

Virginia proposed Land Use change results

Tom Butler, EPA

1/10/2025

The goal today:

Proposed decisions:

Alter the Land Uses in CAST to represent, Managed and Unmanaged Hay as well as Managed and Unmanaged Pasture.

Modify the manure spread algorithm to create a fourth group as proposed by Virginia for Phase 7.

How it started:

10/11/2024

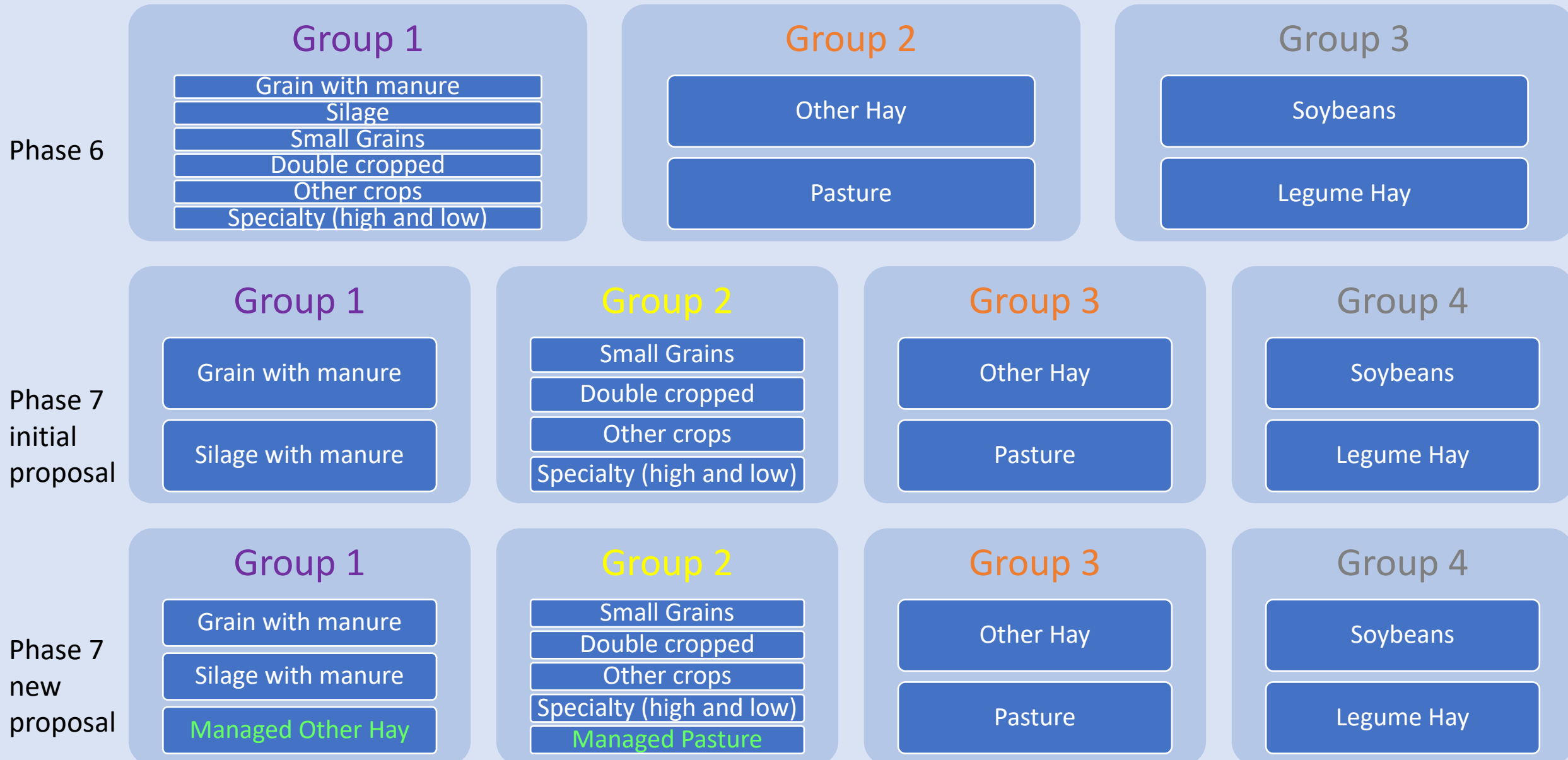
To what extent
do you agree
with the
following:

Should the manure spread algorithm be modified to create a fourth group as shown in this presentation?

| Role | Name | Affiliation | Vote | Notes |
|-----------|------------------|-------------|------|---|
| Signatory | Clint Gill | DE | 4 | |
| | Alisha Mulkey | MD | 4 | |
| | Cassie Davis | NY | 4 | |
| | Scott Heidel | PA | 4 | |
| | Tim Larson | VA | 2 | concerns about pasture |
| | Dave Montali | WV | 4 | |
| | Jeff Sweeney | EPA | 4 | |
| At-Large | Ken Staver | UMD | 4 | step in the right direction, worried about legumes not getting manure |
| | Tamie Veith | USDA-ARS | 4 | |
| | Candiss Williams | USDA-NRCS | 4 | |
| | Alex Soroka | USGS | 4 | |
| | Zach Easton | VT | 4 | |

| | | | | |
|-------------|-------------|--------------------|--------------------------------|----------------|
| Stop | Hold | Stand Aside | Agree with reservations | Endorse |
| 1 | 2 | 3 | 4 | 5 |

Recap: Multiple iterations



Recap: Multiple iterations

Phase 6

Comparison

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

Phase 7
initial
proposal

Group 1

- Grain with manure
- Silage with manure

Group 2

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

Group 3

- Other Hay
- Pasture

Group 4

- Soybeans
- Legume Hay

Phase 7
new
proposal

Group 1

- Grain with manure
- Silage with manure
- Managed Other Hay

Group 2

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

Group 3

- Other Hay
- Pasture

Group 4

- Soybeans
- Legume Hay

What is in the new proposal?

Application rates for hay and pasture are changed to:

- N=120 and P=40 for managed hay (all crops)
- N=60 and P=30 for managed pasture

25% of hay acres = managed

10% of pasture acres = managed

N NonNM factor for managed hay and pasture = 1.2

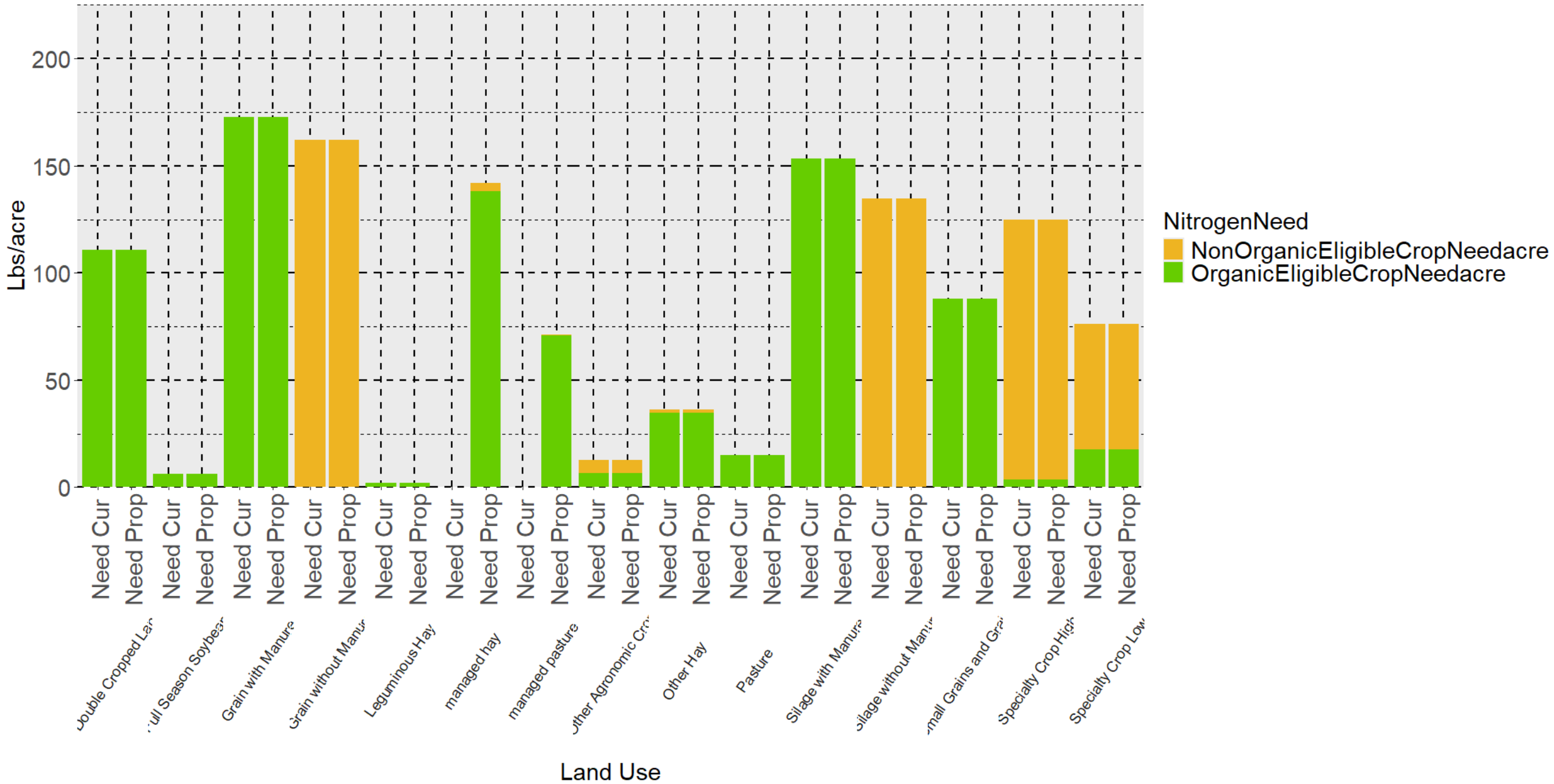
P NonNM factor for managed hay and pasture = 1.0

Summary

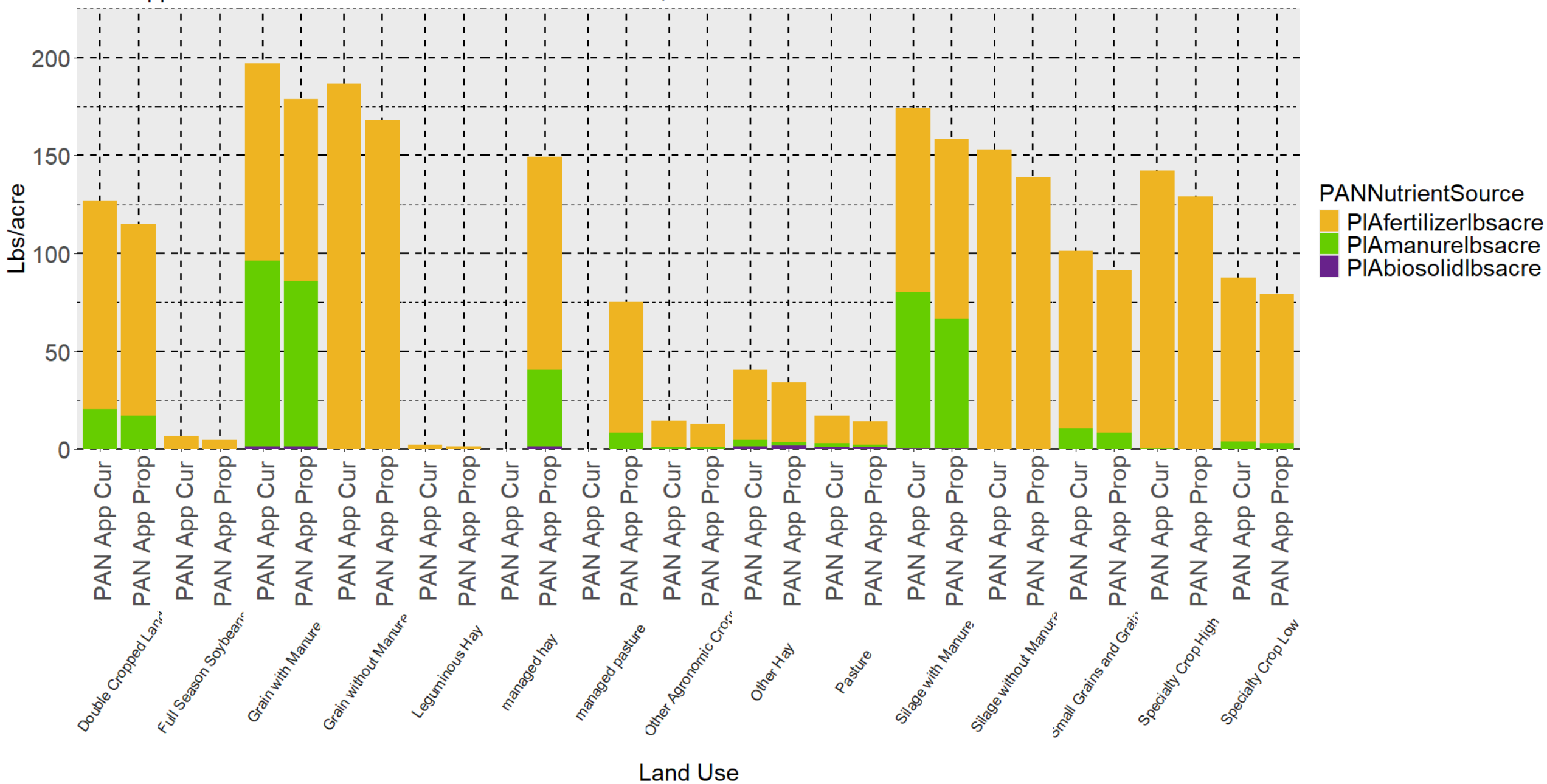
- Three scenarios have existed
 1. Phase 6 –
 1. Three application curves
 2. Phase 7 initial proposal
 1. Four application curves
 3. Phase 7 new proposal
 1. Four application curves
 2. New managed Pasture and Hay categories
- Compared scenarios Two and Three
 - Phase 7 initial (current) vs Phase 7 new (proposed)

What happens across the watershed?

CAST projected N Application For each LU based on different Land Uses, Waterhsed 2020



PAN Applied For each LU based on different Land Uses, Watershed 2020



County requests for comparison

DE

- Kent
- New Castle
- Sussex

MD

- Frederick
- Somerset
- Caroline
- Dorchester
- Washington
- Baltimore
- Anne Arundel

NY

- Steuben

PA

- Chester
- Franklin
- Adams
- Lancaster
- Northumberland

VA

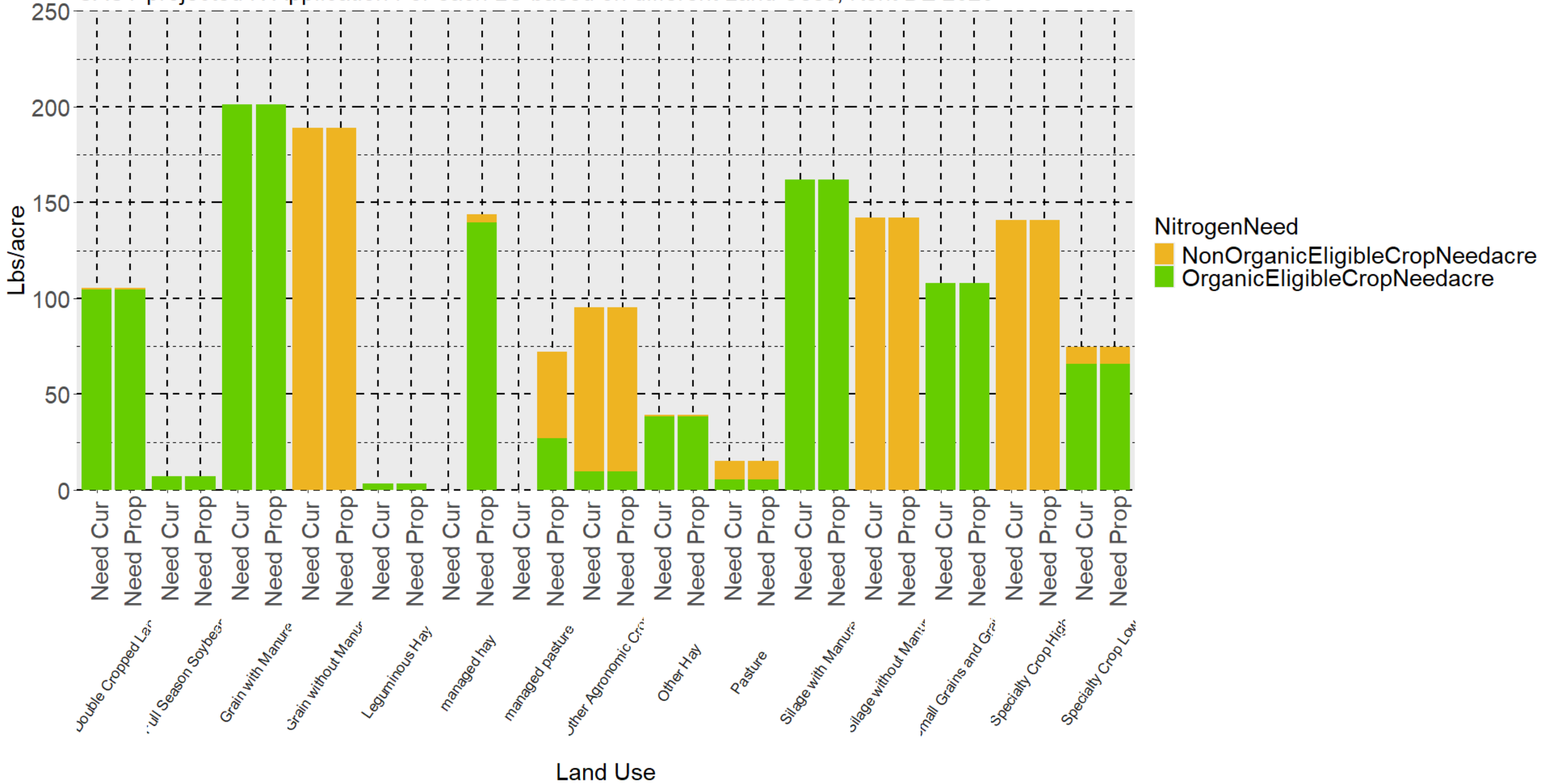
- Amelia
- Buckingham
- Cumberland
- Page
- Rockingham
- Accomack
- Albemarle
- Augusta
- Bedford

WV

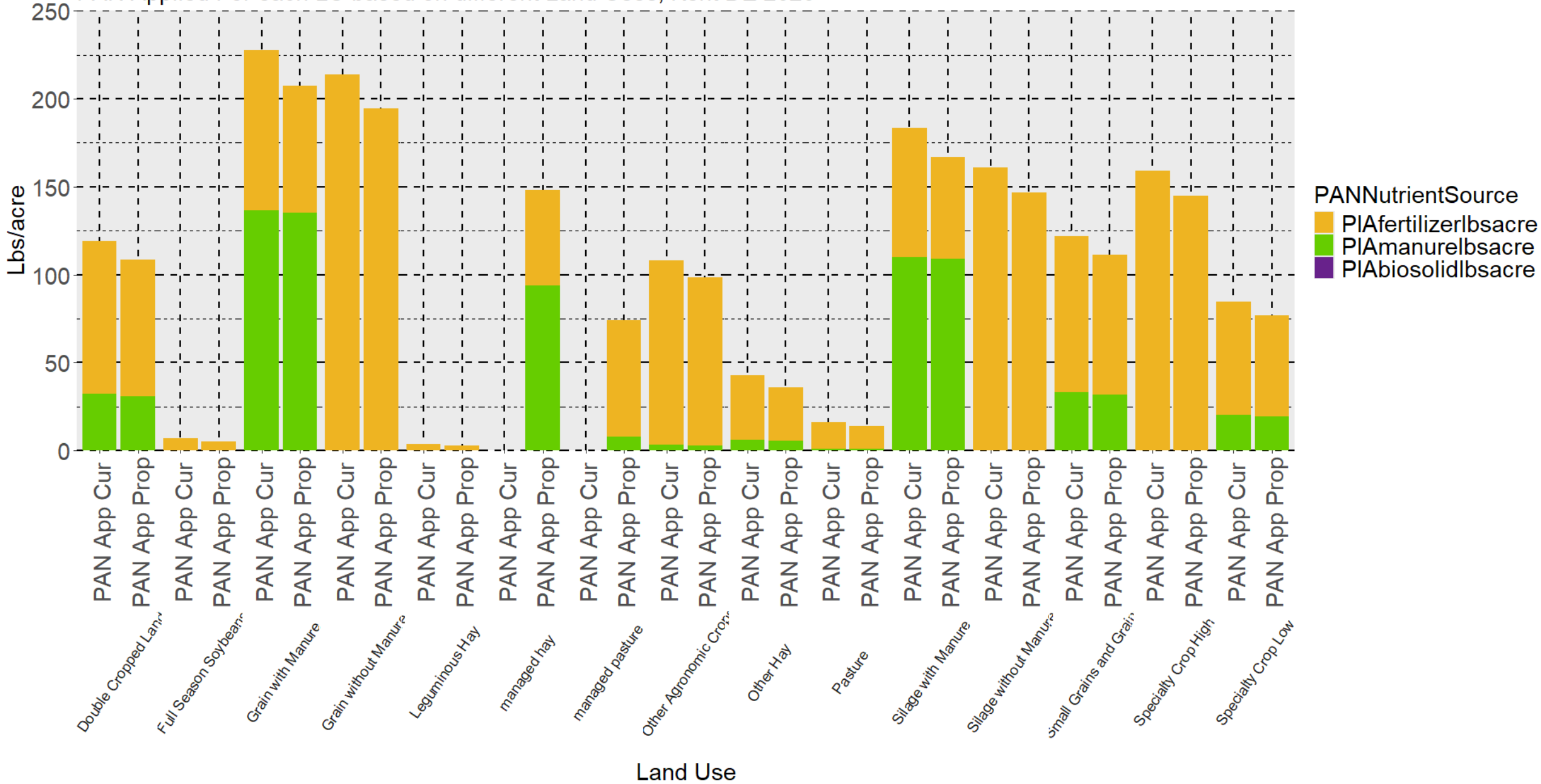
- Hardy
- Pendleton

Kent, DE

CAST projected N Application For each LU based on different Land Uses, Kent DE 2020

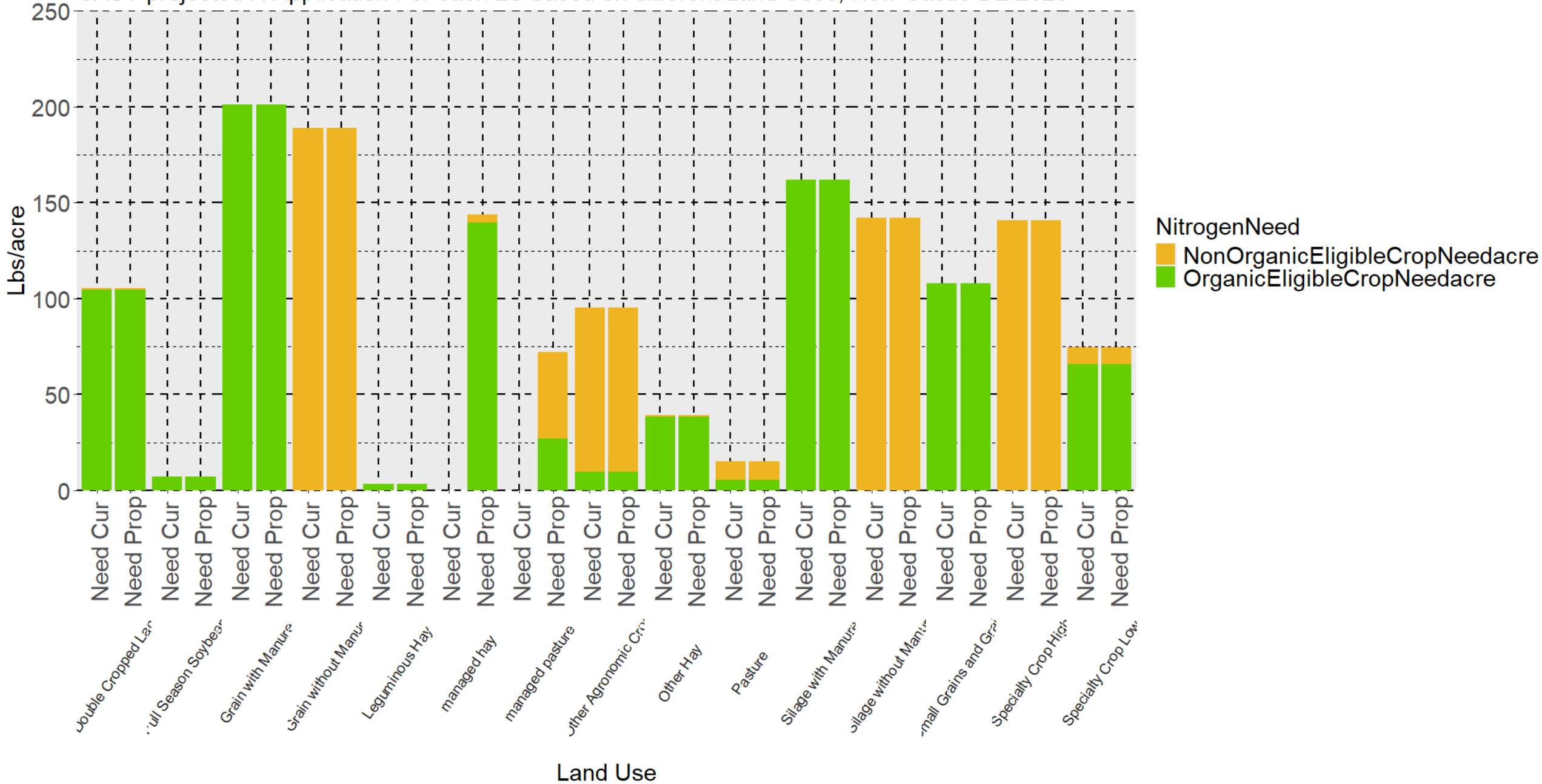


PAN Applied For each LU based on different Land Uses, Kent DE 2020

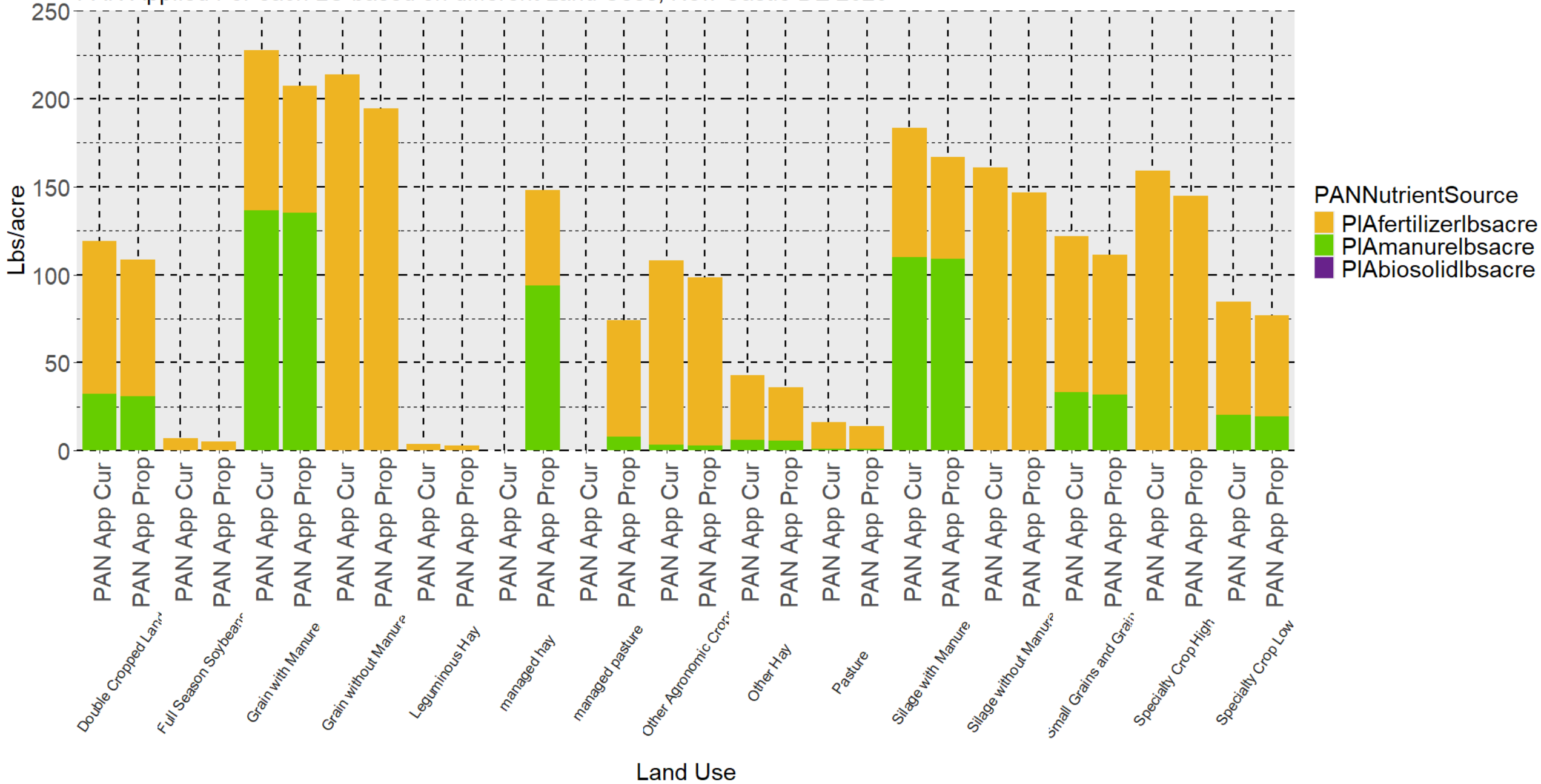


New Castle, DE

CAST projected N Application For each LU based on different Land Uses, New Castle DE 2020

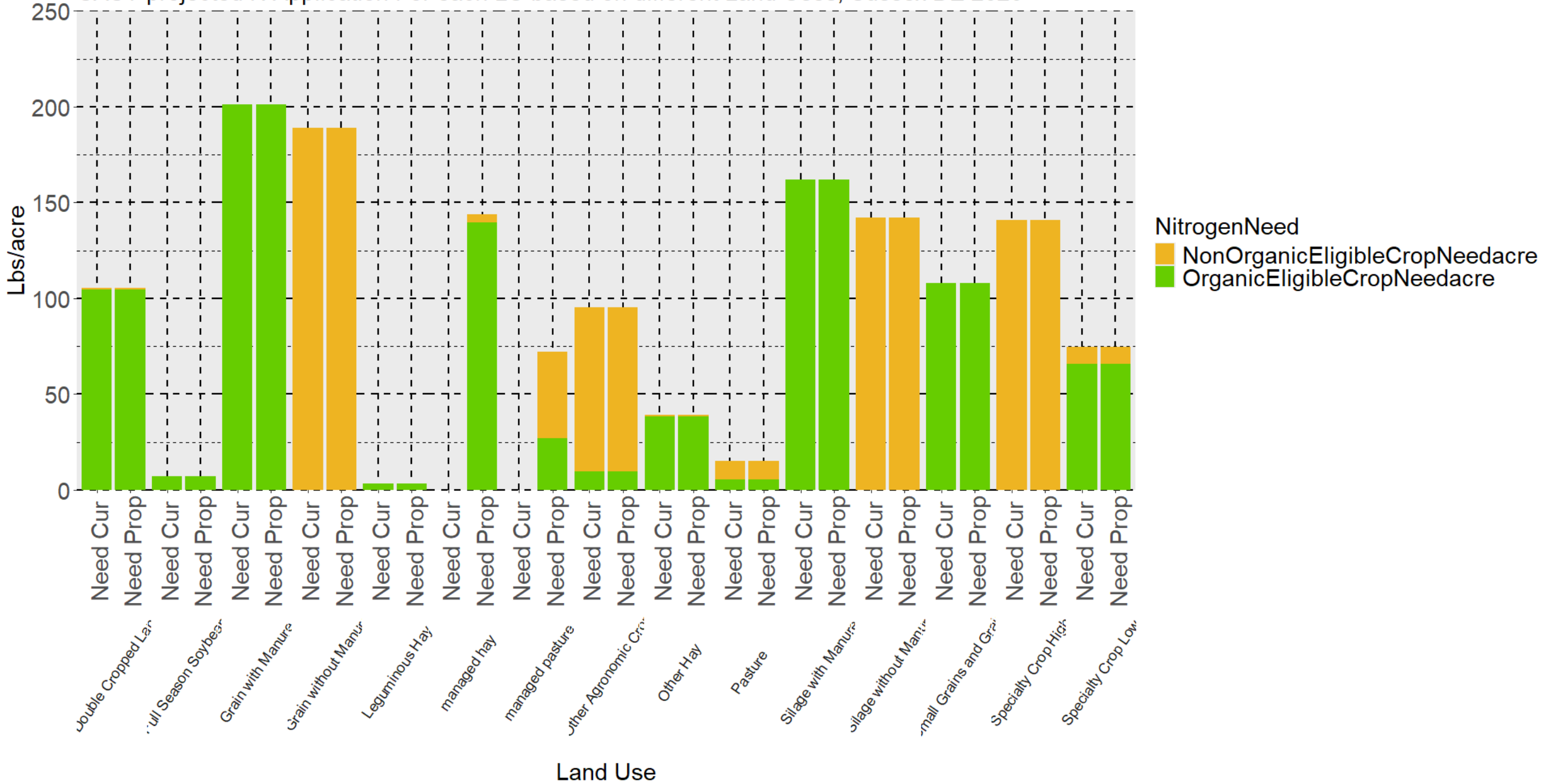


PAN Applied For each LU based on different Land Uses, New Castle DE 2020

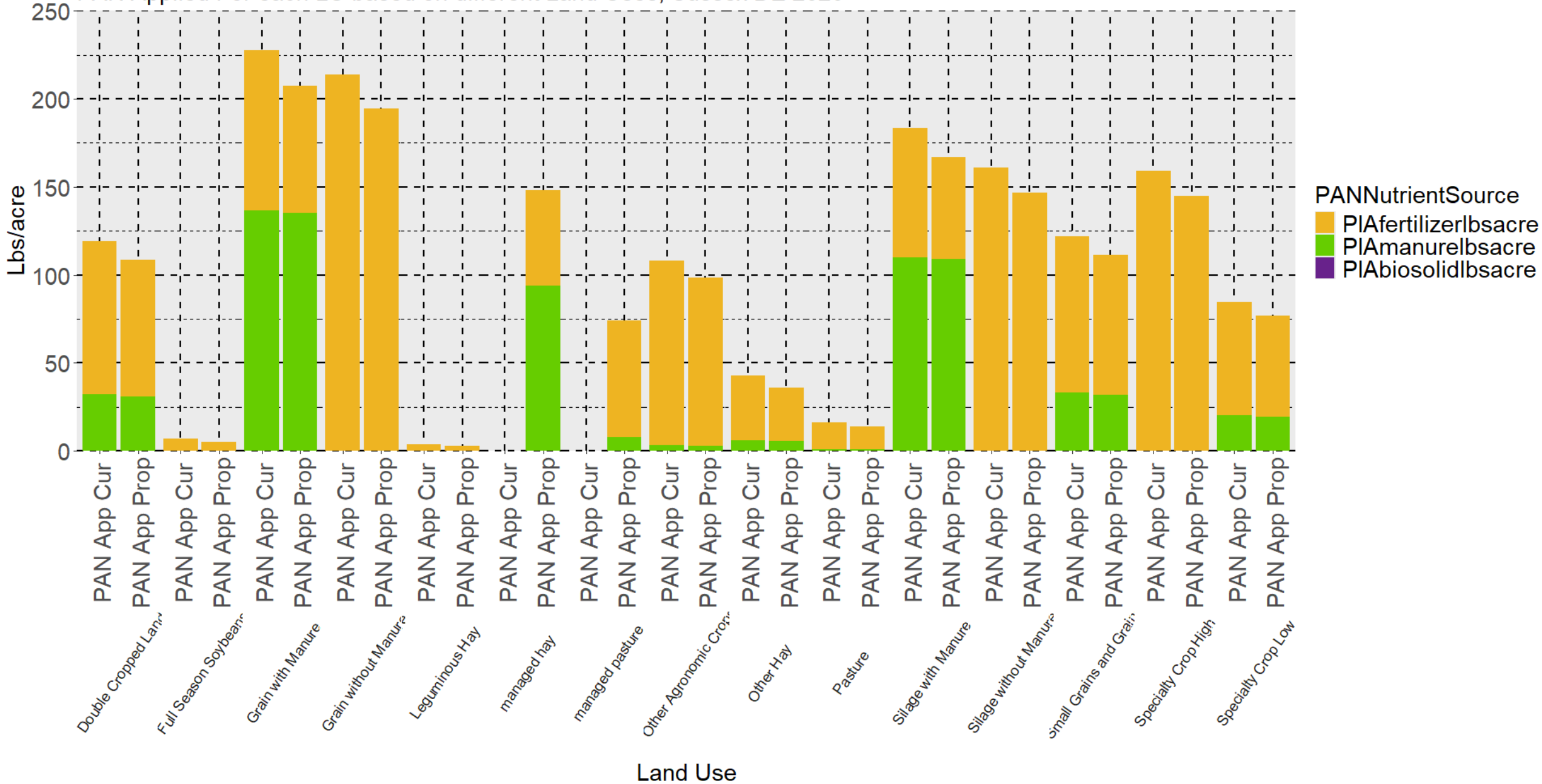


Sussex, DE

CAST projected N Application For each LU based on different Land Uses, Sussex DE 2020

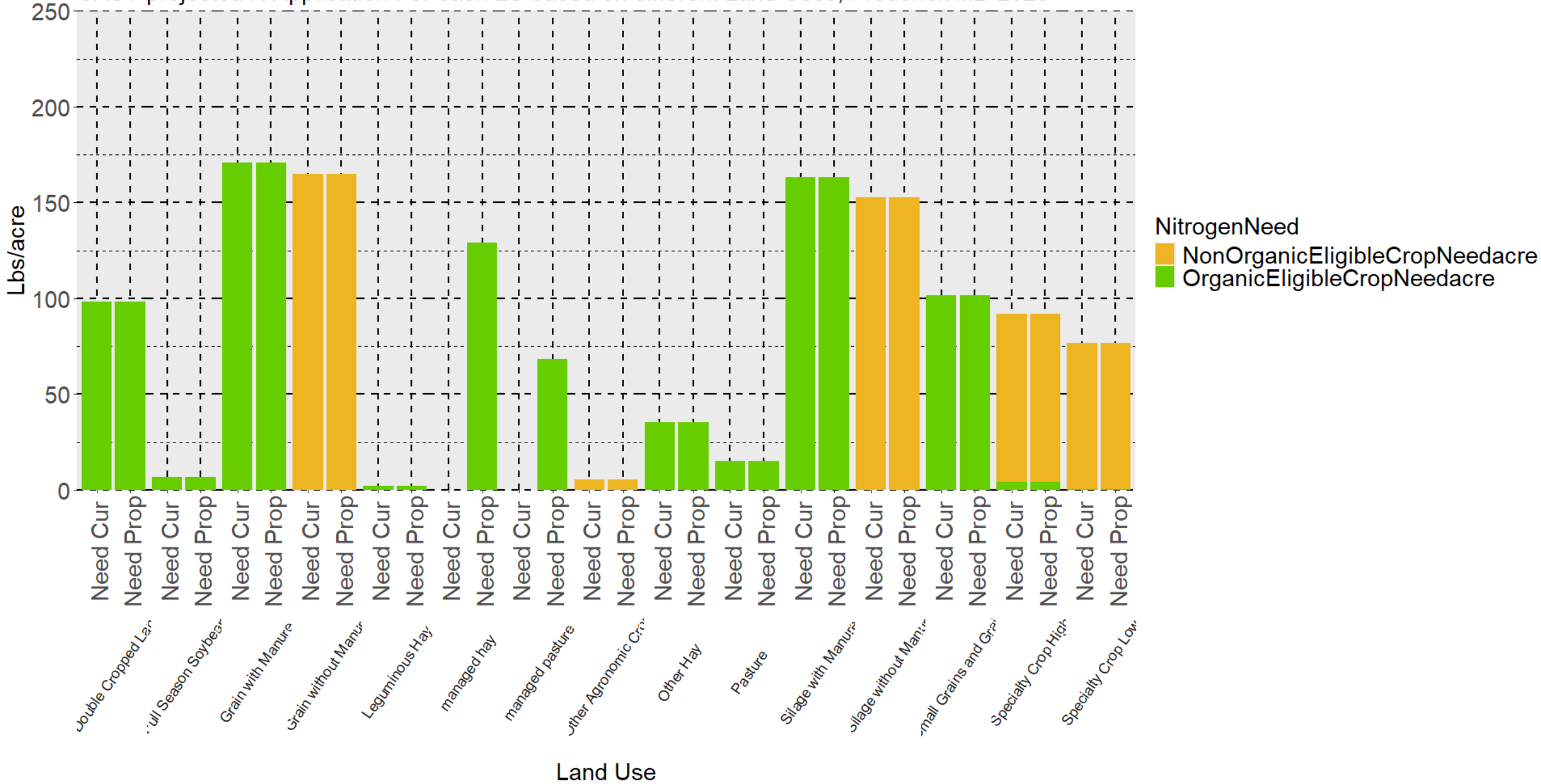


PAN Applied For each LU based on different Land Uses, Sussex DE 2020

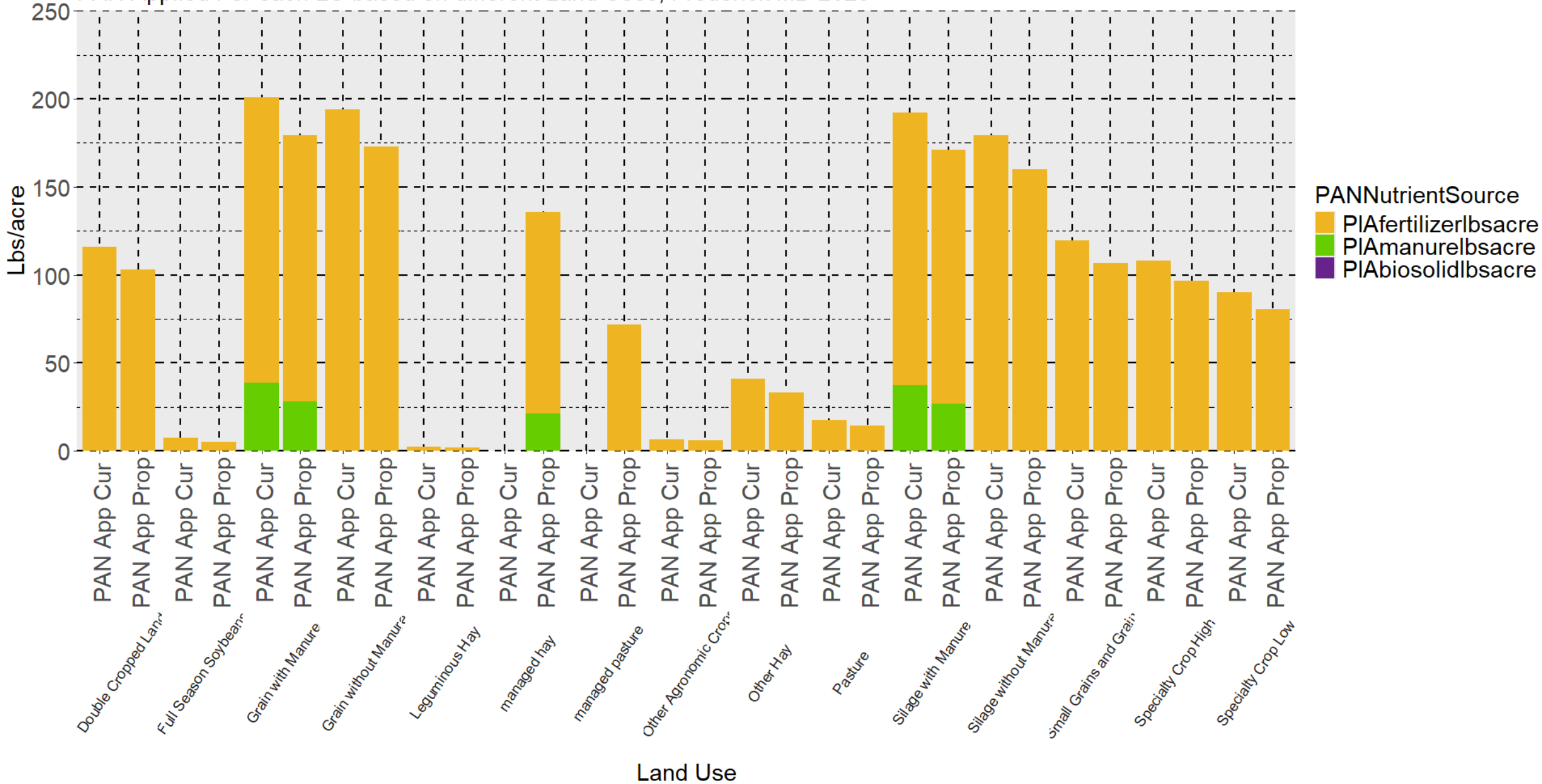


Frederick, MD

CAST projected N Application For each LU based on different Land Uses, Frederick MD 2020

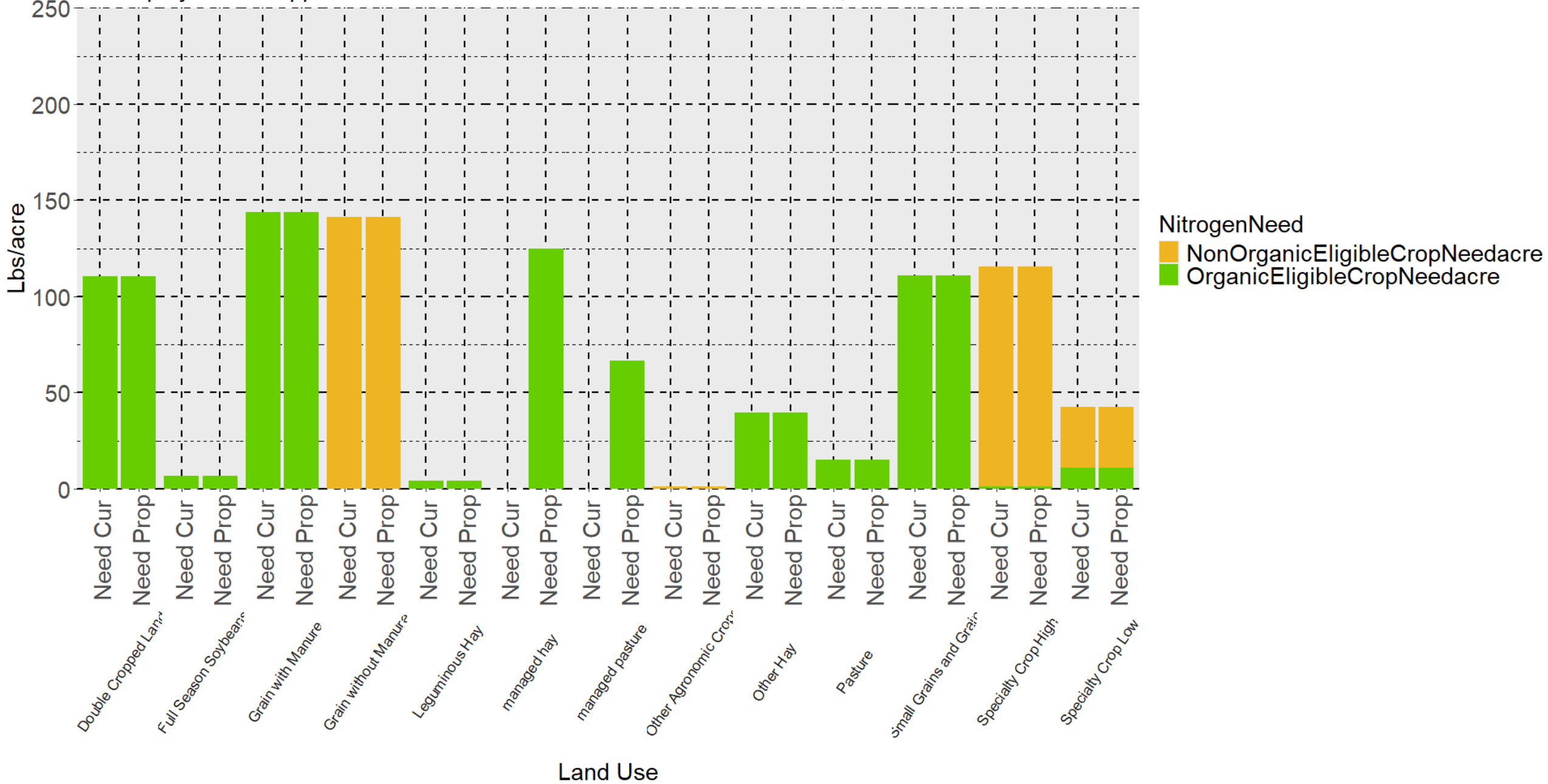


PAN Applied For each LU based on different Land Uses, Frederick MD 2020

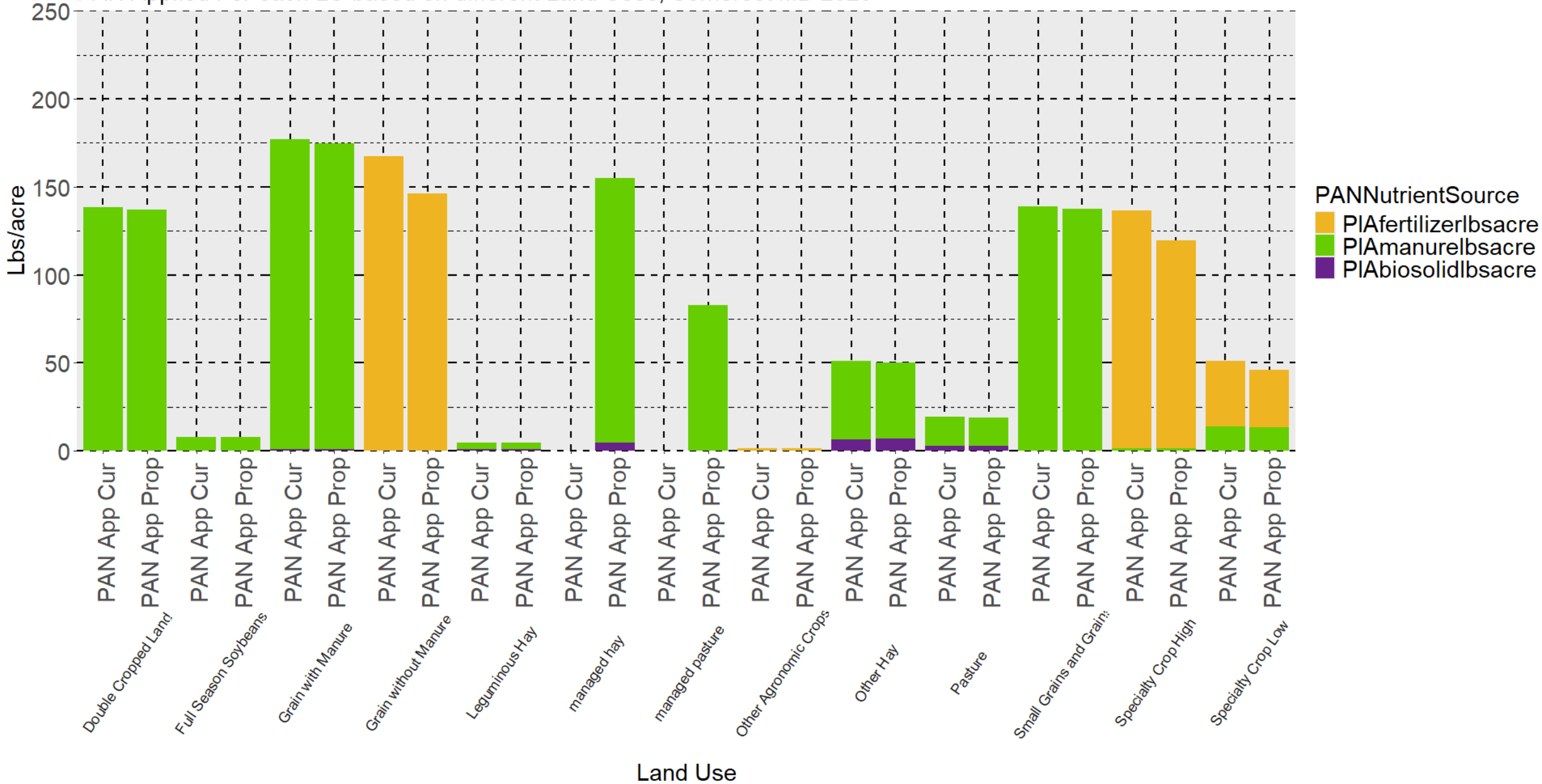


Somerset, MD

CAST projected N Application For each LU based on different Land Uses, Somerset MD 2020

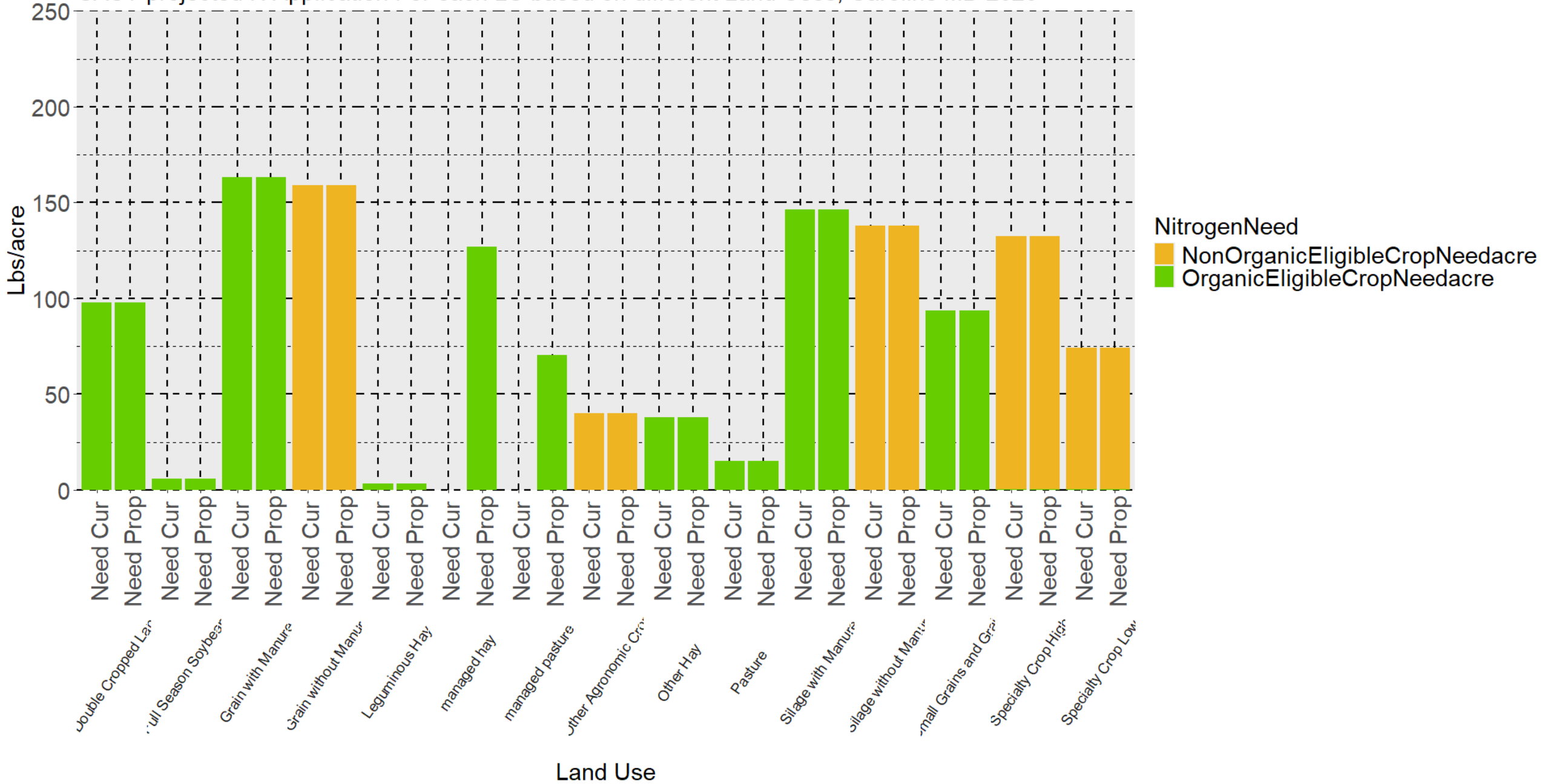


PAN Applied For each LU based on different Land Uses, Somerset MD 2020

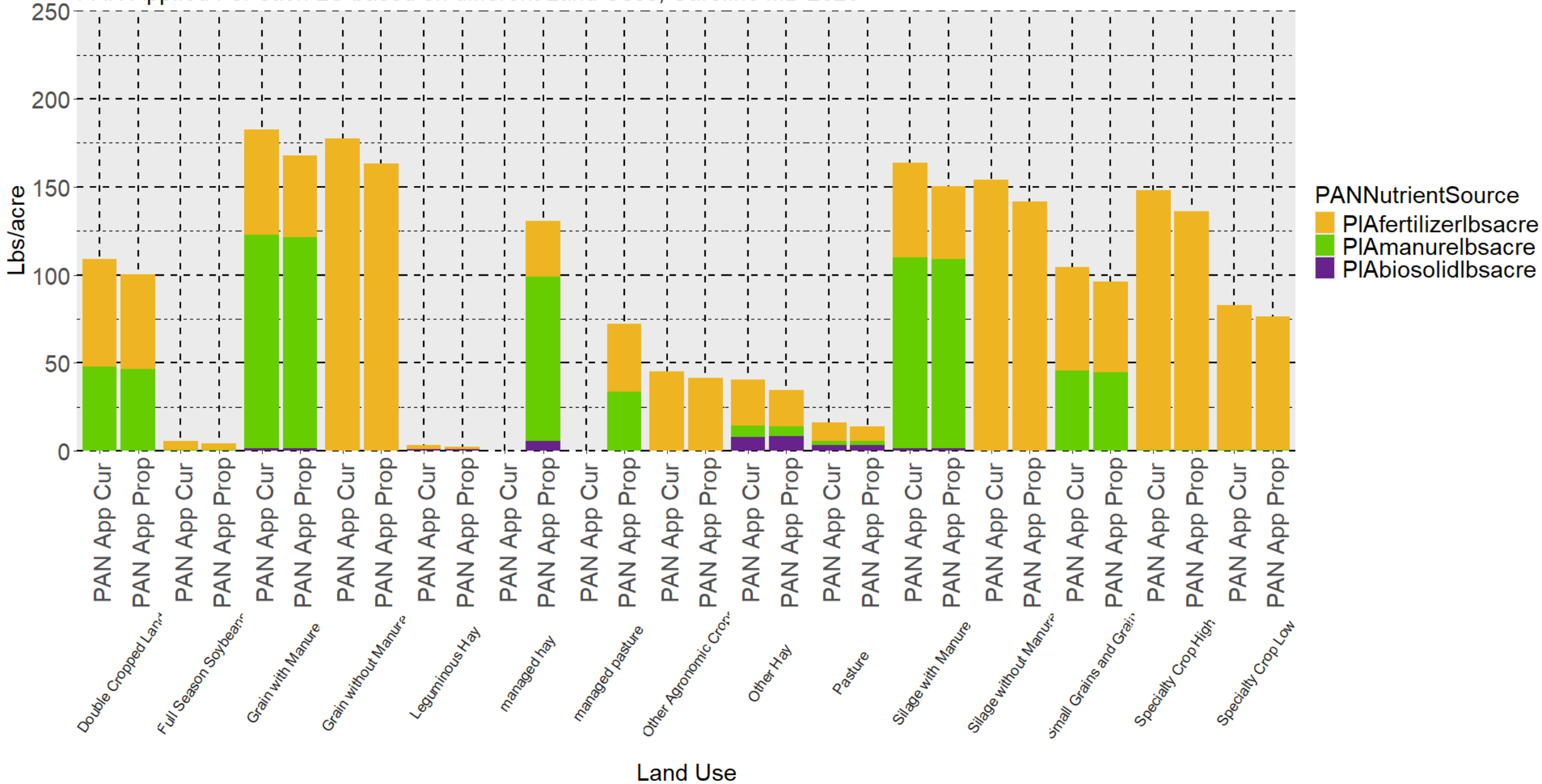


Caroline, MD

CAST projected N Application For each LU based on different Land Uses, Caroline MD 2020

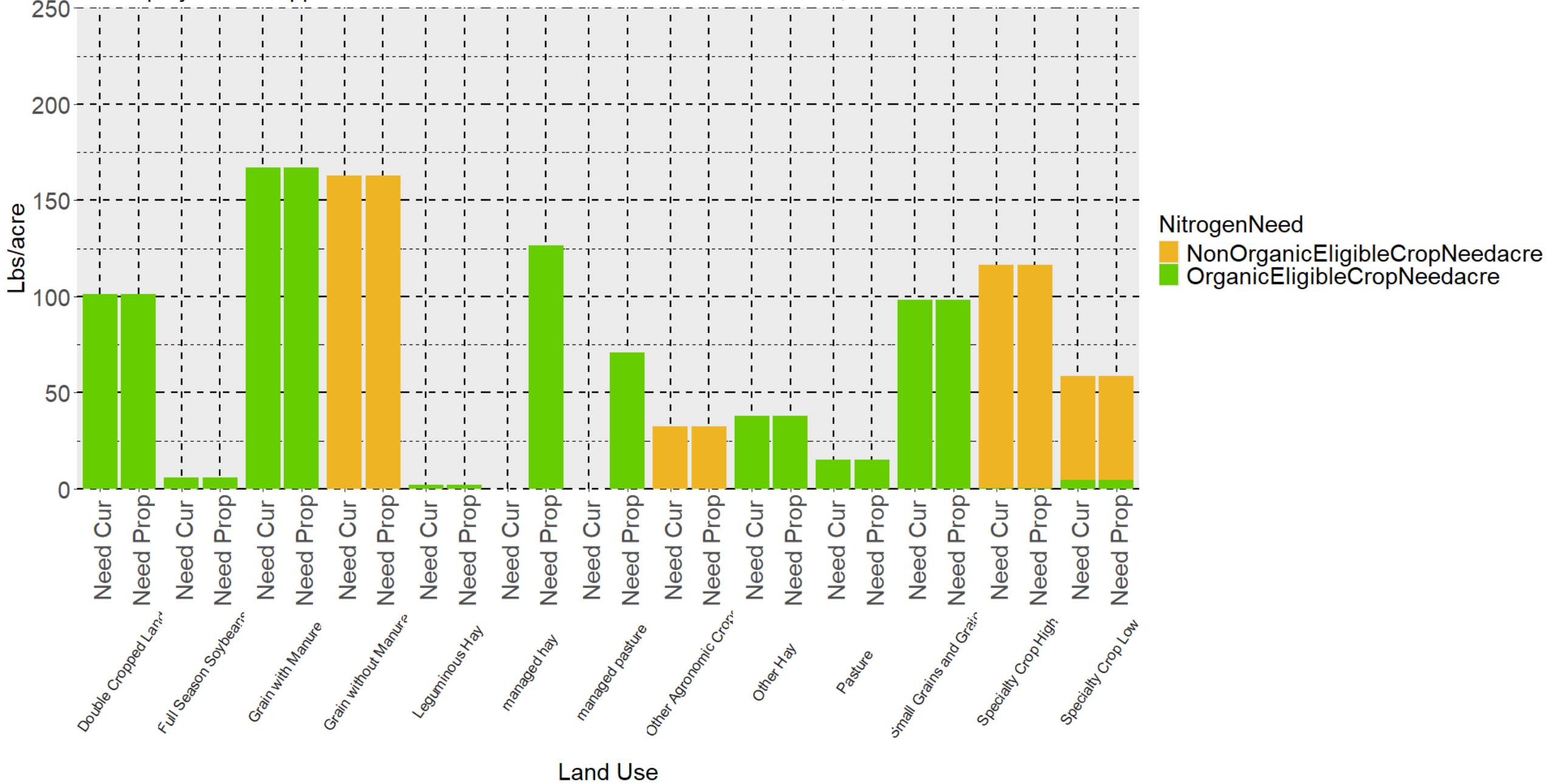


PAN Applied For each LU based on different Land Uses, Caroline MD 2020

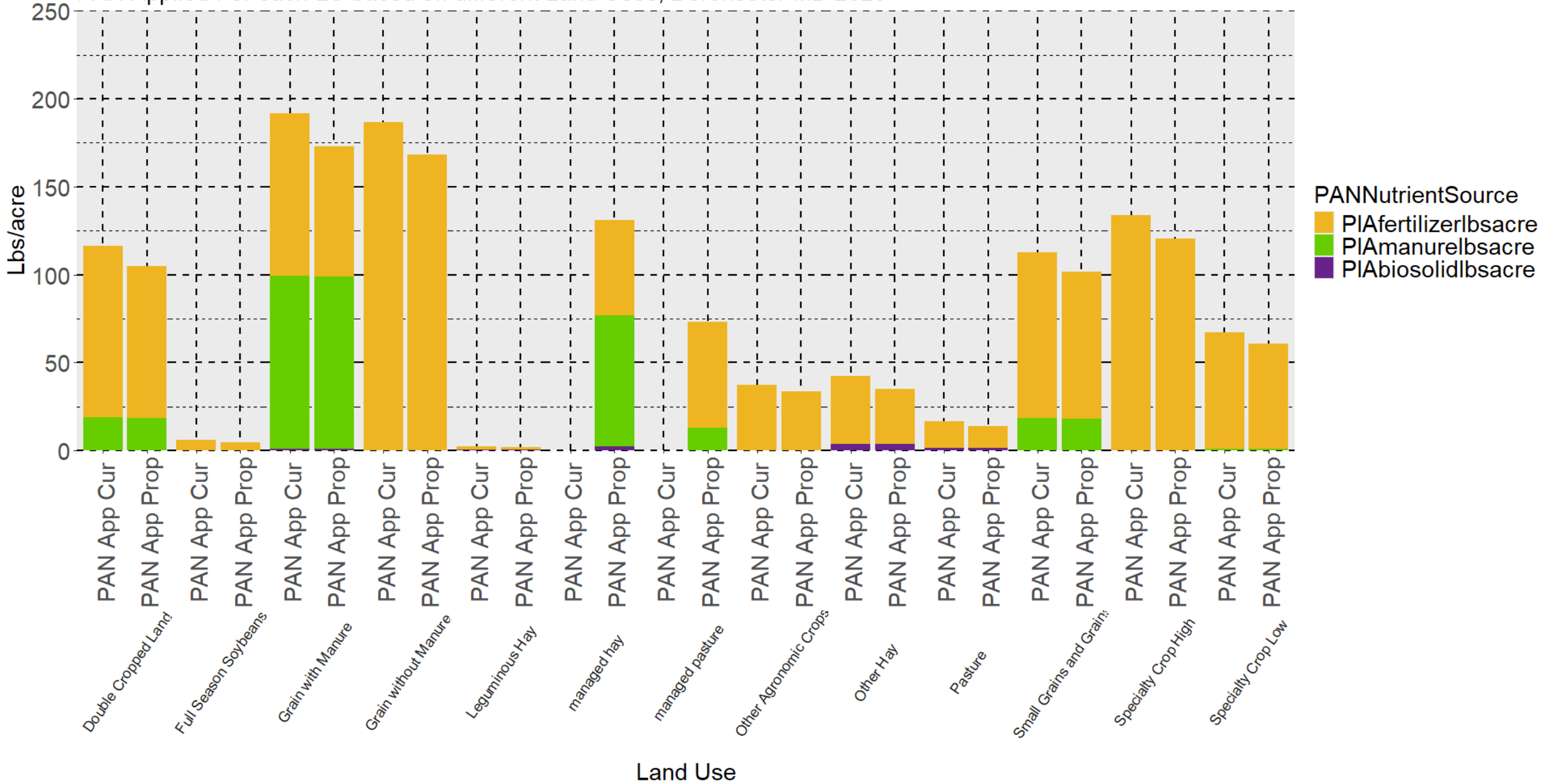


Dorchester, MD

CAST projected N Application For each LU based on different Land Uses, Dorchester MD 2020

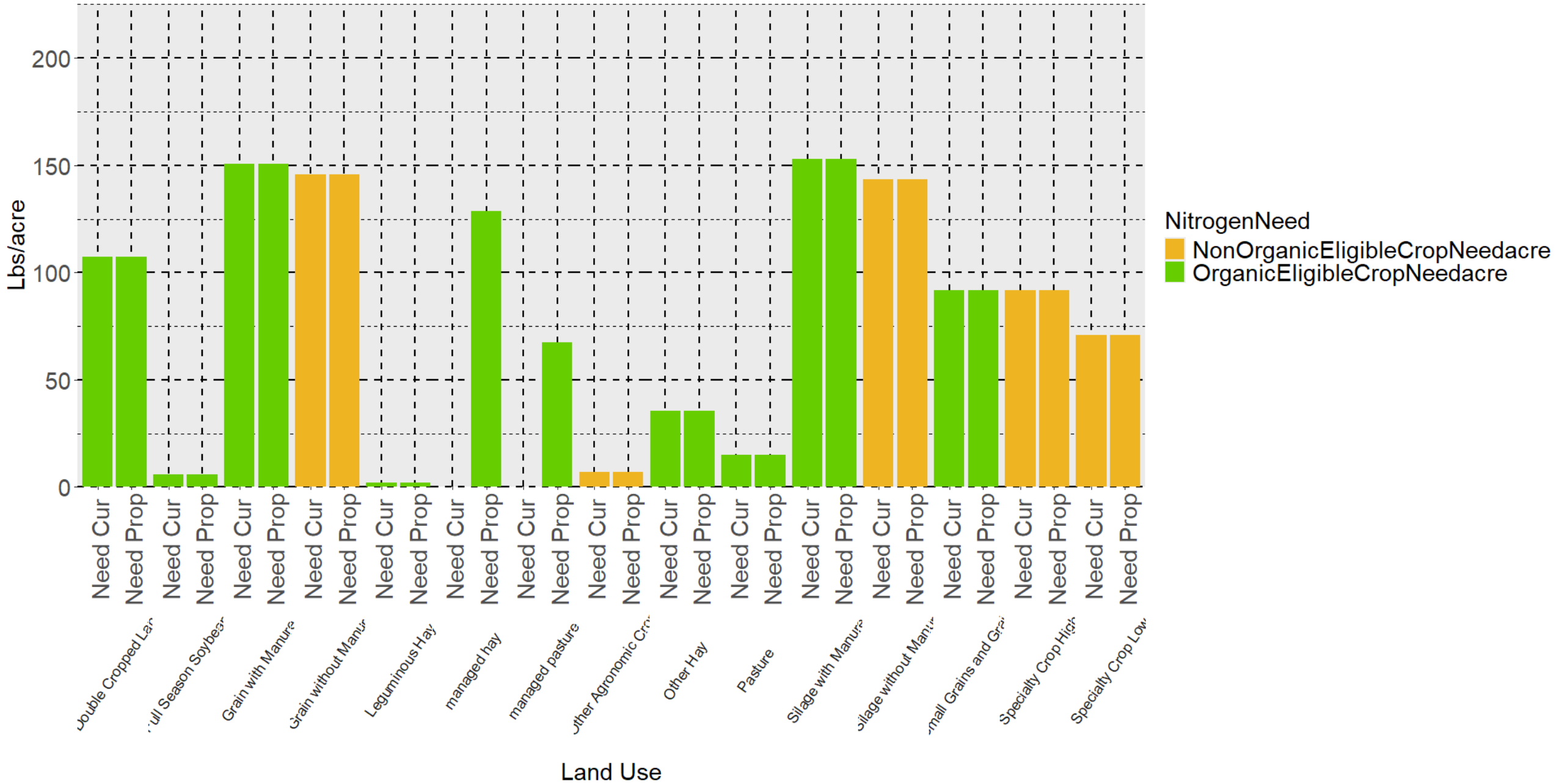


PAN Applied For each LU based on different Land Uses, Dorchester MD 2020

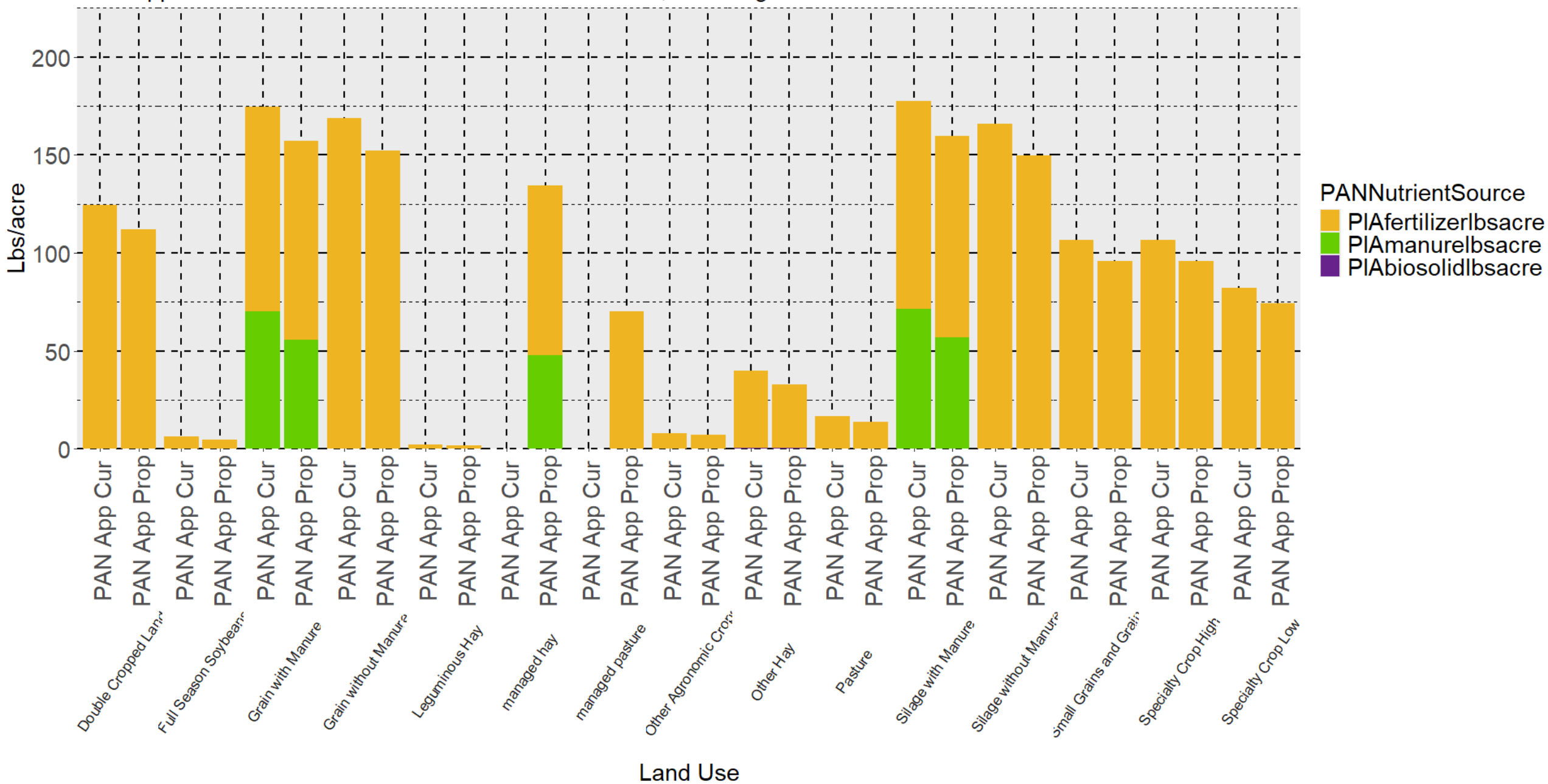


Washington, MD

CAST projected N Application For each LU based on different Land Uses, Washington MD 2020

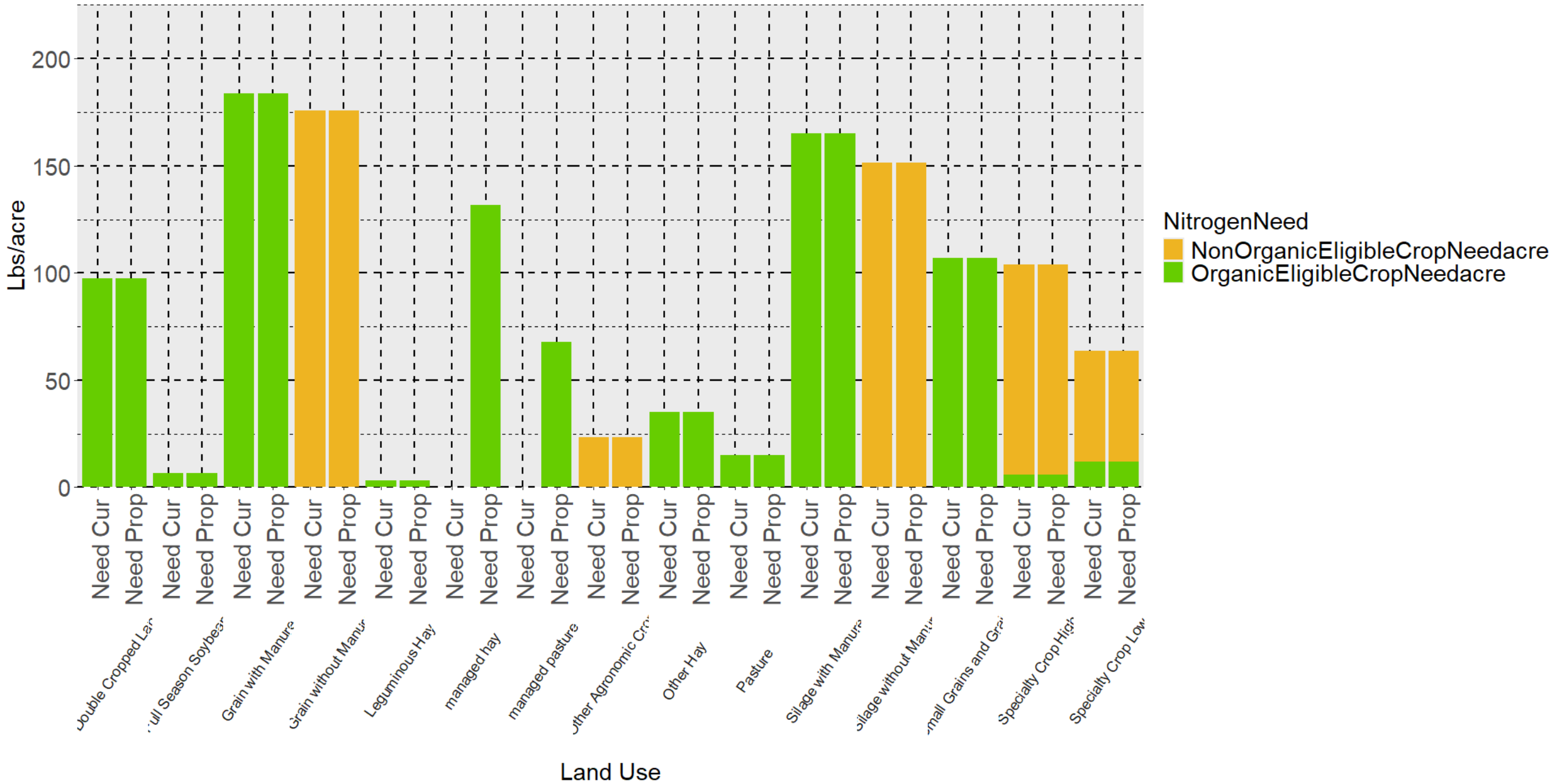


PAN Applied For each LU based on different Land Uses, Washington MD 2020

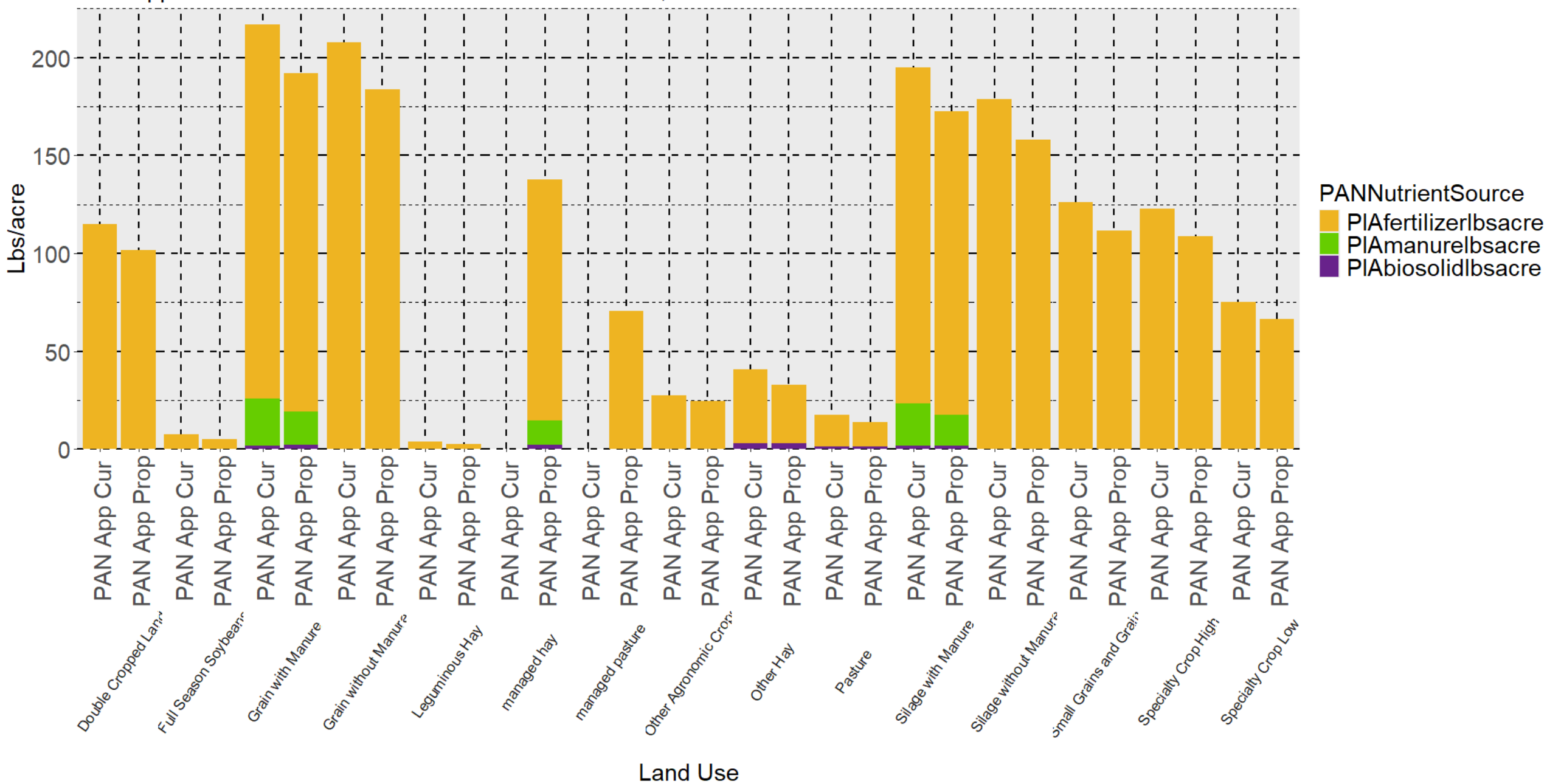


Baltimore, MD

CAST projected N Application For each LU based on different Land Uses, Baltimore MD 2020

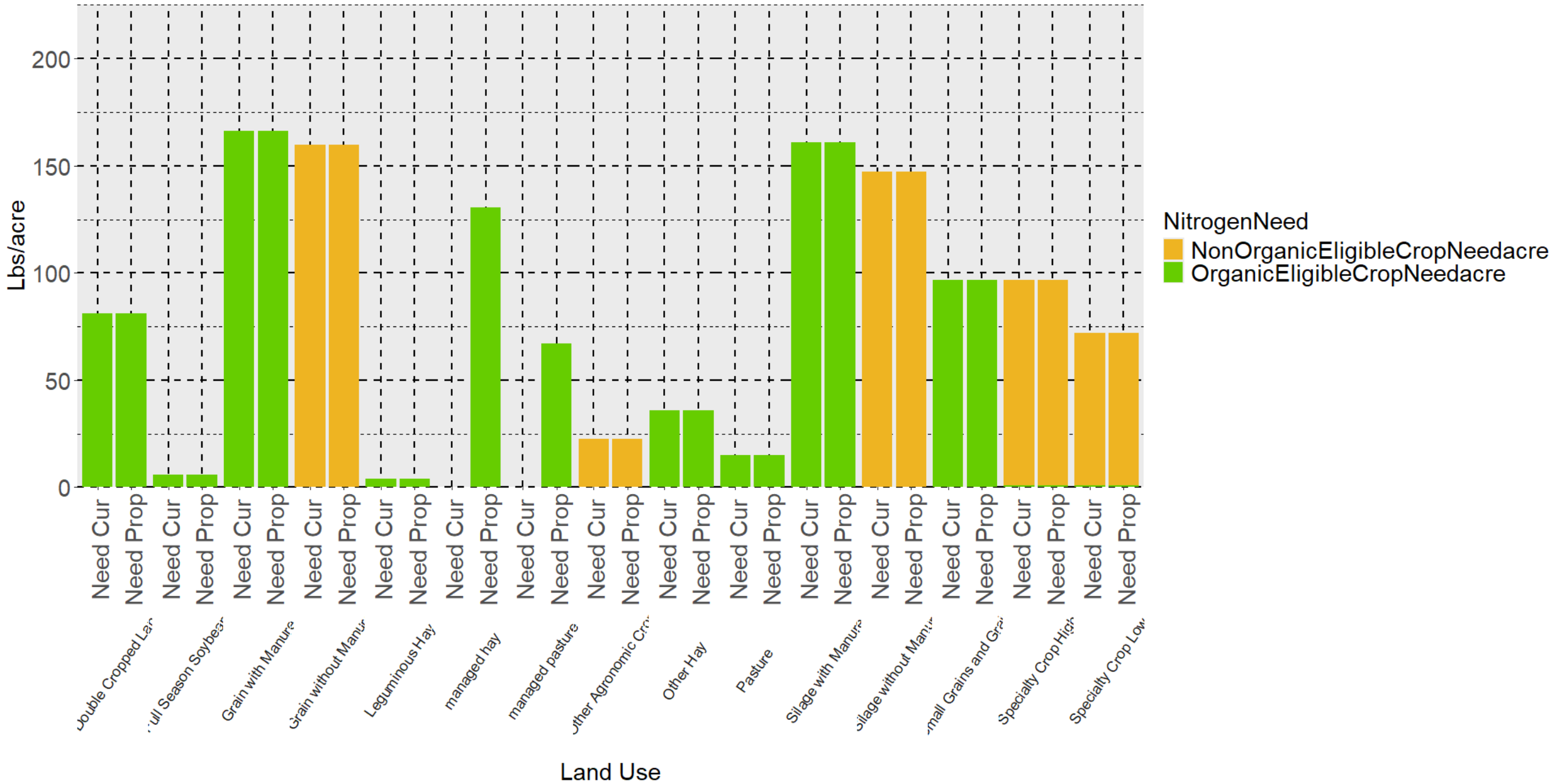


PAN Applied For each LU based on different Land Uses, Baltimore MD 2020

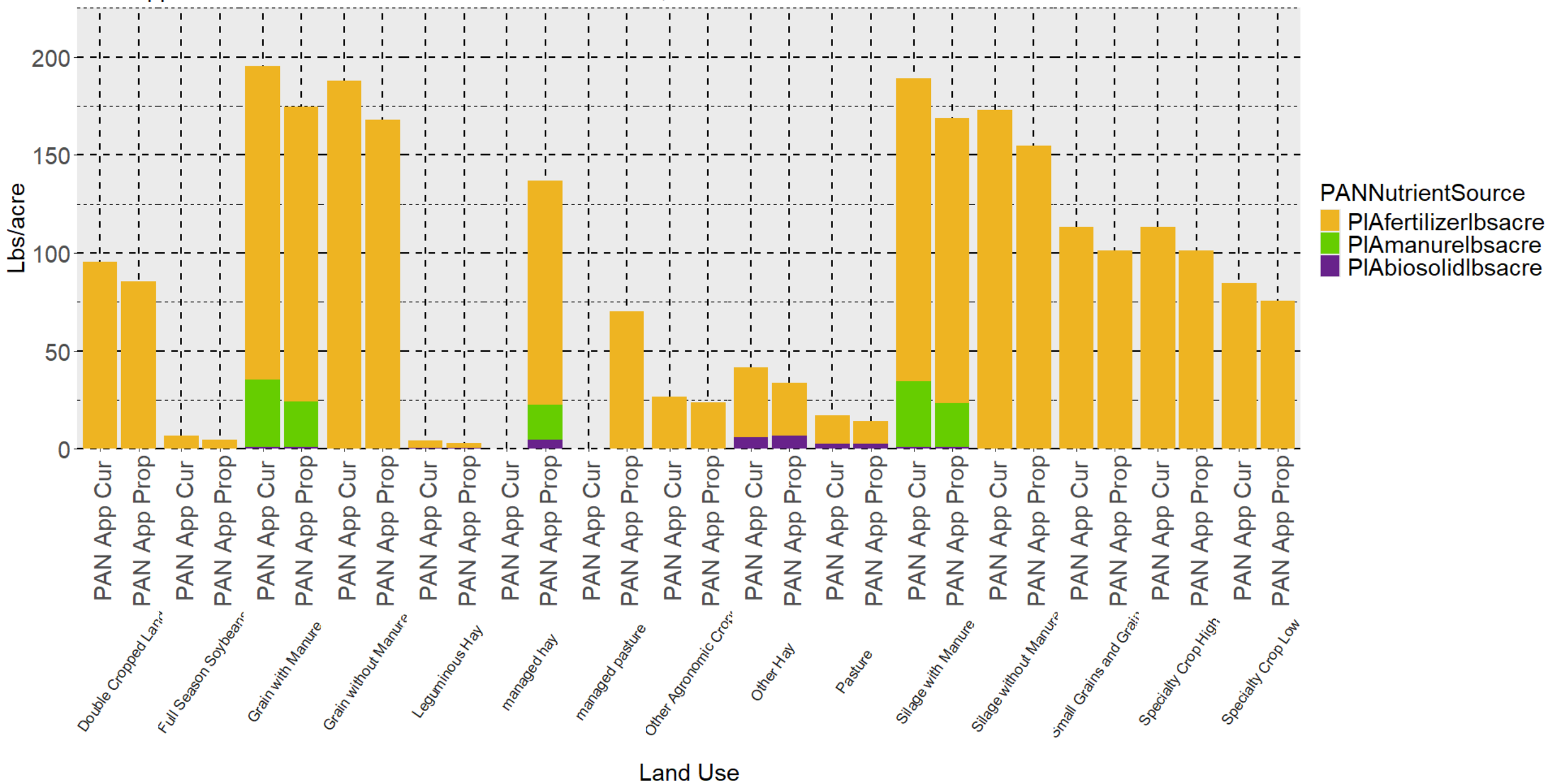


Anne Arundel, MD

CAST projected N Application For each LU based on different Land Uses, Anne Arundel MD 2020

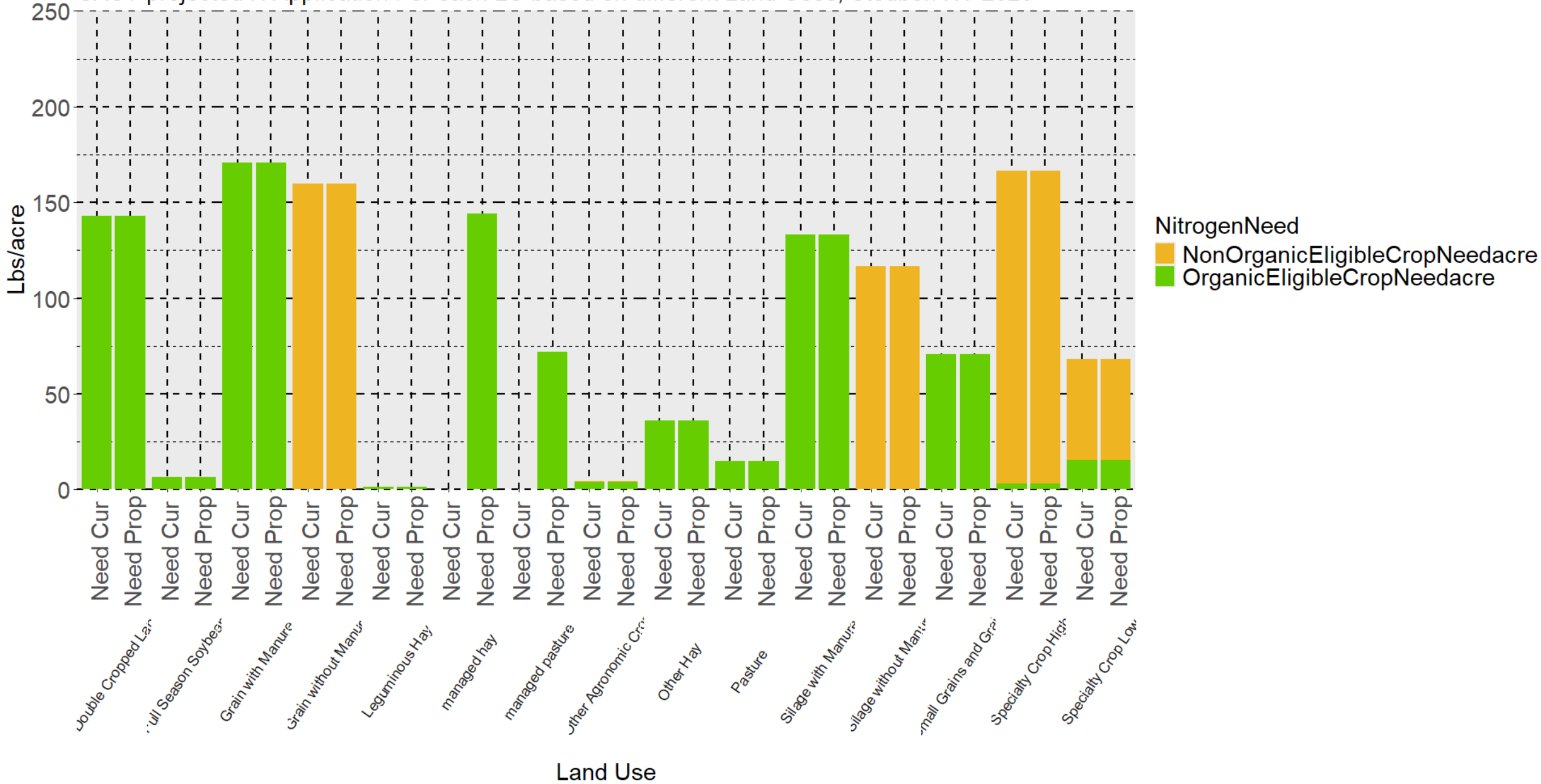


PAN Applied For each LU based on different Land Uses, Anne Arundel MD 2020

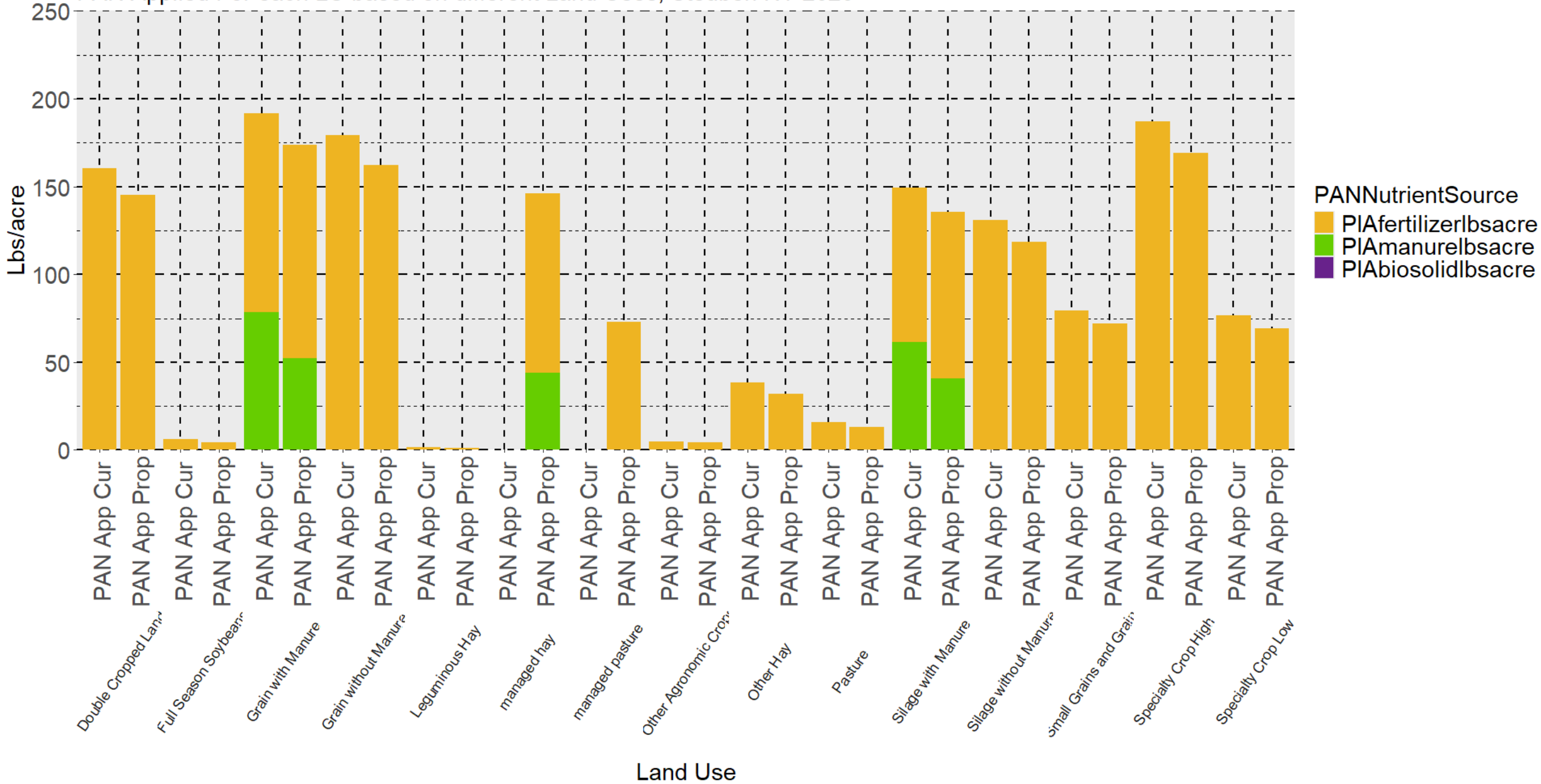


Steuben, NY

CAST projected N Application For each LU based on different Land Uses, Steuben NY 2020

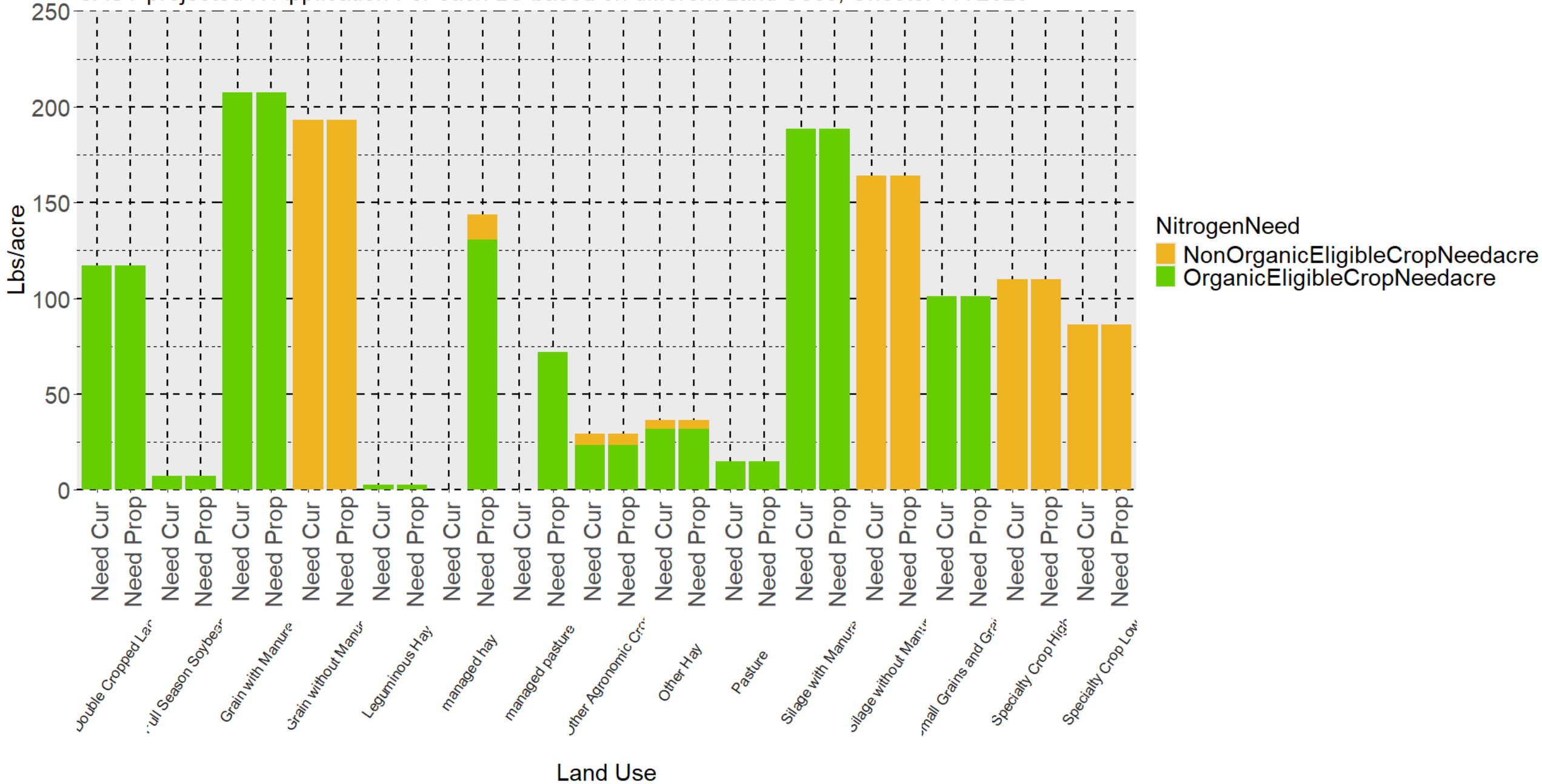


PAN Applied For each LU based on different Land Uses, Steuben NY 2020

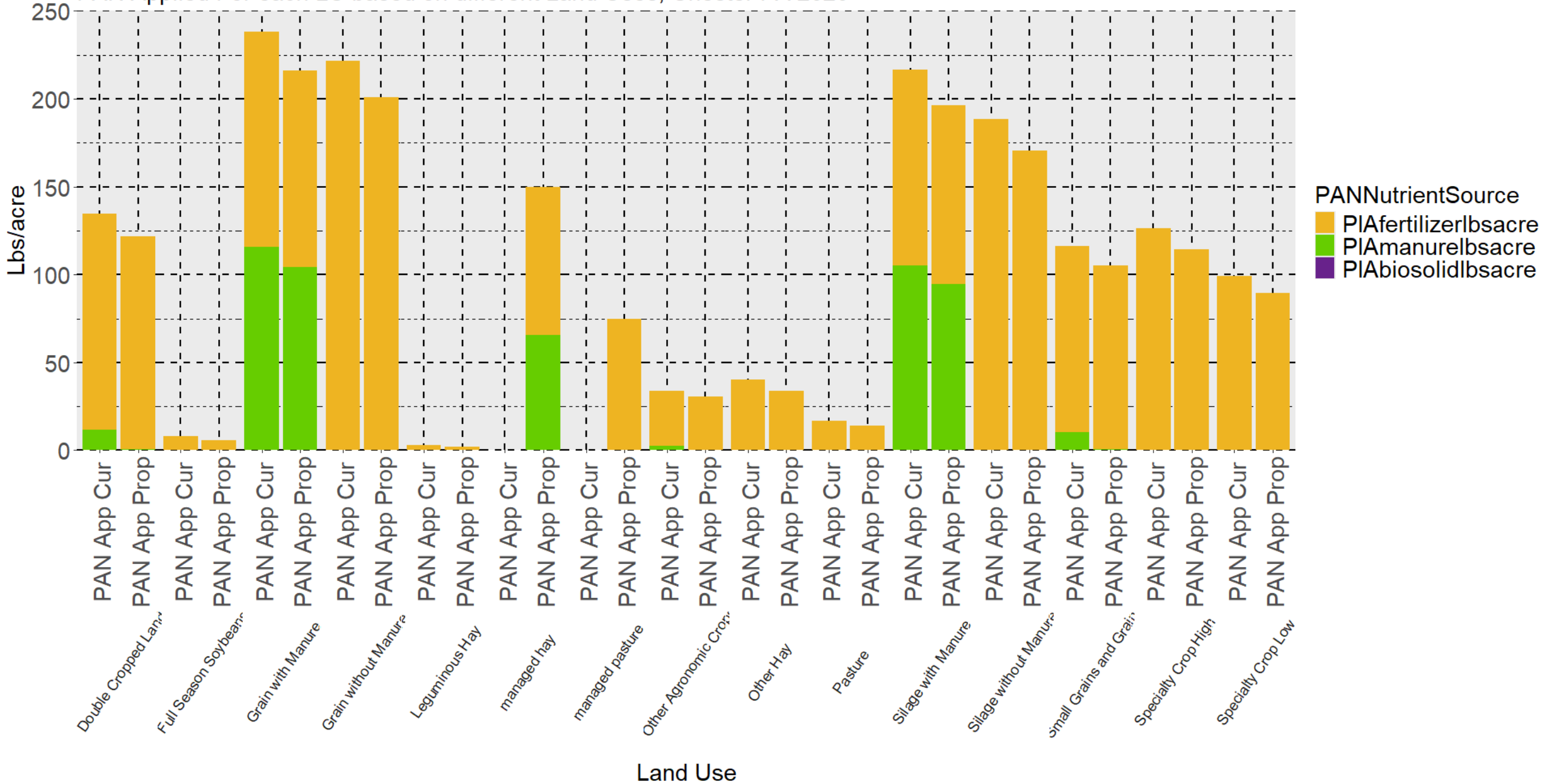


Chester, PA

CAST projected N Application For each LU based on different Land Uses, Chester PA 2020

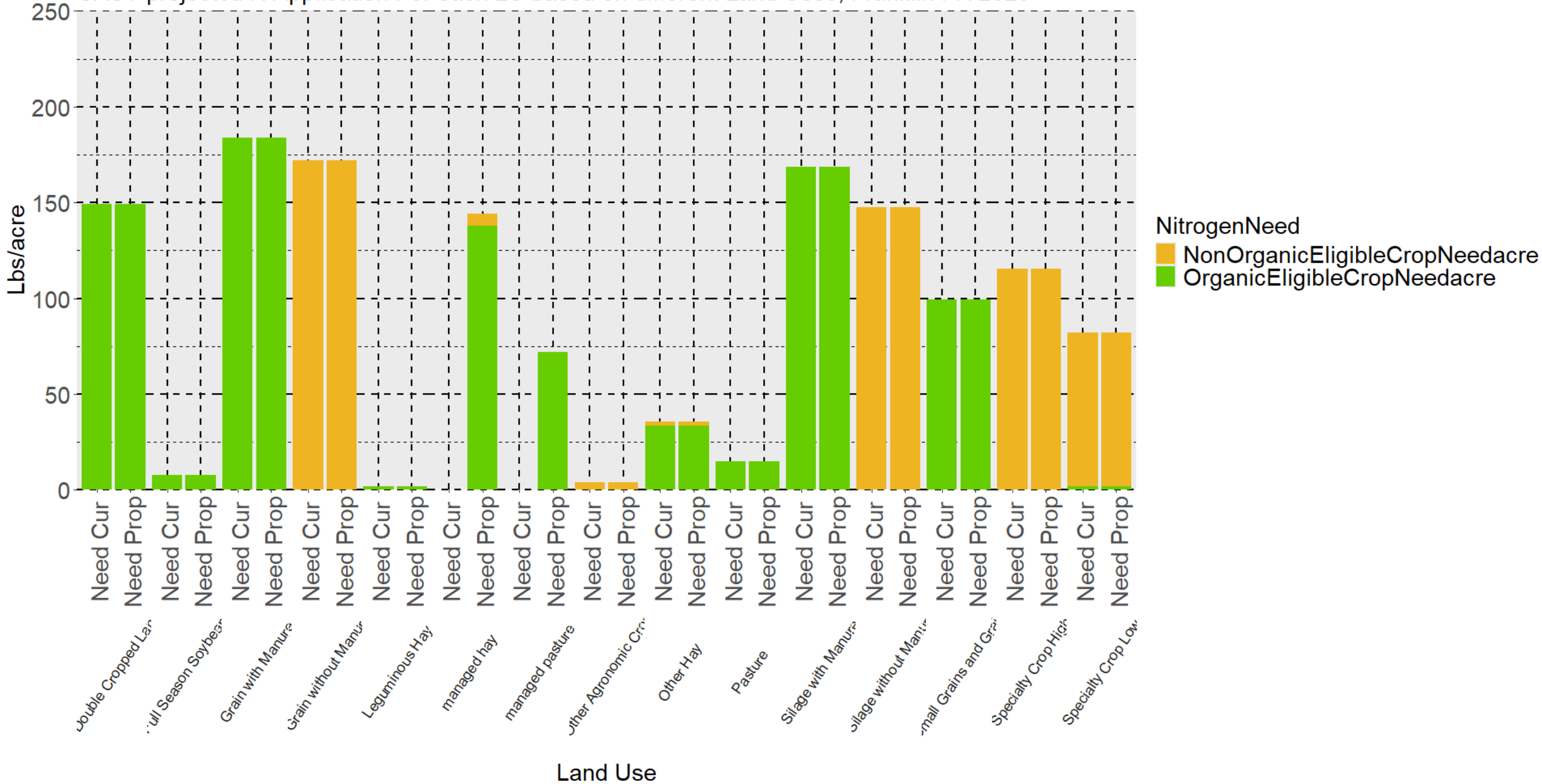


PAN Applied For each LU based on different Land Uses, Chester PA 2020

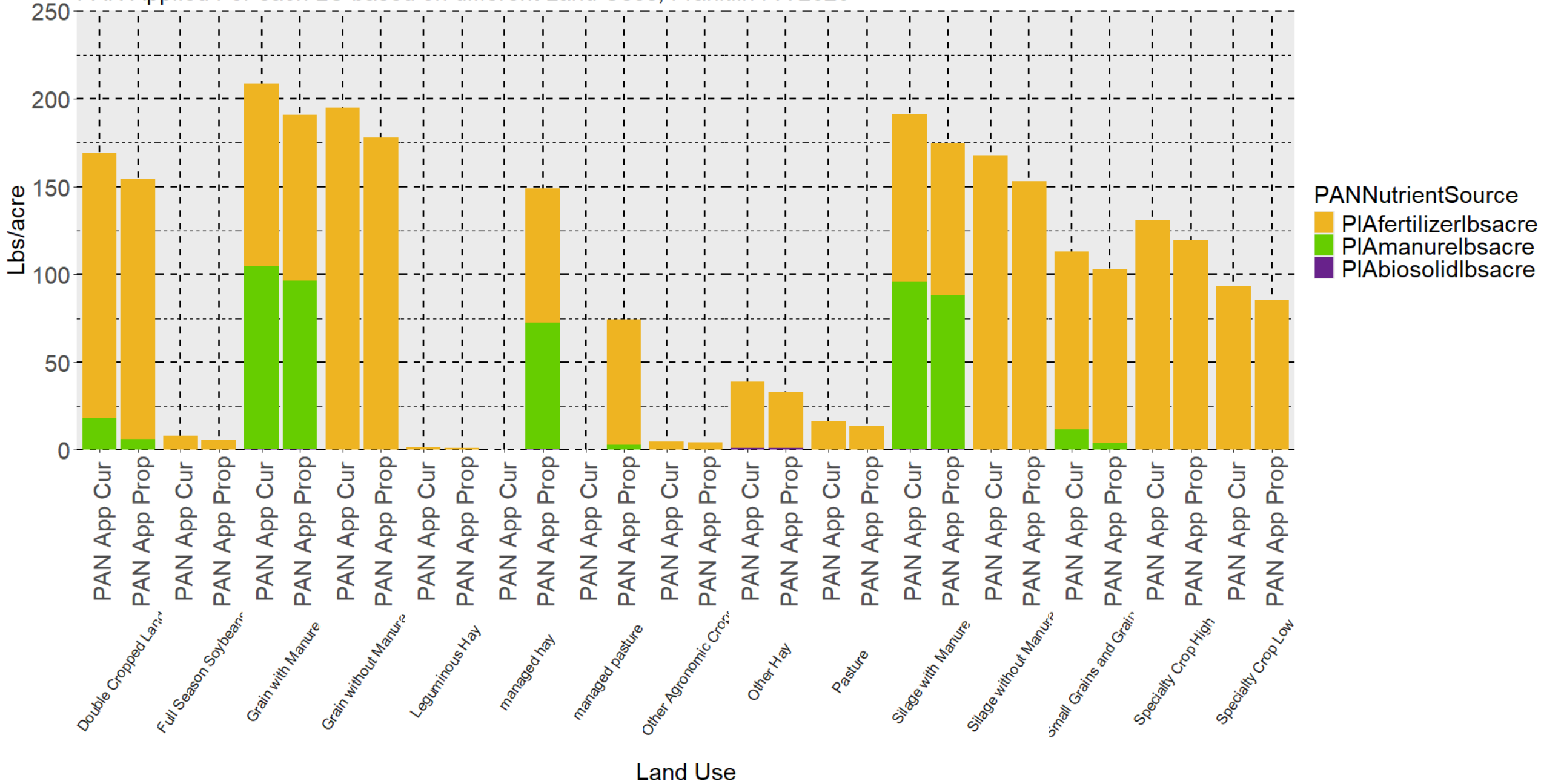


Franklin, PA

CAST projected N Application For each LU based on different Land Uses, Franklin PA 2020

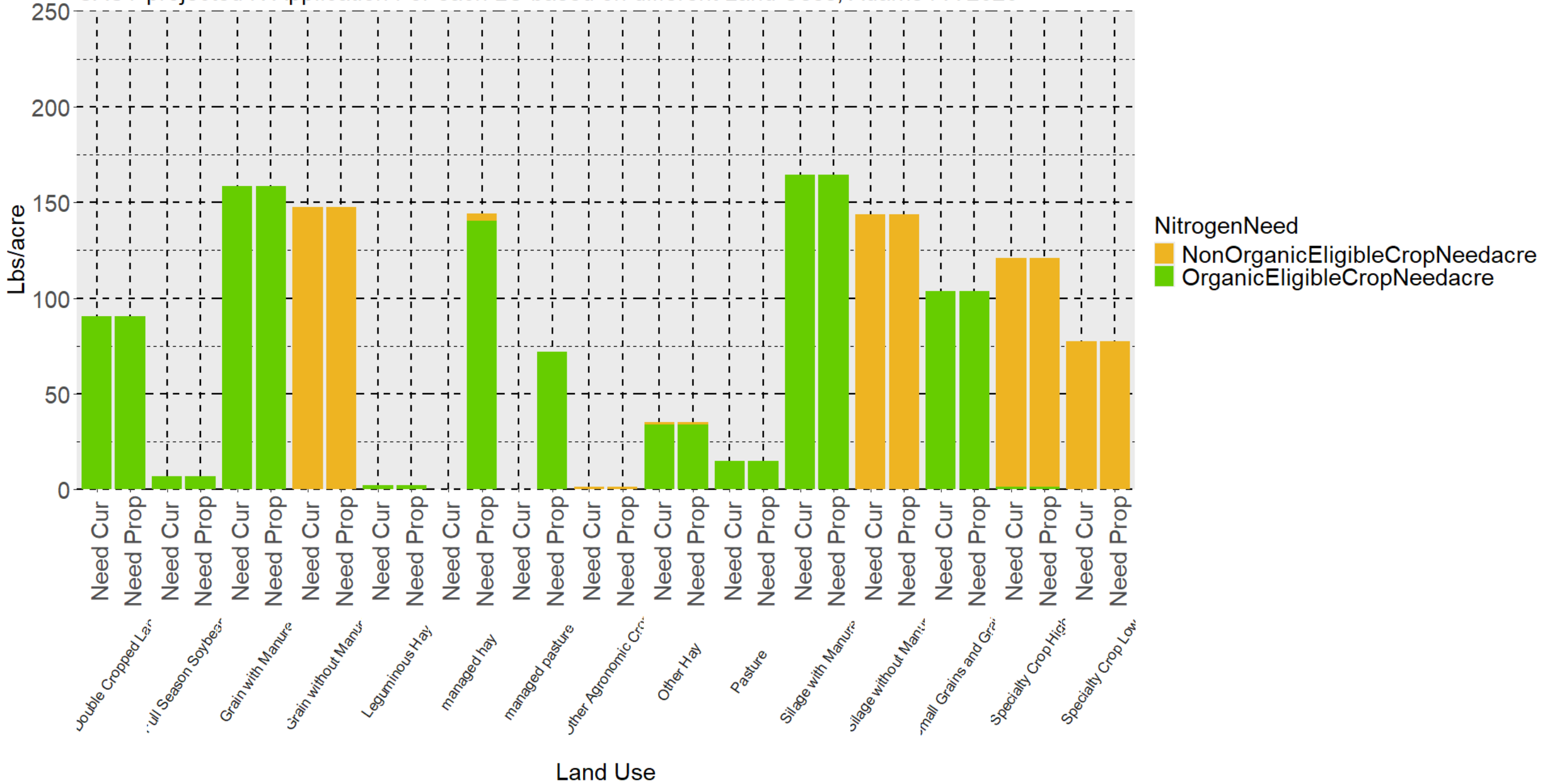


PAN Applied For each LU based on different Land Uses, Franklin PA 2020

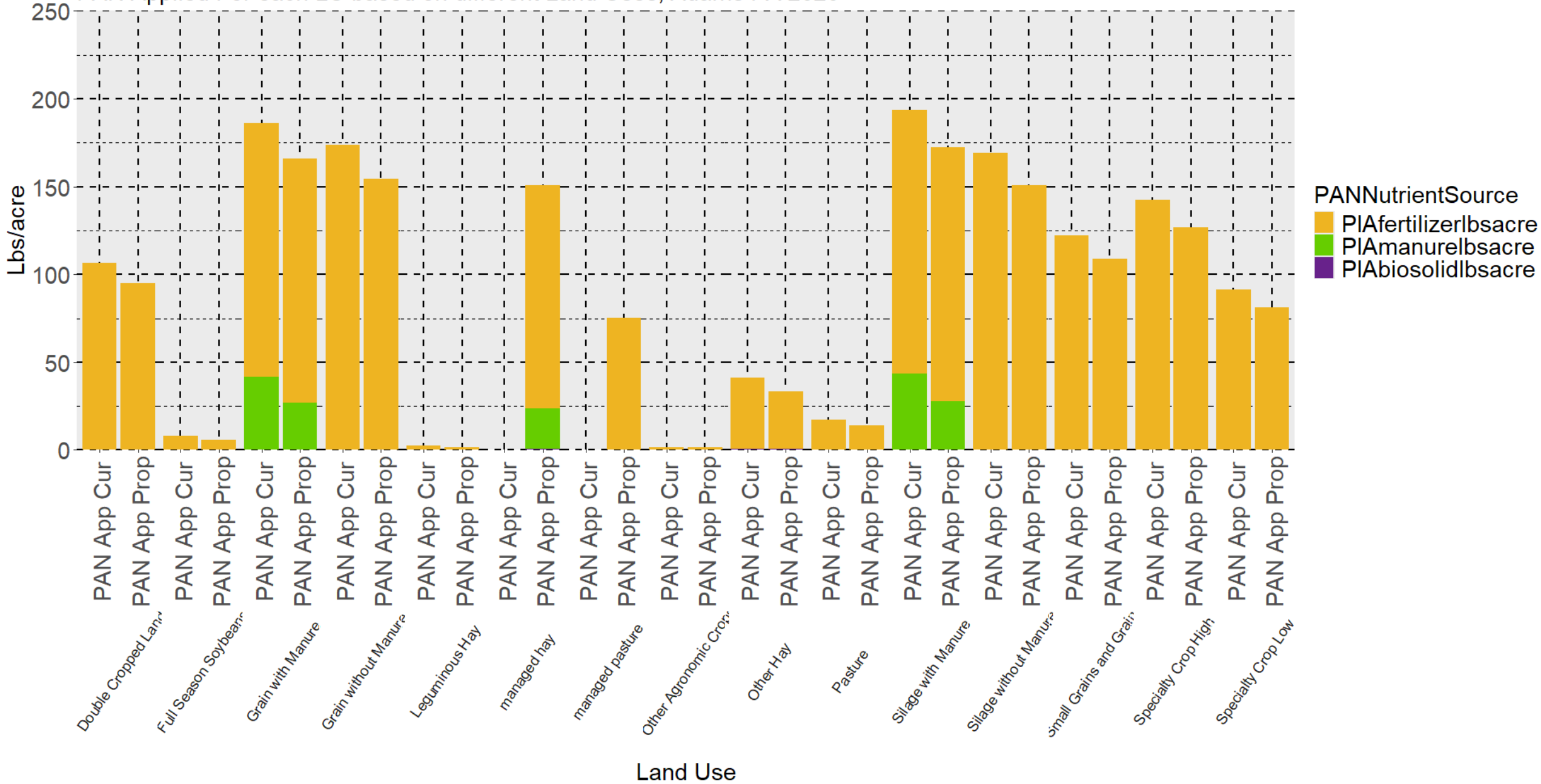


Adams, PA

CAST projected N Application For each LU based on different Land Uses, Adams PA 2020

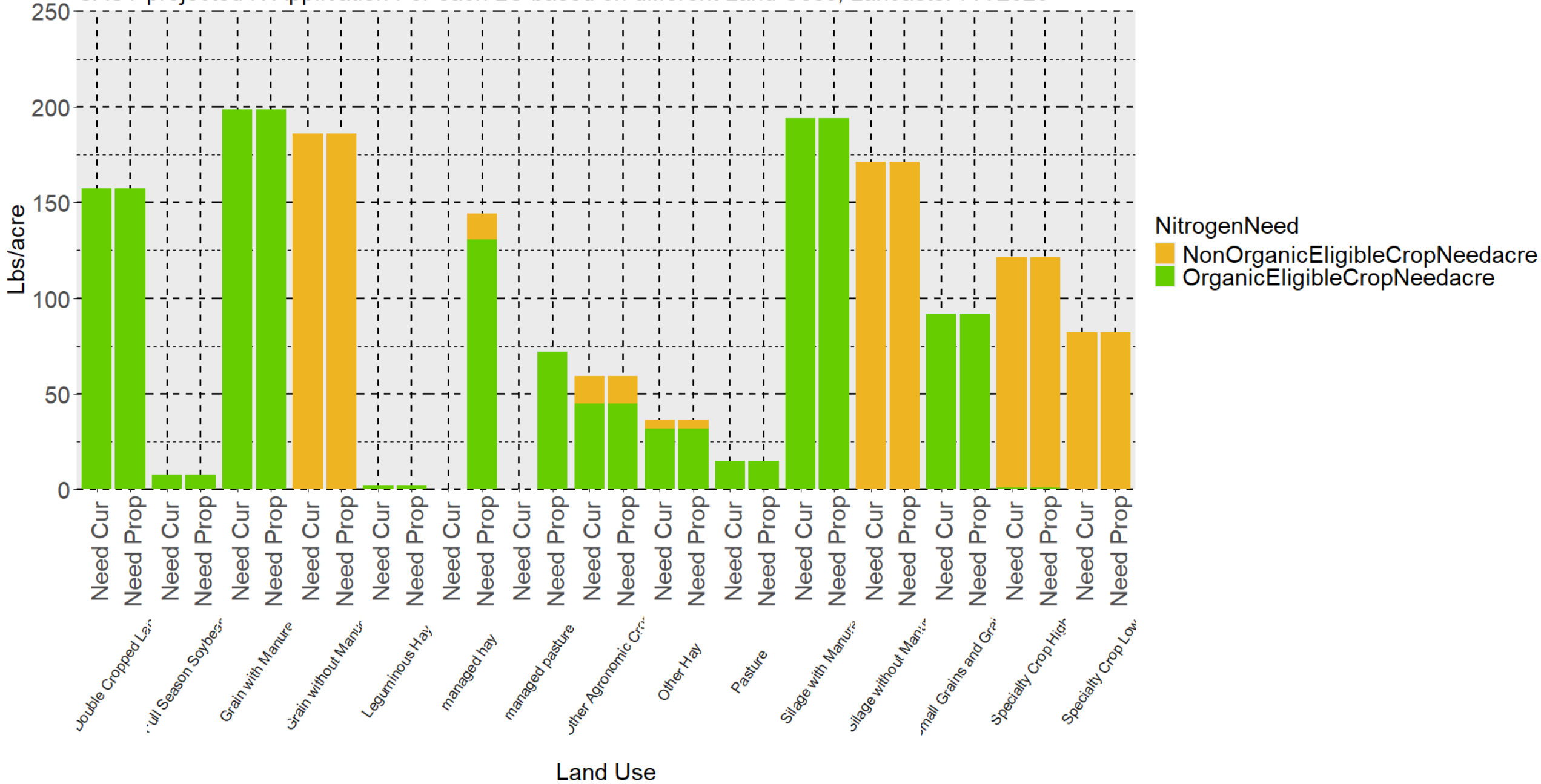


PAN Applied For each LU based on different Land Uses, Adams PA 2020

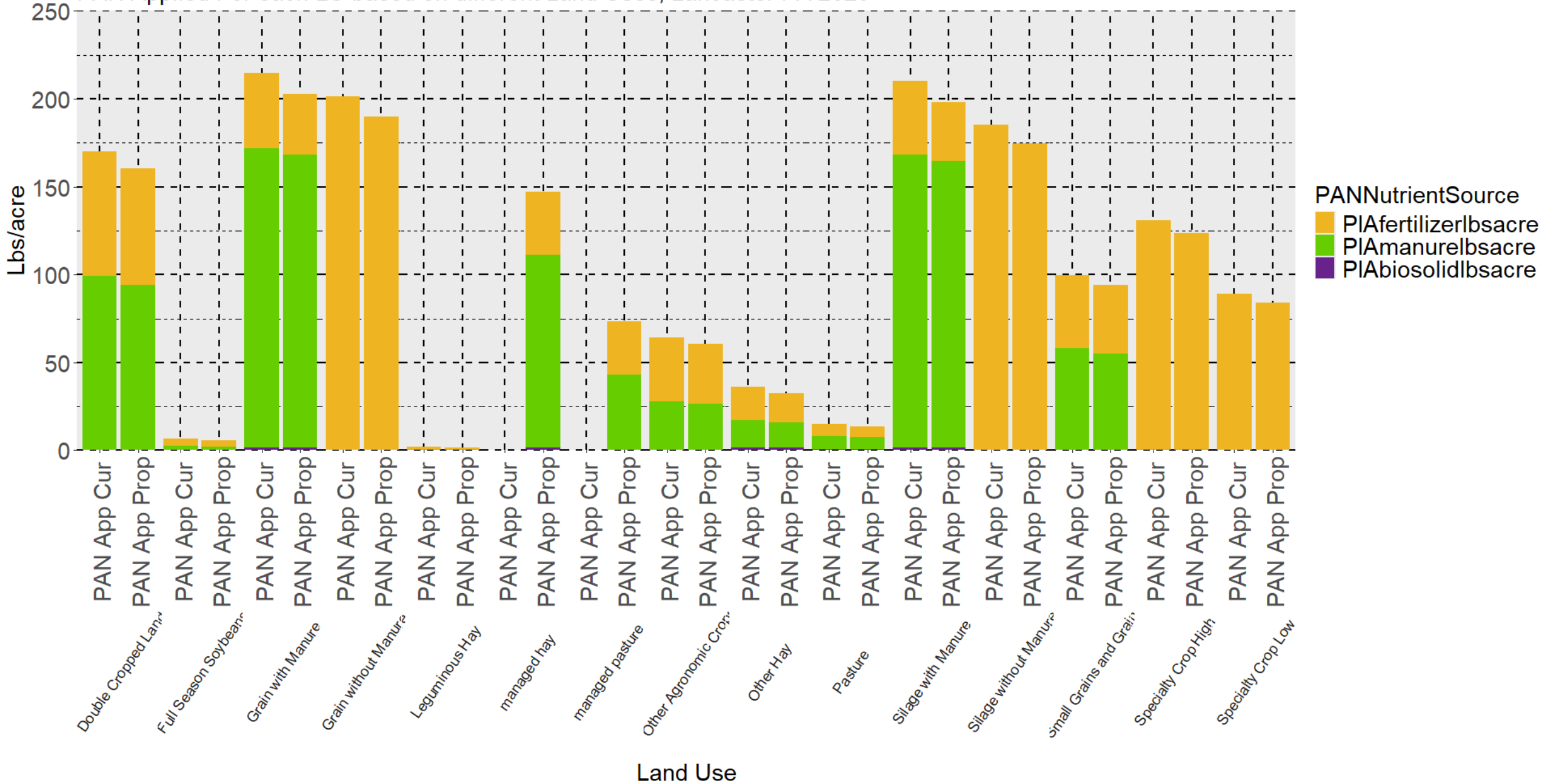


Lancaster, PA

CAST projected N Application For each LU based on different Land Uses, Lancaster PA 2020

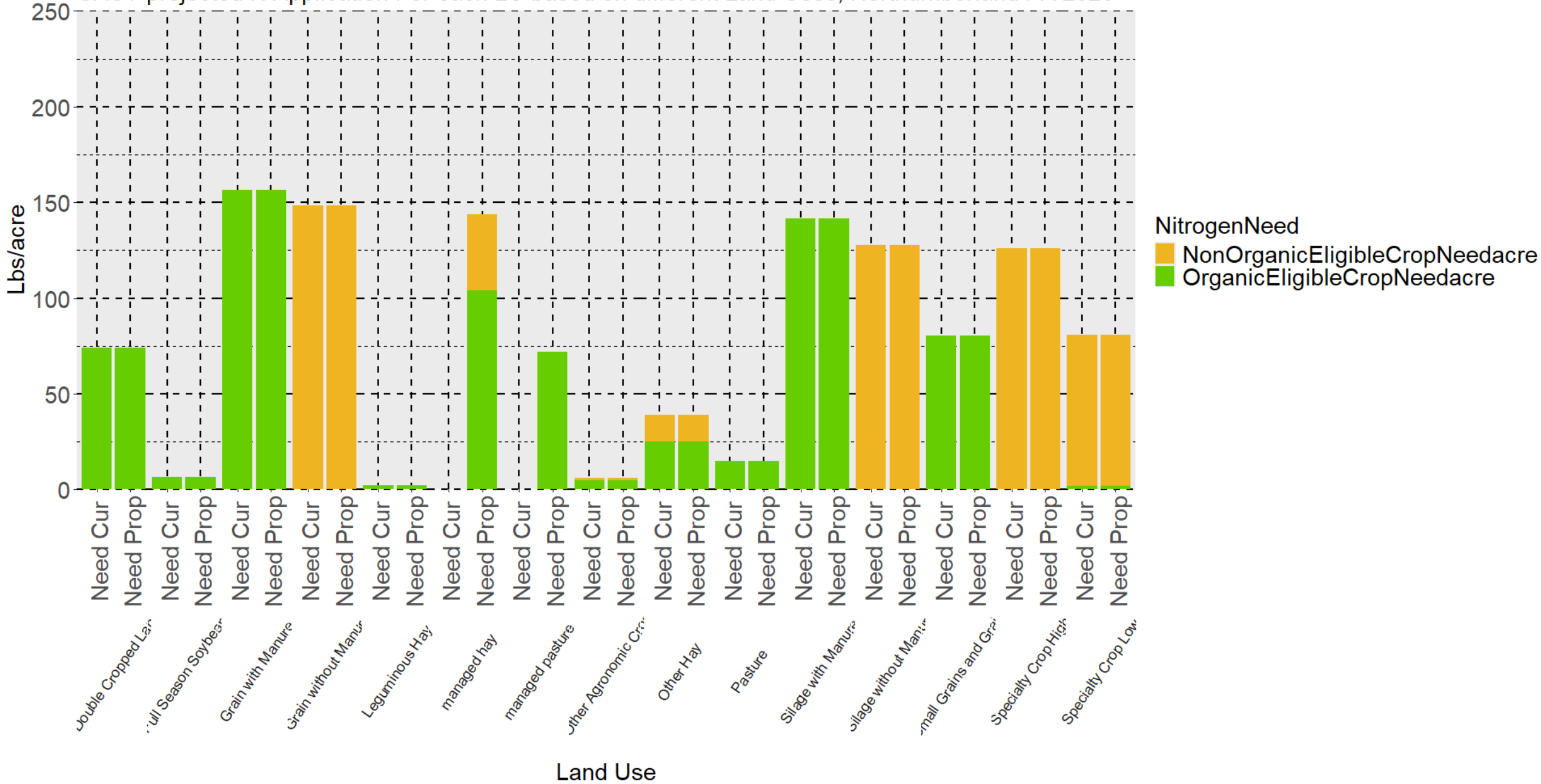


PAN Applied For each LU based on different Land Uses, Lancaster PA 2020

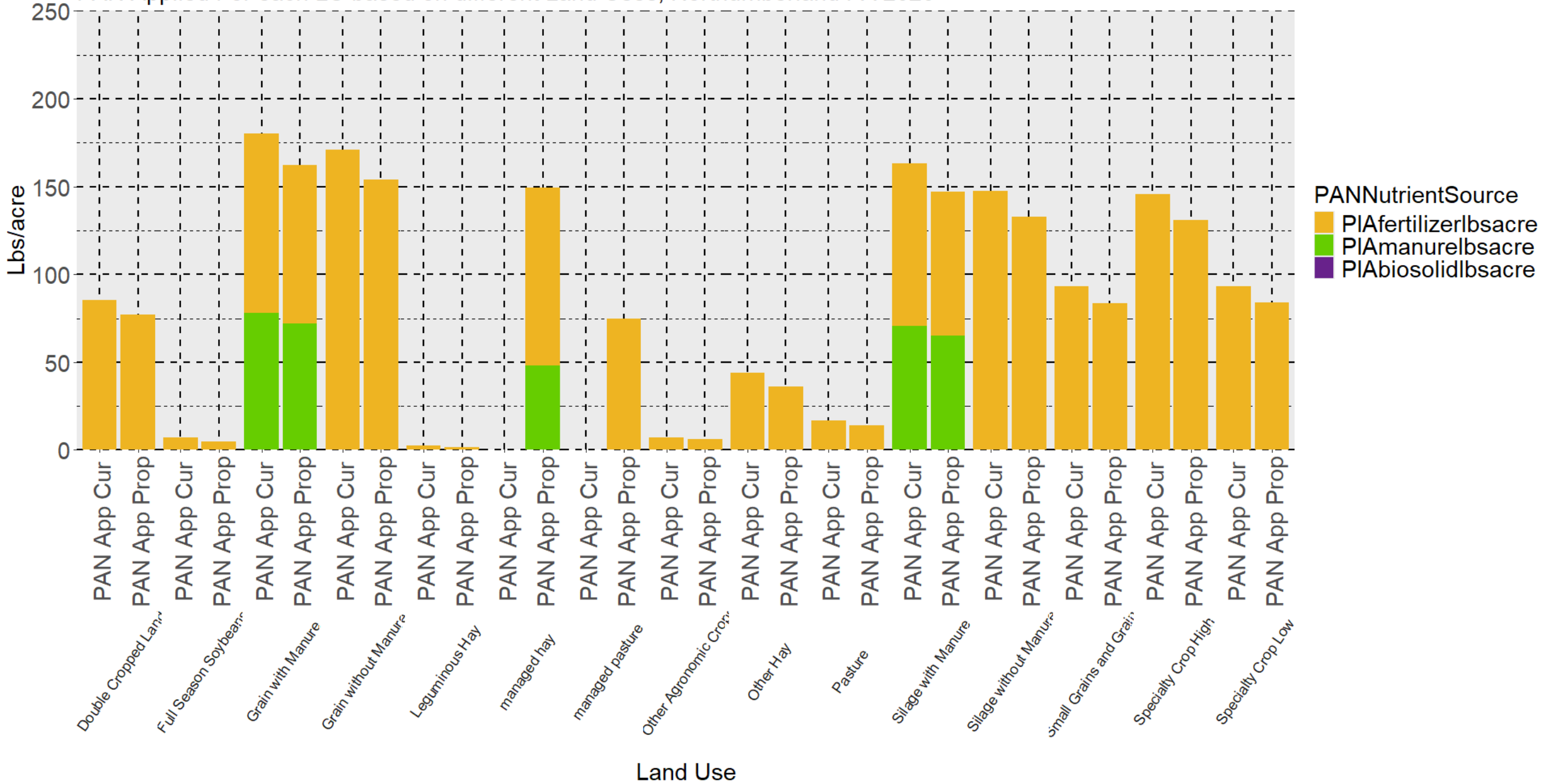


Northumberland, PA

CAST projected N Application For each LU based on different Land Uses, Northumberland PA 2020

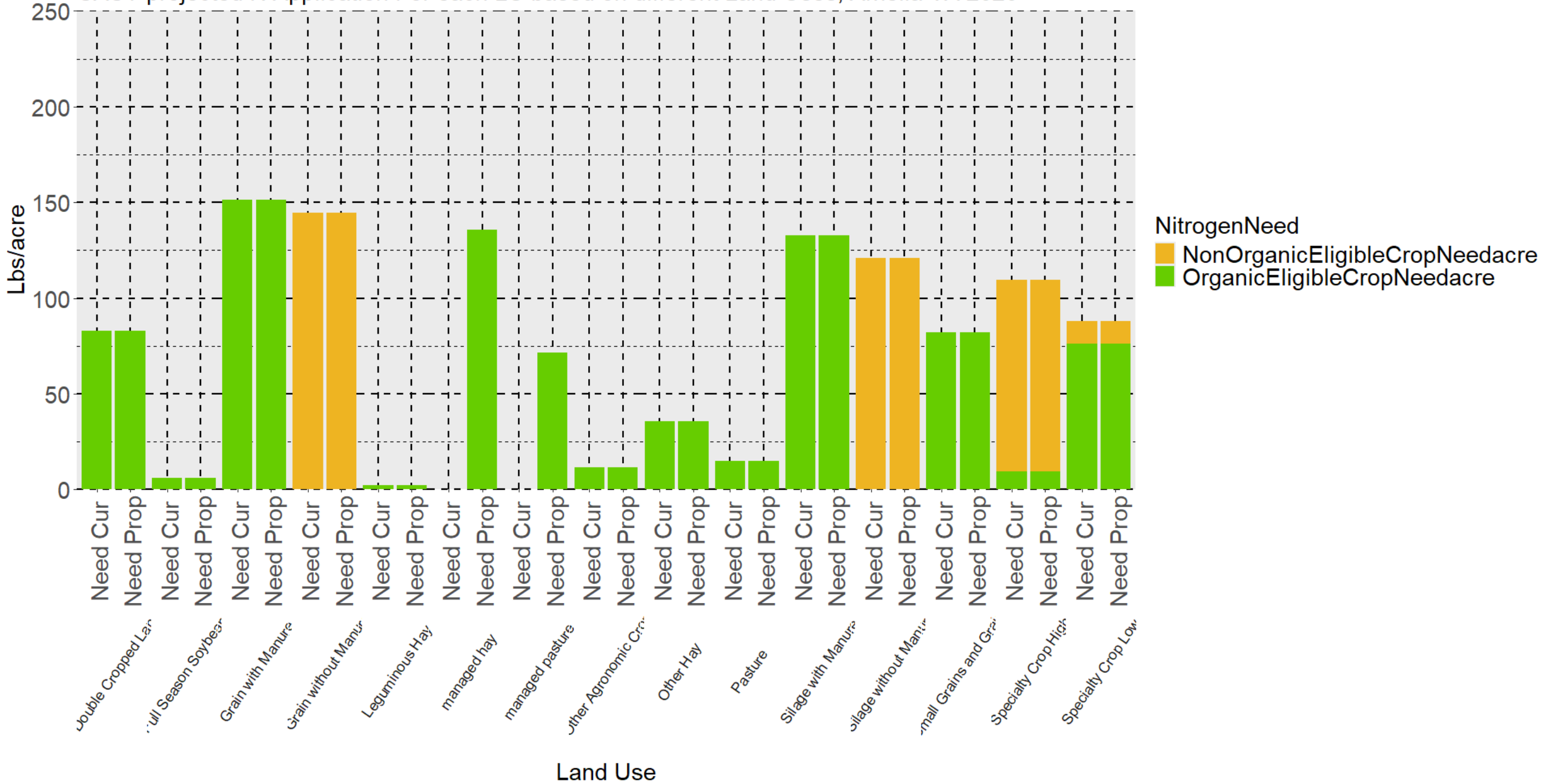


PAN Applied For each LU based on different Land Uses, Northumberland PA 2020

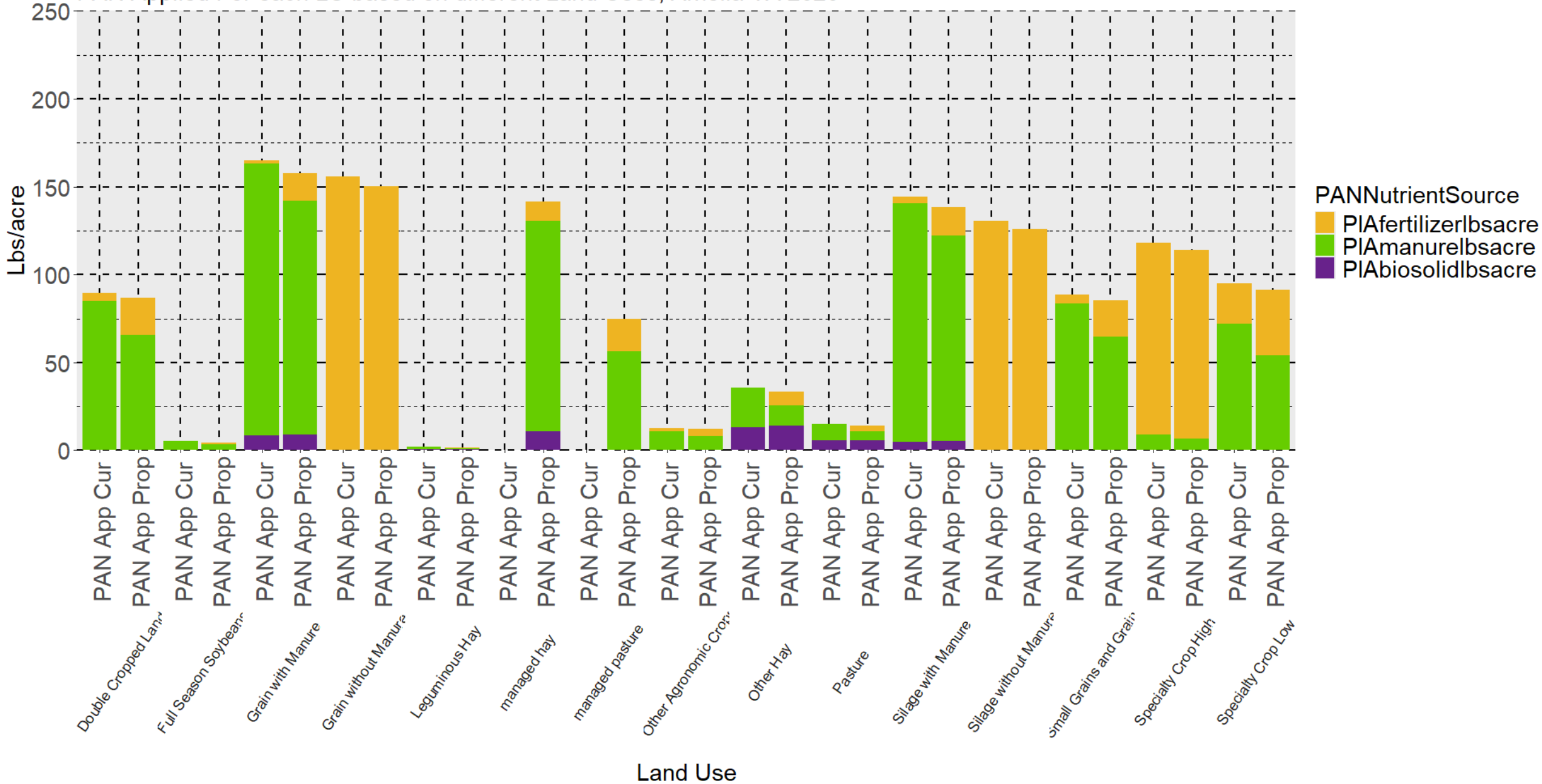


Amelia, VA

CAST projected N Application For each LU based on different Land Uses, Amelia VA 2020

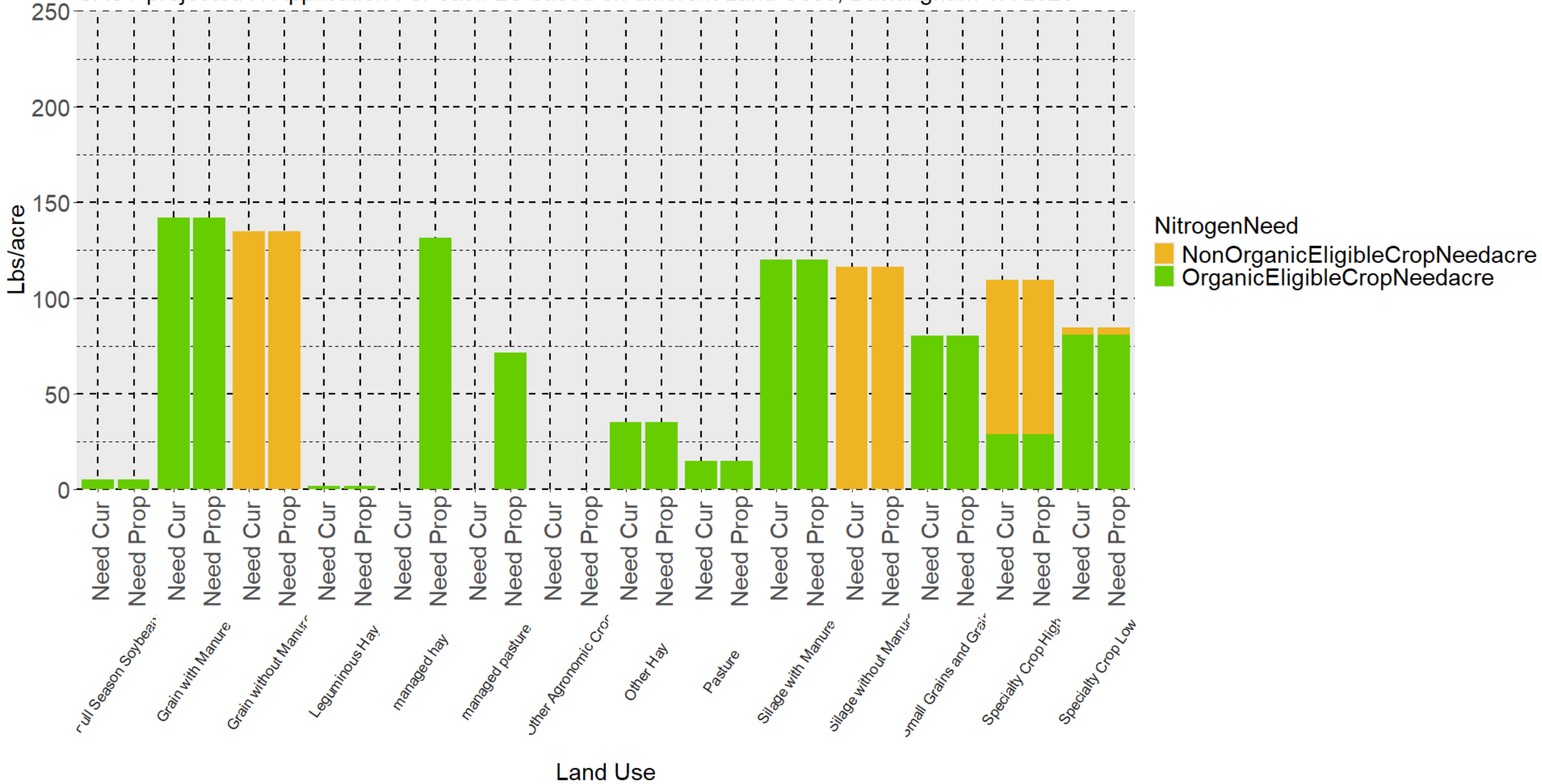


PAN Applied For each LU based on different Land Uses, Amelia VA 2020

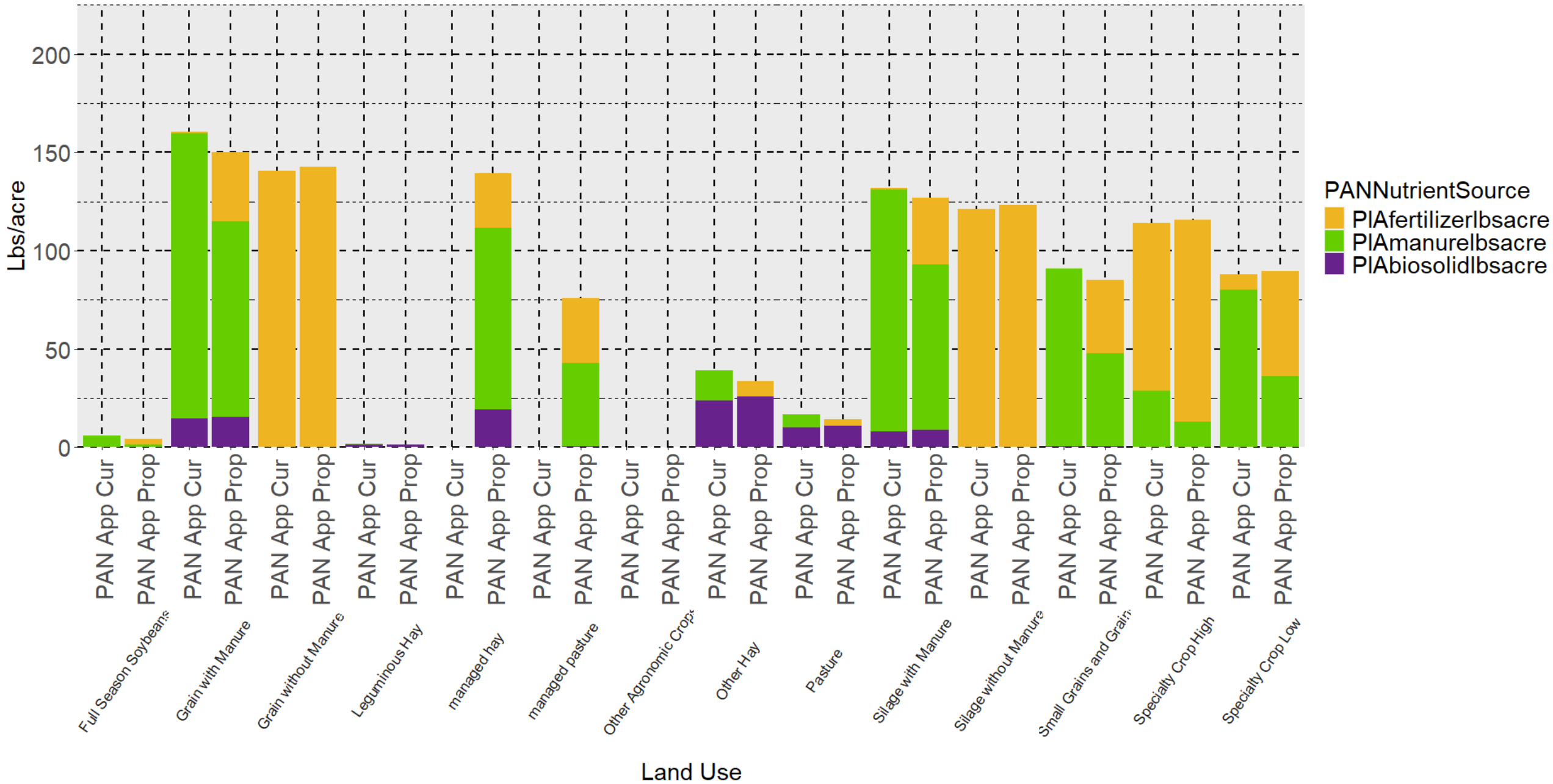


Buckingham, VA

CAST projected N Application For each LU based on different Land Uses, Buckingham VA 2020

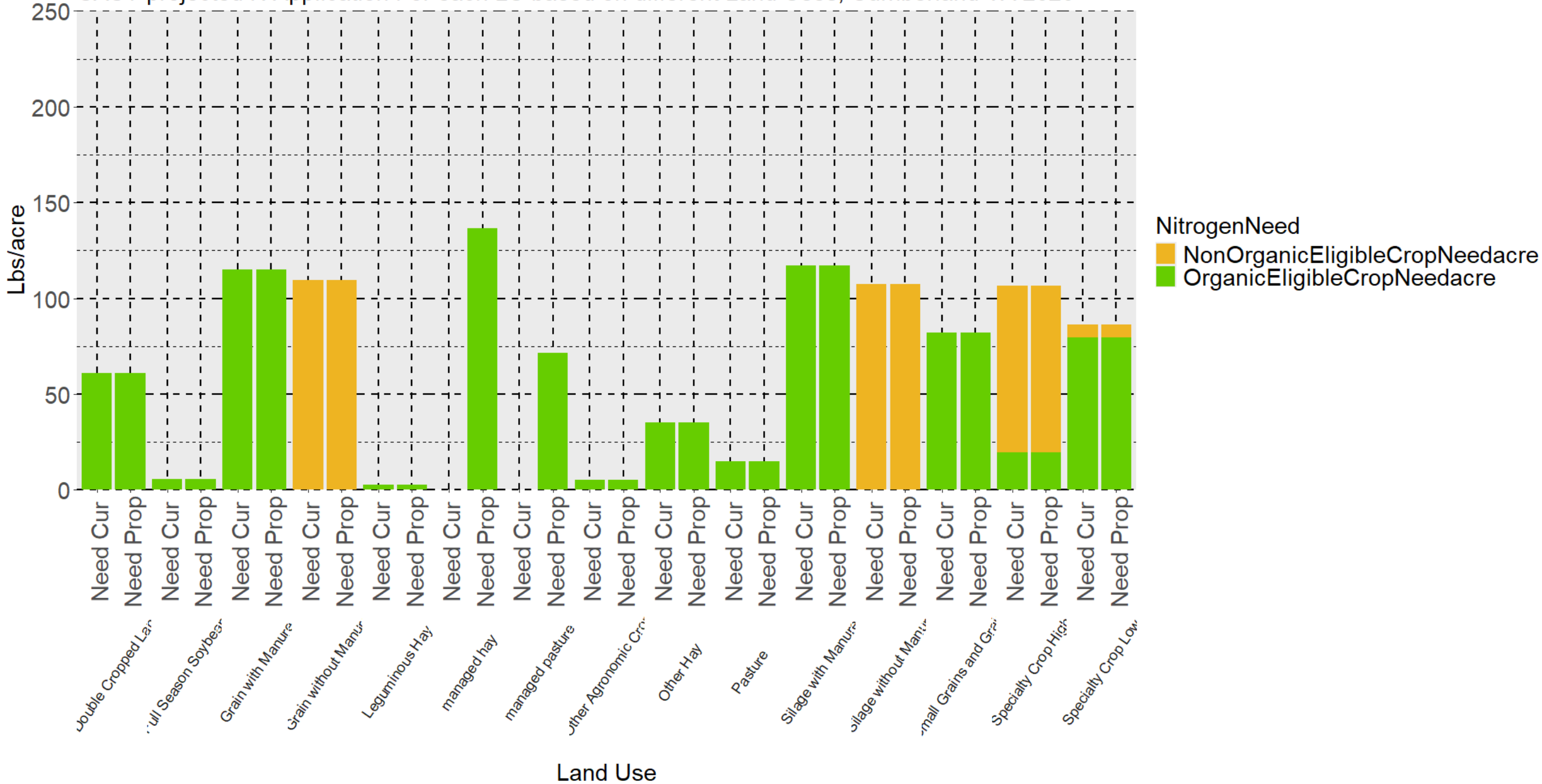


PAN Applied For each LU based on different Land Uses, Buckingham VA 2020

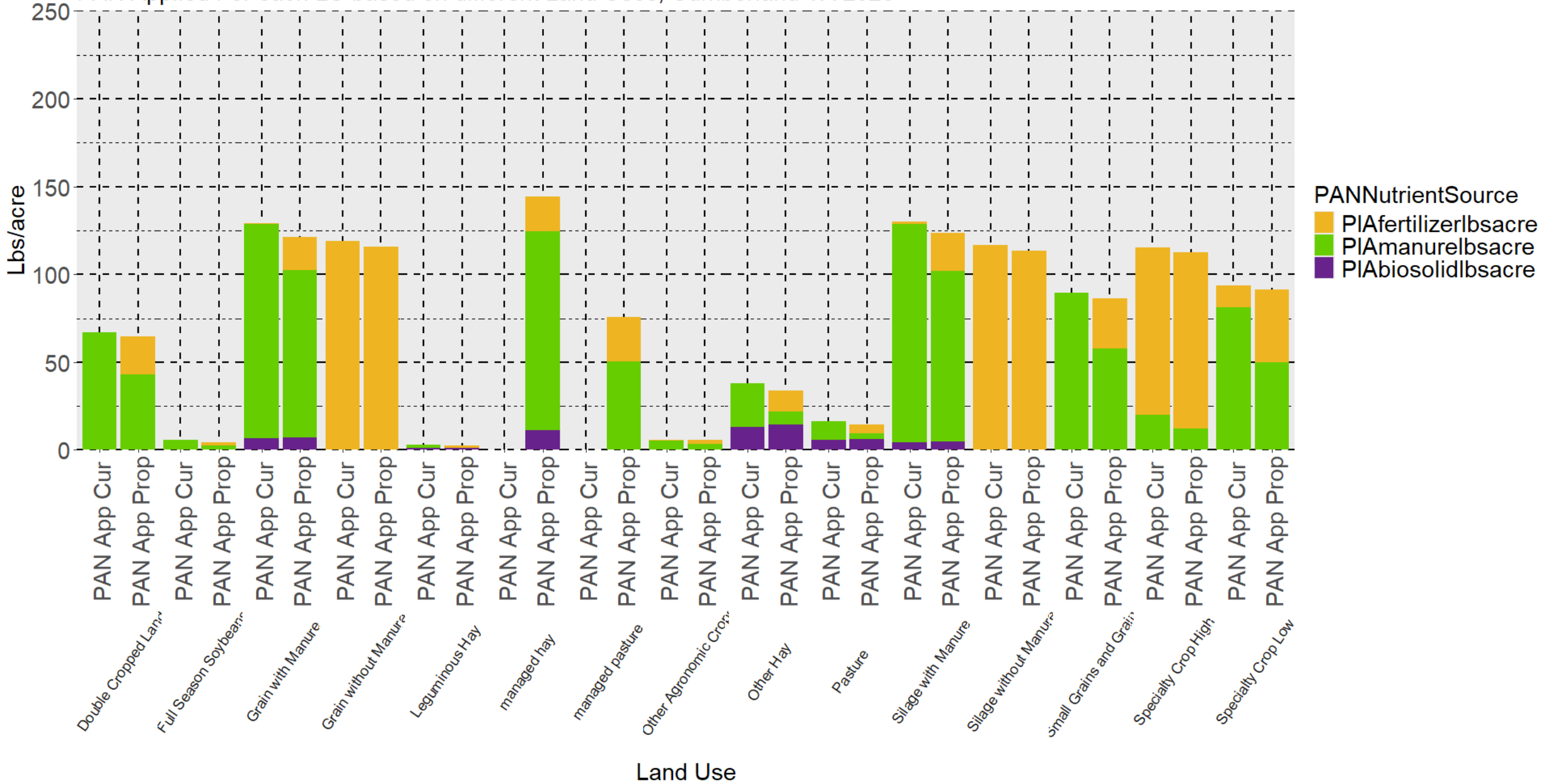


Cumberland, VA

CAST projected N Application For each LU based on different Land Uses, Cumberland VA 2020

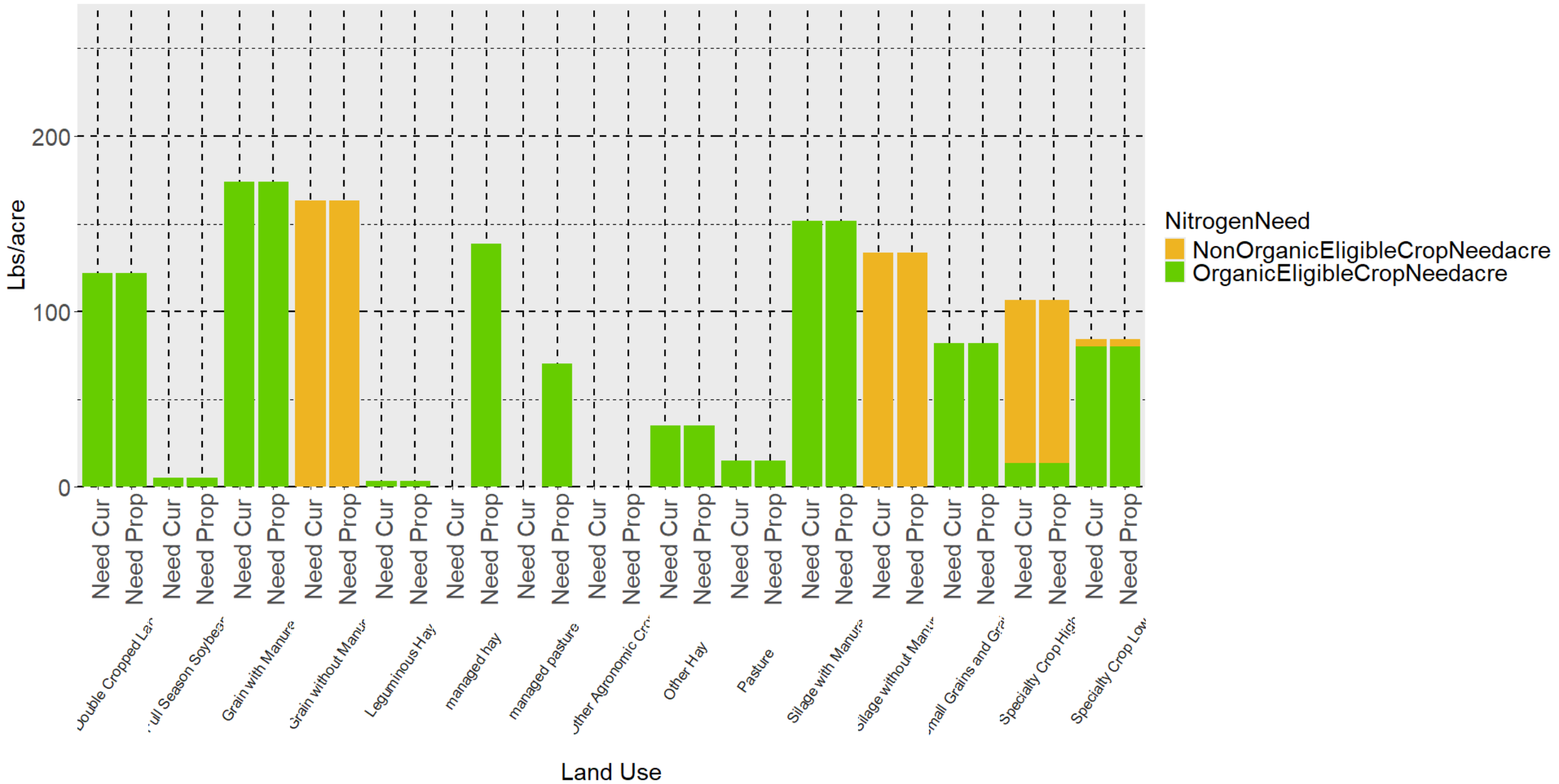


PAN Applied For each LU based on different Land Uses, Cumberland VA 2020

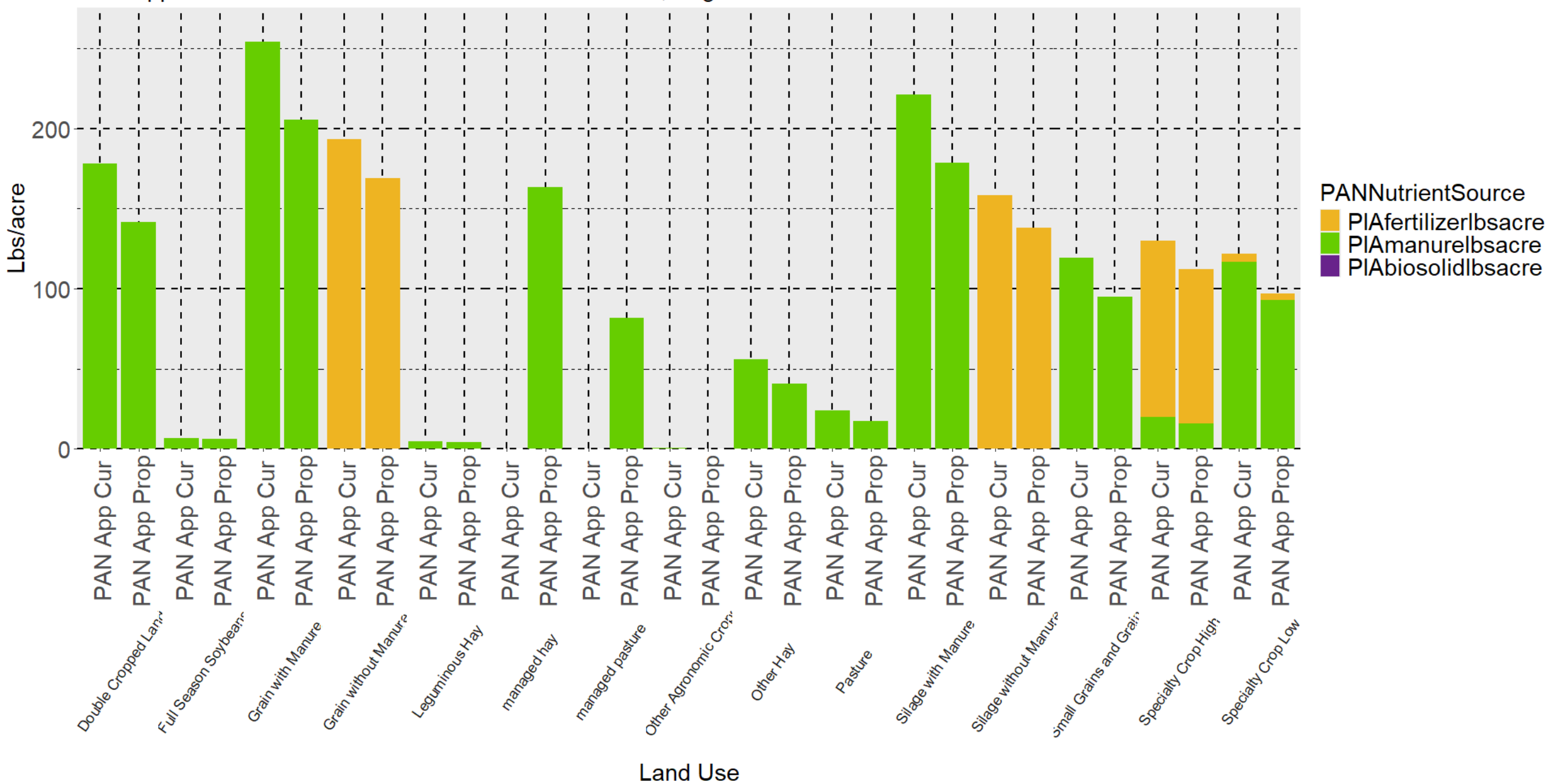


Page, VA

CAST projected N Application For each LU based on different Land Uses, Page VA 2020

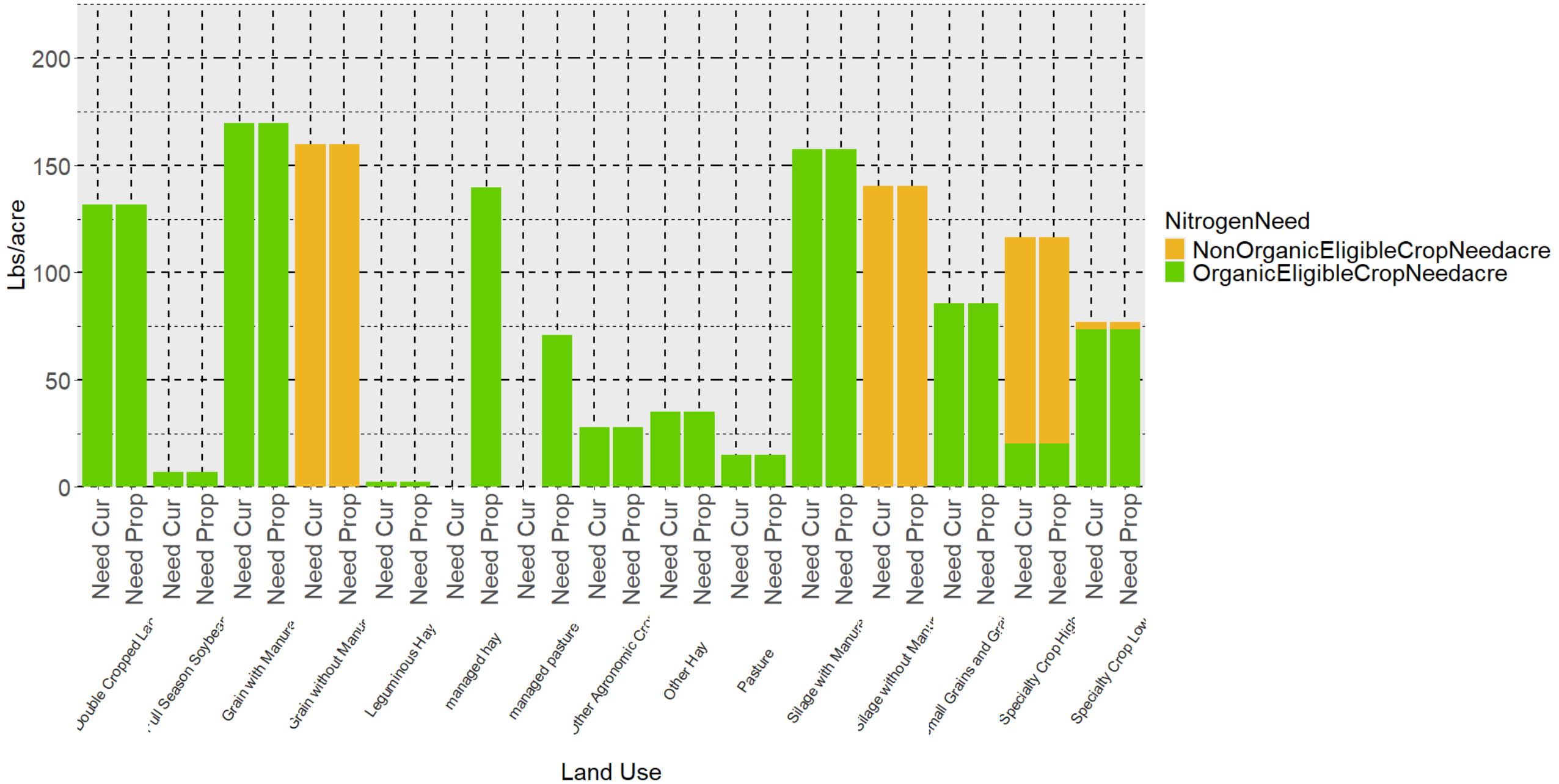


PAN Applied For each LU based on different Land Uses, Page VA 2020

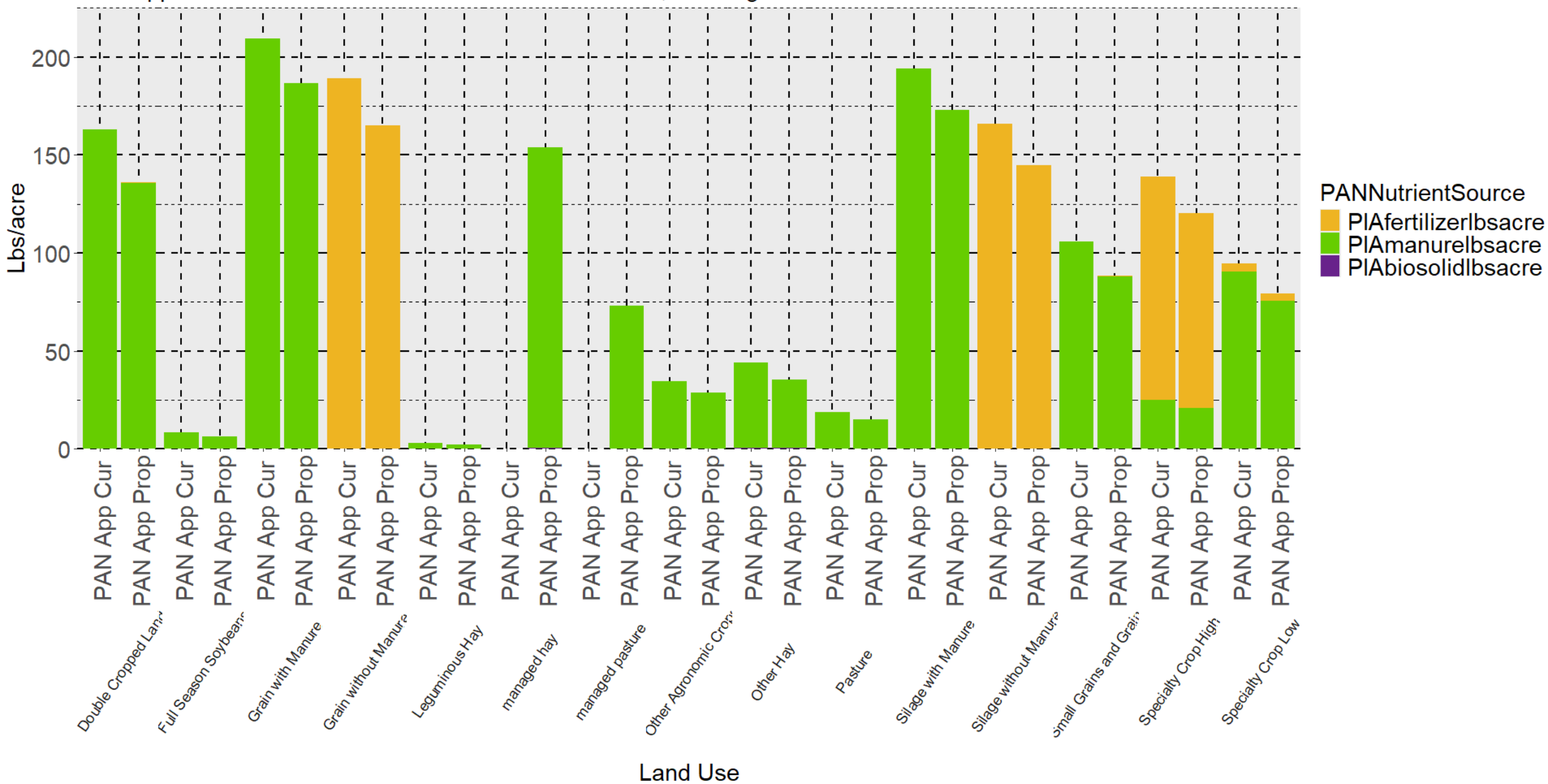


Rockingham, VA

CAST projected N Application For each LU based on different Land Uses, Rockingham VA 2020

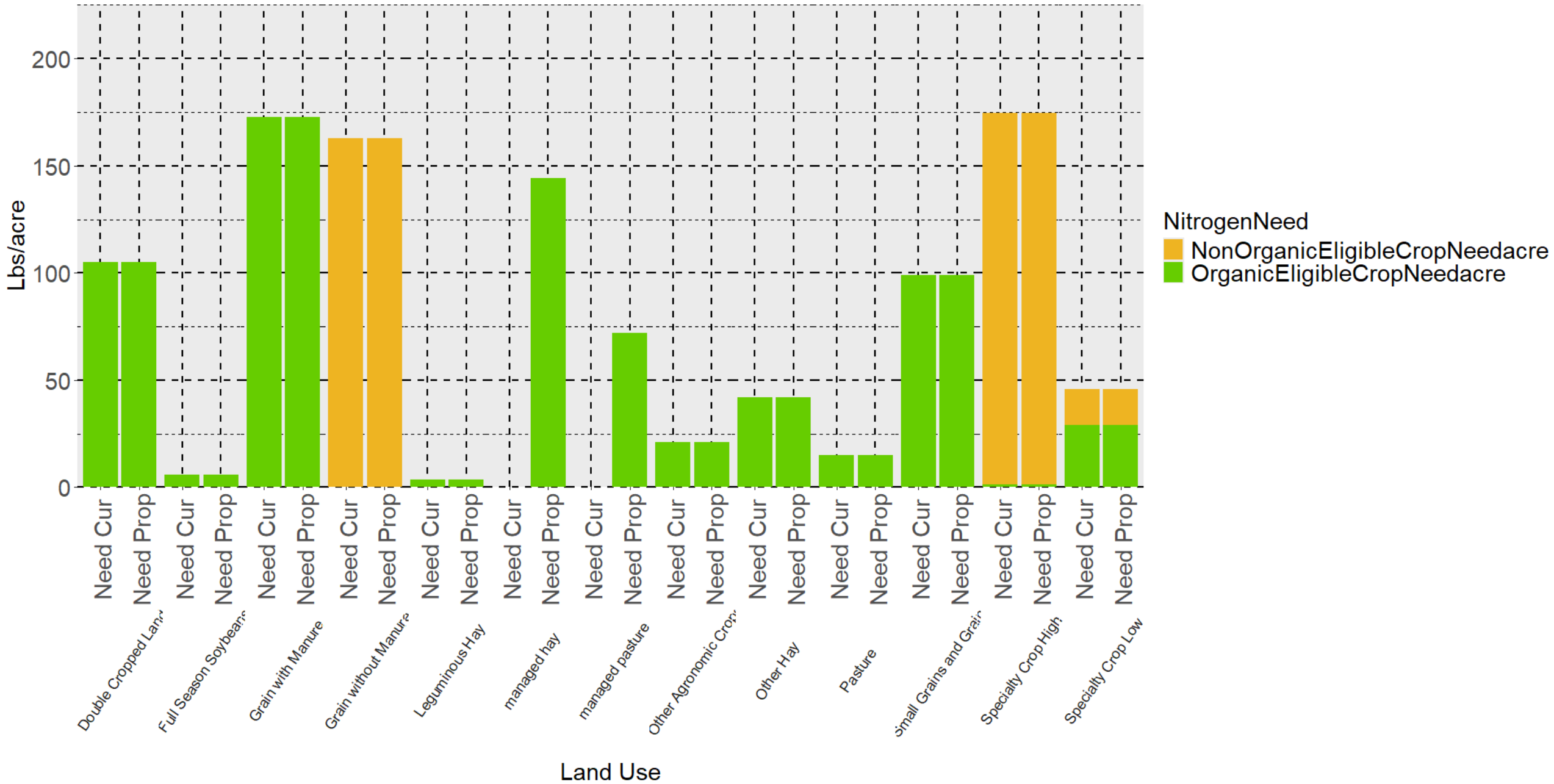


PAN Applied For each LU based on different Land Uses, Rockingham VA 2020

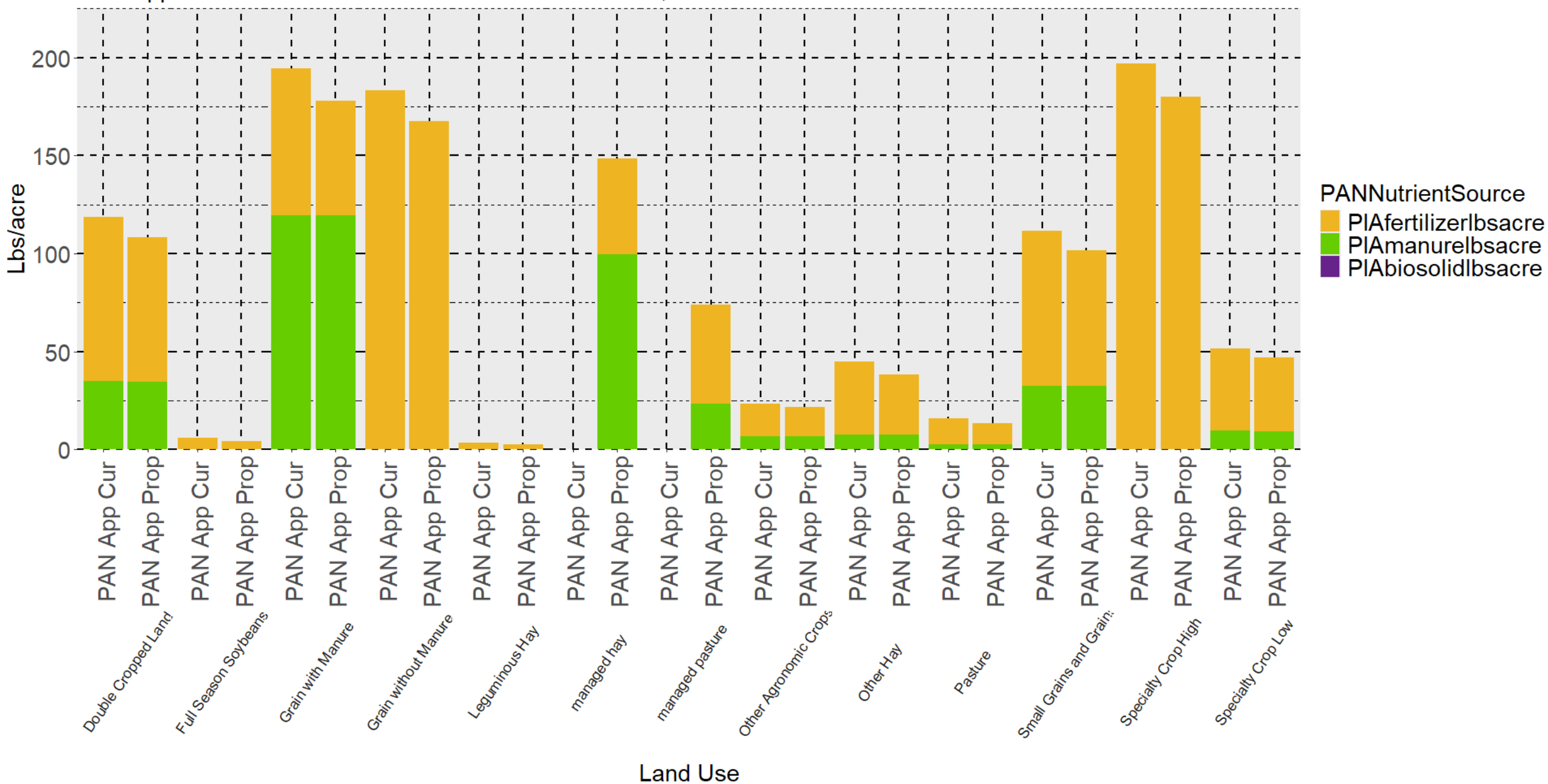


Accomack, VA

CAST projected N Application For each LU based on different Land Uses, Accomack VA 2020

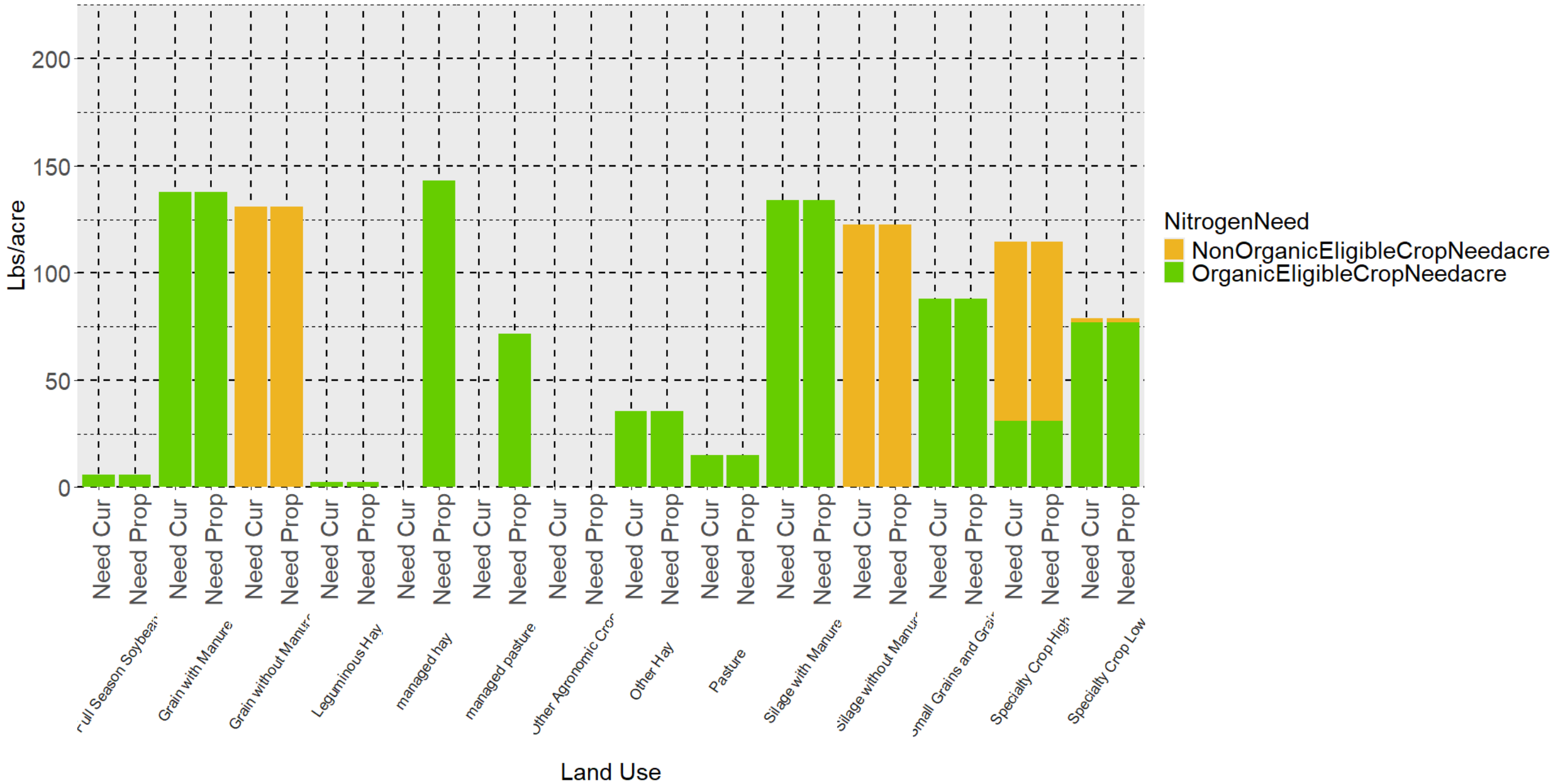


PAN Applied For each LU based on different Land Uses, Accomack VA 2020

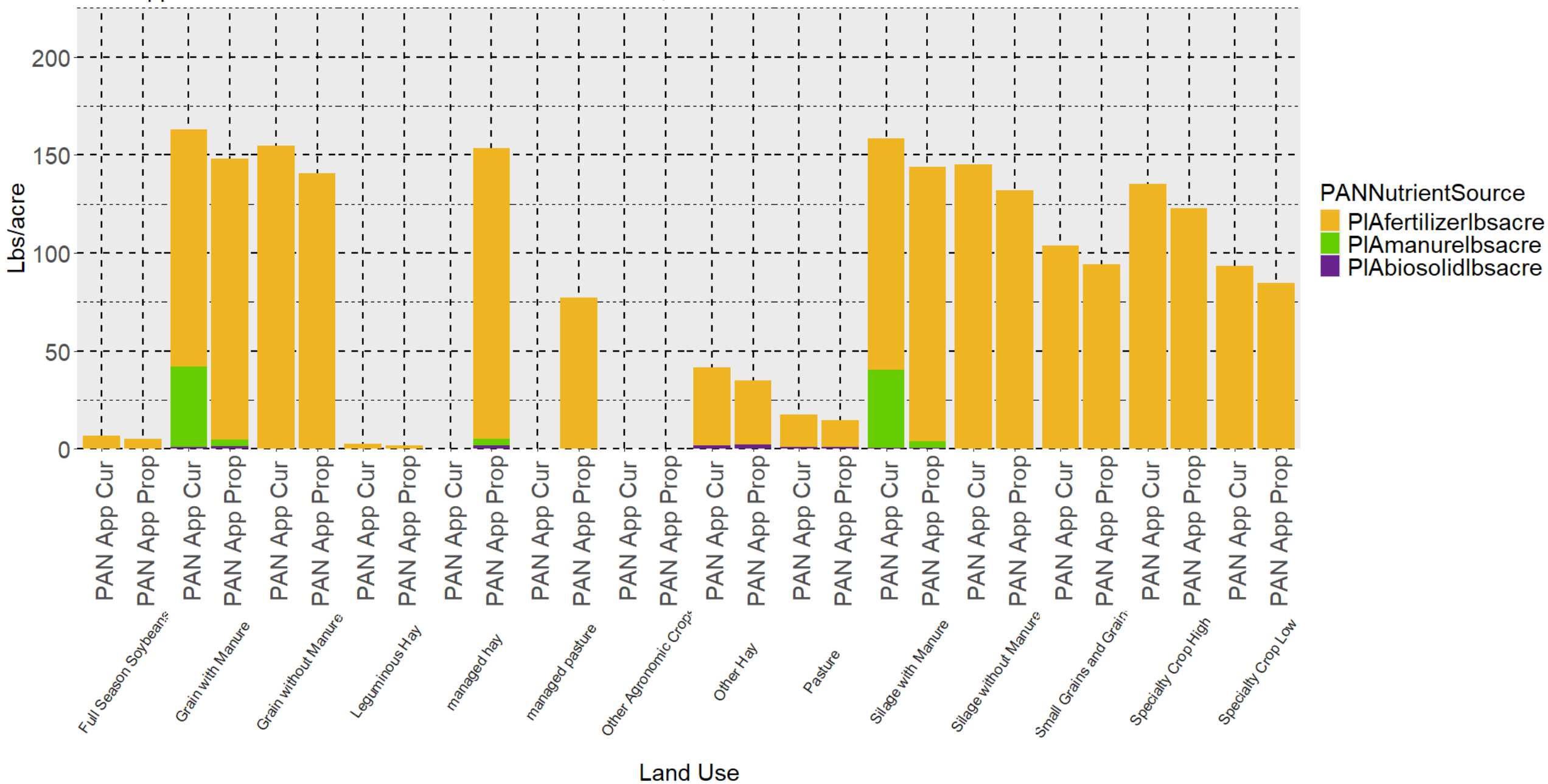


Albemarle, VA

CAST projected N Application For each LU based on different Land Uses, Albemarle VA 2020

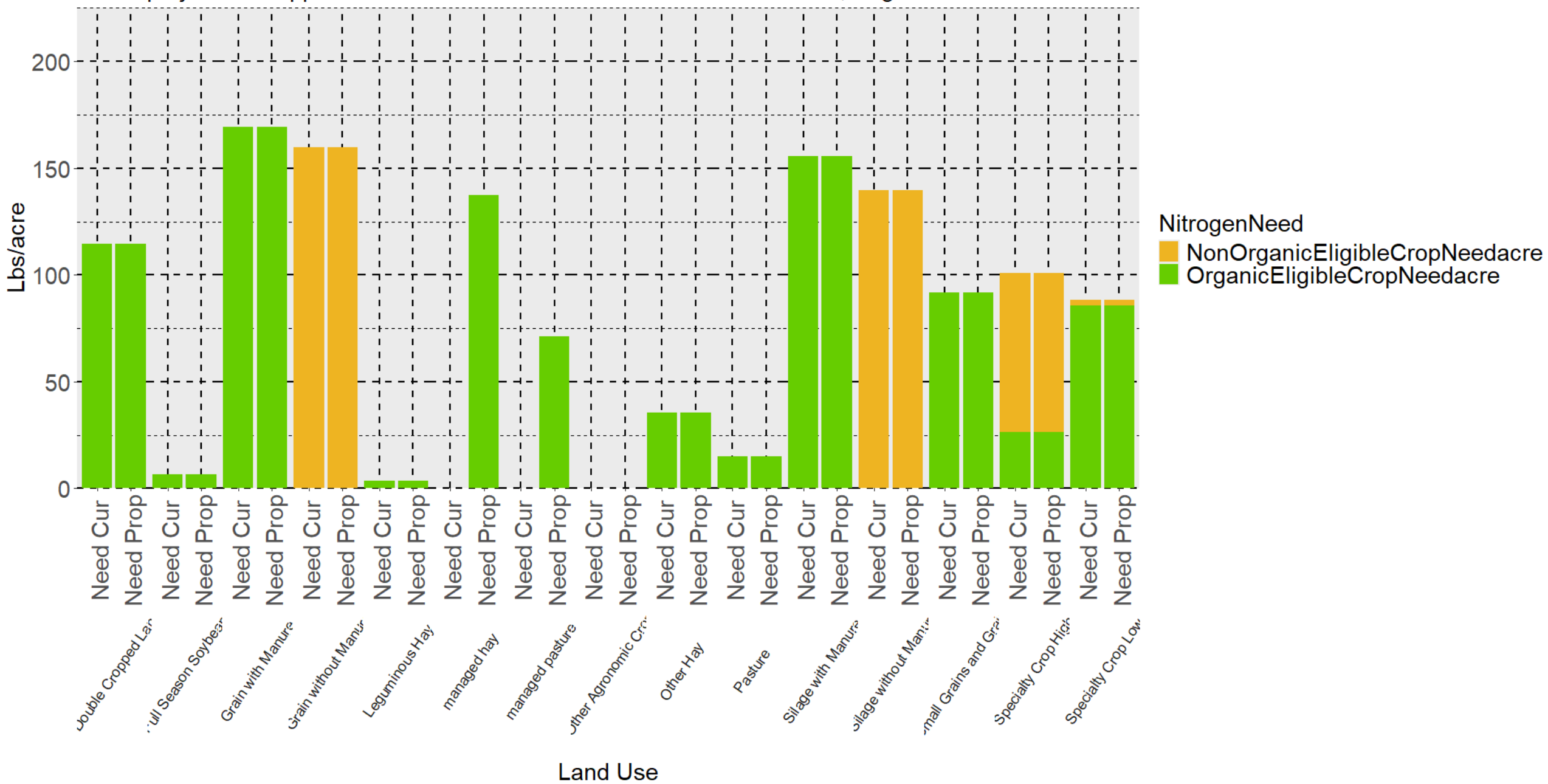


PAN Applied For each LU based on different Land Uses, Albemarle VA 2020

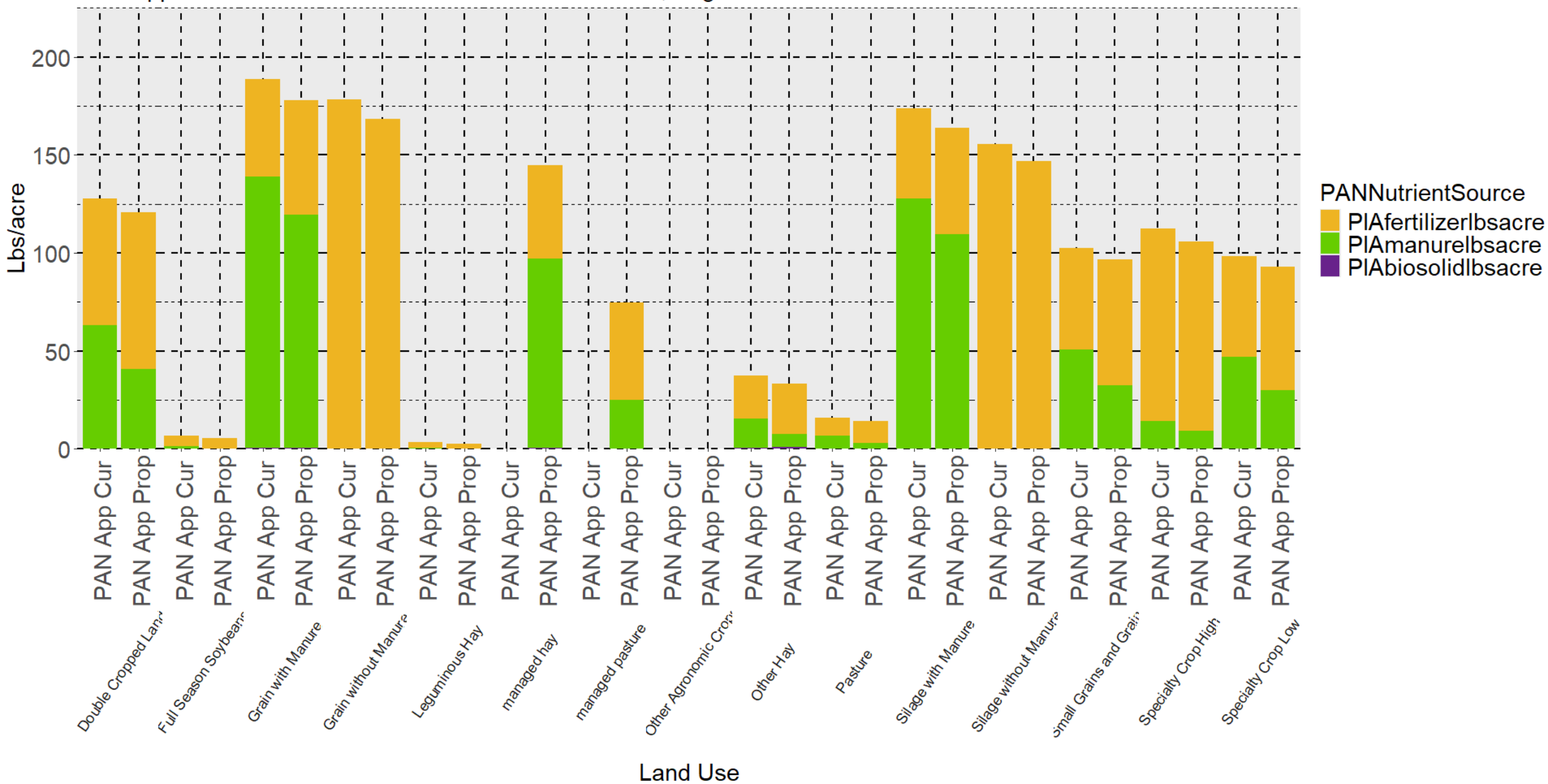


Augusta, VA

CAST projected N Application For each LU based on different Land Uses, Augusta VA 2020

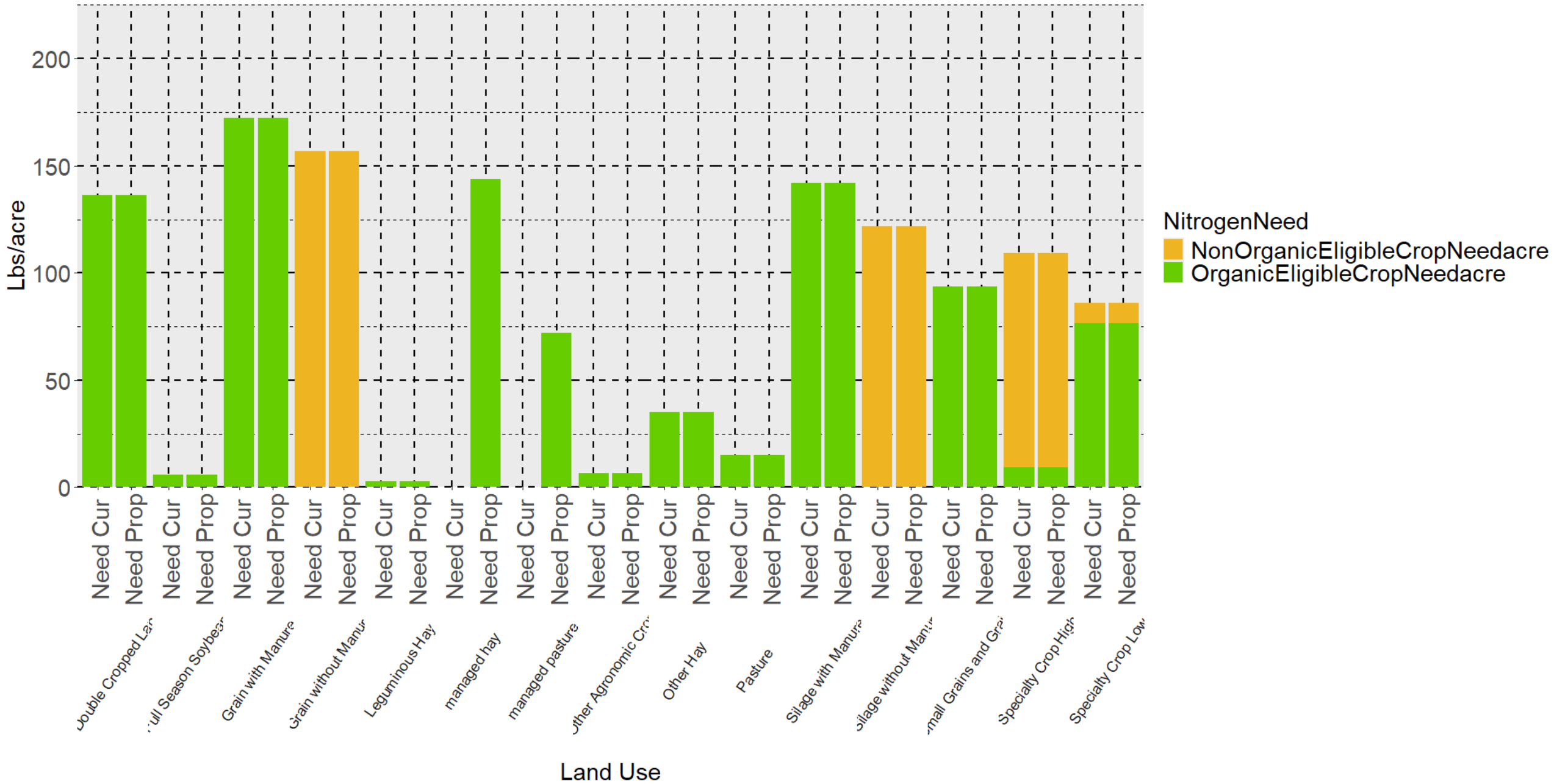


PAN Applied For each LU based on different Land Uses, Augusta VA 2020

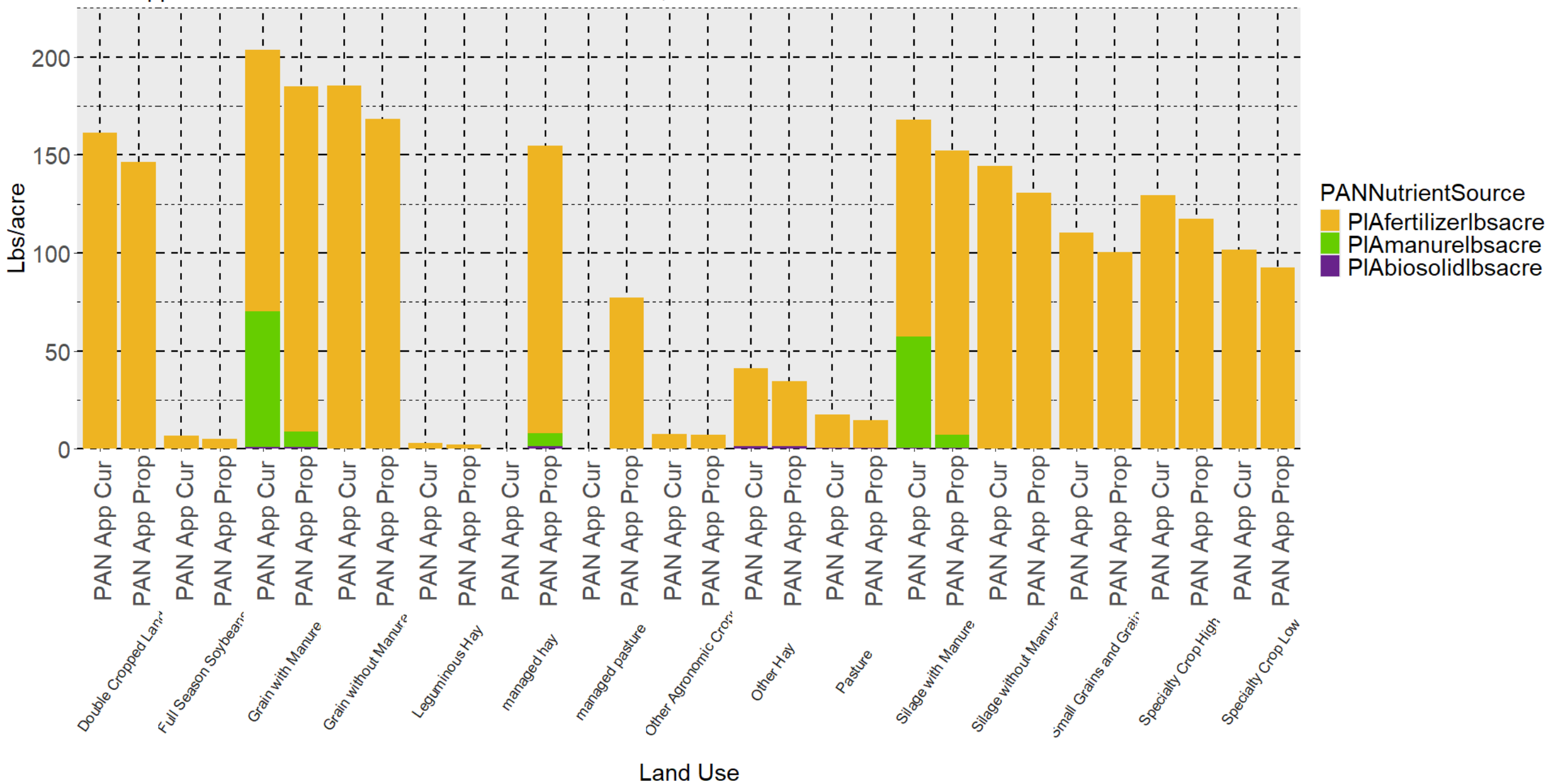


Before, VA

CAST projected N Application For each LU based on different Land Uses, Bedford VA 2020

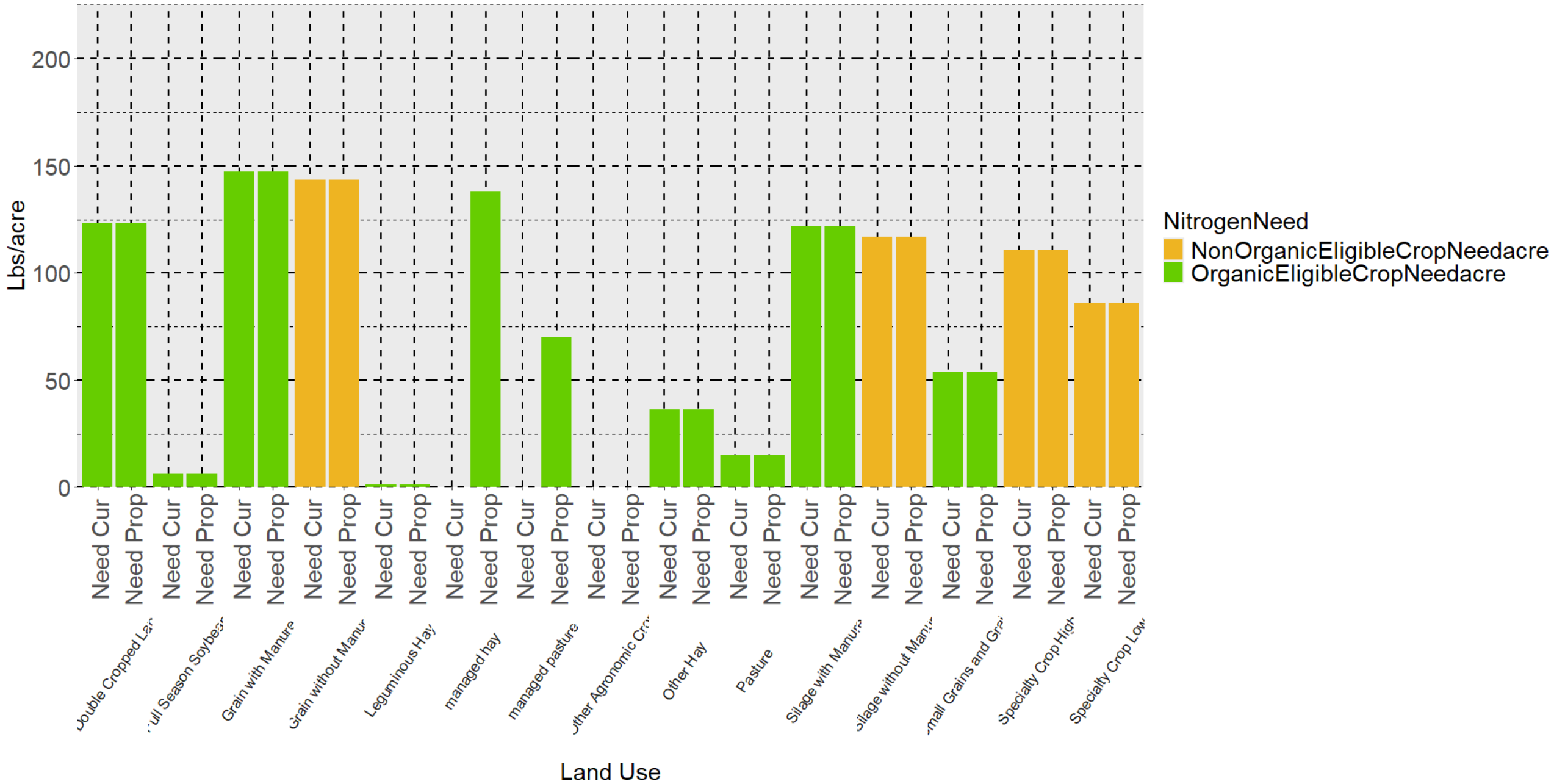


PAN Applied For each LU based on different Land Uses, Bedford VA 2020

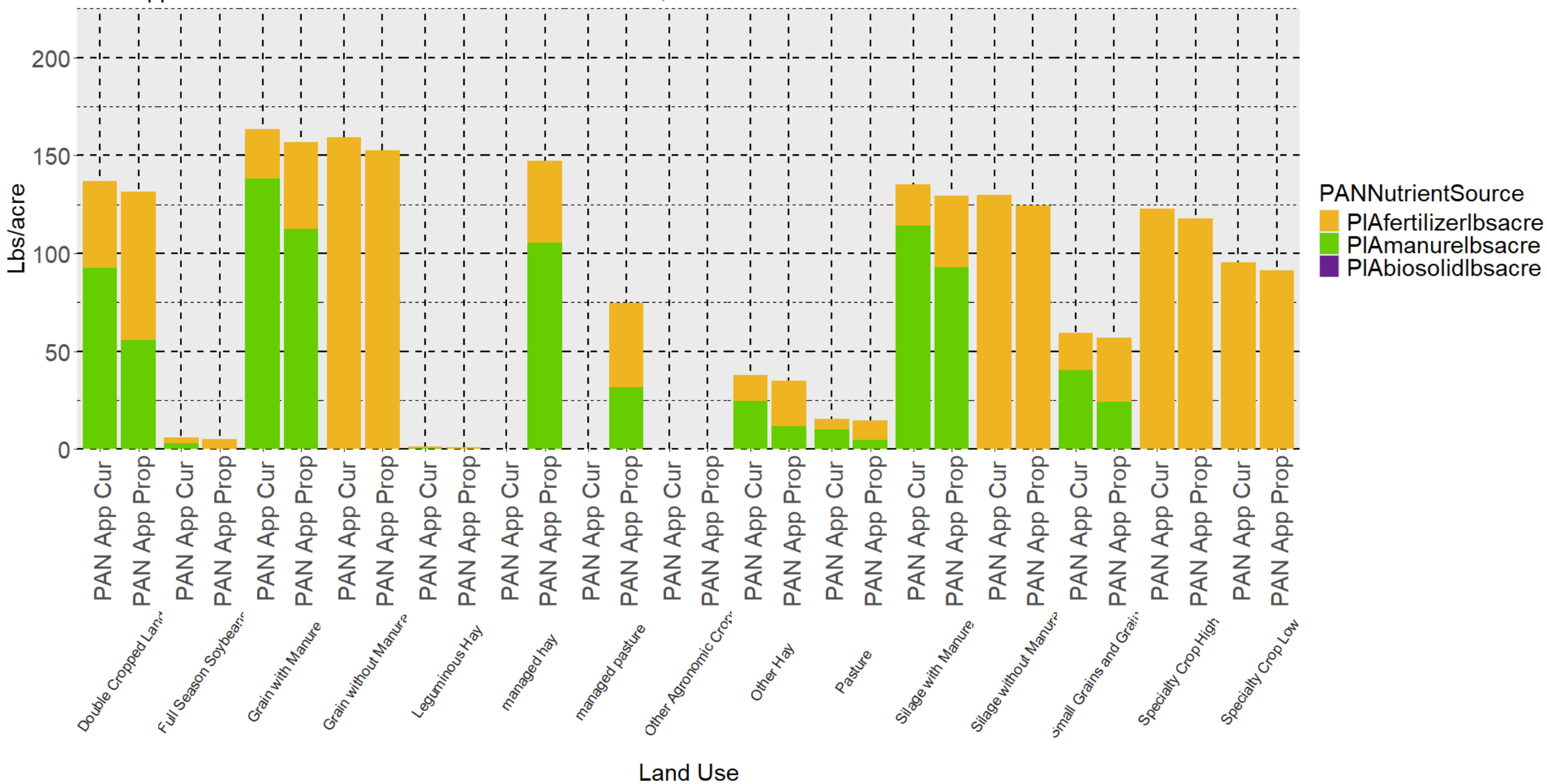


Pendleton, WV

CAST projected N Application For each LU based on different Land Uses, Pendleton WV 2020

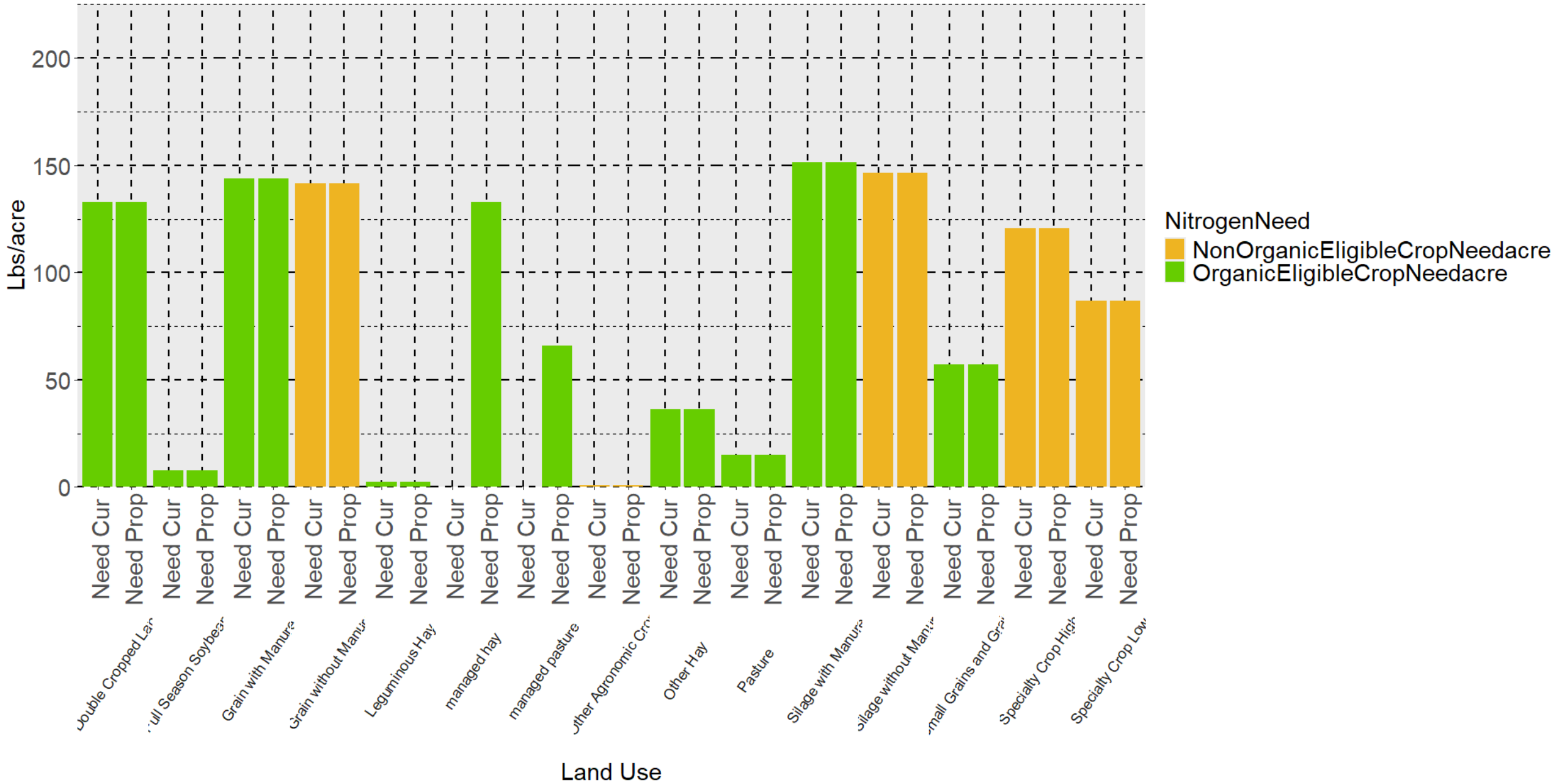


PAN Applied For each LU based on different Land Uses, Pendleton WV 2020

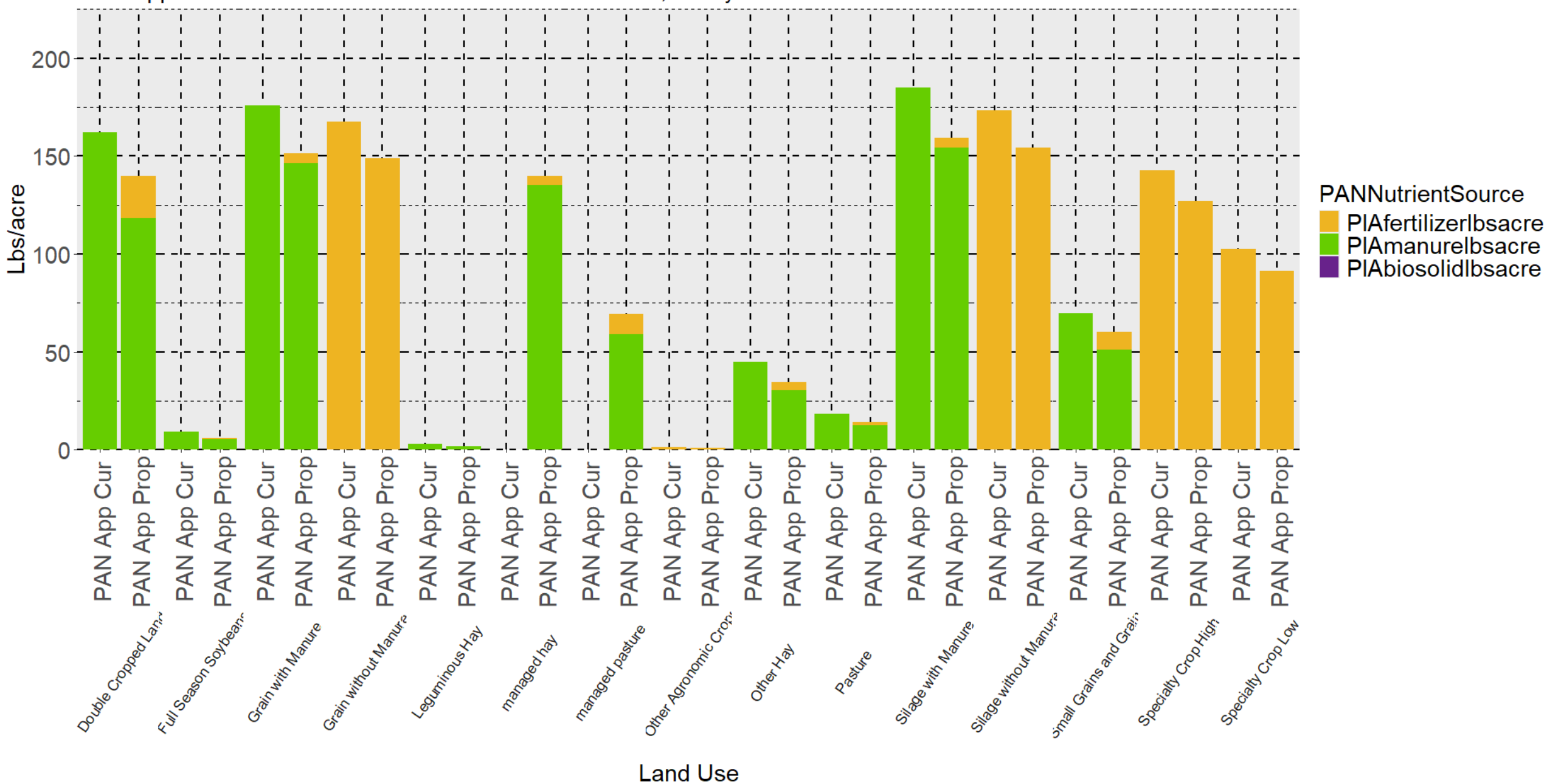


Hardy, WV

CAST projected N Application For each LU based on different Land Uses, Hardy WV 2020



PAN Applied For each LU based on different Land Uses, Hardy WV 2020



Questions?

Let's talk decisions:

Proposed decisions:

Alter the Land Uses in CAST to represent, Managed and Unmanaged Hay as well as Managed and Unmanaged Pasture.

Modify the manure spread algorithm to create a fourth group as proposed by Virginia for Phase 7.