

THE MAGRUDER FERTILIZER CHECK SAMPLE PROGRAM

History

Round robin samples are frequently used to provide comparisons of analytical results. The first program using statistical techniques to evaluate fertilizer sample results was the Magruder Check Sample Program. The program's originator Dr. E. W. Magruder, a chemist with the F. S. Royster Guano Company, distributed the first sample to 29 laboratories in 1922. In 1958 sponsorship of the program transferred from Royster to joint sponsorship by AAPFCO* and TFI*. AAPFCO assumed full administration of the program in 1971. W. R. Grace & Co. also subsidized the program by furnishing statistical evaluations of the data through its statistician Edwin Glocker. This service continued until his death in 1989. These evaluations continue today through an independent statistical consultant. More history of the program can be found at www.magruderchecksample.org



***AAPFCO** - Association of American Plant Food Control Officials (aapfco.org)

* **TFI** - The Fertilizer Institute (TFI.org)

* **AOAC International** – Association of Analytical Communities International (AOAC.org)

Administration

The Magruder Program is administered by a committee appointed by the AAPFCO president. Membership is balanced between regulatory and industry representatives. This is the only AAPFCO committee permitting industry representatives to hold full committee privileges. The committee sets subscription fees, selects sample materials, contracts preparation and distribution of samples, retains a statistician, evaluates results, and authorizes educational programs.



Present Program

Each subscribing laboratory receives one or two samples each month. These samples typically contain varying levels of the primary nutrients (N, P, & K) as well as secondary (Ca, Mg & S) and many micro-nutrients of interest. In addition, requests for analysis of contaminants of interest, including trace metals (As, Cd, Cr, Co, Hg, Pb, Mo, Ni, Se, & Zn) are often requested. Samples are analyzed according to methods chosen by the participating laboratory. The results, with method designations are reported directly to the statistician. A comprehensive statistical report is prepared, noting inter-laboratory bias and precision, with a coded ranking of individual laboratories. These reports are sent to subscribers for performance evaluation. Laboratories are identified only by number, with laboratory identification and performance held in strict confidence.

Inter-organizational Cooperation

Program objectives and goals are those of AAPFCO, AOAC International* & TFI, each organization supports the program. Method designations on the report are primarily those of AOACI. Evaluations of results are periodically reviewed by the AOACI General Referee for fertilizers.



Participants

There are about 135 laboratories subscribing to the Magruder program. Most U. S. state fertilizer control laboratories participate as well as regulatory, industry and commercial laboratories from around the world.

For subscription information:

Contact Rod Noel, Office of the Indiana State Chemist, 175 South University Street, Purdue University, West Lafayette, IN 47907-2063. Fax # 765-494-4331, Email: noelr@purdue.edu, or go the Magruder website at: www.magruderchecksample.org

Or complete this completed form and return to the address on the reverse panel.

Name: _____

Organization: _____

Address: _____

City/State/Province/Country/Postal Code

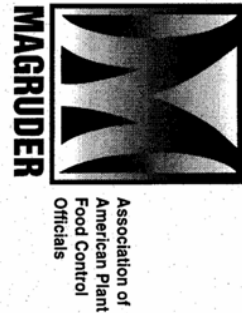
Magruder & Quality Assurance

The benefits of inter-laboratory method evaluation and laboratory performance are increasingly important. Instrumentation in laboratories is a great timesaver, but needs careful control. Both precision and accuracy should be constantly monitored in every laboratory. These areas can be improved by inter-laboratory statistical evaluations of laboratory performance. Also, use of check sample programs is a requirement for ISO 17025 accreditation.

Every laboratory should implement and maintain an active quality assurance program. The Magruder program can become an important part of your quality assurance program. Current and historical reports can be viewed and downloaded from the website. Reserve samples of historical Magruder materials are available for sale at minimal cost. This program is offered to all organizations involved in fertilizer analysis and can be used as aids in estimation of measurement uncertainty in your laboratory. A full list of benefits, and services can be found on the Magruder website at www.magruderchecksample.org.



Notes:



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**Association of
American Plant
Food Control
Officials**

Fertilizer Check Sample Program

Striving for Excellence in Analysis

With

**Interlaboratory
Statistical Evaluation**

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