

Current AAPFCO Approach to Fertilizer Sales Data Collection

Presented To

Workshop

“Understanding Fertilizer Sales and Reporting Information”

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Introduction

The most accurate and creditable fertilizer use data in the US 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. The basis of the collection of these data in all the states is the Model Fertilizer Bill developed and promoted by the Association of American Plant Food Control Officials (AAPFCO); and, its associated Uniform Fertilizer Tonnage Reporting System (UFTRS).

The objective of my presentation is to describe AAPFCO’s UFTRS. I will do this by (1) briefly reviewing the history of the system, (2) describing how the system works and demonstrating the UFTRS program, (3) outlining the characteristics and warning of the problems associated with the data, and (4) mentioning the value of the data.

## Historical Perspective

### *Tonnage Reporting Beginnings*

Fertilizer tonnage reporting has been around over 100 years and has progressed significantly since the early beginnings being required by almost all state fertilizer laws. New Jersey reported first in 1882 followed by Indiana in 1883 and 36 states were making some kind of tonnage report by 1945<sup>1</sup>. The 4th draft of the AAPFCO Model State Fertilizer Bill that was published in the first Official Publication of the Association of American Fertilizer Control Officials had a requirement for reporting tonnage. It required semiannual reporting of tonnage by grade<sup>2</sup>.

The current Uniform State Fertilizer Bill of AAPFCO has a very similar tonnage reporting requirement<sup>3</sup>.

#### Section 7 (c)

"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." (*Inspection Fee Report*)

#### Section 8 (a)

"The person distributing or selling fertilizer to a non-registrant/non-licensee shall furnish the \_\_\_\_\_ a report showing the county of the consignee, the amounts (tons) of each grade of fertilizer, and the form in which the fertilizer was distributed (bags, bulk, liquid, etc.)." (*Detail tonnage report*)

In the very first annual meeting of the Association of American Fertilizer Control Officials now known as AAPFCO, one of the papers presented was 'The Use of Fertilizer Tonnage Data' by J. F. Fudge of College Station Texas. Some of his comments are as appropriate today as they were 60 years ago. He noted that tonnage reports allow the determination of: (1) the consumption of N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O, (2) the most popular grades and

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<sup>1</sup> Official Publication, 1947, No. 1, Association of American Fertilizer Control Officials (Fudge Paper)

<sup>2</sup> Official Publication, 1947, No. 1, Association of American Fertilizer Control Officials, (p7 of Model Bill).

<sup>3</sup> Official Publication, 2007, No. 60, Association of American Plant Food Control Officials, (p31)

materials, (3) the ratio of mixtures to materials; and, (4) trends in fertilizer use when followed over several years.<sup>4</sup> Another important aspect of tonnage reporting is the collection of an inspection fee that goes to support the regulatory program.

### *Uniformity Beginnings*

No discussion of the tonnage reporting requirement of AAPFCO's Model Fertilizer Bill would be complete without mentioning its Uniform Fertilizer Tonnage Reporting System (UFTRS). As soon as tonnage reporting was discussed the need for uniform reports among the states was cited as very important by the fertilizer industry.

The initiative for developing uniformity in tonnage reporting came in 1964 when W. L. Baker of MO, President of AAPFCO, appointed a committee to begin the work for a uniform system<sup>5</sup>. In 1965 the AAPFCO passed a resolution supporting a uniform tonnage reporting system and in 1967 the committee recommended a standard format for the data and a monthly-county-invoice system<sup>6</sup>. With some slight modification that format is the same as currently recommended under the UFTRS. Of course, the ADP equipment at that time was the mainframe IBM computer that used 80 column punched cards. Nevertheless, the standardization of how companies should report their tonnage to the control official was a boon to accurate and timely tonnage reports. USDA, NPFI (National Plant Food Institute-now TFI), NASDA (National Association of State Departments of Agriculture), and the Association of Southern Feed, Fertilizer, and Pesticide Control Officials immediately endorsed and AAPFCO began to promote the system soon after its adoption.

That is the beginning of the UFTRS and it remained basically the same until the development of the UFTRS computer program for IBM PC's. The first version of the UFTRS software was a DOS program released in 1986<sup>7</sup>. The program has now been converted to a Windows based system and currently there are about 34 states utilizing the UFTRS software as their tonnage reporting engine. With that background on how UFTRS came into being let's look at the system in detail.

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<sup>4</sup> Official Publication, No. 1, 1947, Association of American Fertilizer Control Officials.

<sup>5</sup> Official Publication No. 18, 1964-65, Association of American Fertilizer Control Officials, p104.

<sup>6</sup> Official Publication No. 19, 1965-66, Association of American Fertilizer Control Officials, p 85.

<sup>7</sup> Official Publication No. 40, 1987, Association of American Plant Food Control Officials, p130

## UFTRS Demonstration<sup>8</sup>

The data required by the Model Bill include: period (month, quarter, etc. ), county, amount (tons), the grade (analysis), and form of distribution (bag, bulk, fluid); therefore, these are the major fields in the UFTRS database. Other information requested includes use (farm, non-farm) and fertilizer material codes.

Note: The UFTRS program will be demonstrated by showing the opening and data entry screens. The use of the “text” file import feature will be described. See Fig. 1-3 in the Appendix.

### Characteristics of and Problems Associated with the Data

#### *Sales vs Use*

To interpret the “sales” data as “use” data we must assume that the "last" registrant/licensee is most likely selling to a "dealer" who will sell to the ultimate consumer; or, is selling directly to the ultimate consumer.

Therefore, since most states follow this model, we may discuss the tonnage reported as "use" or "consumption" of fertilizer in the state. However, we must always be aware of this assumption. This assumption is somewhat 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 for inspection fee credit.

#### *Materials vs Mixtures and Duplicate Reporting*

Questions about the interpretation of the data of materials versus mixtures have been with us for a long time. My best answers are: (1) some states report as materials both those that are used straight and those that are subsequently sold in mixtures (mixtures are not reported), (2) some report materials only when used straight, and (3) some do both. Therefore, the tons of a specific material reported does not necessarily represent all the tons of that specific material that were applied straight because some would have been used in mixtures. Also, the tons of a specific material reported used does not represent all the tons of that specific material that were used

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<sup>8</sup>The UFTRS Program may be downloaded from the AAPFCO website: [www.aapfco.org](http://www.aapfco.org)

because some would have been used in mixtures. Custom blenders frequently report the materials that they use in their custom blends rather than the individual custom mixes. For each case, care is exercised so that there is not duplicate reporting. For example, when materials are reported and subsequently used in blends, the blends are not reported.

### *County Data*

The system allows registrants to report their sales into specific counties. The accuracy of the county data is directly related to the diligence of the registrant in recording and reporting the purchaser's county. For example, a registrant who is located near three counties and sells into those three counties tends to report all sales in the registrant's home county. The most significant improvement in the usefulness of the UFTRS data would be if the registrants reported accurately the county in which the fertilizer was used. One idea discussed within AAPFCO to address this issue is adding a consumer "ZIP CODE" field to the system to more accurately locate the county where the fertilizer was used.

While the data for a specific county may not be as accurate as desirable, the accuracy improves as one looks at larger areas or groups of counties.

### *Secondary and Micro-nutrients*

Capturing the actual usage of secondary and micronutrients is just as difficult as that of the NPK materials. If a company buys a secondary/micronutrient mix and adds it to a registered NPK mixture then the amount of the secondary or micronutrient used in the mixture is lost. If the individual materials used in the mixture are reported then the secondary/micronutrient tonnage is captured. The system is designed to capture the secondary and micro-nutrients in a mixture but there are no states that utilize the feature at this time.

### The National Fertilizer Database<sup>9</sup>

Prior to 1985, fertilizer use statistics in the US were collected by the USDA which 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

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<sup>9</sup> Commercial Fertilizers YYYY, where YYYY is the 'fertilizer year' is currently published by AAPFCO and TFI. For copies contact TFI, Union Center Plaza, 820 First Street NE, Suite 430, Washington, DC 20002, phone: 202/962-0490.

complete set of US Government documents. In 1985 TVA, Muscle Shoals, AL assumed the mission from USDA of collecting and publishing the fertilizer use statistics. They relied exclusively on the tonnage data received from the various state fertilizer control agencies. TVA continued this up to 1995 when a change in mission required them to drop the publication of *Commercial Fertilizers*, which is a summary of the national fertilizer use data. At that time the Association of American Plant Food Control Officials (AAPFCO) and The Fertilizer Institute (TFI) combined forces to continue the publication. TVA agreed to give AAPFCO all the software and procedures that they had developed for this publication. At that time I was Secretary of AAPFCO and assumed the responsibility of collecting, editing and publishing *Commercial Fertilizers*.

Each fall beginning around October 1<sup>st</sup>, 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 CD's. The fertilizer year is July 1-June 30 for most states. Once received the databases from each state are edited, summarized and published.

The national fertilizer use data are published in two ways: a 40 page hard copy publication, *Commercial Fertilizers*; and, electronically in ASCII text and Lotus spreadsheet formats. TFI sells the hard copy and AAPFCO sells the electronic databases in an attempt to recoup costs associated with the collection and publication.

### Value of the Data

The following are some ideas on the value of the *Commercial Fertilizers* data:

- Assists Industry Stability-The use of fertilizer by state and region allows companies to plan and invest to supply future needs and is a service to the regulated industry.
- Improved Decision Making-Trends in fertilizer use by county, state, and region provide a firm basis for companies to make business decisions and for agricultural professionals to evaluate how well farmers are following recommendations for fertilizer use.
- Continues National Database-It continues one of the oldest agricultural databases.
- Annual Publication in *Commercial Fertilizers*

- Ensured Adequate Supply to Each Farm-It helps balance supply and demand.
- Environmental Applications
  - ⇒ Identify Potential Areas of Concern-County data are especially useful in evaluating the presence of nutrients in surface and subsurface waters.
  - ⇒ Improve Efficiency of Policies relative to fertilizer nutrient management.
- Track nitrogen, phosphate, and potash use.
- Accurate Fertilizer Tonnage Data is Basis of Sound Business Decisions.
- Record Keeping is Good Business!
- Other Data of Value:
  - ⇒ County Use
  - ⇒ Materials and Mixed Grade Distribution
  - ⇒ Farm/Non-farm
  - ⇒ Bag, Bulk, or Fluid

### Summary

The data collected using AAPFCO's UFTRS are the most accurate and creditable source of fertilizer sales data for the US. By making a critical assumption that sales reported are to the final consumer, the data may be considered fertilizer "use". The data are available in AAPFCO's publication, *Commercial Fertilizers*, and are valuable, used by various persons of various interests, and fragile in that many of the control offices collecting the data are under financial stress not to collect and distribute the detail data.

The accuracy of the county data collected is as accurate as the data reported by the registrant/licensee. It is suggested that more attention be given to reporting the location of the final purchaser of the fertilizer rather than the location of the reporter. The state fertilizer control official also has a role in the accuracy of the data by thoroughly reviewing the reports and questioning those data that appear incorrect; and, offering training on the fertilizer tonnage reporting system.

## Appendix

The screenshot shows the Microsoft Access window titled "[Uniform Fertilizer Tonnage Reporting System]". The interface has a yellow background. On the left, there is a logo for the "UFTRS Uniform Fertilizer Tonnage Reporting System" with the text "Version XP - updated January 20, 2006". In the center, there are several buttons: "Shipper Information", "Enter Tonnage Data", "Fertilizer Codes", "Reports", "Tools", "View / Edit Setup Options", "Data Summary / Archive", and "Exit UFTRS". At the bottom left, it says "Location of database..." and "C:\Drive\_D\UFTRS4FL\UFTRSV4\_beFL.mdb". The status bar at the bottom indicates "Form View" and "NUM".

Fig. 1. UFTRS Opening Screen

The screenshot shows the Microsoft Access window titled "[Tonnage Entry]". The interface has a yellow background. At the top, it says "UFTRS Tonnage Entry" and "Reporting Period April, 2007". On the left, there is a vertical tab labeled "Edit". The main form contains several data entry fields: "SHIPPER" (dropdown), "COUNTY" (dropdown), "TONS" (text box) with "or" and "Pounds (for conversion)", "Fertilizer" (dropdown), "Look up code" (text box), "CONTAINER:" (checkbox), "USE:" (checkbox), "PEST:" (checkbox), "CUST:" (checkbox), "SECMICRO:" (checkbox), and a "Shipper Total Tonnage" text box. To the right of these fields is a table for "Slow Release Grades" with columns for S, CU, CA, FE, MG, MN, CL, ZN, and B, each with a corresponding value field. At the bottom, there is a navigation bar with buttons: "Add", "First", "Prev", "Next", "Last", "Find...", "Locate / Replace", "DataSheet View", "All", "Shipper", "Zero Tonnage", "Edit Setup", "Undo", and a mouse cursor icon. The status bar at the bottom indicates "Record: 14 of 1" and "Form View".

Fig. 2. Data Entry Screen, Note data fields.



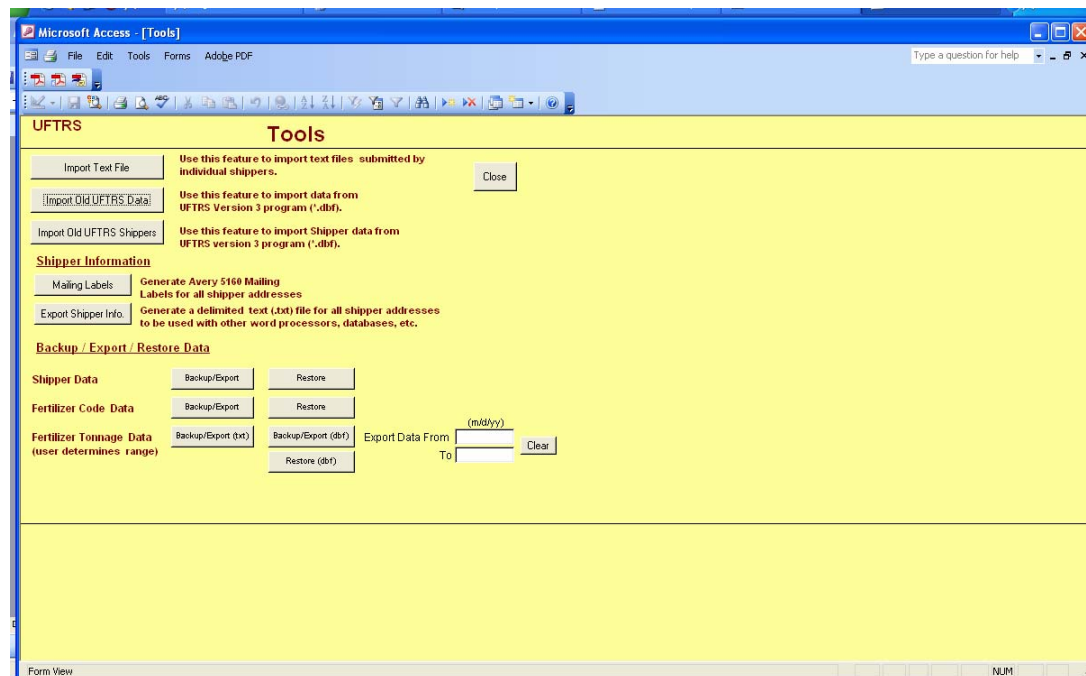


Figure 3. Tools Menu. Note the “Import Text File” Button.