

Manure Applications

9/13/2024

Tom Butler, EPA

Setting the stage:

May 2024

- Land Uses

July 2024

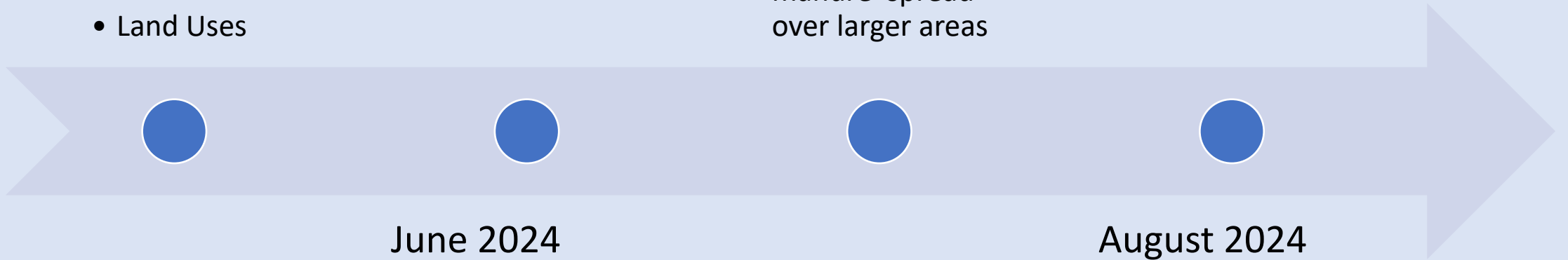
- Small quantities of manure spread over larger areas

June 2024

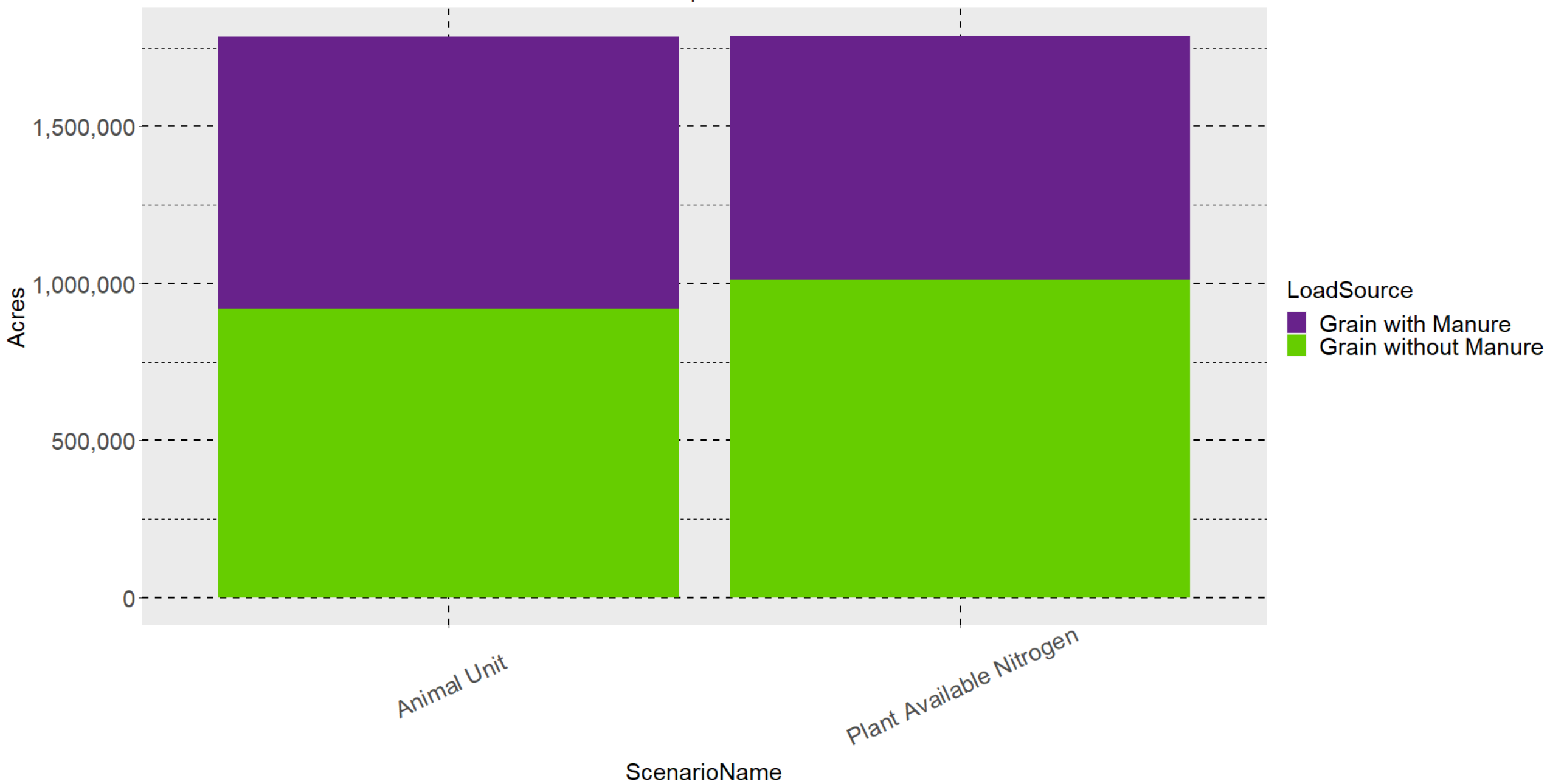
- Determine acres of grain with manure using Plant Available Nitrogen

August 2024

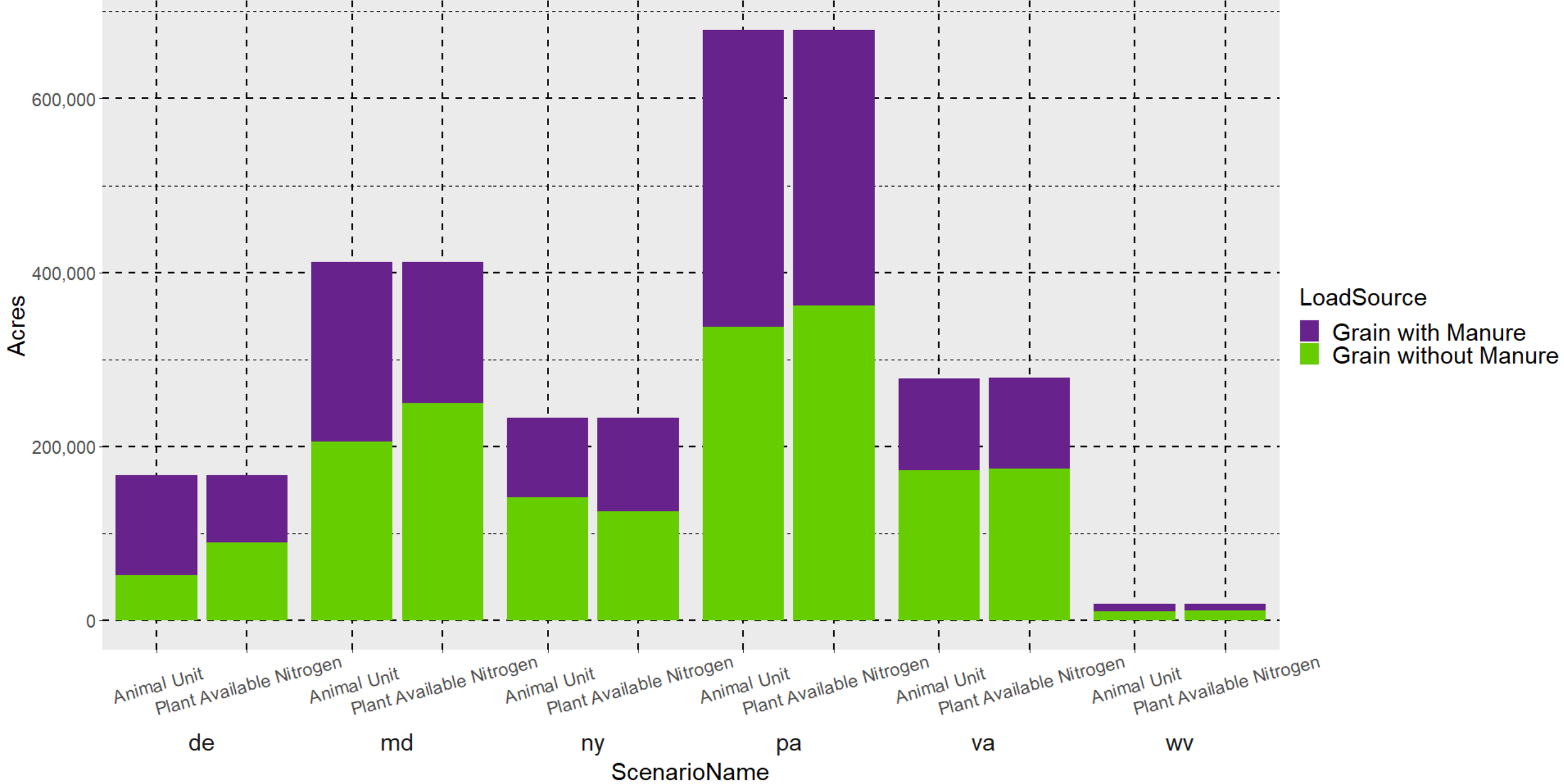
- Apply manure to Grains and Silage with manure FIRST



Total Acres for the watershed PAN vs AU acres compared 2020



AU vs PAN Grains acres compared by state 2020



Recap:

Group 1

- Grain with manure
- Silage
- Small Grains
- Double cropped
- Other crops
- Specialty (high and low)

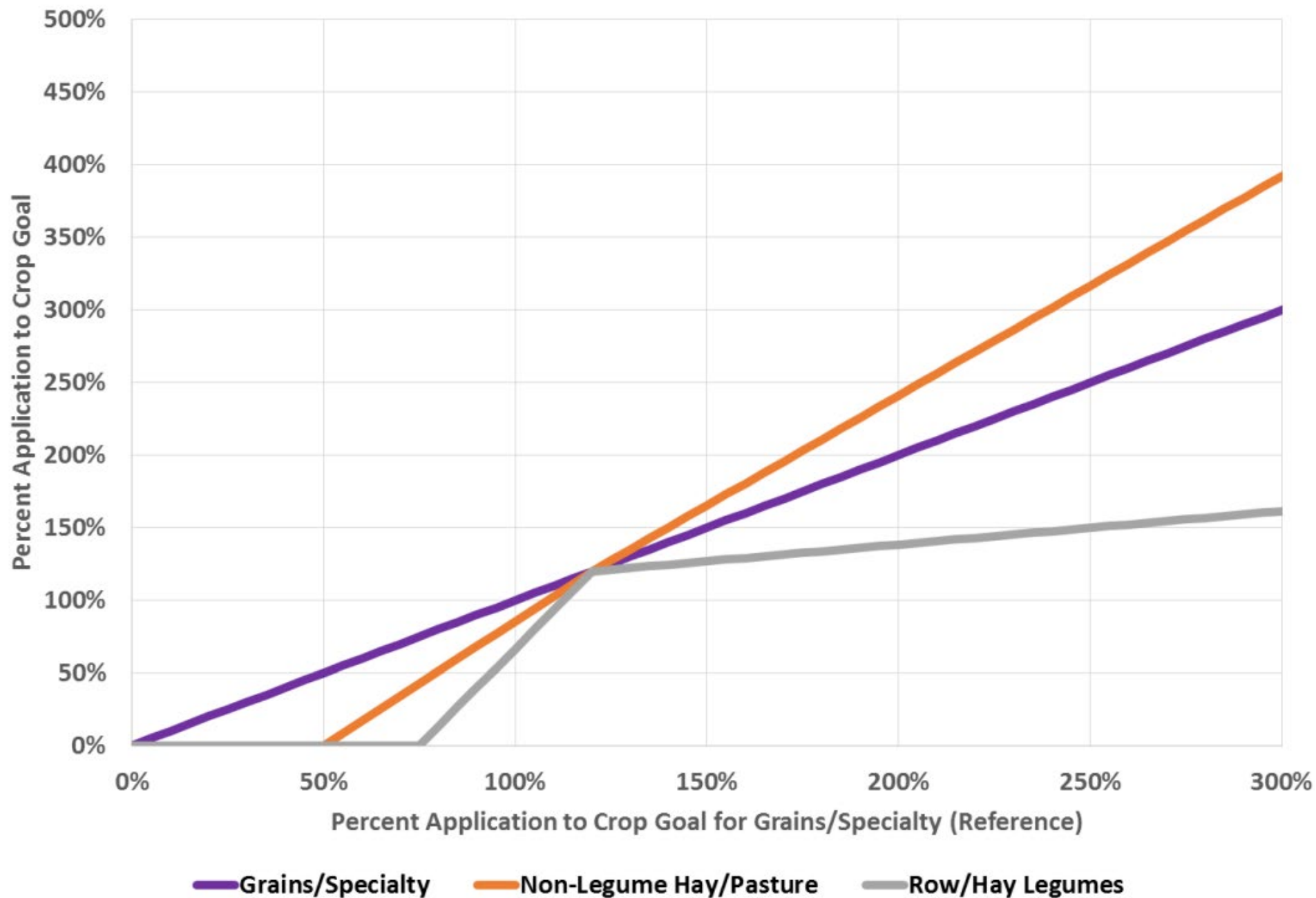
Group 2

- Other Hay
- Pasture

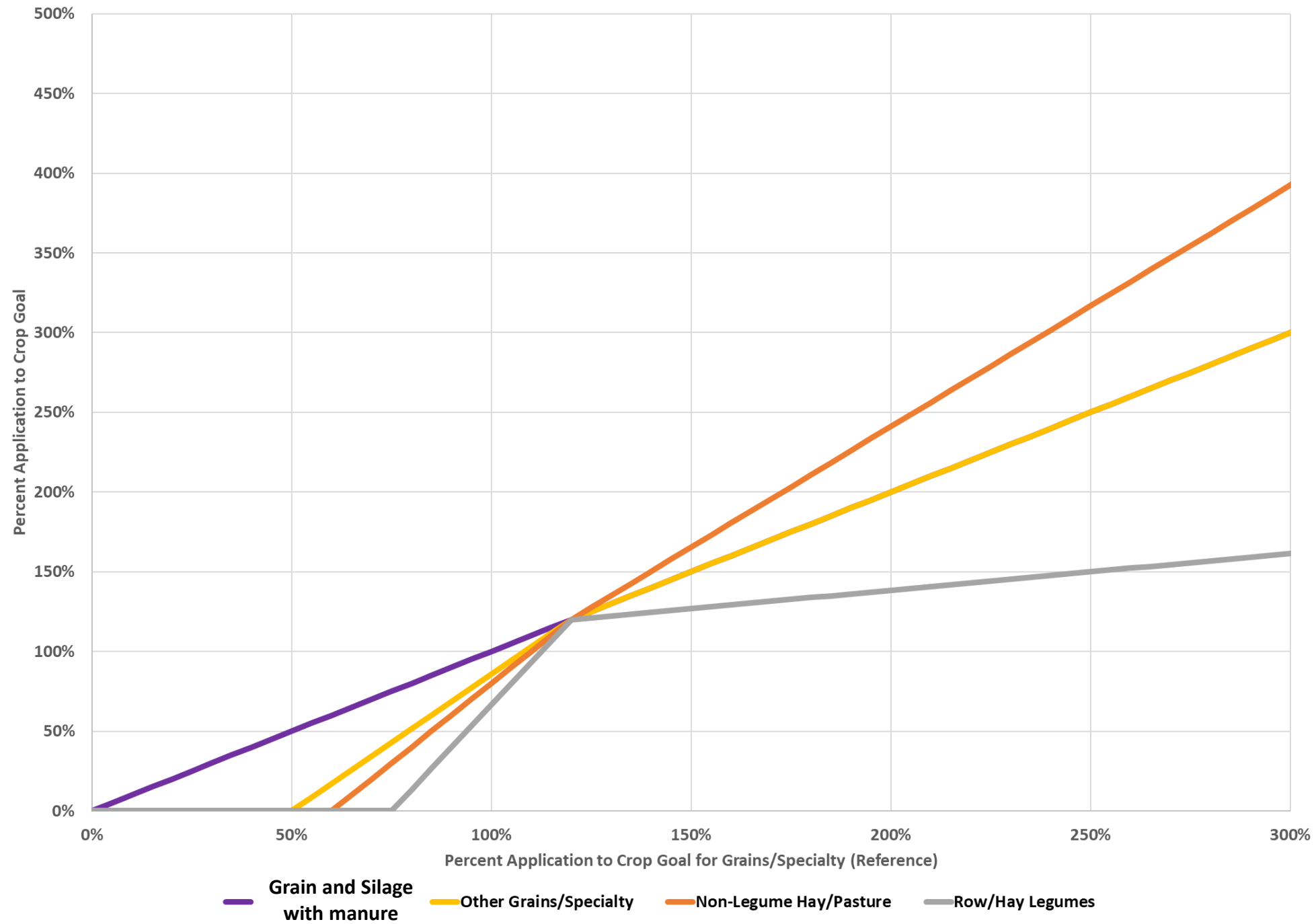
Group 3

- Soybeans
- Legume Hay

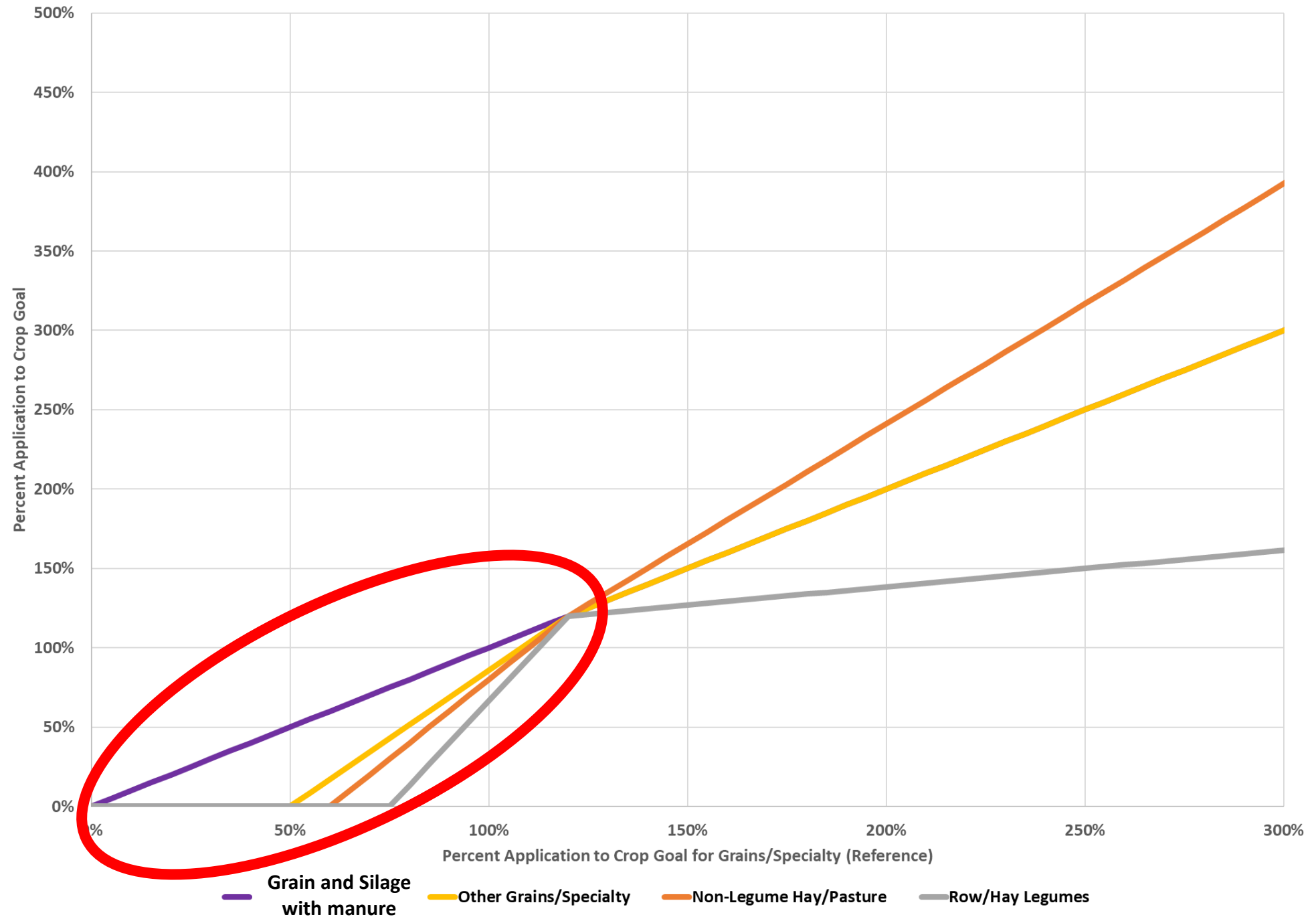
Nutrient Spread Slopes for Manure N



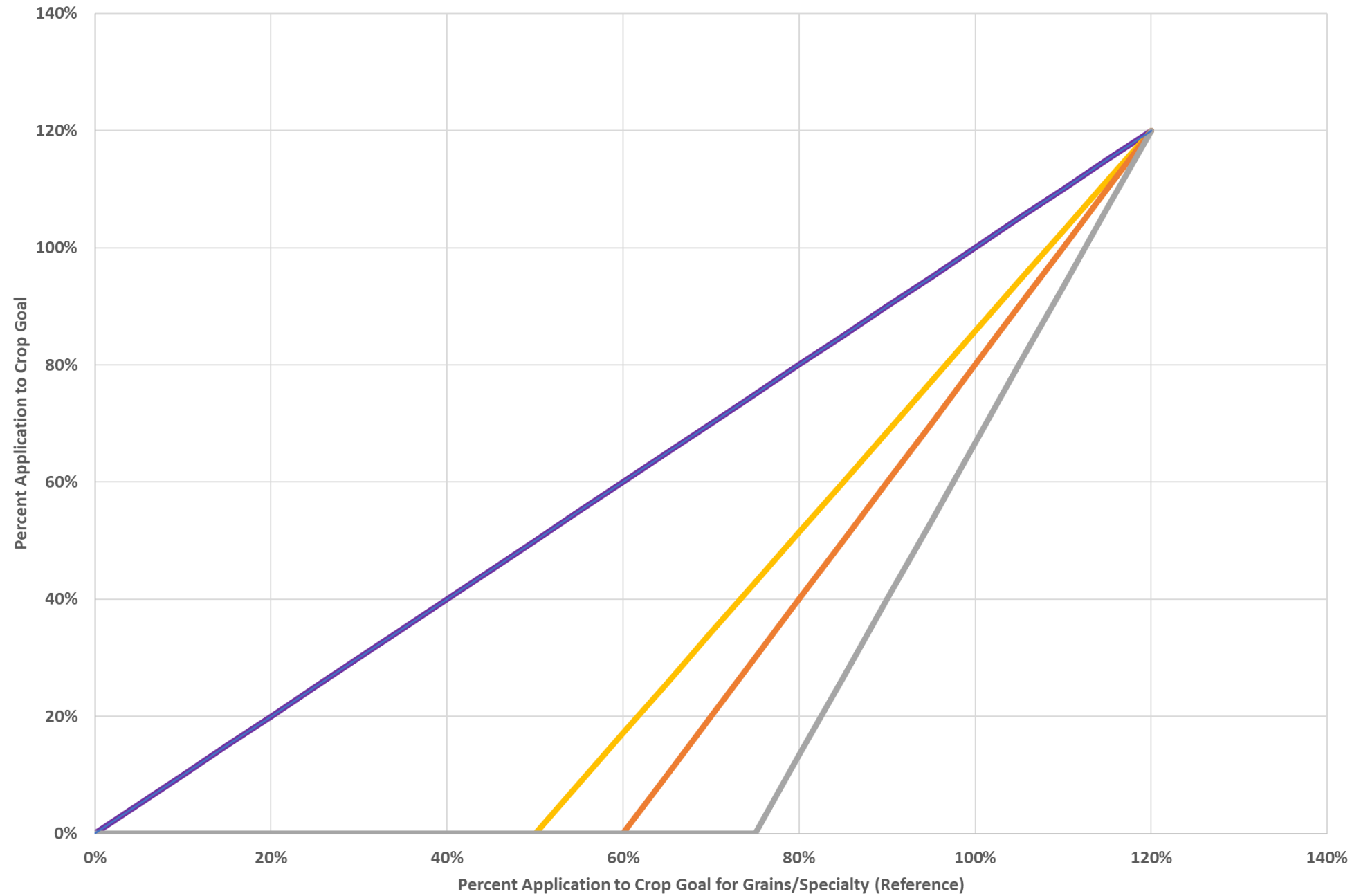
Nutrient Spread Slopes for Manure N



Nutrient Spread Slopes for Manure N



Nutrient Spread Slopes for Manure N



Grain and Silage with manure **Other Grains/Specialty** **Non-Legume Hay/Pasture** **Row/Hay Legumes** **Specialty Reference**

Recap:

Group 1

- Grain with manure
- Silage
- Small Grains
- Double cropped
- Other crops
- Specialty (high and low)

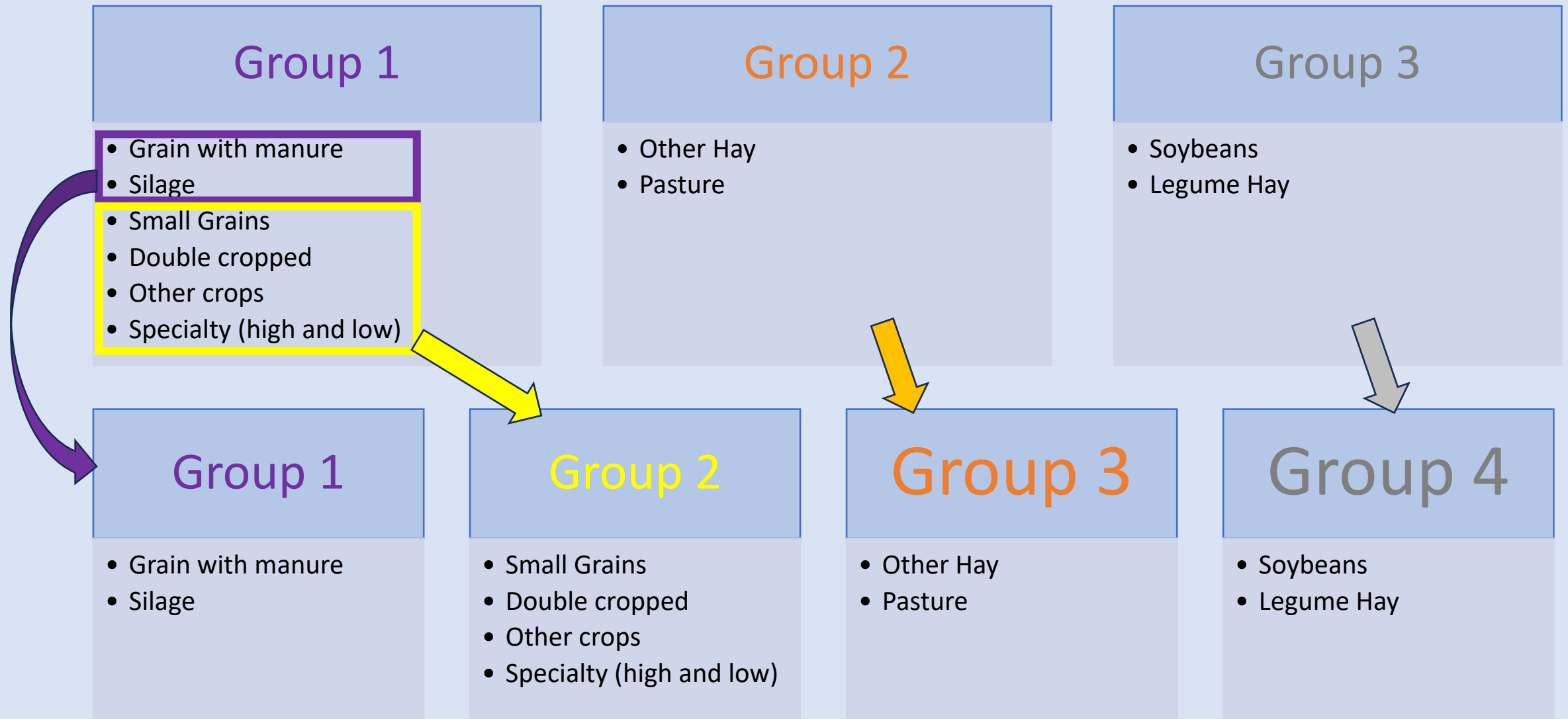
Group 2

- Other Hay
- Pasture

Group 3

- Soybeans
- Legume Hay

Recap:



Recap: Final groupings

Group 1

- Grain with manure
- Silage

Group 2

- Small Grains
- Double cropped
- Other crops
- Specialty (high and low)

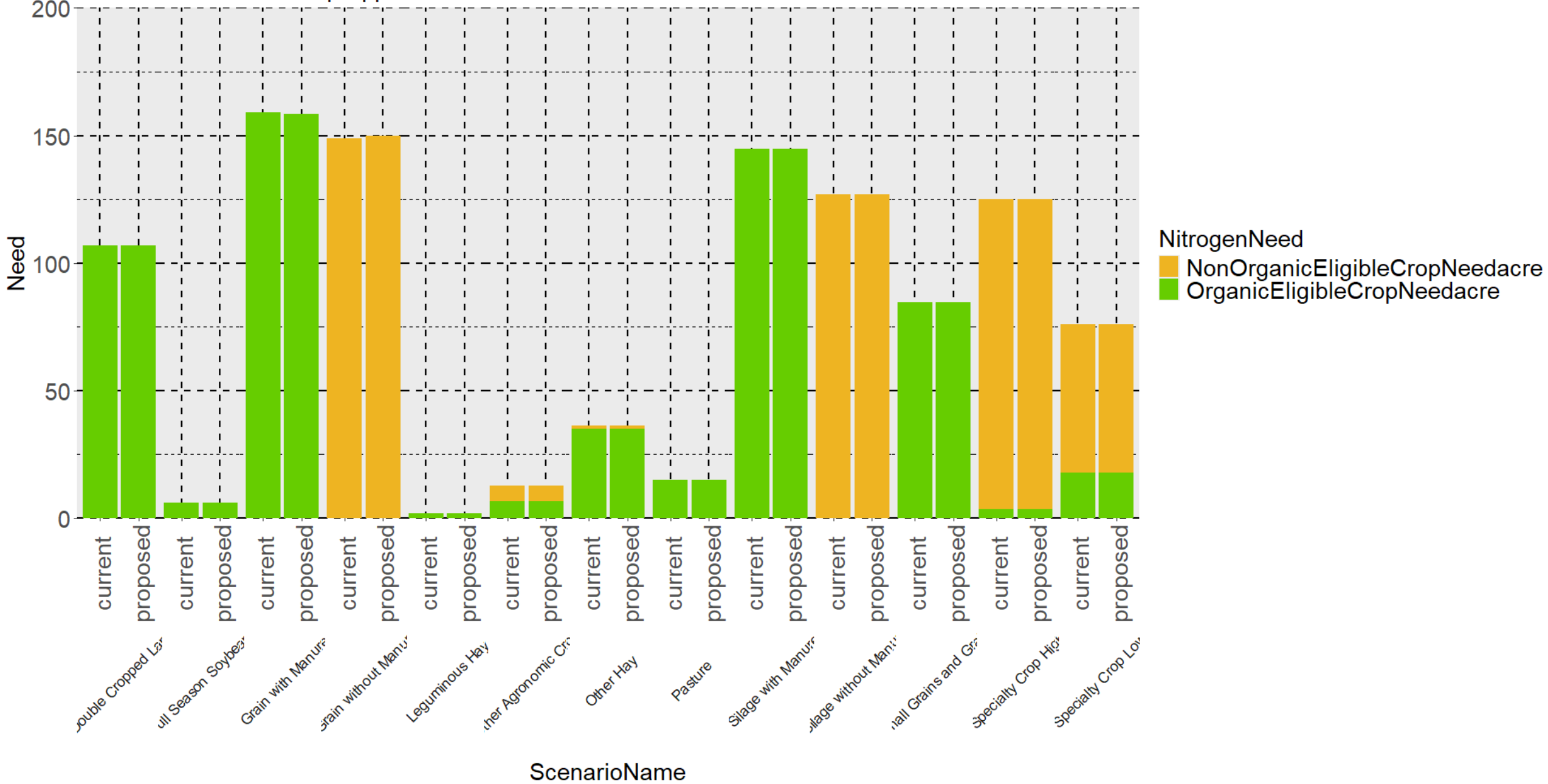
Group 3

- Other Hay
- Pasture

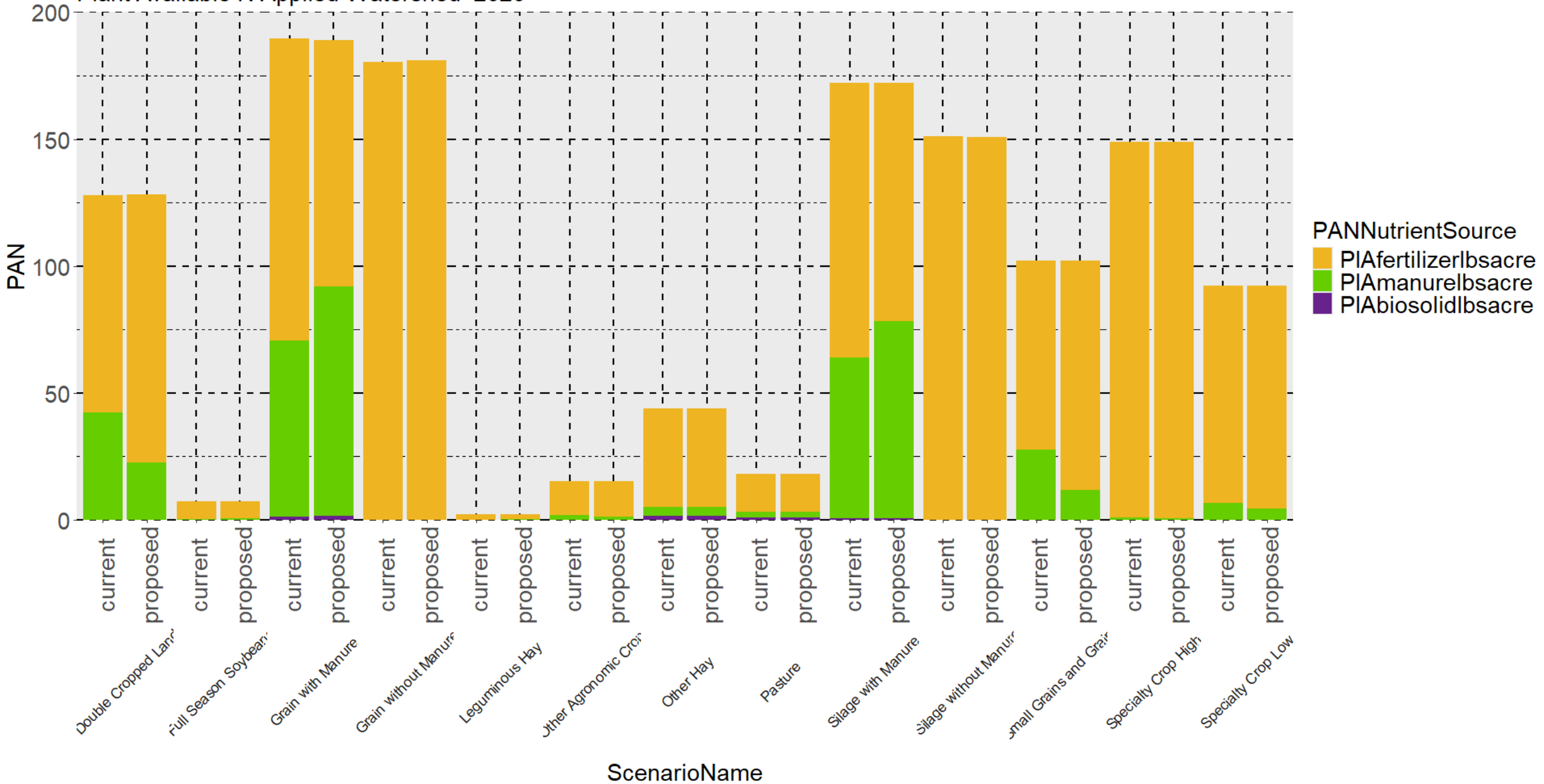
Group 4

- Soybeans
- Legume Hay

CAST Calculated N Crop Application Waterhsed 2020



Plant Available N Applied Watershed 2020



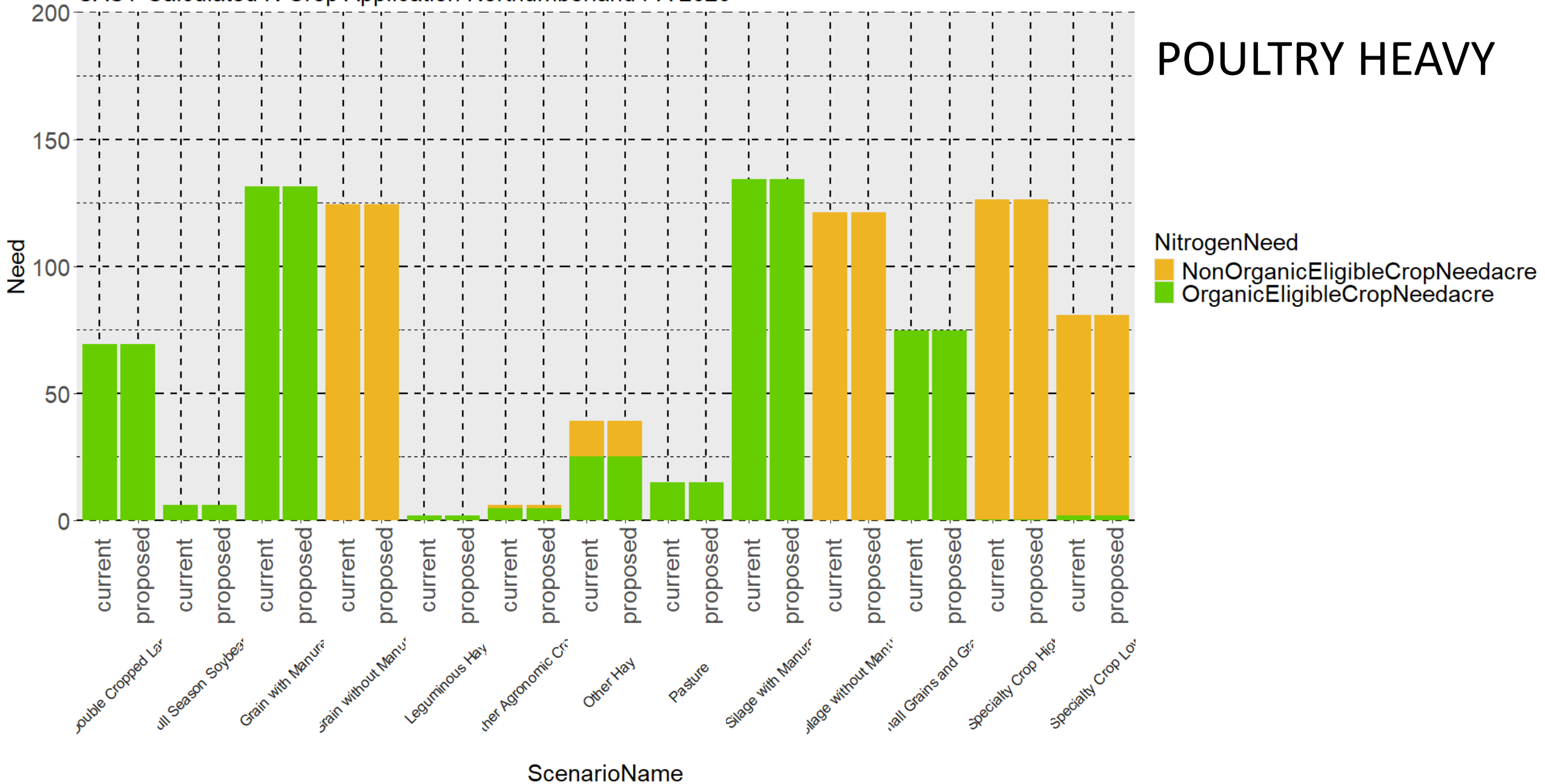
What about a few counties?

	POULTRY HEAVY*	DAIRY HEAVY**	POULTRY HEAVY*	DAIRY HEAVY**
Animal	Northumberland, PA Animal Units	Steuben, NY Animal Units	Northumberland, PA Stored PAN Lbs	Steuben, NY Stored PAN Lbs
dairy	5,820	28,608	166,795	880,136
layers	3,747	4,301	379,718	435,831
beef	2,133	8,191	14,768	111,974
broilers	27,785	2	252,542	23
goats	36	31	363	310
hogs and pigs for breeding	1,504	121	62,573	5,035
hogs for slaughter	9,216	4,749	101,947	52,539
horses	1,368	4,499	2,059	10,995
other cattle	4,710	13,409	38,187	339,599
pullets	270	329	24,439	29,717
sheep and lambs	136	351	978	2,528
turkeys	8,664	4	86,257	39
Total Value:	65,389	64,595	1,130,626	1,868,726

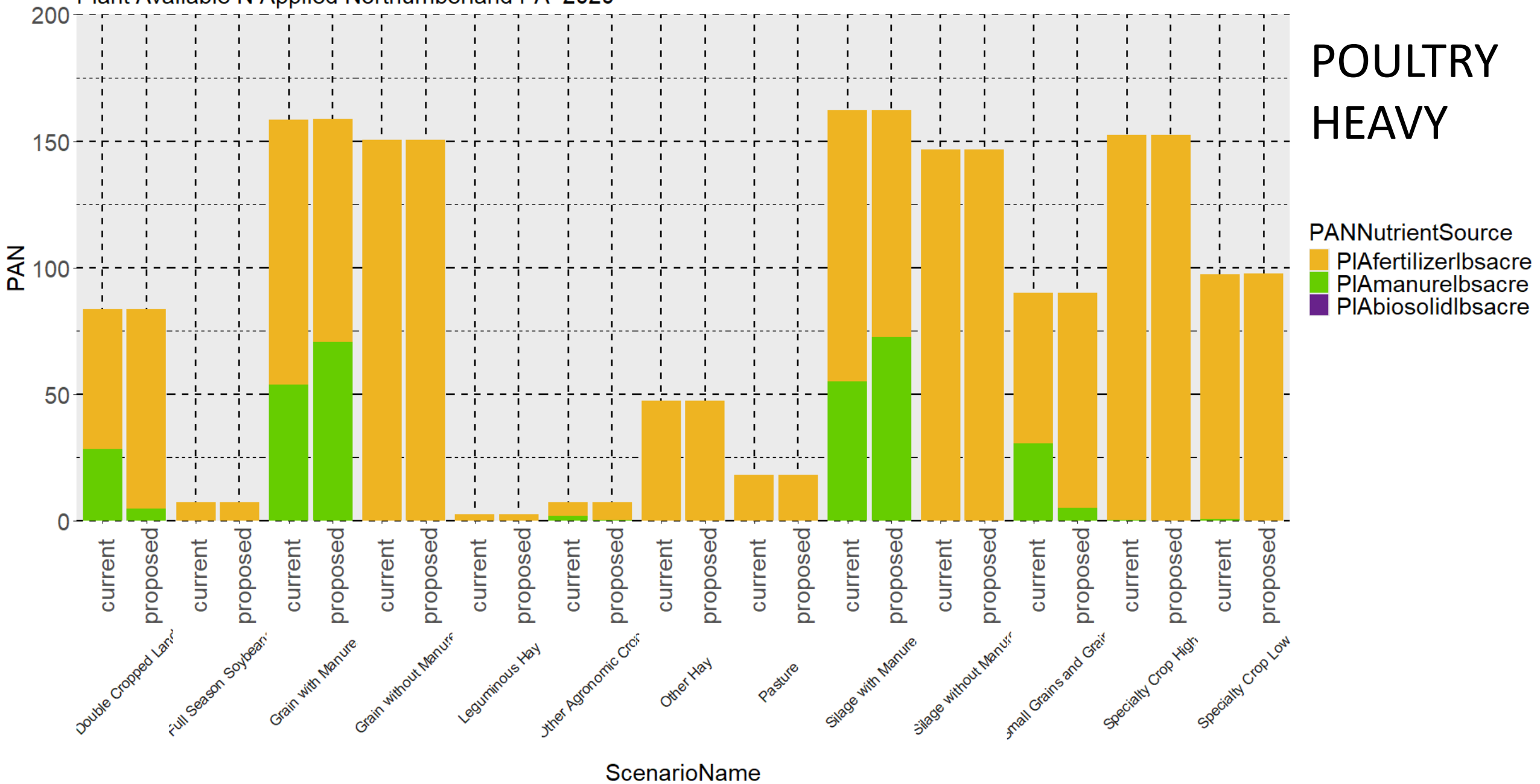
Poultry

- Northumberland, PA

CAST Calculated N Crop Application Northumberland PA 2020



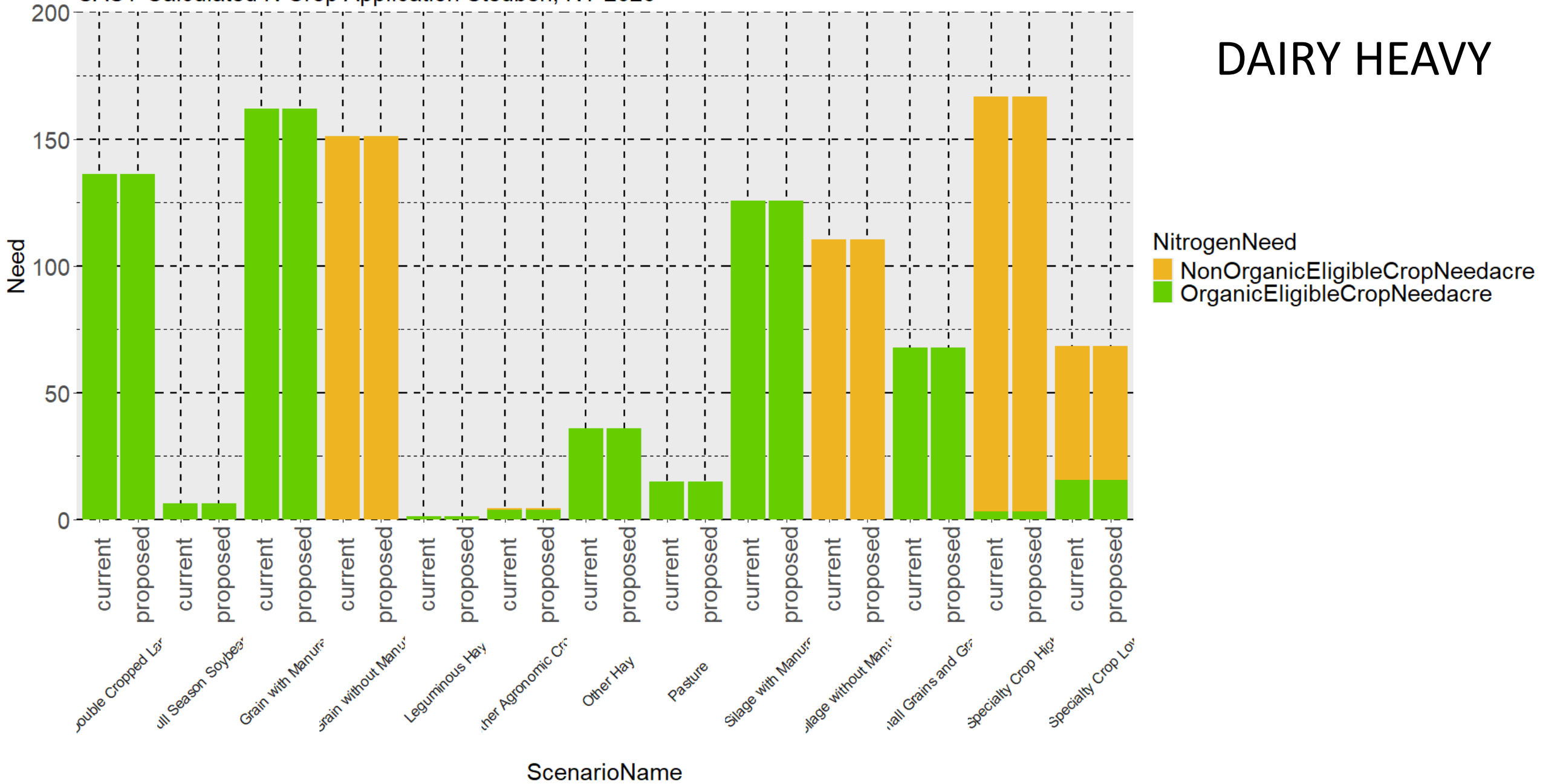
Plant Available N Applied Northumberland PA 2020



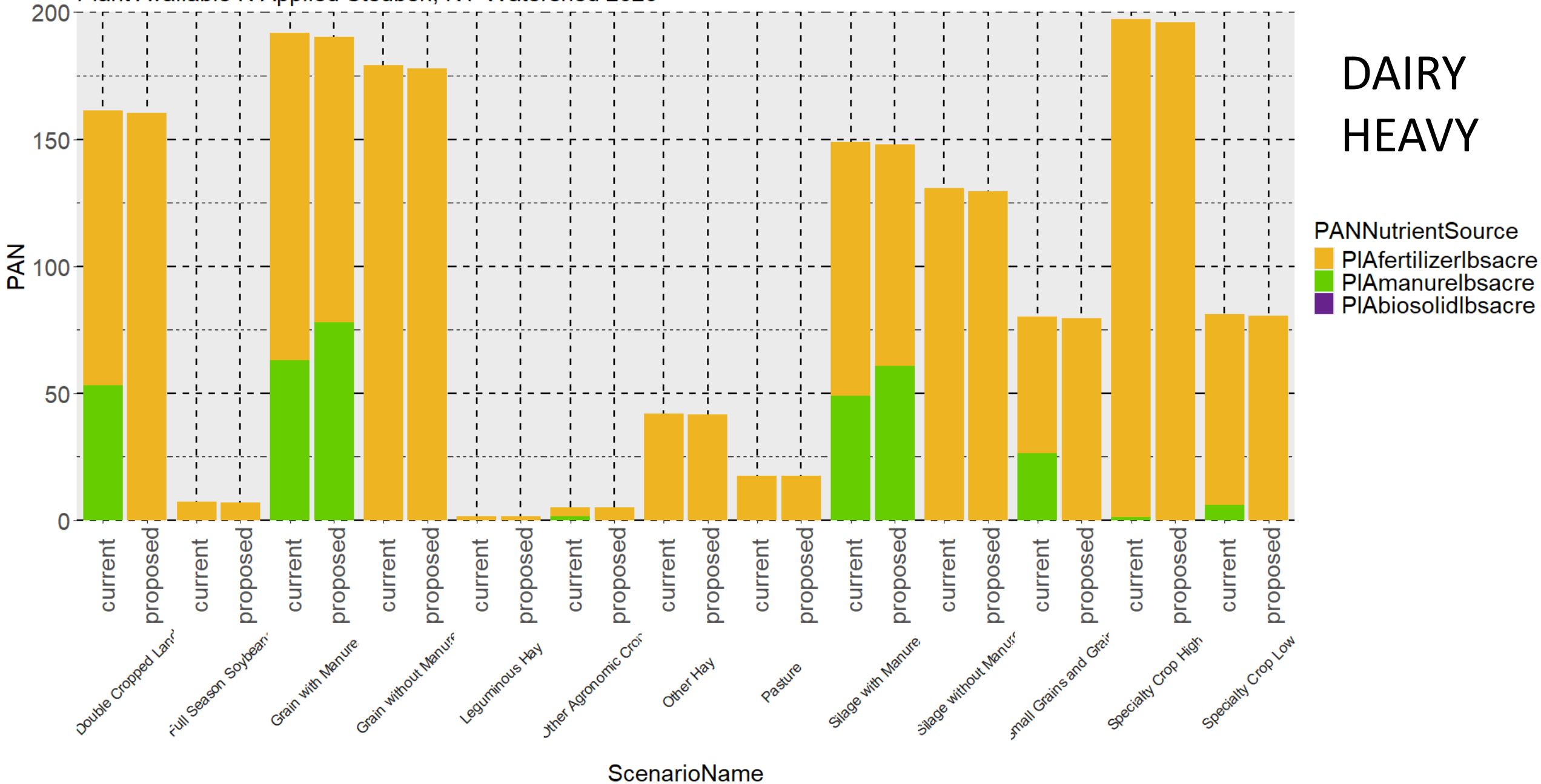
Dairy

- Steuben, NY

CAST Calculated N Crop Application Steuben, NY 2020



Plant Available N Applied Steuben, NY Watershed 2020



Summary

Amount of N CAST thinks will feed a crop does not change

Grains and Silage with manure get more manure N

Pulls manure N from other Land Uses

- Replaces manure N with fertilizer N

What is the goal for today?

Proposed decisions:

The acres of Grains with Manure should be determined using Plant Available Nitrogen

Modify the manure spread algorithm to create a fourth group as shown in this presentation

What is your level of agreement?

Consensus Continuum

