



# 2017 Census of Agriculture Chesapeake Bay Watershed

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Watershed Technical Workgroup Meeting  
September 5, 2019



# Watershed Technical Workgroup Agenda

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- 10:00 AM – Introductions and Announcements – Ted Tesler, PA DEP  
Decisions requested: Approval of the August meeting minutes
  - Executive Council (EC) meeting today from 11:30- 2:00 PM at Oxon Hill Manor (please note: the public portion of the meeting is from 12:30- 2:00 PM)
  - CAST and NEIEN Updates – Latest Appendix will be uploaded today
  - Outfall and Gully Stabilization Practices Memo (Protocol 5 of Stream Restoration) is being presented to the WQGIT Monday, Sept. 9
  - Agricultural Ditch Management Panel Report and Webinar
  - Revised Wetland Panel Report (with feedback and comments)



# Watershed Technical Workgroup Agenda

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- 10:30 AM – Updates to Clarifying NEIEN Validation Reports – Megan Crunkleton, KCI Technologies (30 min)  
Megan will review a revised version of the NEIEN Validation Reports that incorporates suggestions from August WTWG meeting.
- 11:00 AM – Incorporation of Census of Agriculture Data and Forecasts – Jeff Sweeney, EPA (40 min)  
Jeff will provide a preview of Ag Census information to be presented at the Water Quality GIT Monday Sept. 9, particularly implications of trends on loads and how the information will be used in model scenarios.
- 11:40 AM – Ongoing Discussion of the Schedule for Model Scenarios and BMP Verification – Jeff Sweeney, EPA (20 min)
- 12:00 AM – Adjourn  
Next meeting: October 3rd, 2019 from 10:00 AM – 12:00 PM





# 2017 Census of Agriculture Categories

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- CBP Animal Types
- CBP Landuse/Crop Types and Categories



# 2017 Census of Agriculture

## Time Period for Trends

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- 1987 through 2012
  - Post-2012 with old forecast through 2025
  - Post-2012 with new 2017 Ag Census data and new forecast through 2025
- Forecasts use methods recommended by Ag Modeling for Phase 6 Watershed Model (CAST) and approved through Water Quality GIT



# 2017 Census of Agriculture

## When will the new data be used?

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- According to decisions through the PSC, introduction of new data and methods (science) occurs at the beginning of new Milestone periods.
  - 2017 Ag Census data will be incorporated with the next version of CAST for the 2020-2021 Milestone period.
  - Current schedule calls for updated CAST to be finalized Nov. 1.



# 2017 Census of Agriculture

## When will the new data be used?

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- The new forecasts are used for background conditions for the annual model Progress assessments. Starting point is “2<sup>nd</sup>” 2019 progress, then 2020 and 2021 Progress.
- The new forecasts do not change the background conditions for Phase 3 WIPs which were finalized August, 2019.



# 2017 Census of Agriculture Time Period for Trends

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- There have been corrections to the forecasts since originally presented to the Agriculture Workgroup on 7/18/19





# 2017 Census of Agriculture

## Animal Forecast Methods

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- For animals, forecasts are at the state scale
- State numbers are then proportioned to individual counties according to latest Census of Agriculture
- For broilers, turkeys, pullets, and hogs, use annual Census production numbers by state
- For all other animals, use 5-year Census inventory numbers by state
- For forecasts, greater weight is given to more recent short-term trends than long-term trends



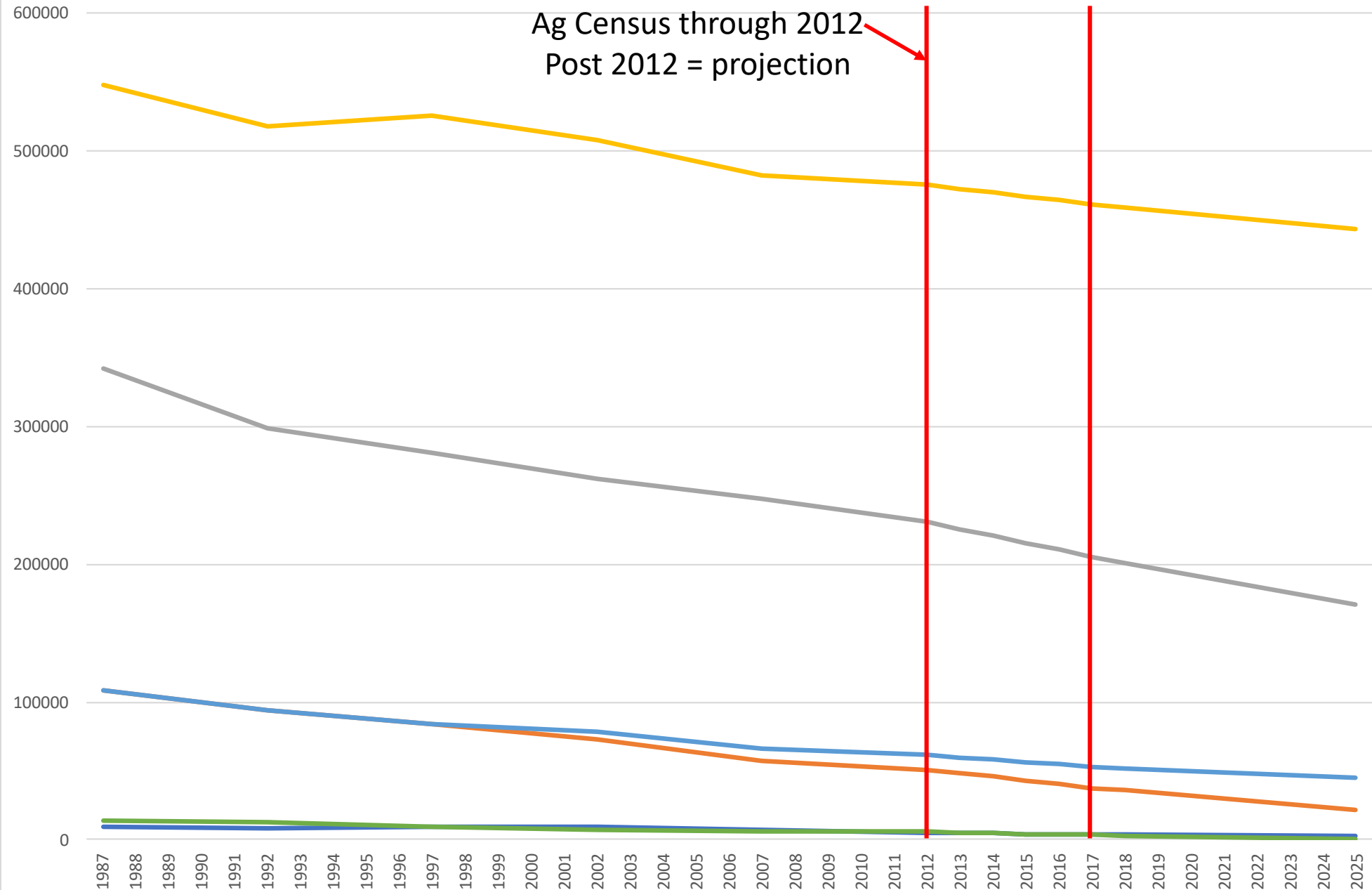
# 2017 Census of Agriculture Categories

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- CBP Animal Types
- CBP Landuse/Crop Types and Categories

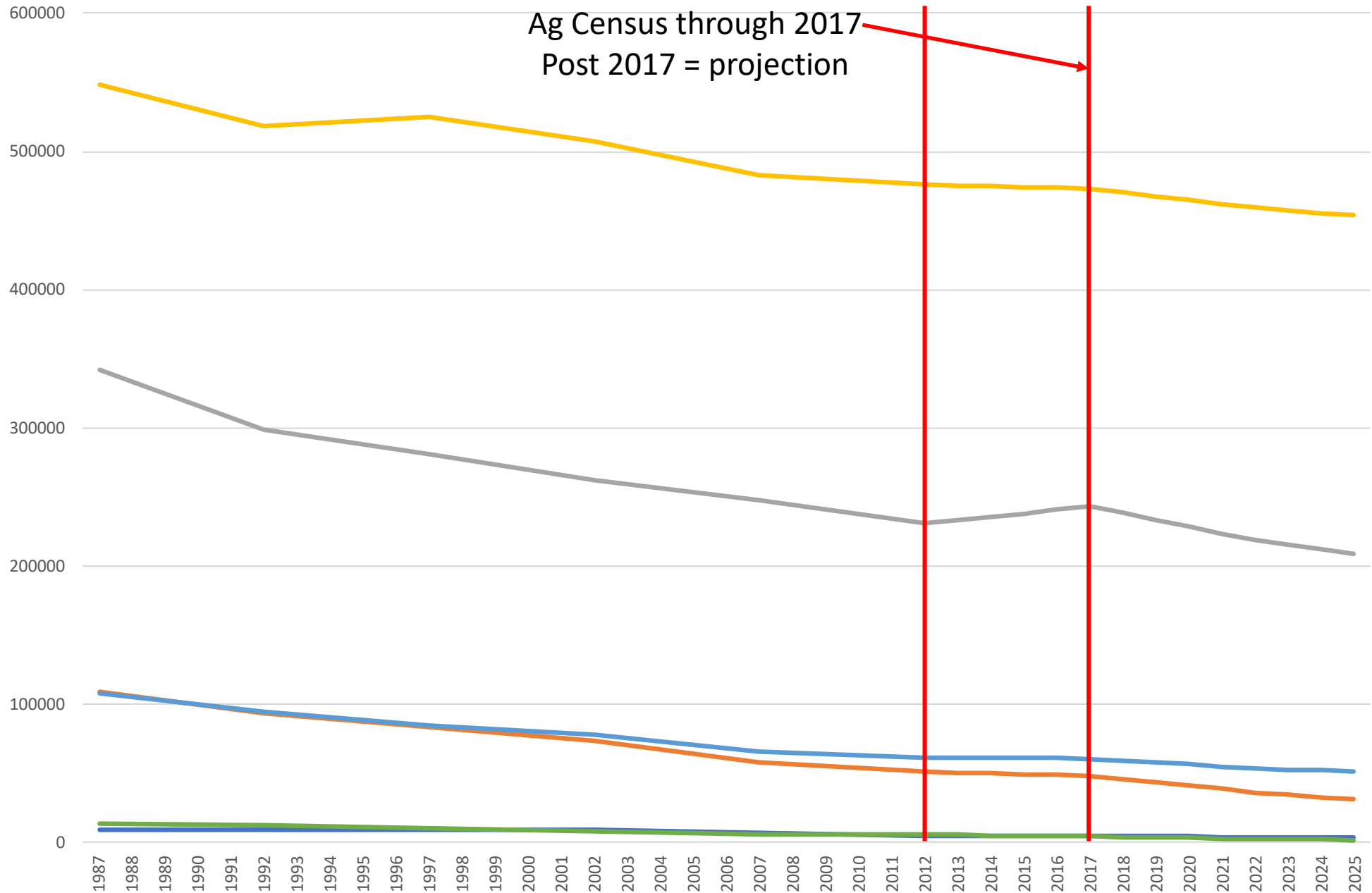
# Dairy

DE MD NY PA VA WV



# Dairy

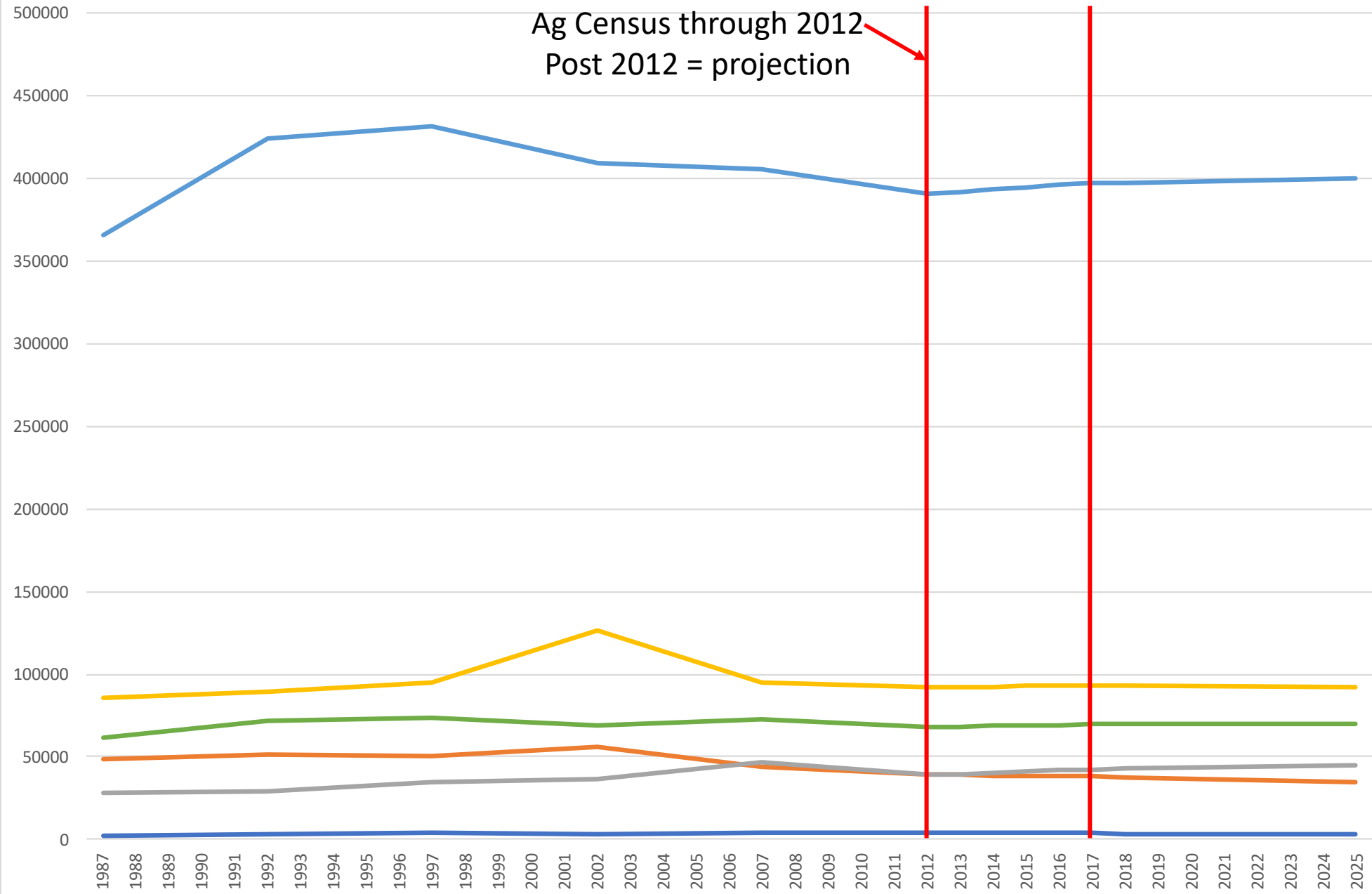
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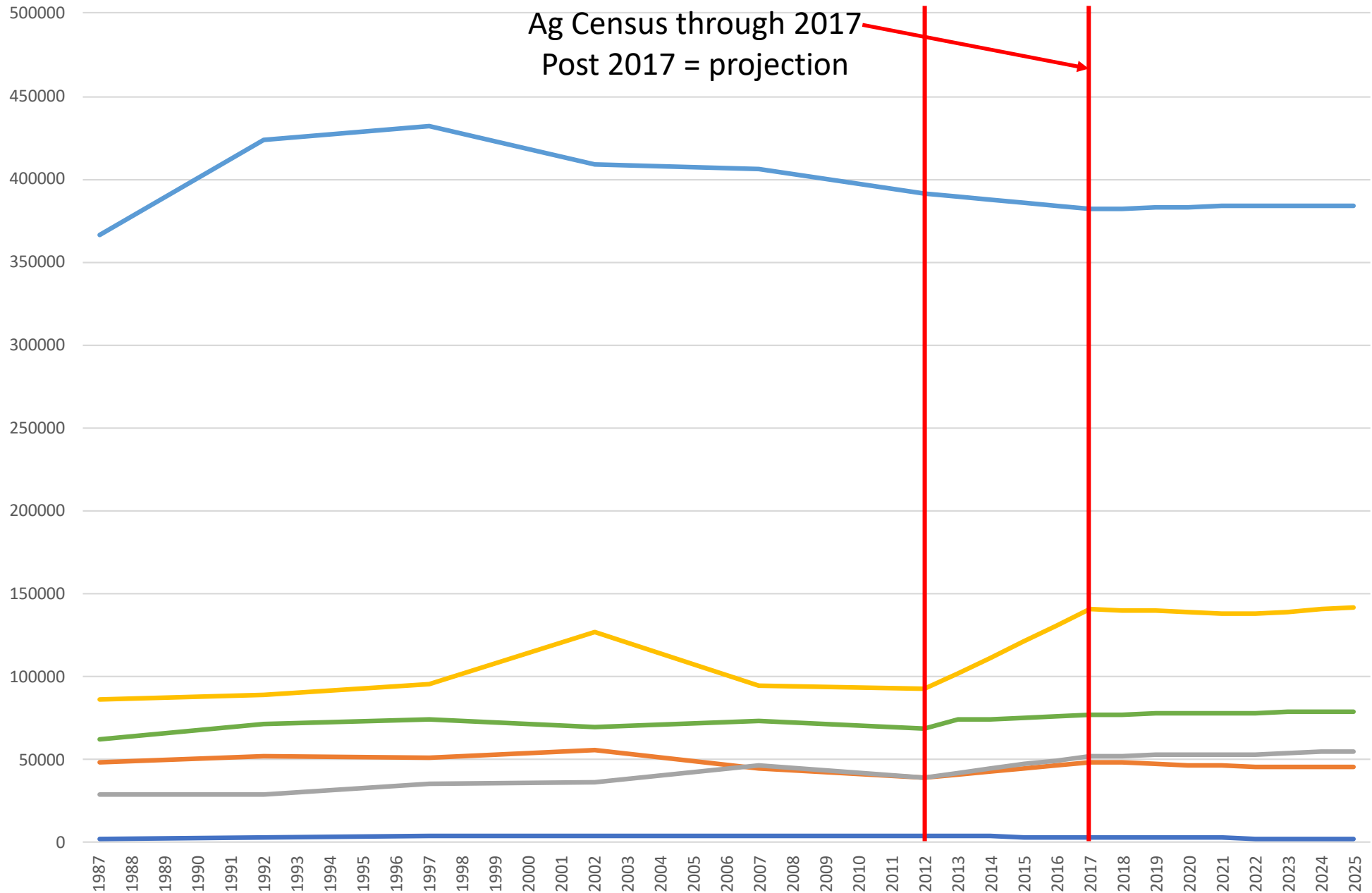
# Beef

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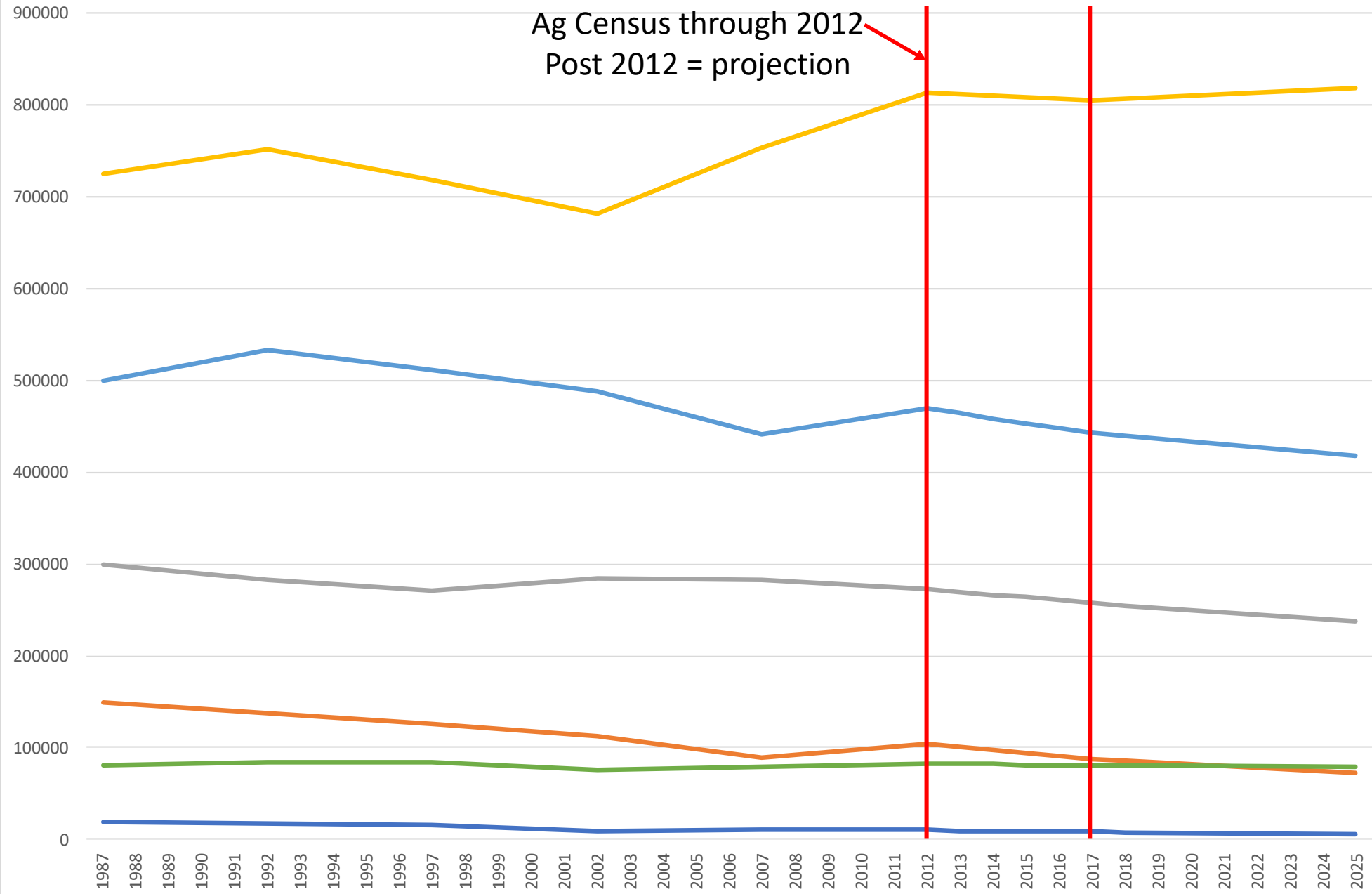
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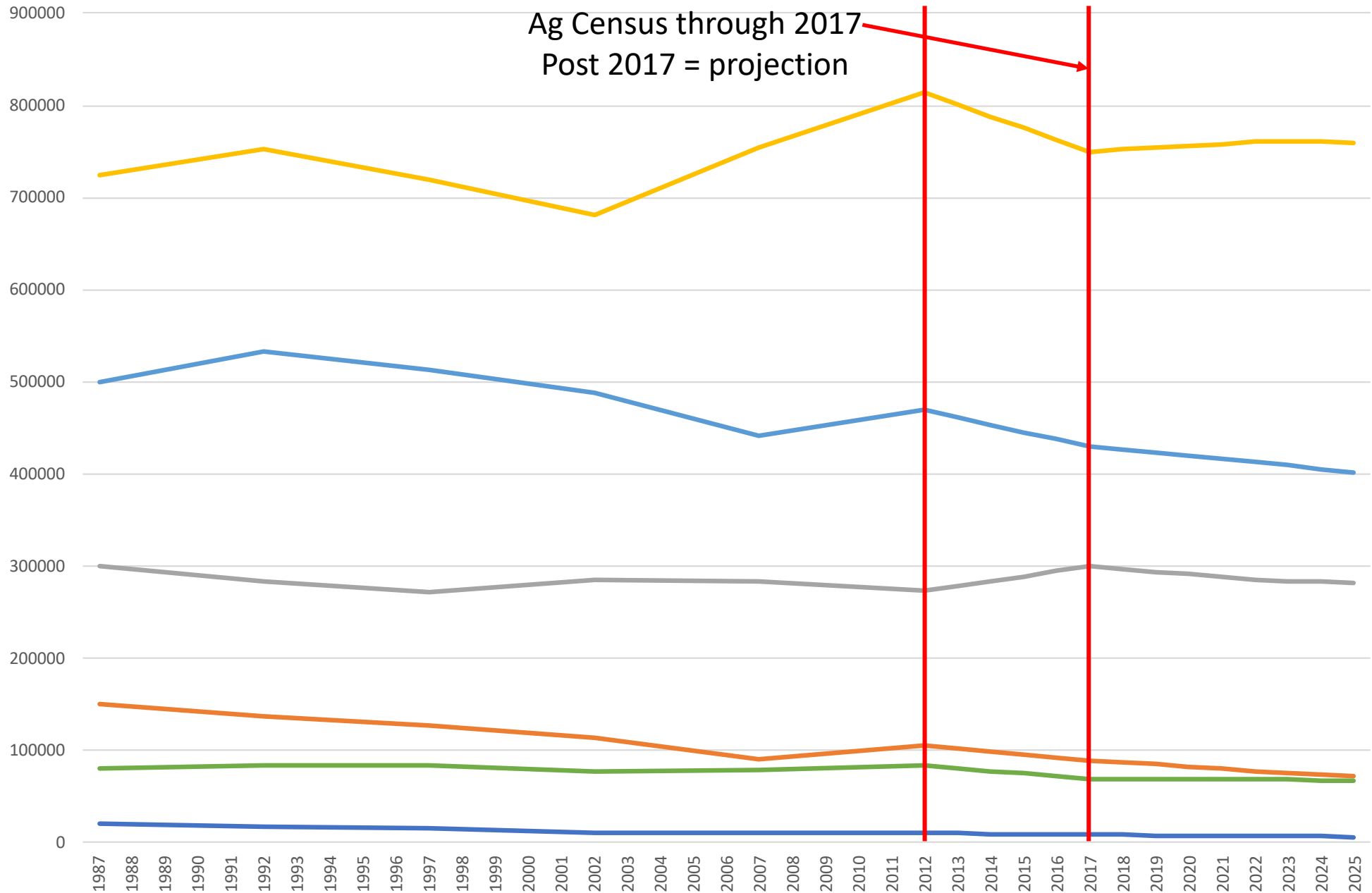
# Other Cattle

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# Other Cattle

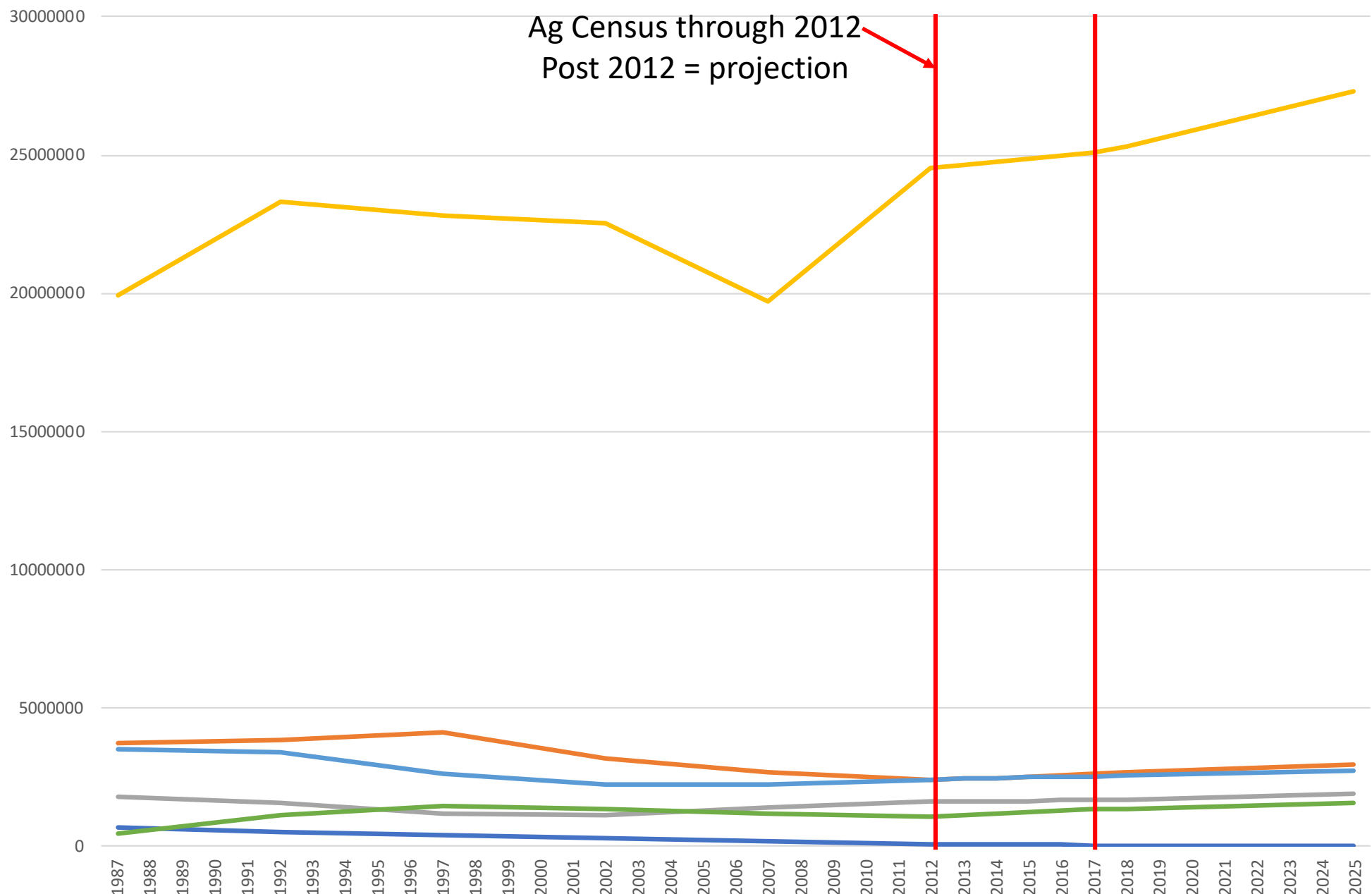
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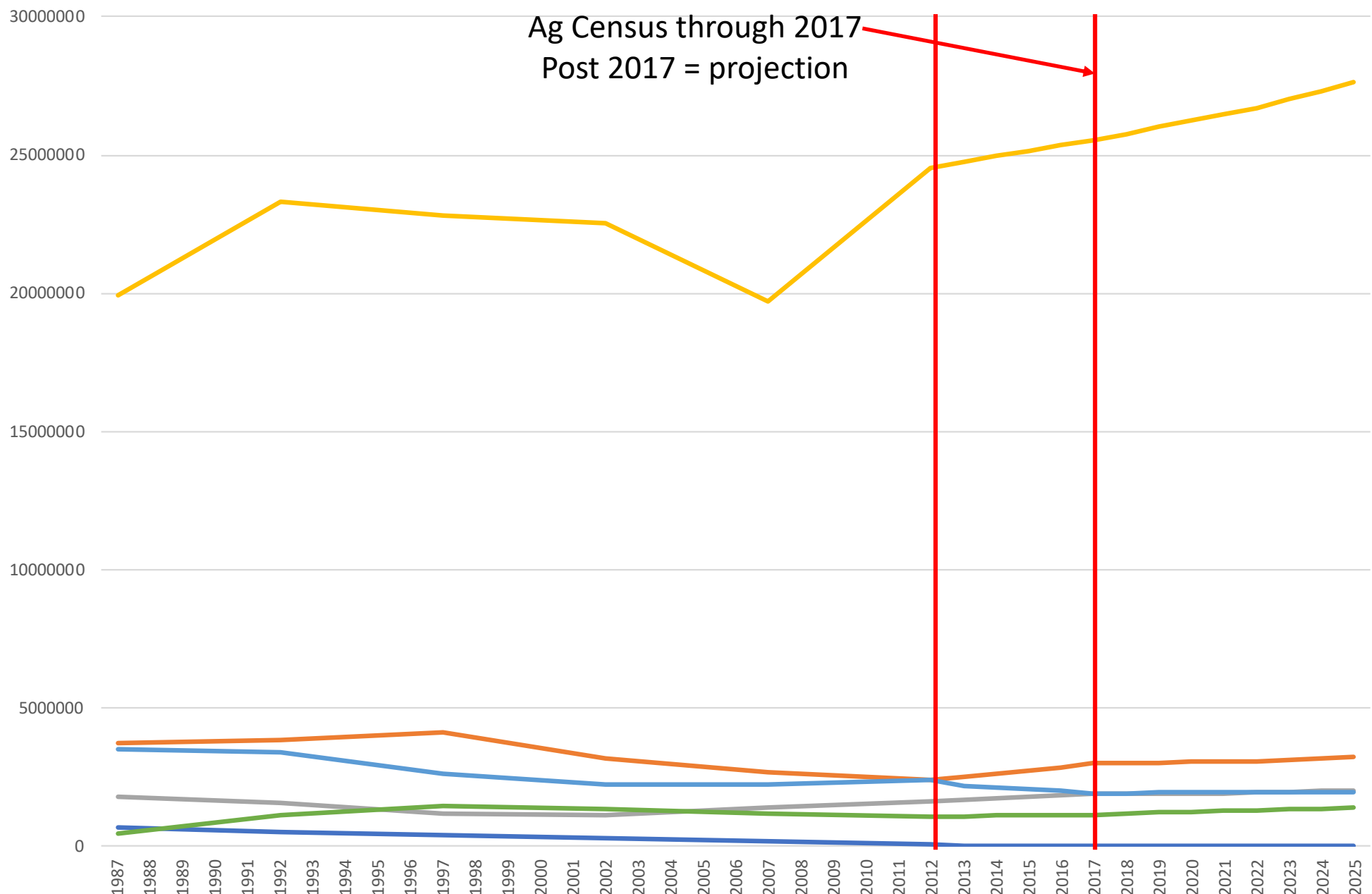
# Layers

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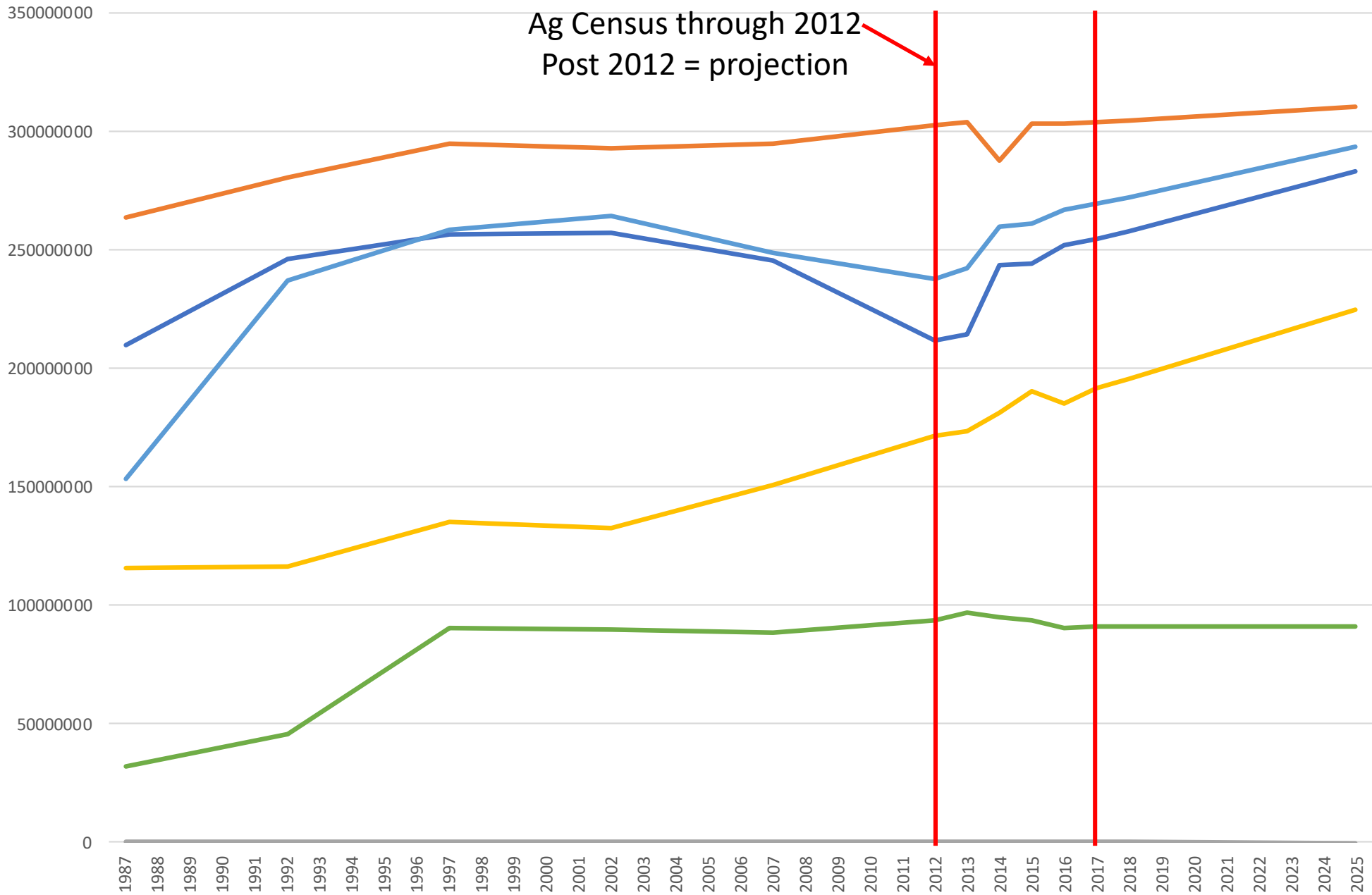
# Layers

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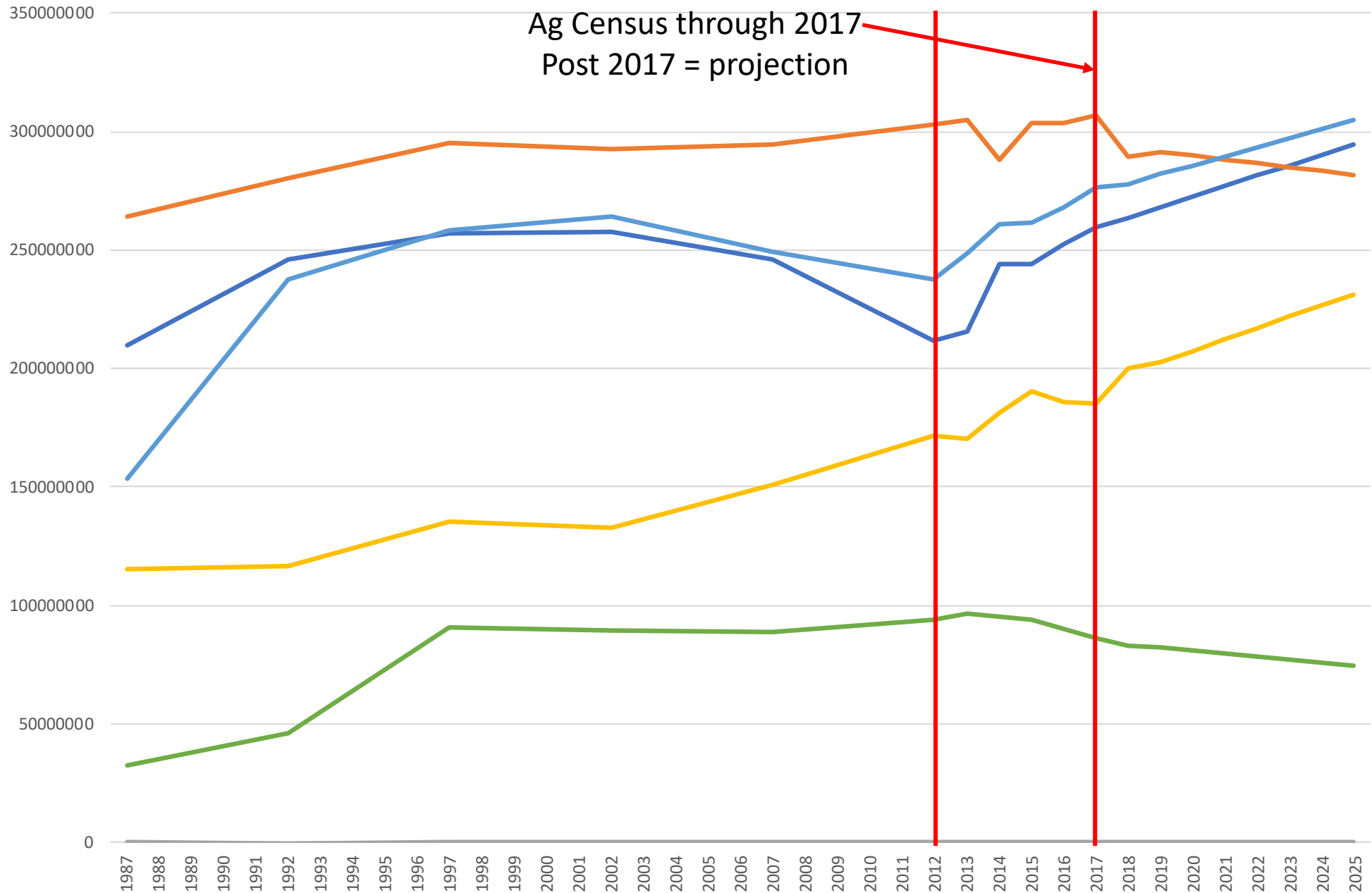
# Broilers

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# Broilers

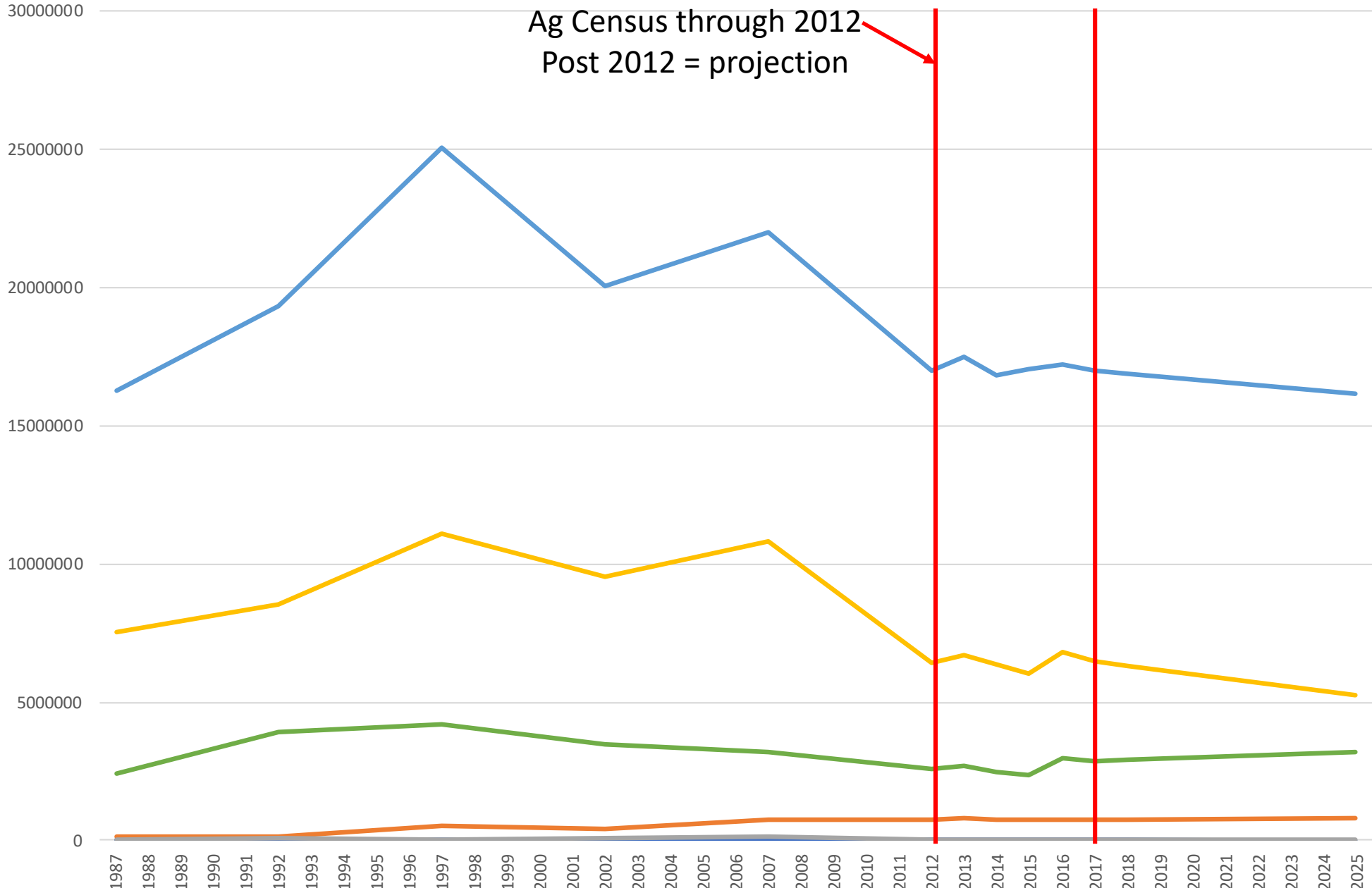
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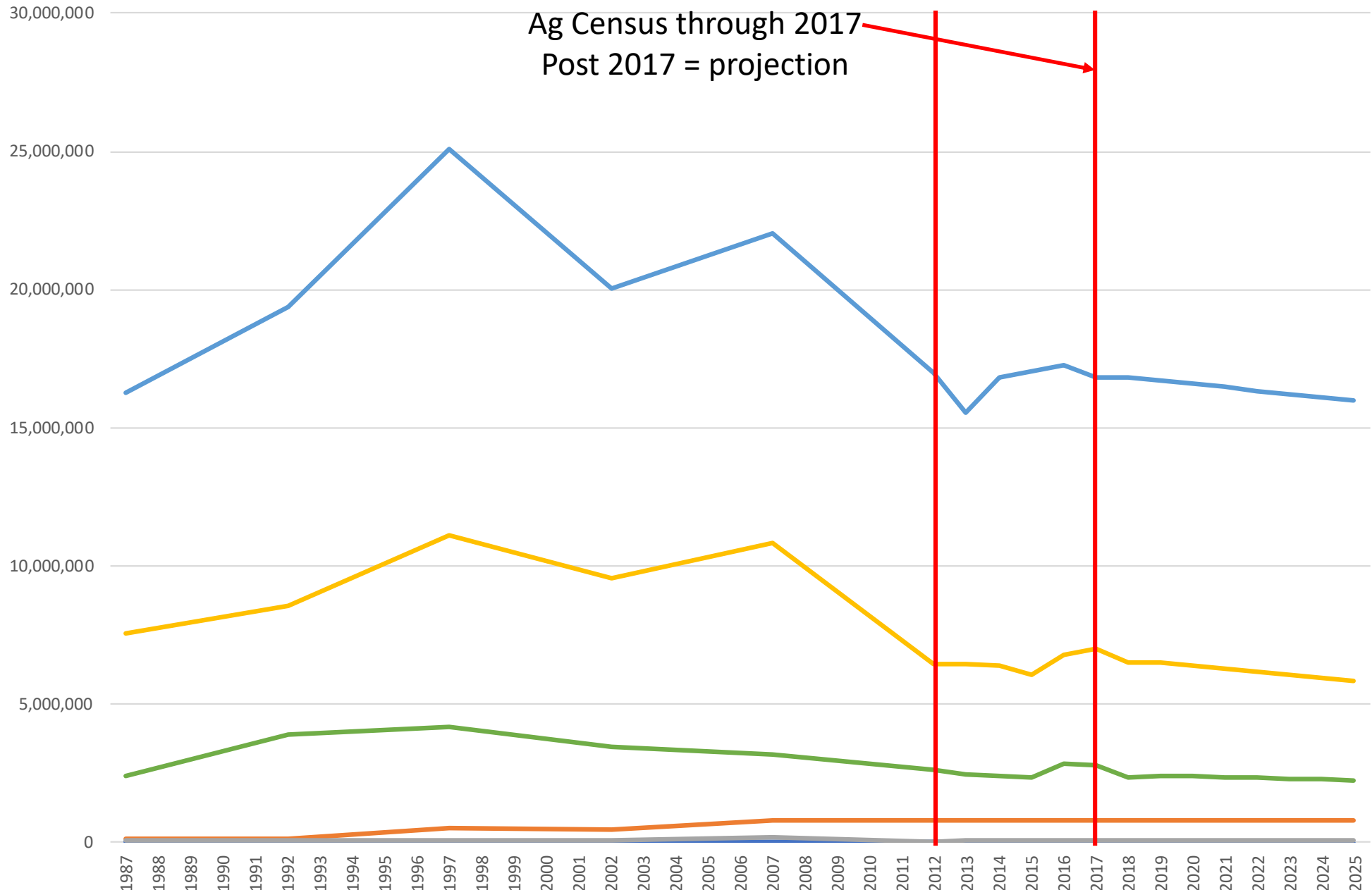
# Turkeys

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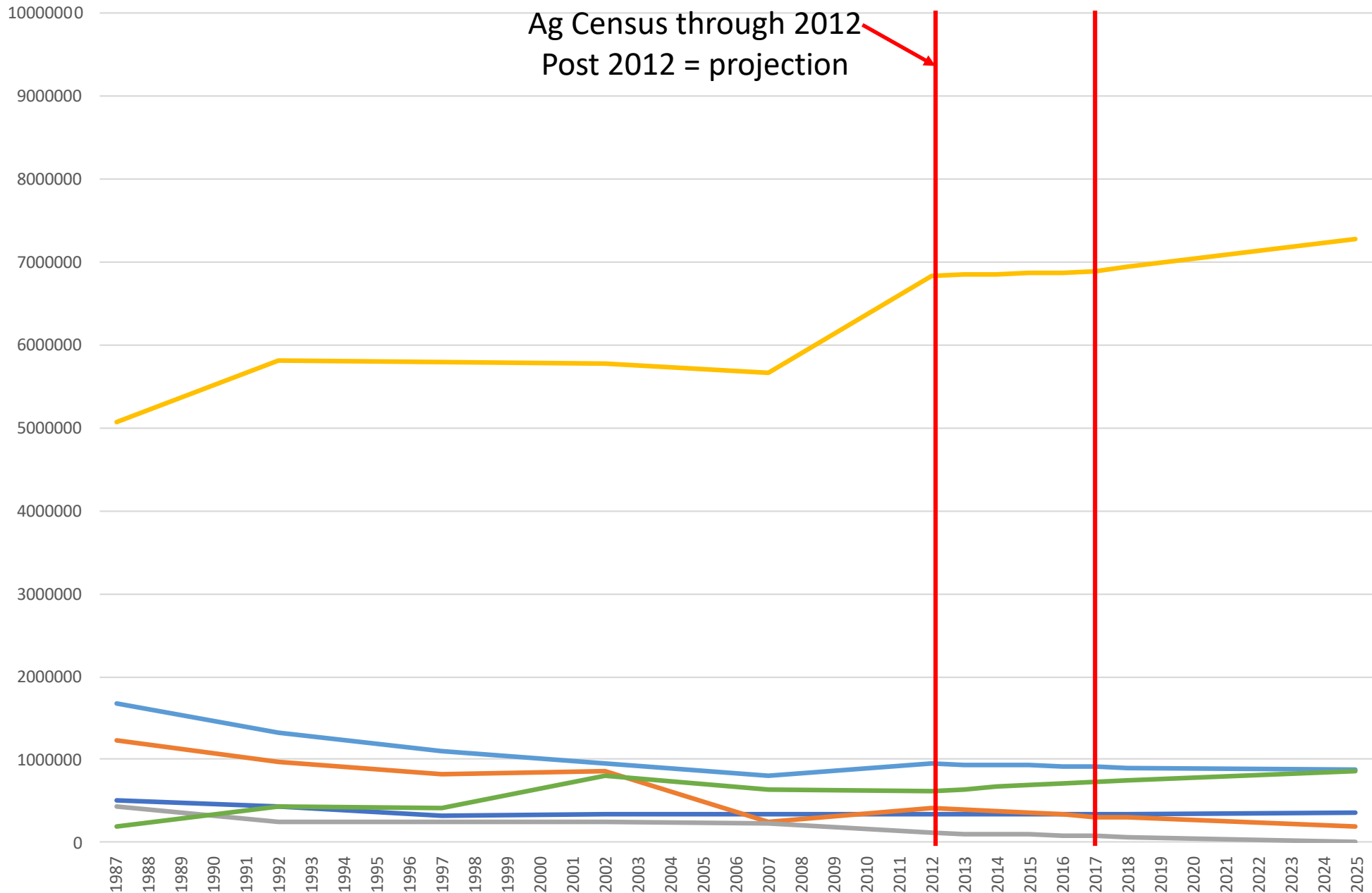
# Turkeys

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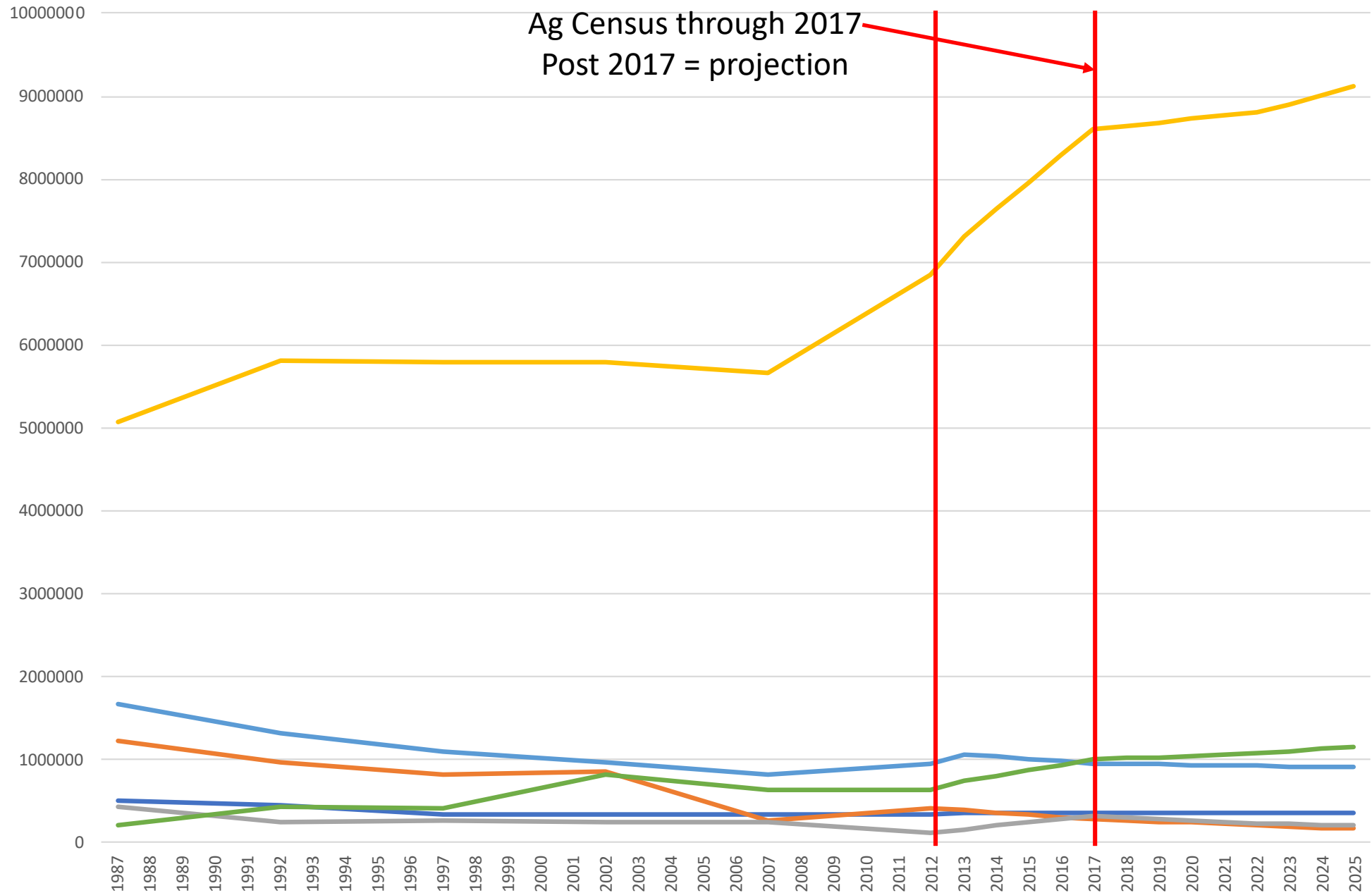
# Pullets

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# Pullets

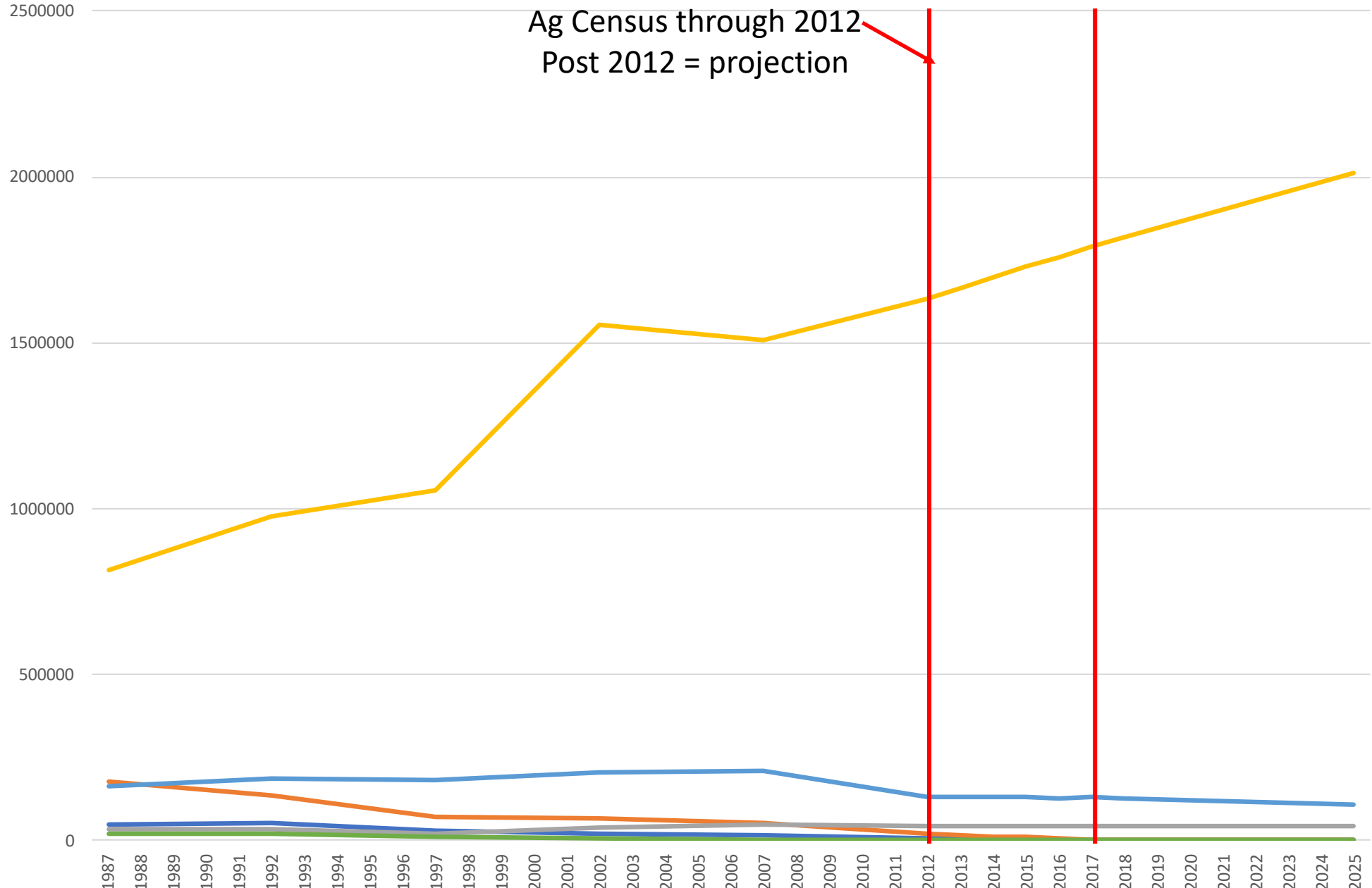
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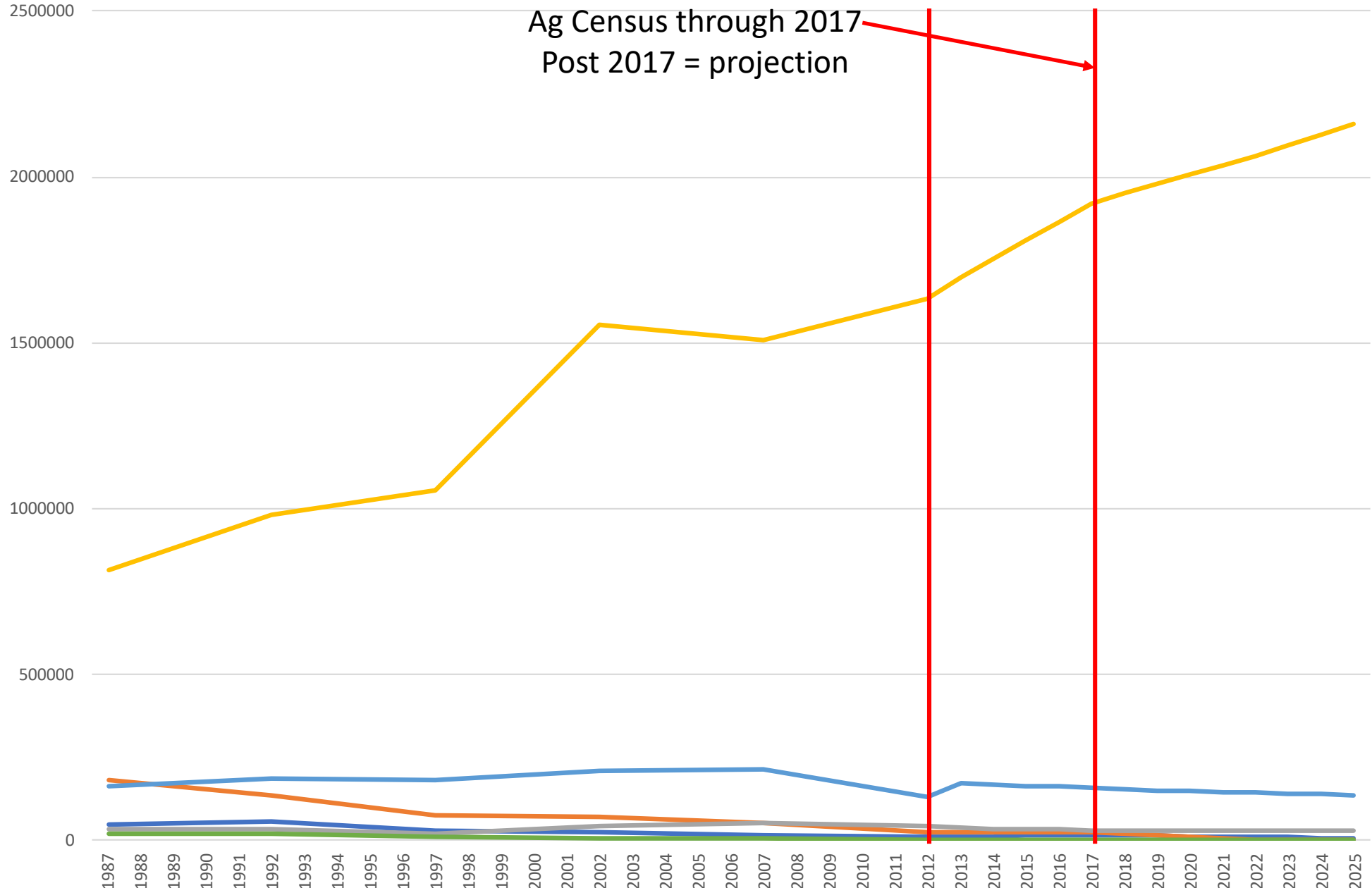
# Hogs for Slaughter

DE MD NY PA VA WV



# Hogs for Slaughter

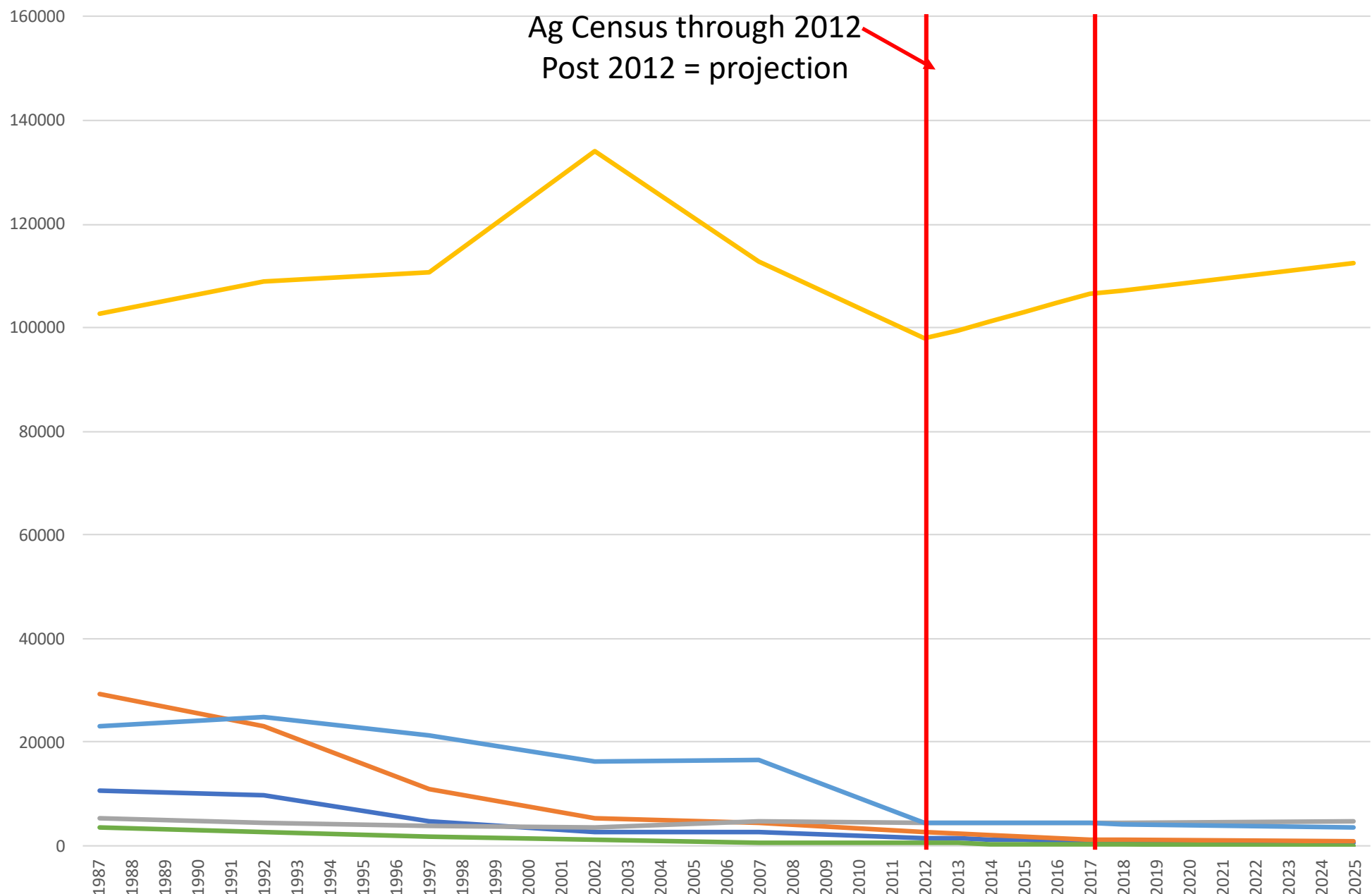
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# Hogs and Pigs for Breeding

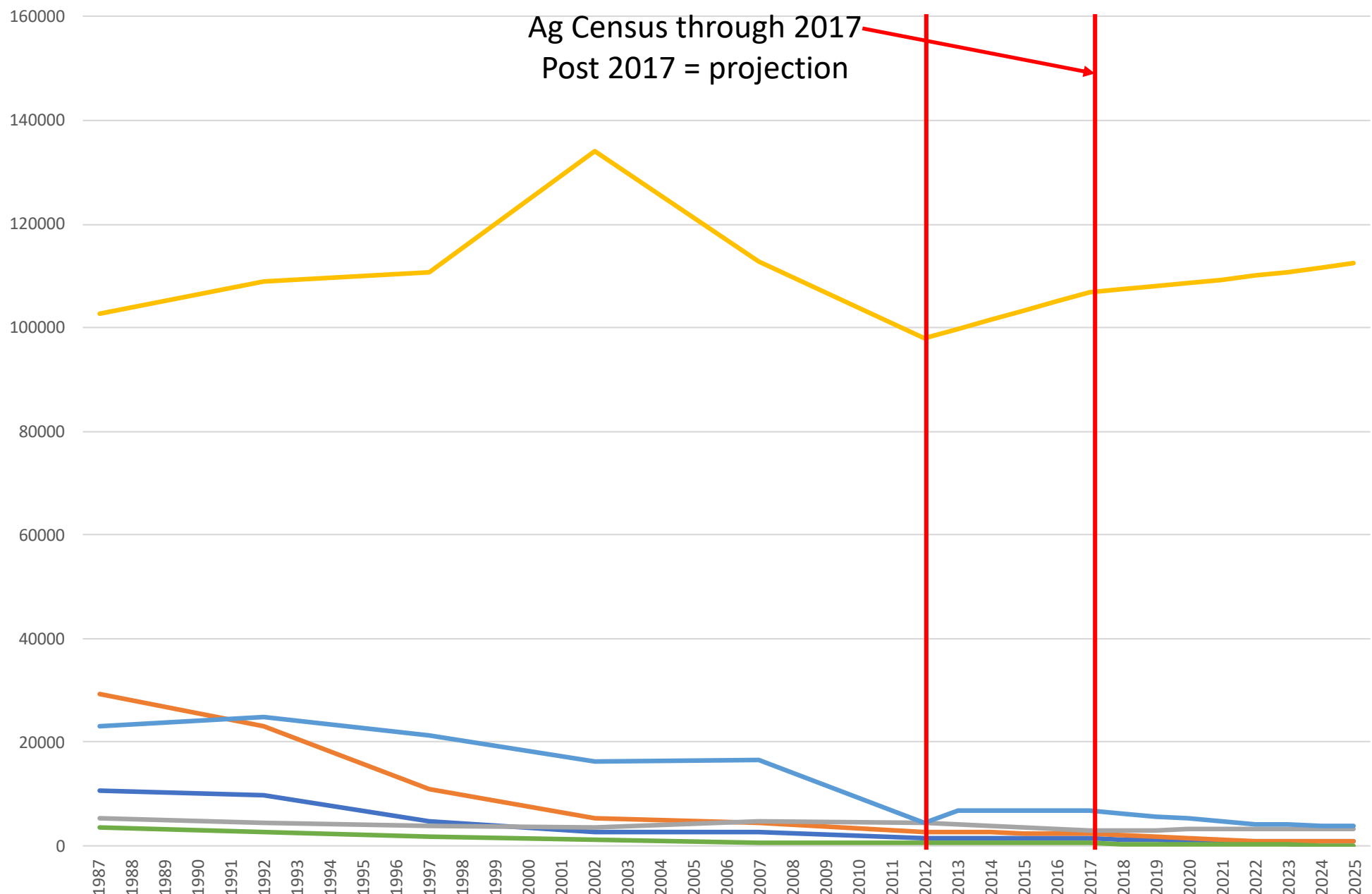
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Ag Census through 2012  
Post 2012 = projection



# Hogs and Pigs for Breeding

DE MD NY PA VA WV





# 2017 Census of Agriculture Categories

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- CBP Animal Types
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# 2017 Census of Agriculture

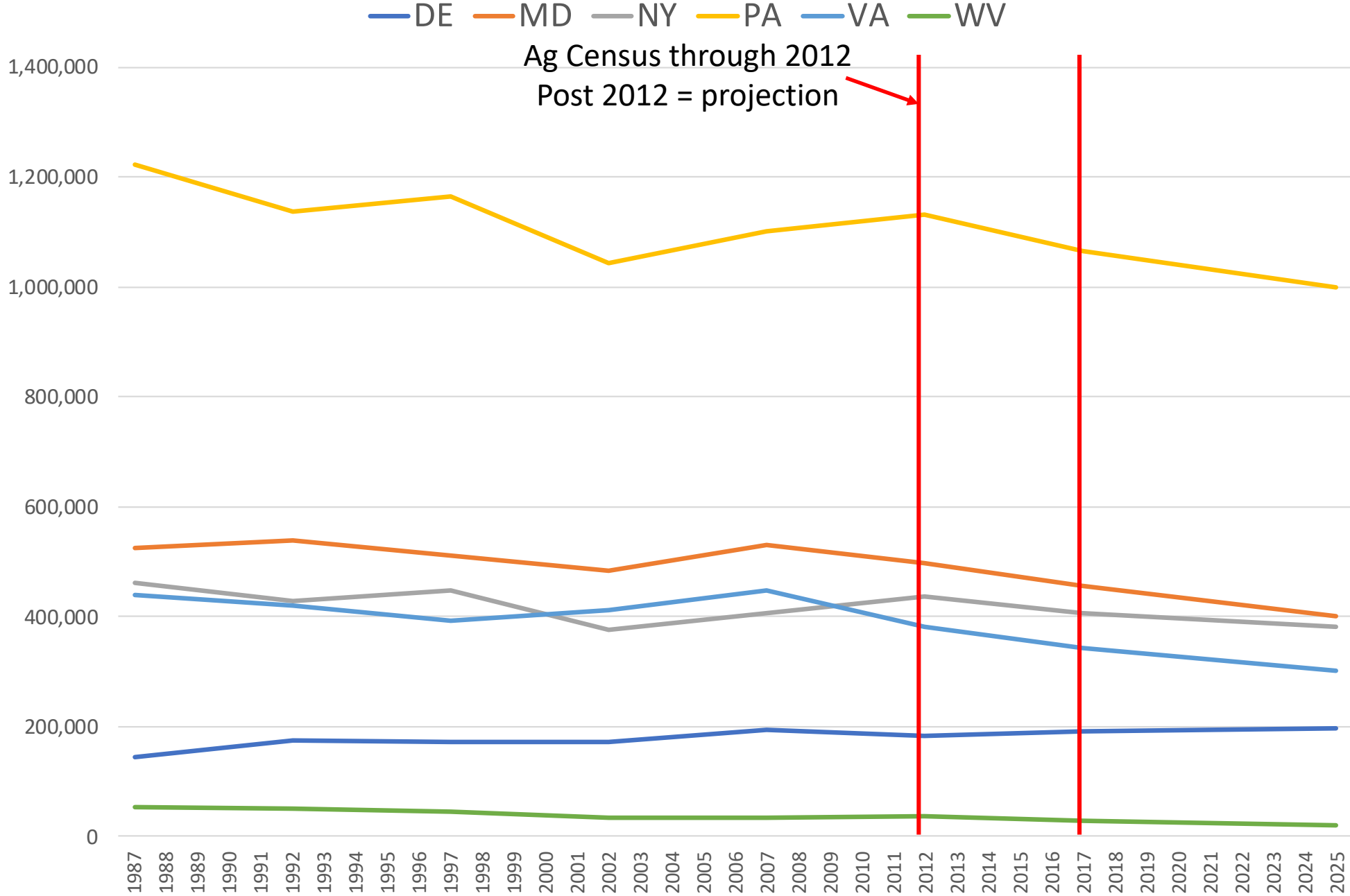
## Crop Forecast Methods

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- Forecasts use methods recommended by Ag Modeling for Phase 6 Watershed Model (CAST) and approved through Agriculture Workgroup, Water Quality GIT, etc.
  - For crops, forecasts are by crop categories at the county scale
  - Categories are then proportioned to individual landuse types according to latest Census of Agriculture
  - For forecasts, greater weight is given to recent short-term trends than long-term trends

# Grains and Silage

Includes the crops corn and sorghum for grain and for silage or greenchop that are not double-cropped



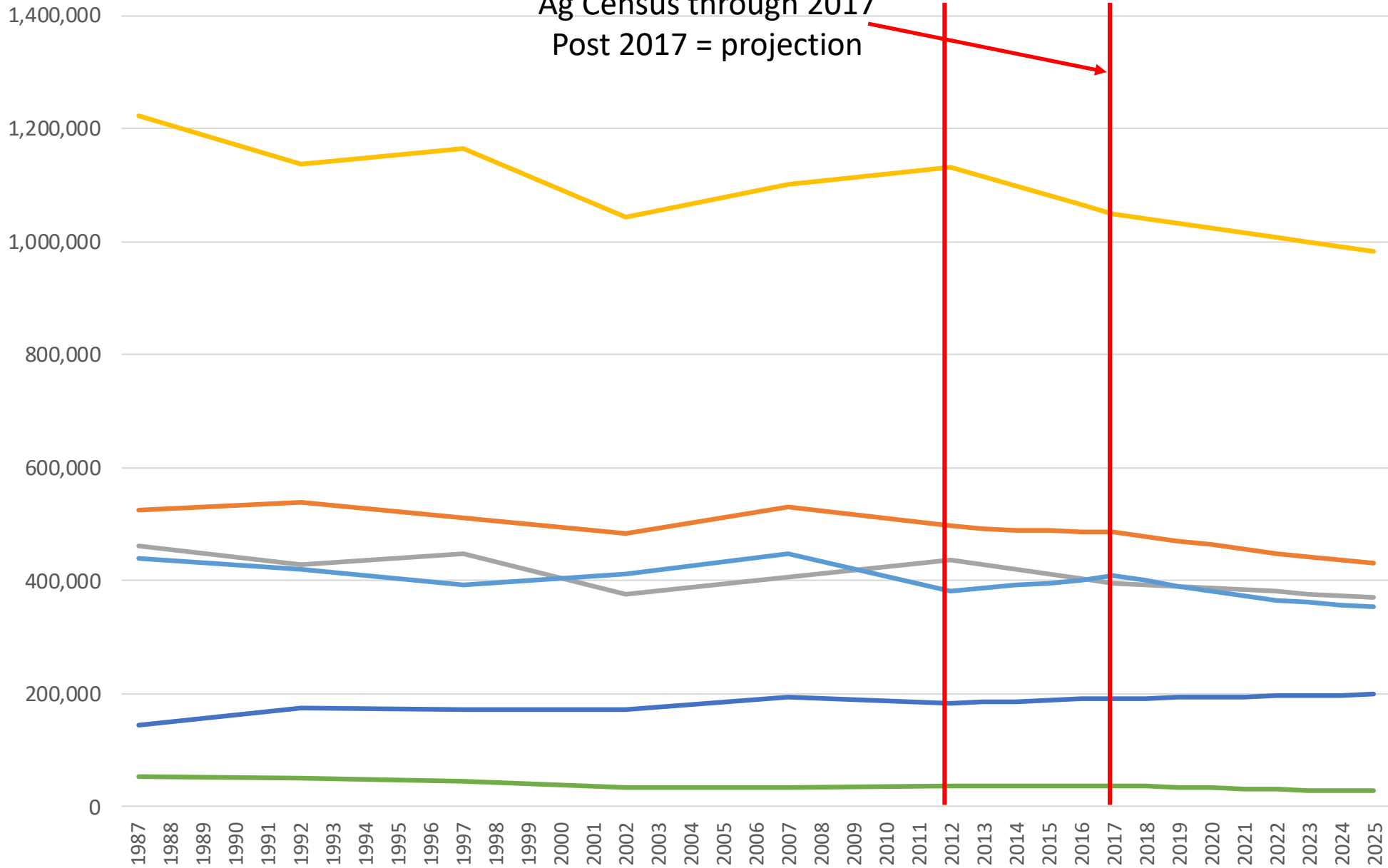


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— DE — MD — NY — PA — VA — WV

Ag Census through 2017  
Post 2017 = projection



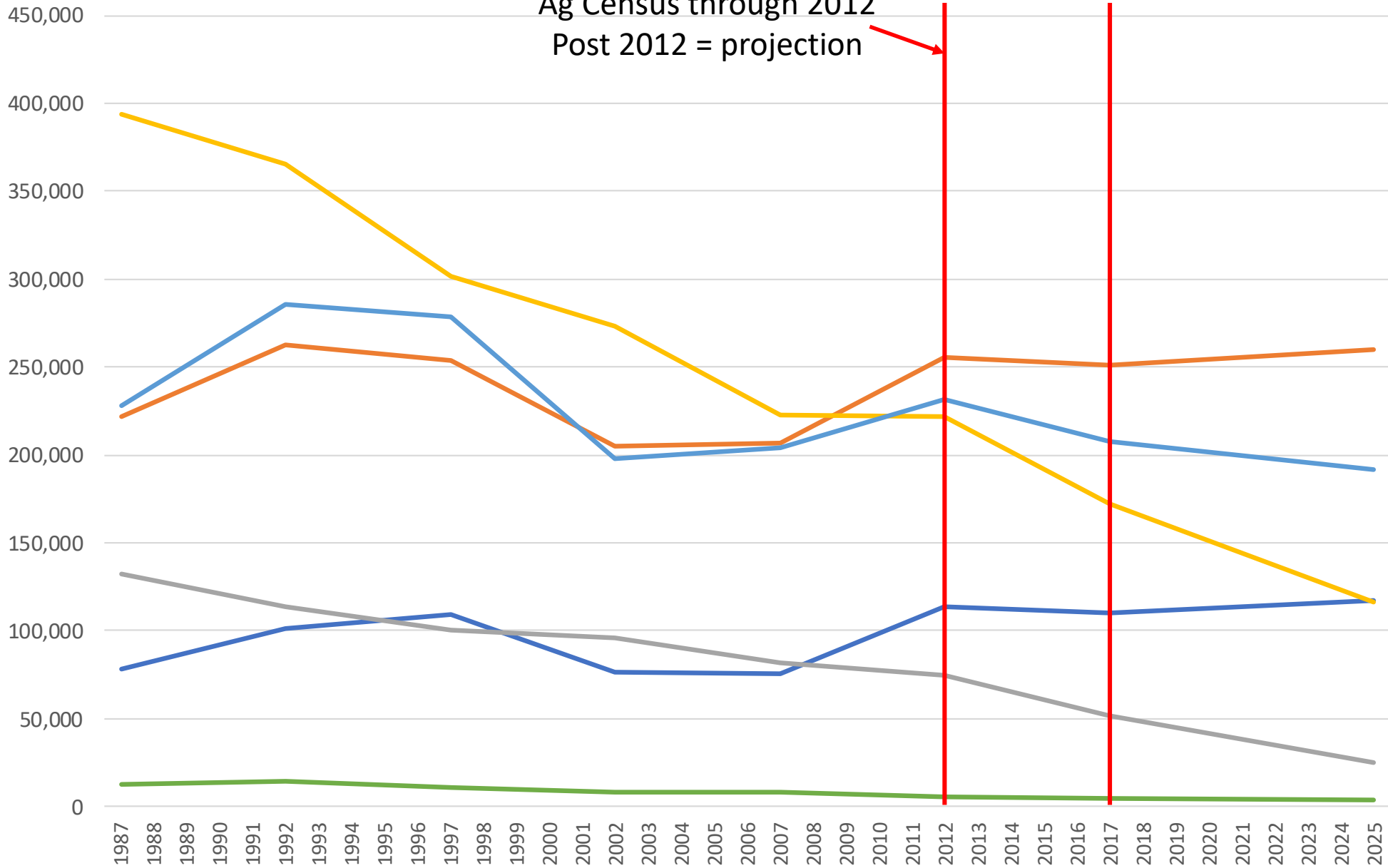
# Small Grains and Grains

Includes canola, oats, rye, wheat, barley, buckwheat, emmer and spelt, and triticale that is not double-crop

— DE — MD — NY — PA — VA — WV

Ag Census through 2012

Post 2012 = projection



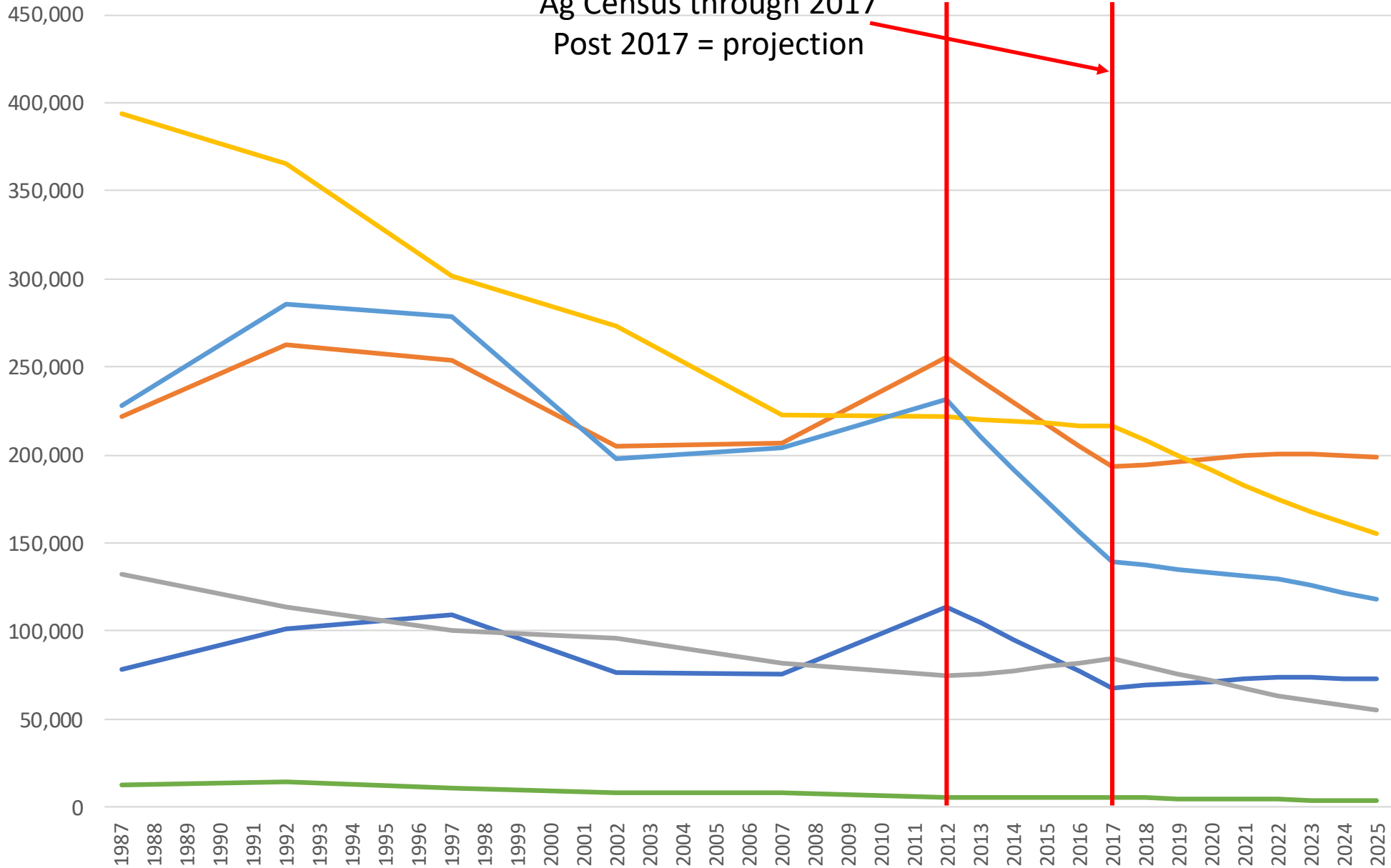
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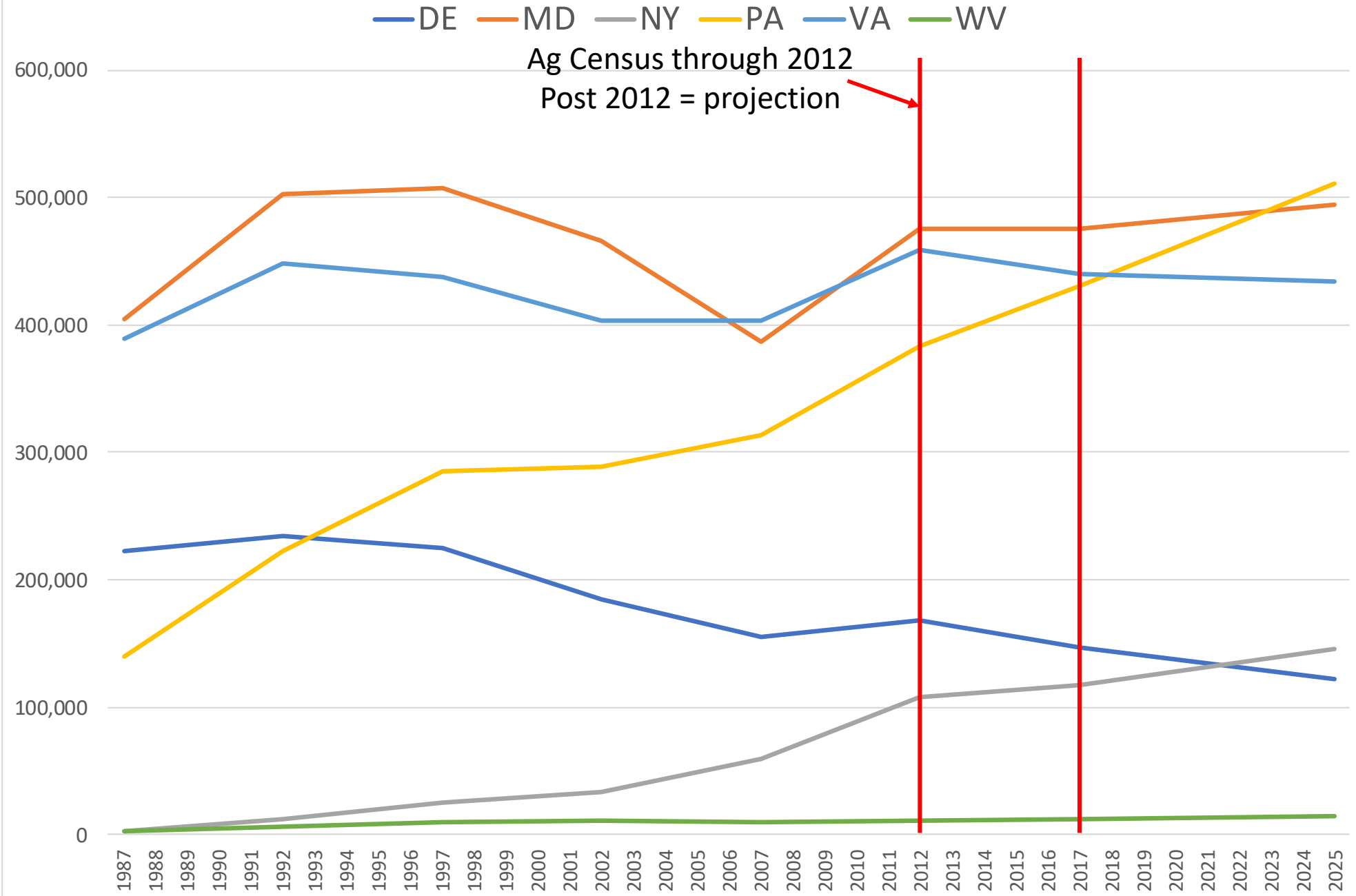
— DE — MD — NY — PA — VA — WV

Ag Census through 2017

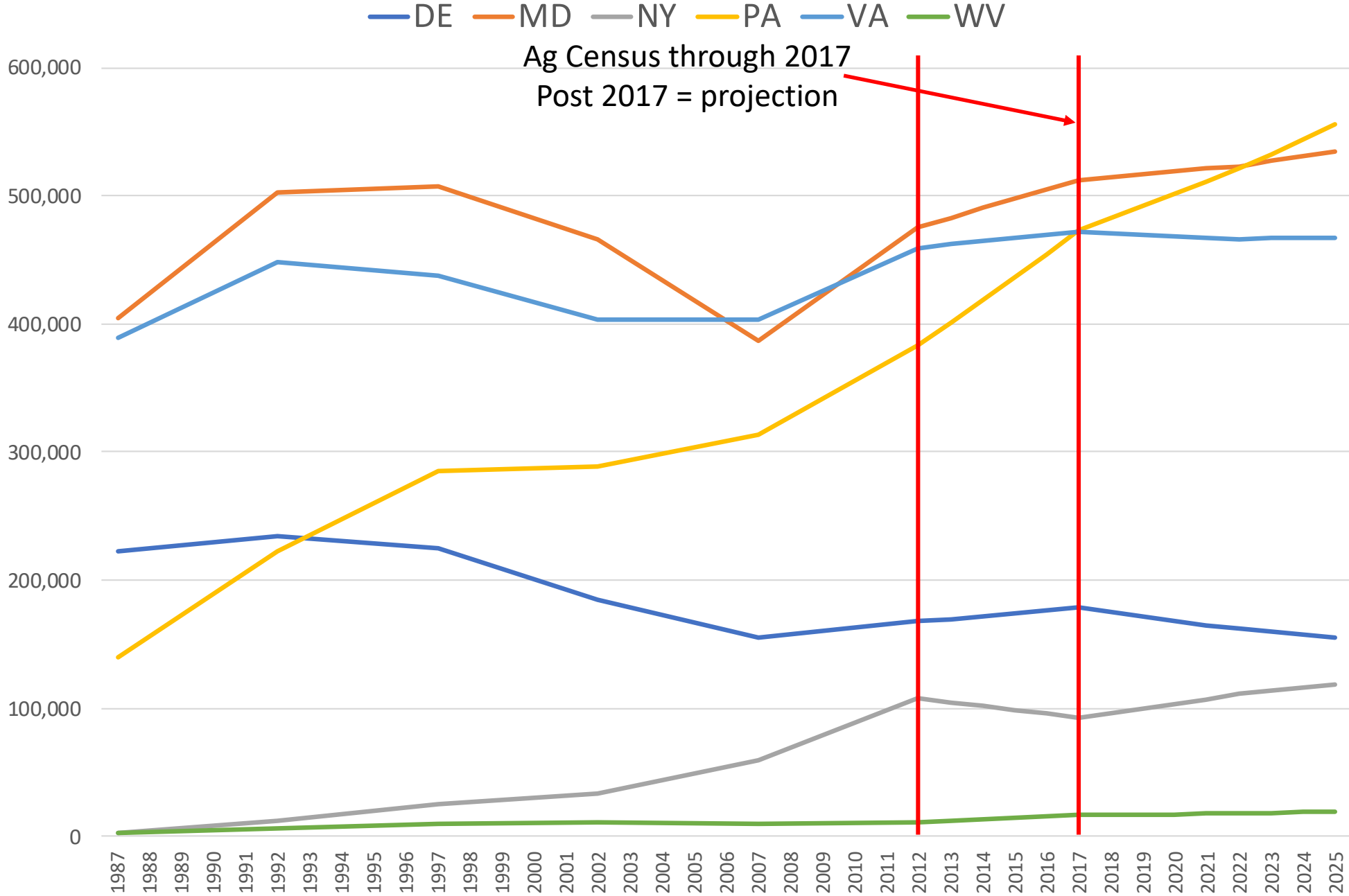
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# Soybeans



# Soybeans

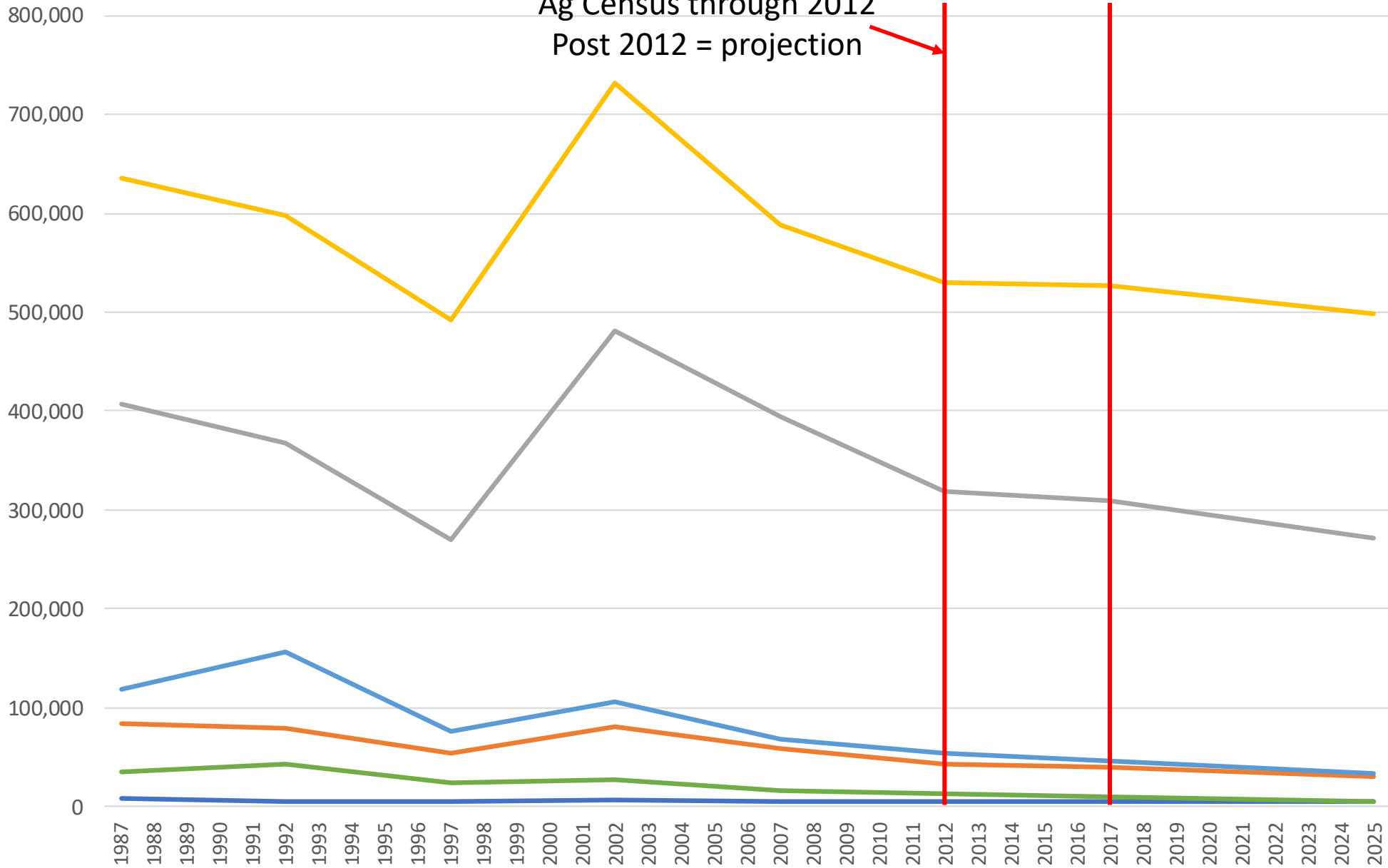


# Leguminous Hay

DE MD NY PA VA WV

Ag Census through 2012

Post 2012 = projection

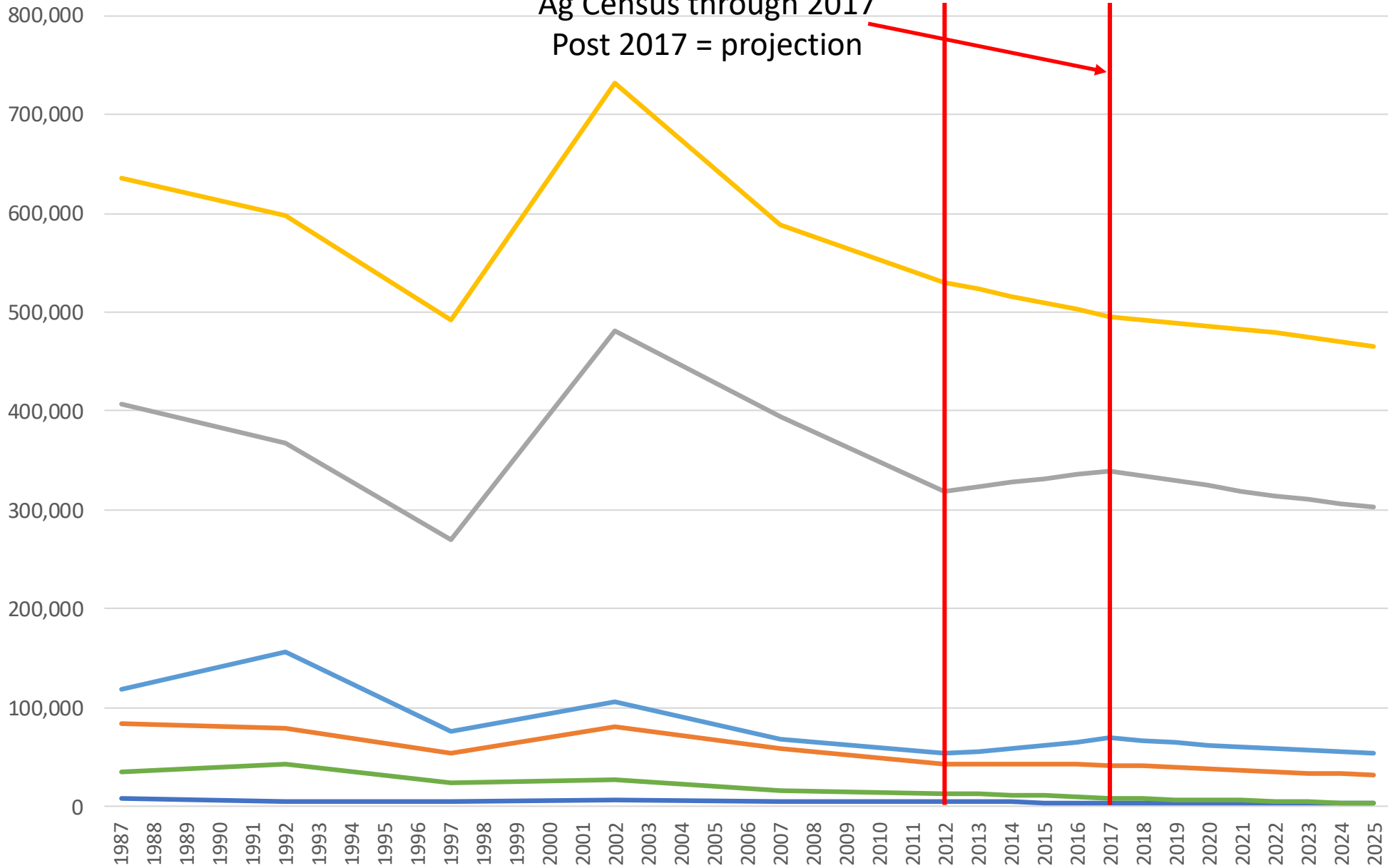


# Leguminous Hay

— DE — MD — NY — PA — VA — WV

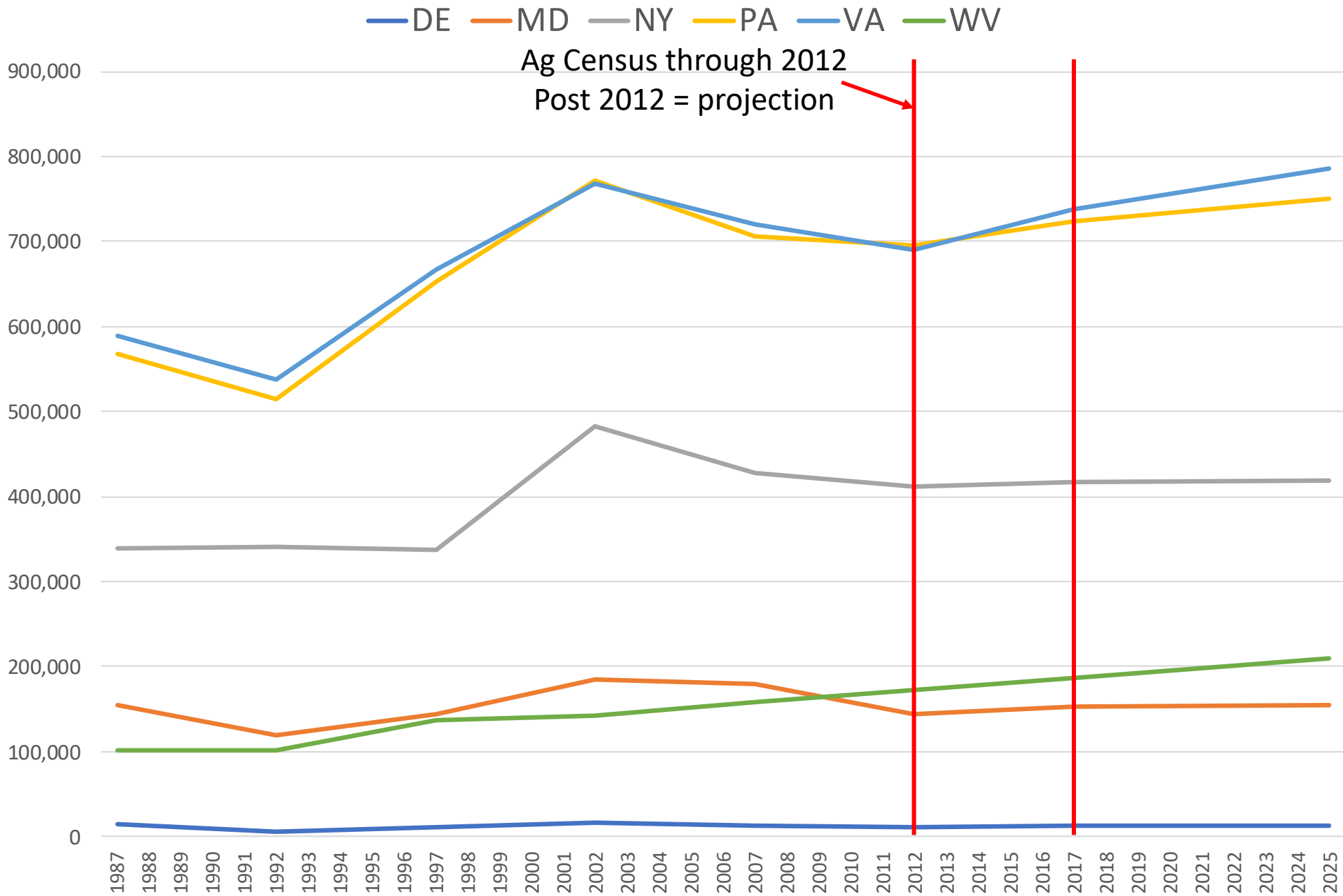
Ag Census through 2017

Post 2017 = projection





# Other Hay

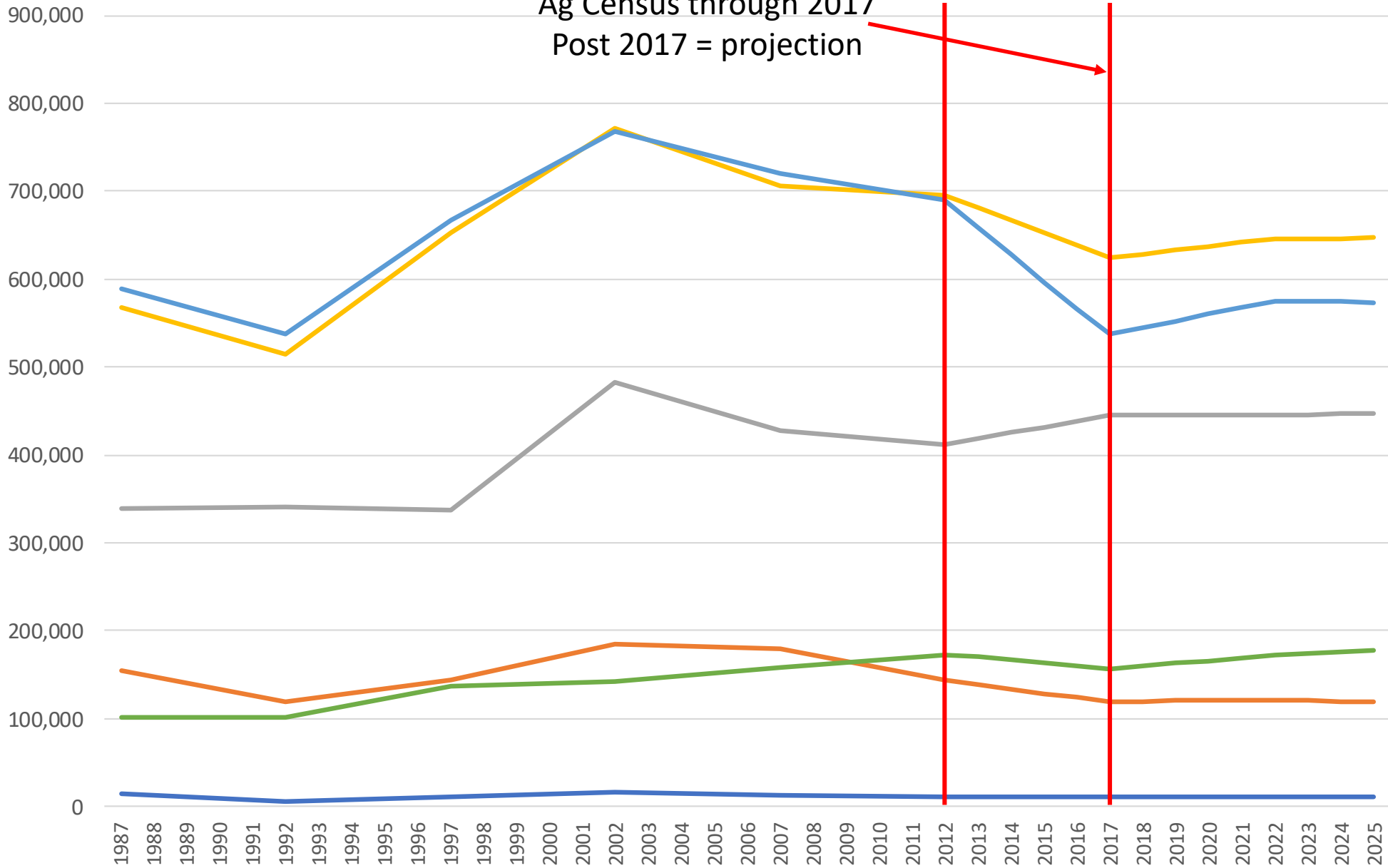


# Other Hay

— DE — MD — NY — PA — VA — WV

Ag Census through 2017

Post 2017 = projection

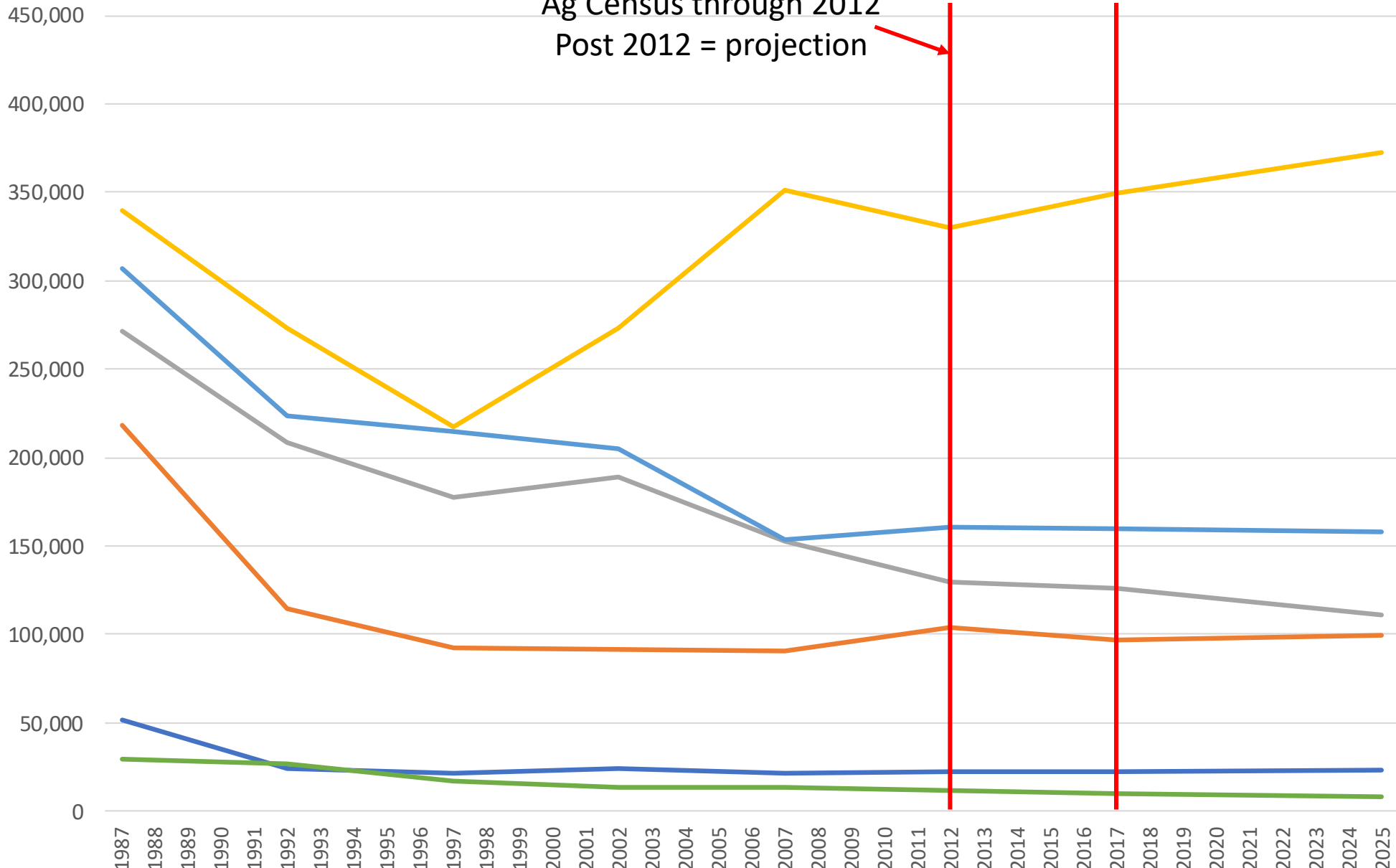


# Other Agronomic Crops

DE MD NY PA VA WV

Ag Census through 2012

Post 2012 = projection

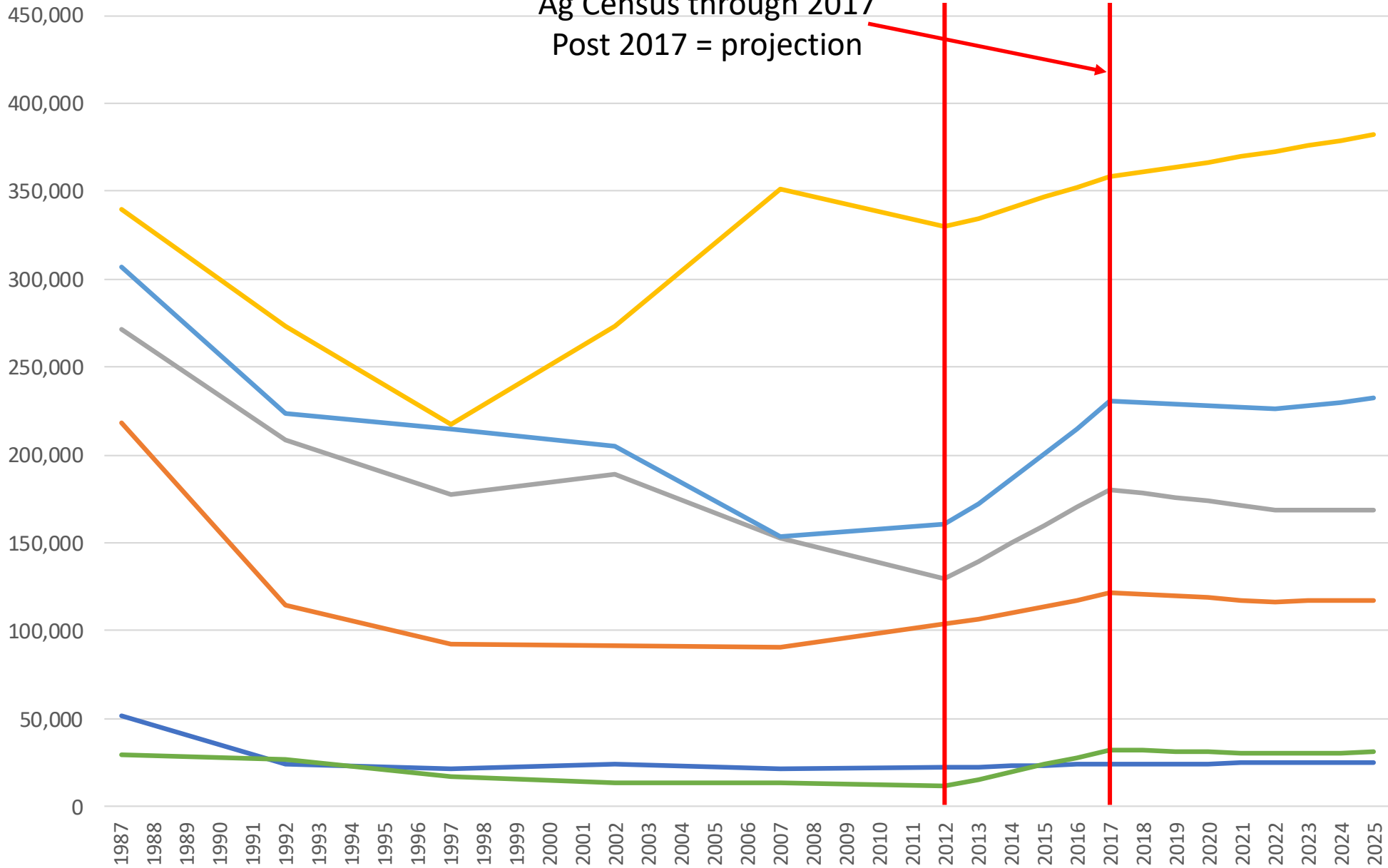


# Other Agronomic Crops

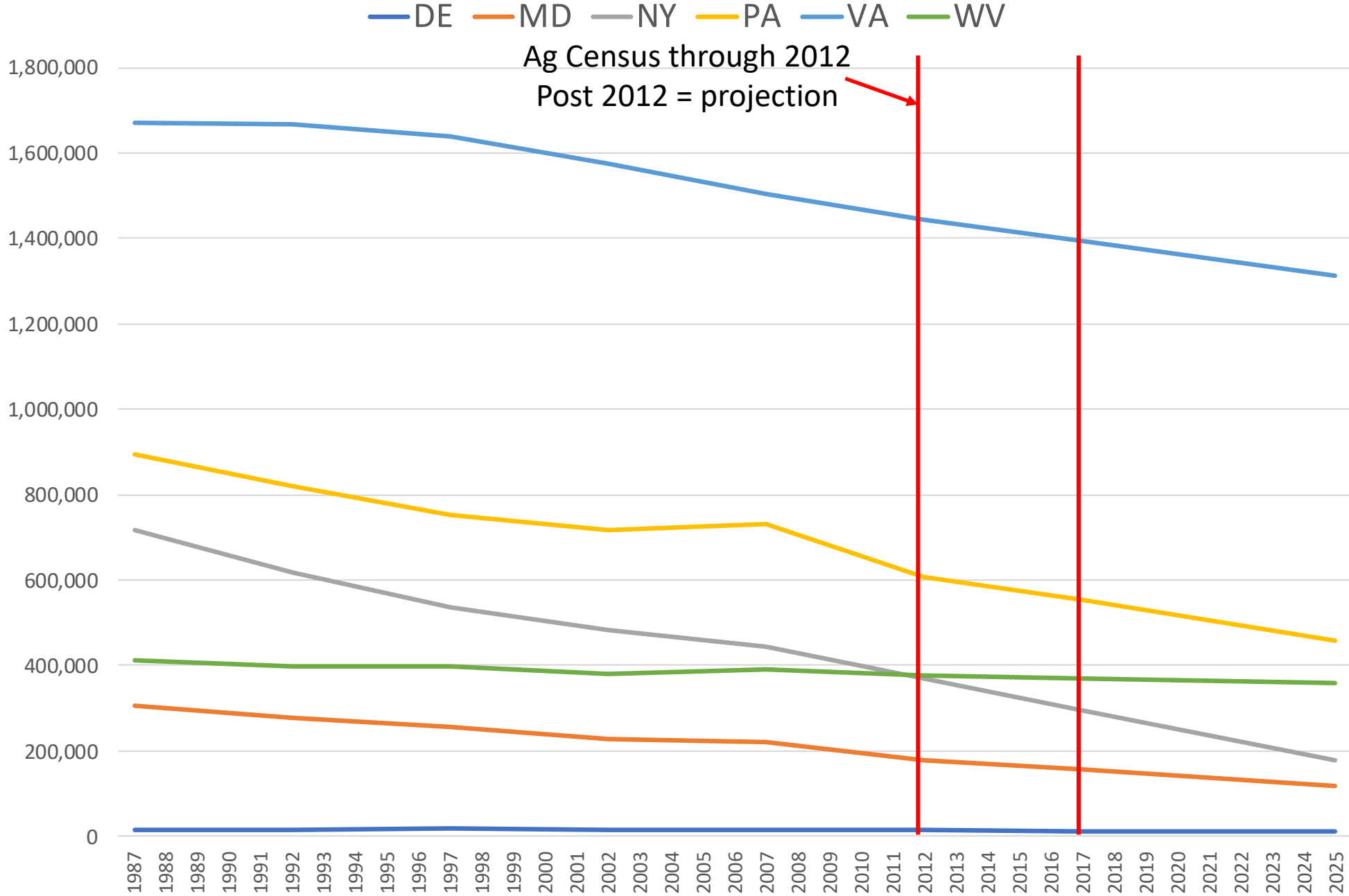
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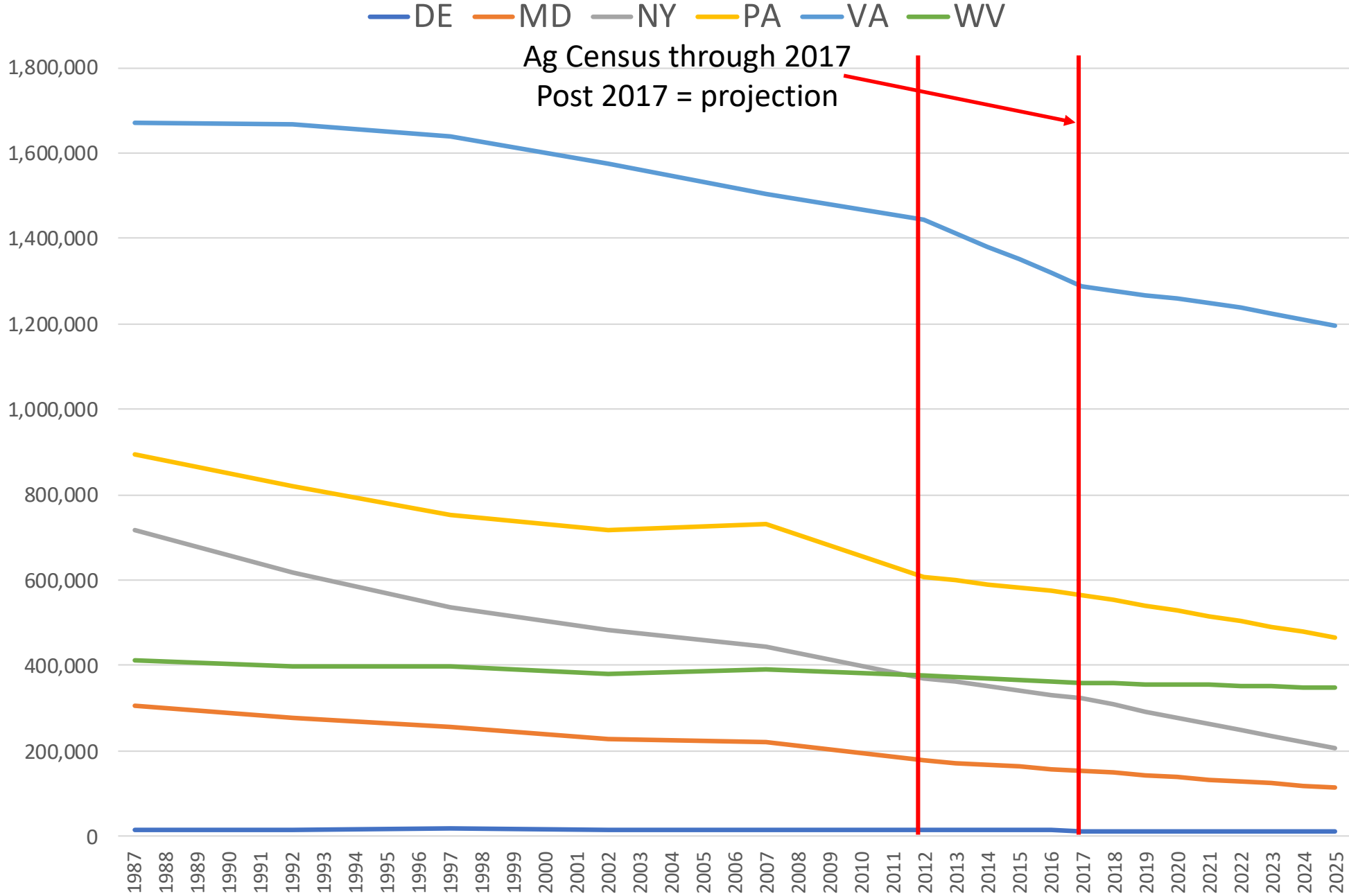
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# Pasture



# Pasture

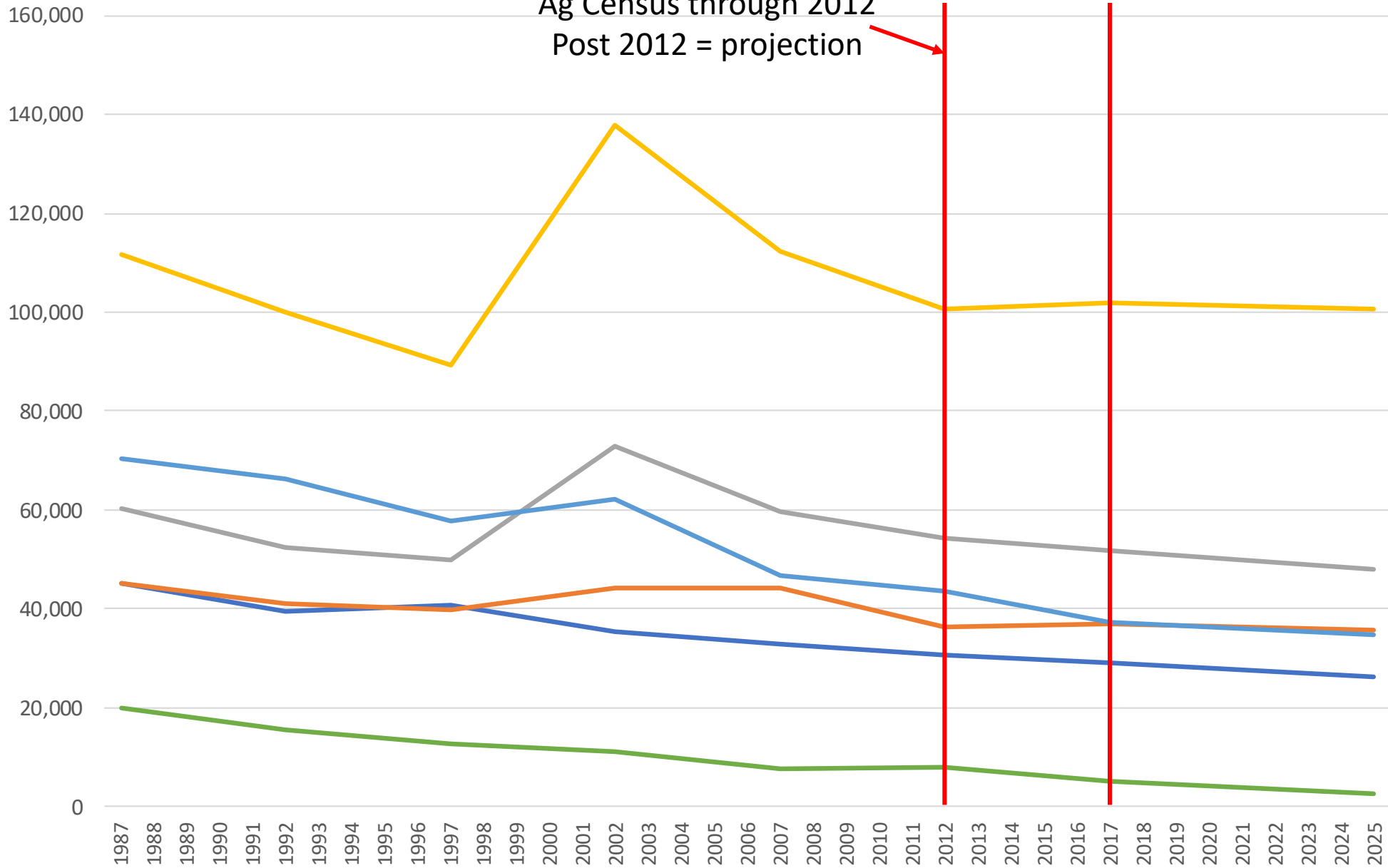


# Speciality Crops

DE MD NY PA VA WV

Ag Census through 2012

Post 2012 = projection

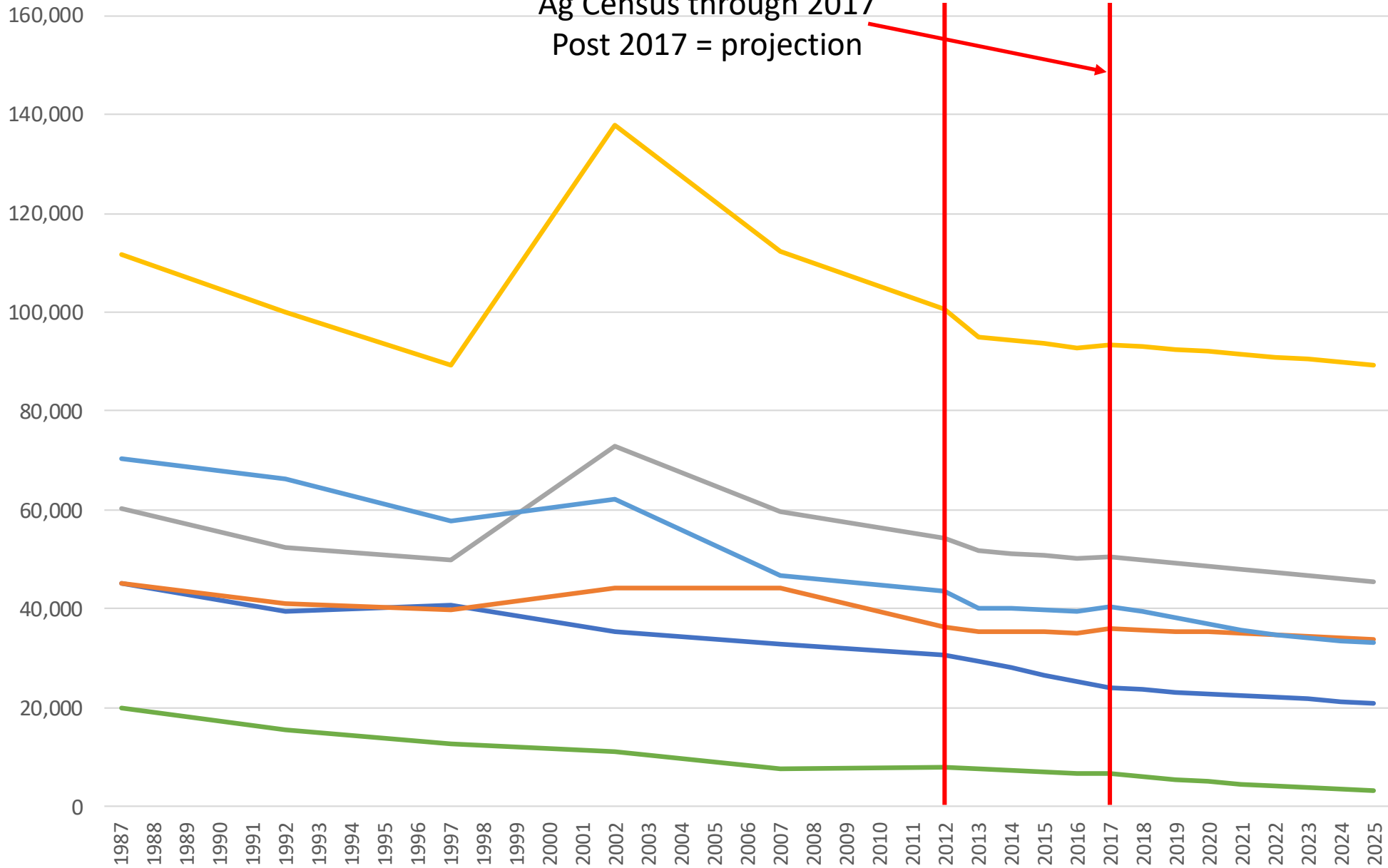


# Speciality Crops

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Ag Census through 2017

Post 2017 = projection







# Model Scenario Schedule and BMP Verification

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# Jurisdiction Schedule

## Phase 3 WIPs

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- August 23, 2019: Final Phase III WIP documents and Phase III WIP input decks were due to EPA.



# Jurisdiction Schedule

## 2019 Progress (2018–2019 Milestone Period)

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- September 2019: Jurisdictions are strongly encouraged to begin submitting their BMP implementation data to NEIEN.
- December 2, 2019: QA/QC'd final data to be submitted by jurisdictions for 2019 Progress scenario, including any updates to BMP Verification Program Plans describing new data sources and changes to methods of tracking to CBPO.
- January 15, 2020: Jurisdictions submit final progress for 2018-2019 programmatic milestones to EPA.
- February 8, 2020: CBPO finalizes 2019 Progress model assessment. Jurisdictions finalize BMP Verification Program Plans.





# Jurisdiction Schedule 2020 – 2021 Milestones

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- November 1, 2019: Final changes to modeling tools provided on CAST for use in the 2020-2021 Milestones; however, WQGIT is continuing discussions whether there's a need for numeric 2020-2021 milestones
- There will be two versions of 2019 Progress
  - One to finish 2018-2019 period – current CAST
  - One to begin 2020-2021 period with new methods and data; historic progress scenarios will be rerun



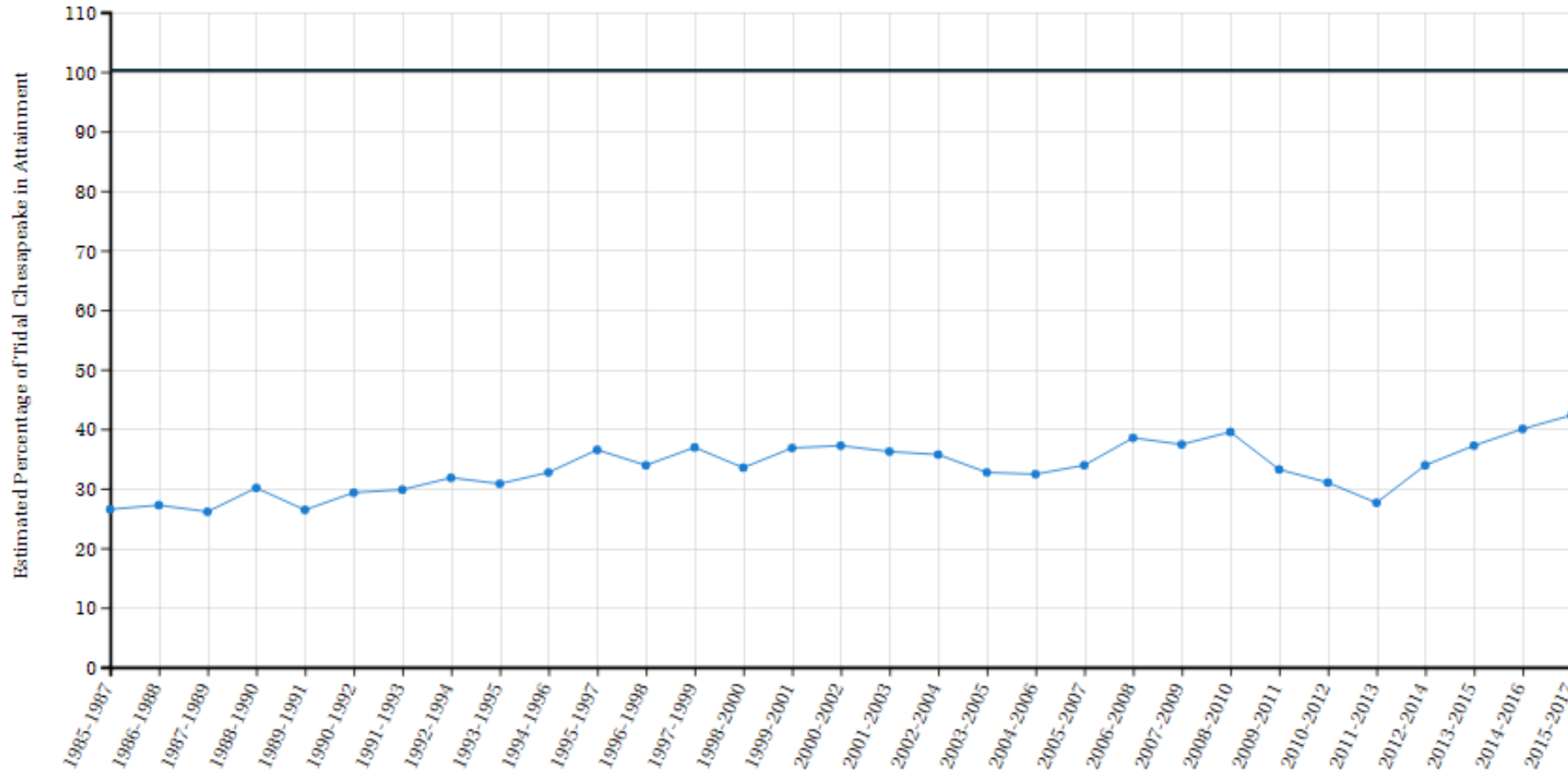
# 2018 Progress Scenario

## Verification

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- CBPO findings of BMP verification analysis were provided to each jurisdiction who have, in turn, investigated reported implementation levels and responded with either changes to their data or explanations of why BMP trends were illogical
  - 1) Good, thorough response to verification concerns.
  - 2) Overall, responded adequately to verification concerns but there are still issues with some BMPs – may not reflect changes in on-the-ground implementation.
  - 3) There are still verification issues with several BMPs

# Water Quality Standards Attainment



Interactive Slider

