Fertilizer Expert Group Recommendations

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Recommendations: Phase 6

1) Prior to release of a new CAST version, data should be collected from AAPFCO and directly from states as available. Data should be analyzed according to the following recommendations and incorporated into the new CAST version. The fertilizer data should only be updated with a version change.

2) For data covering 2016 and before, AAPFCO fertilizer sales tonnage data should be used.

3) For data covering 2017 and after direct state reports will be collected and assimilated assuming three or more out of six states provided data.

4) The watershed-wide fertilizer sales will be used up through the last year in which conditions under recommendation 3 are met.

Recommendations: Phase 7

1) Re-examine the use of both farm and nonfarm categories of AAPFCO fertilizer in calculating fertilizer sales totals.

2) Further examine alternative fertilizer data sets.

3) Examine the use of additional fertilizer *application* datasets (Agrochemical application surveys, CEAP) to ground-truth estimates of application based on sales.

4) Re-examine outlier removal and filling methods.

Back to the details of Phase 6

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2) For data covering 2016 and before, AAPFCO fertilizer sales tonnage data should be used.

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4) The watershed-wide fertilizer sales will be used up through the last year in which conditions under recommendation 3 are met.

Recommendation 3 caveats:

If less than three of six states provide data directly then AAPFCO fertilizer sales tonnage data will be used.

If at least three of six states provide data directly then state data will be used with nonreporting states data being estimated by…[currently evaluating the three methods below, but will end in a single recommendation

- ***A)*** *Calculate the percent change in annual fertilizer sales for the sum of states with data between the last year of available data for the state without data (AAPFCO or state data) and the year to be estimated.*
  - Fert(NodataState,Year2) = Fert(NodataState,Year1) * Sum(Fert(StatesWithData,Year2)/Sum(Fert(StatesWithData,Year1)
- ***B)*** *Continue to use the last year of available AAFCO or state data.*
  - Fert(NodataState,Year2 = Fert(NodataState,Year1)
- ***C)*** *Use a state-specific trend using the last 5 years of available AAPFCO and/or state data for the state without updated data. This trend will be compiled after the calculation and removal of outliers in the AAPFCO data.*
  - Fert(NodataState,Year2) = Fert(NodataState,Year1)*slope*(year2-year1)

In cases where states do not submit data directly but do submit to AAPFCO the AAPFCO data will be utilized rather than a projection.

When conditions for recommendation 3 are met subsequent data will not replace fertilizer data from previous years.

Recommendation 3

Option A:

- Calculate the percent change in fertilizer sales.

Recommendation 3

Option A:

- Calculate the percent change in fertilizer sales.

Option B

- Continue to use the last year of data.

Recommendation 3

Option A:

- Calculate the percent change in fertilizer sales.

Option B

- Continue to use the last year of data.

Option C

- Use a state-specific trends using the last 5 years of available data.

Recommendation 3

Option A: Calculate the percent change in fertilizer sales.

- Nonreporting state fertilizer value = Nonreporting states previous year of data (X) Reporting states percent change from the previous year

Option B: Continue to use the last year of data.

- Nonreporting states fertilizer data = Nonreporting states last reported data

Option C: Use a state-specific trends using the last 5 years of available data.

- Nonreporting states fertilizer value = regression of the previous five years of data

Questions?