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Where's the Poop? Environmental Challenges for Large and Small Animal Feeding Operations

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Applying knowledge to improve water quality

Heartland

Regional Water Coordination Initiative

A Partnership of USDA CSREES & Land Grant Colleges and Universities

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DoubleTree Hotel - Overland Park, KS

October 26 - 28, 2005

Online at: http://www.oznet.ksu.edu/waterquality/Reg_Conf/presentations.htm

Where’s the Poop? Environmental Challenges for Large and Small Animal Feeding Operations

Rick Koelsch, University of Nebraska and
John Lawrence, Iowa State University

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Where's the Poop?

- Small AFO
  - Under 1000 AU
  - Below the NPDES permit size unless designated or direct contact or man-made discharge to water of US
  - May require state permit
- CAFO
  - 1000 or more AU
  - Required to have NPDES permit

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Where's the Poop?
AFO or CAFO

- Which size has the more operations?
- Which size has more animals/poop?
- Which size has more recoverable nutrients?
- Which size has more acres available for manure?

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Where's the Poop?
AFO or CAFO

- Who are your clients?
- What are their challenges?
- How do you reach them?
- Where is the greatest environmental risk?
- Where can you have the greatest impact?

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Status and Trends in Small and Mid-Sized Animal Operations in the U.S.

Noel Gollehon

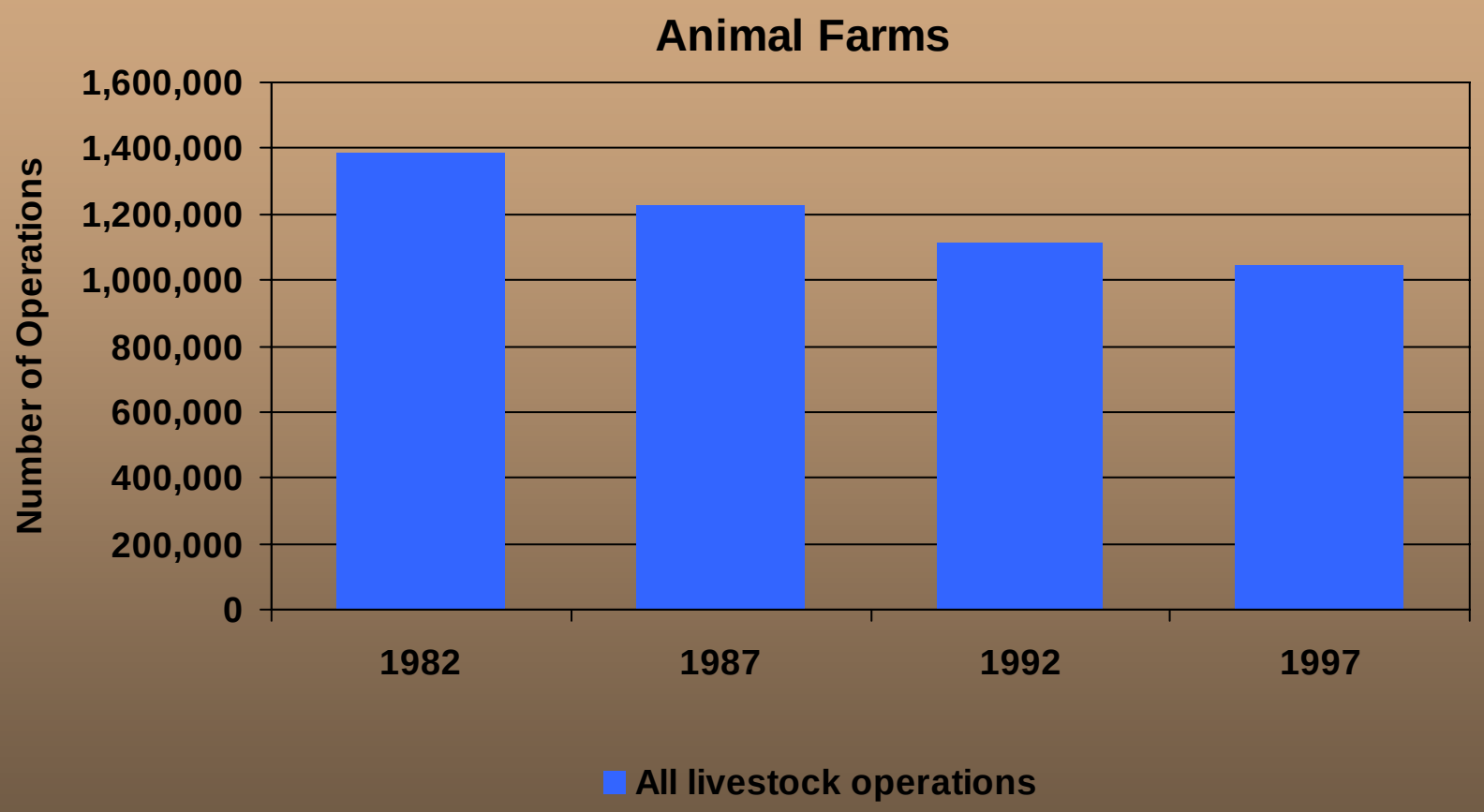
Economic Research Service, USDA

Presentation at the Workshop on Small and Mid-Sized Animal Operations and Water Quality

May 2, 2005

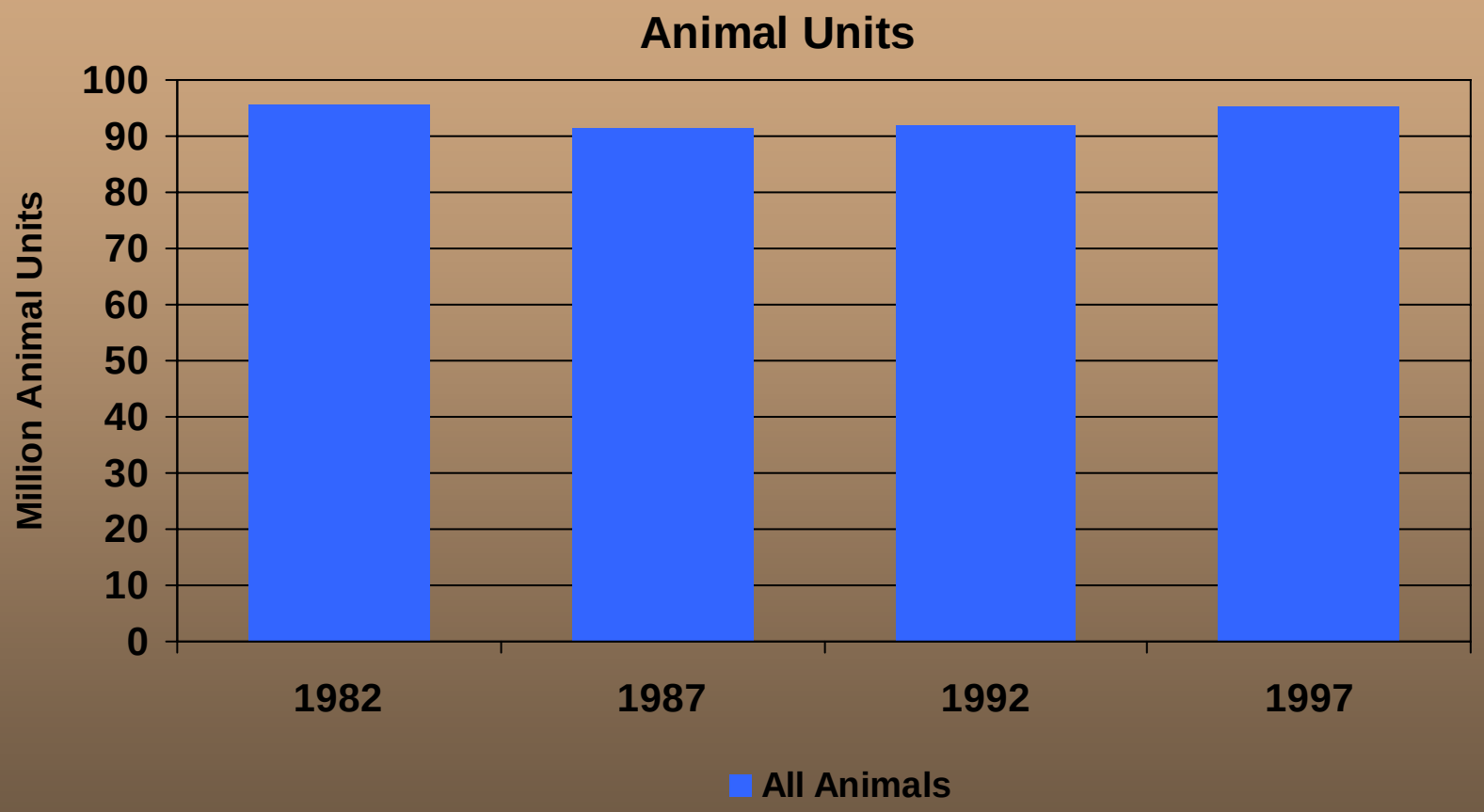
Linthicum Heights, Maryland

Numbers of farms, animals, & nutrients



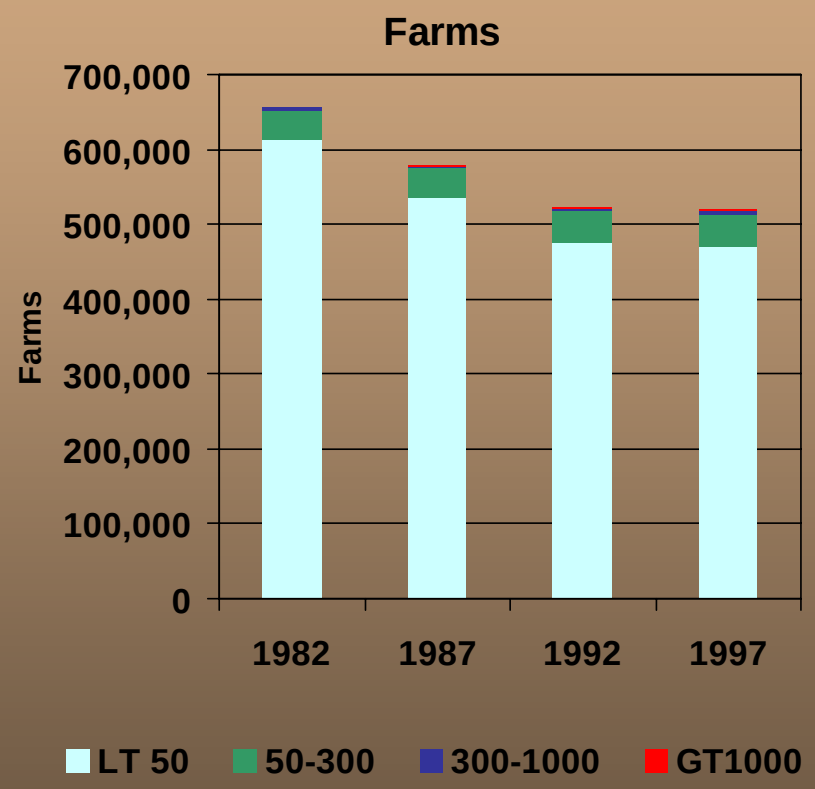
Source: Kellogg, *et al*., 2000

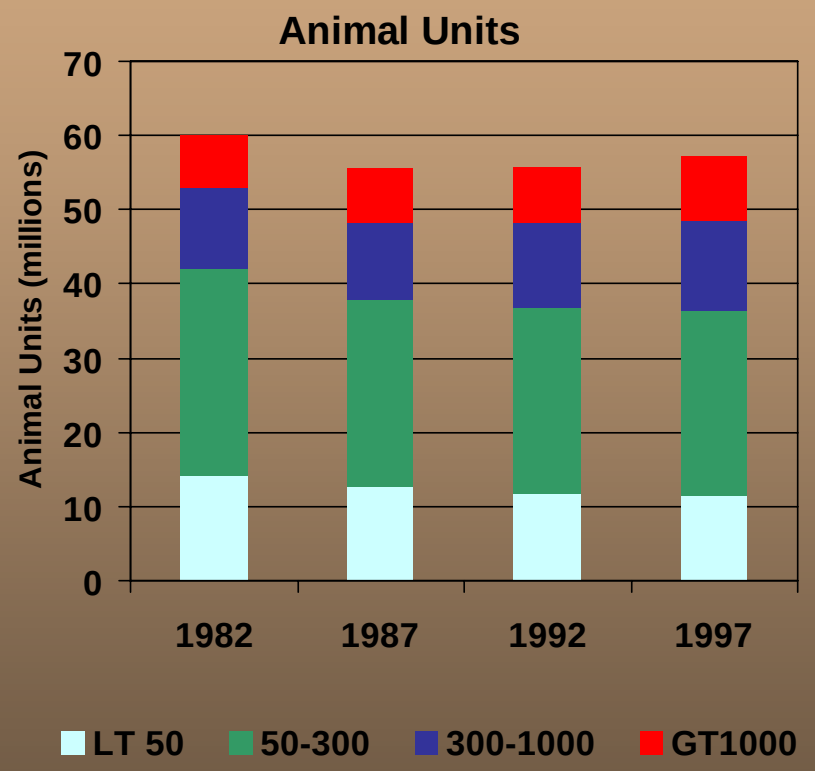
Numbers of farms, animals, & nutrients



Source: Kellogg, *et al*., 2000

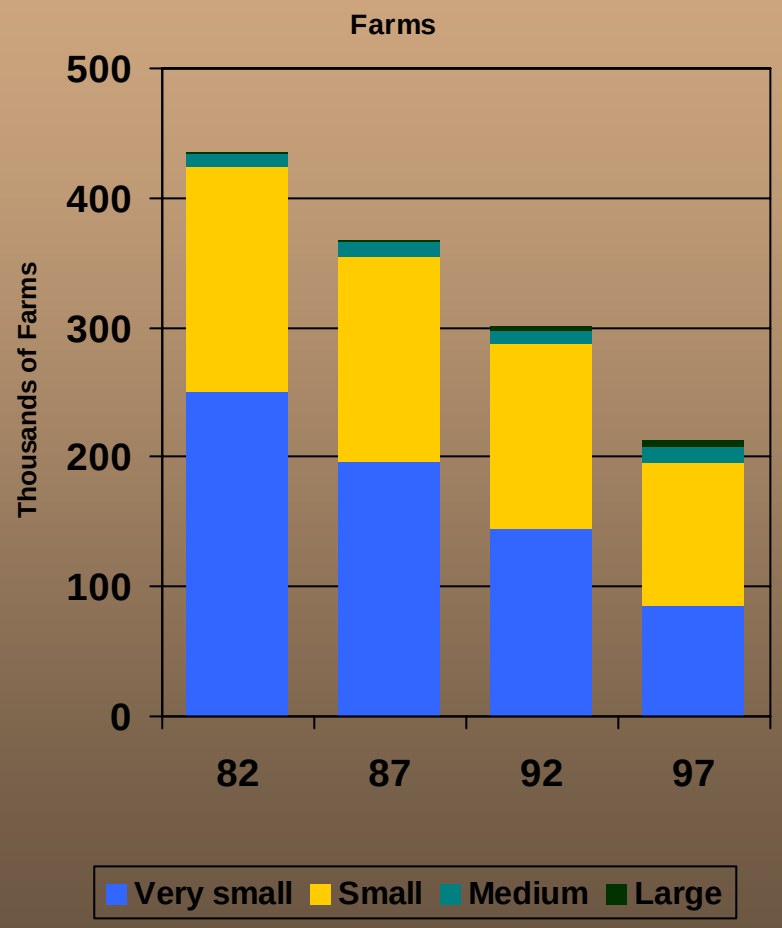
Non-confined animals: Farms and AU

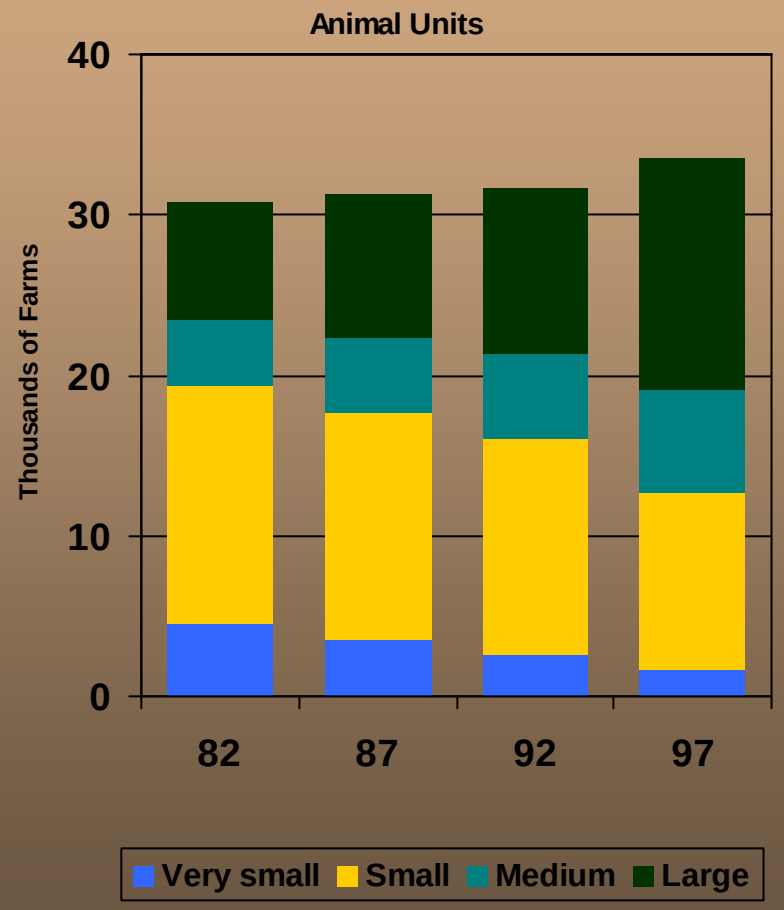




Source: Kellogg, *et al*., 2000

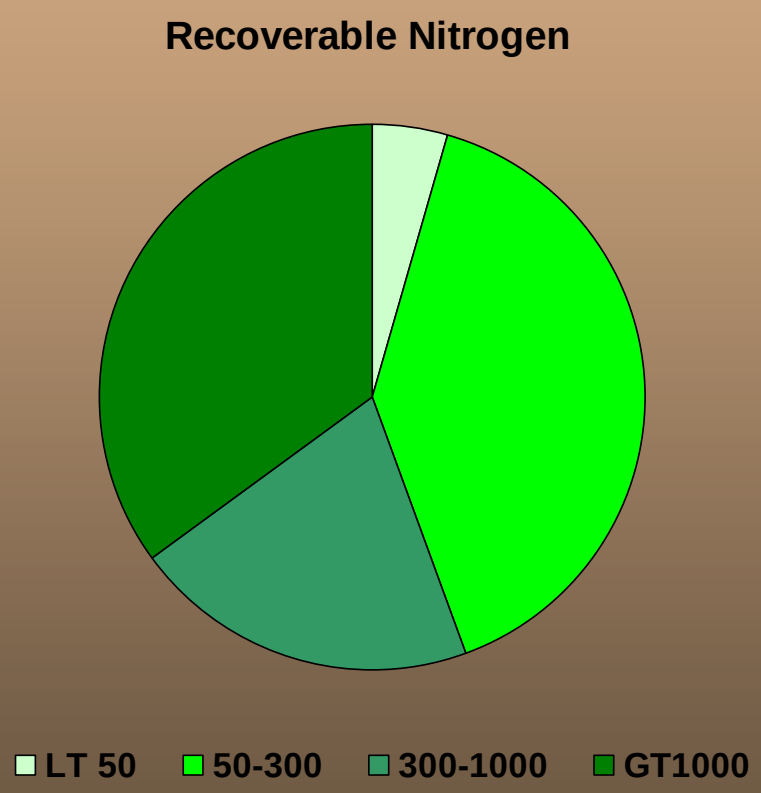
Confined animals: Farms and AU

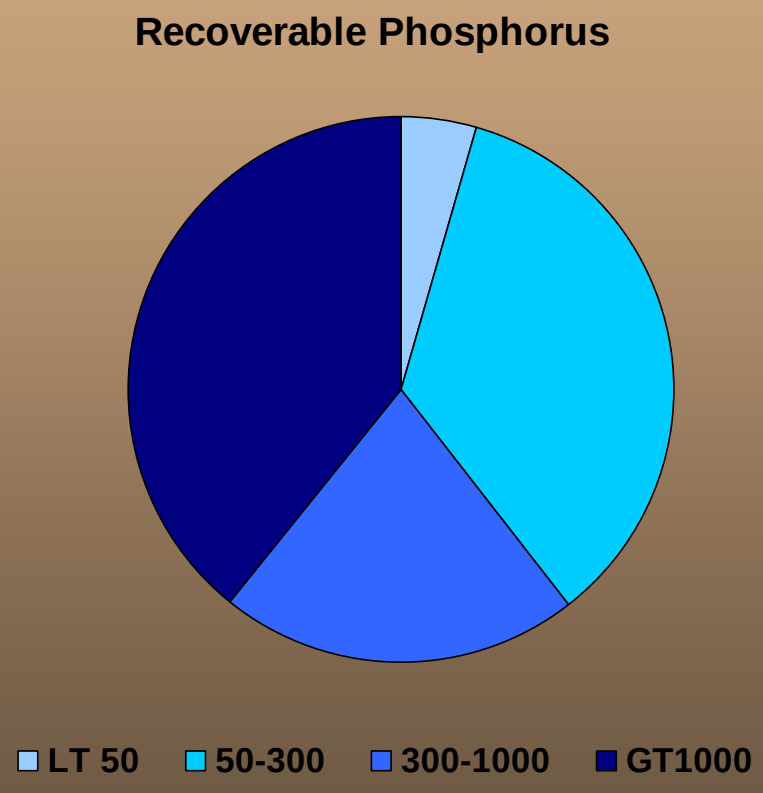




Source: Gollehon, *et al*., 2001

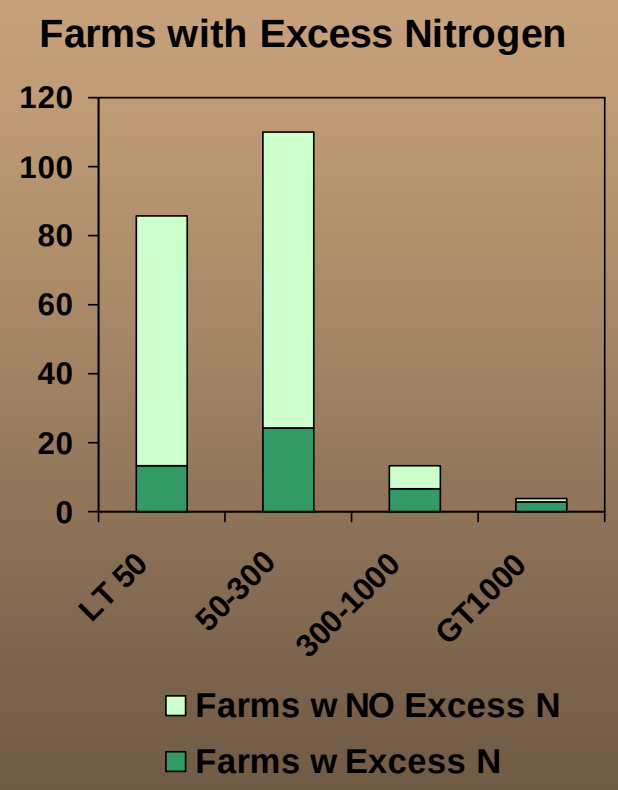
Confined animals: Manure nutrients

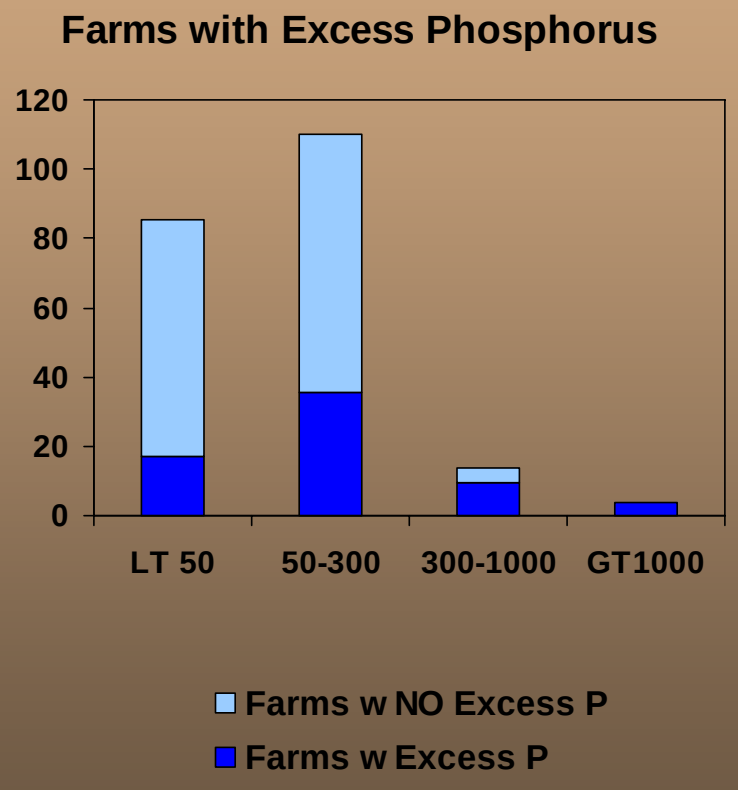




Source: Gollehon, *et al*., 2001

Confined animals: Farms with excess manure





Source: Gollehon, *et al*., 2001

AFO Challenges

- More than half of recoverable nutrients
- 98% of animal operations
  - Over 700,000 farms
  - 150,000 farms 300-1000 AU
- Largely under the radar
- Balancing carrots and sticks
  - Few sticks if unregulated
  - Cost-share carrots are costly to implement and discourage of some producers

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AFO Take-home Points

- **Nutrient planning essential**
  - **AFO's with enough land need better utilization**
  - **AFO's with excess nutrients need to plan beyond the farm borders**
- **Educational programs important**
  - **Too many to regulate**
  - **Technical assistance programs costly**

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Bang-for-the-Buck Programming

- Results in water quality improvement
- Not so detail as to discourage adoption
- The producer understands:
  - Greatest water quality risk factors
  - Nutrient value of manure
  - BMPs and simple strategies to address both

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Are you going to lead or defend?