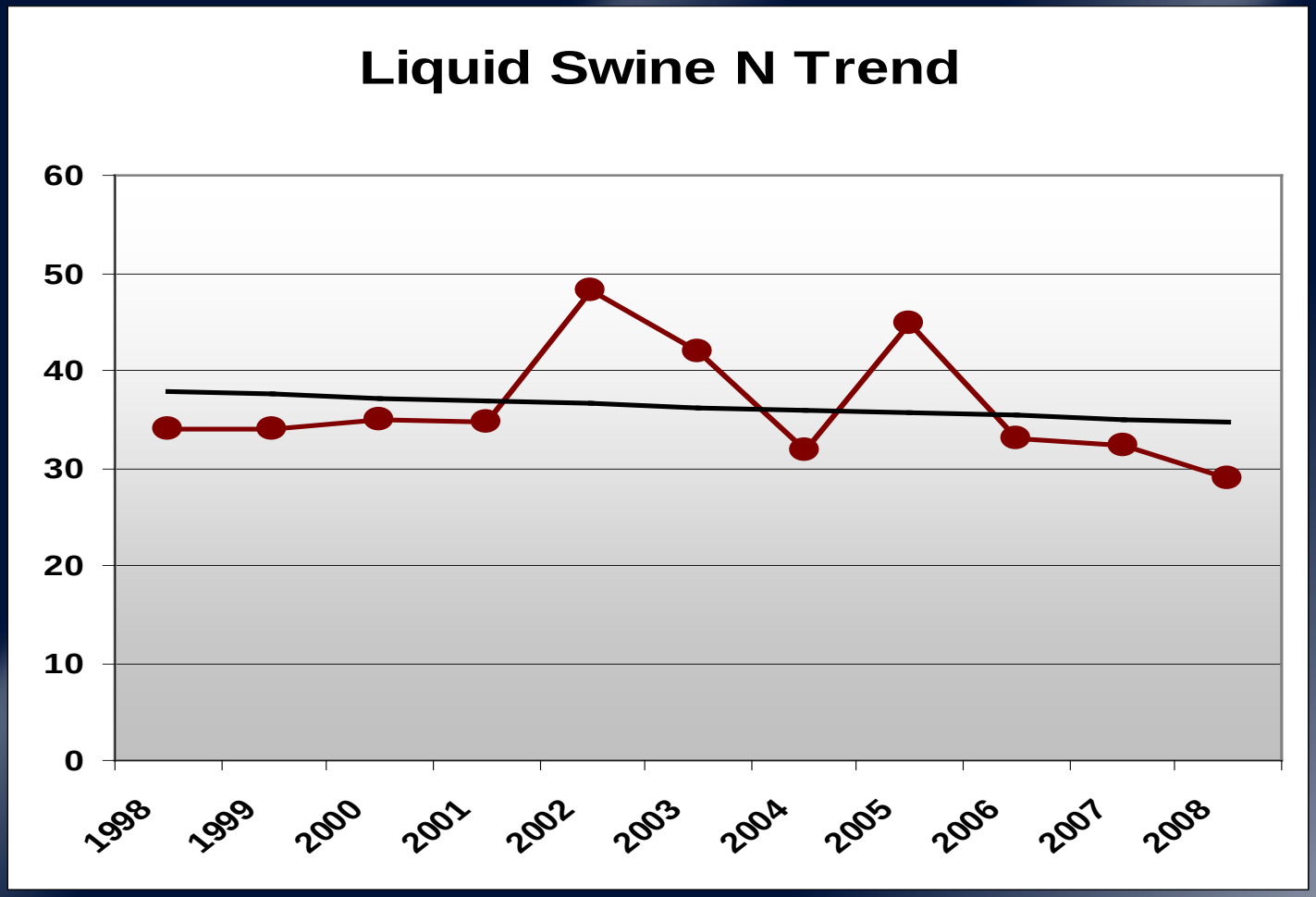


Long term trends in K content of dairy manure

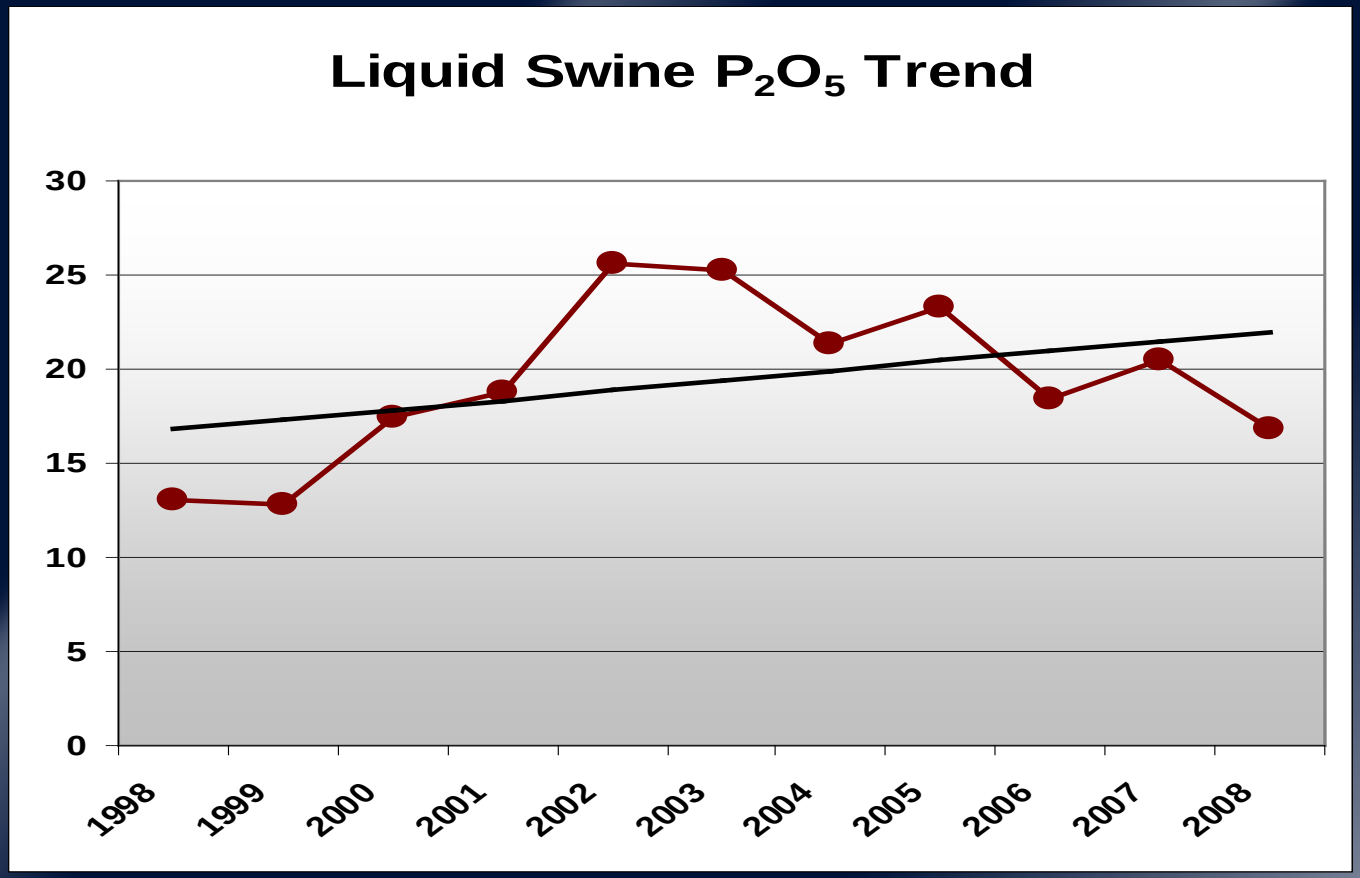




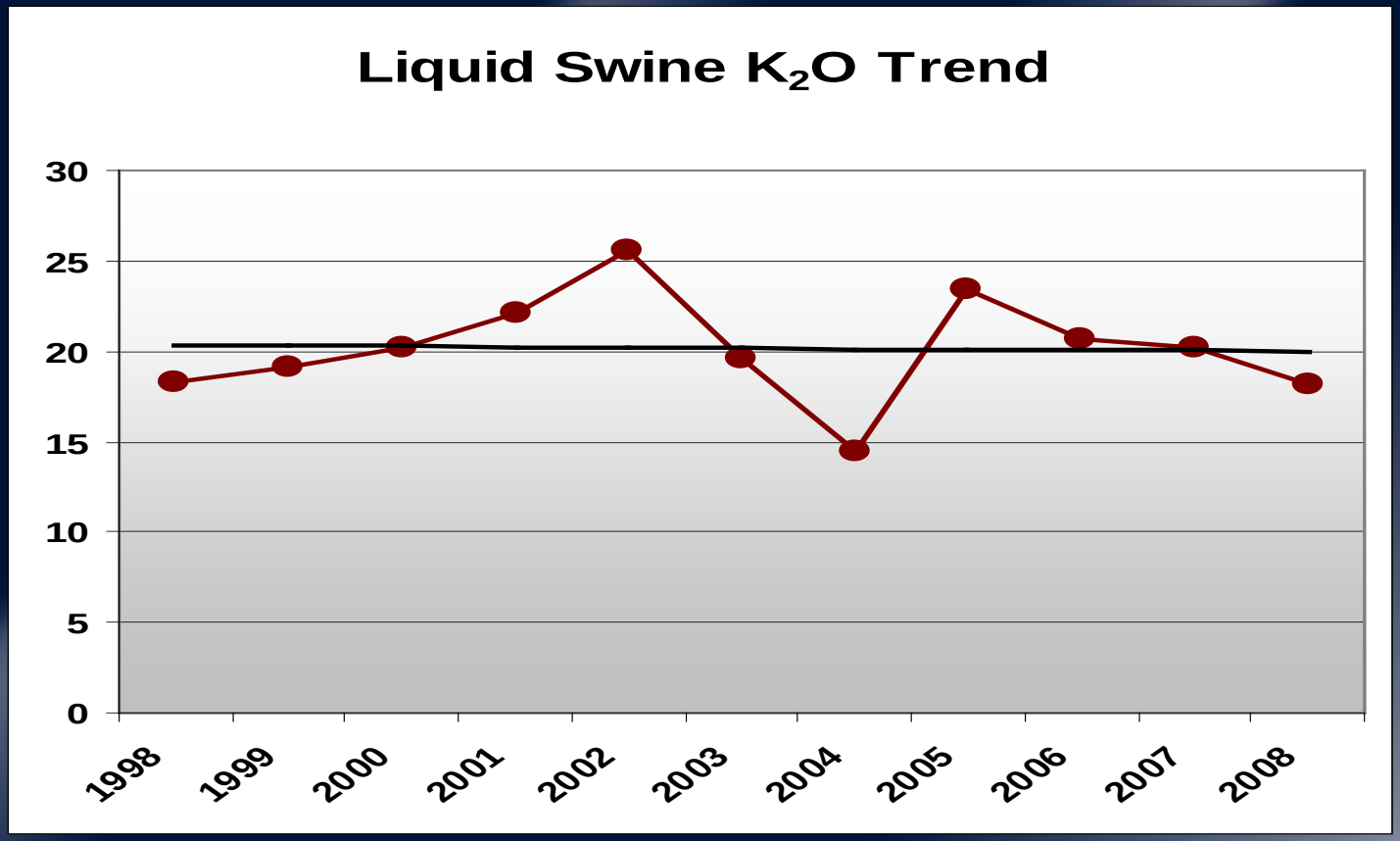
Long term trends in N content of liquid swine manure



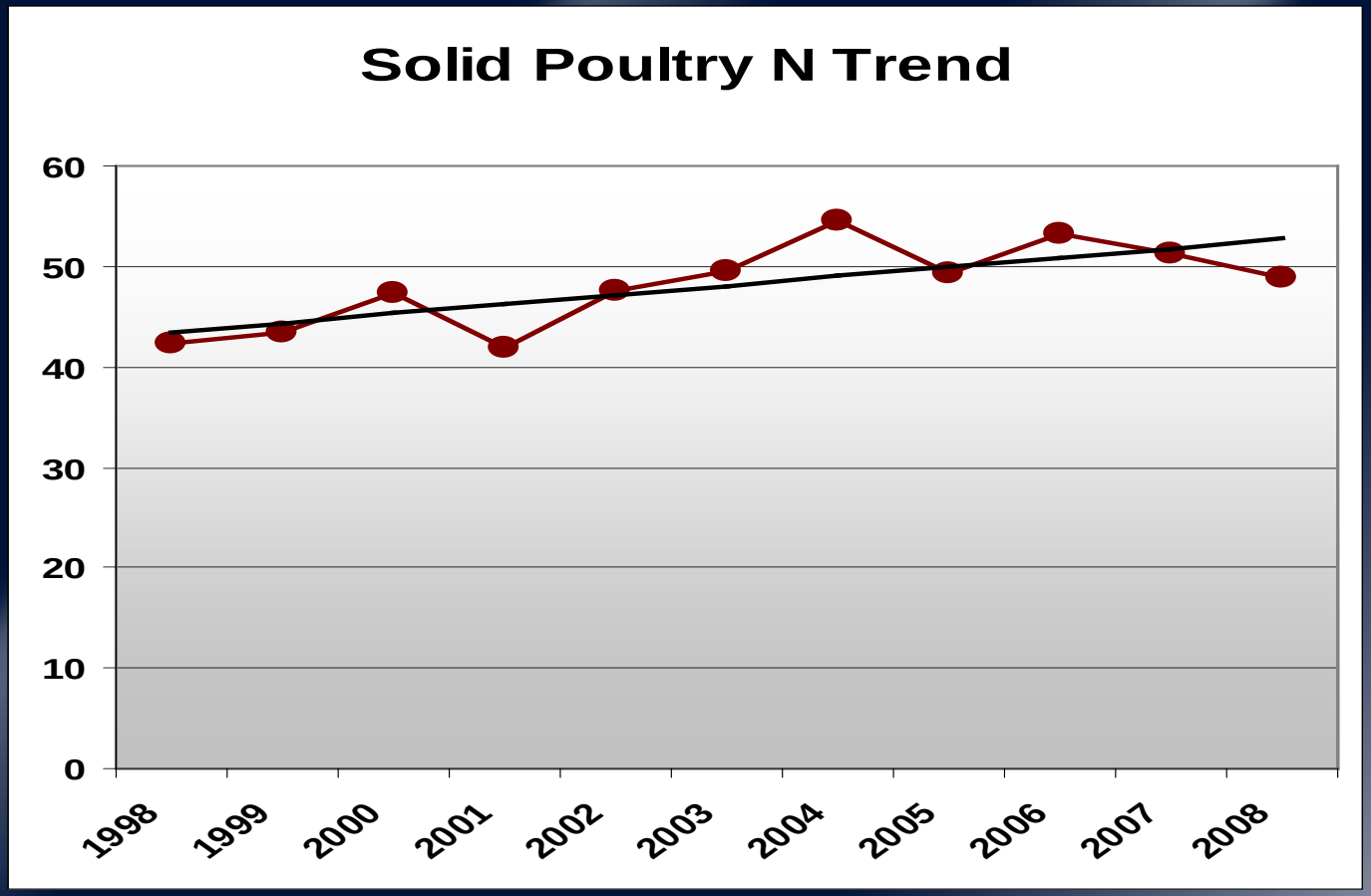
Long term trends in P content of liquid swine manure



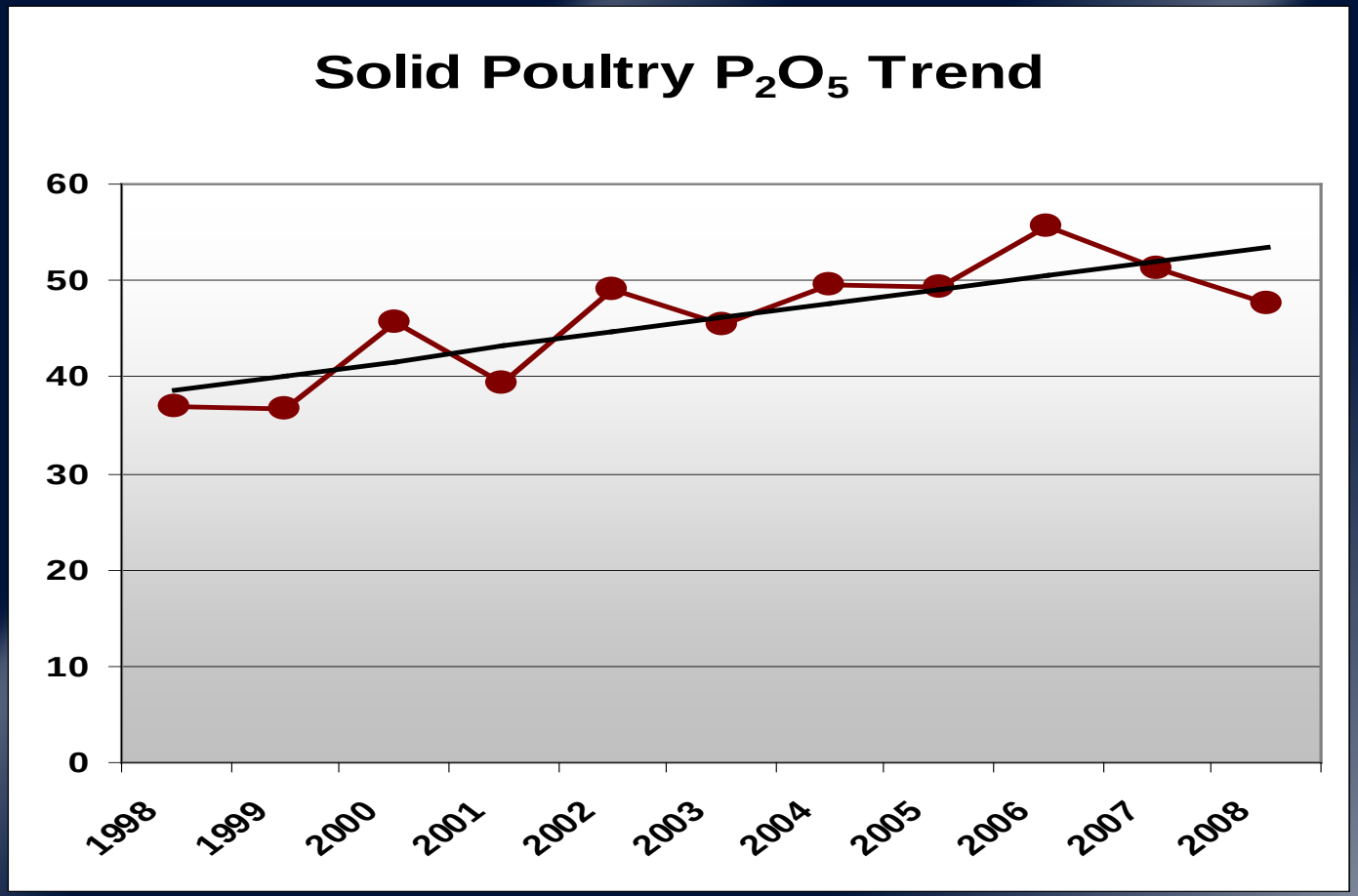
Long term trends in K content of liquid swine manure



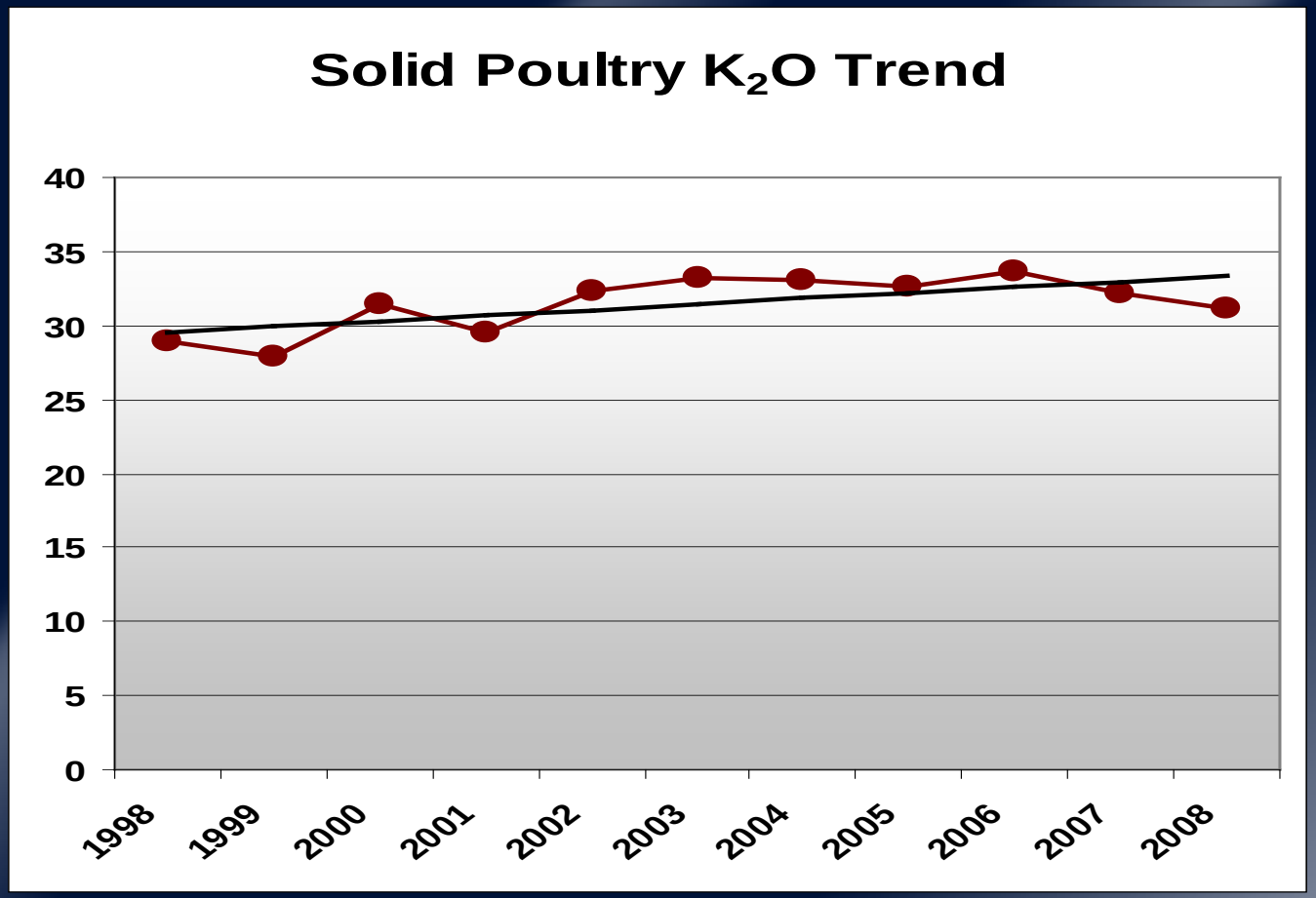
Long term trends in N content of solid poultry manure



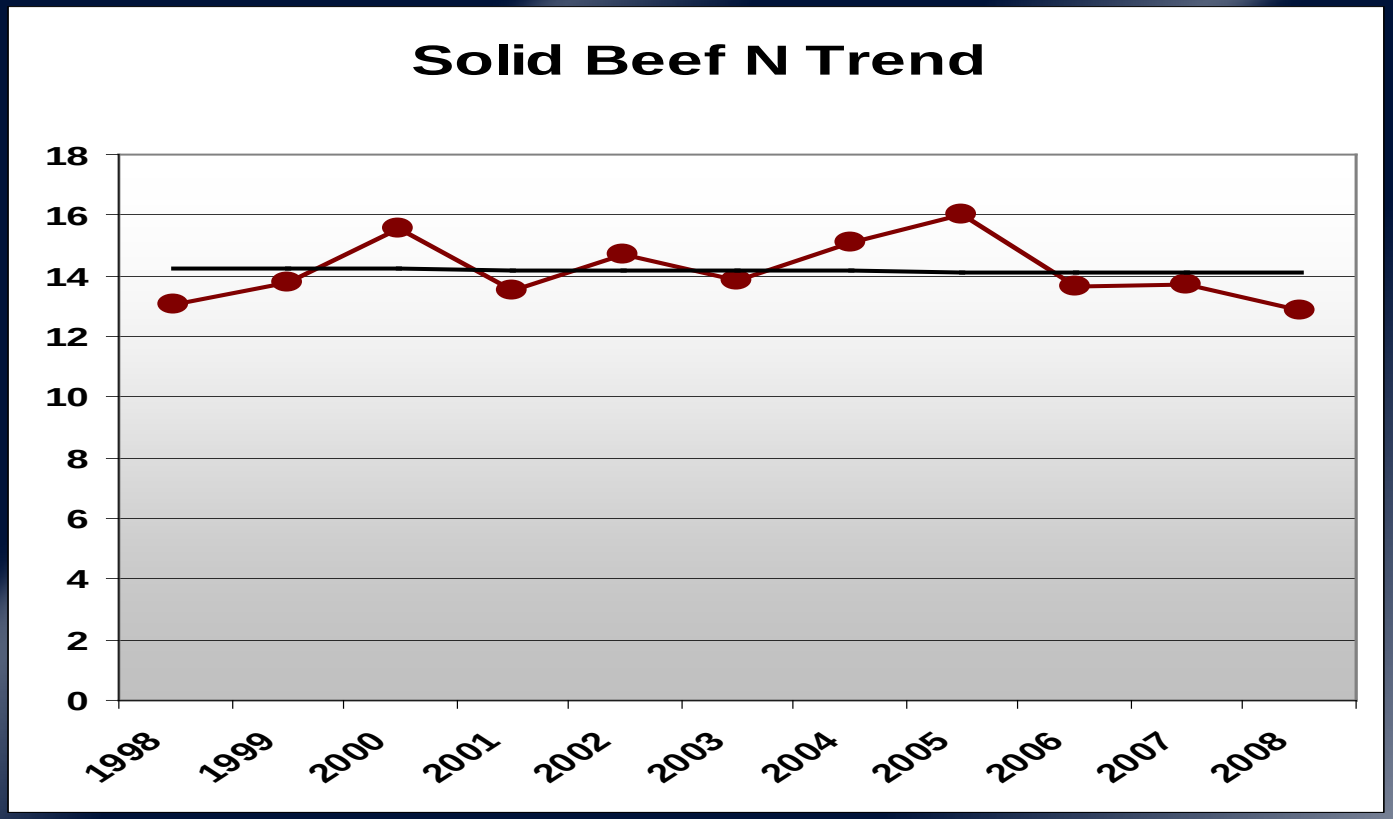
Long term trends in P content of solid poultry manure



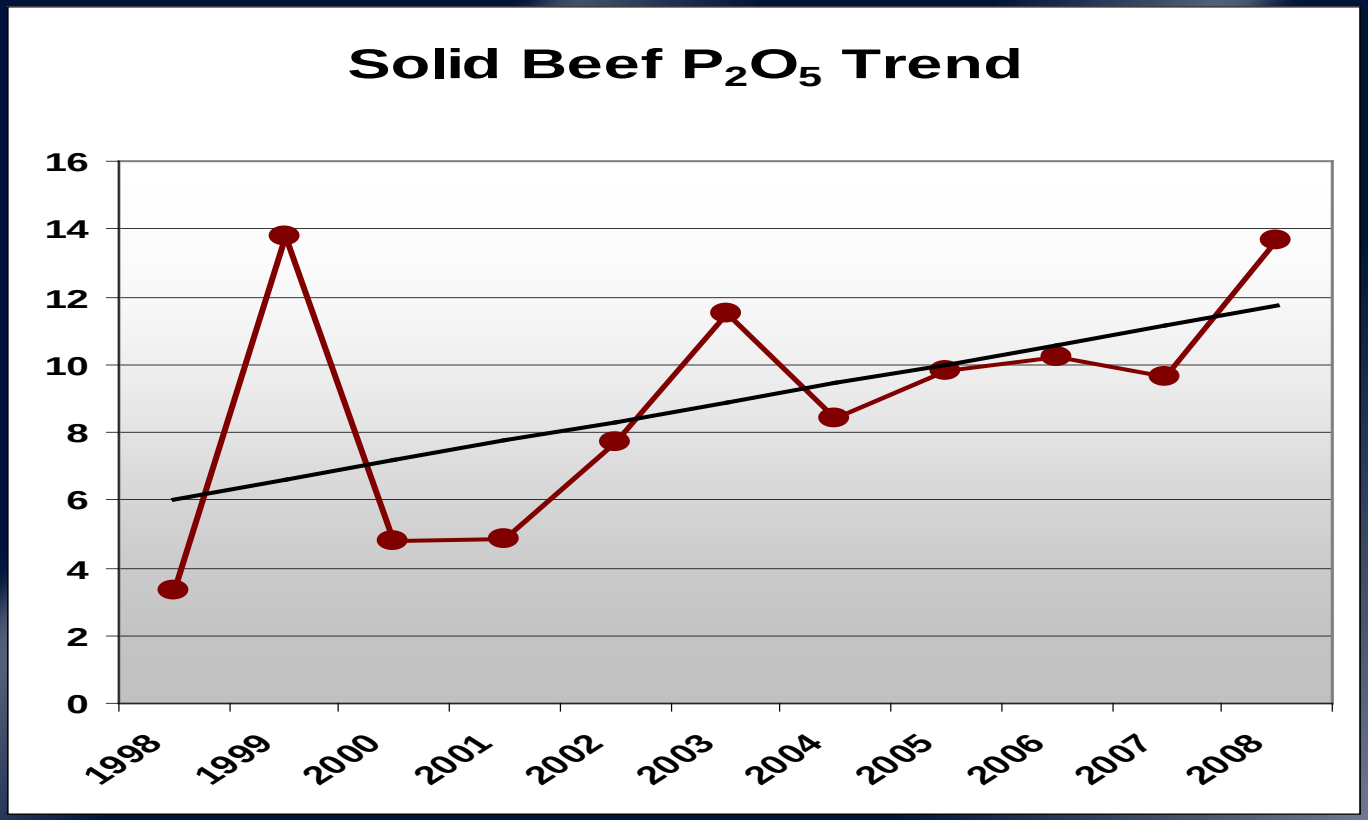
Long term trends in K content of solid poultry manure



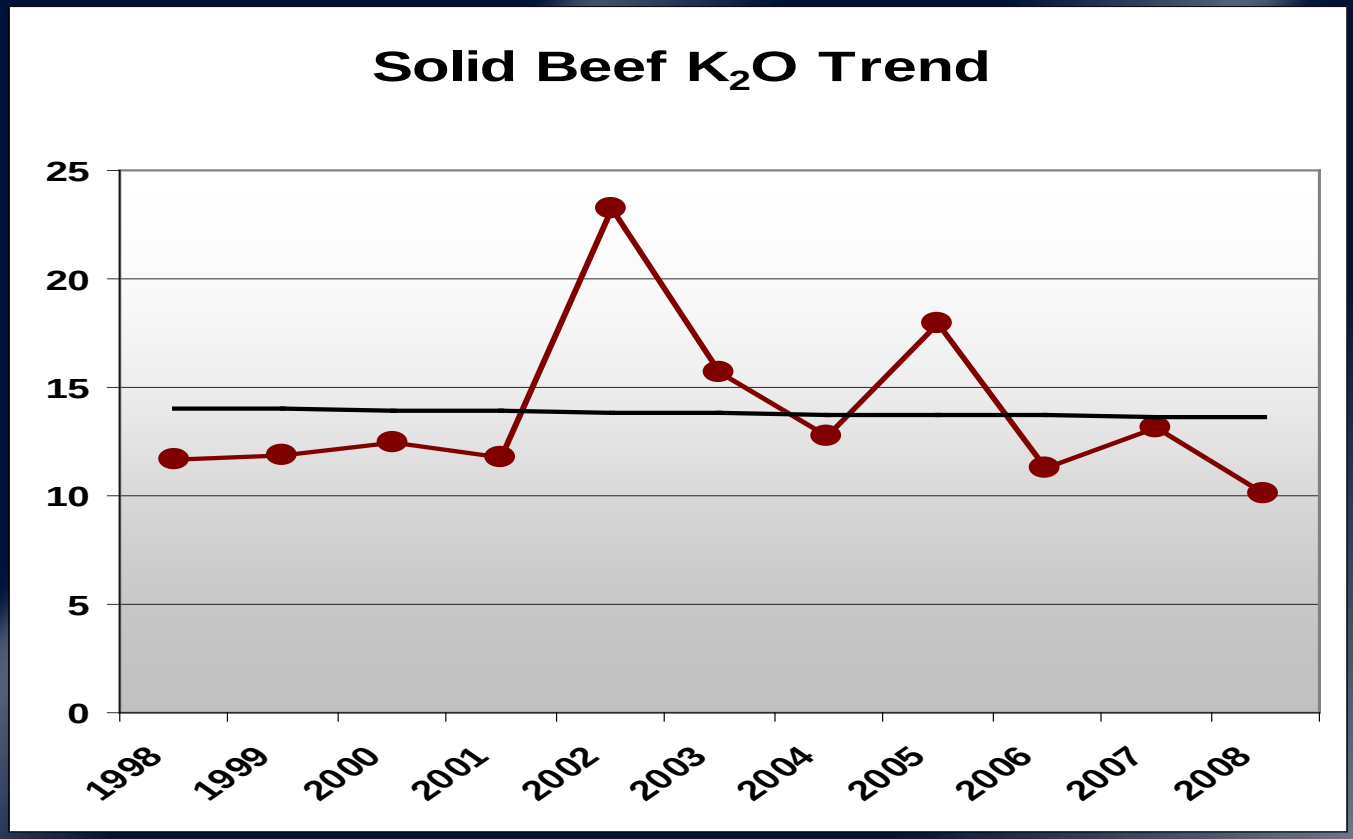
Long term trends in N content of solid beef manure



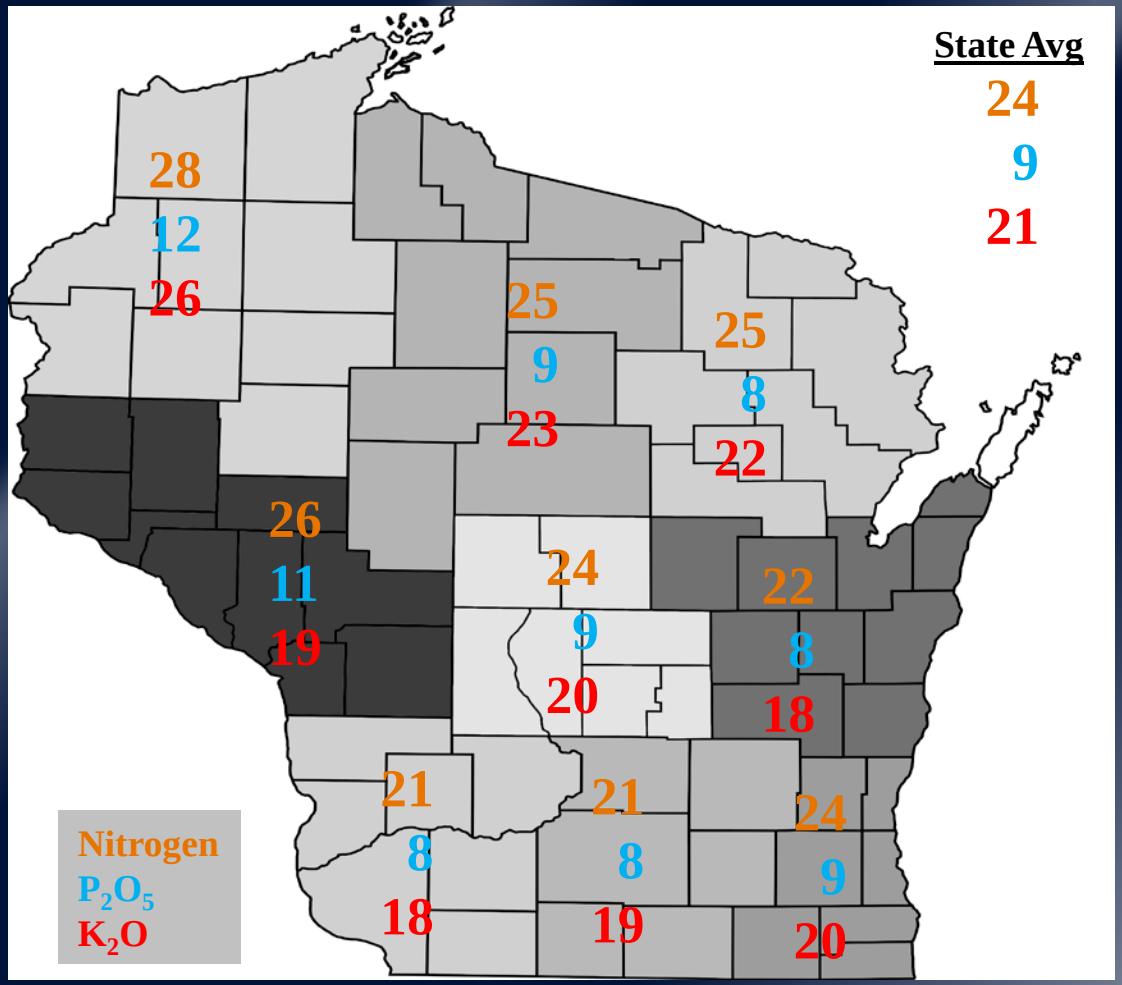
Long term trends in P content of solid beef manure



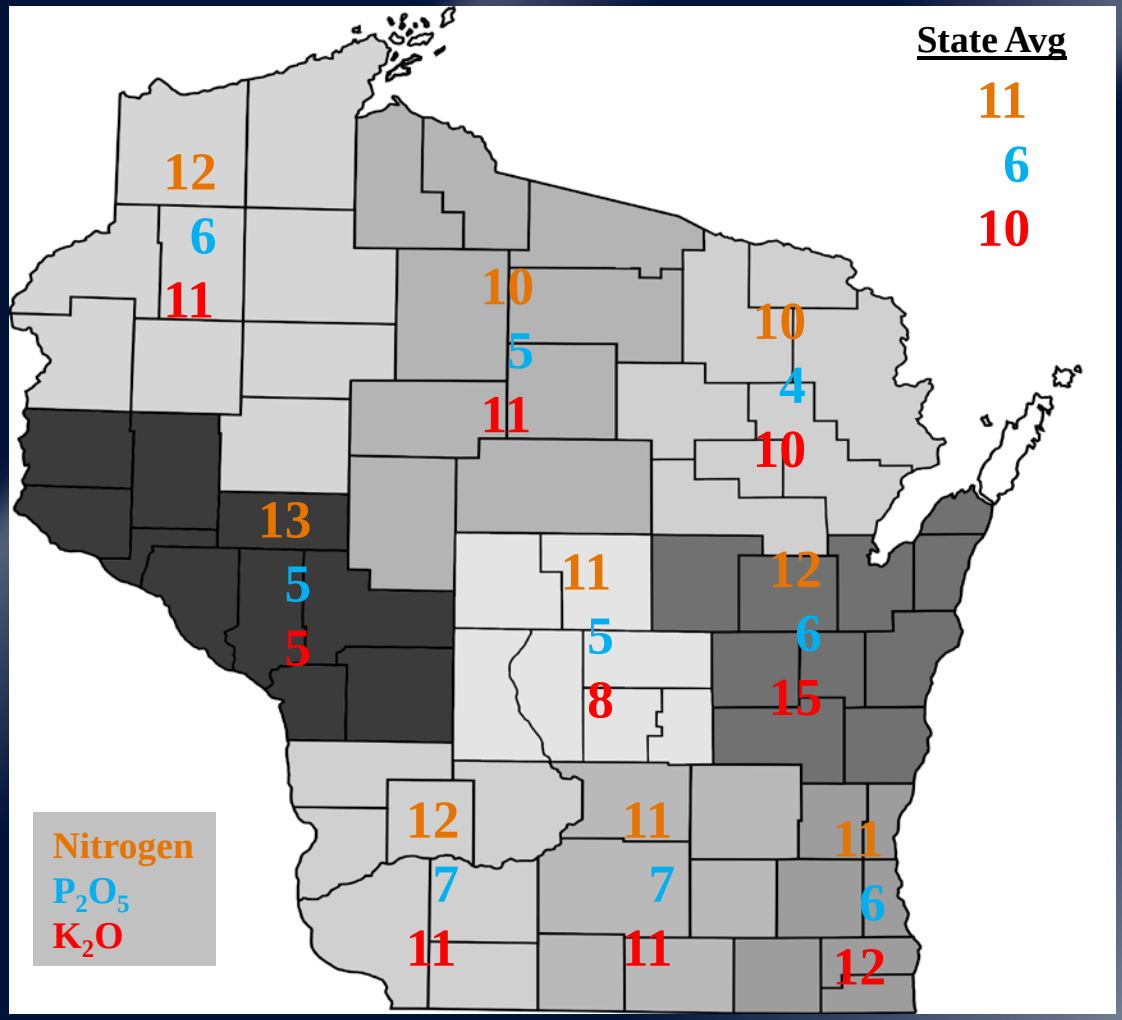
Long term trends in K content of solid beef manure



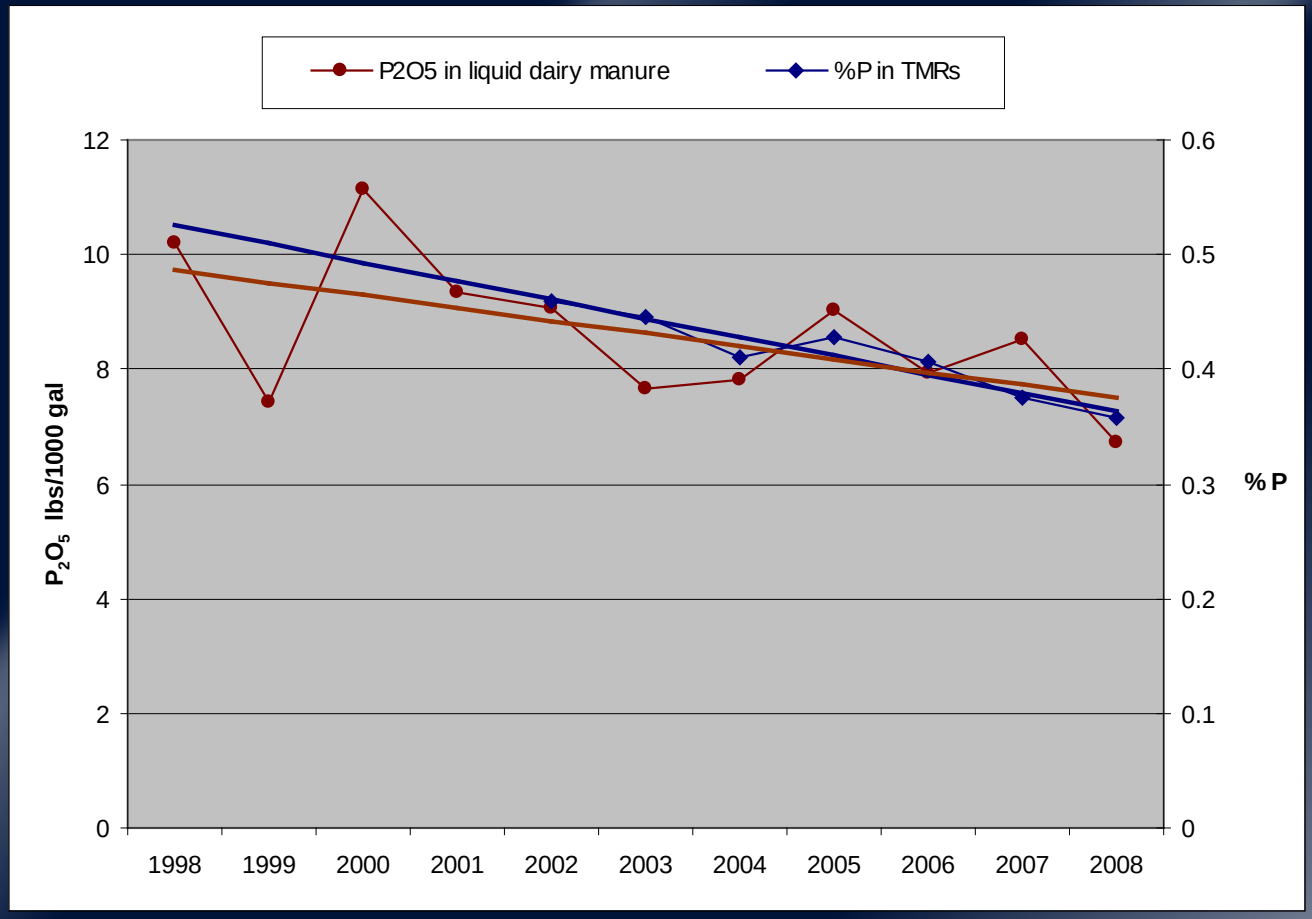
Liquid dairy manure nutrient content by region, WI (1998-2008)



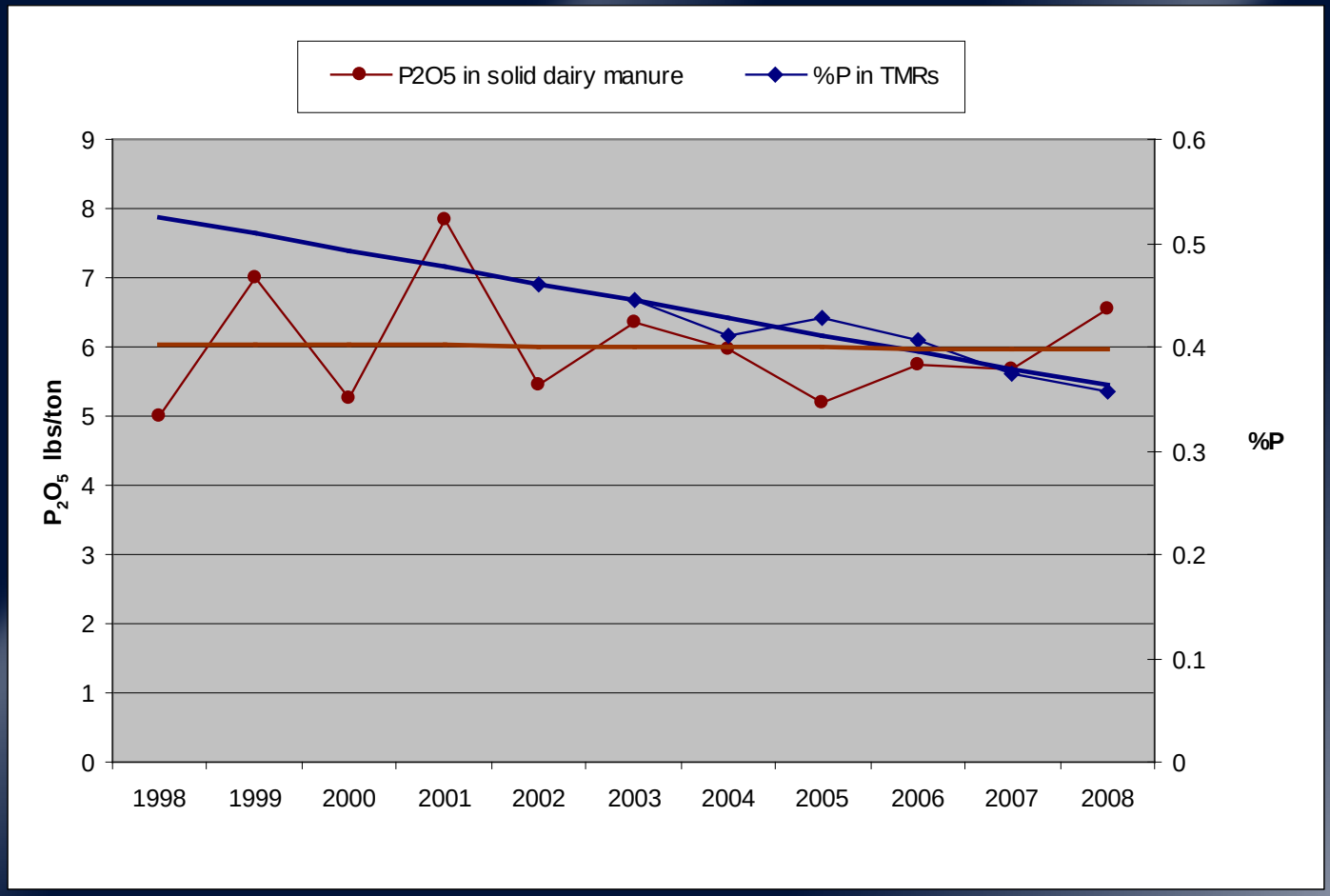
Solid dairy manure nutrient content by region, WI (1998-2008)



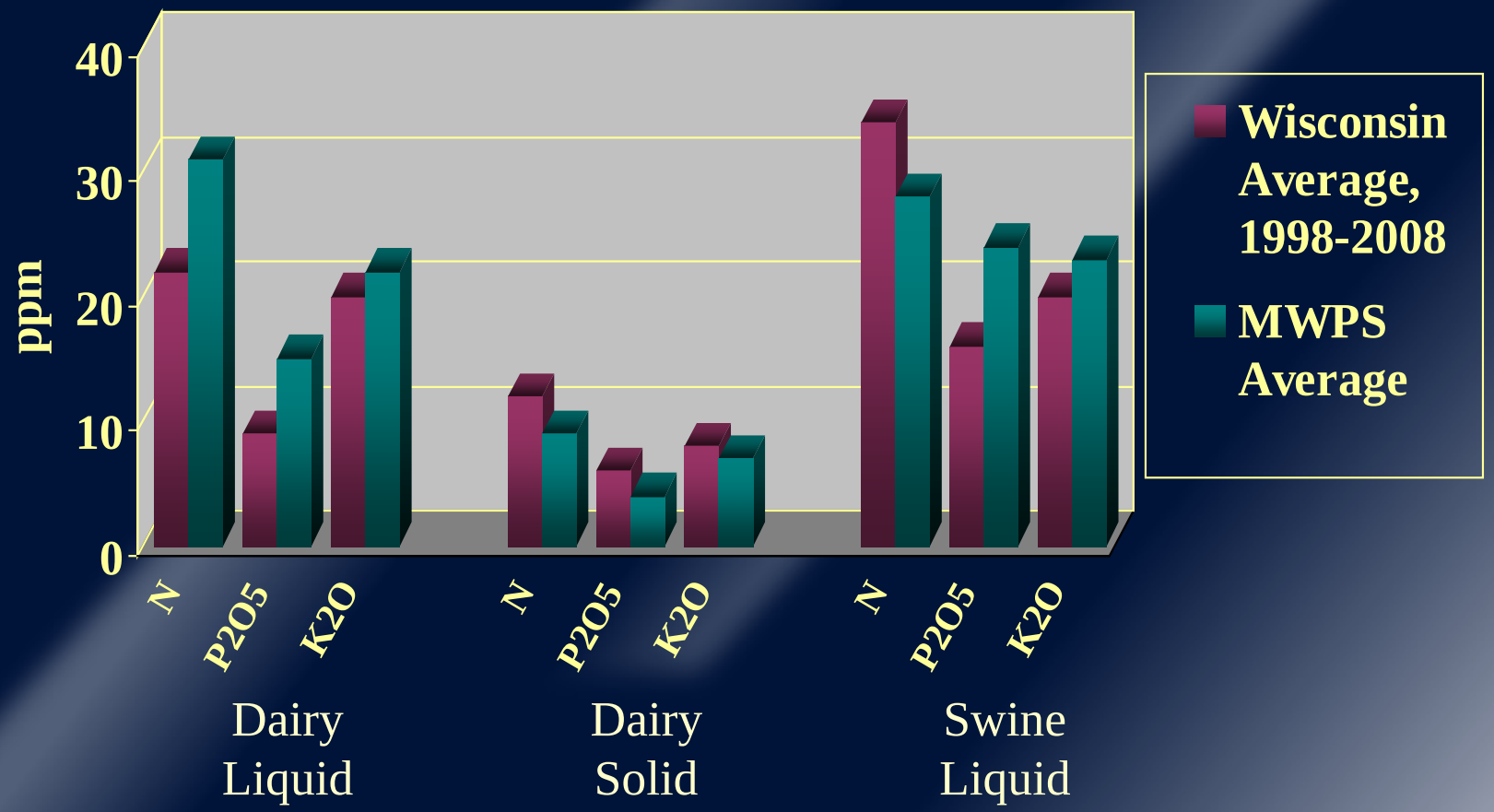
Long term trends in P levels in liquid dairy manure vs. TMRs



Long term trends in P levels in solid dairy manure vs. TMRs



Comparison of analyzed and "typical" manure nutrient content



Manure Sampling and Testing

- **Manure testing takes management practices into account and delivers more accurate values to use for farm specific nutrient management planning**
- **Lab analysis summaries can be used to monitor long term trends in manure nutrient content as it is affected by management changes over time**