

## **Fertilizer Tonnage Reporting in the U.S.— Basis and Current Need**

By David L. Terry

National fertilizer use statistics are collected and published with cooperation between the Association of American Plant Food Control Officials (AAPFCO) and The Fertilizer Institute (TFI). Although the *Commercial Fertilizers* report includes some data challenges and limitations, it has tremendous value to the industry and others interested in nutrient use.

The most accurate and credible fertilizer use data in the U.S. are generated by the fertilizer regulatory programs in each state. Each state with a fertilizer law, with two exceptions, has a requirement of reporting fertilizer tonnage. There are two main purposes for the reports: (1) to generate income to support the regulatory program, and (2) to reveal the kinds and amounts of fertilizers being distributed in the state.

Prior to 1985, fertilizer use statistics in the U.S. were collected by the U.S. Department of Agriculture (USDA). They used not only tonnage reports from the states, but also some of their own estimates. (The USDA data are available from libraries that have a complete set of U.S. Government documents.) In 1985, the Tennessee Valley Authority (TVA) in Muscle Shoals, Alabama, assumed the mission of collecting and publishing the fertilizer use statistics. They relied exclusively on the tonnage data received from the various state fertilizer control agencies. The TVA continued this up to 1995, when a change in mission caused them to drop the publication of *Commercial Fertilizers*...which is a summary of the national fertilizer use data. At that time, AAPFCO and TFI combined forces to continue the publication. The TVA agreed to give AAPFCO all the software and procedures they had developed for *Commercial Fertilizers*. As Sec-

retary of AAPFCO, I assumed the responsibility of collecting, editing, and publishing *Commercial Fertilizers*.

### **The National Fertilizer Use Data Collection Process**

Section 7 (c) of AAPFCO's Model Fertilizer Bill states: "When more than one person is involved in the distribution of a fertilizer, the last person who has the fertilizer registered (is licensed) and who distributed to a non-registrant/licensee dealer, or consumer is responsible for reporting the tonnage and paying the inspection fee, unless the report and payment is made by a prior distributor of the fertilizer." The data required by the Model Bill include: county, amount (tons), the grade (analysis), and form of distribution (bag, bulk, fluid). Other information requested includes use (farm, non-farm) and fertilizer material codes.

In interpreting the data, we assume that the "last" registrant/licensee is most likely a "dealer" who will sell to the ultimate consumer...or is the farmer/consumer. Therefore, since most states follow this model, the tonnage reported is assumed to represent "use" or "consumption" of fertilizer in a given state. This assumption is further validated when we see "negative" tonnage reported. This occurs when a registrant reports sales to a "dealer" who subsequently does not sell the

fertilizer and returns it to the registrant for credit. The registrant in turn reports the returned fertilizer to the state of record for credit.

No discussion of the collection of the national fertilizer use data would be complete without mentioning AAPFCO's Uniform Fertilizer Tonnage Reporting System (UFTRS). When tonnage reporting was discussed, the need for uniform reports among the states was cited as very important.

Each fall beginning around October 1, a notice is sent to each state control official requesting a copy of their tonnage database. All the data are now sent as electronic files, either via email or on compact disk (CD). The fertilizer year is July 1-June 30. For example, FY06 is July 1, 2005-June 30, 2006. (All states except North Dakota, South Dakota, Texas, and Vermont report their tonnage this way.) Once received, the databases from each state are edited, summarized, and published. Edit programs provided to us by TVA are used to correct various coding errors and to provide uniformity among the states' data for later summarization. The national fertilizer use data are published in two ways: a 35-page hard copy publication, *Commercial Fertilizers*, and electronically, in ASCII text format and in Lotus format. County-level data were available for 30 states for FY05 in the electronic version (**Figure 1**).

The *Commercial Fertilizers* publication has a section titled 'Data Sources' which

details the characteristics of the tonnage data in the publication and should be consulted before using the data. Those characteristics are discussed in the full web version of this article, available at: >[www.ppi-ppic.org/bctonreprt](http://www.ppi-ppic.org/bctonreprt)<.

Several states have reported budget problems and lowered priority of reporting the tonnage data. AAPFCO tries to help these states as best we can, but all the states need support from the industry to continue and to improve their tonnage reporting effort.

### Value of the Data

Following are examples of the value and uses of the *Commercial Fertilizers* data.

- It continues to be one of the oldest agricultural databases in the U.S.
- It promotes industry stability by facilitating the ability of companies to plan and invest in supplying future fertilizer needs and is a critical service to the regulated industry.
- Agricultural professionals can evaluate how well farmers in a region are generally following recommendations for fertilizer use.
- Archived records of consumption that can be matched to crop demands and soil fertility levels help demonstrate fertilizer need.
- Help identify potential areas of environmental concern. County data are especially useful in evaluating any association with the presence of excess nutrients...e.g. nitrogen (N) and phosphorus (P) in surface and subsurface waters. It can also improve the efficiency of policies relative to fertilizer nutrient management.
- Separation of the data into the following categories is also useful for the industry:
  - farm and nonfarm consumption of nutrients
  - materials and mixed grade distribution
  - bag, bulk, or fluid



**Figure 1.** AAPFCO county fertilizer consumption data availability, 2005.  
(Prepared for PPI by PAQ Interactive.)

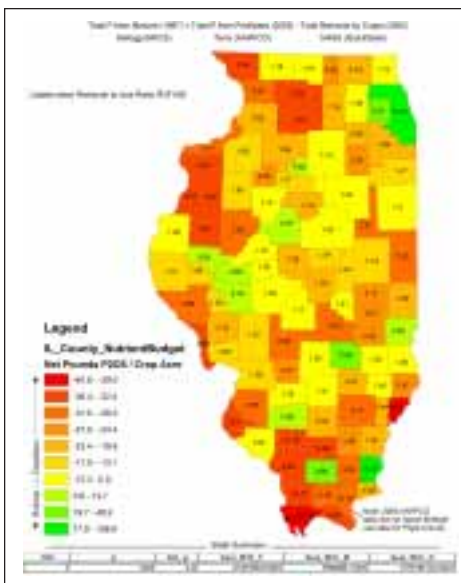
The data have been used by many.

- Local fertilizer dealers to track sales, determine warranted changes, evaluate sales in other market areas, provide data for investment capital decisions, and support studies for orderly growth and effective, efficient investments.
- Fertilizer industry market analysts, to determine market penetration, develop market trend analyses, study regional and national market conditions, and improve distribution capabilities.
- Universities, institutions, and governmental agencies to determine potential distribution and use problems, improve consistency of fertilizer recommendations, evaluate effectiveness and impact of soil test recommendations, estimate fertilizer use efficiency, develop the basis of environmental impact studies, determine trends in types and usage of materials, identify high payoff areas for research, and verify effectiveness of regulation or policy. **Figure 2** is an example of a

map of county-level P budgets for Illinois created by merging the AAPFCO fertilizer use data with USDA crop yields, recoverable manure P estimates, and standard crop removal coefficients through an on-going project by PPI and TFI to increase the quality and accessibility of nutrient use information. The map shows that all except 12 Illinois counties in 2005 had negative P budgets...crops removed more P than was applied as fertilizer or recoverable from manure.

County-level data and descriptive maps can be used by:

- Financial institutions to evaluate operating/investment loans.
- Transportation systems to identify efficient distribution systems/routes.
- Producers to determine availability of products.
- Extension specialists as educational impact tools.
- Control officials to track movement within the state, collect accurate tonnage fees, and develop inspectional programs so sampling is proportional to distribution.



**Figure 2.** County P budgets for Illinois, 2005. (Prepared for PPI by PAQ Interactive.)

### Summary

The data reported by AAPFCO in the publication *Commercial Fertilizers* are the most accurate and credible source of fertilizer use data for the U.S. The data in the *Commercial Fertilizers* publication are available, valuable, used by people of various interests, and fragile in that the control offices collecting the data are under constant financial stress to collect and distribute the data. **BC**

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*A longer version of this article containing more historical information and detail on the fertilizer consumption reporting process can be found at: >[www.ppi-ppic.org/bctonreprt](http://www.ppi-ppic.org/bctonreprt)<.*