

Inorganic Fertilizer

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Recap

- June 2025
 1. Fertilizer Data Trend walkthrough
 2. Updated state supplied data
 3. State Scale request

Where do we stand on the update?

As of 7/8/25

- Data supplied by: DE, PA
- NY still is not collecting
- Data are being worked up: VA
- Waiting on: MD, WV

What about moving to the state scale?

Current = watershed stock

Requested = state stock

- Some possible solutions
 - Sum data to the state scale
 - Sum to state scale and use only farm fertilizer
 - Sum data to the watershed scale, then disaggregate to the state scale

Comparison Plot

OldFertP7

- Current watershed wide fertilizer stock with current AMT decisions

New

- State fertilizer buckets kept separate

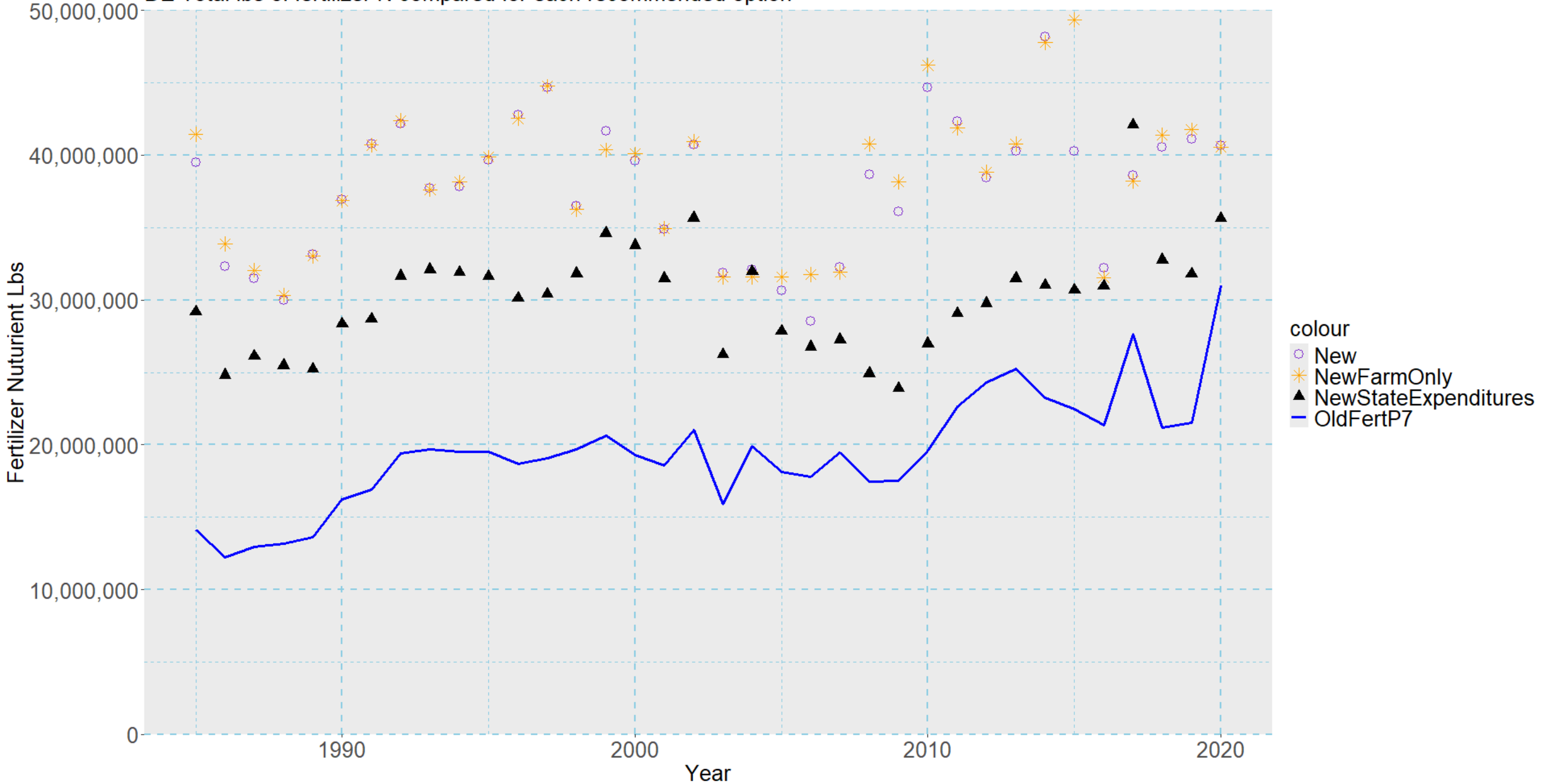
NewFarmOnly

- State buckets kept separate and only using farm fertilizer

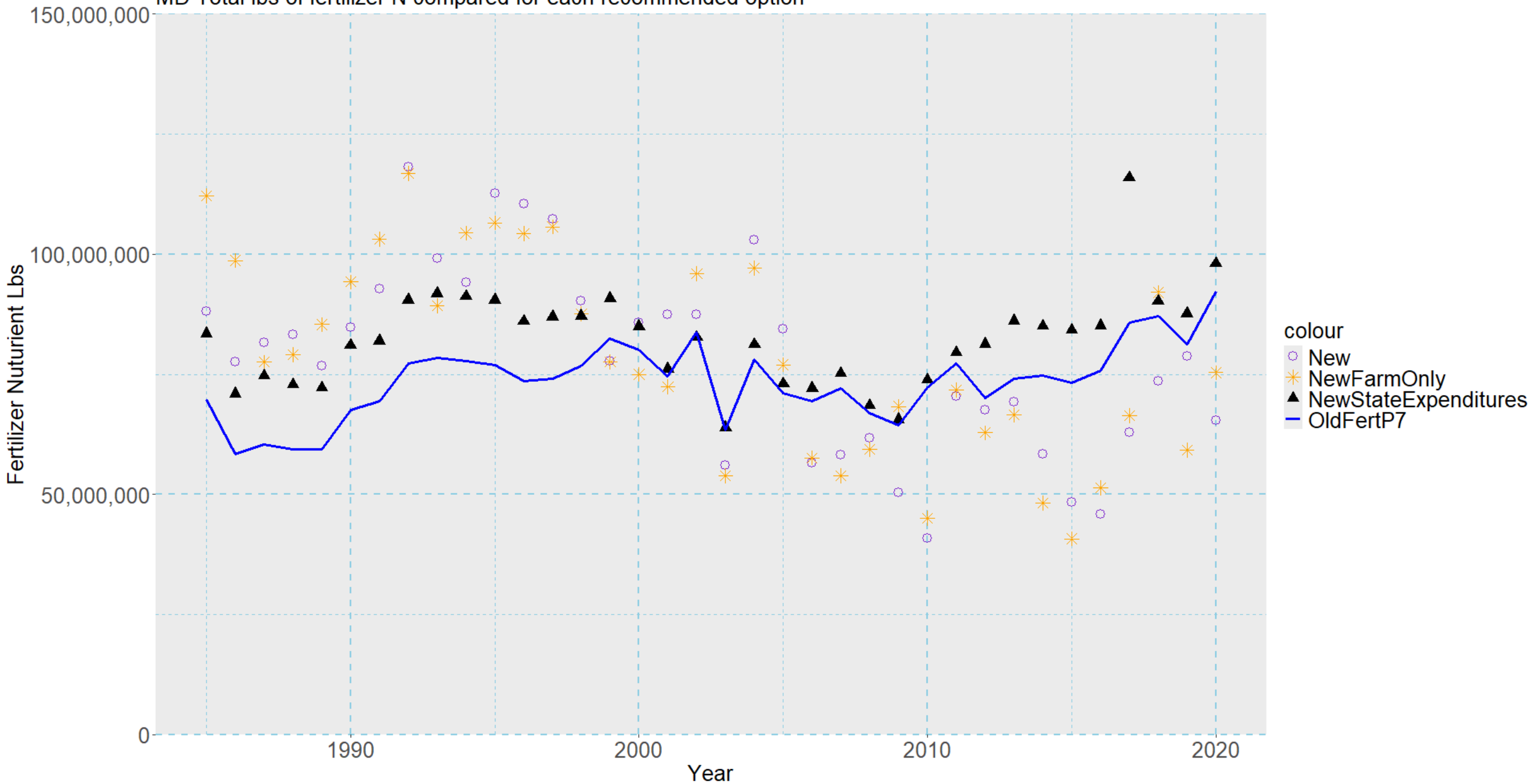
NewStateExpenditures

- C23 method and use state expenditures to split into state buckets

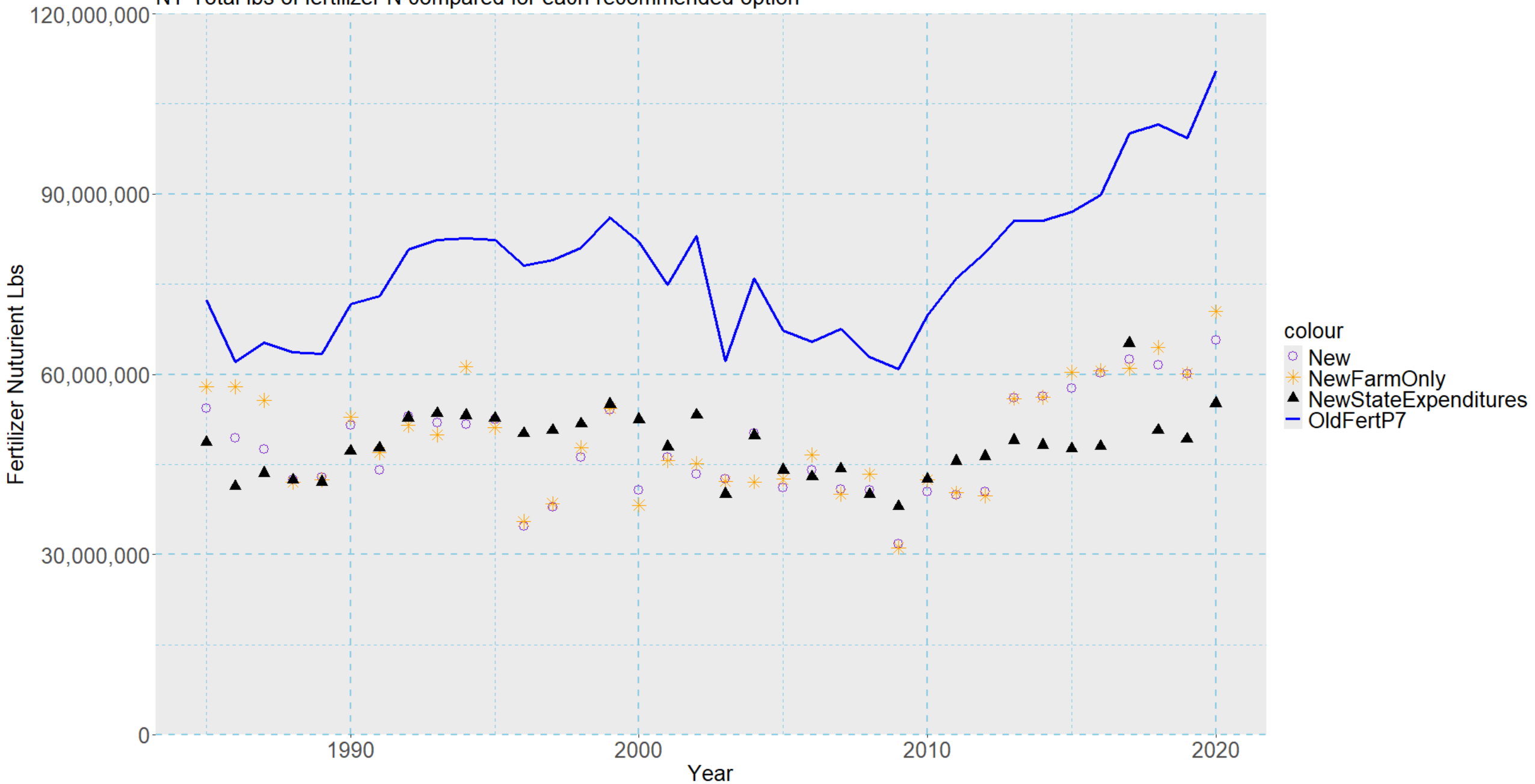
DE Total lbs of fertilizer N compared for each recommended option



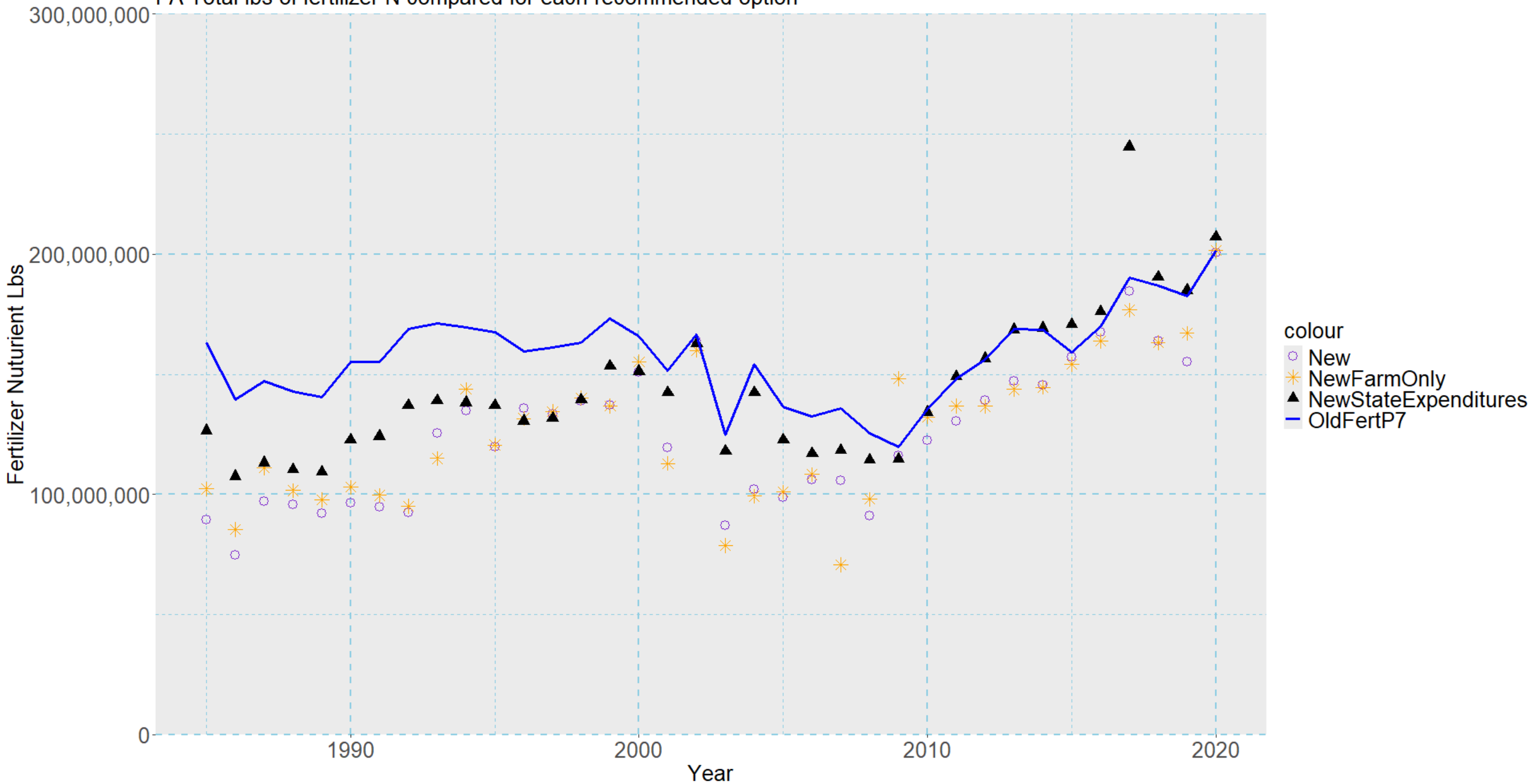
MD Total lbs of fertilizer N compared for each recommended option



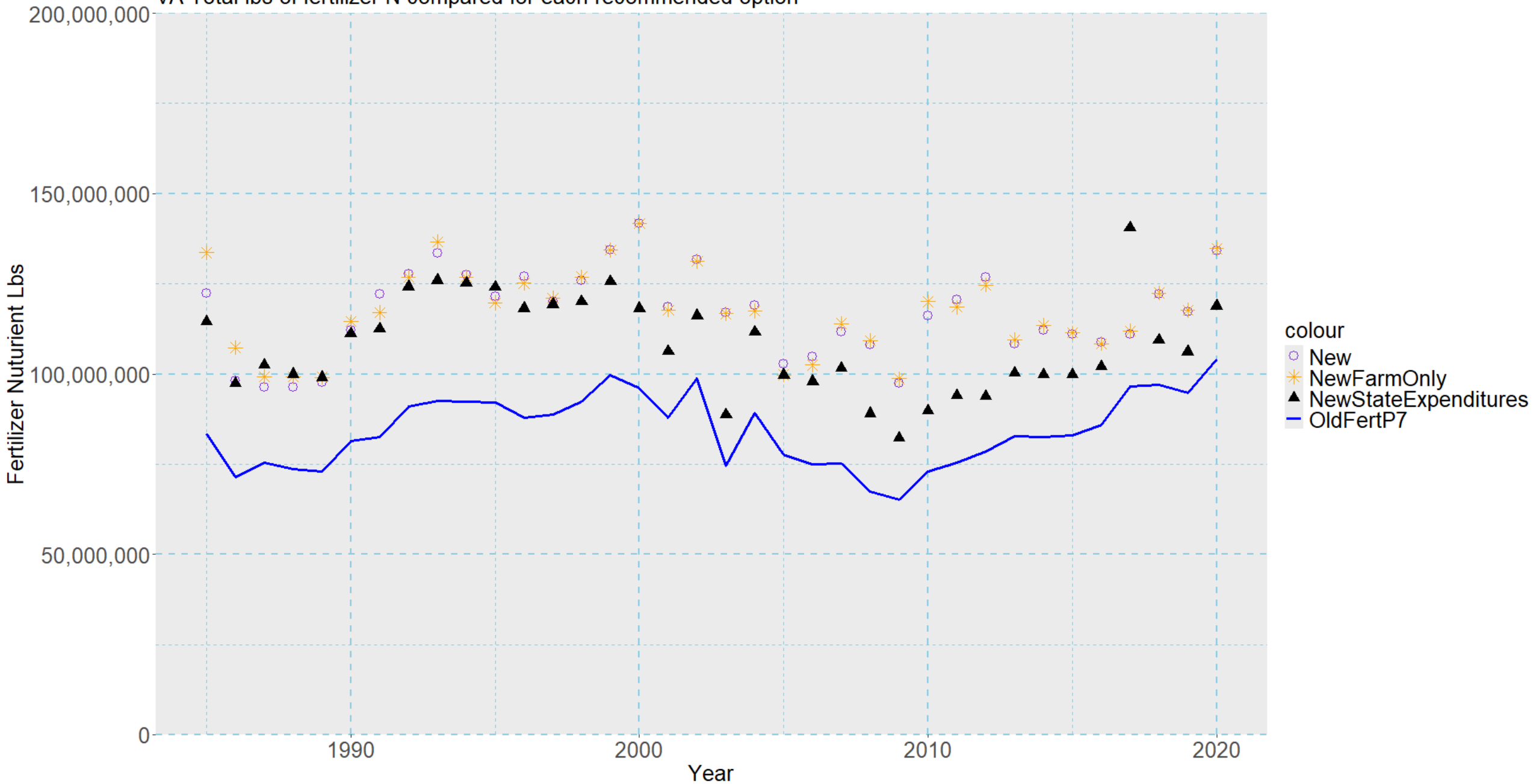
NY Total lbs of fertilizer N compared for each recommended option



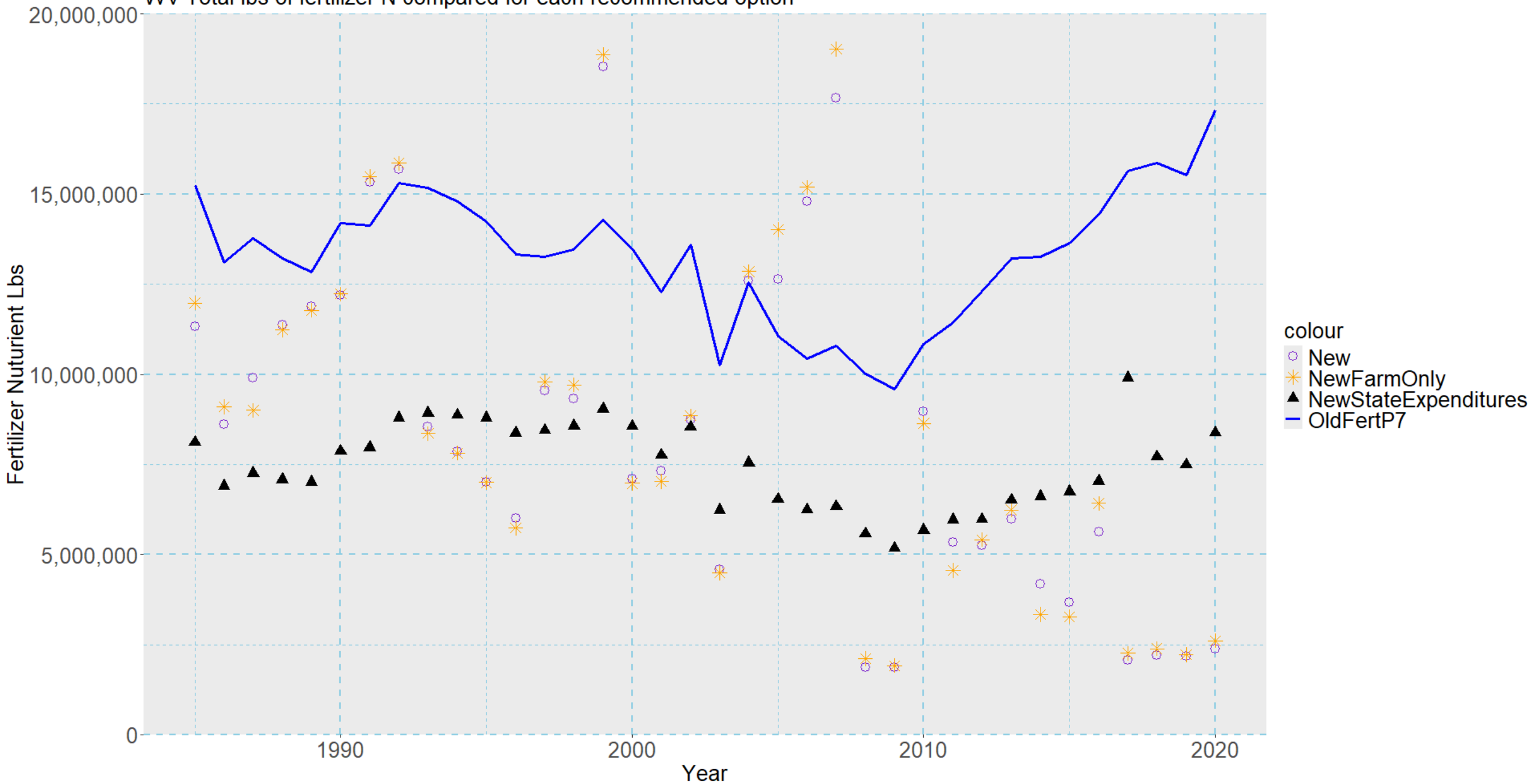
PA Total lbs of fertilizer N compared for each recommended option



VA Total lbs of fertilizer N compared for each recommended option



WV Total lbs of fertilizer N compared for each recommended option



A slight concern: variability

Highly variable data

- Likely not all real

Focus on long term trends

Fertilizer sales temporal redistribution to estimate applications

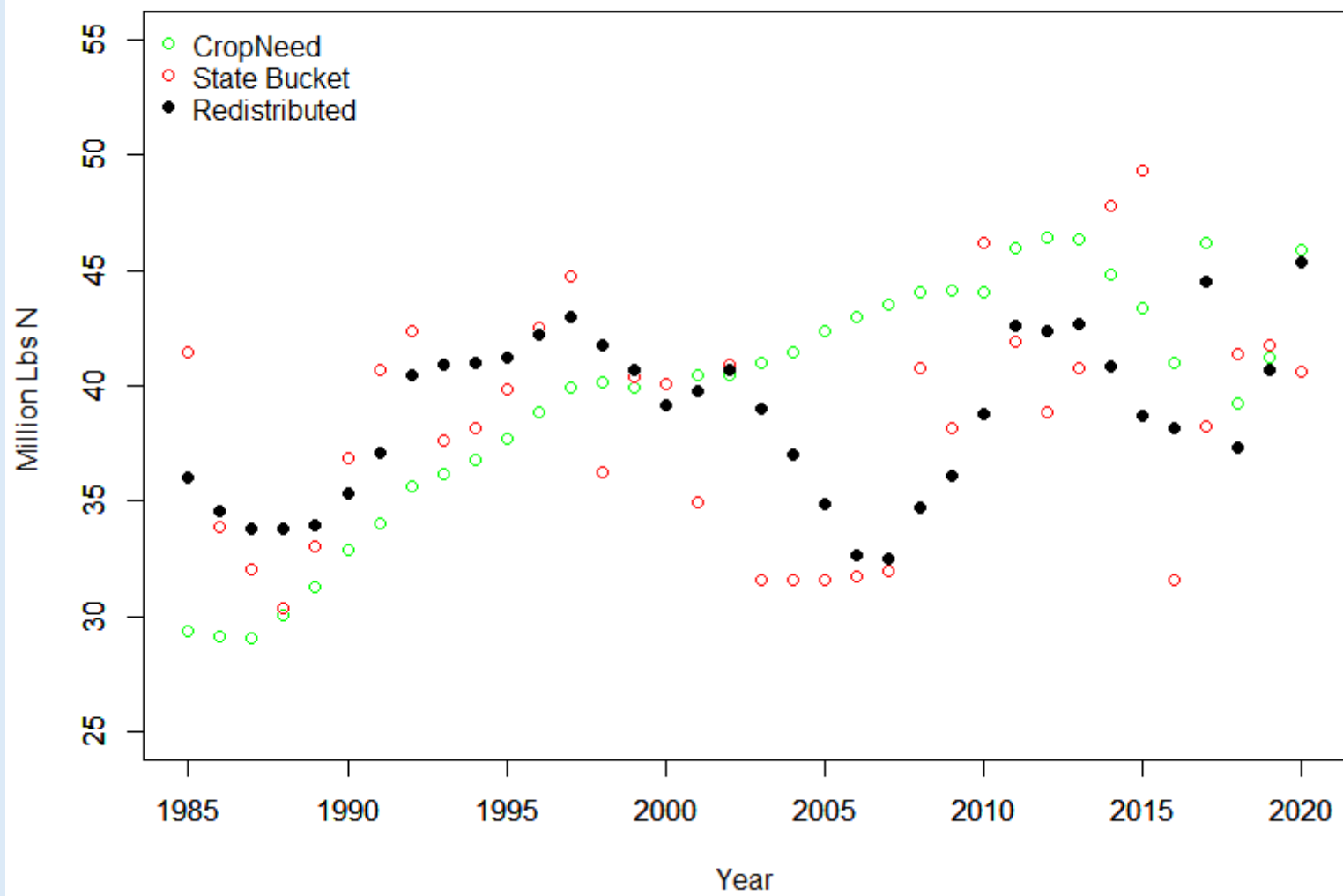
Stage one: allocate surplus at time t to t , $t+1$, $t+2$, $t+3$ to meet need (or proportional to the deficit if need can't be met)

Stage two: redistribute sale at time t to t , $t+1$, $t+2$, $t+3$ proportional to crop need (right aligned crop need weighted moving window average).

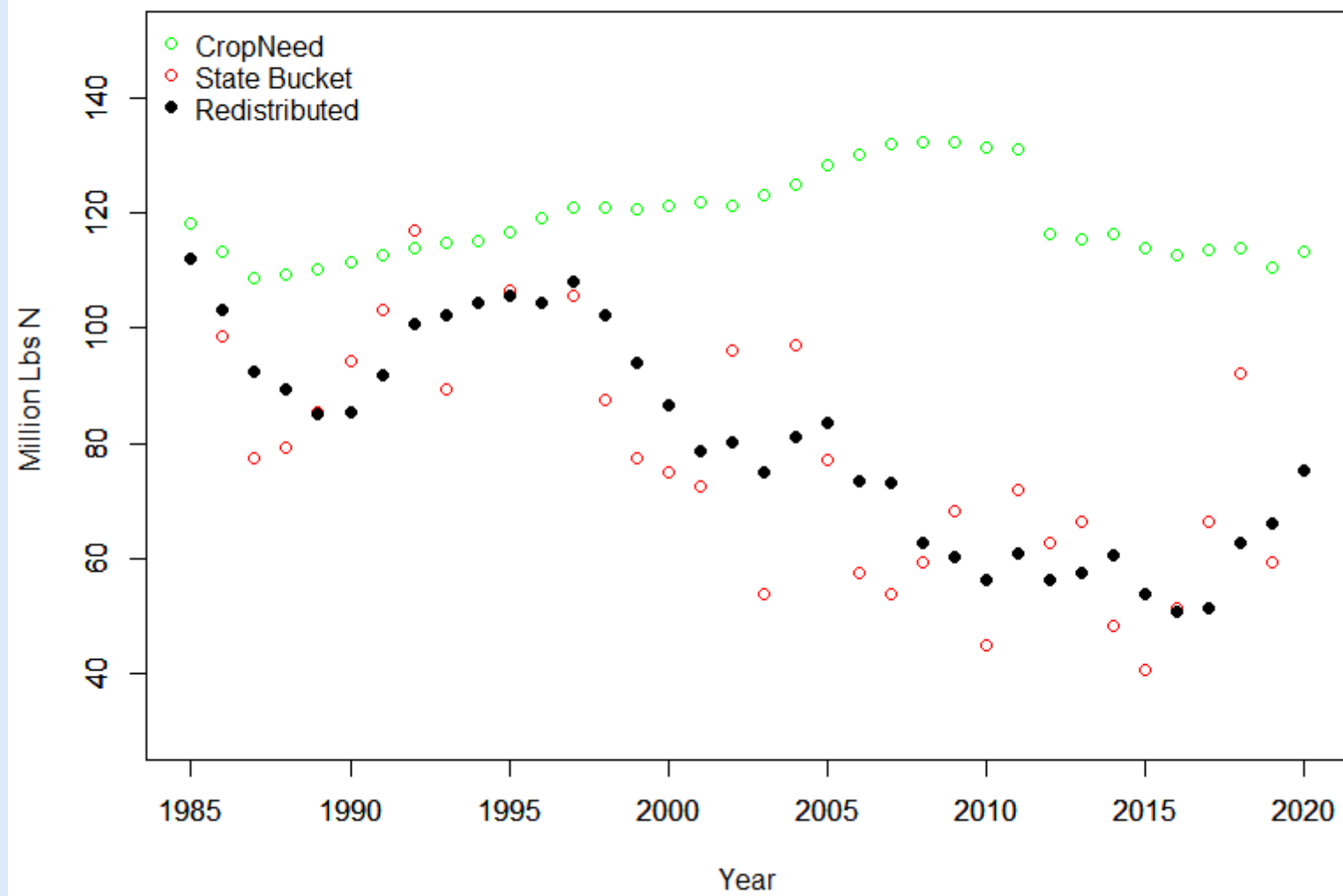
Notes:

- Expanded data years (<1985) will improve estimates in early years.
- Stage two final year application = sales. I.e., if there is no surplus in the final 4 years, application = sales. A “final year” rule can be added.

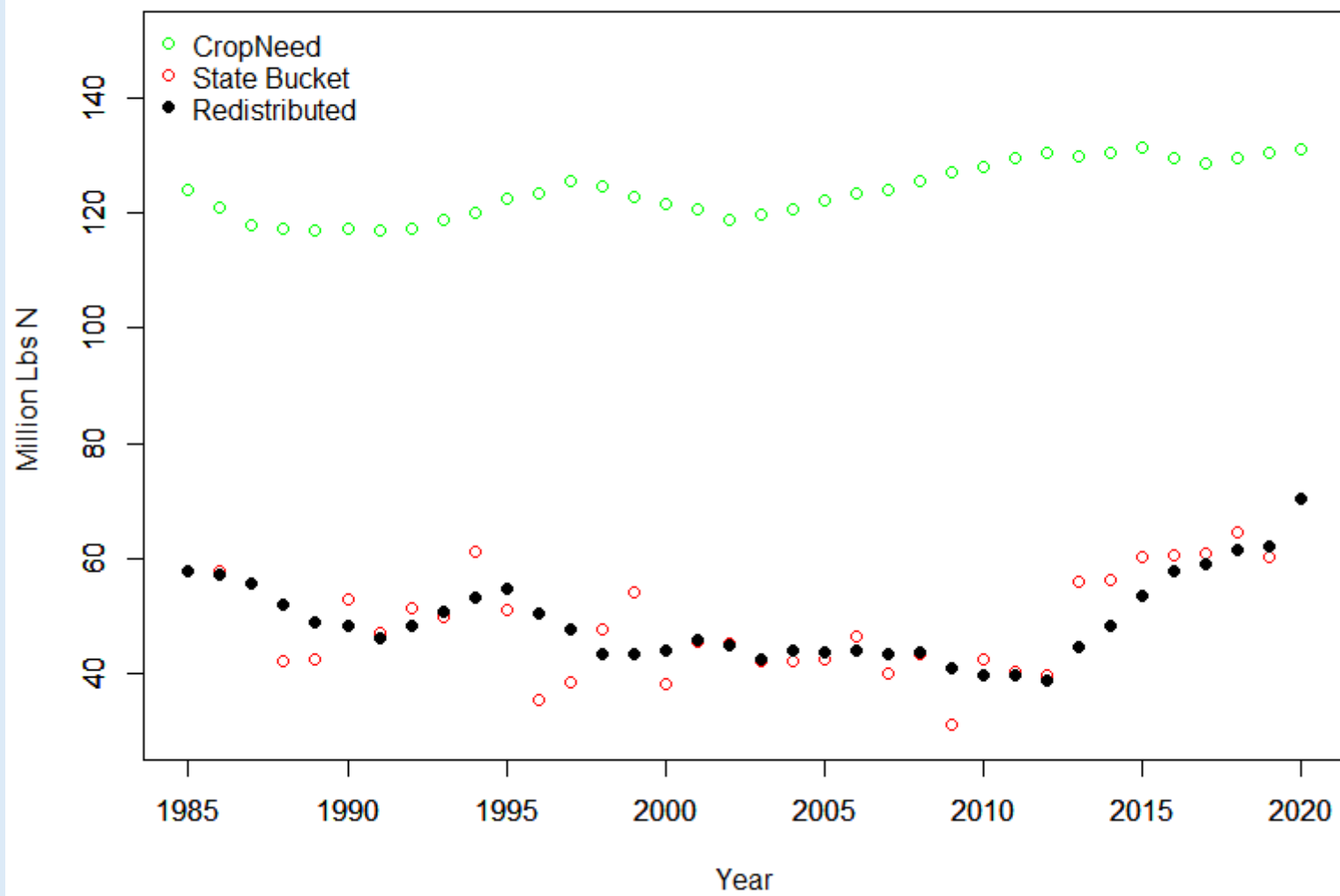
DE



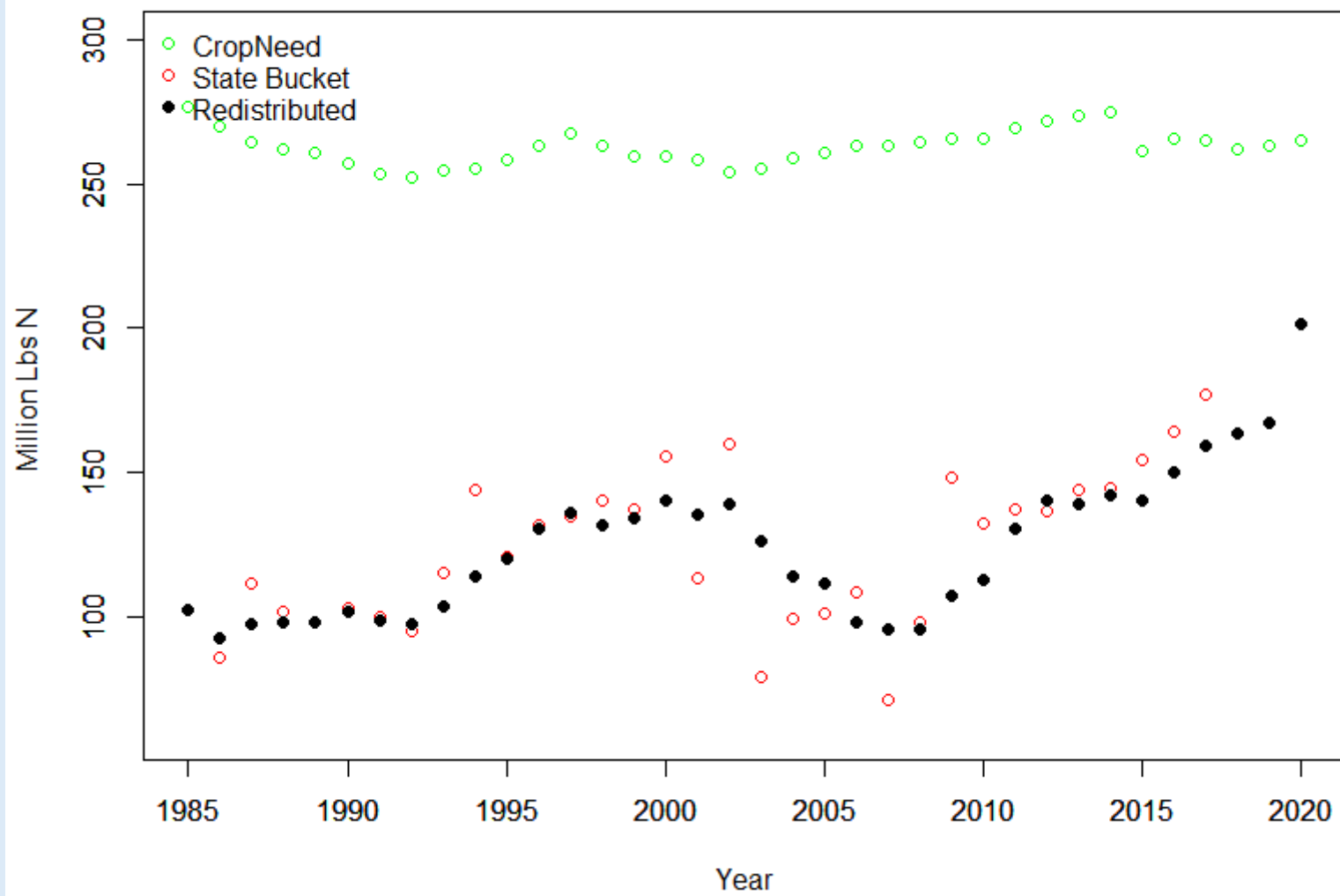
MD



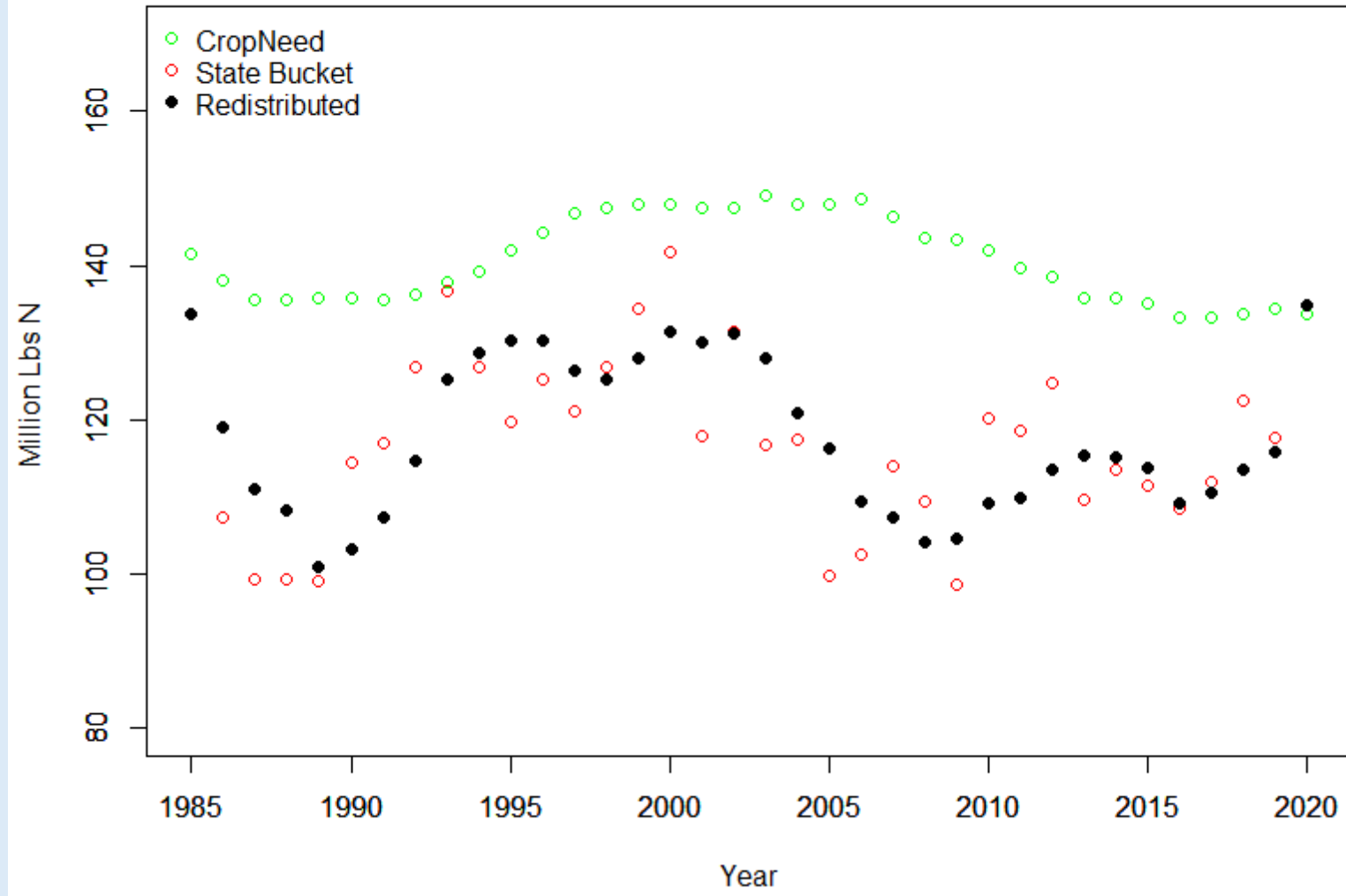
NY



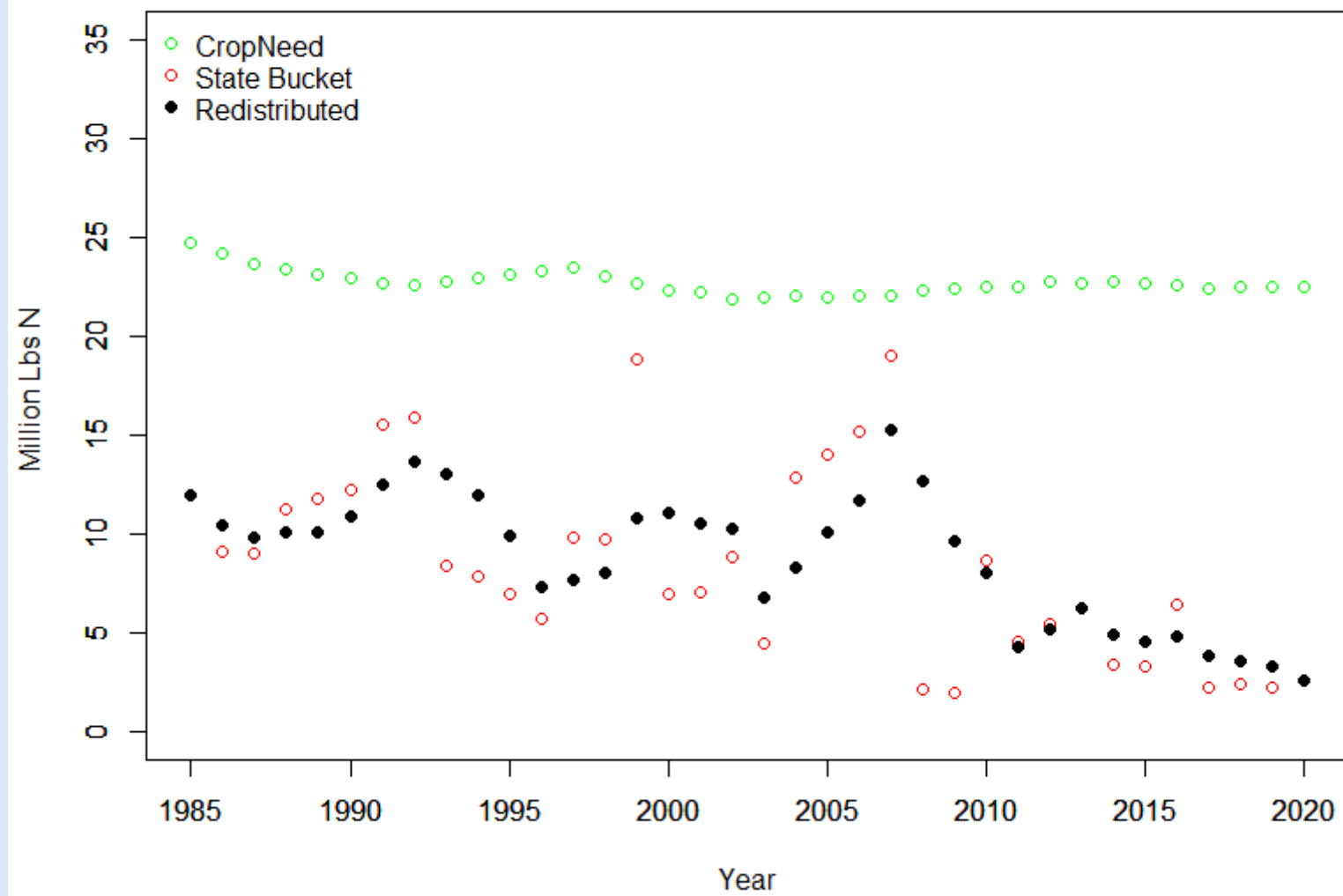
PA



VA



WV



Summary

State Scale can work

Variability is likely a concern

- Can smooth data several ways

We must decide what to do

Decision

- We should utilize state specific farm only fertilizer stocks that are smoothed across time.

Consensus Continuum

