

# SAS® Add-In For Microsoft Office Goes to the Dairy Farm

Crystal N. Vierhout, North Carolina State University, Raleigh, NC

## ABSTRACT

The SAS Add-In for Microsoft Office provides access to the strength and power of SAS without requiring SAS programming skills. Utilizing the Microsoft Office environment allows many people to manipulate SAS data with programs they are comfortable with. With very little adaptation, users can load data into a universally understood tool. Currently, access to Dairy Herd Management Parameters is provided with a proprietary legacy application that delivers user-defined reports. Although users of the legacy tool have some flexibility in requesting and retrieving information, the SAS Add-in for Microsoft Office delivers an important improvement in flexibility, power and user interface.

## INTRODUCTION

Dairy Records Management Systems (DRMS), with offices in respective Departments of Animal Science at North Carolina State University in Raleigh and at Iowa State University in Ames, provides dairy information products and services to dairy producers, veterinarians, dairy nutritionists, dairy consultants, Dairy Herd Improvement Association service affiliates and members of Cooperative Extension Services throughout the United States.

DRMS processes data for approximately 14,600 herds with more than 1.7 million cows. DRMS is completely funded by income from dairy farmers and their advisors and is the largest volume dairy records processing center in the United States. Management records for dairy producers located in 44 states and Puerto Rico are provided by DRMS. Dairy producers receiving this service are members of their respective State Dairy Herd Improvement Association (called DHIA Service Affiliates).

The Service Affiliates employ over 1,200 field technicians that visit the farm once a month, collecting information on each cow and herd to be transmitted. DRMS is the developer of an on-farm dairy management software package. Output from this on-farm software is transmitted, via a proprietary electronic Bulletin Board System, the Internet or email, to the centralized database and is the origin of most of the information found in a herd management parameter database. Processed reports are then returned to the farm and used in managing the dairy herd.

The dairy herd information database includes more than 150 items of information such as name, address and phone; number of cows found in various categories; average production of milk, milkfat, protein and other milk components on the last time that data was collected; dates and times of data collection and; specification of which management options are chosen.

The information collected is also used for scheduling monthly collection of dairy data, assessment of veracity of data collection processes, evaluation of herd production parameters and other tasks of enterprise management used by Service Affiliate Management Personnel. Additionally, members of the national Cooperative Extension Services will use the system as they advise dairy farmers in their day-to-day herd management. DRMS was required to develop a system to provide flexible access to dairy farm information for the Service Affiliate and Cooperative Extension personnel.

## THE LEGACY APPLICATION

Dairy Herd Management Parameters were provided to Service Affiliates with a proprietary legacy application that delivers user-defined reports. This legacy application contained a client server CICS Socket program using the VSE operating system. Two applications were provided through this legacy application.

The first consists of user-defined reporting tools that allow report definitions via a database item number. The second gave the end user the ability to code SAS® programs and submit via batch submit.

Limitations we faced with the Legacy application were as follows:

- SAS Institute development on the VSE platform was terminated at the Version 6.08. We were unable to use any advancement that preceded Version 6.08. In particular, none of the Output Delivery System features could be utilized.
- The output received by the end-user was in a text or comma delimited form and considerable effort was required to transform the data into a presentable form.
- A lack of a seamless connection. The end-user was required to connect, submit a job, wait up to a few hours and retrieve the application. The wait would depend on the demands on the mainframe system and

the system requirements of the program submitted.

- Ease of use became a problem over time. Our end-users became comfortable in the windows environment and with traditional Microsoft Office products. Building new jobs were difficult and time consuming.
- Our end-users didn't want to master the SAS language. As time passed fewer service affiliate managers could code SAS or had the desire to learn the language. The Service Affiliate personnel wanted to manage not develop. Therefore, more in-house resources were needed in coding desired reports.
- End-user needs changed as time passed. More development on the Legacy system would have to require meeting their requests.

## SAS<sup>®</sup> ADD-IN FOR MICROSOFT OFFICE IN OUR SOLUTION

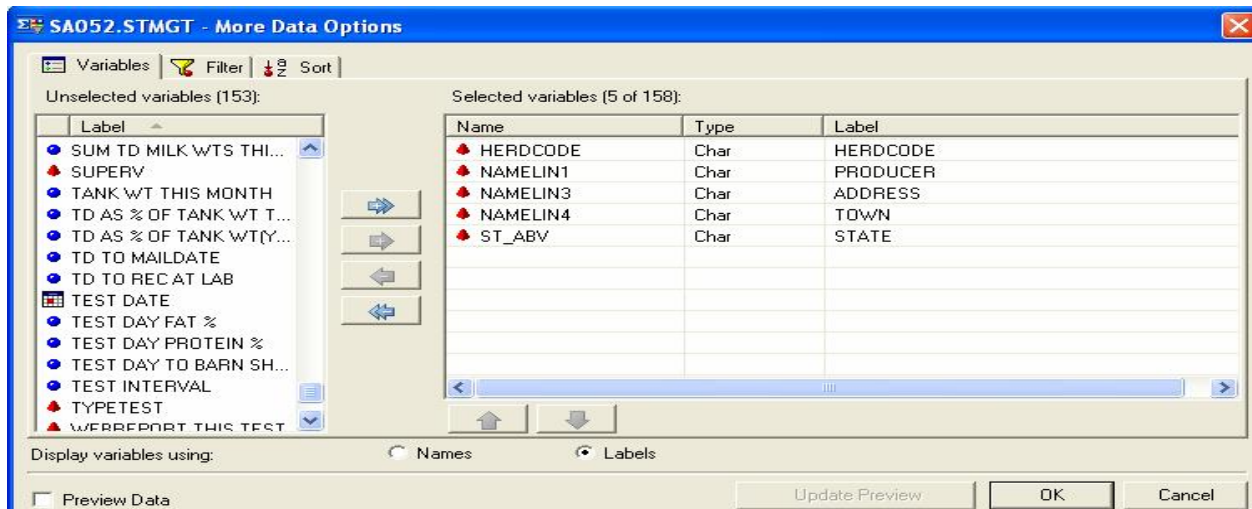
In the process of watching a demo of the SAS Add-In for Microsoft Office it became clear that this was a product that would optimize our data warehouse to its fullest. The SAS Add-In for Microsoft Office provides access to the strength and power of SAS without requiring SAS programming skills. The Add-In enables users to operate in the Microsoft Office environment, taking advantage of an already comfortable environment. With very little adaptation, users can load data into a universally understood tool.

The SAS Add-In for Microsoft Office fits our needs because of the following reasons:

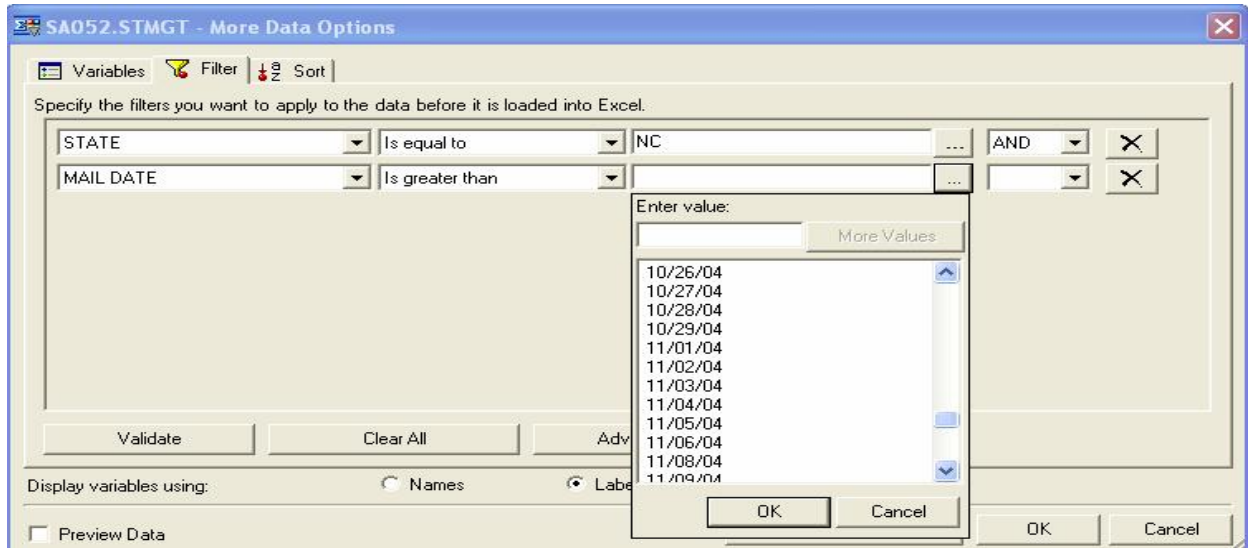
**1) Data Access** - The dairy herd information database includes more than 150 items of information such as name, address and phone; number of cows found in various categories; average production of milk, milkfat, protein and other milk components from the last time that data were collected; dates and times of data collection and; specification of which management options are chosen.

The access to Dairy Herd Management Parameters was provided with a proprietary legacy application that delivers user-defined reports. Although users of the legacy tool have some flexibility in requesting and retrieving information, the SAS Add-in for Microsoft Office delivers an important improvement in both flexibility and power. The SAS Add-In allowed our end users the ability to open, query, sort and browse data with ease. This feature was a direct replacement of the legacy task.

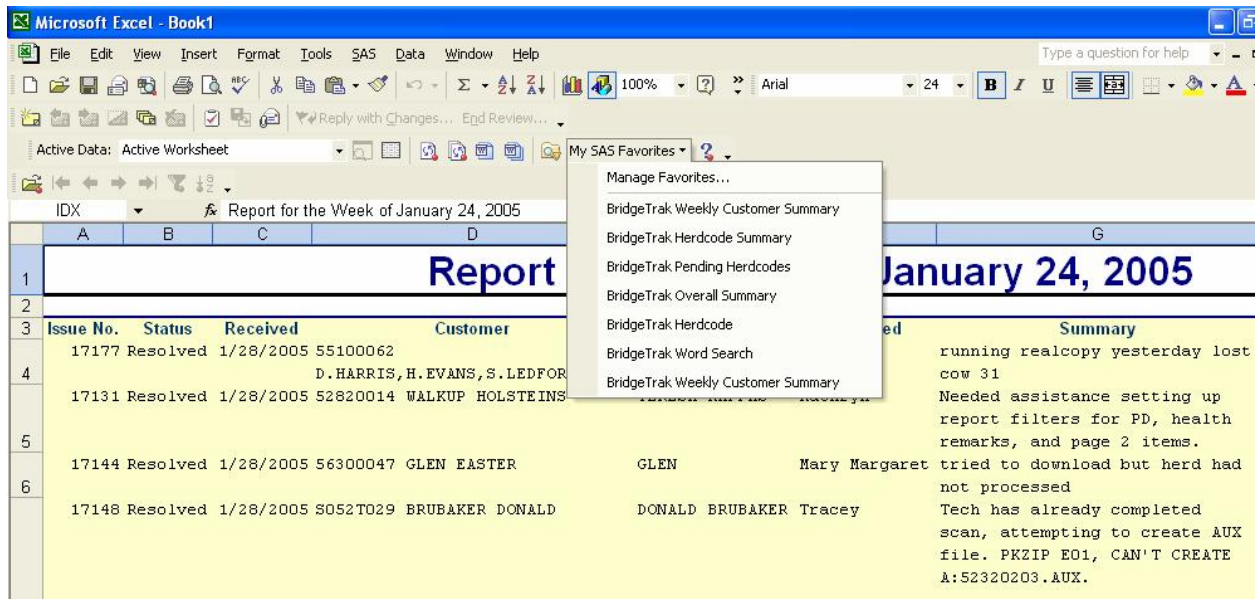
A simple way for the end-user to select database items is a feature of the SAS Add-In for Microsoft Office:



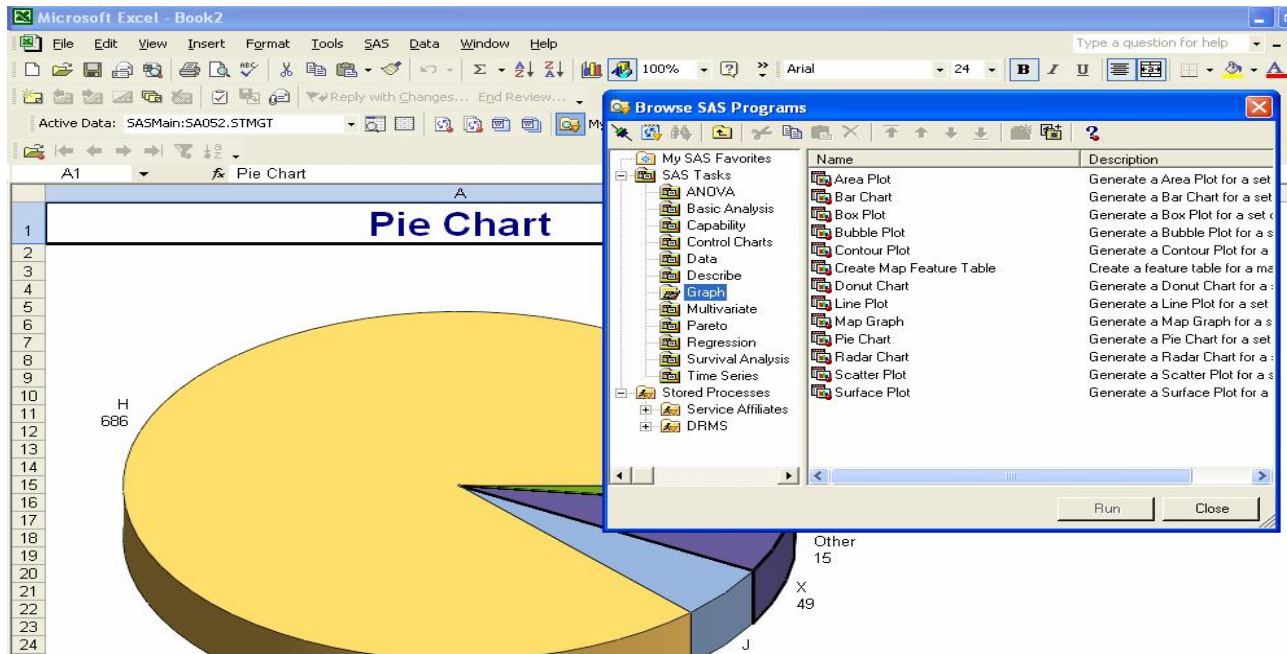
Understandable ways for our users to access add filters:



**2) SAS Stored Processes** – Stored processes are SAS programs that are registered to a SAS Metadata Server. Our Service Affiliate managers already had many SAS programs stored within our legacy system which they could submit via batch. This gave us the ability to add stored processes quickly and give the managers familiar reports they had been utilizing for years. The SAS Stored Processes were direct replacements for our legacy SAS system batch processes, gave them a more user friendly environment.



**3) SAS Tasks** – SAS tasks allowed our managers the ability to use ad-hoc analysis to use an extensive collection of SAS capabilities they didn't have with our old legacy system. Some SAS task capabilities included, regression analysis, forecasting and simple way to graph.



**4) Out of box application** – The SAS Add-In for Microsoft Office did not require our development team to start from scratch in development of new tools. The resources of our development staff could be utilized on other projects.

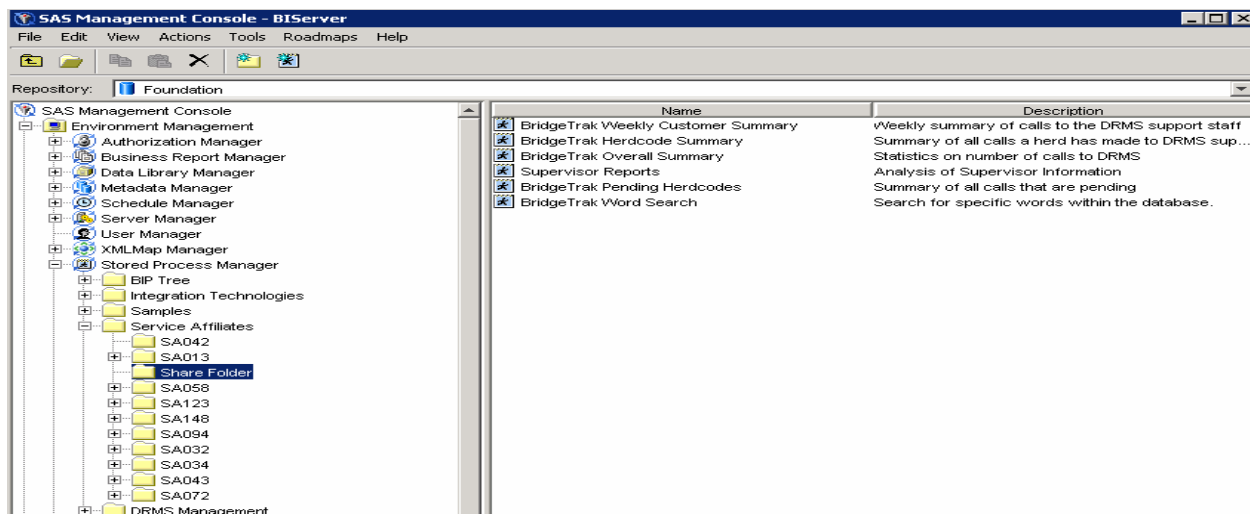
**5) Features** – The SAS Add-In for Microsoft Office allowed our managers to maintain the features of the previous legacy application and gain substantially in new features.

**5) Meet our user's abilities and comfort level** – Our managers are comfortable in the Microsoft environment of Word and Excel. The SAS Add-In for Microsoft Office kept our managers' learning curve to a minimum level.

## THE INSTALLATION OF THE SAS<sup>®</sup> ADD-IN FOR MICROSOFT OFFICE

For server side support, the SAS Add-In for Microsoft Office uses the SAS 9.1 Foundation and SAS Foundation Servers of the SAS 9.1 Business Intelligence Platform. SAS Institute Personnel did come and help DRMS install the Business Intelligence Platform. As with any new technology, we did discover a learning curve on the SAS 9.1 Business Intelligence Platform. We have found the platform very stable and almost worry free.

We did need to do partitioning for security access control among the Service Affiliates. This required sub setting the datasets into specific affiliates areas. We also partitioned stored processes specific to each affiliate. Additionally, DRMS created stored processes could be obtained by all service affiliates through a shared folder but only included data within their affiliate.



For our managers, the SAS Add-in for Microsoft Office installation went relatively smooth. We sent a CD containing the installation of the Add-In to each manager. The managers' computers were required to have Microsoft Office 2000 or greater. Since the SAS Add-In for Microsoft Office requires Microsoft .NET Framework if it was not currently installed on the managers' computers the SAS Add-In CD does install this component.

The end user installation was simple; we didn't need to travel to each site for installation. Therefore, a schedule of four or five managers on a Net Meeting® was all they needed to get started. We asked them to install the SAS Add-In components prior to the meeting. A variation in installation times of the SAS Add-In for Microsoft Office by machine was found.

We built a few stored processes prior to our training of the managers. We also converted their batch jobs from the legacy system prior to the meetings. An hour-long meeting took place to get them started and trained on basics of how to use the SAS Add-In.

## THE TRANSITION TO THE SAS® ADD-IN FOR MICROSOFT OFFICE

DRMS recognized early on that our managers would want additional stored processes developed as their dependence on the SAS Add-In for Microsoft Office grew. Since we did not have a large pool of SAS developers, we trained selected support staff in Enterprise Guide 3.0. These support staff had limited SAS coding experience and were able to pick up Enterprise Guide usage rather quickly. Utilizing Enterprise Guide into production more than met our expectation for ease of use.

In the field, we strived for quick acceptance of the SAS Add-In for Microsoft Office. We made information available to the manager that could not be retrieved in any other application within our organization. The data made available was the information on our support center. Managers could now use this to monitor calls and issues coming into the processing center, thus, providing better support to their customers. The help desk of the support center maintains database management information within Microsoft SQL Server. Using SAS, managers could access the table containing the current issues the support center personnel were working on and the status of the issue. This directly reduced calls from managers to our support center and helped, therefore, their employees' proficiency and work turn-around.

Our acceptance level among managers has been varied. At this time, we have not limited access to our legacy system and required them to use the SAS Add-In for Microsoft Office as their only tool. As a consequence, for users who are willing to use new technologies, it has been a natural transition.

For others, who have used the legacy system for the past twenty years, adoption has been slow. We have found the extensive features within the SAS Add-In for Microsoft Office were a somewhat overwhelming for them at first. We have done some one-on-one training with a few managers, teaching small portions at a time and working with them individually as they need help.

## CONCLUSION

We found the SAS Add-In for Microsoft Office has a unique place within our organization. The SAS Add-In for Microsoft Office has given our managers the ability to mind their data as they never have done before. We are looking forward to many years with the SAS Add-In for Microsoft Office used within our organization.

## REFERENCES

Clegg, Jennifer and Stephen McDaniel, SAS® Add-In for Microsoft Office –Leveraging SAS® Throughout the Organization for Microsoft® Office. SUGI Proceedings. Cary, NC: SAS Institute

## ACKNOWLEDGMENTS

A special thanks goes out to Laura Grady for managing all the paper work required to make the SAS® Add-In a reality for us. Thanks to staff at Dairy Records Management Systems and the Service Affiliate Managers for the positive nature they possessed in implementing this product. Thanks to the SAS Institute employees for great support in helping us get this superb product working for our organization.

## CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

Crystal N. Vierhout  
North Carolina State University  
313 Chapanoke Rd Suite 100  
Raleigh, NC 27603  
Work Phone: (919) 661-3139  
Fax: (919) 661-3145  
Email: [Vierhout@ncsu.edu](mailto:Vierhout@ncsu.edu)  
Web: [Http://www.drms.org](http://www.drms.org)

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