

## **SMS ADVANCED BY AG LEADER TECHNOLOGY, INC.**

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### **Abstract**

SMS Advanced by Ag Leader Technology provides a software solution for creating, managing, editing, reporting, charting, visualizing, and analyzing site-specific data. The software provides analysis tools usually reserved for highly trained individuals using high-end GIS products, that entry-level users can utilize to run attribute comparisons, write complex equations using a point and click interface, perform profit/loss mapping and reporting, and generate multiple year averages of yield data across products. SMS Advanced also integrates 3D visualization tools, which provide a terrain view based on topography or a 3D plotting option for viewing of data in the third dimension. In addition, the software provides an exclusive Calendar View of all data. The Calendar View automatically creates events for all data that is read into the software. The user can then select an event from a calendar to see a summary of that event as well as a spatial map.

### **Use of Product**

SMS Advanced was designed for farmers and agricultural professionals (Coops, Crop Consultants, etc) to provide tools for the entire crop production cycle. From planning what products to use and their costs, to writing prescriptions in the spring for variable rate application, to mapping and reporting as-applied data, to mapping and reporting post-emergence operations, to mapping and reporting harvest results in the fall, to running analysis functions that compare field conditions and properties to logged results from a monitoring system.

SMS Advanced puts sophisticated analysis in the hands of the general user. Traditionally the level of analysis available in the Precision Ag market has come with a high price tag, typically \$1700 to \$6000, and required extensive training for a user to be able to properly utilize the software. In addition, the analysis packages provided very little or no integration or management of the users base data, often requiring the user to use a second software package to perform daily tasks along with their analysis needs. SMS Advanced solves this problem by providing a completely integrated management, visualization, editing, and analysis system into one program at a very affordable price point. Ease of use is also a critical factor and we have developed the system to be very intuitive, provided built-in help for all dialogs, video tutorials for major functionality, and wizards to walk users through complex processes. By providing an integrated and easy to use software package at a reasonable price, we feel that we will open the door for more growers and agricultural professionals to adopt site specific technology and improve their farming operations and businesses.

## Operation

SMS Advanced provides a visual, point and click interface for all functionality. Users can read data into the system from multiple data sources (Ag Leader, Case, New Holland or John Deere precision farming systems for example) and then see the results in a simple, integrated interface. Once data is imported, it can then be selected from a management tree hierarchy to view a summary or make a map of the data. Mapped data can be layered with other data in the system such as multiple years of yield data, soil type maps, or aerial photographs. Data in the system can also be selected to use in various analysis wizards. Users are provided wizards for various tasks throughout the software, which break complex functionality into focused steps that guide users in terms of what needs to be completed on the current step before they can continue to the next step in the process.

This is just a small sampling of the capabilities of the software. The overall theme is that SMS Advanced provides a simple, visual interface that relies heavily on point-and-click operations to perform powerful analysis, editing, visualization, and management functions. In addition, complex tasks have been simplified by providing wizards to guide users through key processes.

## Benefits to Ag Market

Two markets will benefit from this software: growers and agricultural professionals who utilize site-specific technology.

Growers will benefit in various ways:

- 1) SMS Advanced provides them the ability to run advanced analysis functions on their data, empowering them to ask their own questions and find solutions themselves. Given the current agricultural economy, some growers can not afford to pay consultants or costly labs to perform their analysis work, so SMS Advanced provides them the tools to be self-sufficient.
- 2) Provides a level of connectivity with agricultural professionals who they work with that are also using SMS Advanced. This allows the grower to ask for help or consulting from another SMS Advanced user, who can then transfer settings such as custom reports, charts, or map layout designs to the grower so that they do not have to spend time designing these items.

Agricultural professionals will benefit in various ways:

- 1) Improved productivity using SMS Advanced's batch functions. A user can run analysis functions in batch mode to write VRT prescriptions for all a customers fields in one wizard process versus running the equation against each field individually. Other batch functions allow for the importing or exporting of multiple files or datasets at one time instead of repeating a process manually for each item.

- 2) Management of customer data. SMS Advanced provides complete management and summarization of all site-specific data read into the system. This reduces the time an ag professional has to spend organizing data for a customer, allowing them to provide results to the customer much quicker. SMS Advanced also uses a “Project” scheme which allows each customer’s data, settings, etc to be stored in a unique data directory that can be password protected for security purposes.
  
- 3) Compatibility with other SMS users. SMS Advanced is completely compatible with Ag Leader’s SMS Basic software package. This means that an Advanced user can interact with a Basic user to provide support on how to run the software, (since the programs share a common user interface, base tools, and data structure) or to transfer data to the customer that the agricultural professional has organized and setup for the user, who may only be using the software to view and print maps. This allows the agricultural professional to provide a service to their customer and help that customer get the most out of the site-specific data they are collecting.

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