

Boundary Maps for Data Organization in SMS

This blog continues the discussion about data organization using the AgLeader's SMS Basic or Advanced software.

To review: I think the best designed software programs have 4 primary attributes in common:

1. They offer a logically organized framework.
2. They offer a comprehensive set of tools to fine tune your data.
3. They are flexible and do not limit what you can bring into it or create with it.
4. They are efficient to operate.

Boundaries in SMS

SMS operates the same Grower/Farm/Field (GFF) data hierarchy that is common throughout the industry. The most common assignment happens on import; in short; pick the file then tell it what GFF you want to assign it to. Users have the same choices for boundary creation that was referenced in my previous blog on Farm Works boundary mapping:

1. Import boundary map from a GPS mapped "shapefile" set. The import sequence is READ FILES/Generic/Shapefile type/Select file name from a "Maps Incoming" or suitable directory, select BOUNDARY as the type of data you wish to make with the import, including a checkbox to "SET AS FIELD BOUNDARY", an important distinction to be discussed later.

Next some options appear to associate data columns from the incoming file or bypass these until you see the assign Grower Name, Farm Name and Field Name window. If this is a previously defined grower you will select from list or create new. If someone was sharp out in the field and has assigned Grower, Farm or Field names as attributes while mapping, SMS can pick this out of the file if you assign these items as "management" items during the import process, but it is not necessary. Users will notice that there are a couple of extra choices to make when importing boundaries that allow for assigning the YEAR, and Instance and even a product, but only if desired. Defaults and "no product" are common choices here.

2. Digitizing boundaries is another method for creating field boundaries. I think it creates a bit more work if you are starting from scratch, as you have to geolocate the area you wish the program to bring data in from using the free sources on the internet. But it is great if you have at least one field already in for a grower simply turn on the imagery layer and do some visual navigation to find the field.
3. In my experience most SMS users intend to use the program to import data from a range of in-field equipment that is kitted out with either the AgLeader brand of information monitoring: Integra, Edge, or SMS Mobile, older versions of PFAdvantage or PF3000, or they have a mix of equipment brands and want to ensure they have the same in-office management potential from all sources. Since there are subtle differences between the field and job naming functions of the various equipment types, AgLeader adds several important tweaks to boundary and field name management that are worth highlighting.

The first time a user imports data it is fine to let the names used in the field come in. There is a management window offered on some imports where you are presented with a list of fieldnames as they were used in the field, with a spreadsheet style editing window, but I sometimes find it more efficient to edit after. Highlighting field names after import and right

mouse clicking to select "EDIT ITEM" is a quick access to reassign or fix spelling. Usually this data will be the raw data or points logged through the field operation.

4. To create a boundary from these coverage maps, you can use either a trace boundary function (not always perfect) or, my preference- bring a yield or application map into map view then use the FILE/NEW/BOUNDARY Map which opens an editing window with tools to trace around the extent of the logged data. This boundary can be saved to a year, plus we can use the "Set as Field Boundary" function which assigns that version of the field boundary to be the one that is viewed whenever that field is selected from the Management Tree-List.

The most important feature of the "Set as Field Boundary" is what can follow once you have this set field boundary. Upon subsequent imports of data from the same or ANY other data source, a special spatial data filter can be turned on such that if your operator has made a totally inaccurate field name assignment for data, SMS will find the correct field boundary that the data belongs to: because it knows the geographic extents from that "set field boundary" and automatically places the incoming data into the Management tree under the correct fieldname. This spatial sorting feature is one of many reasons why AgLeader SMS is a best in breed software for precision ag data management. Boundary maps are a crucial building block for data management and operators are encouraged to learn the techniques to make the most of the built in conveniences that the software links to these boundaries. Learning to import, draw or edit boundary maps is a key skill to practice. More on boundary mapping will be featured in future blogs.

Karon