Office Hours

10/11/2024

Tom Butler, EPA

A day for decisions:

Manure Applications

Crop Yields

Industry Data

What goes into a decision?

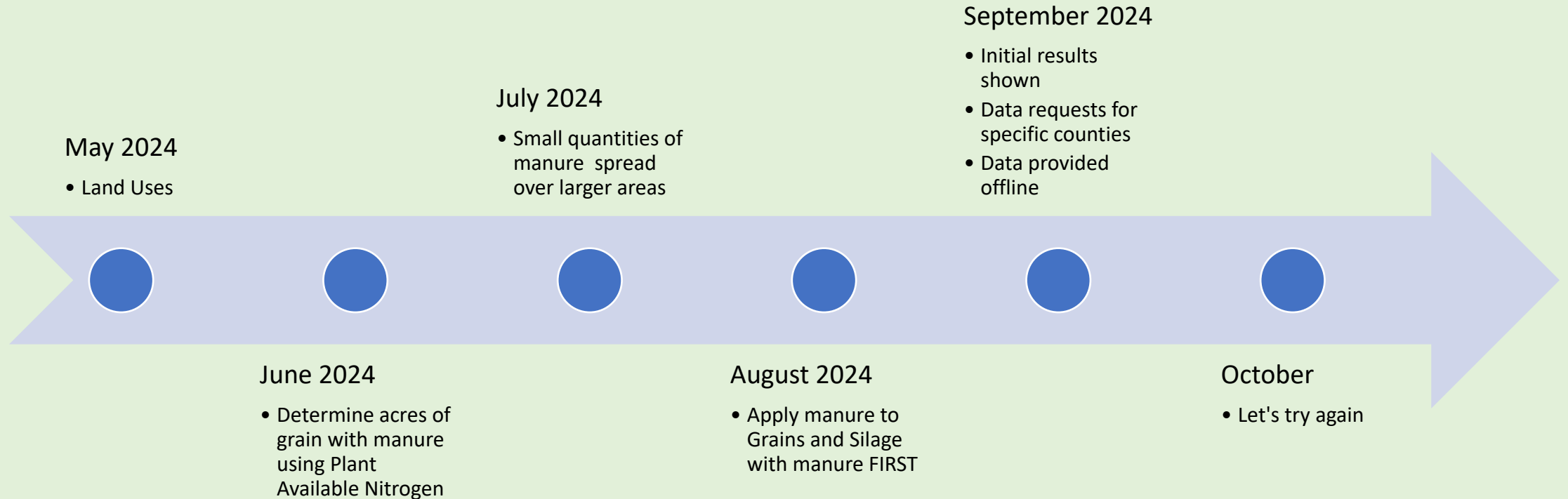- A statement is made

- Ask about objections

- If so, we call each voting member to get their comments
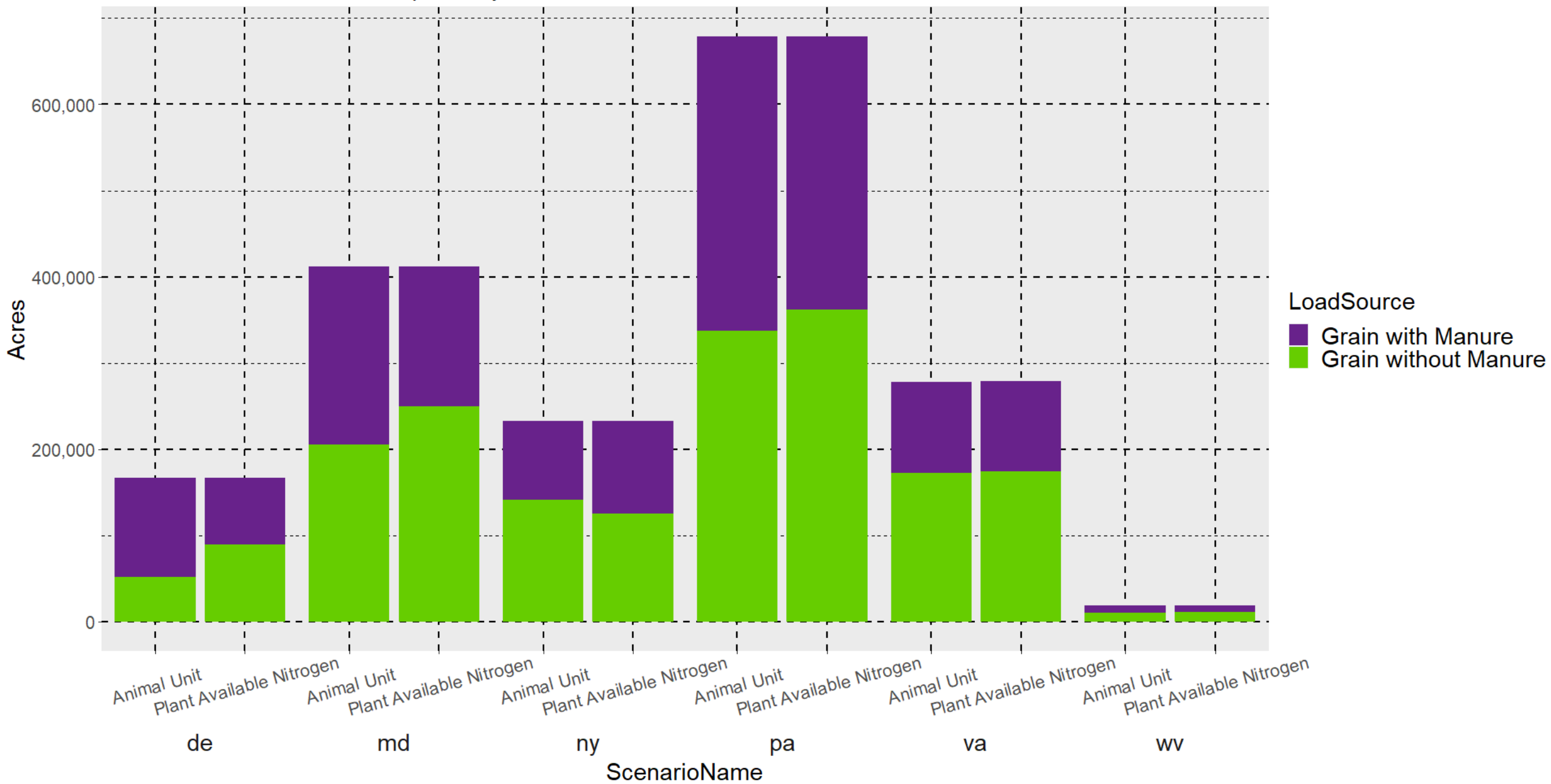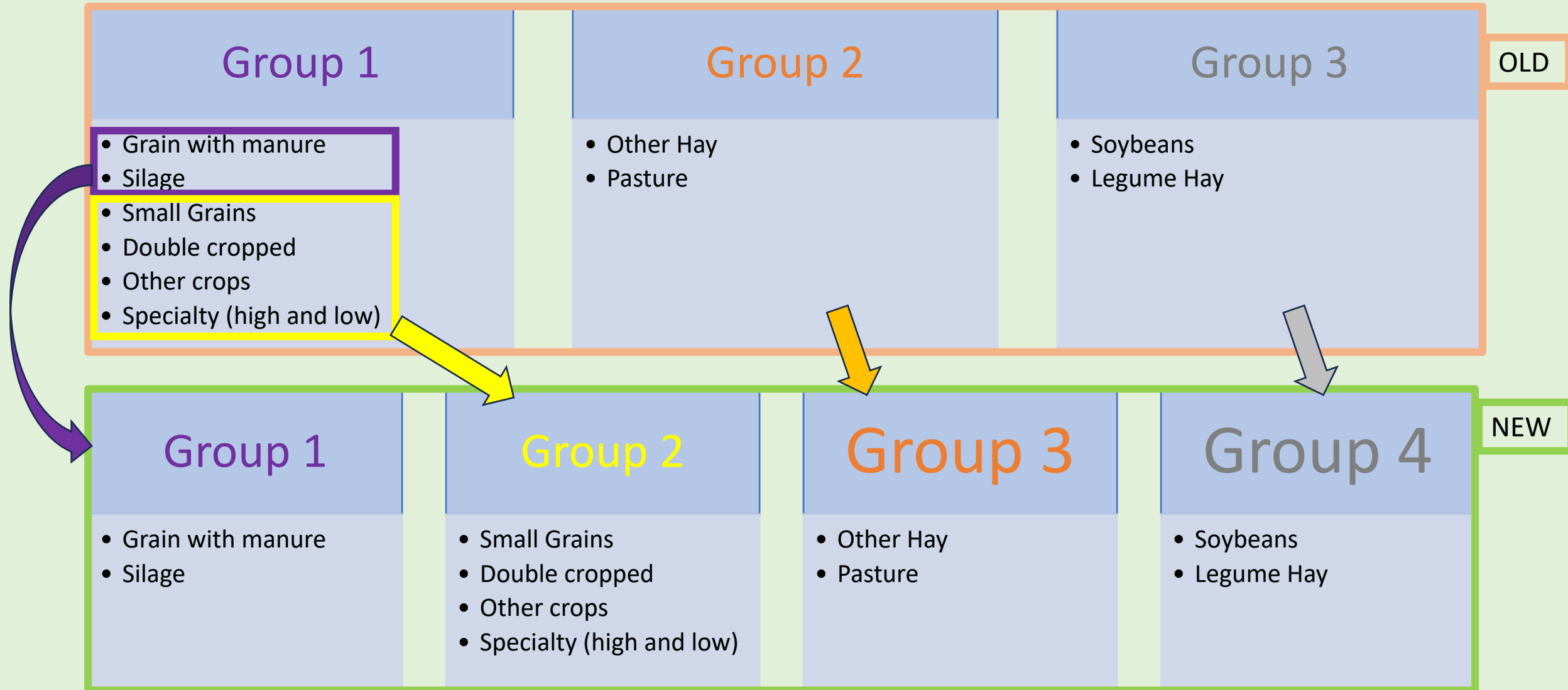
Consensus Continuum

Stop	Hold	Stand Aside	Agreement with Reservations	Endorsement
"I do not agree and feel the need to stand in the way of this decision"	"I believe more work is needed before we make a decision"	"I trust the group and will not block this decision but need to register my disagreement"	"I can live with it"	"I like it"
1	2	3	4	5

Manure applications

Setting the stage:

May 2024
- Land Uses

June 2024
- Determine acres of grain with manure using Plant Available Nitrogen

July 2024
- Small quantities of manure spread over larger areas

August 2024
- Apply manure to Grains and Silage with manure FIRST

September 2024
- Initial results shown
- Data requests for specific counties
- Data provided offline

October
- Let's try again

AU vs PAN Grains acres compared by state 2020

Recap:

Manure Applications

Proposed decisions:

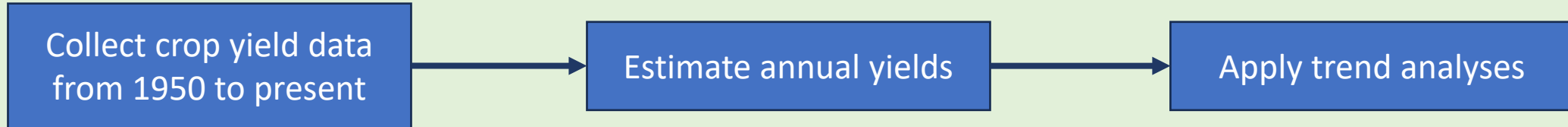|	
Should the acres of Grains with Manure should be determined using Plant Available Nitrogen?	*Should the manure spread algorithm be modified to create a fourth group as shown in this presentation?*

Crop Yields

Path of investigation

Goals:
- Estimate farmer yield expectations at the county level which drive the application of nutrients.
- Estimate various yield trends to support potential scenarios.


USDA Census and Survey data
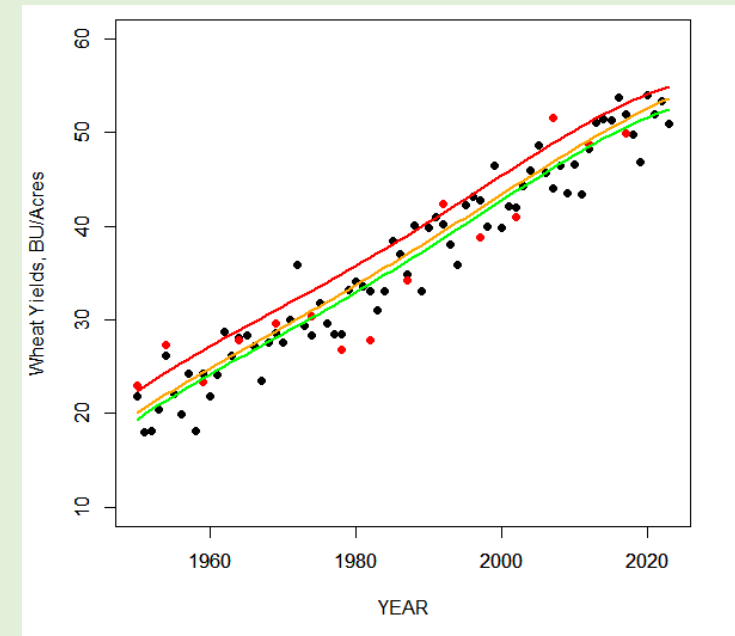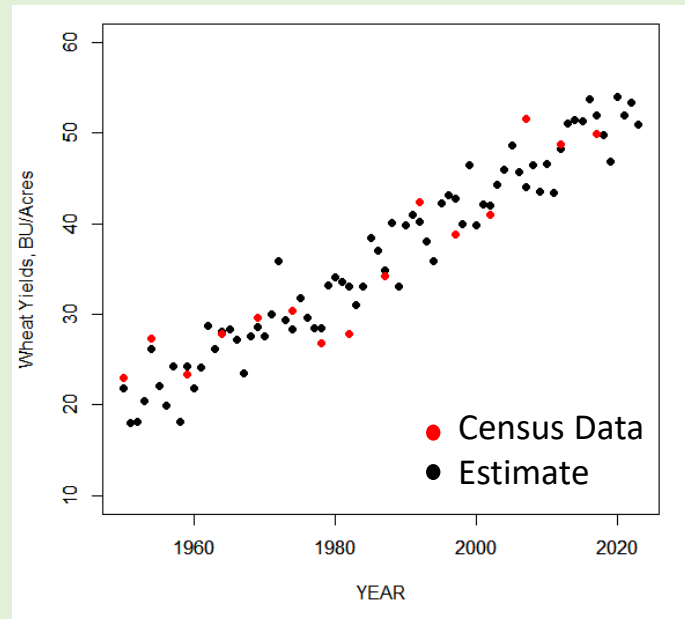
Continued improvements

- Aggregating to the growth region was done to improve data quality over the largest number of counties and crops where data at the individual county can be unreliable.

- HOWEVER, this has resulted in predicted yields which are (much) too low for counties which have high yields relative to their growth region.

- Because counties with high relative yields are also likely to have more acres this issue skews the watershed wide demand for N application down as well.

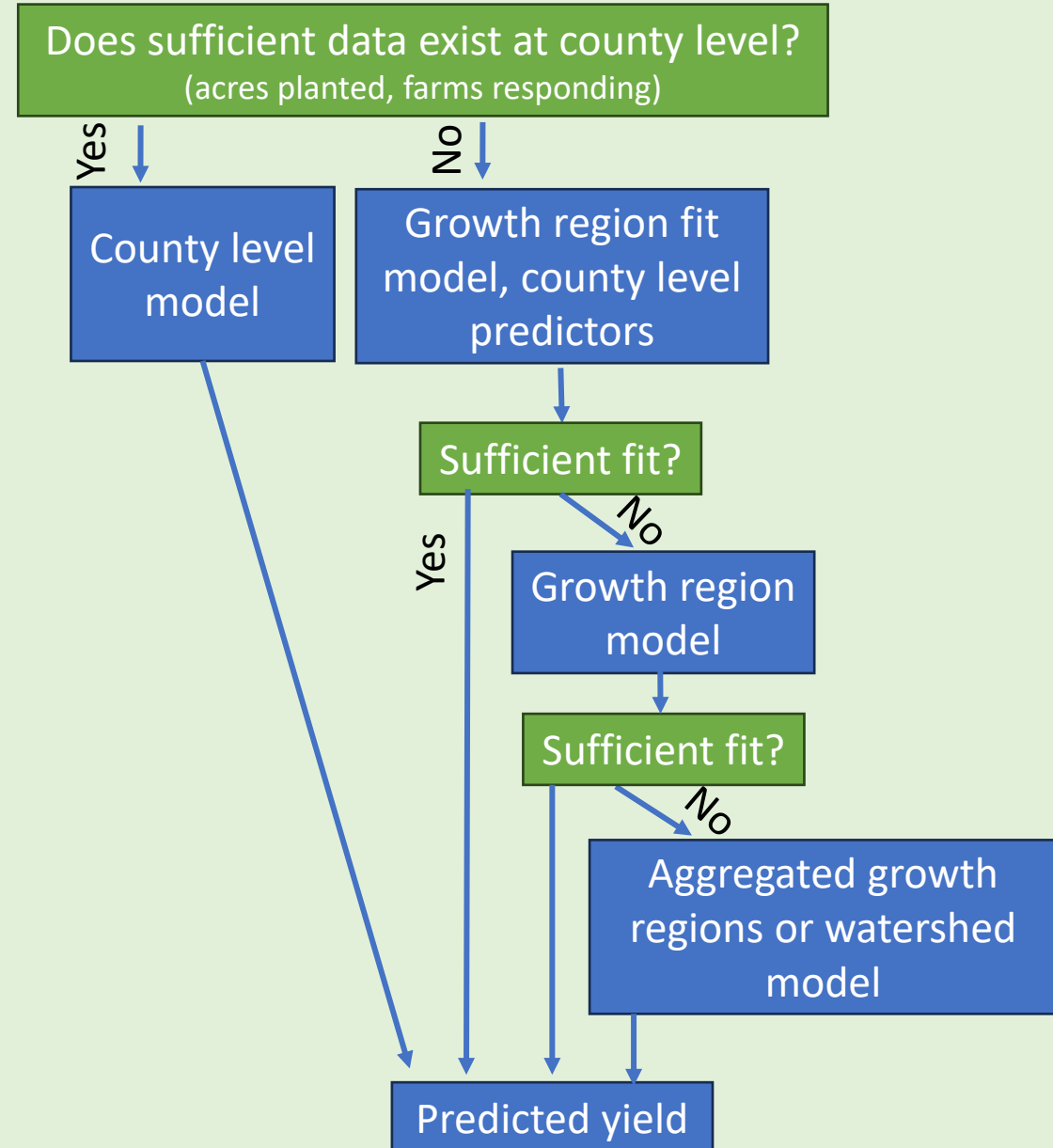Lancaster PA yields are <u>40%</u> higher than the growth region average
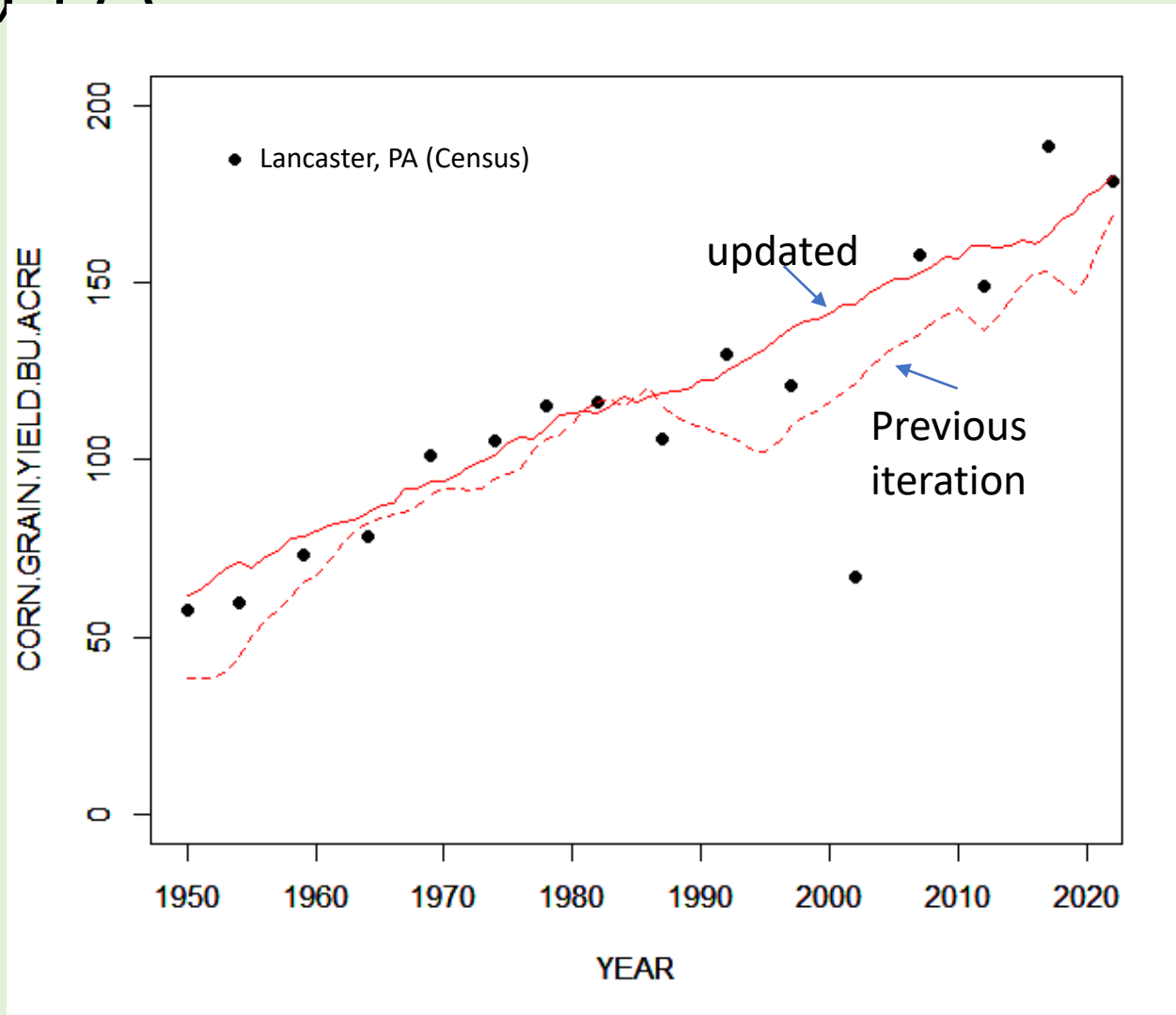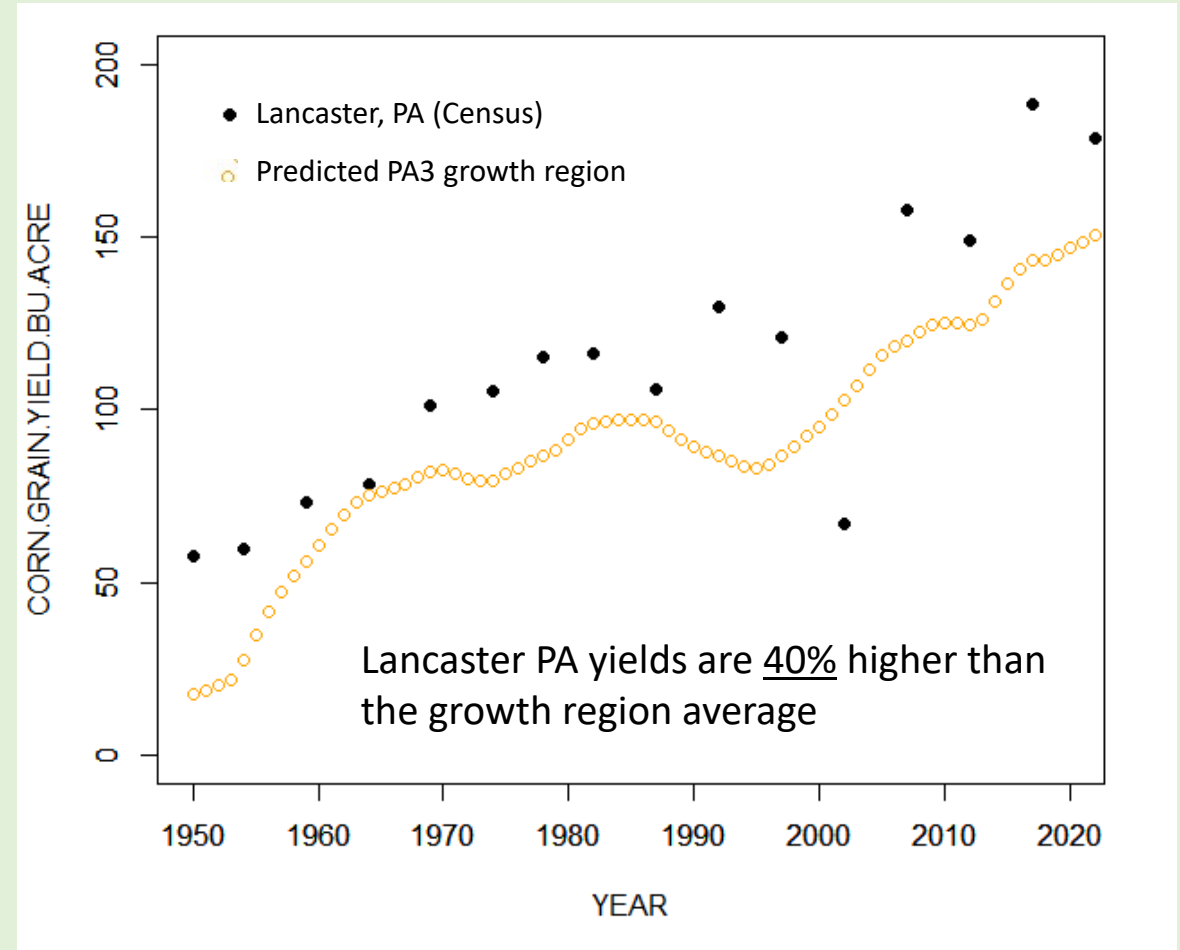
Solution

Joseph's current method
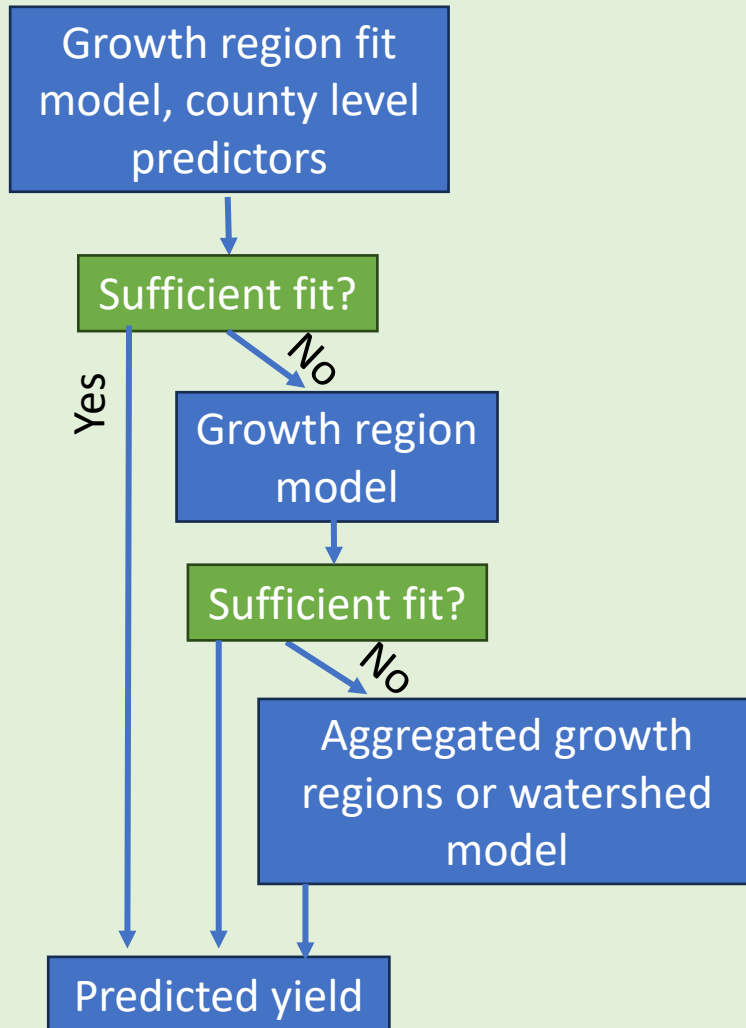
Joseph's proposed solution

Preliminary results of proposed solution for Lancaster, PA

Expected yields must not go down (for some crops)

- The expected yield for large crops (e.g., Corn, Soybeans) with historically positive trends does not likely decrease
  - This has not been applied in the results shown, but will be applied to select crops based on watershed trend in next revision
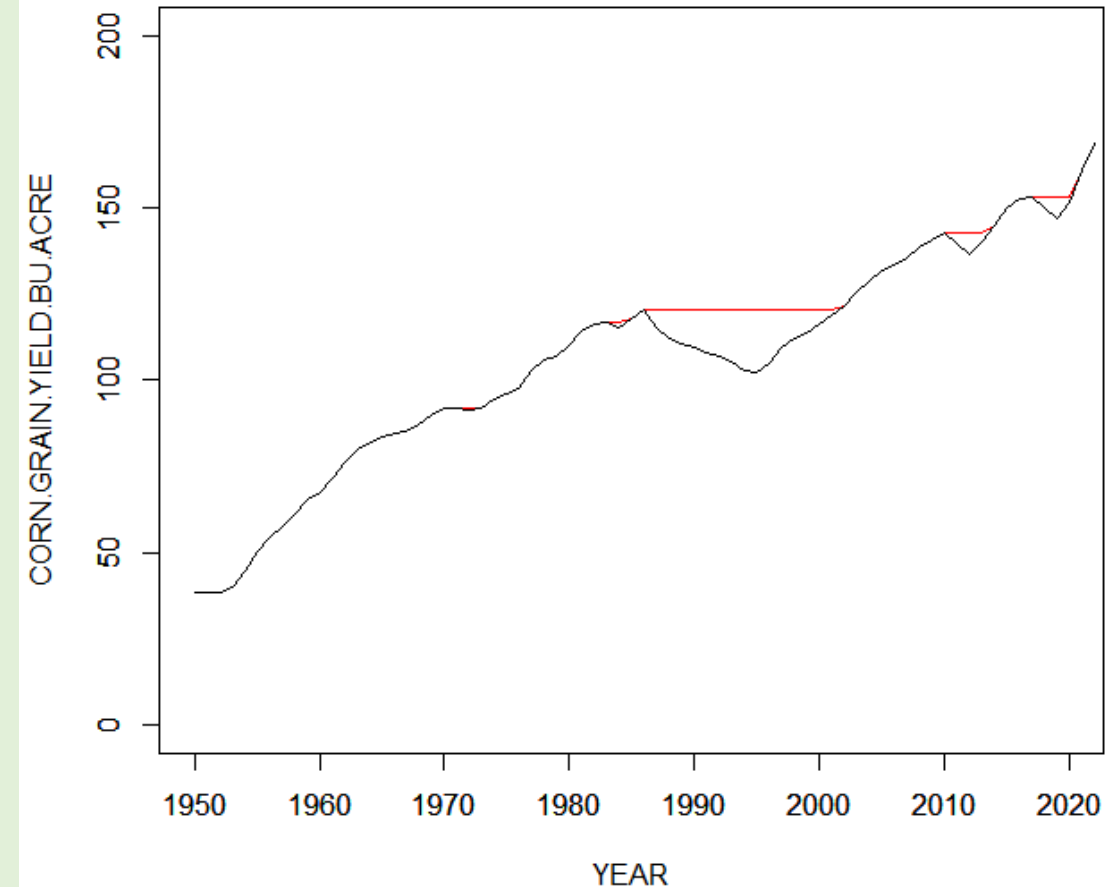
Progress with a subset of crops:

- alfalfa hay
- barley for grain
- corn for silage or greenchop
- sorghum for grain
- soybeans for beans
- wheat for grain

- soybeans for beans
- corn for grain
- sorghum for grain
- corn for grain
- sorghum for grain

Crop Yields

Proposed decisions:

Should this new statistical framework be used to determine long term crop yield trends?

Industry Data

Commercial Agricultural Production Data

Poultry Litter Subcommittee (PLS) – (2011-2014)

Agricultural Modeling Subcommittee (AMS) – 2015

Manure Treatment Technology Expert Panel Report - 2016

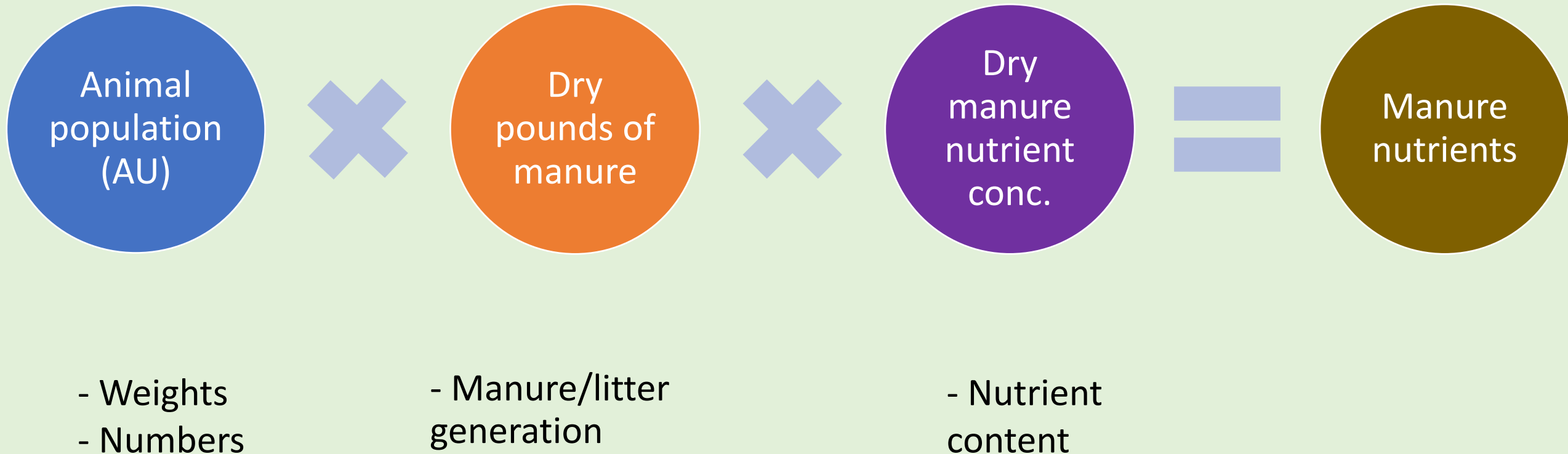Virginia Tech Turkey Litter Manure Nutrient Generation Research Project – 2016

Penn State University/Virginia Tech Swine Manure Nutrient Generation Research Project – 2016

University of Maryland/CBPO Commercial Layer Production Research – 2021

Calculating manure nutrients

Animal population (AU) ✖ Dry pounds of manure ✖ Dry manure nutrient conc. ＝ Manure nutrients

Poultry Industry Input

Animal population (AU) × Dry pounds of manure × Dry manure nutrient conc. = Manure nutrients

- Weights
- Numbers

- Manure/litter generation

- Nutrient content

Industry Data

Proposed decisions:

Should new data sources from the poultry industry be incorporated into nutrients calculations in CAST?

Questions?

Thank you for attending office hours!

We will begin our main meeting at 09:00.