Farm Site 2008

(Also Site Pro)

Reference Guide

Version 12.0 and higher for Microsoft®

Windows® Operating Systems

Farm Works Software® is a division of
CTN Data, LLC
6795 S. State Road 1
P.O. Box 250
Hamilton, IN 46742-0250

Phone (Sales): 1-800-225-2848
Phone (Technical Support): 1-260-488-3492
Fax: 1-260-488-3737
E-mail: farmwork@farmworks.com
Website: www.farmworks.com

Project Managers……..…… R. Scott Nusbaum, Deb Hurraw
Editors……..…… Deb Hurraw, Kathy Cline, Jeff Geiger
Technical Writer……..... Jacob Walker
Desktop and Electronic Publisher……Jacob Walker, Nicole Gregg
Research Consultants……..... Tony Bowers, Kathy Cline, Jeff Geiger
Covers Designer and Creator…….. Brian Stark

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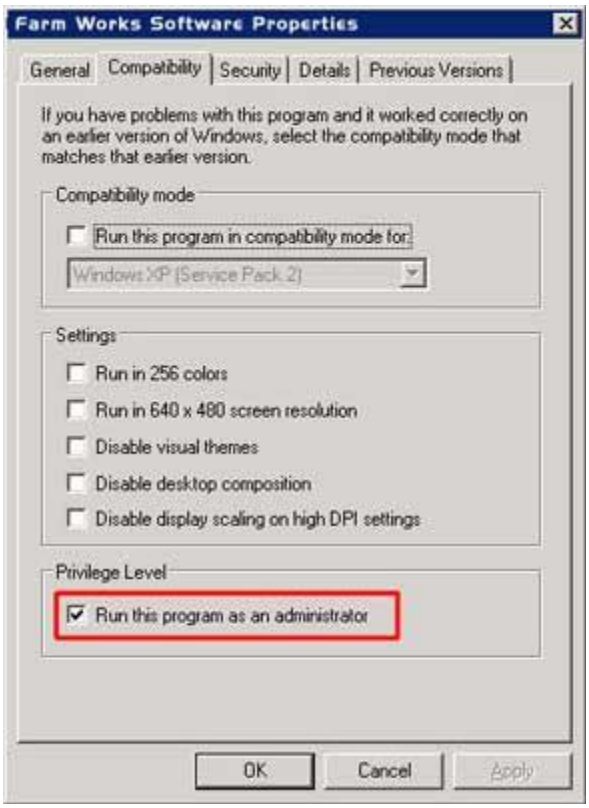
Welcome to Farm Site

Farm Works Software® offers a complete suite of farm-management software modules to meet a wide range of needs for today's producer. The software modules work seamlessly together, each adding features to the software suite. The programmers of Farm Works Software designed these programs to help you, the modern farmer, operate your farm efficiently and with greater profitability. The software does the hard work for you, so you don't have to work as hard!

Windows Vista Setup

Farm Works will work with Windows Vista. However, you will need to configure the program after it is installed to make it work correctly. This can be accomplished in one of two ways.

The first option is to set the program to run as an administrator.



- Right click on the Farm Works icon and select Properties
- Select the Compatibility tab.
- Check the box to "Run this program as an administrator"
- Press OK

Note: When choosing this option, the computer will prompt you for permission to run this program when you start Farm Works.

The second option is to disable user accounts on the computer.

- Go to the Control Panel under the Start Menu.
- Select "User Accounts"
- Choose the option to "Turn User Control On/Off"
- Click OK and restart the computer

Note: Microsoft recommends you keep this new security feature on. Be aware that you are removing a level of protection by disabling User Account Control alerts, and you will also be disabling Internet Explorer's "protected mode."

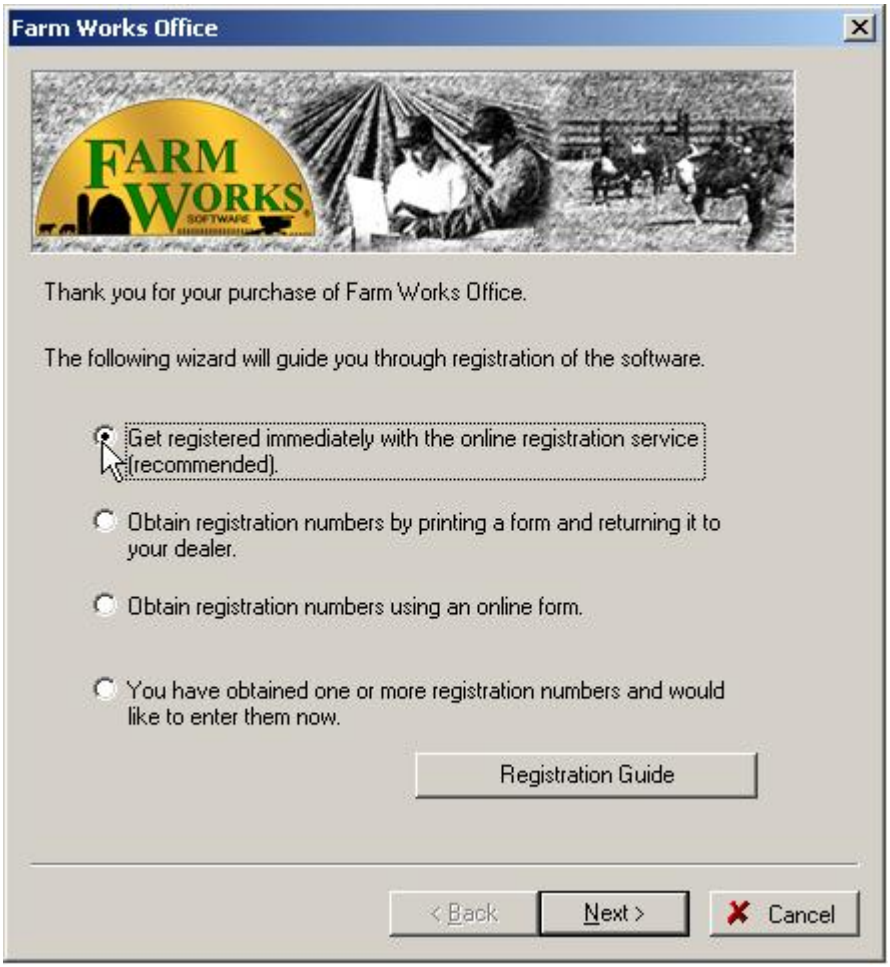
Registering Your Software

The Farm Works Office and Site Pro programs are easy to register with the *Automatic Online Registration* feature. All it takes is a computer connected to the internet and just a few clicks of your mouse and the software will register itself automatically.

To use the Automatic Online Registration Feature:

1. Verify your computer is connected to the internet via a broadband or dial-up connection.

2. When you see the **Farm Works Office** registration dialog box, select the first option (**Get Registered Immediately**).



3. Select **Next** and a message will appear indicating that the program has successfully completed the registration.

Other Registration Options

If you prefer, you can also use one of the other registration options:

- **Print a Registration Form** – Select the second option in the Farm Works Office Registration dialog box to print a registration form to return to your dealer. Your dealer will obtain the registration numbers for you. You can then select the fourth button to enter the registration numbers that your dealer provides you.

- **Complete the Online Form** – Select the third option button of the dialog box to obtain registration numbers using an online form. After completing the form, you will receive the registration numbers in an e-mail message. You can then select the fourth button to enter the registration numbers received in the e-mail.

- **Enter Numbers You Previously Received** – Select the fourth option button if you have already obtained registration numbers from your dealer or an e-mail. Select **Next** and enter the registration numbers in the **Registration #** boxes for each of the Farm Works Software programs you own.

About Farm Works Software

Farm Works Software® is located at CTN Data, LLC in Hamilton, Indiana.

Farm Works Software® is the creator of software applications designed for today's farmers, livestock managers and crop consultants. A division of CTN Data Service, Farm Works Software was founded in 1992 with the mission to create comprehensive farm-management programs that are simple to use. Farmers throughout the United States, Canada and Europe have come to trust Farm Works Software. They know they can rely on Farm Works Software to provide the software applications and hardware devices to get the job done right in the office and out in the field. Whatever your agricultural enterprise, you can count on Farm Works Software to work for you, so you don't have to work as hard.

Farm Works Office Modules

Farm Works Office suite is the next generation of software modules for your farm. Farm Works Office includes Farm Trac, Farm Funds, Farm Site, Farm Stock, and Site Pro. Programmed for PCs and notebook or laptop computers running Microsoft Windows 2000 (or later), the office suite offers many new features and enhancements.

- **Farm Trac** – It's the required record-keeping module of the Farm Works Office suite. Farm Trac keeps complete records of farming history, chemical usage, and costs for each of your fields. The program exports work orders for future jobs that your workers can use in the Trac Mate program out on the farm. You now do not have to add maps before you record farming operations. It takes even less preparation to start using the program! If you want to keep maps made with previous versions of Farm Works Office, you can purchase the Farm Site mapping software.

- **Farm Funds** – A comprehensive farm-cost management program that takes the hassle out of keeping your finances in order. Farm Funds fully integrates with Farm Trac and Farm Stock. The program maintains your books on both an accrual and cash basis, and gives you the assurance of knowing exactly how profitable each enterprise is on your farm. It accurately maintains the records you need for tax purposes, and you can now edit transactions you enter with version. Join the many farmers who are glad they let Farm Funds save them valuable time and money!

- **Farm Stock** – This livestock-management software helps any livestock manager stay organized. Farm Stock makes it easy to keep track of the history for every animal, from birth to market. The program keeps precise records of mating, births, genealogies, weights, and more, and it fully integrates with Farm Trac and Farm Funds. The Farm Stock calendar reminds you of important events automatically, and the printable reports cover just about every aspect of your livestock operation. You can even create your own customized reports!

- **Farm Site** – The mapping module of the Farm Works Office suite, Farm Site lets you import, create, edit and export GPS-referenced maps of your fields. You can generate soil-sampling grid maps and variable-rate-application prescription maps to export for use with the Site Mate and rate controllers out on the farm. You can import field boundaries and soil-sampling jobs you completed in the field with Site Mate, and display yield or as-applied data logged by various yield monitors and rate controllers. Farm Site automatically draws field boundaries, grid maps, and contoured maps from yield data you import into the program. It even clips soil-type maps to the boundaries of your fields in just a matter of seconds!

- **Site Pro** – Made for crop consultants, co-op managers, seed representatives and other professionals, Site Pro gives you every feature of Farm Trac and Farm Site for an unlimited number of your clients. With Site Pro, all your clients' maps and farming records are readily available. The program keeps track of equipment usage and labor hours for workers, as well as supplies and chemical records! You can also print or export

many equipment, supply, chemical and field-enterprise reports, as well as full-color maps, to give to your customers.

Farm Works Mate Modules

Farm Works Mate software (Trac Mate, Site Mate, Guide Mate and Stock Mate) are designed for PDAs running Windows CE or Windows Mobile. You can also use the programs on notebook or laptop computers running Windows 2000 (or later). The wide-screen Titan RT rugged tablet computer, available only from Farm Works Software is another popular option.

- **Trac Mate** – The perfect companion to Farm Trac, Trac Mate gathers complete information for all your farming jobs. Trac Mate lets you enter field records for your supplies and equipment when it is convenient for you—while you're in the field! You can then import the farming records into Farm Trac when you return to the office.

- **Site Mate** – Site Mate lets you use a PDA or Titan RT, together with a GPS receiver, to create GPS-referenced maps in the field. You can use Site Mate to create soil-sampling maps, or complete scouting jobs that record the locations of pests and problem areas, and import these maps into the Farm Site office program. Site Mate also creates as-applied coverage maps. If you buy Site Mate – VRA, you can display prescription maps made with the Farm Site office program. This will allow you to perform variable rate applications with a capable controller.

- **Stock Mate** – This handy program running on a pocket-sized PDA lets you record your livestock records while you are still in the barn or pasture. When you get back to the office, you can conveniently import the livestock records into the Farm Stock program. Use Stock Mate to record feedings, milk tests, vaccinations, artificial inseminations, births, weights, and just about any information for your animals.

- **Guide Mate** – The guidance module of the Farm Works Mate software adds an onscreen lightbar to keep you on a straight path while tilling, planting, applying or harvesting. Developed by Raven Industries, a business with decades of experience in GPS technology, Guide Mate works on both a PDA and the large-screen Titan RT. You can use the program's easy-to-follow onscreen lightbar, or use an exterior lightbar, such as the wireless MicroGuide Bluetooth lightbar. Guide Mate is fully integrated with Site Mate, so you can conveniently display your maps (such as field-boundaries, as-applied coverage maps, or variable-rate prescription maps) at the same time that you use the program's guidance feature.

Working with Projects

Every time you start Farm Trac, the program greets you with the Project Selection dialog box, which you use to open an existing project, create a new project, change the name or password for a project, copy or delete a project, or restore a backup of a project. When you run Farm Trac for the first time, you must use the Project Selection dialog box to create your first project. The project you create with Farm Trac is where the program saves all the records for your farm including your soil-sample maps, variable-rate-application prescription maps, and yield maps.

Only one project can be open at a time and information from two projects cannot be merged together. Most users generally have just one project they use on a daily basis. You can, however, create additional projects or copy existing projects. This will give you the option of choosing the project in which to work each time you run the program. After the program opens a project, you have the option of making a backup of that project using the Backup Project command on the File menu.

This chapter explains how to use the Project Selection dialog box to create a new project, change the name or password for an existing project, and copy or delete a project. It also covers how to make and restore a Farm Works backup of your project.

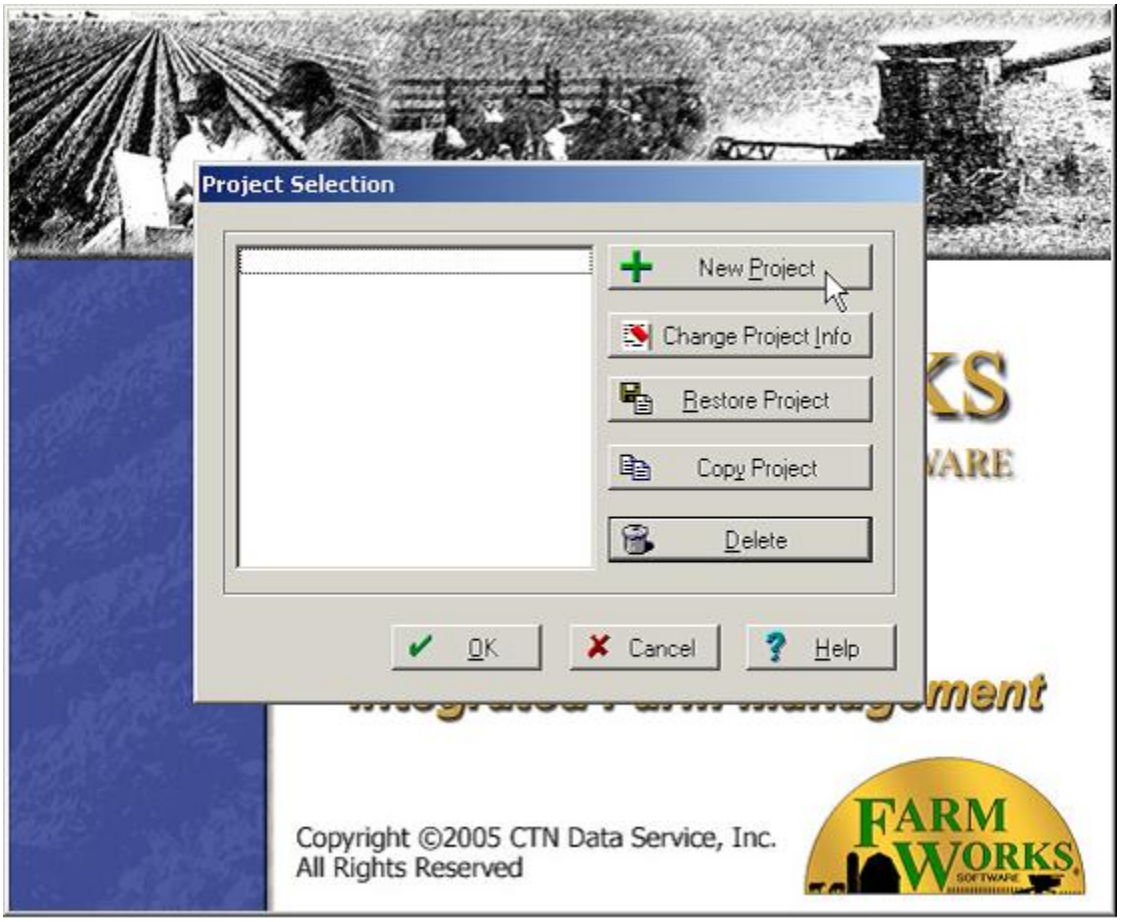
Creating New Projects (Farm Site)

The first time you run Farm Trac, you must use the Project Selection dialog box to create a project before you can begin using the program. If you have already created a project, you can also use the dialog box to create a new project if needed.

To create a project:

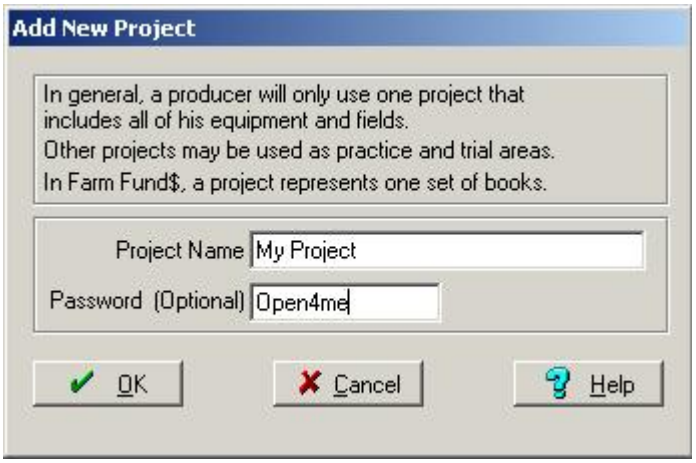
1. Open Farm Trac by double-clicking the Farm Works shortcut on your Windows desktop, or by selecting the Windows **Start** button, pointing to **Programs** (or **All Programs** in Windows XP), pointing to **Farm Works Software**, and selecting the **Farm Works** shortcut.

2. In the **Project Selection** dialog box that opens, select the **New Project** button to open the **Add New Project** dialog box.



3. In the **Add New Project** dialog box, enter the name for your project in the **Project Name** box.

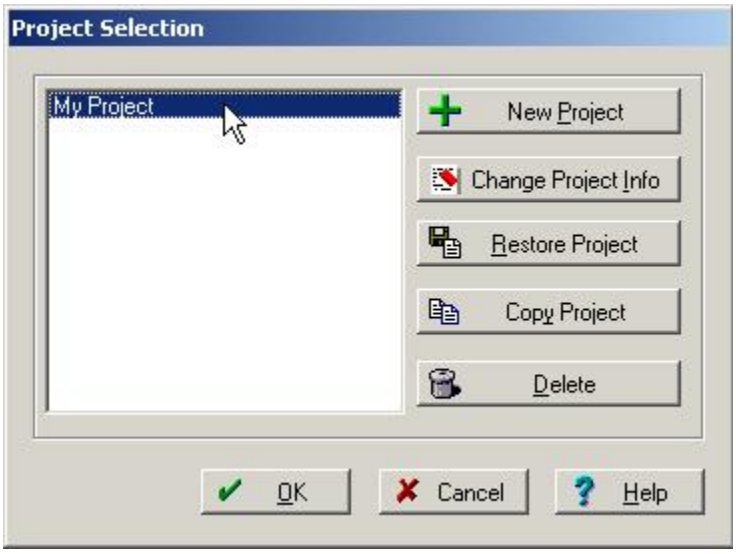
4. You may protect your project with a password by entering a password in the **Password** box (optional). (The password is case sensitive; so make sure the **Caps Lock** of your keyboard is not on. It can have up to eight letters and numbers, but *cannot* have any special characters, such as the at sign (@) or tilde (~). If no password is needed, simply leave the Password box blank.)



5. To remove password protection from the project, highlight the password you entered in the **Password** box and press the **Delete** key on your keyboard.

6. Select **OK**, and the **Project Selection** dialog box now displays the name of the new project.

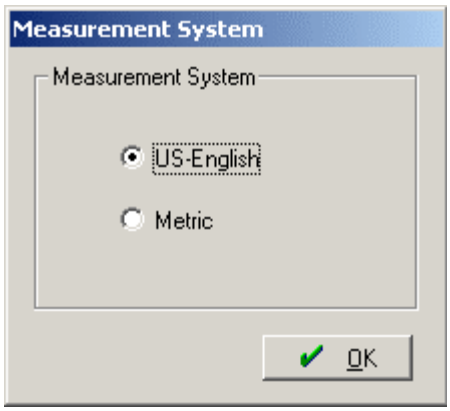
7. To open the new project, select the project name to highlight it and select **OK**.



8. If you added password protection to the project, Farm Trac displays the **Project Password** dialog box. Enter the correct password and select **OK**.

9. The **Measurement System** dialog box opens in which you must select either **US-English** or **Metric** (Farm Trac will use the measurement system you choose from now on).

10. To close the dialog box without opening a project, select **Cancel**.



Farm Trac opens the new project so you can begin working in it, or you can select Restore Backup on the File menu to restore a Farm Works backup of a project that you made previously. You can follow the instructions of this section to create as many new projects as you like, but only one project is necessary. For instructions on restoring a Farm Works backup of a project, see the section of this chapter on that topic.

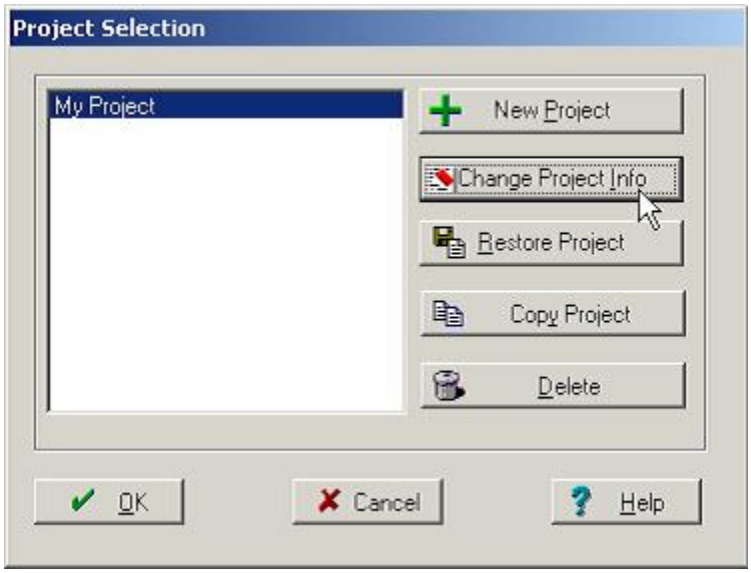
Changing Project Information (Farm Site)

At any time you can change the name or password for a project using the Project Selection dialog box. Changing a project's name or password will *not* change any of the farming information you recorded in that project. You can also add a password to a project that does not have password protection, or remove a password from a project.

To change a project's name, or to add, remove or change a password:

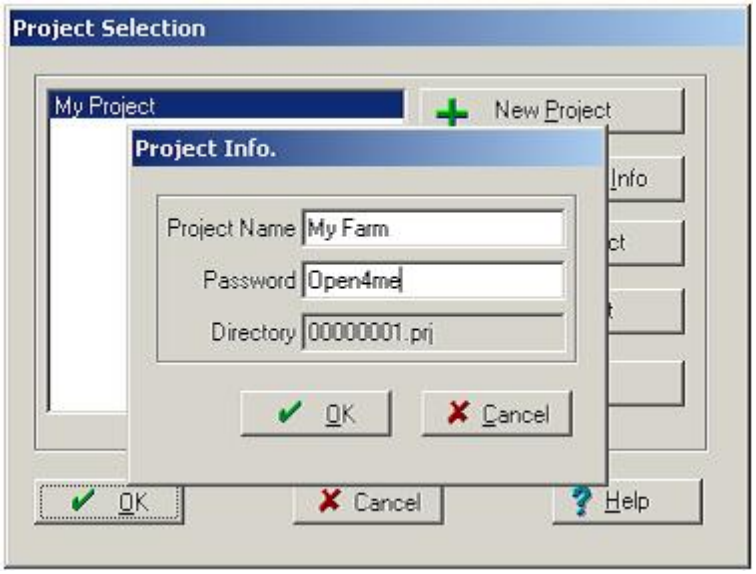
1. Open Farm Trac by double-clicking the Farm Works shortcut on your Windows desktop, or by selecting the Windows **Start** button, pointing to **Programs** (or **All Programs** in Windows XP), pointing to **Farm Works Software**, and selecting the **Farm Works** shortcut.

2. In the **Project Selection** dialog box that appears, select the name of the project for which you want to make changes and select the **Change Project Info** button.



3. The **Project Info** dialog box that opens displays the name of the project in the **Project Name** box. To change the project name, highlight its name in the box and enter a new name.

4. You may protect your project with a password by entering a password in the **Password** box (optional). (The password is case sensitive; so make sure the **Caps Lock** of your keyboard is not on. The password can have up to eight letters and numbers, but *cannot* have any special characters, such as the at sign (@) or the tilde (~).)



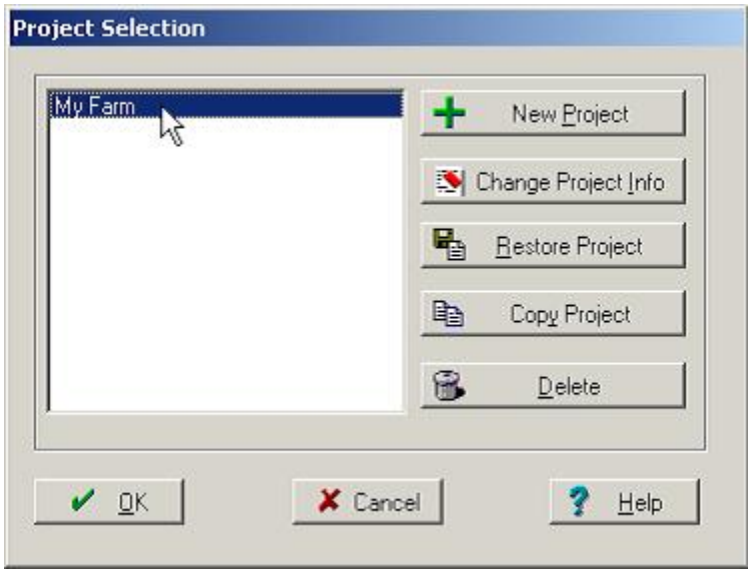
5. To remove password protection from the project, highlight the password in the **Password** box and press the **Delete** key on your keyboard.

6. Select **OK** to save the changes to your project. The **Project Selection** dialog box now displays the new name of the project.

- or -

Select **Cancel** to return to the **Project Selection** dialog box without saving the changes.

7. To open the project and begin working in it, select the project name and select **OK**.



8. If you added password protection to the project, Farm Trac displays the **Project Password** dialog box where you can enter the correct password and select **OK**.

9. To close the dialog box without opening a project, select **Cancel**.

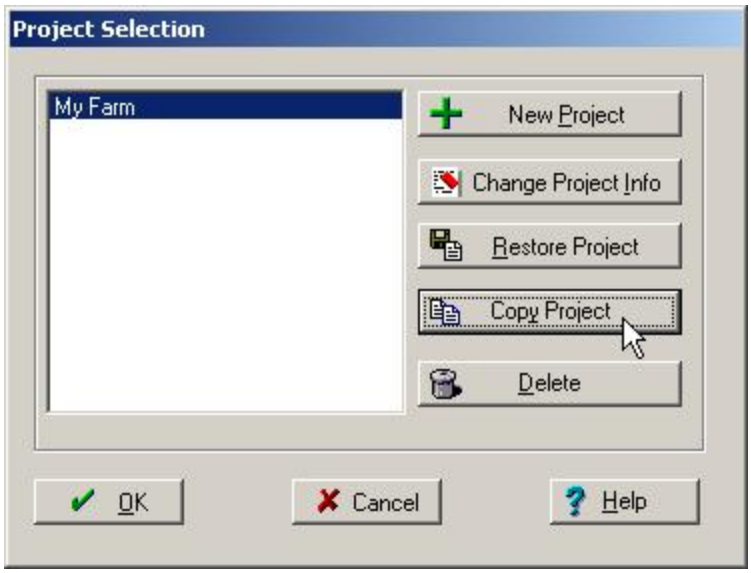
You can follow these instructions to make changes to your project as often as you like. If you added a password to a project, Farm Trac will require you to provide the password whenever you try to open, modify, copy or delete the project. For instructions on copying or deleting projects, see the sections of this chapter on those topics.

Copying Projects (Farm Site)

There are times when you might want to make a copy of your project with Farm Trac. For example, you could make a copy of a project to use to teach yourself how to use the program, or copy a project to test how a certain task will affect the project copy before you perform the task in your original project. To make a copy of your project:

1. Open Farm Trac by double-clicking the Farm Works shortcut on your Windows desktop, or by selecting the Windows **Start** button, pointing to **Programs** (or **All Programs** in Windows XP), pointing to **Farm Works Software**, and selecting the **Farm Works** shortcut.

2. In the **Project Selection** dialog box that opens, select the name of the project for which you want to make a copy and select the **Copy Project** button.



3. The **Copy Project** dialog box that opens displays the name of the project for which you are making a copy in the **Source Project** box (verify this is the correct project).

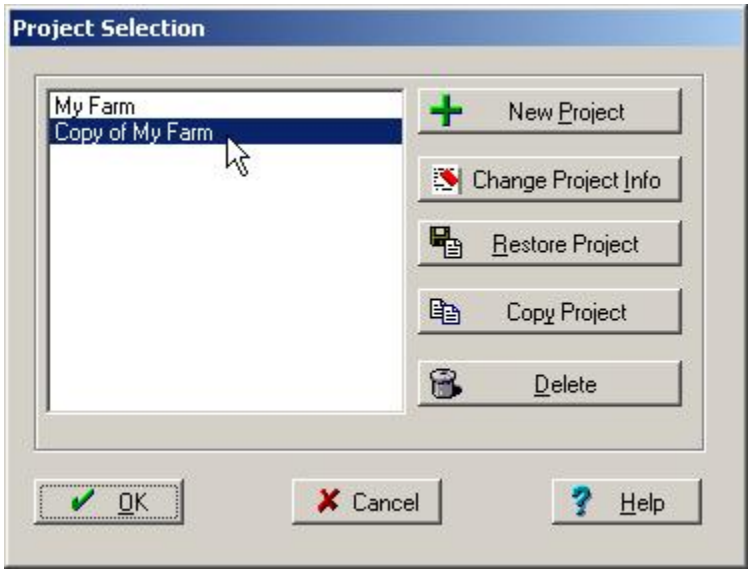
4. Enter the name you want to give the copy in the **New Project** box.

5. If you want to password protect the project copy, you may enter a password in the **New Password** box (optional). (The password is case sensitive and can have up to eight letters and numbers, but *cannot* have any special characters, such as the at sign (@).)

6. To remove password protection from the project, highlight the password you entered in the **New Password** box and press the **Delete** key on your keyboard.

7. Select **OK** to save the copy of your project, or **Cancel** to not save the copy of your project. (If you select **OK**, the **Project Selection** dialog box displays the name you gave the copy of your project under the name of the original project.)

8. To open the copied project, select its name to highlight it and select **OK**.



9. If you added password protection to the project, Farm Trac displays the **Project Password** dialog box. Enter the password you added to the copied project.

10. To close the dialog box without opening a project, select **Cancel**.

Farm Trac opens the copy of your project so you can begin working in it. The fields, inputs, farming operations and maps for the copied project will be the same as those of the original project until you make any modifications. You can delete the project copy any time you like. Follow the instructions of this section to create as many copies of your project as desired. For instructions on deleting a project, see the next section of this chapter.

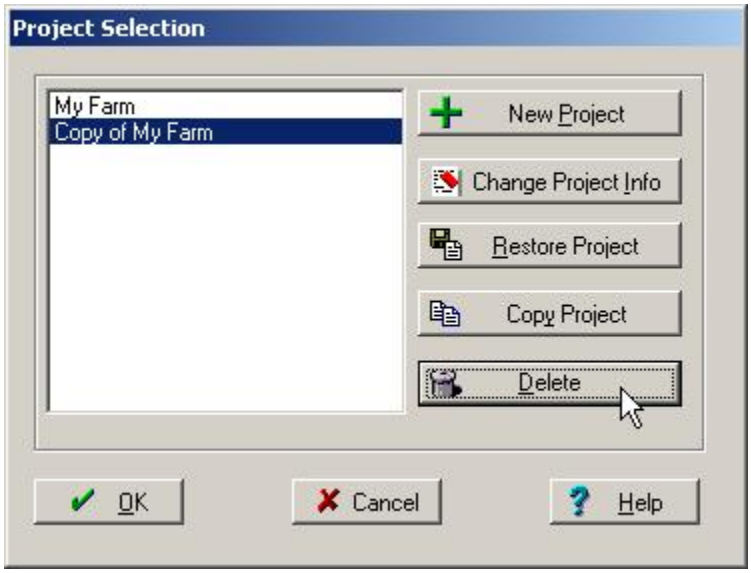
Deleting Projects (Farm Site)

If you have made a copy of a project that you no longer need, or have a project that you no longer use, you can delete that project. Deleting a project will permanently remove its name from the Project Selection dialog box and erase its data from your computer's hard drive (including its maps). Be certain you no longer need a project before you delete it.

We strongly recommend you make a Farm Works backup of a project before you delete it, as restoring a backup is the only way to recover a project's data after you remove it. For instructions on creating a backup of a project, see the next section of this chapter. To delete a project:

1. Open Farm Trac by double-clicking the Farm Works shortcut on your Windows desktop, or by selecting the Windows **Start** button, pointing to **Programs** (or **All Programs** in Windows XP), pointing to **Farm Works Software**, and selecting the **Farm Works** shortcut.

2. In the **Project Selection** dialog box that appears, select the name of the project you want to delete, verify the highlighted name is the correct project to remove, and select the **Delete** button.



3. If you added password protection to the project, Farm Trac displays the **Project Password** dialog box, where you must enter the password and select **OK** (Farm Trac will not allow you to delete the project until you provide the correct password).

4. The program displays a message with the name of the project you are about to remove, which asks you to confirm that you want to delete it. Select **Yes** to delete it or **No** to cancel deletion.

If you select Yes, Farm Trac removes the project name from the Project Selection dialog box and permanently erases the data for the project from your computer's hard drive. As previously stated, the only way to recover a project after you delete it is to restore a backup of that project

that you created *before* you deleted the project. For instructions on creating a Farm Works project backup, see the next section of this chapter.

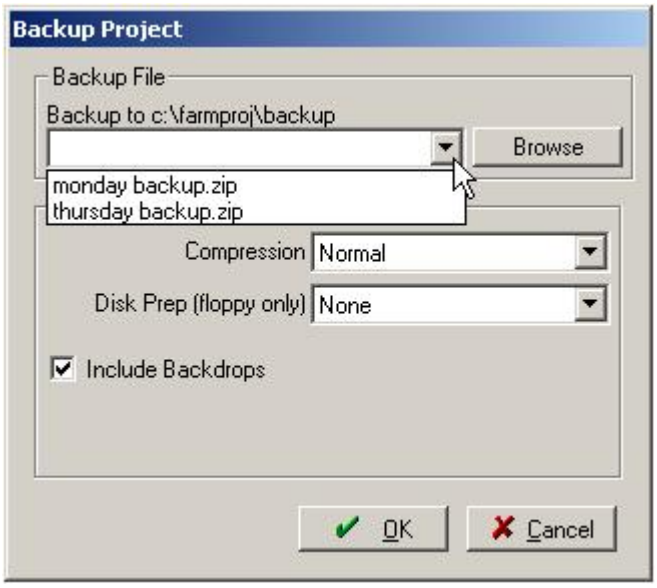
Backing up Projects (Farm Site & Site Pro)

One of the most important things you can do is to make frequent backups of your Farm Works projects using the backup feature of Farm Trac. Should something go wrong with your computer, such as a catastrophic hardware failure or an infection by a computer virus, you can restore the backup of your project in an attempt to recover any lost data. Without a project backup to restore, there might be no way to recover the records and maps for your farm. It is recommended to make periodic backups to something other than your hard drive (USB, CD, hard disk, etc) in case of failure, loss, or damage.

Use the following instructions to easily make a project backup:

1. Select **Backup Project** on the **File** menu in the upper, left-hand corner of the program.

2. In the **Backup Project** dialog box that appears, enter the name you want to give the backup in the **Backup To** box, or replace a backup you made previously by selecting the list button and selecting the backup you want to replace in the list.



3. The default folder where Farm Trac saves your Project backups is the Backup folder, which is in the Farmproj (Sitepro) folder on your computer's hard drive. Use the following instructions to save the backup to a different folder (such as your My Documents folder) or to a USB or other removable drive:

    - In the **Backup Project** dialog box, select the **Browse** button.

- In the **Save As** dialog box that opens, select the folder or removable drive where you want to save the backup in the **Save In** list.

  - or -

  Select an icon on the left-hand column of the dialog box and browse to the folder or drive where you want to save the backup (for example, to save the backup to a USB drive, select the **My Computer** icon and select the drive letter for the removable drive to enter it in the **Save In** box).

- Enter a name for the backup file in the **File Name** box, or replace a previous backup by selecting the backup file in the box above the **File Name** box.

- Select the **Save** button to return to the **Backup Project** dialog box (Farm Trac will add the name of the backup to the **Backup To** box).

  - or -

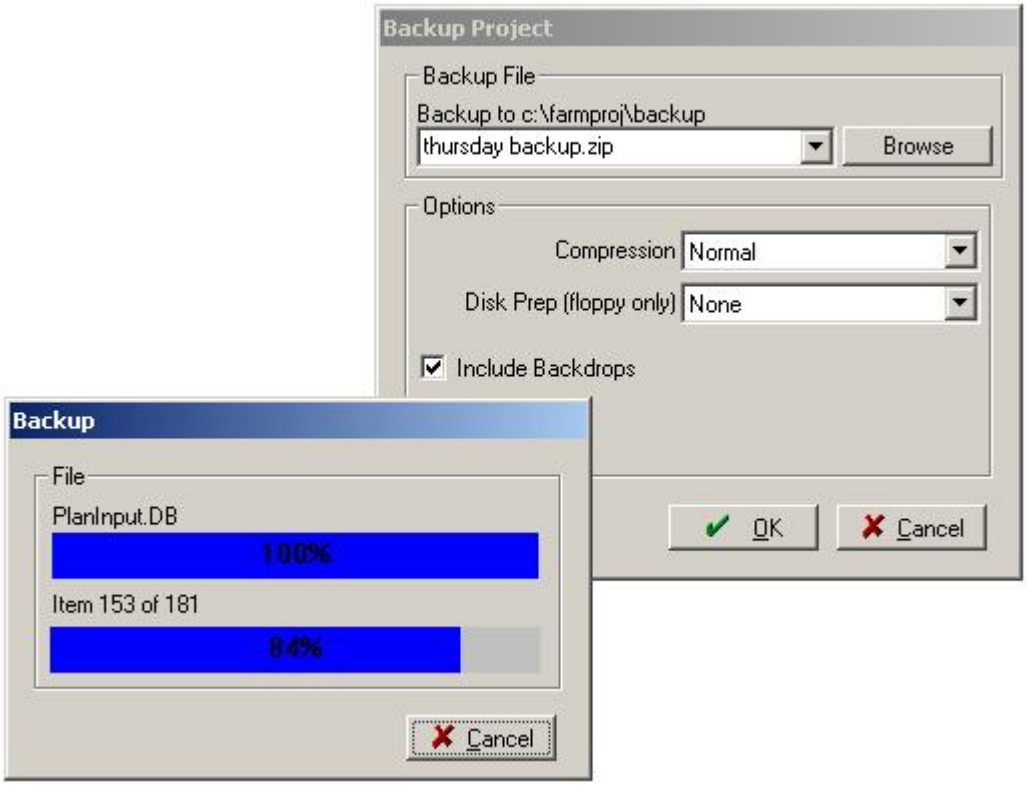
  Select **Cancel** to close the dialog box without saving the backup.

4. In the **Backup Project** dialog box under **Options**, you can change the size that the backup file will be, and the amount of time it will take to create the backup, by selecting a different value in the **Compression** list—choose **Maximum (Slowest)**, **Normal**, **Fast**, **Super Fast**, or **None**. (Choosing maximum compression will cause Farm Trac to take the longest time to create the backup but the backup will be a smaller file. Choosing no compression will cause the program to take the shortest time to create the backup but it will be a much larger file.)

5. If you are saving the backup to a USB drive or a floppy disk, select **Wipe Disk** in the **Disk Prep** list if you want to erase all files on the USB drive or floppy disk before making the backup. (Before you select **Wipe Disk**, be careful to verify there are no files you want to keep on the disk or removable drive.)

6. Select the **Include Backdrops** check box to include background images, such as aerial photos and satellite imagery in the backup. These images will increase the file size of the backup.

7. Select **OK** and Farm Trac will show the progress as it saves the backup to the folder, removable drive, or floppy disk you chose.



8. Select **Cancel** to close the dialog box without making a backup.

9. Repeat the previous steps to save another backup to a different folder, removable drive, or floppy disk.

Restoring Project Backups (Farm Site & Site Pro)

Should something go wrong with your computer that corrupts the data of your farm project, you can attempt to recover the data by restoring a Farm Works backup of your project. Restoring a project backup replaces the information in the current project with the information that was in the project at the time you made the backup. (For example, if you made a backup of your project on Monday and decide to restore the backup on Friday of the same week, you will lose all information entered Tuesday through Thursday of that week.)

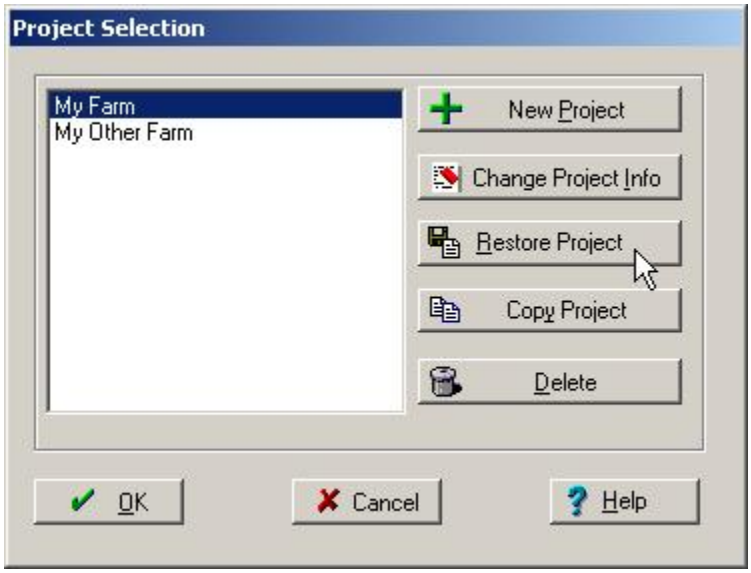
Farm Trac will only restore backups you made with the program. The program will not restore backups made with other backup software, such as the Windows XP Professional backup utility. For instructions on making a Farm Works backup of your project, see the previous section of this chapter.

To restore a project backup:

1. In the **Project Selection** dialog box select the project to which you want to restore the backup and select the **Restore Project** button. (Farm Trac only)

   - or -

   Select the **Restore Backup** on the **File** menu of Farm Trac. (Farm Trac or Site Pro)



2. If you previously added a password to the project, Farm Trac will display the **Project Password** dialog box where you must enter the correct password. (Farm Trac only)

3. In the **Restore Backup** dialog box that appears, select the name of the backup you previously made in the **Backup Project** list.

4. If the backup you made is not in the list, browse to locate it:

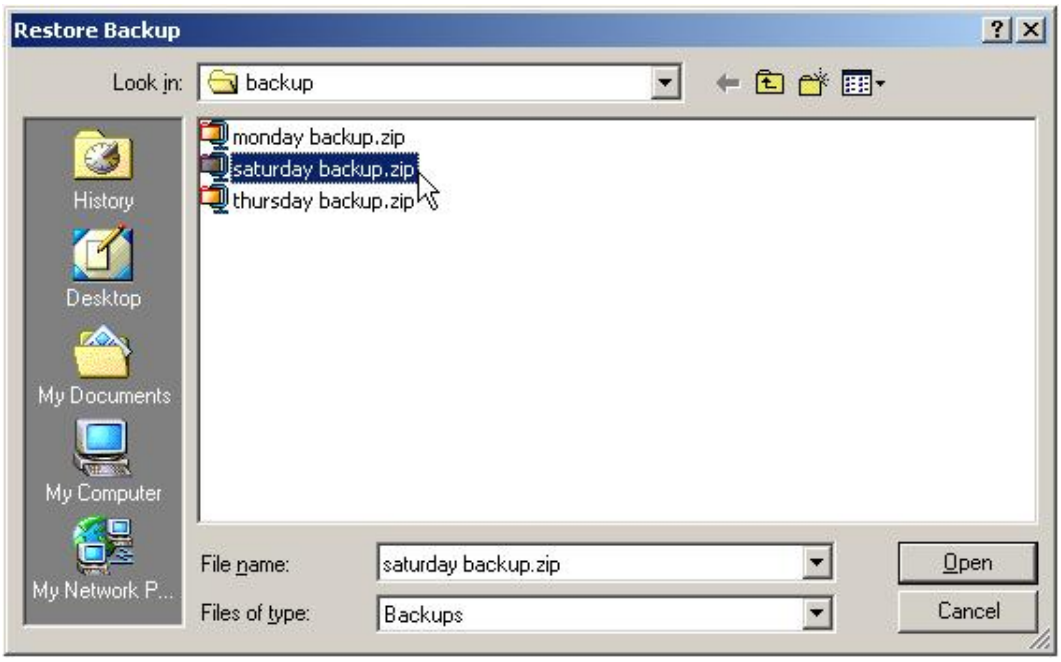
   - Select the **Browse** button to open a second **Restore Backup** dialog box.

   - In this **Restore Backup** dialog box, select the folder or drive where you previously saved the backup in the **Look In** list.

     - or -

     Select an icon on the left-hand column and browse to the folder or removable drive where you previously saved the backup (for example, if you saved the backup to your My Documents folder, select the **My Documents** icon to enter it in the **Look In** list).

   - Select the backup file in the box under the **Look In** list to add its name to the **File Name** box.

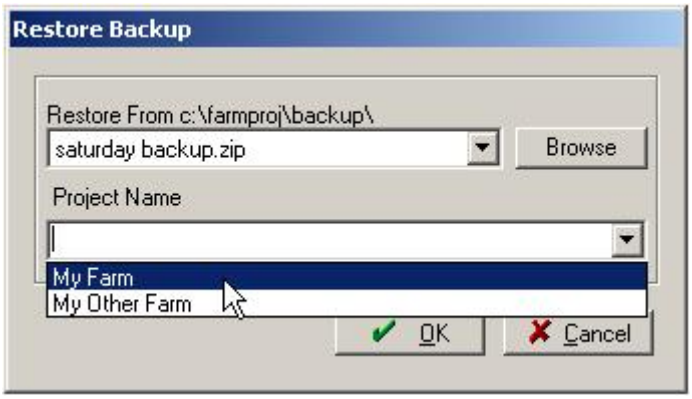


- Select **Open** to return to the previous **Restore Backup** dialog box, where Farm Trac enters the name of the backup in the **Restore From** box.

  - or -

  Select **Cancel** to close the dialog box without restoring the backup.

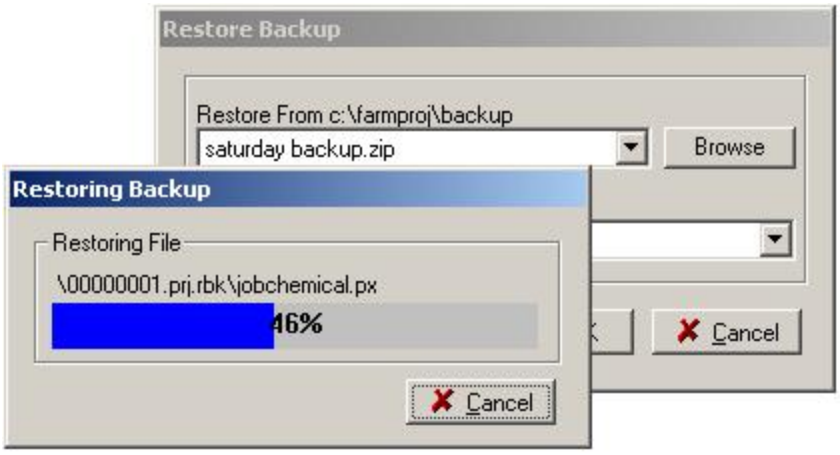
5. In the **Restore Backup** dialog box, select the project to which you want to restore the backup in the **Project Name** list (Farm Trac will replace all the data in the project you choose). You can also enter a new project name if you do not want to replace a current project. This will create a complete new project. (Farm Trac only)



6. Select **OK**, and a message asks if you are sure you want to continue with the backup process.

7. Select **No** if you do not want to restore the backup.

8. Select **Yes** and Farm Trac shows the progress as it restores the backup.



During the restoration of the backup, the program replaces the current data in your project with the data in the backup file. The restoration process will replace all information in your current project (including all your maps) with the information in the backup file. When the restoration is complete, you can begin working in the restored project.

In the next chapter, you will read how to add fields and inputs (such as equipment, people and supplies) to your project. After you add your fields and inputs, you can begin using Farm Trac to record your farming operations and print reports.

Changing User Information

The contact information that is printed on many reports comes from the User Information entered in Farm Trac.

To change the User Information:

1. On the **File** menu, select **Preferences** and **User Info…**

2. In the **User Information** dialog box, enter the **Name, Address, Phone Number,** and **Fax Number** that you want to show up on reports printed from Farm Trac.

When finished, press **OK**.

Drawing and Importing Field Boundaries

Farm Site offers several ways to add maps of your field boundaries. You can draw field boundary maps using the drawing tools, import field boundary maps into the program, or have Farm Site automatically draw your field boundaries using yield data that has been imported into the program. If you decide to draw the field boundaries, you can import roads and waterways to help draw the boundaries of your fields in the correct location. You can also import free satellite imagery from the Web to display as background images. Outlines of your fields can then be traced to draw more accurate boundaries. If you have Site Mate installed on a handheld computer or the Titan RT, you can import the field boundaries you have mapped using a GPS receiver while you were in the field. If you have imported yield data into Farm Site, the program can also use this data to quickly and accurately draw the field boundaries for you.

After you draw or import your field boundary maps, you can add labels with the names of the fields and change the colors of the maps to suit your needs. You can easily view the field maps by selecting the names of the fields in the Farm box in the left-hand column of the program. Selecting a farm name in the Farm box displays every field boundary map for that particular farm.

This chapter begins by explaining how to import the roads, waterways and background images. It then describes how to draw fields using the drawing tools, how to import fields you have created with the Site Mate program, and how to use the auto-draw feature. The chapter ends by describing how to export a field boundary for use with the Site Mate program.

Using the Toolbars

Farm Site has three toolbars with buttons to perform different functions with one click—the Job/Resource Tools toolbar, the Map toolbar and the Map-Editing toolbar. Many of the tasks of Farm Site can be performed by selecting the buttons on one of these toolbars.

Using the Job-Resource Tools Toolbar

At the top of Farm Site under the menu bar is the Job/Resources Tools toolbar.

The Job/Resources Tools toolbar has 11 toolbar buttons for performing many of the tasks of the program:

New Farm adds new farms to the program.

New Field adds new fields to the program.

New Structure enables you to add structures, such as bins or barns.

New Person adds laborers, employees and other workers.

New Machine adds equipment, such as tractors, planters and combines.

New Supply adds supplies to your inventory, such as seeds, fertilizers and chemicals.

New Animal adds livestock.

Read Job Data gives you the ability to import yield, as-applied, soil sample and other data into the program.

Write Job Data allows you to export prescription maps and other data from the program to third party controllers (Ag Leader, Deere, Lexion, RDS, etc). Many newer monitors now accept Shape files as well as their proprietary format. Shape files may be easier to use and more cross-compatible.

Synchronize Trac Mate lets you synchronize Farm Trac with Trac Mate/Site Mate running on a handheld computer or with a USB drive for use with a Titan RT.

All Reports enables you to select reports to print or export.

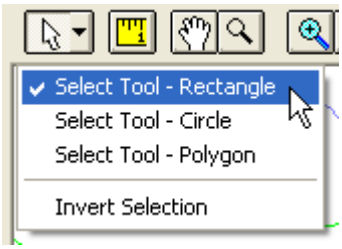
For instructions on using the toolbar buttons for adding new inputs to the program, please refer to the *Farm Trac Reference Guide*. This chapter and the chapters that follow explain how to use the other toolbar buttons of the Job/Resource Tools toolbar.

Using the Map Toolbar

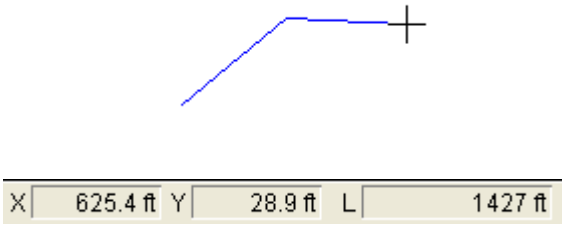
When you select the Map tab, the Map toolbar will be displayed.

The Map toolbar has up to 13 toolbar buttons (depending on the type of maps displayed in the Map box) for changing the views of maps of your fields:

Select Tool allows you to select objects in the Map box. This can be used to select items in a rectangle, circle, or polygon by clicking the down arrow. Invert Selection is useful if you want to reverse the items that are selected on the map.

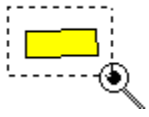


Measure Tool enables you to measure objects in the map box. Click where you want to start measuring and click again to start another segment. Total length and distance in the X and Y directions are displayed in the bottom right corner of the screen. The X and Y values are only of the last segment. Right click to stop measuring.



Pan Tool allows you to click and drag the map to view objects not on the screen.

Zoom Tool lets you zoom in or out. Left click to zoom in and right click to zoom out. The map will center where you click. You can also click and drag to zoom into a specifically sized area.



Zoom In zooms closer without re-centering the map.

Zoom Out zooms out without re-centering the map.

Zoom Layer zooms the active layer into view. The active layer is the layer at the top of the **Displayed Layers** box.

Zoom All zooms to the extent of all displayed layers on the map.

Show Me allows you to filter what is shown on the map. In a yield map, for example, it can be used to display only the data within a certain yield range. (This toolbar button will not be available for some maps.)

Filter enables you to use the harvest feature of the software to display points data between a minimum and maximum number. This is used to filter out outliers and data that is assumed to be invalid. (This toolbar button will not be available for some maps.)

Edit Layer displays the Map-Editing toolbar. (This toolbar button will not be available for some maps). You cannot make changes to a layer without pressing this button. This prevents any unintentional changes. When editing a layer, you cannot add or remove any layers from the **Displayed Layers** box.

Display Options lets you change colors and appearance of objects as well as add labels to a layer.

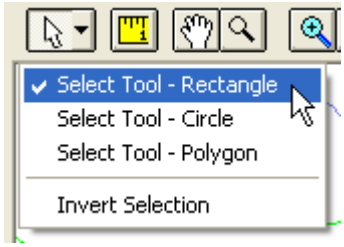
Map Report allows you to print or save the currently displayed map.

Using the Map-Editing Toolbar

The Map-Editing toolbar is displayed when you right-click on a field name in the Farm box and select Edit Boundaries on the shortcut menu or when you select the Edit Layer button of the Map toolbar. The drawing tools on the toolbar can be used to draw field boundaries.

The Map-Editing toolbar has up to 17 (depending on the types of maps displayed in the Map box) toolbar buttons to help you draw and edit maps:

Select Tool allows you to select objects in the Map box. This can be used to select items in a rectangle, circle, or polygon by clicking the down arrow. Invert Selection is useful if you want to reverse the items that are selected on the map.



Node Edit Tool toolbar button enables you to move the node points on a field boundary to adjust the boundary's shape (this toolbar button will not be available for some maps) Click and drag a node to move it or double click on a line segment to create a new node. Right click on a node and select Delete to remove a node. Also notice that the size of the selected area is displayed and changes as you modify the polygon.

Include Polygon Tool toolbar button gives you the ability to draw or add to a field boundary (this toolbar button will not be available for some maps).

Exclude Polygon Tool toolbar button lets you exclude objects from a field boundary (this toolbar button will not be available for some maps).

Split Polygon Tool toolbar button allows you to split a field boundary into separate fields (this toolbar button will not be available for some maps).

The Polygon Tools will be explained in further detail later in this section.

Measure Tool enables you to measure objects in the map box. Click where you want to start measuring and click again to start another segment. Total length and distance in the X and Y directions are displayed in the bottom right corner of the screen. The X and Y values are only of the last segment. Right click to stop measuring.

Buffer Tool allows you to select any part (or all) of an area or field boundary. You then enter a distance or a size of an area and the program will split the area based on your settings. This option is useful when creating setbacks and refuge boundaries as well as terraces.

Endpoint Tool forces your cursor to snap directly to the end of a line segment. This is helpful when closing a boundary so there are no gaps left between segments.

Midpoint Tool forces your cursor to snap to the exact center of a line segment.

Grid Snap Tool lays out a grid on the screen and forces your cursor to "snap" to the corner of each grid while drawing. Right click on this button to change the grid size.

Horizontal Tool only allows your cursor to move perfectly horizontal while drawing.

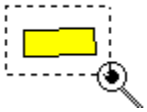
Vertical Tool only allows your cursor to move perfectly vertical while drawing.

Text Tool toolbar button gives you the ability to add text to a map (this toolbar button will not be available for some maps). Double click where you want the text to be displayed and then type in the **Edit Text** box. After text is created, you can right click on it to edit it, delete it, or change its size and orientation. You can also change the Font of the text.

Define Points toolbar button lets you add points to a points map (this toolbar button will not be available for some maps). Once you have pressed the **Edit Layer** button, press the **Define Points** button and then click on the map where you want to add a point. Once you click, you can enter the attributes for that point in the **Define Data** box.

Pan Tool toolbar button allows you to move the map across the screen. Click and drag with this tool on the map and the map will follow your cursor.

Zoom Tool lets you zoom in or out. Left click to zoom in and right click to zoom out. The map will center where you click. You can also click and drag to zoom into a specifically sized area.



Zoom In zooms closer without re-centering the map.

Zoom Out zooms out without re-centering the map.

Zoom Layer zooms the active layer into view. The active layer is the layer at the top of the **Displayed Layers** box.

Zoom All zooms to the extent of all displayed layers on the map.

Import Shape File toolbar button gives you the ability to import a map onto the current layer, such as a field boundary.

Auto Draw toolbar button lets you have Farm Site automatically draw field boundaries based on yield data points you imported into the program (this toolbar button will not be available for some maps).

Show Me allows you to filter what is shown on the map. In a yield map, for example, it can be used to display only the data within a certain yield range. (This toolbar button will not be available for some maps.)

Filter enables you to use the harvest feature of the software to display points data between a minimum and maximum number. This is used to filter out outliers and data that is assumed to be invalid. (This toolbar button will not be available for some maps.)

Display Options lets you change colors and appearance of objects as well as add labels to a layer.

Save and Close Editing toolbar button lets you save the changes you have made to a map and return to the Map toolbar.

Cancel Changes and Close Editing toolbar button allows you to return to the Map toolbar without saving any changes that you have made.

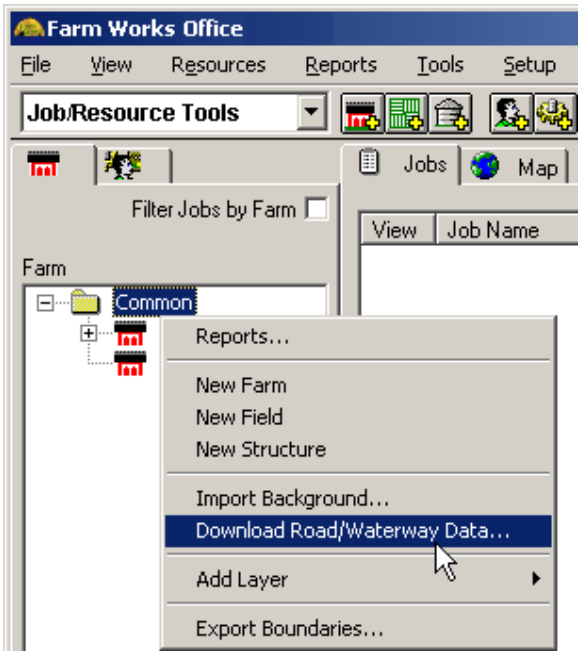
Importing Roads and Waterways

Importing roads and waterways into Farm Site serves two purposes: It makes it easier to know where to draw your fields, and it adds GPS coordinates to the maps you draw by hand. The easiest way to add roads and waterways is to download them from the World Wide Web. An internet connection is all that is needed.

To add the roads and waterways to Farm Site:

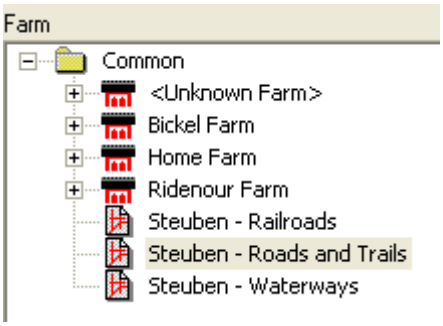
1. Verify that your computer is connected to the Internet.

2. Select the **Farm** tab, right-click the folder at the top of the **Farm** box, and select **Download Road/Waterway Data** on the shortcut menu.



3. In the **Download From Web** dialog box, select the correct state in the **Region** list and the appropriate county in the **Section** list, and then select the check boxes for the items you want the program to display—choose from the **Roads and Trails**, **Waterways**, **Railroads** and **Misc. Transportation** check boxes. If information is not available, the box will not be available.

4. Select **OK** and Farm Site adds an icon for each of the roads and waterways to the **Farm** box. **Show Backgrounds in Land Areas…** has to be checked under the **View** menu, for the icons to show up.

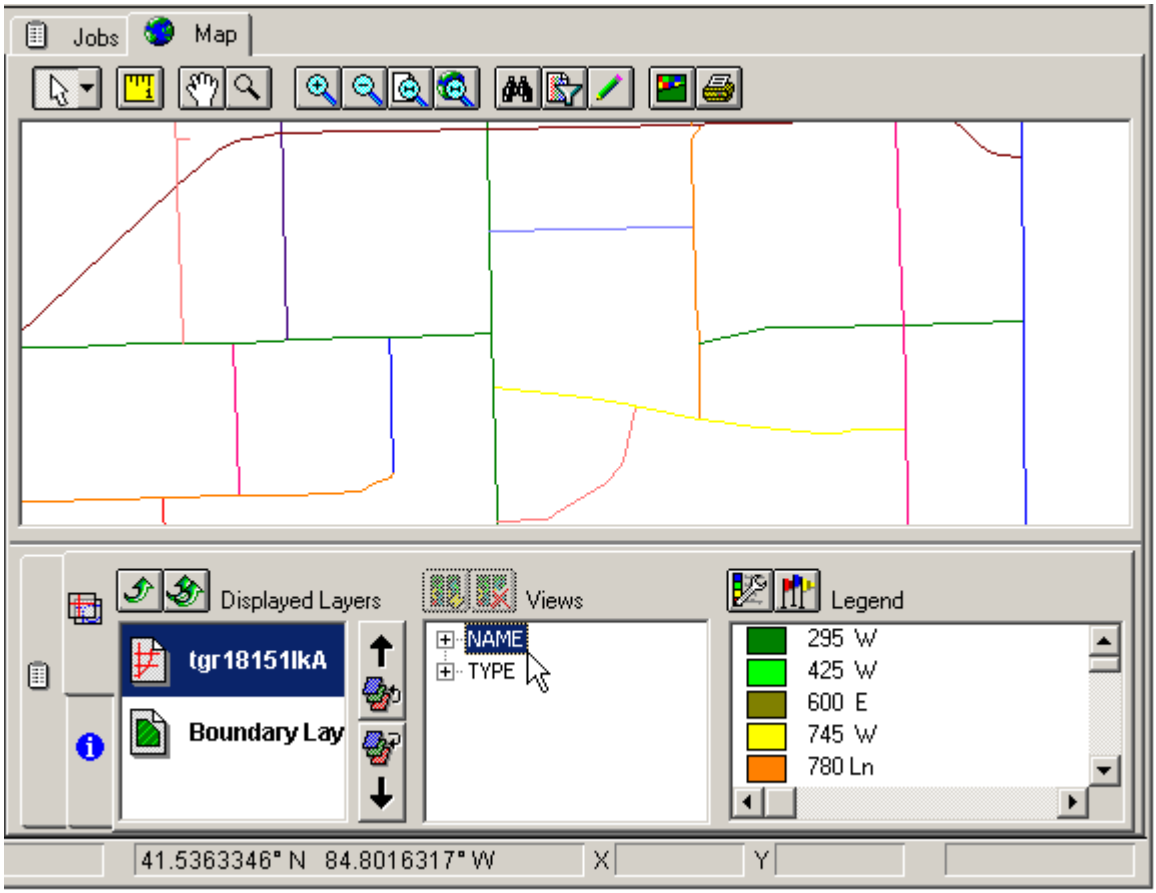


5. Double click each background layer icon to display the roads and waterways in the **Map** box. Red is the default color for roads, black for railroads, and blue for waterways.

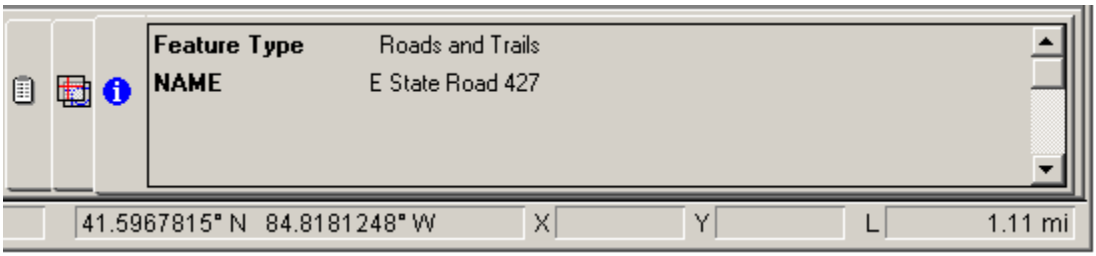
6. To locate a specific road or waterway by color:

   - Select the **Layers** tab.
   - Double-click the roads or waterways layer in the **Displayed Layers** box to move it to the top of the box (this makes the layer active).

- Select **NAME** in the **Views** box (Farm Site changes the colors of the roads based on their name, as shown in the **Legend** box).



7. You can also find a specific road or waterway by selecting the **Information** tab and selecting a road or waterway in the **Map** box.



Importing Satellite Imagery from the Web

You can add satellite imagery as backgrounds to make locating and drawing your field boundaries easier. These aerial photos were taken by satellites orbiting the earth, and show the

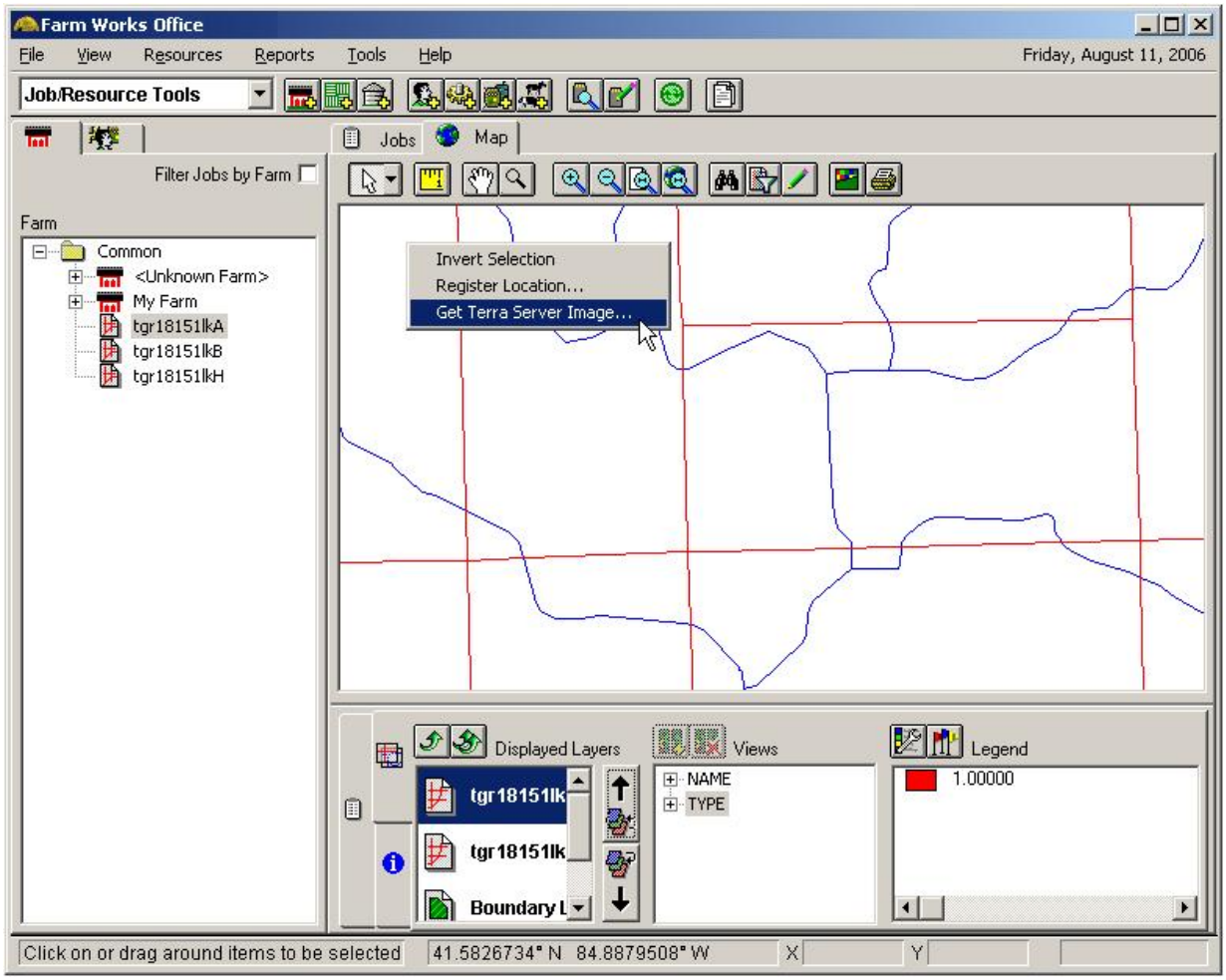
boundaries of your fields and the locations of large structures, such as barns, bins and houses. The easiest way to add satellite imagery is to download it from the Internet.

To download and display a background image in Farm Site:

1. Verify that your computer is connected to the Internet.

2. Select the **Map** tab to view the roads and waterways that have been imported into Farm Site. If they are not displayed on the map, make sure **Show Backgrounds in Land Areas…** is checked under the **View** menu and double click on the applicable layers in the **Farm** box to display them.

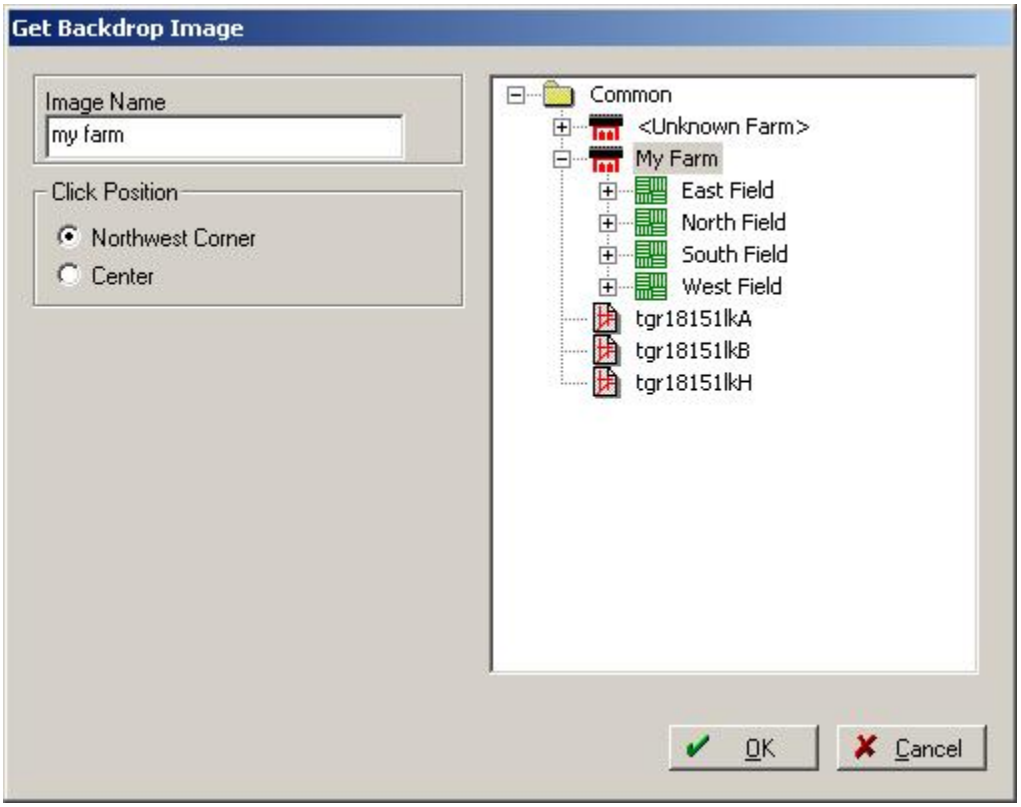
3. Right-click the place on the roads or waterways where you want to bring in the satellite imagery (the downloaded image will be about one and one-fourth square miles in size) and select **Get Terra Server Image** on the shortcut menu.



4. Use the **Get Backdrop Image** dialog box to enter the name you want to give the background image and select either the **Northwest Corner** or **Center** option button. If there will be several images loaded that are next to each other, it is suggested to start in

the furthermost top left corner of the area and work down and right. The **Northwest Corner** option works the best when using this method.

5. Highlight the Farm that the image will be for. This will display the image icon and name below that farm. If it is for multiple farms, it can be placed under the Common folder.



6. Select **OK** and Farm Site shows the progress as it downloads the satellite imagery. The program then displays the satellite imagery as a background image in the **Map** box, adds an icon for the image to the **Farm** box, and adds the layer for the image to the **Displayed Layers** box.

7. To bring the background image closer into view, right-click the image layer in the **Displayed Layers** box and select **Zoom to Layer**.

8. To delete the background image, right-click on the image icon in the Farm box and select **Delete**.

9. To display the background image after it has been removed from the map tab, locate and double click on the background icon in the **Farm** box.

Drawing Field Boundary Maps

If you decide to draw your fields by hand, you can use the roads and waterways, as well as the background images you imported into the program to draw the fields as accurately as possible. If using yield data, you can use the Auto Draw feature to have Farm Site draw the field-boundary map for you (see the section on this later in this chapter).

To draw a field-boundary map using the drawing tools of Farm Site:

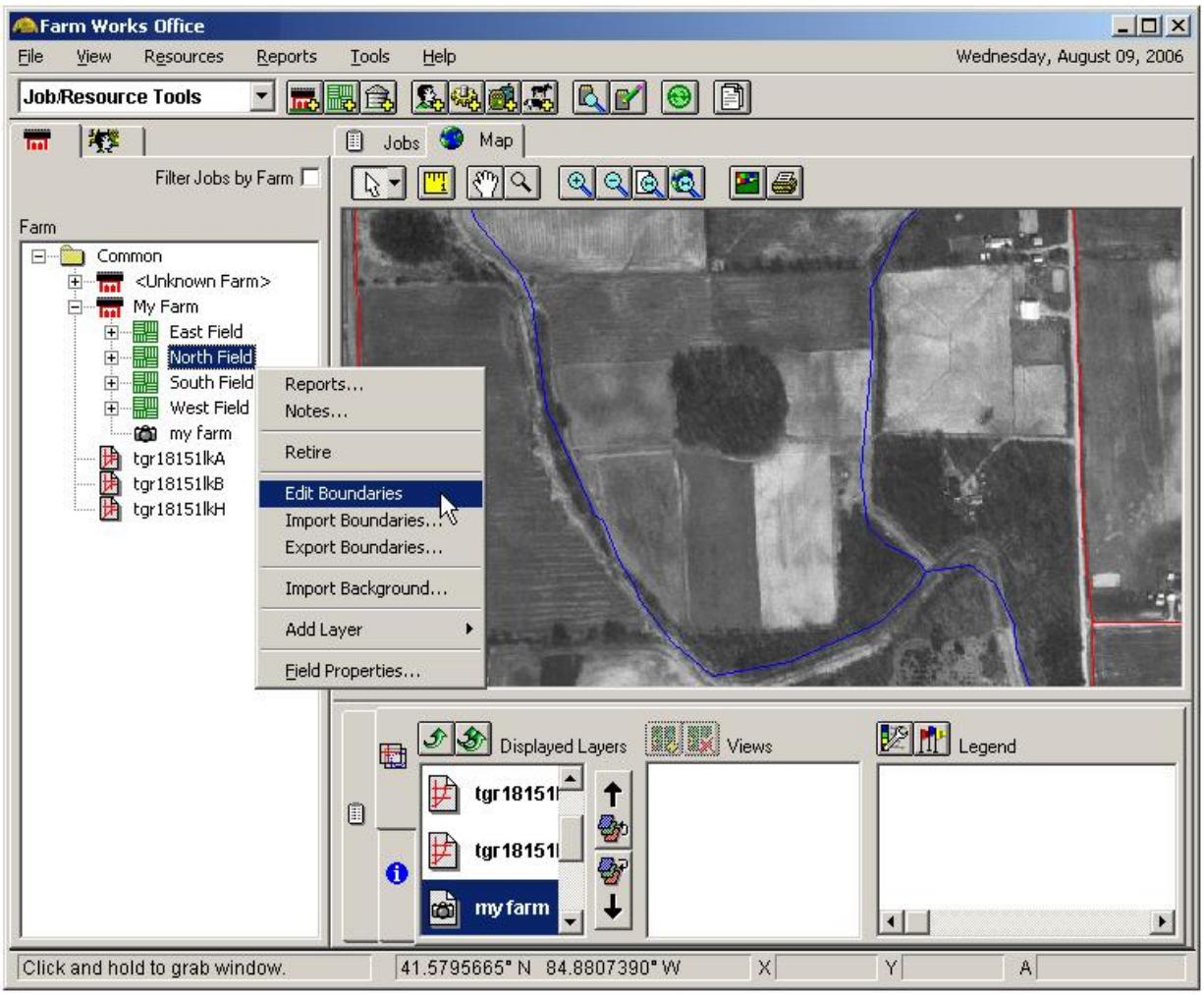
1. Select the **Map** tab

to view the **Map** box and select the **Layers** tab *below* the **Map** box to view the **Displayed Layers**.

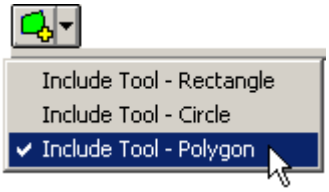
2. Select the **Farm** tab and double-click each roads and waterways icon in the **Farm** box to have Farm Site add the roads and waterways to the displayed layers on the map.

3. In the **Farm** box, locate the icon for the background image that shows the field you want to draw and double-click the icon. Farm Site will add the background image to the **Displayed Layers**.

4. When you locate your field within the background image, begin drawing the field-boundary map by right-clicking on the field name in the **Farm** box and selecting **Edit Boundaries.** (If the field name has not been added to the **Farm** box, follow the instructions in *Farm Trac Reference Guide* to add the field name before proceeding with drawing the field boundaries.)



5. On the **Map-Editing** toolbar, select the **Include Tool Polygon** toolbar button, or select the menu button ▾ to view the options—you can choose from the **Include Tool Rectangle**, **Include Tool Circle**, or **Include Tool Polygon**. For explanations on the tools, see the section of this manual that describes the toolbar button functions.



6. To draw a field boundary with the Include polygon tool:

   - Left click at one corner of the field. Move the cursor around the field and left click to add as many nodes as needed. To create a curved effect, simply place the nodes closer together.

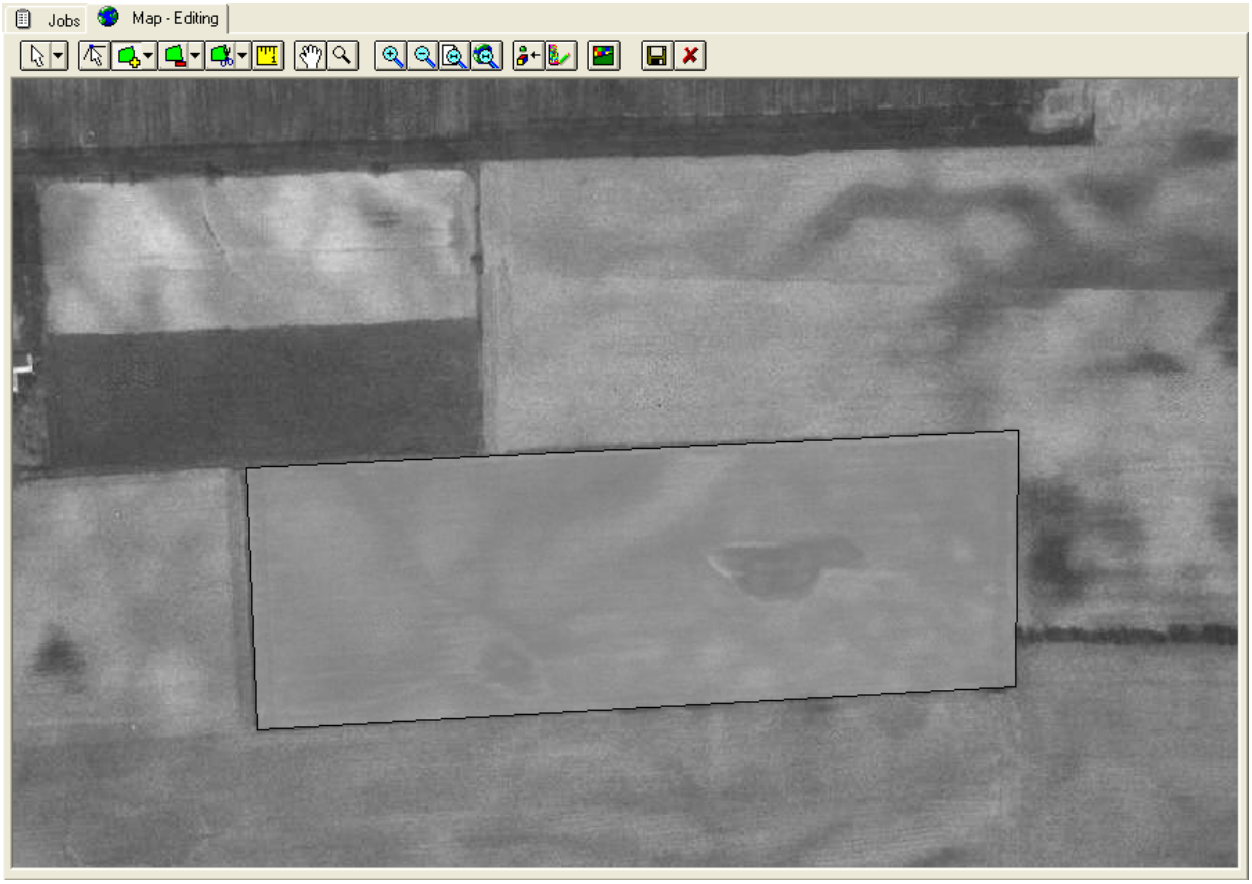
   - To delete the last node added, right click and select **Undo** from the shortcut menu. You can also cancel the polygon by right clicking and selecting **Cancel**.

   - Continue to add nodes until the entire field boundary has been mapped.

- Complete the included polygon by right clicking and selecting **Finish**. (The right click does not add a node to the polygon – finish the boundary completely before right clicking.)

- If the rectangle or circle include tools are used, click and drag on the map where you want the boundary to be and when you release the button, Farm Site completes the polygon. The circle tool places the center of the circle where you click your mouse.

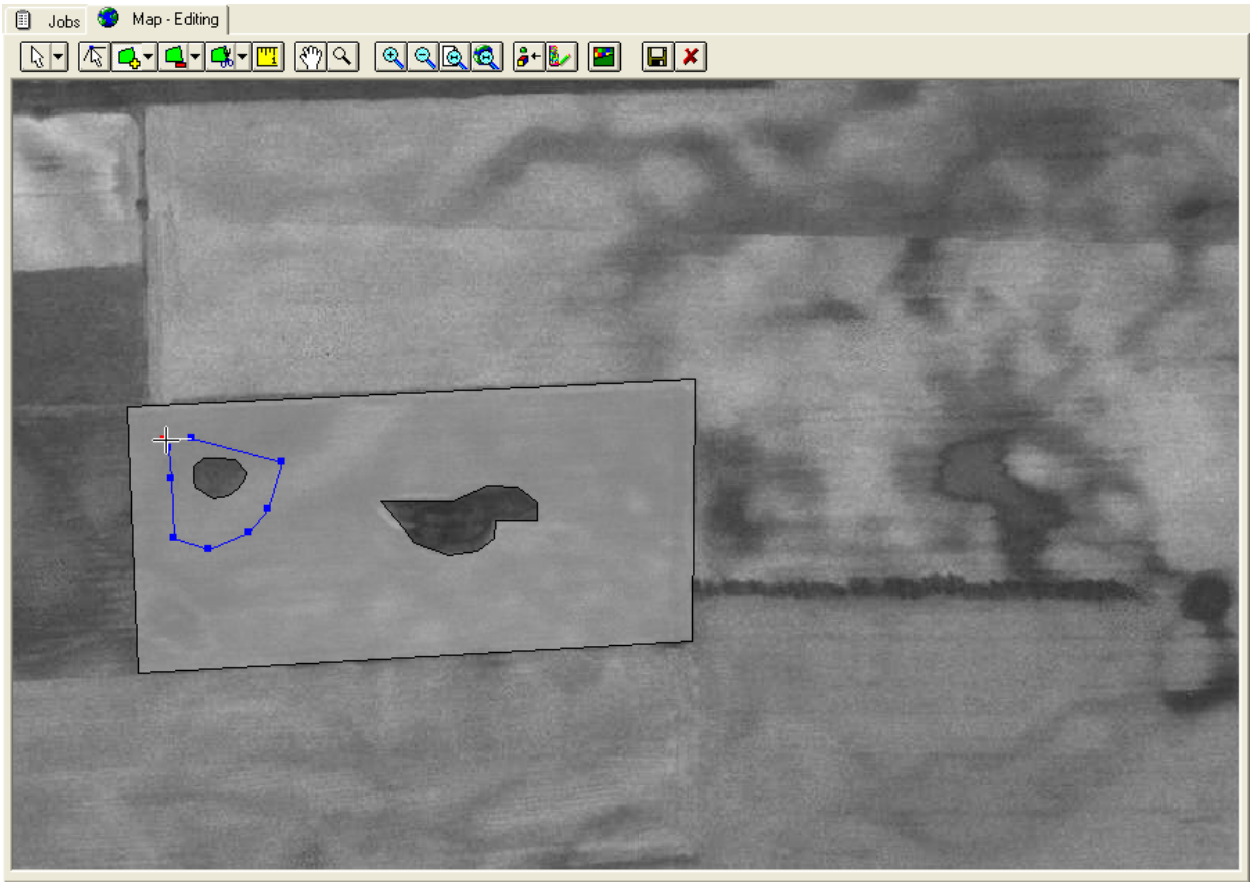
- The **Node Edit Tool** can be used to edit the field boundary if needed. See the section of this manual on using the toolbars for more instructions.



7. The **Exclude Polygon Tool** can be used to remove a portion of the field that is inside the boundary. This tool works well for waterways, ponds, trees, etc in the middle of a field.

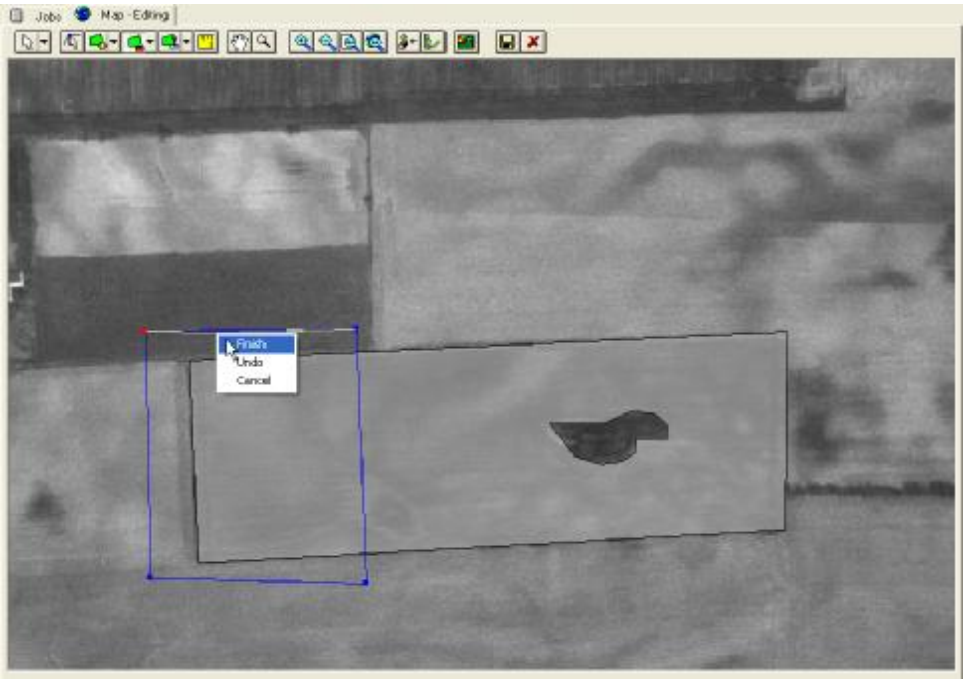
    - The exclude tools work in the same manner as the include tools, they just remove portions of the field, instead of adding them.

8. To re-include an area that has been excluded within a field, simply select the area with the Include tool.



9. The **Split Polygon Tool** can also be used to modify a field boundary. If one boundary needs split into separate fields, use the split tool.

    - Use the split tool as you did the previous tools, except every line segment that crosses the polygon will split it into two polygons. In a simple split situation, it is easiest to use the Line option. You can also split using the rectangle, circle, and polygon split tools.



10. Select the **Save and Close Editing** toolbar button on the toolbar to save the field boundary map.

    - or -

    Abort the drawing of the field-boundary map by selecting the **Cancel and Close Editing** toolbar button (Farm Site deletes the field map you drew and removes the editing toolbar buttons from the **Map** toolbar).

11. To change the colors of the field-boundary map or the field-boundary border, or add a field name label, select the **Display Options** toolbar button. See the using the toolbars section for more information.

Merging Adjacent Boundaries or Areas

There may be times when there are two fields that are next to each other that are now farmed as one. Using the **Merge** feature is the easiest way to make the two areas one. Note: Areas to be merged must be adjacent to one another. In other words, they must have a common boundary at some point.

1. Locate the adjacent areas or boundaries that you want to merge on the **Map** tab.

2. Select one of them by left clicking on it and then hold down the **Ctrl** key while selecting the other to highlight both of them. Right click on one of the areas and select **Merge**.

3. If they ever need to be split back apart, you can use the **Split Polygon Tool**.

Automatically Drawing Fields from Yield Maps

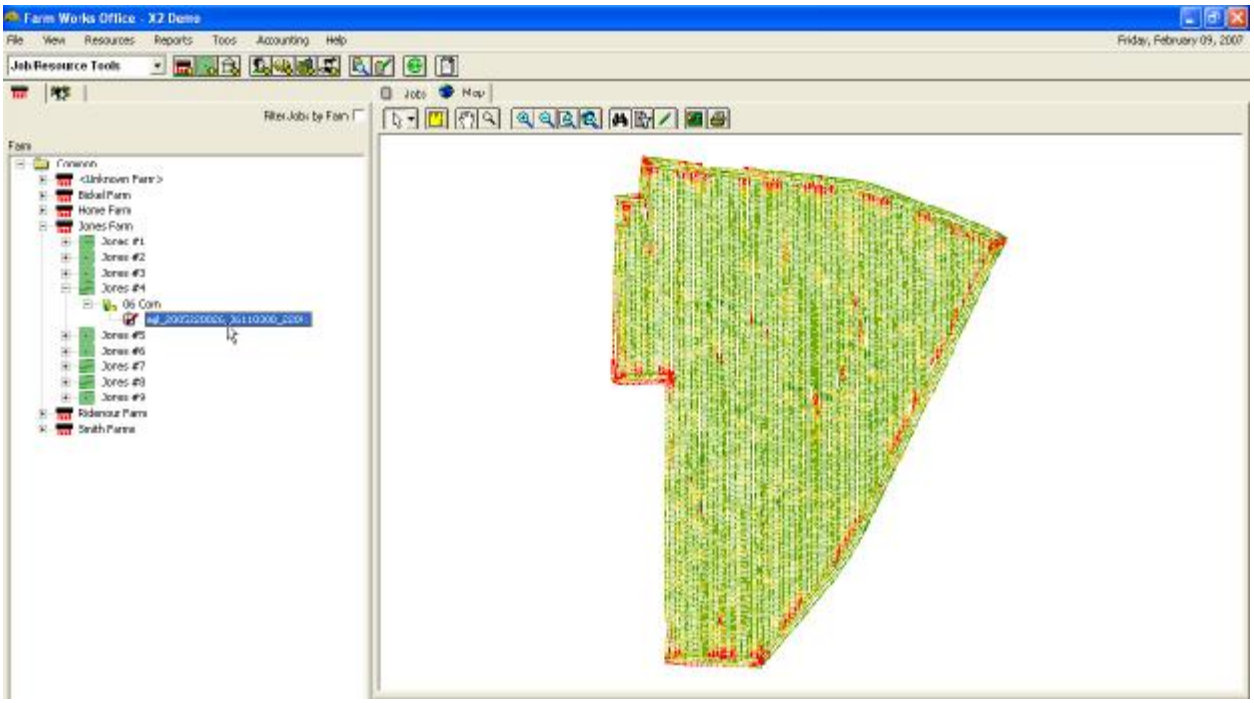
If yield data has been imported into Farm Site, you can have the program use that data to automatically draw the boundaries of your fields. The auto-draw feature of Farm Site can save time and the maps that are created are generally more accurate than what can be hand drawn. For instructions on importing yield data into Farm Site, see the chapter related to that topic in this reference guide. Note: Any as-applied map with point data in it (planting, spraying, fertilizer spreading) can be used with the Auto Draw feature. Yield maps are the most commonly used and will be referenced here.

To have Farm Site automatically draw a field boundary using previously imported yield data:

1. Select the **Map** tab.

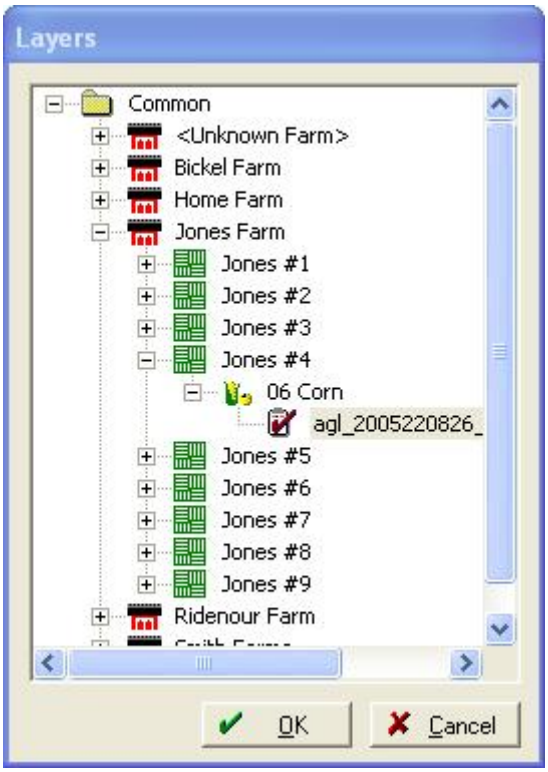
2. Go to the tree view on the left under the **Farm** tab and find the yield point layer from which you wish to have the program automatically draw the field-boundary map.

3. Double-click the map name to display the yield map.



4. Right click the icon for the field you want Farm Site to draw a boundary for and select **Edit Boundaries** on the shortcut menu. The **Map-Editing** toolbar will be displayed.

5. Select the **Auto Draw** toolbar button on the toolbar above the displayed map. The **Layers** dialog box will display. Select the layer that Farm Site should use to draw the boundary from. This should be the yield map layer that you selected earlier.



6. The **Auto Draw Options** dialog box will then appear. Enter the Equipment width that was used so the program knows how far from the points to draw the field boundary. Entering a minimum area will prevent Farm Site from drawing small sections of the field around points that are not grouped together. This option can be modified to create a more accurate field boundary.

7. Make any modifications needed to the field boundary before saving. If the boundary doesn't look correct because of holes in the middle of the field or a small area was included that shouldn't have been, either modify the boundary with the editing tools or delete the boundary and try a different **Minimum Area** when using **Auto Draw**. For more information, see the previous section.

8. Select the **Save and Close Editing** toolbar button to save the field-boundary map that the program drew for you.

9. To abort the creation of the field-boundary map, select the **Cancel and Close Editing** toolbar button or right-click the field-boundary map and select **Delete**.

10. Field boundaries can be edited at any time by right clicking on the field and selecting **Edit Boundaries**.

Importing a Shape File to create a Field Boundary

If you have created maps of field boundaries with the Site Mate program running on a handheld computer or other device, Farm Site will import these maps and display them for you. Farm Site will also bring in field boundary maps created with other software, as long as they are in the correct file format. One of the most common file formats used for importing and exporting is the ArcView Shape File format. Before importing Shape Files of field-boundary maps, you must first save the Shape Files to a folder on your computer. It is also necessary to first add the field names to the Farm box for the maps you want to import (for instructions on adding field names to the Farm box, see the *Farm Trac Reference Guide*).

Note: All Shape Files consist of 3 actual files. (.shp, .shx, .dbf) You must have all three to make a complete shape file.

To import an ArcView Shape File of a field map into Farm Site:

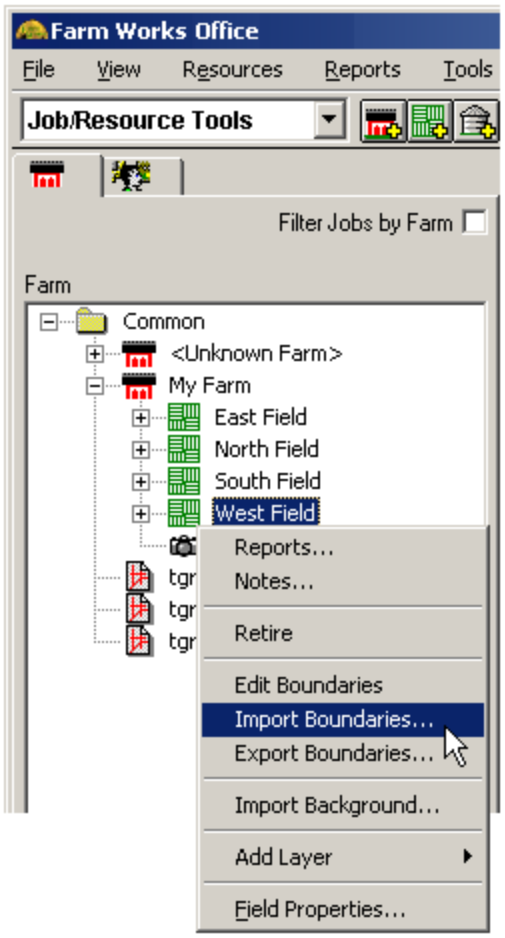
1. Select the **Map** tab.

2. Select the **Farm** tab.

3. Locate the field in the management tree.

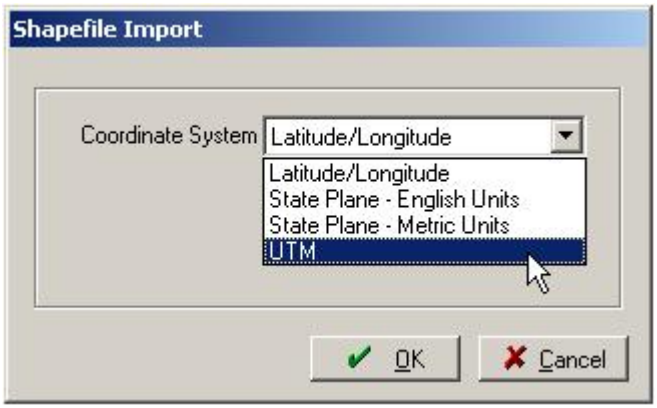
4. Right-click the icon for the field for which you want to import the field-boundary map and select **Import Boundaries** on the shortcut menu.

5. In the **Import Shape File** dialog box, locate the shape file that you want to import (only the .shp will show in the dialog box) and select **Open**.



6. In the **Shape File Import** dialog box, select the coordinate system that you used to create the Shape File in the **Coordinate System** list. Farm Works and Site Mate always default to Latitude/Longitude.

7. Select **OK** and the boundary will be added to the boundary layer of the field and be displayed in the **Map** box.



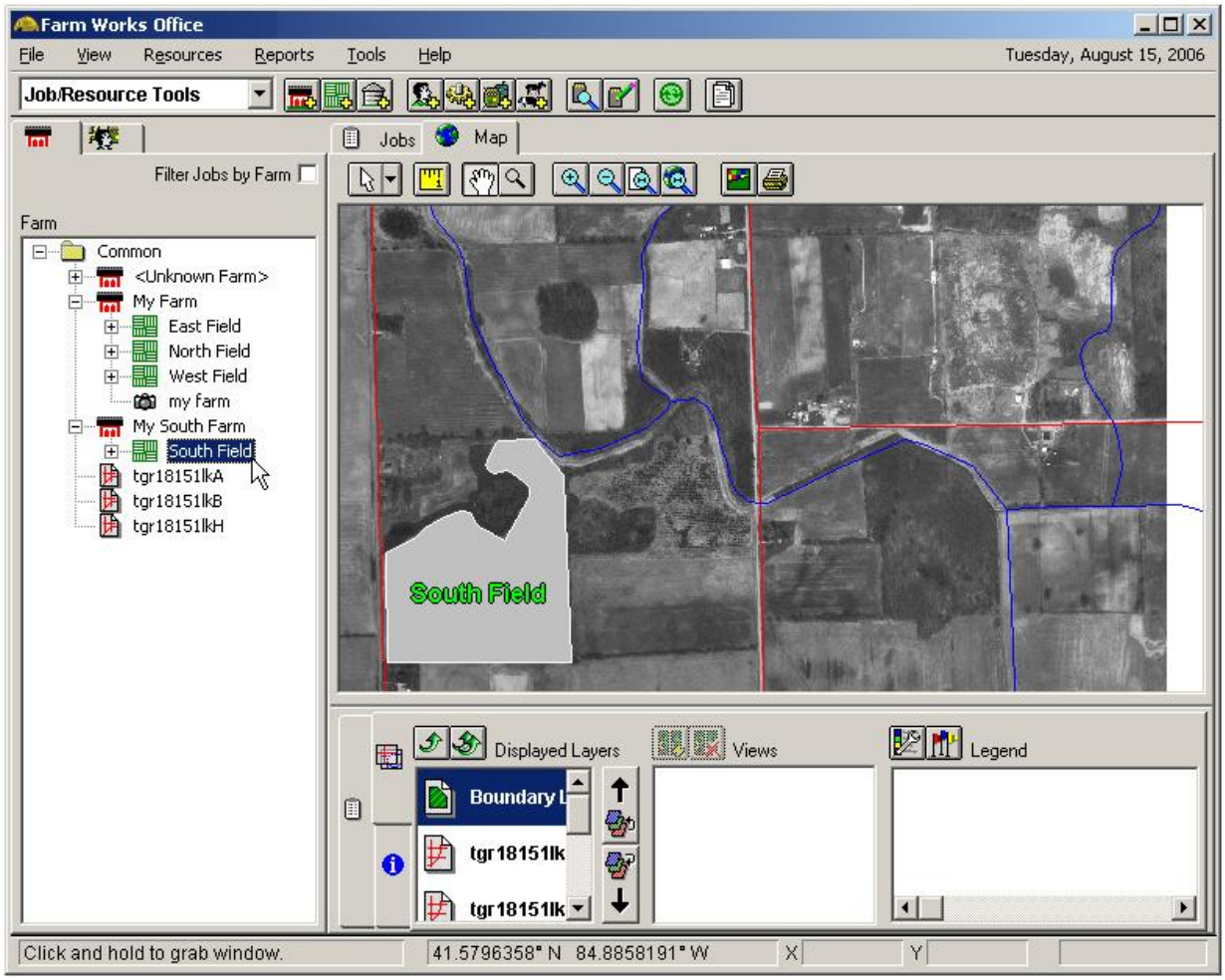
8. Select the **Save and Close Editing** toolbar button to save the field-boundary map or the **Cancel and Close Editing** toolbar button if you do *not* want to save the map.

Viewing Field Boundary Maps

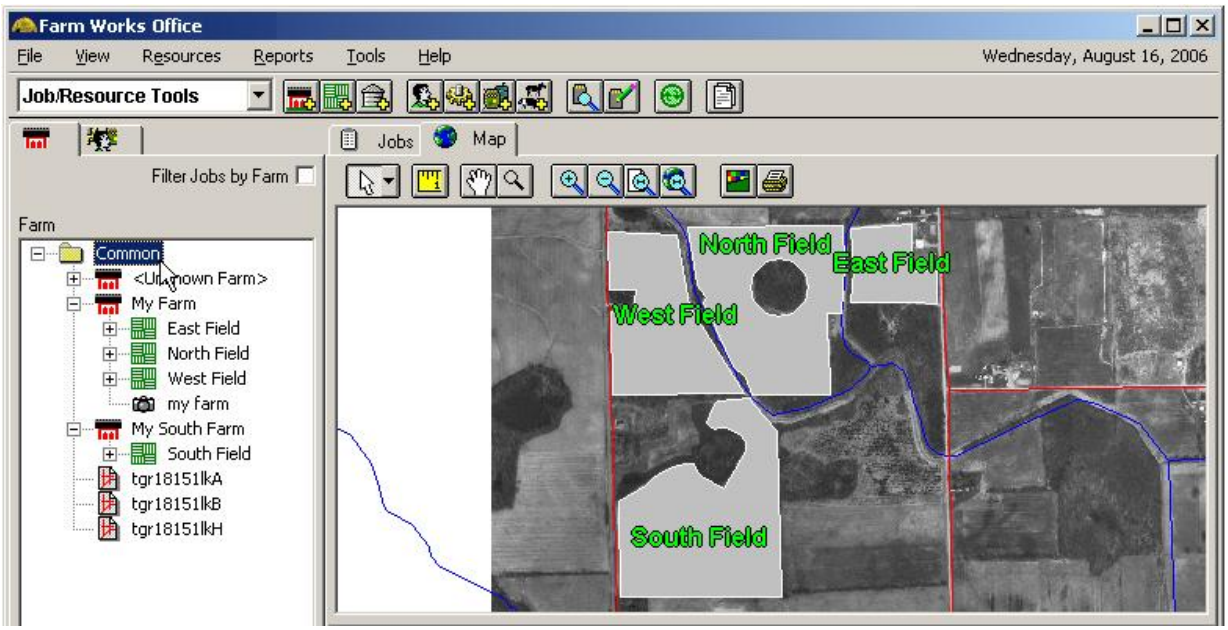
Once you have created a field boundary map, you can view the field boundary along with background images and other maps and field boundaries.

To view a field boundary map:

1. Select the appropriate farm, then highlight the field under that farm. The field boundary will now be displayed in the **Map** tab.



2. You can view all of the field boundaries for one farm by highlighting the Farm. All field boundaries for all farm can be viewed by highlighting the Common folder.



3. Background maps can be added by double clicking on them in the **Farm** box.

Field Boundary Display (View Changes)

It is often nice to be able to quickly see what has been done to a field recently, what is growing in a field, or what fields belong to what farm. The view on the boundary layer can be changed to quickly see any of these items.

1. On the **Farm** tab, select the Client, Farm or Field that you want the boundaries to be displayed on the map tab.

2. Make sure the Boundary Layer is on top of the **Displayed Layers** box. You can simply double click on it to move it there.

3. You will change how the boundary layer is displayed under the **Views** box. There are five different options:

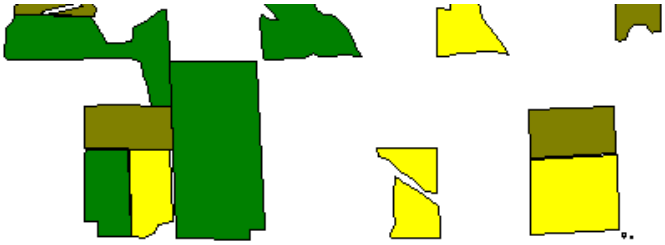
    a. Enterprises: You can select a year and see fields colored based on the crop for the selected year.

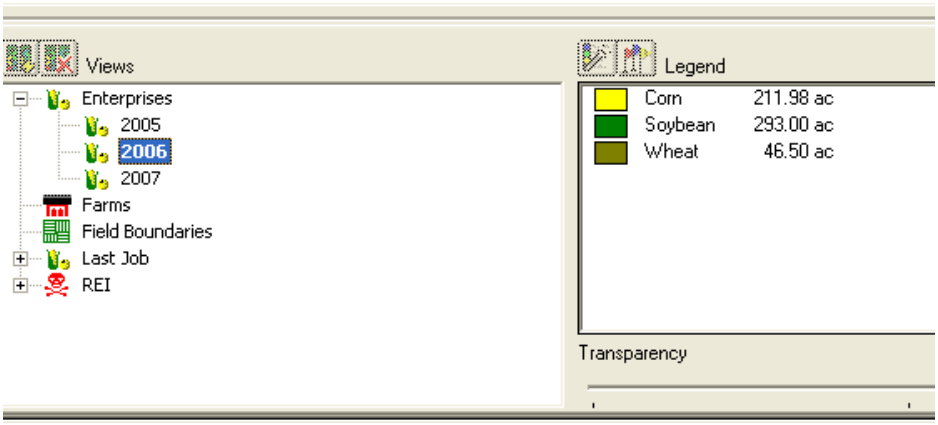
    b. Farms: Boundaries are colored based on hwat farm they are assigned to.

    c. Field Boundaries: All boundaries are colored the same.

    d. Last Job: You can select a year and see fields colored based on the crop for the selected year. They also will have the pattern that was assigned to the last job for that year. (Patterns can be changed under Resources – Job Types)

e. REI: You can select a date range and see which fields have Restricted Entry (based on REI chemical usage) for that time frame.





Exporting Field Boundary Maps

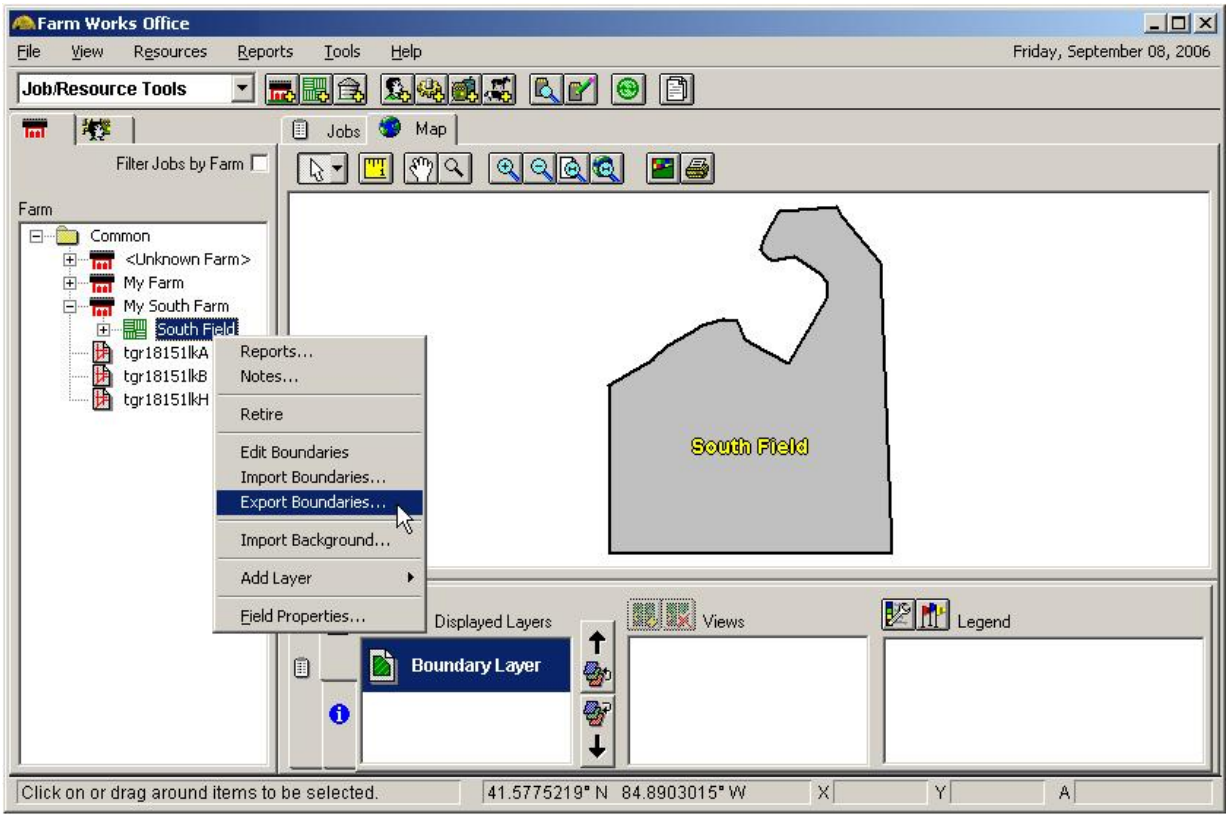
It's easy to export field-boundary maps for use with other software. If running Trac Mate and Site Mate, the field boundaries get transferred to the handheld computer or the Titan when Trac Mate is synchronized with the desktop software. Boundaries can also be exported for use elsewhere in an ArcView Shape File.

To export a field-boundary map from Farm Site:

1. Select the **Map** tab.

2. Locate the field that you want to export the boundaries for in the **Farm** tab.

3. Right-click the field to export and select **Export Boundaries** on the shortcut menu. You can also export all of the field boundaries for a farm by right clicking on the **Farm** name.



4. In the **Export Shape File** dialog box that appears, select the folder or drive where you will save the exported file and enter a name in the **File Name** box.

5. Select **Save** and Farm Site saves the field-boundary map to the folder or drive you chose. Remember there are **THREE** files to every Shape file. (.shp, .shx, .dbf)

Assigning Colors to Fields by Crop Enterprise

When using Farm Site along with Farm Trac, you can select colors that fields display as by crop enterprise. The program will show a different color in each field depending on which crop is growing there. Corn can have a different color from wheat or soybeans, for example. This can be useful when looking at different fields as a quick visual of what is growing in each.

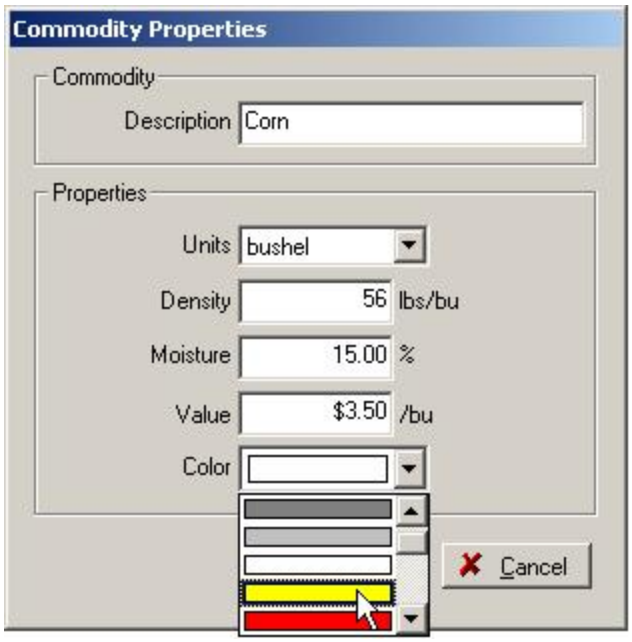
To assign a color to crop enterprises:

1. On the **Resources** menu, point to **Other** and select **Commodities**.

2. In the **Commodities** dialog box, select the crop for which you want to assign a color or select **Add** to add a new crop.

3. Select **Properties** to open the **Commodity Properties** dialog box.

4. In the **Commodity Properties** dialog box, select the color you want for the crop in the **Color** list and select **OK**.



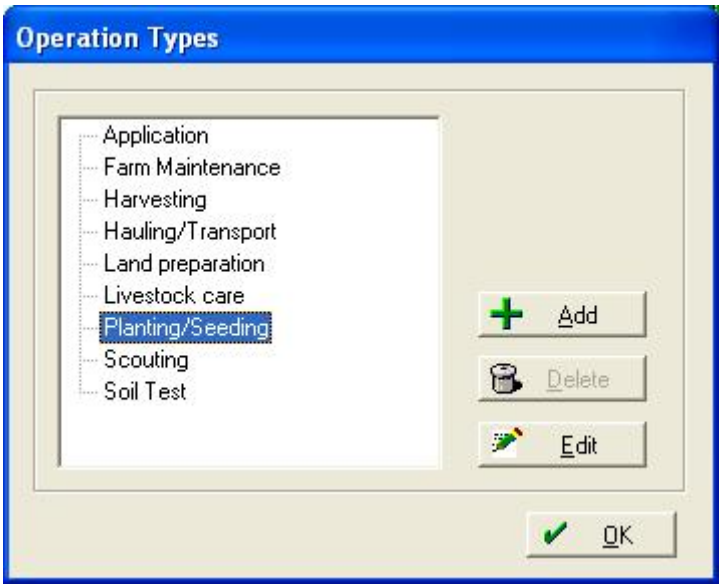
5. Now any field that has that crop enterprise assigned to it, will display as the chosen color in the **Map** tab.

Assigning Patterns to Job Types

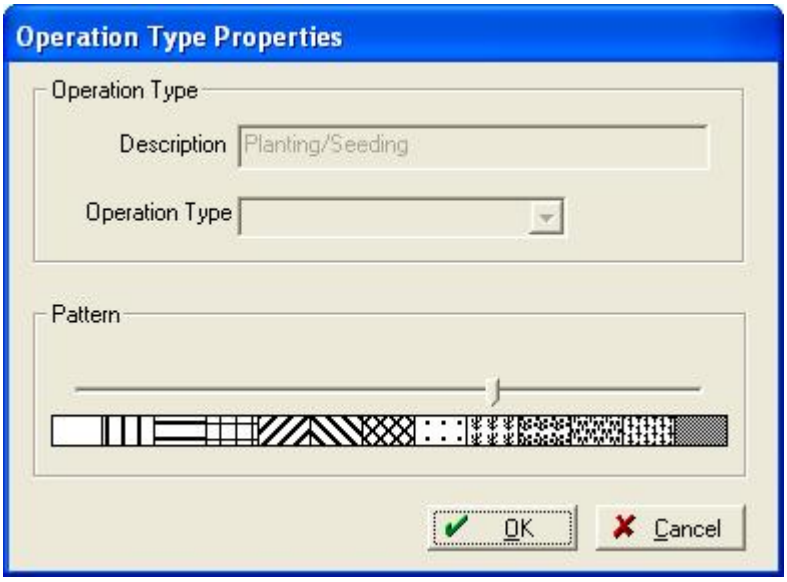
While being able to quickly see what crop is in each field is helpful, you may also want to know which field has been planted, harvested, etc. at a quick glance. Farm Works allows you to assign patterns to job types so when that job is performed in a field, that pattern will then be displayed.

To assign a pattern to a job type:

1. Under the **Resources** menu, select Job Types.



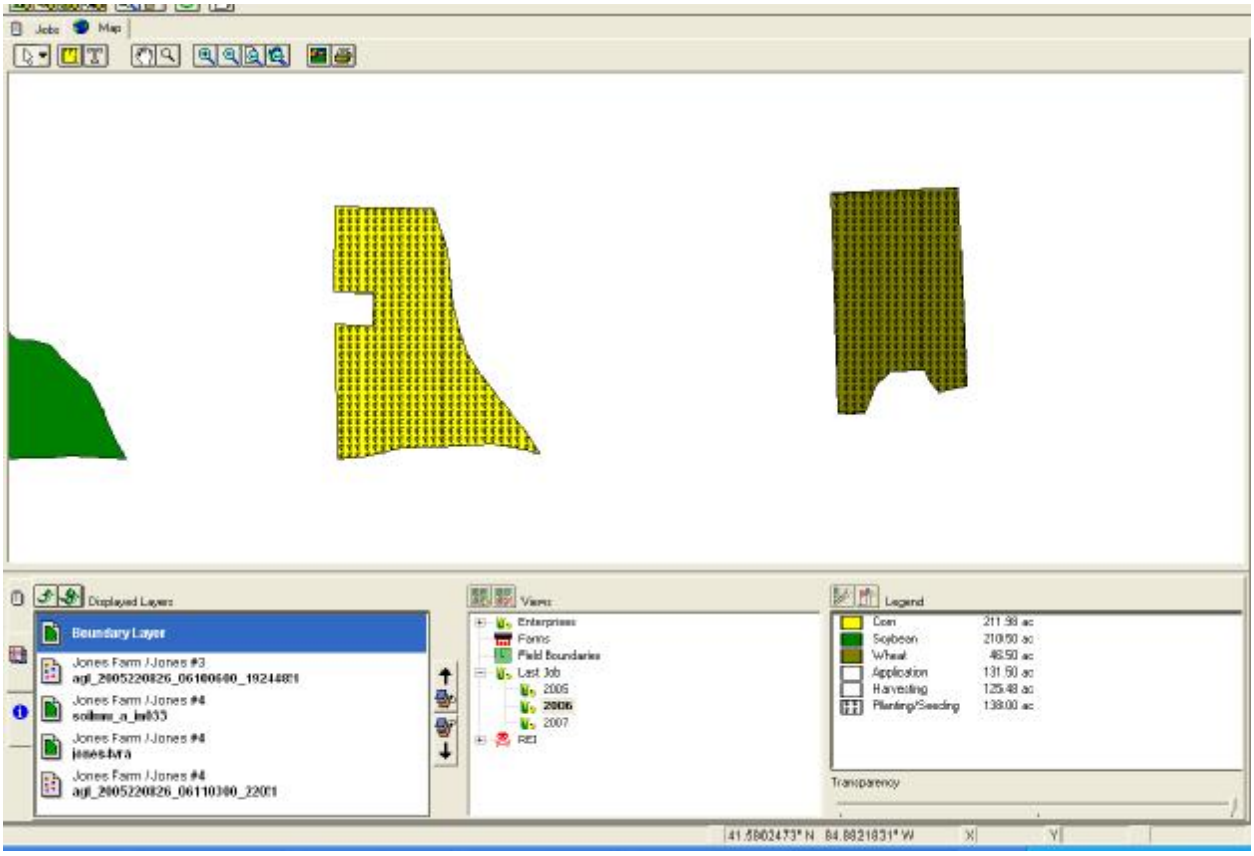
2. In the **Operation Types** dialog box, select the type that you want to assign a pattern to and select the **Edit** button.



3. Choose the pattern to assign to the job type and press **OK**.

4. Any field that had that operation performed on it last will now display the selected pattern. The color will still show the crop enterprise as selected in the previous section.

5. In the **Views** box, you will have to select the crop year under **Last Job**.



Creating Crop Zones and Job Maps

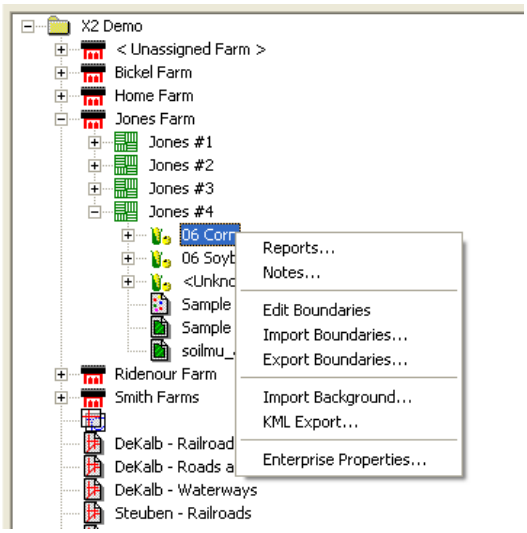
There may be years that you don't plant an entire field to one single crop. You can now split a field into several crops within the same year. You may have corn in half of the field and soybeans in the other. Farm Site allows you to map where these are located.

There also may be times that you perform a job, but do not complete the entire field. You can create a map associated with a specific job to show where that job was performed. This can be useful to show where in the field different varieties are located.

1. In the **Farm** box, right click on the crop enterprise that you want to edit and select **Edit Boundaries**. If you click on the field name, it will edit the boundary for the entire field, in contrast, when you click on a specific crop enterprise, it only edits that year's crop enterprise.

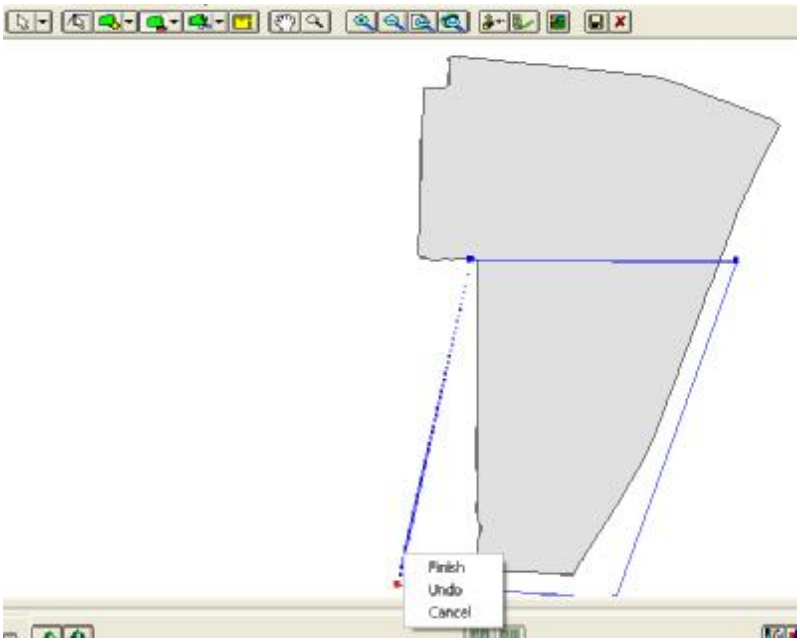
OR

To create a map for a job that does not have a layer associated with it, right click on the job and select **Create Layer**.



2. The **Map-Editing** toolbar will appear where you can use the same tools used to create and split field boundaries.

3. For example, to split a field in half, use the **Exclude Polygon** tool and highlight the portion of the field that will not be included in the crop enterprise.



4. Right click and select **Finish** to exclude that portion of the field from the enterprise or job.

5. If editing the enterprise, you will now need to edit the boundary for any other enterprise in the field, excluding the other portion so the field is split into two separate parts.

For more information on using the map-editing tools and drawing field boundaries, see the appropriate section of this manual

Using Yield and As-Applied Maps

Farm Site has the ability to import data from yield or as-applied maps. The program works with data from many different yield monitors and variable rate controllers and provides a Smart Import Wizard to help you quickly and easily create maps.

Farm Site automatically creates legends based on the data in the imported file. The program also reads site verification data that shows where you applied different seed varieties, chemicals and fertilizers, as well as variable rate application data. Depending on your yield monitor and the type of file storing your data, you may be able to display attributes for altitude, distance, duration, dry yield, flow, markers, mass yield, moisture, region, swath width, and wet yield data to name a few.

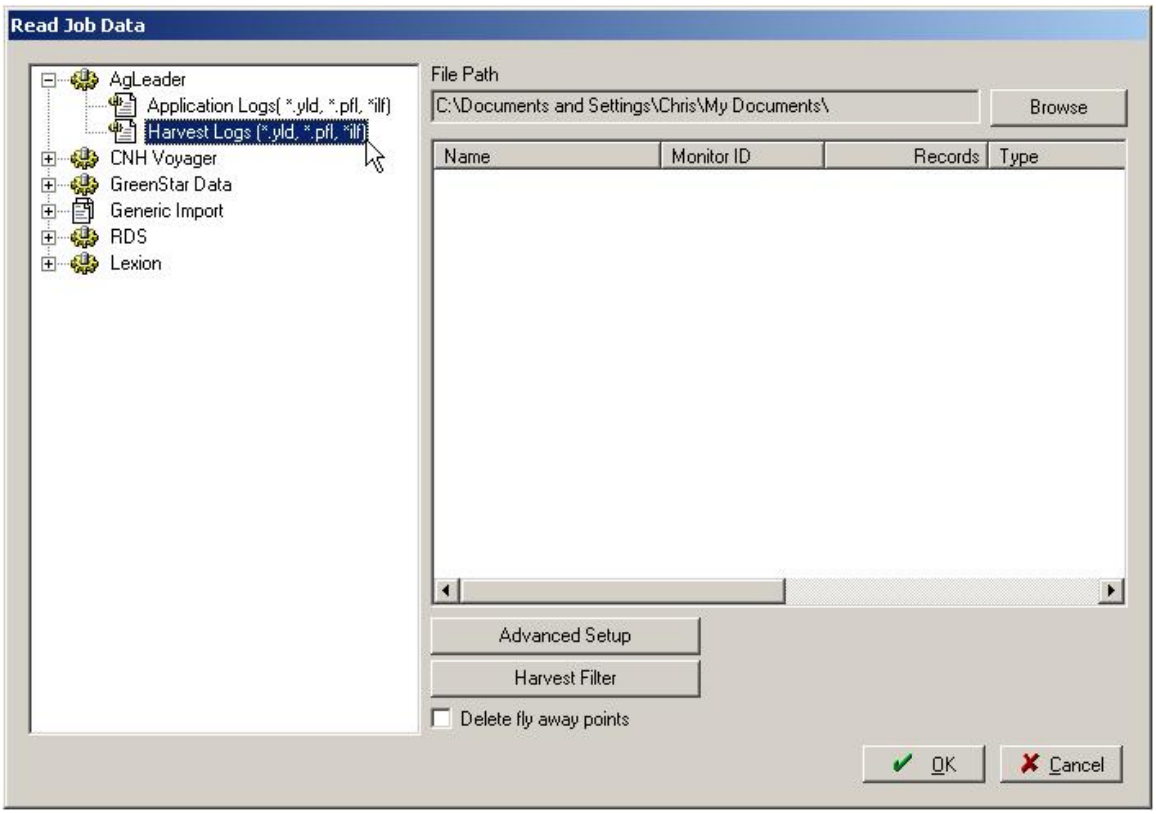
Importing Yield and As-Applied Data

Importing yield and as-applied data into Farm Site is an easy process with the program's Smart Import Wizard. Just insert the storage card from your variable rate controller or yield monitor into the card reader of your PC or laptop and select the Read Job Data option. The Smart Import Wizard then guides you through each step of the process.

To import as-applied or yield data into Farm Site:

1. Select **Read Job Data** on the **File** menu, or select the **Read Job Data** toolbar button on the Job/Resource Tools toolbar.

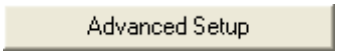
2. In the left-hand column of the **Read Job Data** dialog box, select the plus sign next to the type of monitor that the data was collected with and then select the specific data type underneath it. This will filter the files shown in the right hand side of the box. Only the type of files selected will display.



3. Under **File Path**, select the **Browse** button to find the storage card or folder where you saved the yield or as-applied data.

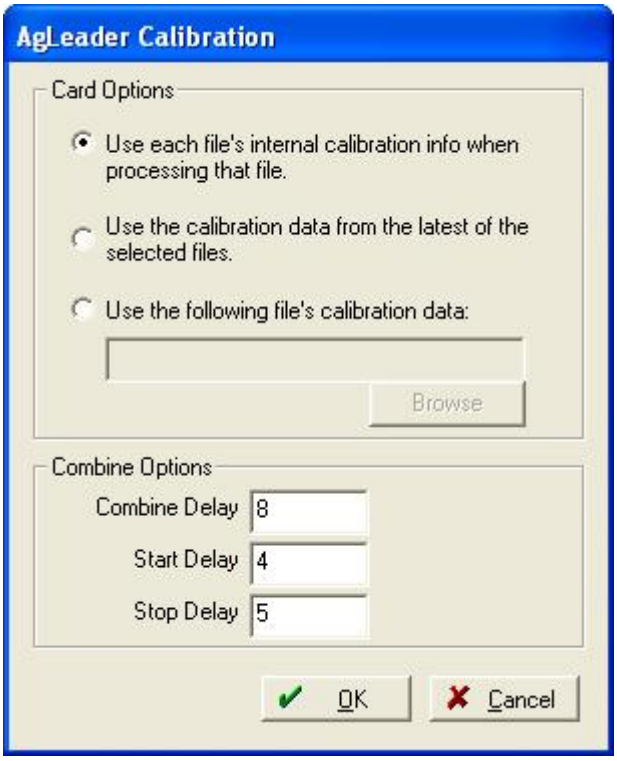
4. In the **Open** dialog box, locate and select one of the files that contain the data. Only the type of files that were selected will show in the list.

5. All of the files within the folder that was selected that are the same file type will now show in the **Read Job Data** box. Choose the file(s) to import by highlighting each one. To select multiple files, hold down the **Ctrl** key while selecting.

6. Press the 

button to change calibration and combine delay options.

    - Choose the appropriate Card option for calibration. If the monitor has been calibrated properly, generally the first option is the best choice for importing yield data. It will use each file's internal calibration info when it processes the file. This prevents using incorrect calibration data.



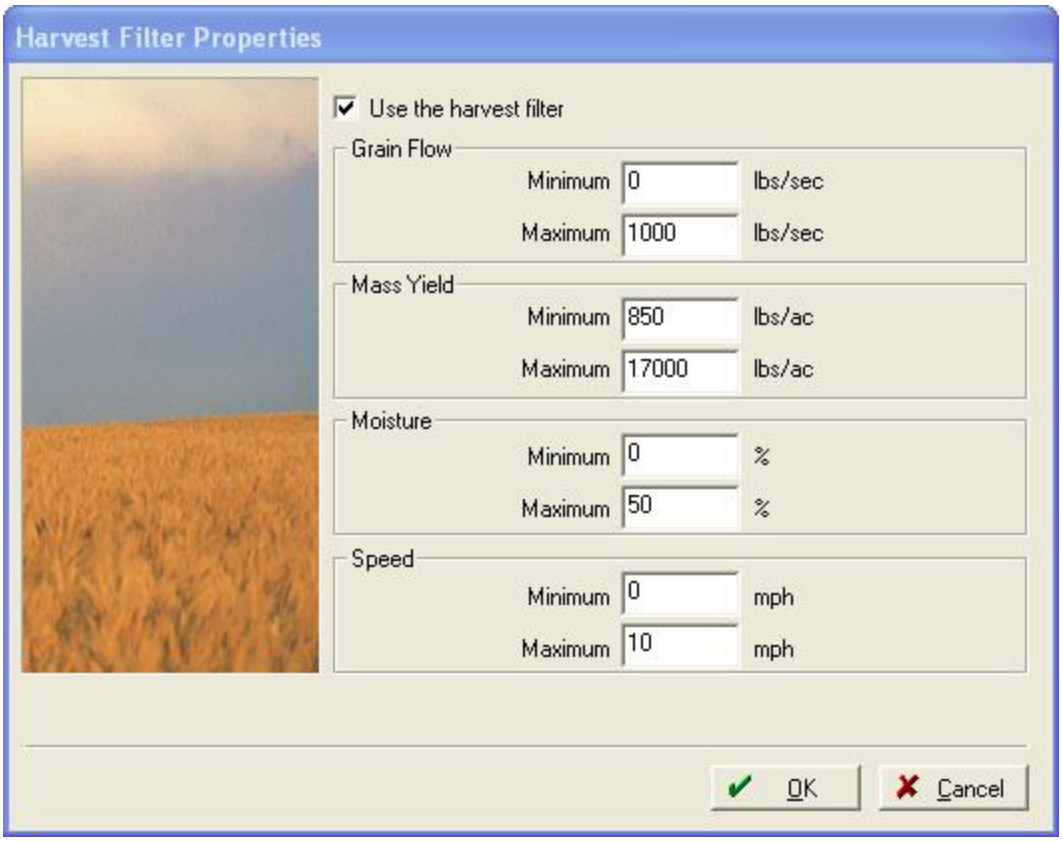
- Under Combine Options, enter the appropriate delays. These numbers will vary by combine.

  - § The combine delay sets the time from when the crop enters the header until the grain strikes the mass flow plate. If this value is incorrect, you will notice a "jagged" appearance from one pass to another in your high and low yielding areas.

  - § The start delay is the time it takes from when the header goes down until data should start to be counted. If this is too long or too short, you may notice gaps when entering each pass or very low yielding areas at the start of each pass.

  - § The stop delay is the amount of time from when the header goes up until data should not be included. If this value is incorrect, you may notice gaps when coming out of each pass or very low yielding areas at the end of each pass.

7. Press the Harvest Filter button to filter out any data that might be considered bad data.

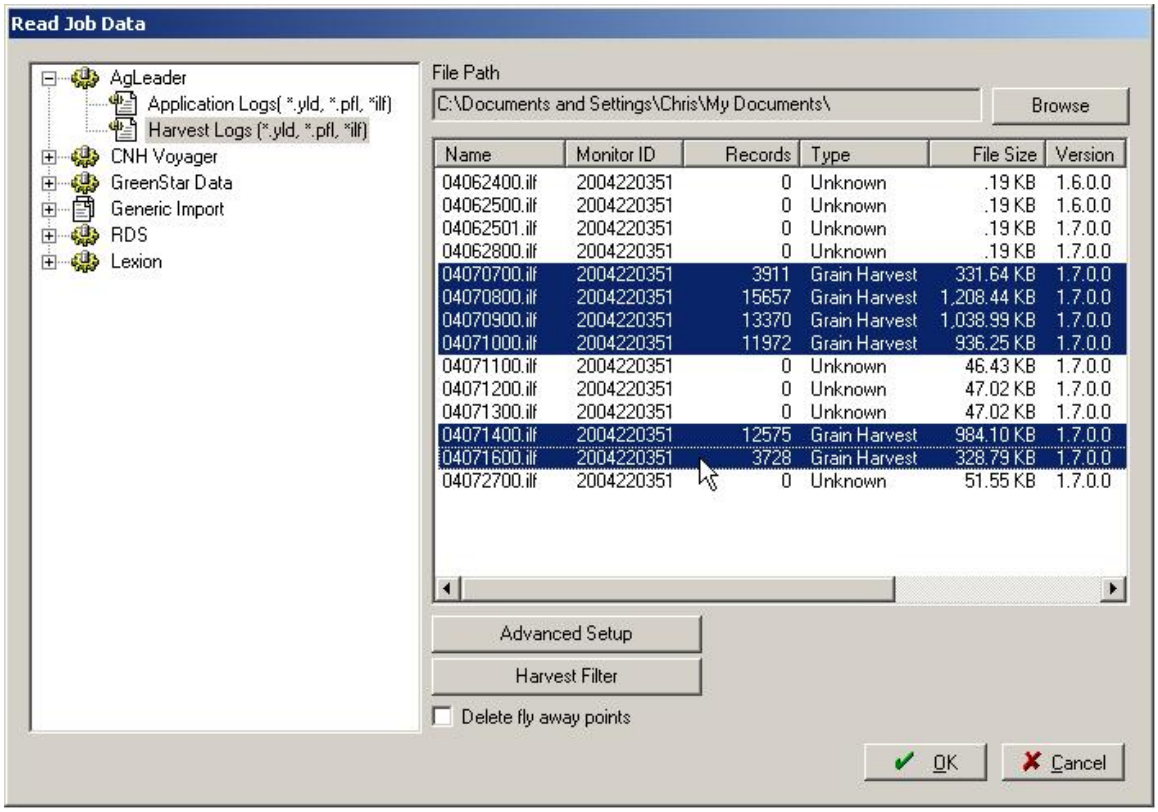


- Place a checkmark in the box beside **Use the harvest filter**.

- Enter values in any of the items to attempt to filter out incorrect data. Minimum and Maximum filters can be set for Grain Flow, Mass Yield, Moisture, and Speed. You can use as many filters as needed, but be cautious about being too strict with a filter. If a filter is too strict, good data may get filtered out.

- These filters can also be modified once the file is imported if needed.

8. Choose the **Delete fly away points** check box to have the program filter out any points that are away from the field because of bad GPS data. It is a good idea to check this box, but with the quality of GPS receivers today, it is rarely needed. If portions of the map are missing after being imported, re-import the data and remove the checkmark in this box.



9. Select **OK** and Farm Site will show the import progress as it reads each of the files.

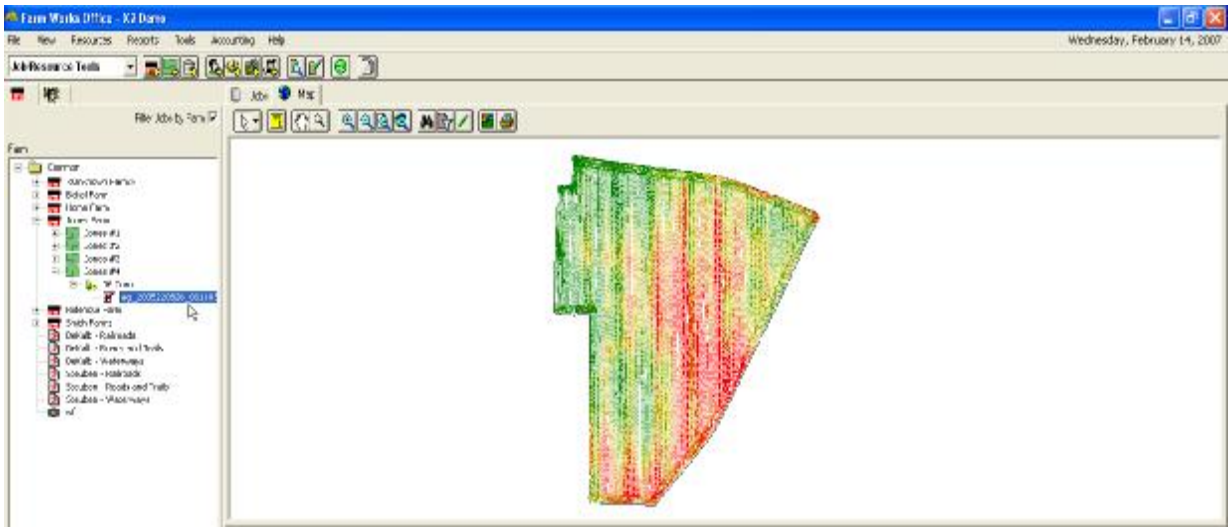
10. The **Linker** dialog boxes will now appear. These will link resources used during the operation with resources on your desktop computer. Any new fields will be added here as well. For more information on linking resources, see the appropriate section of this manual.

11. In the **Farming** dialog box that appears, enter any necessary information for the farming operation(s) and select **OK**. Jobs can also be edited later under the **Jobs** tab. (for instructions on how to edit a farming operation, see the *Farm Trac Reference Guide*)

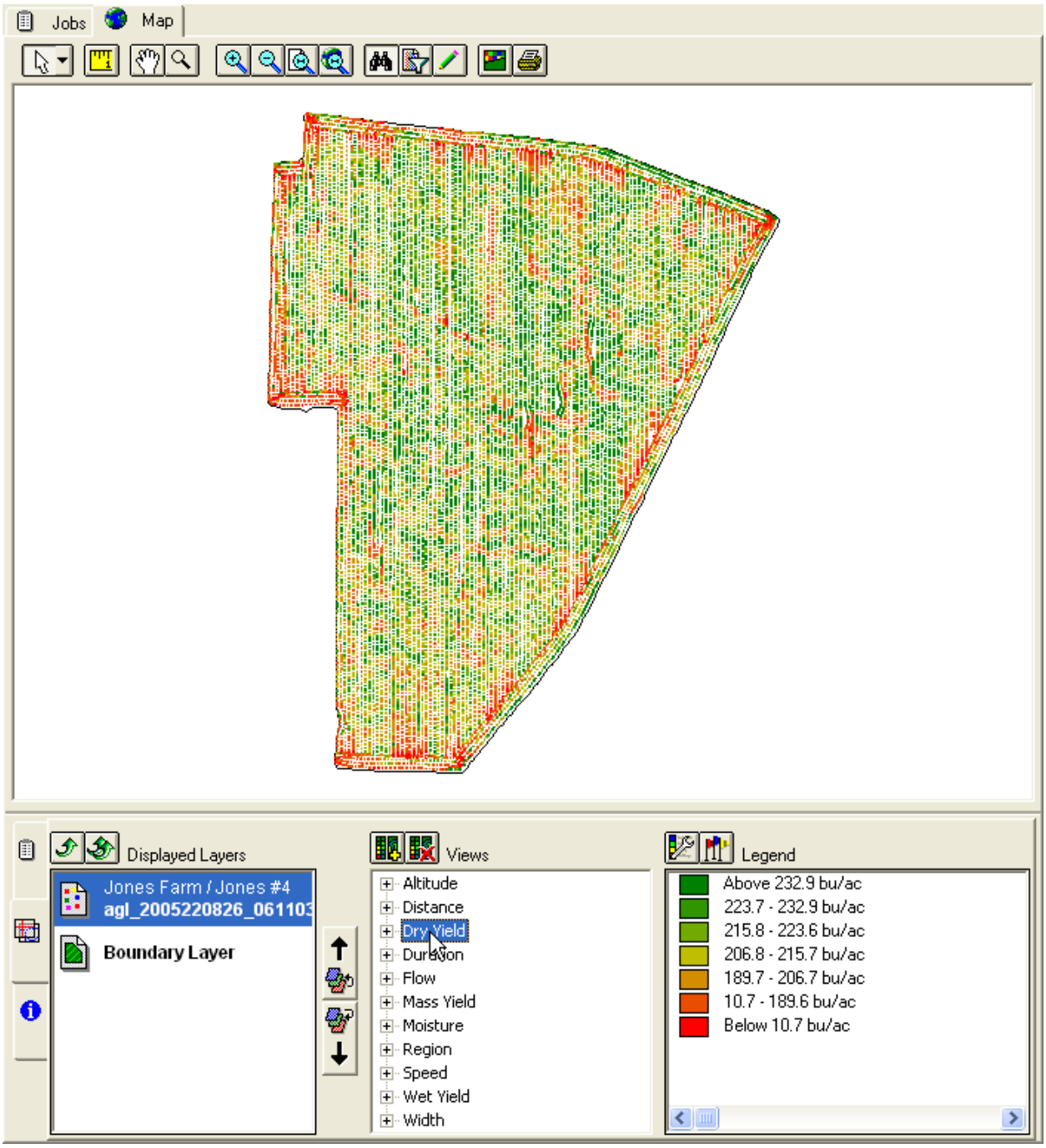
12. Farm Site adds the yield or as-applied maps to the **Jobs** box under the appropriate **Farm** and **Field**. To view the imported map:

    - Make sure that **Show Jobs In Land Areas** is checked on the **View** menu.
    - Select the **Map** tab.
    - Select the **Farm** tab and locate the job under the applicable farm and field.

- Double-click the job with the yield or as-applied data and Farm Site will display the yield or as-applied points data map in the **Map** box.



13. To see the display of a different data type, select the **Layers** tab, select the points layer in the **Displayed Layers** box, and select the data you want to display in the **Views** box. For more information on viewing yield data and modifying views, see the following sections.

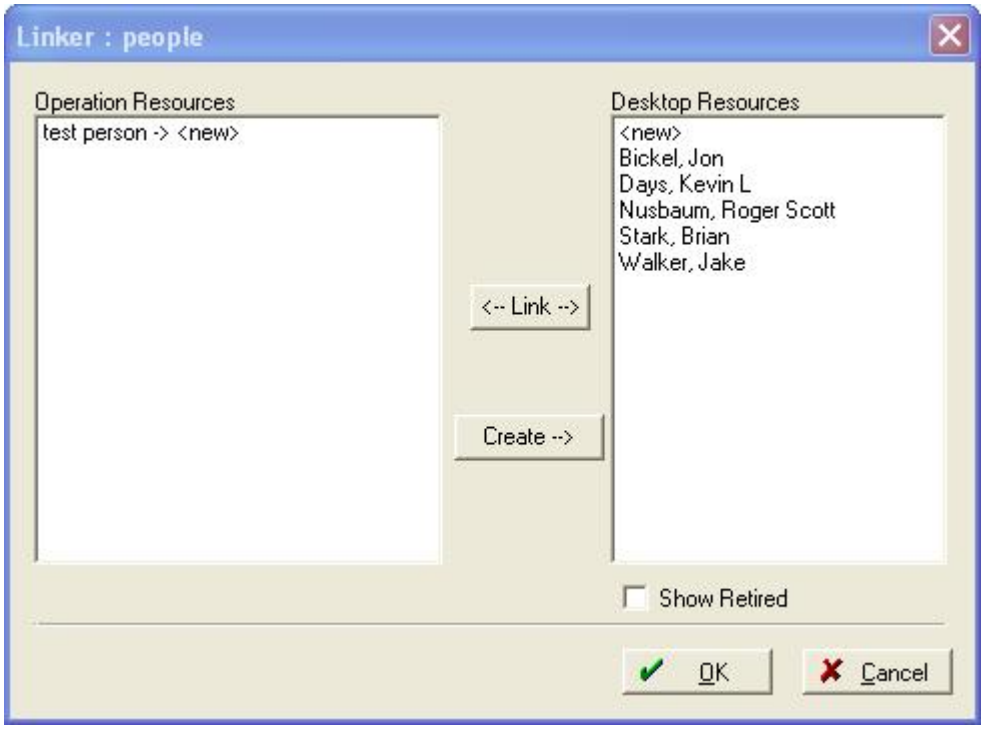


Linking Resources

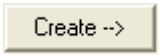
When importing jobs from a data file, there are times that there will be resources and job entry items used that are not entered into the desktop software. Many times, when entering a resource in the field, a different name may be used than what was used in the office. For this reason, the **Linker** dialog box shows when importing jobs to either create new resources or "link" them with

current ones. If they are linked, Farm Works will assume that the two different items are actually one.

1. When importing data, the **Linker** dialog box may appear. Two lists of resources will be listed: **Operation** and **Desktop**. If there are items in the **Operation** box, they have to be either created or linked with the **Desktop Resources**.



2. Select an item in the **Operation Resources** box.

3. If it is a new item, press the 

button. Enter all of the applicable information in the screen that appears about that item. This will create a new resource in the desktop software.

4. If the item is the same as an item already listed under **Desktop Resources**, highlight both resources and select the

button.

5. If the Resource does not show up under the **Desktop Resources**, it may be a retired item. Place a checkmark beside **Show Retired** and it should now show in the list.

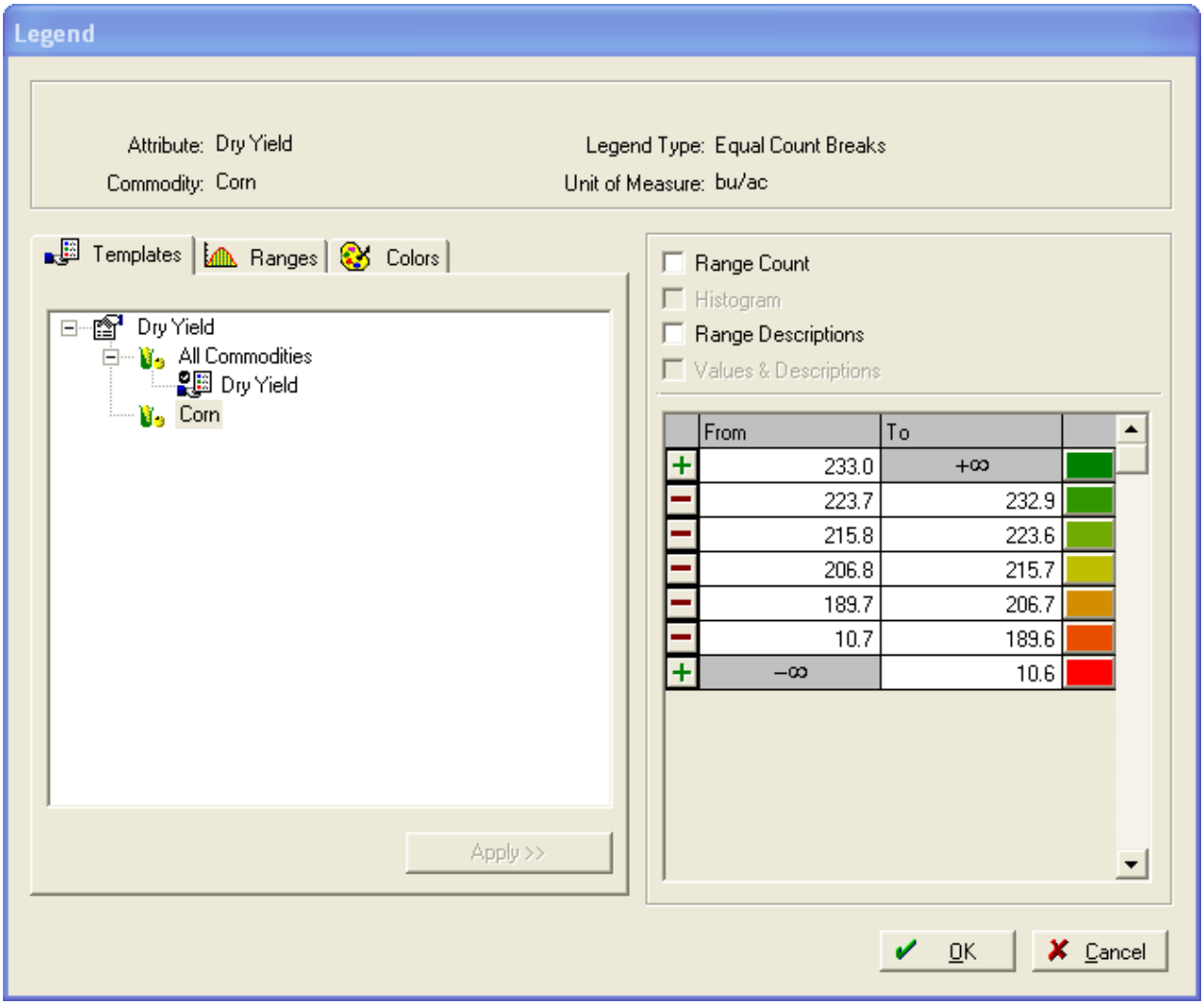
6. Once all items are linked or created, press **OK**.

Editing Legends

After you import yield or as-applied data into Farm Site, the program automatically creates a legend. You have the option of changing the color scheme for the yield or as-applied maps to suit your needs. Farm Site will also allow you to add additional information to the legend, such as a description for each color range.

To edit the legend for an as-applied or yield map:

1. Display the map by double clicking on the job under the **Farm** tab. Make sure **Show Jobs in Land Areas** is checked on the **View** menu.
2. Select the **Layers** tab.
3. In the **Views** box, select the data for which you want to edit the legend.
4. Select the **Legend** button to open the **Legend** dialog box.



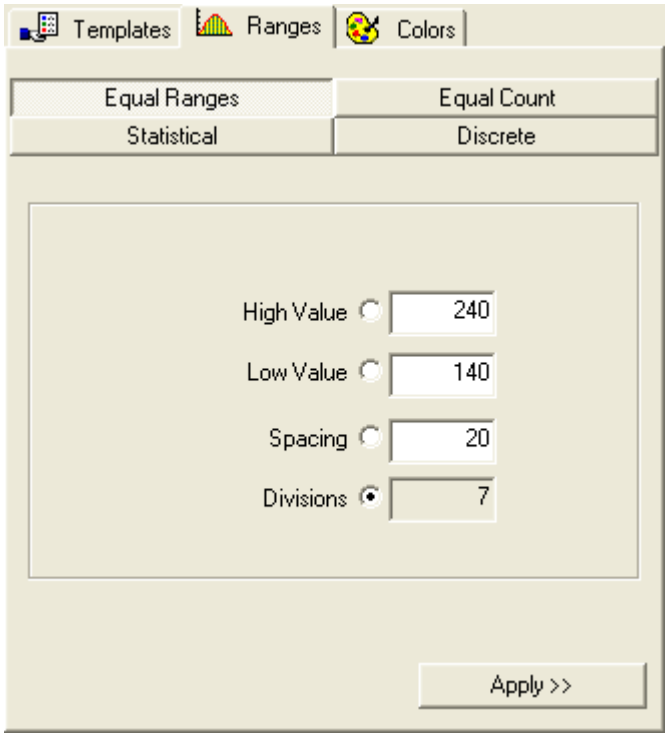
5. There are several ways of changing a legend to give a map a different appearance. You can create templates to give all maps of one type a specific legend, you can use ranges calculated by the program, create your own ranges, and change the colors displayed in the legend.

6. To use ranges created by the program:

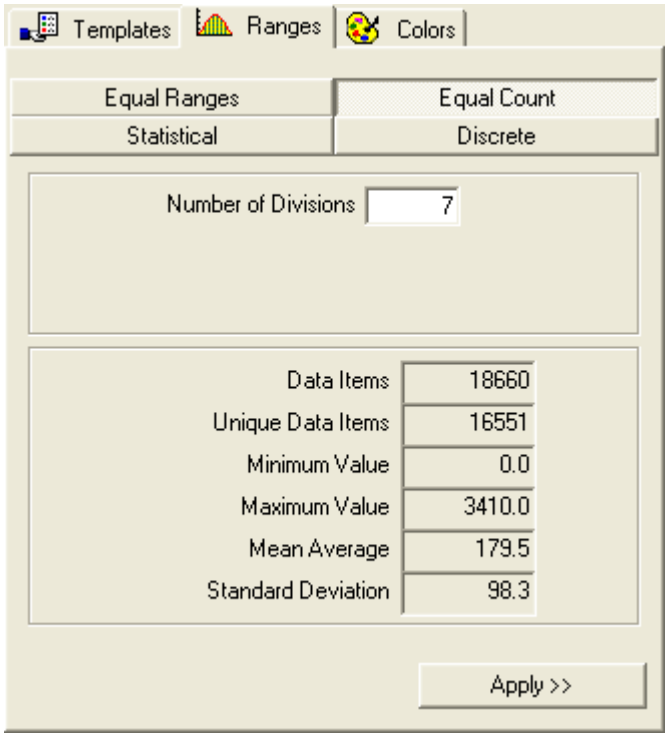
   - Select the

tab. There are four different options that the program uses to calculate ranges.

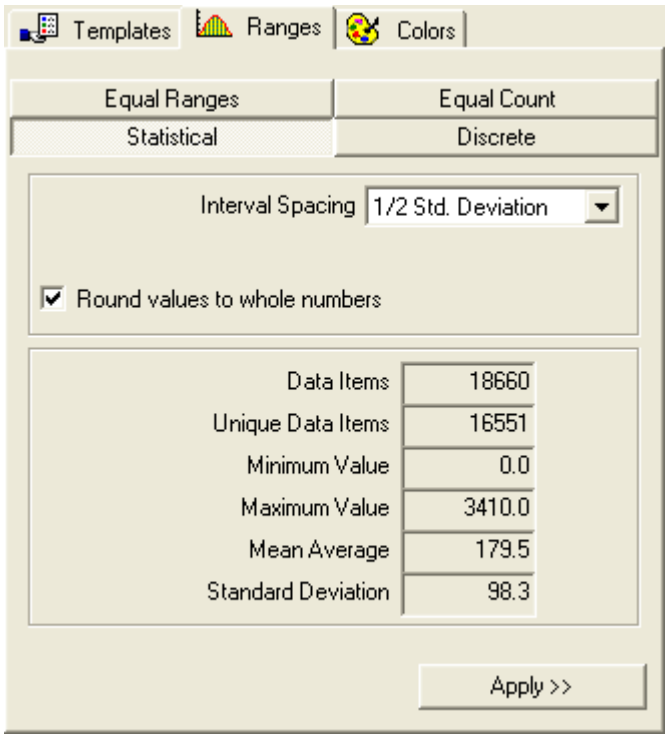
     § Equal Ranges makes each range the same size. Ex. Each range is 20 values. (10-20,20-30,30-40, etc) You must enter 3 of the 4 following values: High value, Low Value, Spacing, or Divisions. The program will calculate the fourth value for you.



     § Equal Count places the same number of points in each range. You must enter the number of divisions you want the legend to have and it will calculate where the division breaks are.



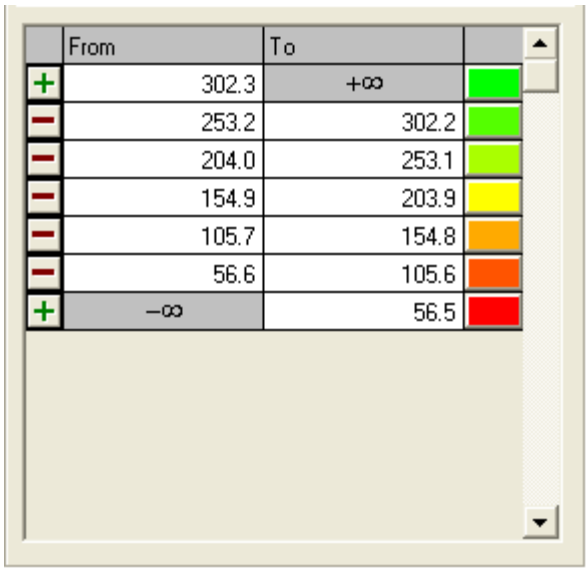
§ Statistical calculates ranges based off of the calculated standard deviation of the points in the layer. 1 standard deviation includes 68% of all points (centered on the average). Choose the interval spacing in standard deviations (1, ½, or ¼). You may also choose to round the range values to whole numbers to give the legend a cleaner look.



- § Discrete ranges are generally not a good choice for yield data. This option will create a separate range for each discrete value in the layer. This is used more for attributes that do not have many distinct values.

- § Equal count, Statistical, and Discrete ranges give you statistical information about the data in the layer. The number of items (points), the number of unique values, minimum and maximum values, the average (mean), and the standard deviation are all calculated for you. These can help when deciding which type of range to use to view your data.

- § You can also enter your own custom ranges by entering minimum and maximum values for each range. When you enter a minimum value for a range, the program enters the maximum value for the range directly below it and vice versa. To add a range, select the + button at the top or bottom of the ranges. To delete a range, select the − button to the left of it.



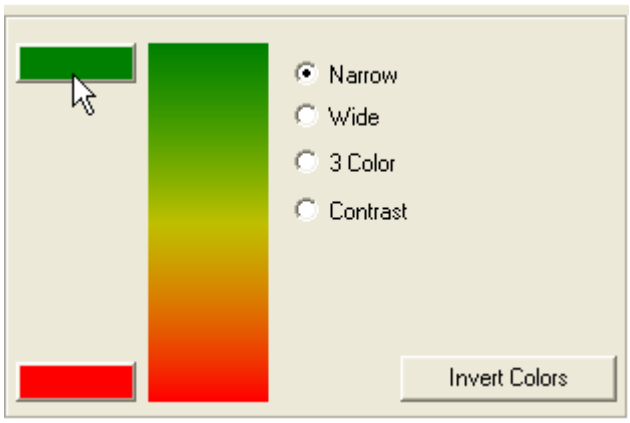
- When you have selected which type of range you want to use, press the Apply >> button.

7. To change the colors displayed in the legend, select the Colors tab.

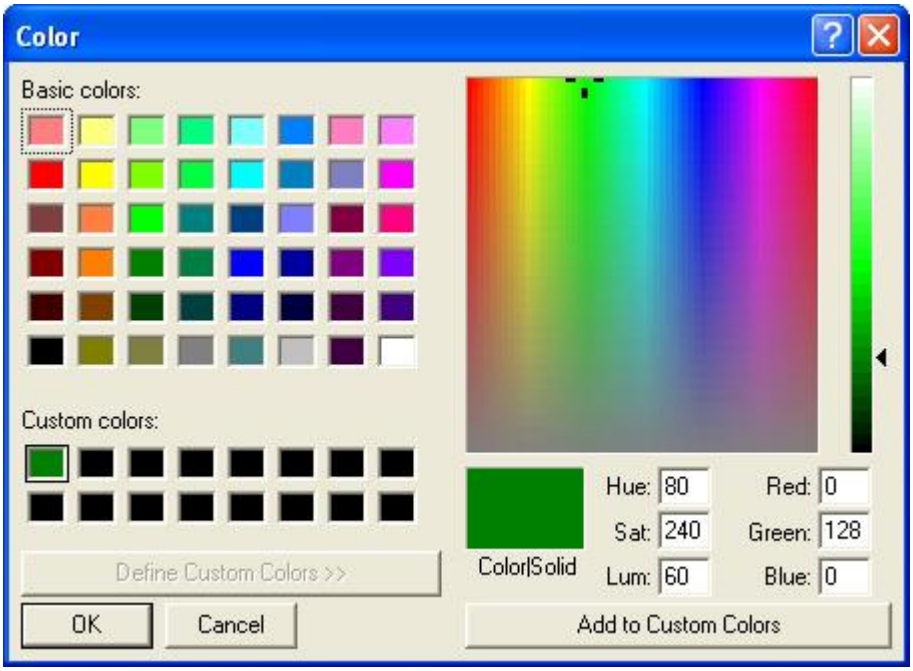
- You can use color ranges created by the program or select your own. Color schemes can be saved for use on multiple layers. There are four color range options that the program uses.

- § Narrow spectrum allows you to choose the top and bottom colors and the program creates a spectrum in between based on three basic colors. To

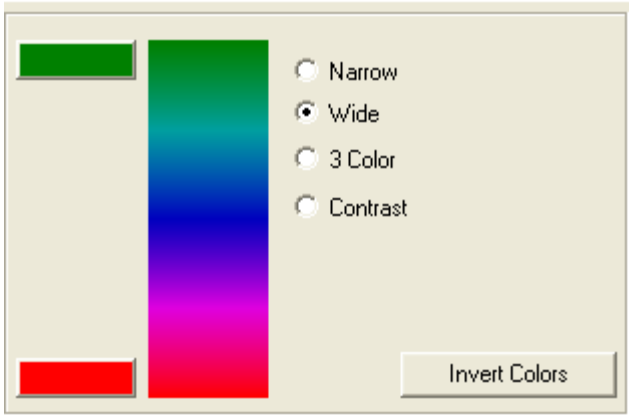
select the colors, click on the color button at the top or bottom of the spectrum.



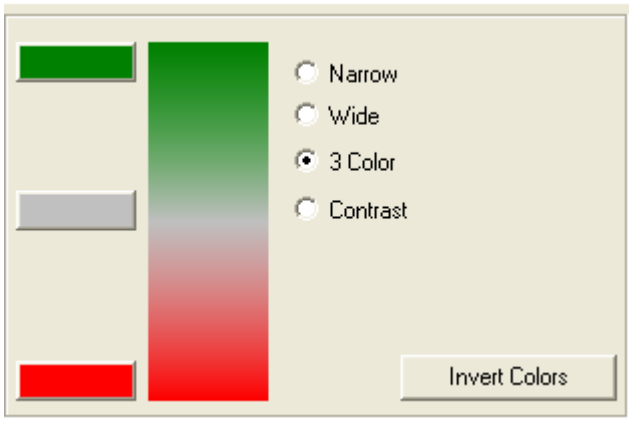
§ This brings up the color palette where you can select basic or custom colors for the spectrum.



§ Wide spectrum also allows you to choose the top and bottom colors, but bases the spectrum on 5 basic colors.



§ 3 Color spectrum is similar to Narrow spectrum, except it allows you to choose the center color.

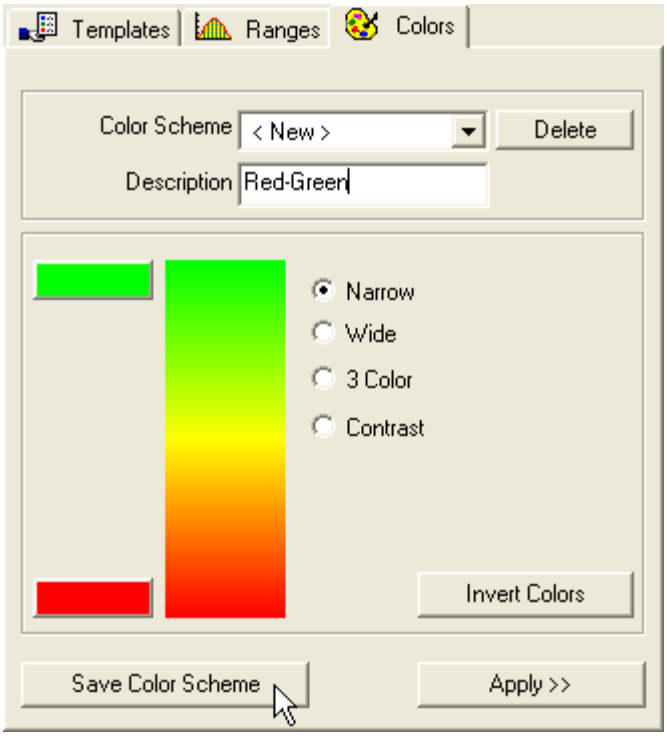


§ Instead of creating a spectrum of colors, Contrast gives each consecutive range a contrasting color. This allows you to distinctly tell the difference between each range. This is generally not a good choice for yield maps as you cannot differentiate between high and low values as easily.

- The

button inverts the colors from top to bottom.

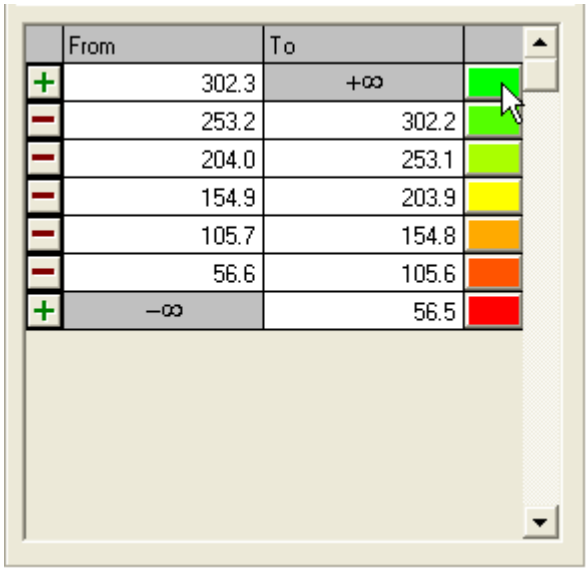
- To save a color scheme for later use, enter a description for the scheme and press the Save Color Scheme button. The scheme name will now show in the drop down list.



- To delete a saved color scheme, choose it in the drop down list and press the Delete button.

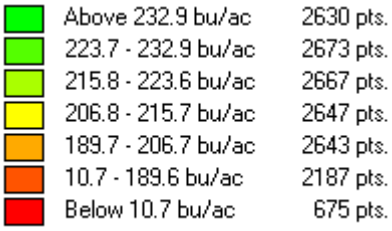
- When you have chosen the colors to be displayed in the legend, press the Apply >> button and the program places the select colors or spectrum beside each range in the legend.

- You can choose individual colors from the color palette for each range by selecting the color button beside the range you want to change.

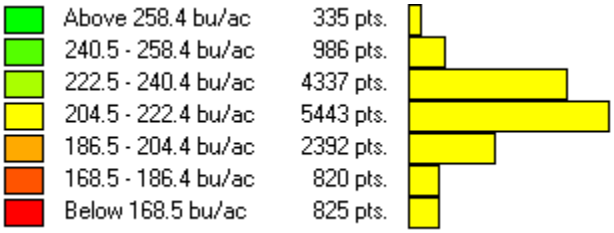


8. There are four options that can be displayed on the legend for a layer.

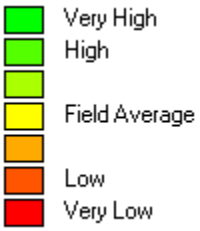
- Range Count displays how many individual values (points) are in each range. If equal count was used, each range should have approximately the same number of points in them.



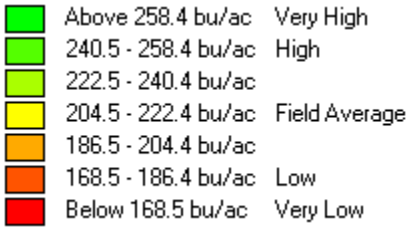
- Histogram displays a chart comparing the number of values in each range. If a statistical range is chosen, the histogram should appear as a "bell curve".



- Range Descriptions allows you to enter a description beside each range. This can be helpful when explaining a map to somebody that the numbers will not mean anything to.



- Values & Descriptions displays the values for each range as well as the description entered.



9. To save a complete legend as a template to be used later, select the Templates tab. This can be helpful when comparing maps. If the same legend is not used for each map, the map color can be deceiving. Ex. Use the same legend for all corn yield maps and a different one for all soybean yield maps.

- You can add a template to be used for a specific commodity or all commodities. To add a template, right click on the commodity to add it to and select **Add**. Enter the name to save the template as.

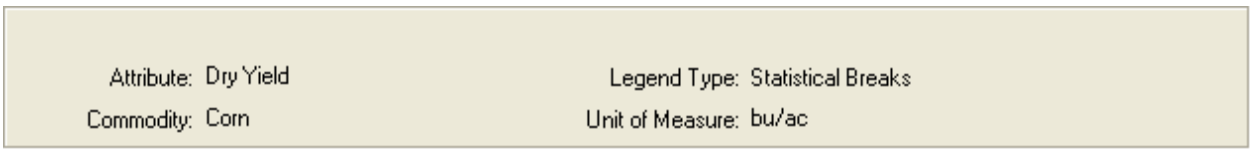
- To use a template that was previously created, select the template and press the Apply >> button. You can also right click on the template name and select **Apply**.

- To make a created legend the default for a certain attribute in a layer, right click on the template and select **Default**.

- To change a saved template, make any range and color changes, right click on the template name, and select **Update**.

- To delete a saved template, right click on the template name and select **Delete**.

10. The top area of the Legend dialog box displays information about the legend that is currently being displayed.



11. When finished modifying the legend, press **OK** and Farm Site will apply the created legend to the attribute on the selected layer.

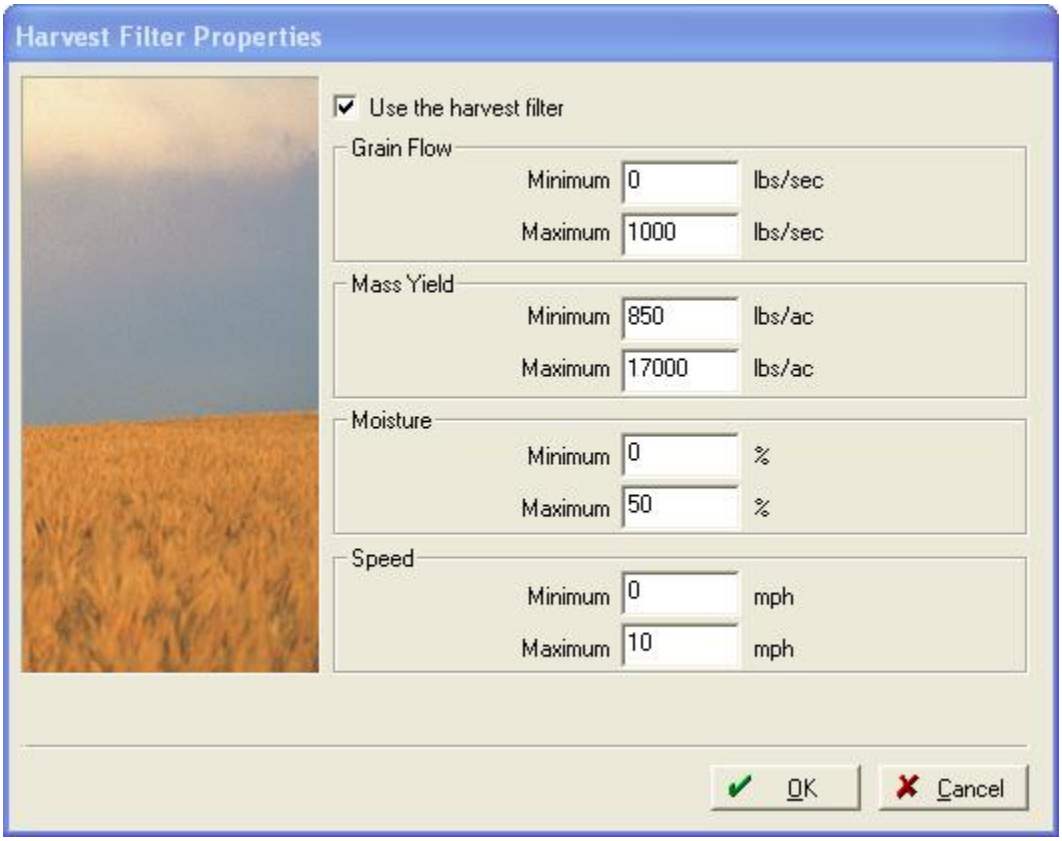
Using the Harvest Filter and the Show Me Button

There are times when yield or as-applied data is imported into Farm Site that there is data that is considered invalid. Bad GPS data, incorrect flow readings, etc. can all cause invalid data. This data can be filtered using the Harvest Filter.

When viewing yield or as-applied data, you may be interested in a certain mapped attribute or property and want to see only data that meets certain conditions. This can be useful when analyzing yield data, for example. The Show Me feature hides data from display based on user defined conditions.

To enable and/or modify the Harvest Filter:

1. On the Map tab, select the Harvest Filter button.



2. Place a checkmark in the box beside **Use the harvest filter**.

3. Enter values in any of the items to attempt to filter out incorrect data. Minimum and Maximum filters can be set for Grain Flow, Mass Yield, Moisture, and Speed. You can use as many filters as needed, but be cautious about being too strict with a filter. If a filter is too strict, good data may get filtered out.

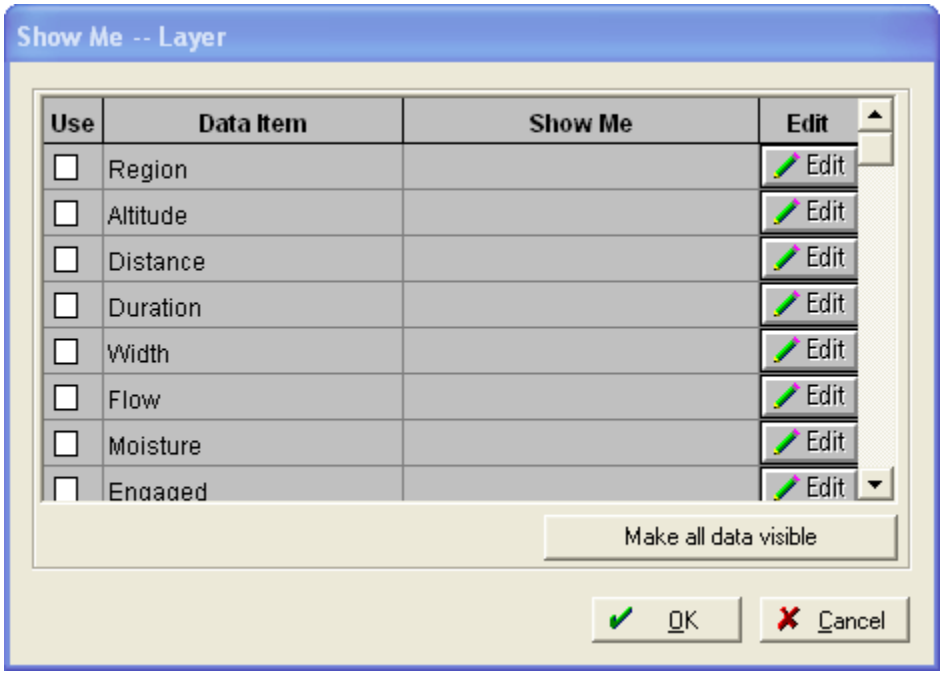
4. Press **OK** and Farm Site will remove any data that falls outside of the conditions set in the filter. This data is not permanently deleted, it is only temporarily filtered.

5. You can always remove or modify the harvest filter by pressing the Harvest Filter button.

Using the Show Me feature:

1. On the

tab, press the **Show Me** button.



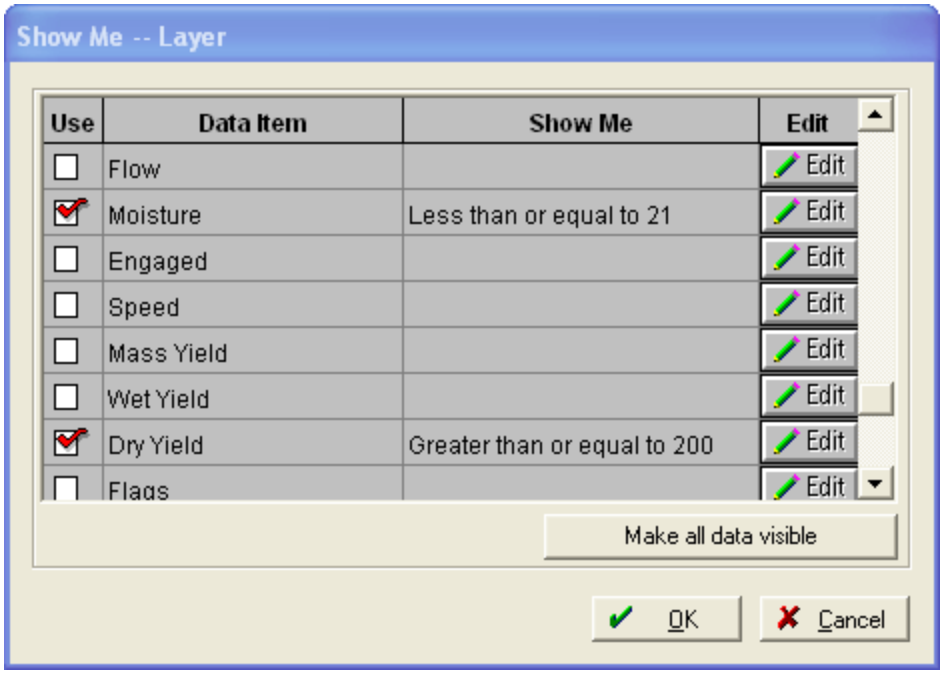
2. All of the attributes that can be filtered are listed under the Data Item column. To filter one or more of these, select the check box beside each item to filter.

3. If the item has choice data or distinct values (markers, engaged, etc) tied to it, it will list the available choices when the **Use** box is checked. Highlight all items that you want to be displayed and Farm Site will hide all other data points. If the data item has numbers tied to it, you will enter a range to display and Farm Site will hide all data that does not meet the conditions entered. The Show Me feature does not permanently delete data points, it only temporarily hides them for analysis.

4. Several items can be filtered at the same time, however, if the constraints are too tight, little or no data will show on the map when the filter is used.

5. For example, you may want to see all points that yield above 200 bu/ac but below 21% moisture. Use the following conditions to filter by those constraints:

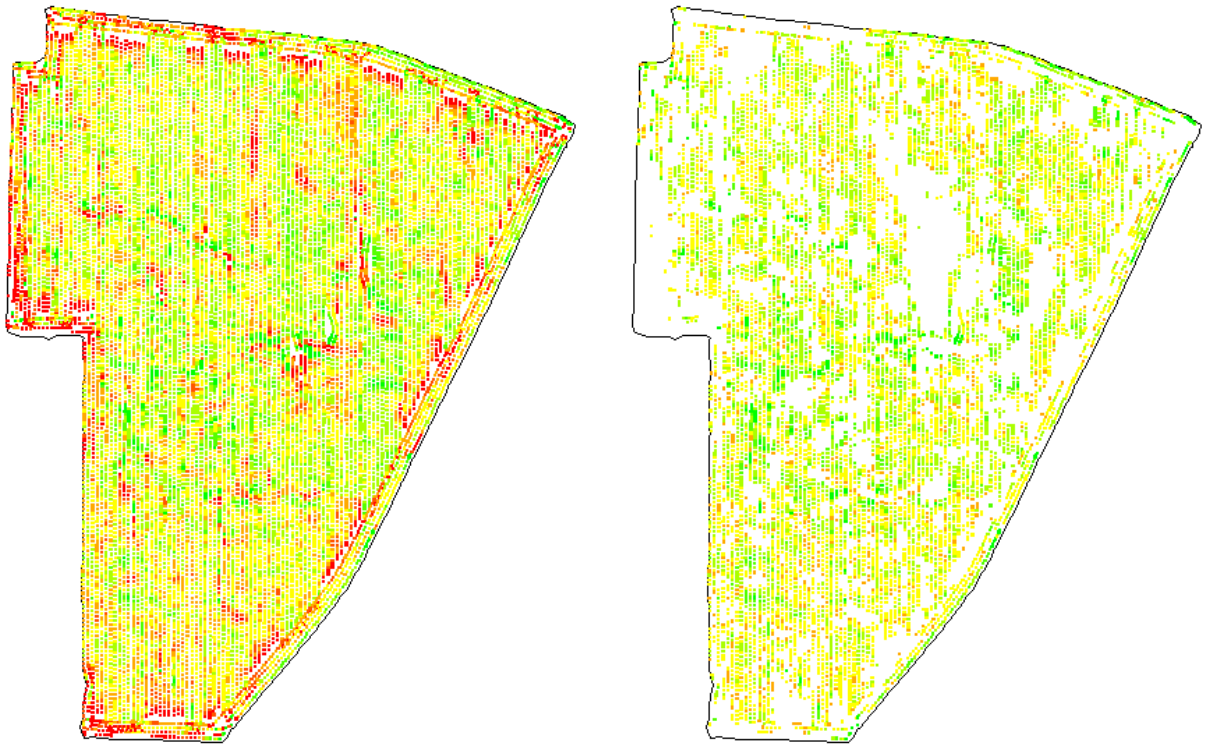
6. The Show Me box will appear as follows:

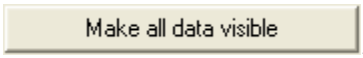


7. Press **OK** to apply the filter.

8. The map will now hide any data that falls outside of the entered constraints.

9. The following maps show before and after the Show Me filter was enabled.



10. To remove the Show Me filter, press the **Show Me** button and select 

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11. You can also change the constraints of the filter by pressing the

button beside the Data Item.

Markers and Flags

Many monitors have the ability to place markers or flags on a map to show the location of obstacles or other points of interest. Rocks, tile holes, and wet spots are all common markers. Farm Site has the ability to display these flags on a yield map for later referencing or printing.

To view markers (flags) on a yield or as-applied map that items have been mapped:

1. Select the **Markers** button.
2. In the **Markers** dialog box, place a check beside the marker that you want to display.
3. Select the symbol that you want to represent the marker.
4. Press the color button beside the symbol to choose a different color for the marker.

5. You can display as many markers as needed.

6. Press **OK** and Farm Site will add the marker symbols to the map where they are located. Marker descriptions will also be listed in the **Legend** box.

Averaging Polygons, Adding Grids or Contours to Maps

When viewing all of the points collected on a yield or as-applied map, it can have a cluttered look. It is also hard, at times, to see patterns across a field. Farm Site allows you to create different views for each layer, such as grids and contours, that can make maps look much better as well as make them easier to analyze. Grid or contoured maps can be used to make variable rate application maps as well. The program also allows you to average all points that fall in a polygon from a different layer. This can be helpful when comparing yields vs. soil types. This process is explained at the end of this section.

Note: A field *MUST* have a field boundary drawn before a grid or contoured view can be created.

To create a different view of a yield or as-applied map:

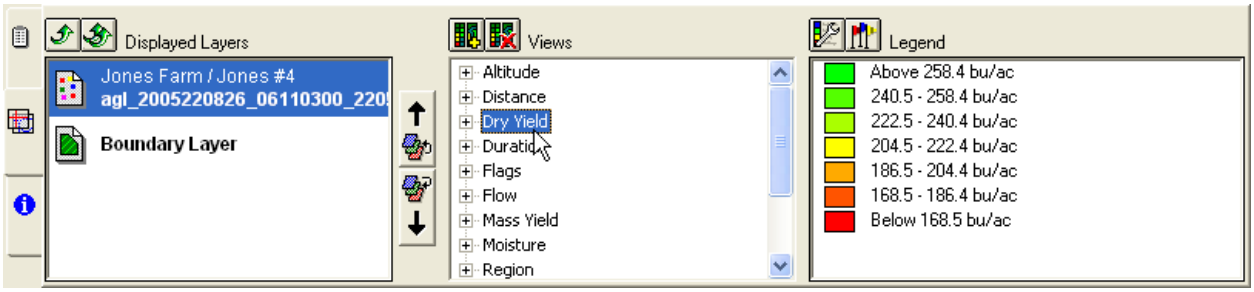
1. Select the **Map** tab

to display the base data for the harvest, spraying, or other job.

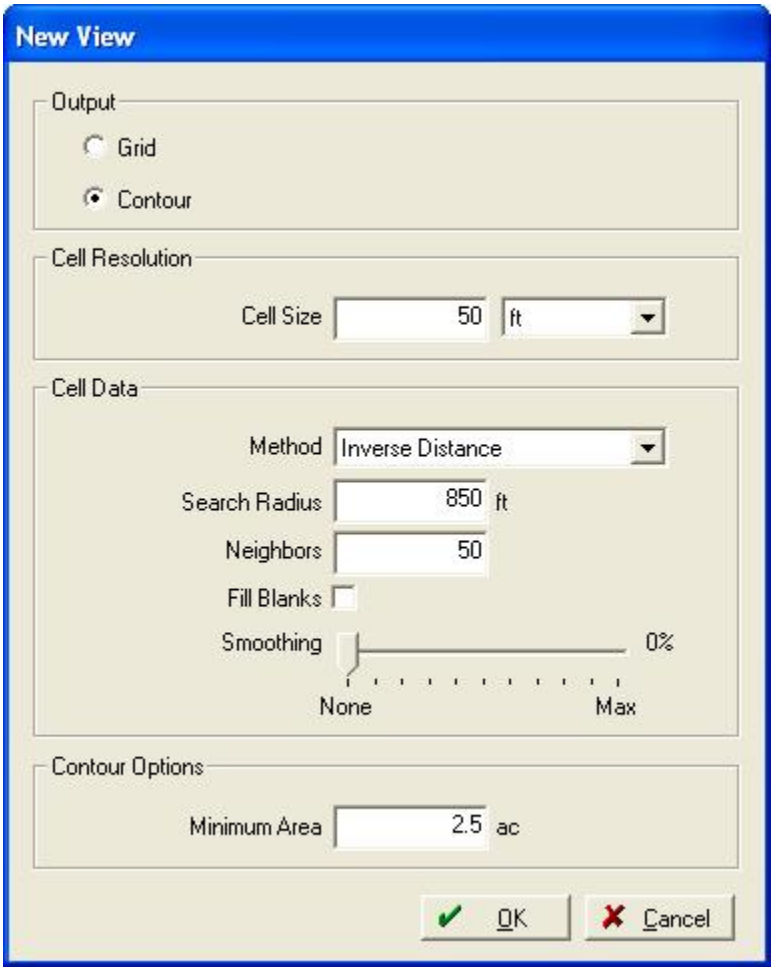
2. Verify **Show Jobs in Land Areas** is checked on the **View** menu.

3. Locate the job in the tree under the **Farm** tab and double click on it to display the map.

4. On the **Layers** tab, highlight the layer to create a new view on, select the data that you want to display in the **Views** box, and select the **Add View** button.



5. Select grid/contour options in the **New View** dialog box.



- Under **Output**, select the type of view you want to create: Grid or Contour

- Enter a cell size for the grid or contour under **Cell Resolution**. A smaller cell size will give more resolution, but will take longer to calculate. Larger cell sizes look "smoother", but may not be as representative of the actual data.

- Choose which method (**Average** or **Inverse Distance**) you want Farm Site to use when creating the new view.

    - **Average** uses all of the points within the cell size entered above and weights them all the same.

    - **Inverse Distance** places more weight on points close to the center of each grid and less on points farther away.

- If **Inverse Distance** is used, enter the **Search Radius** and how many neighboring points to use in the calculation.

- § Search Radius is how far from the center point that it will look for points to average together.

- § The number of neighbors is how many points it will use in the average calculation.

- If there are holes in the data, you may want to select the **Fill Blanks** box so there aren't gaps in the middle of the field.

- The **Smoothing** slider bar makes the map not as choppy and random looking. It smoothes out the transitions between ranges.

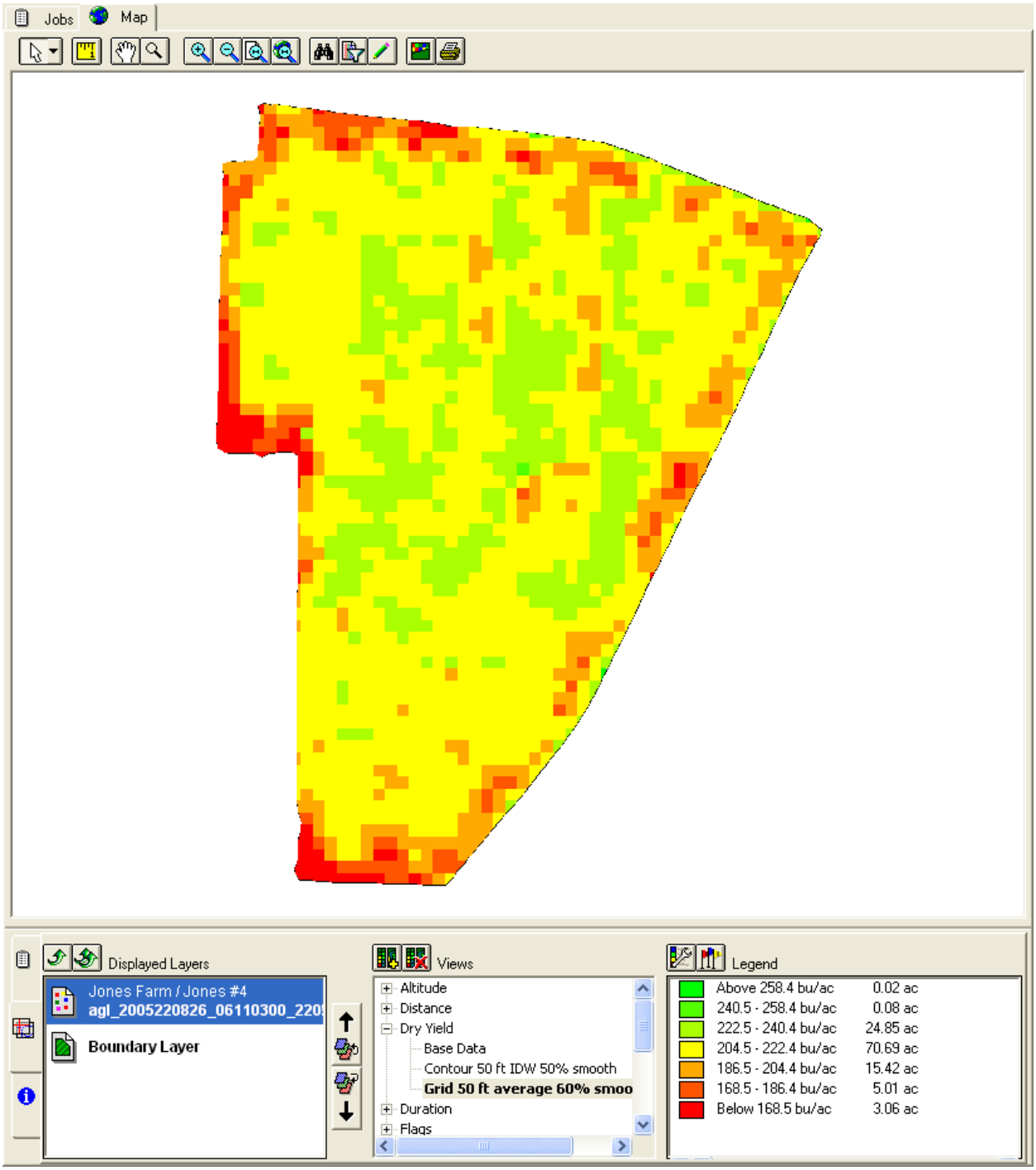
- If Contour is selected, enter the minimum area that each zone can be. Larger minimum areas look smoother, but may not be entirely representative of everything inside that zone.

- There are no correct or incorrect numbers to use when making a grid or contour calculation. Entering different numbers to create more views is the best way to get the look that is most representative of the data.

- Press **OK** when finished and Farm Site will create and display the new view.

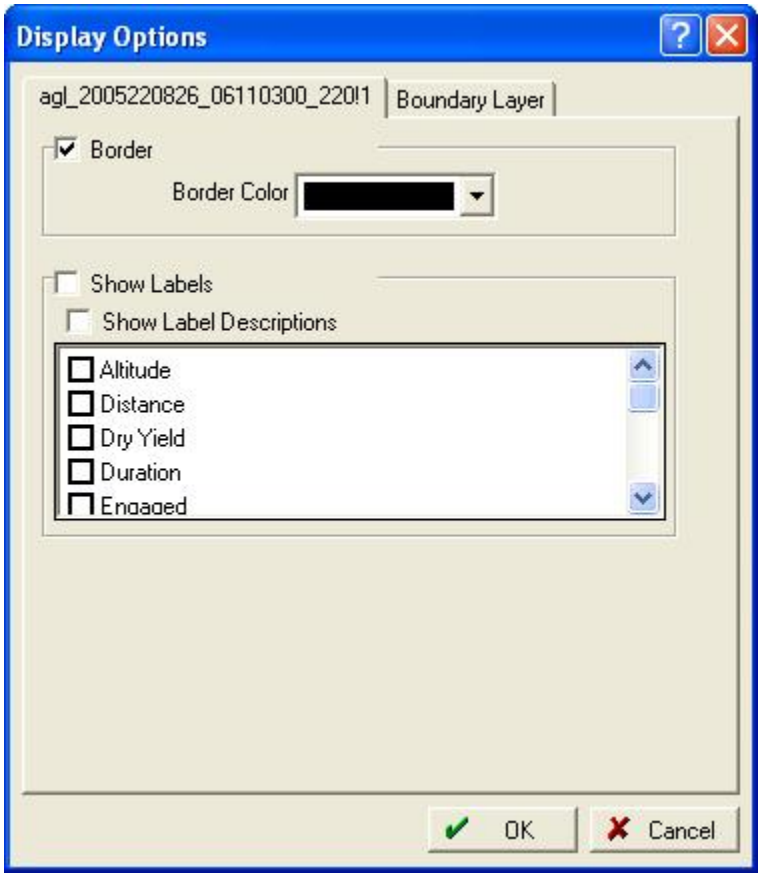
6. Each view created will be listed with a description in the **Views** box. Highlight a view to display it in the map tab.

7. You can view how many acres are in each range for a grid or contour map by displaying the **Range Count** on the legend. For more information, see the legends section of this manual.



8. To put a border line around each contour or grid, select the **Display Options** toolbar button.

    - Put a checkmark in the **Border** box and select the color of the border from the drop down list.



9. Click on **Base Data** to view the original points map.

10. To delete a view, right click on it in the **Views** box and select **Delete View**.

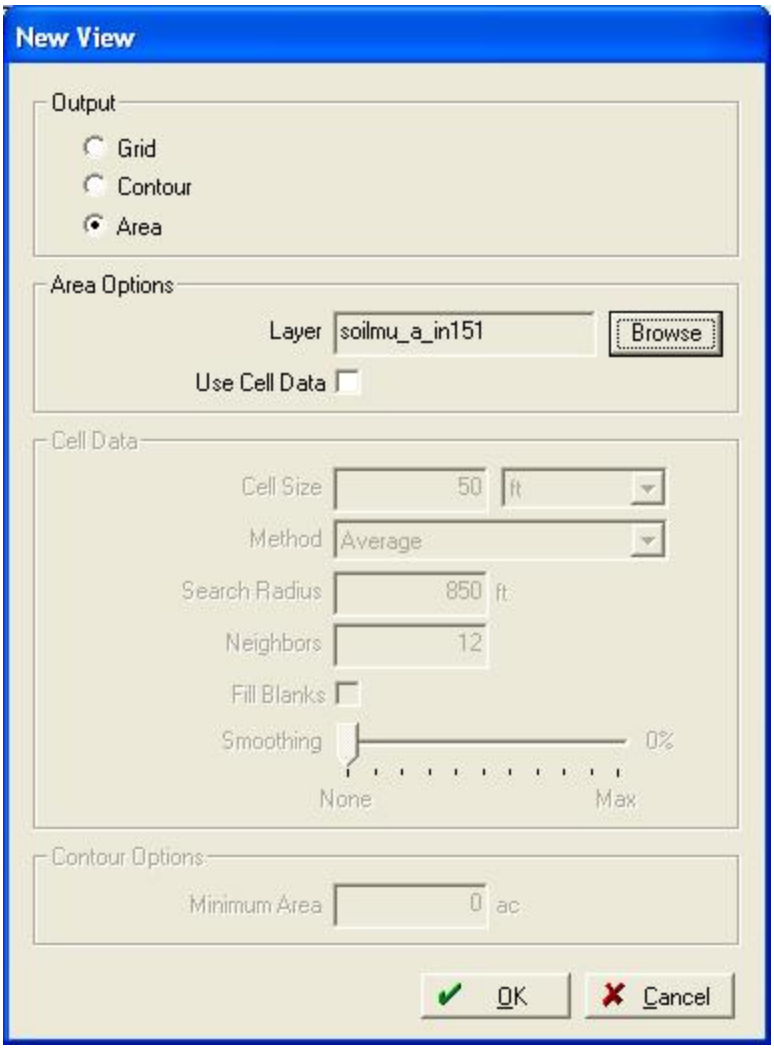
To average points within a polygon (Average Polygons):

1. You must have a layer with polygons over the same area as your points layer (ex: a soil type map for a field that your yield map is in.)

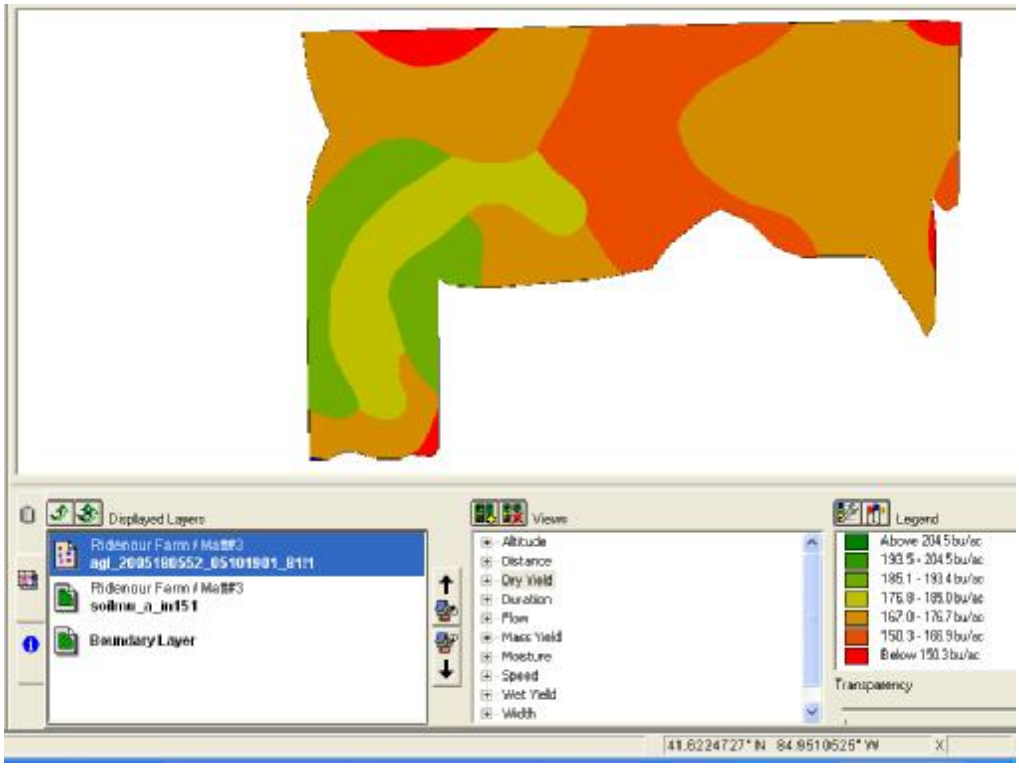
2. Display the points layer that you want to average and select the attribute under **Views** that you want to analyze.

3. Select the **Add View** button and choose Area in the **New View** box

4. Select Browse and find the area layer that you want to use for the analysis. You can also choose **Use Cell Data** and the program will create cells to average from instead of using each individual point.



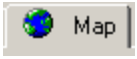
5. Press OK and the program will create a new view that averages all points within each polygon.



Analyzing Yield and As-Applied Data

After importing yield or as-applied data, you may notice some patterns or areas of the map that are different from others. Some of these differences may stick out real quick, while others may not be quite so obvious. The reason for these differences may also not be real apparent. Farm Site makes it easy to compare and analyze the data within these imported maps.

To view specific information about point data within an imported map:

1. Select the **Map** tab. 

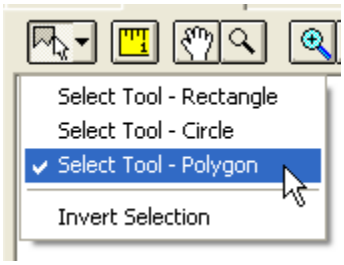
2. Verify **Show Jobs In Land Areas** is checked on the **View** menu.

3. Locate the Job with the map in the tree under the **Farm** tab and double click on it to display the map.

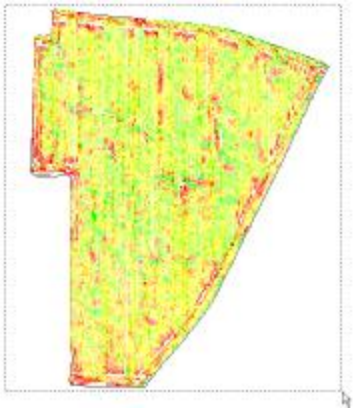
4. Under the **Views** box in the **Layers** tab, select the attribute and the view you want to analyze.

5. Select the **Information** tab to view attributes for the data you are about to select.

6. Choose one of the **Select Tools** from the Toolbar.



7. To view information about the entire field, click and drag around all of the points to select (highlight) them.

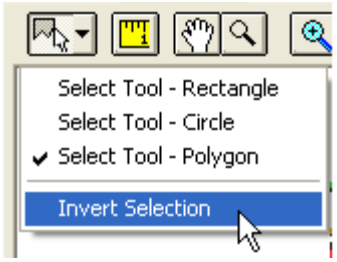


8. The minimum, maximum, and average for all of the mapped attributes will now be displayed in the **Information** tab

	Min	Max	Avg	
Region	1	3	3	
Altitude	921.9	1,045.9	946.9	ft
Distance	0.00	25.82	16.95	ft
Duration	2.0	2.0	2.0	sec
Width	2.49	20.01	20.00	ft
Flow	15.0	65.0	49.2	lbs/sec
Moisture	17.1	24.6	20.7	%
Speed	0.0	12.9	8.5	mph
Mass Yield	0.0	49,217.1	12,737.4	lbs/ac
Wet Yield	0.0	878.9	227.5	bu/ac
Dry Yield	0.0	812.3	213.5	bu/ac

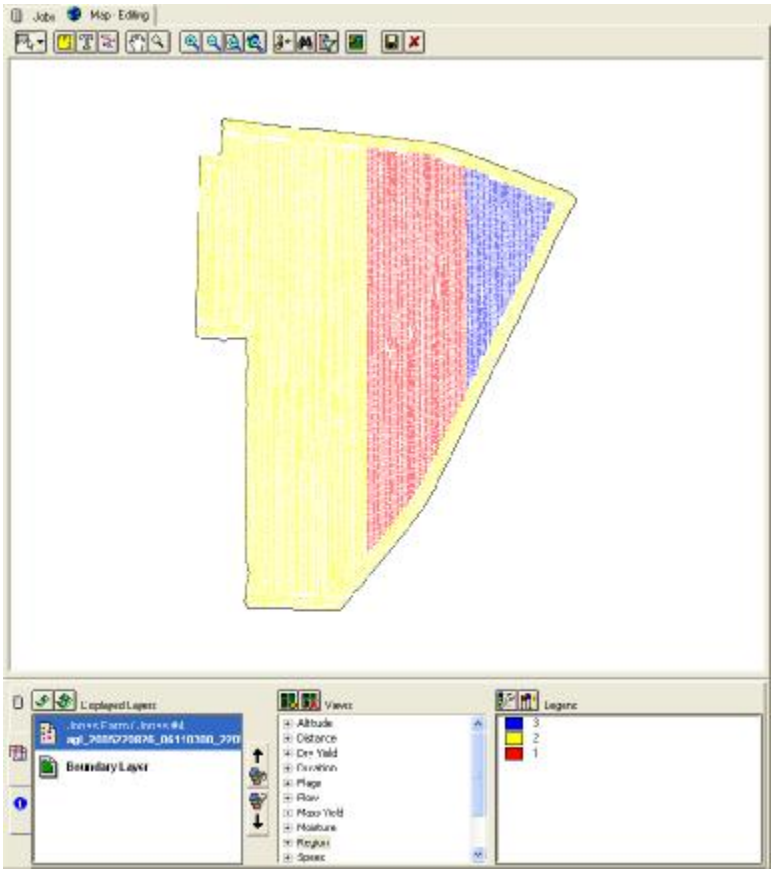
9. You can also select portions of the field to analyze, for example, if a pattern or area sticks out as being different. Use one of the **Select Tools** and highlight the area to analyze on the map. If using the **Polygon Select Tool**, left click at each corner of the area and right click to select **Finish** to close the polygon and select the points.

10. Once you have looked at the data (average dry yield, for example), choose **Invert Selection** from the select tools on the toolbar and Farm Site will simply reverse your selection of points.



11. You can now compare this information to the data that was originally selected.

12. The **Show Me** button can also be helpful when analyzing yield maps. The following example has 3 regions in the field, all of which were different varieties. To compare the different varieties:



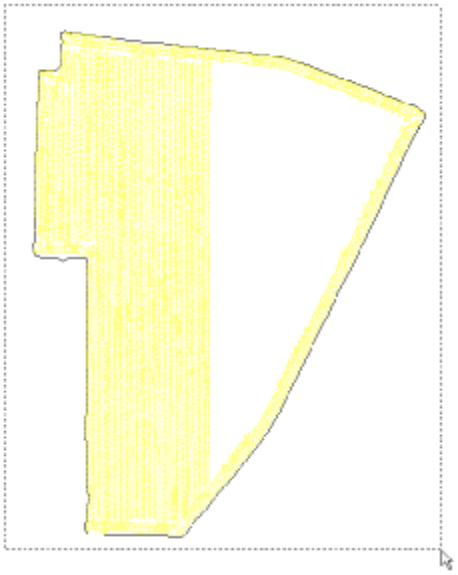
- Select the attribute that you want to compare in the **Views** box. (Region in this example)

- Press the **Show Me** button on the toolbar and select the attribute to be compared.

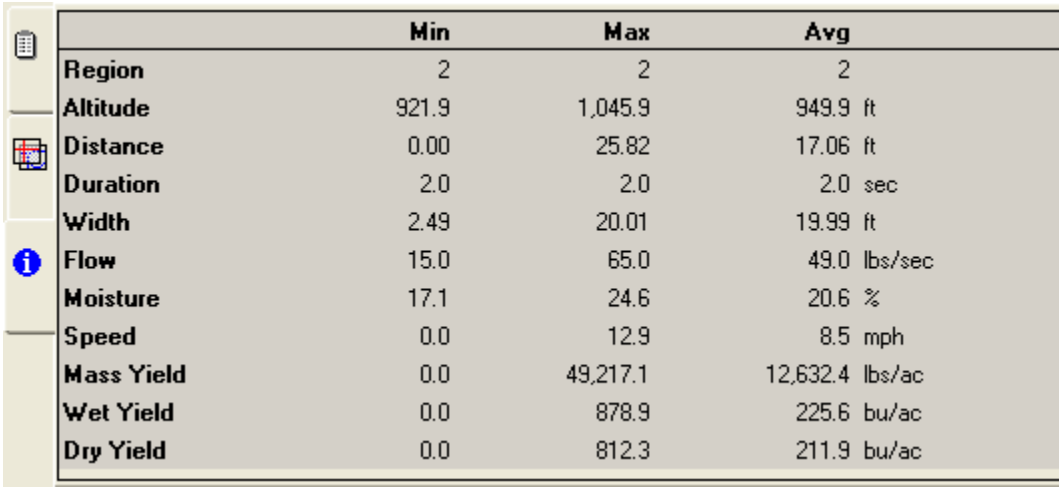
- Enter the Range to be displayed. (From: 1 To: 1, From: 2 To: 2, From: 3 To: 3)

- Farm Site will then hide all of the data except for what was specified.

- Use the **Select Tool** to highlight all of the data still shown on the map.



- View the data pertaining to the selection under the **Information** tab.



	Min	Max	Avg	
Region	2	2	2	
Altitude	921.9	1,045.9	949.9	ft
Distance	0.00	25.82	17.06	ft
Duration	2.0	2.0	2.0	sec
Width	2.49	20.01	19.99	ft
Flow	15.0	65.0	49.0	lbs/sec
Moisture	17.1	24.6	20.6	%
Speed	0.0	12.9	8.5	mph
Mass Yield	0.0	49,217.1	12,632.4	lbs/ac
Wet Yield	0.0	878.9	225.6	bu/ac
Dry Yield	0.0	812.3	211.9	bu/ac

Region 2

- Repeat the previous steps to show and analyze each of the portions of the field. (All three regions in this example)

	Min	Max	Avg	
Region	1	1	1	
Altitude	922.6	956.7	939.3	ft
Distance	0.00	20.93	16.57	ft
Duration	2.0	2.0	2.0	sec
Width	20.01	20.01	20.01	ft
Flow	15.1	62.3	49.4	lbs/sec
Moisture	17.5	23.9	20.8	%
Speed	0.0	10.5	8.3	mph
Mass Yield	0.0	39,732.1	13,005.8	lbs/ac
Wet Yield	0.0	709.5	232.2	bu/ac
Dry Yield	0.0	664.2	217.6	bu/ac

Region 1

	Min	Max	Avg	
Region	3	3	3	
Altitude	936.7	960.0	949.2	ft
Distance	9.28	21.33	17.36	ft
Duration	2.0	2.0	2.0	sec
Width	20.01	20.01	20.01	ft
Flow	15.1	61.2	50.4	lbs/sec
Moisture	17.9	23.1	20.7	%
Speed	4.6	10.7	8.7	mph
Mass Yield	3,844.5	25,710.1	12,649.2	lbs/ac
Wet Yield	68.7	459.1	225.9	bu/ac
Dry Yield	62.8	426.0	211.9	bu/ac

Region 3

- In this example, we can compare the Dry Yield for each region and see that Region 1 was the best while Regions 2 and 3 happened to be exactly the same.

- To cancel the selection and show all data again, press the **Show Me** button and choose **Make All Data Visible**.

13. Grid and contour maps can also be analyzed using the same methods. Use caution when working with these maps as the points in the grid or contour areas have already been averaged together.

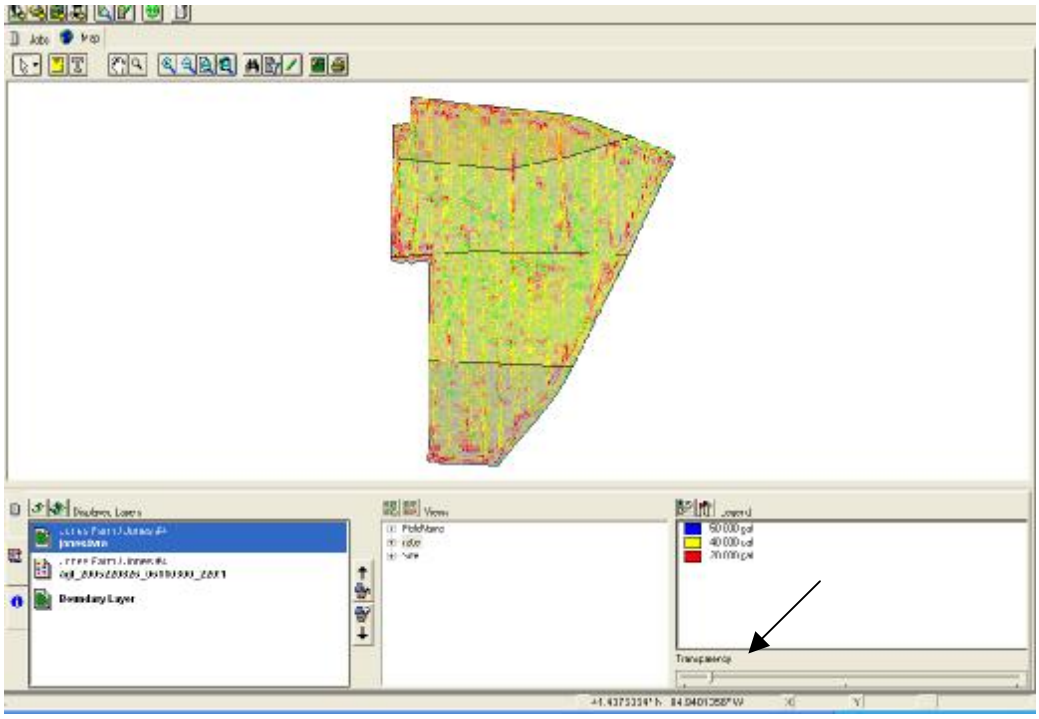
Using the Transparency Slider

It is often helpful when looking at a map layer to be able to reference another layer directly below it. The new Transparency Slider makes this possible.

1. In the Farm Tab, double click on the layers to display to move them to the displayed layers box.

2. Highlight the layer that you want to make transparent and use the Transparency Slider in the lower right hand corner to "see through" the top layer and onto the second layer.

3. You can make adjustments to any layer displayed and then change the display order using the layer order buttons beside the displayed layers box.



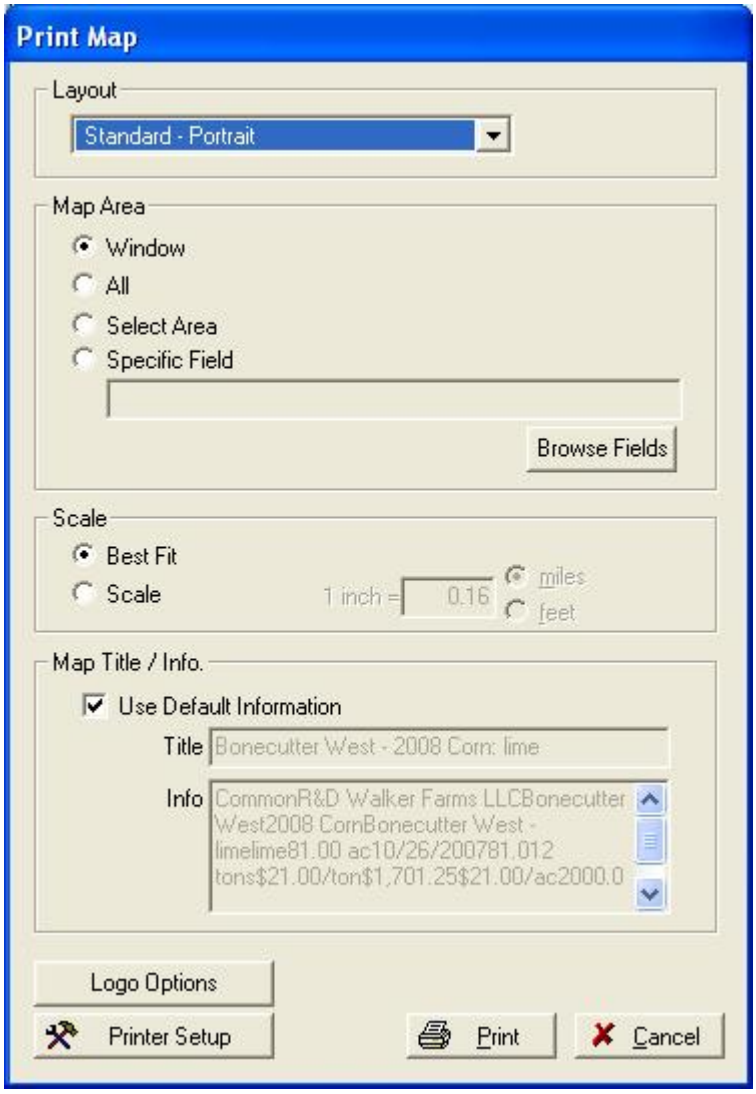
Printing Maps from Farm Site

When printing maps from Farm Site, the legend that was created for the map (including histograms and descriptions), as well as details about the job will be included on the printout.

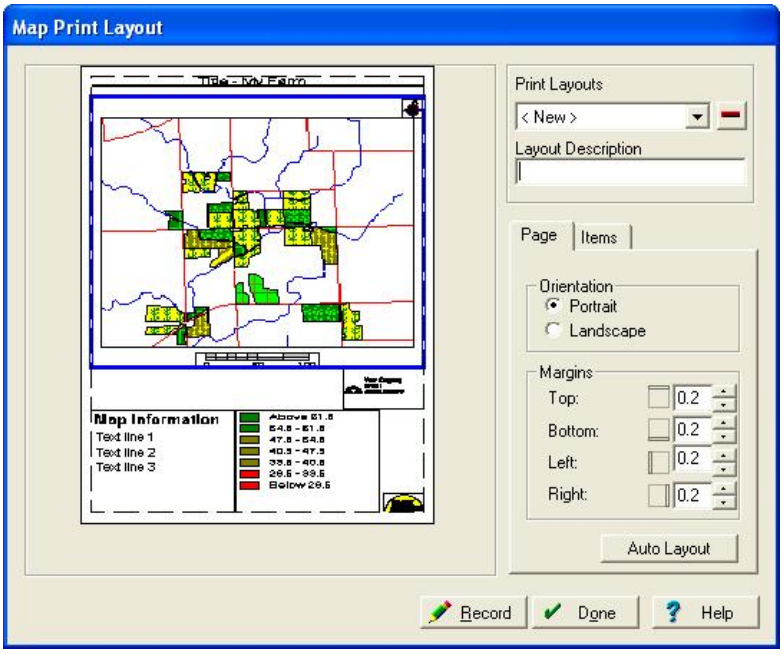
To print a map of yield or as-applied data:

1. On the **Job/Resource Tools** toolbar, select the **Map Report** toolbar button.

2. Under **Layout**, select the layout you want to use. **Portrait** and **Landscape** are standard layouts, or you can create your own by selecting **<Add/Edit>**.



a. If you select **<Add/Edit>**, the Map Print Layout screen appears.



b. Give your new layout a description and select the orientation of your page. You can also change the margins of the printed area on the paper.

c. You can also adjust the size of the items on the page by selecting them and dragging their borders to adjust the size. Pressing the delete key will remove the selected item. Items can also be shifted on the page by clicking and dragging your mouse.

d. If you choose the **Items** tab, items can be checked and unchecked to add or remove them from the page.

e. Press **Record** and **Done** to save and apply your layout. This layout will now appear in the drop down list for future use.

3. Select the **Area** to print. **Window** will print what is displayed on the map tab, **All** prints all of the displayed layers and zooms out to the full extents, **Select Area** allows you to drag a box around the area to print, while **Specific Field** will only print the field you choose.

Note: You can click and drag the bars to the left and bottom of the map area to change the size of the map window. When doing this, it will change what will be printed if **Window** is selected. Once set, it will continue to print in that aspect ratio.

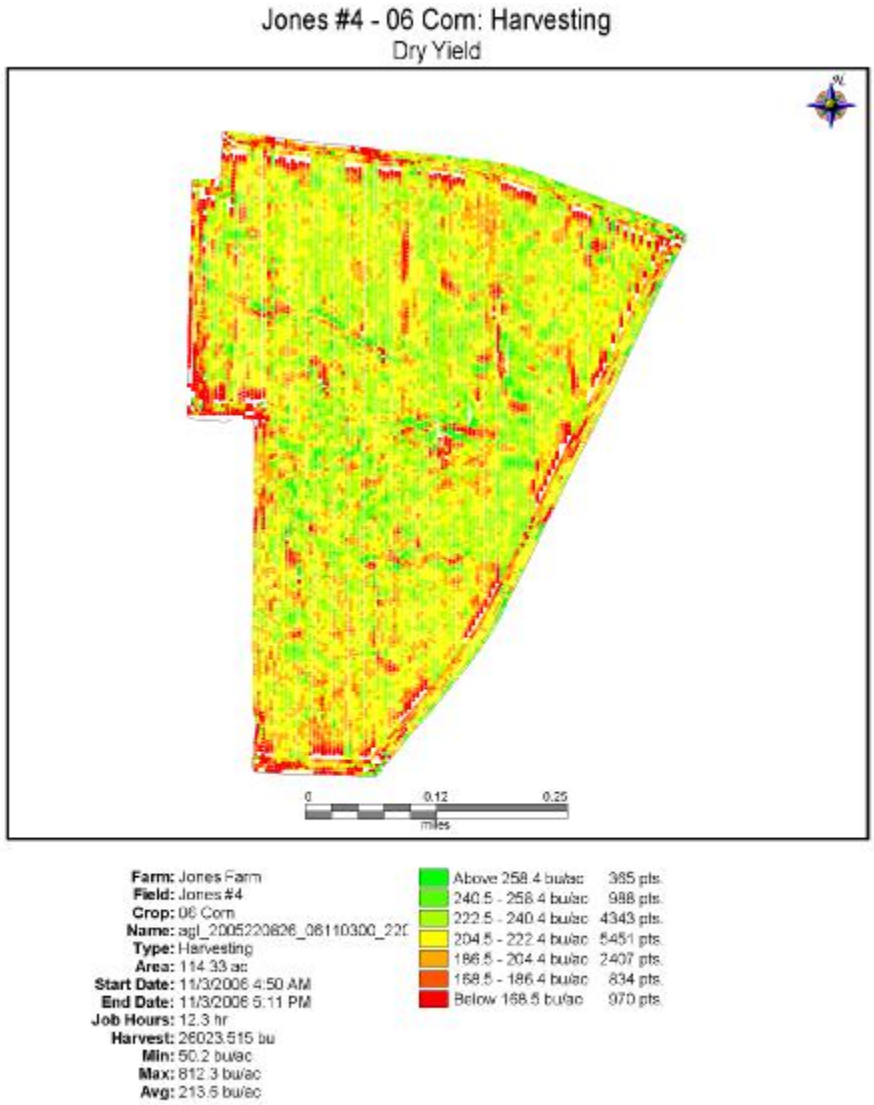
4. You can enter a specific scale or select best fit, which will scale the map to fit the paper.

5. You can choose to have the map printed with the default information or you can give the map a **Title** and enter any map **Information** of your own.

6. Under **Logo Options** you can choose to print the program logo in color or black and white. You can also choose a personal logo to be printed on the map.

7. Under **Printer Setup** you can choose which printer to use.

8. Press **Print** and a Print Preview screen will appear where you can choose to send the job to the selected printer.



Soil Type Maps

Farm Site lets you import ArcView shape files and generic text files that contain soil-type data into the program. If the files have GPS coordinate data, the program will automatically clip the contoured soil-type maps to the boundaries of your fields. If downloading large soil type maps, the clipping will only show the soil types within your fields. After you import the soil-type maps, the program automatically creates a legend. Farm Site has the ability to display soil type maps overlaid on yield maps to perform analysis based on soil type.

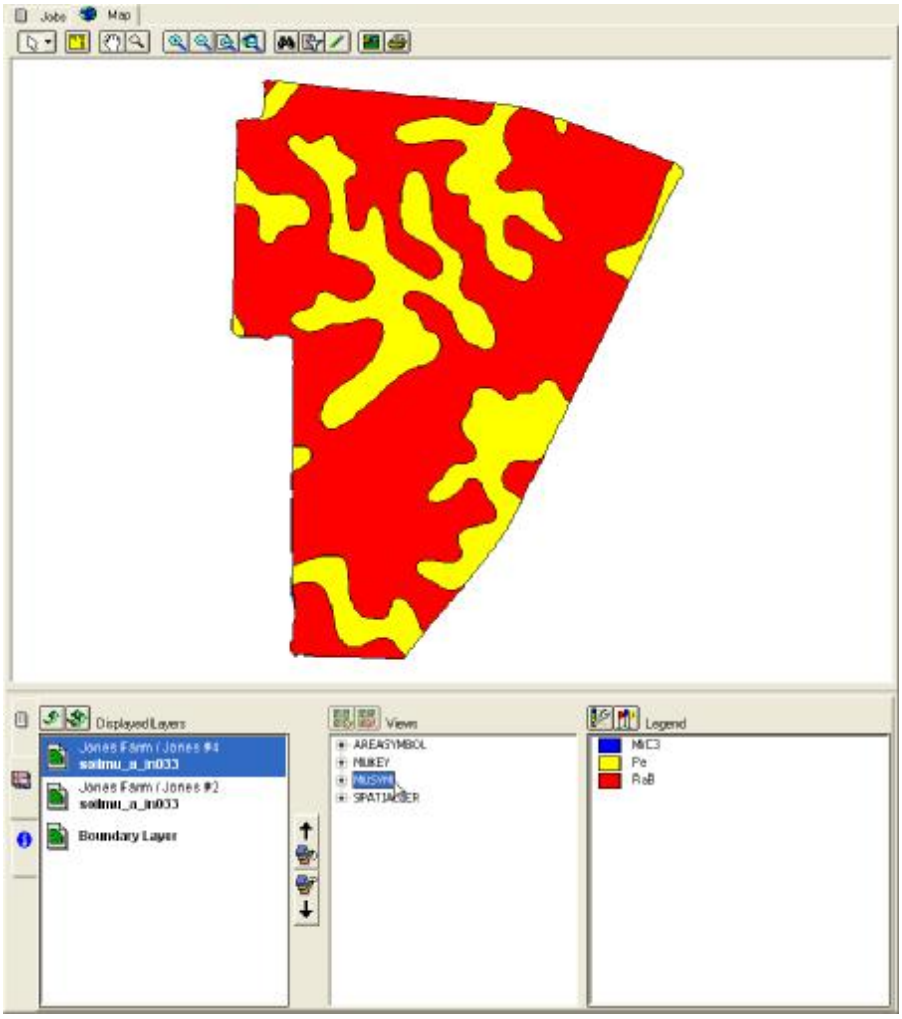
Note: You *must* have a field boundary drawn for Farm Site to clip soil types to a field.

Downloading and Importing Soil Type Maps

You can find available digitized soil type maps for download at the following website: http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo/

To import a soil type map into Farm Site:

1. Select the **Farm** tab.
2. Right click on the field that you want to import the soil type map for in the **Farm** box and select **Import Background**.
3. Locate the soil type map that you want to import and select **Open**.
4. In the **Shape File Import** dialog box, select the **Coordinate System, Datum, and Zone**. This information can usually be found in a text file downloaded with the soil type data.
5. Press **OK** and Farm Site will import the soil type map and clip it to the boundary of the field selected.
6. Select the property to display in the **Views** box and Farm Site will create a legend based off of the attributes present.
7. Just as in a yield map, you can select an area and view the data within it on the **Info** tab.


Jobs
Map
Displayed Layers
Jones Farm / Jones #1
soilmu_a_in033
Jones Farm / Jones #2
soilmu_a_in033
Boundary Layer
Views
AREASYMBOL
NUKEY
MUSYM
SPATIALVER
Legend
MkC3
Pe
RoB

Soil Sample Maps

Farm Site easily creates soil-sampling grids for use with the Site Mate program running on a handheld PDA, laptop computer, or the Titan RT. Hardware systems, such as the Ag Leader PF3000, can also use soil-sampling grids created in the program. The exported grids provide the target points used for soil sampling while out in the field. Later, when you receive a digital file with the soil test results from a lab, Farm Site easily imports the data. The program displays the soil test data and lets you quickly create grid or contour views of the test results. VRA prescription maps can be easily created from imported test results.

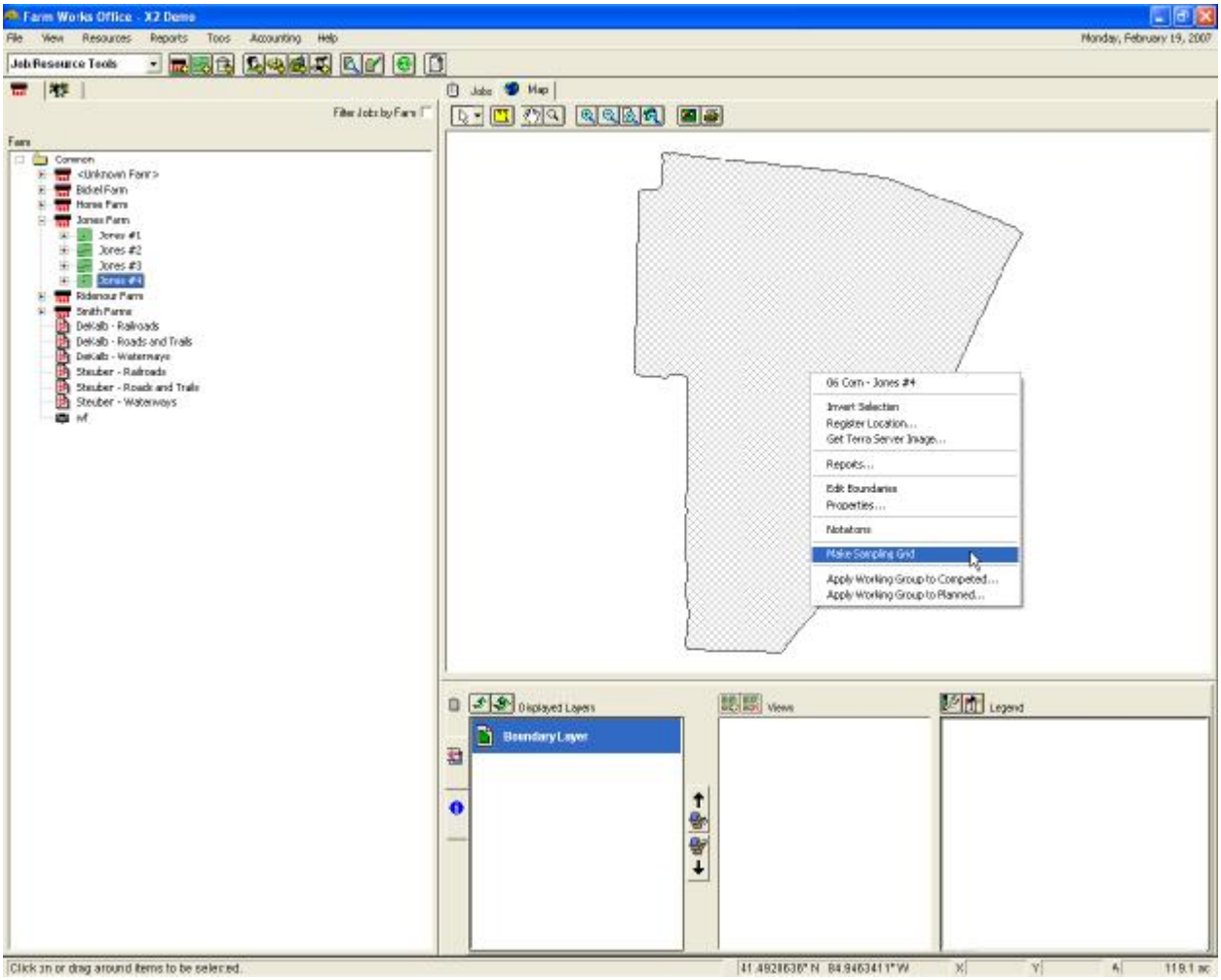
Creating Soil Sample Grip Maps

Creating soil-sample grid maps is easy with Farm Site. All you need is a field that has a boundary map and an idea of how large you want the soil sample grids to be. Farm Site will create soil-sample grid maps, create the sampling points, and allow you to export the maps to Site Mate for use in the field.

To create soil sampling grid maps:

1. Select the **Farm** tab and highlight the field name you want to create a sampling grid for.

2. Under the **Map** tab, right click the field boundary map and select **Make Sampling Grid**.



3. The **Create Sampling Grid** dialog box appears.

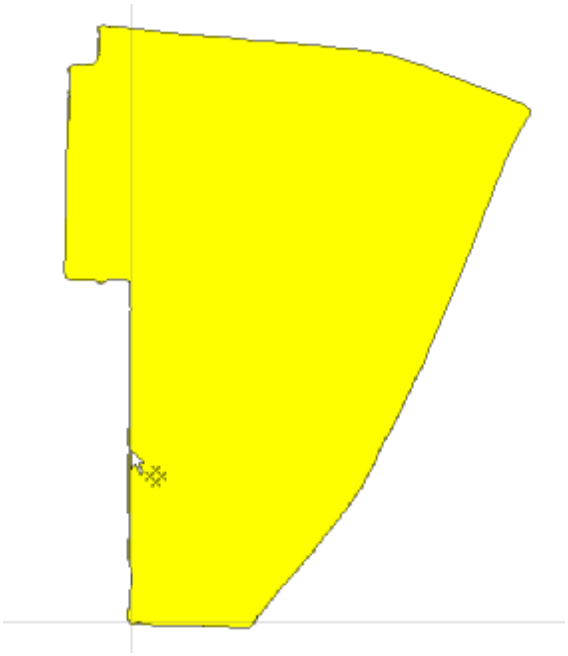
    - Choose whether you want the layer to contain sampling **Points** and/or include **Areas**.

    - Select the size of the **Grid** in **Feet, Miles,** or **Acres**.

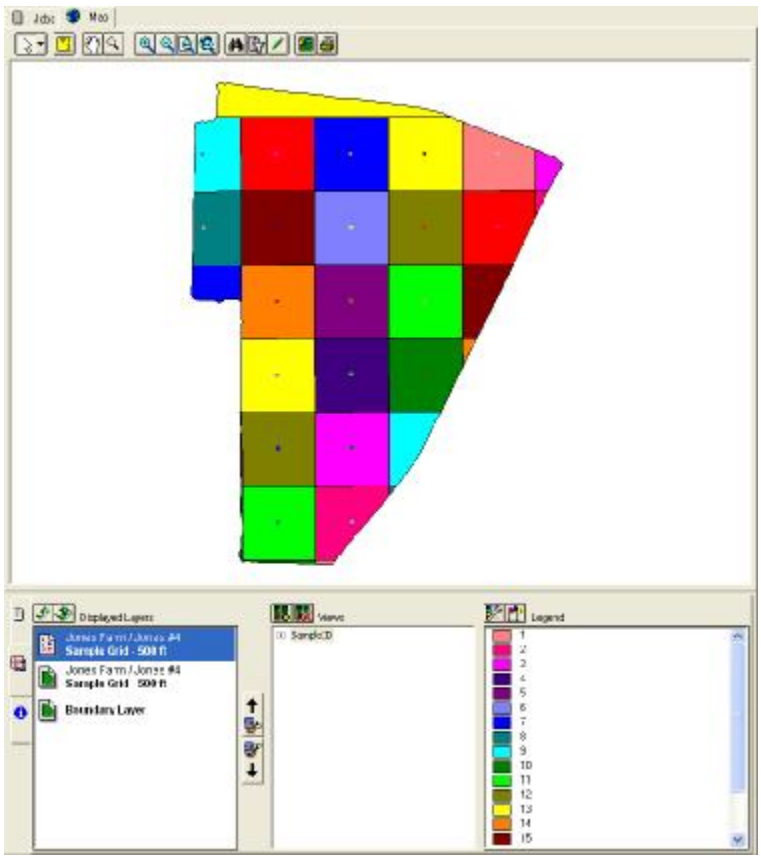
    - Select how the **Grid Pattern** should be laid out. Uniform places the points in the center of each grid. **Stagger Vertically** places the points in the center of the grid from side to side, but staggers them up and down. **Stagger Horizontally** does the exact opposite.

    - Select whether you want Farm Site to create **Sample IDs** and specify the number it should start assigning IDs at.

4. Farm Site changes the cursor to a grid. Click in one corner of the field, move your cursor in the direction that you want the grids to be aligned and numbered, and click again.

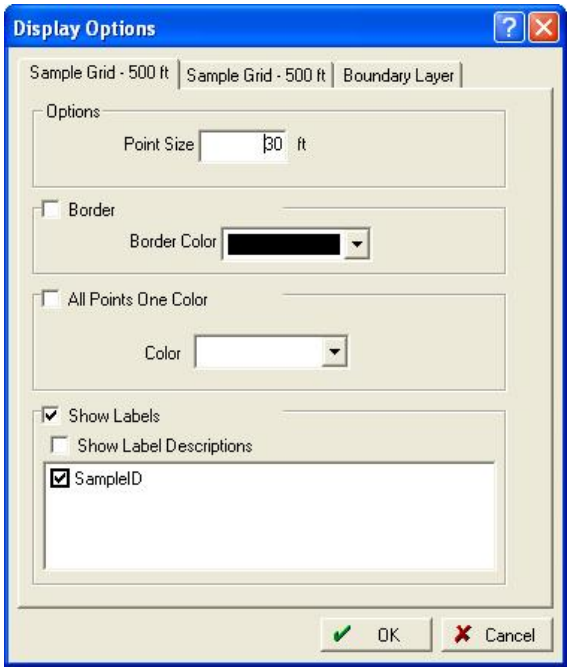


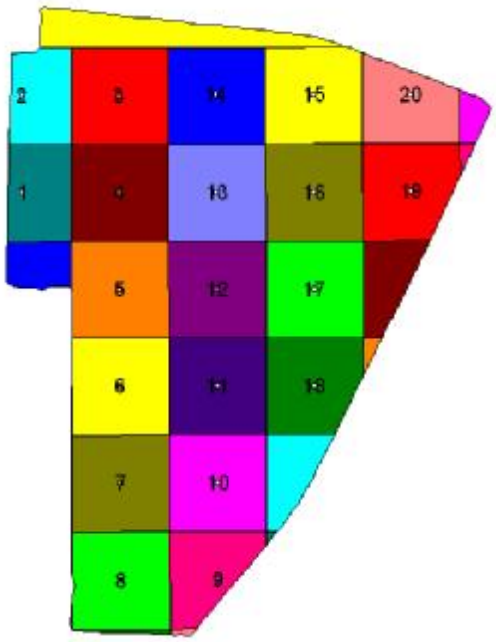
5. Farm Site creates the soil sample grids, adds the layer to the **Displayed Layers** box, and shows the grids in the **Map** tab. Notice, Farm Site will create a separate layer for points and areas if both were selected.



6. To display labels for the Soil Sample Point IDs, choose the **Display Options** toolbar button and verify **Show Labels** is checked along with **SampleID**.

7. Click and drag around all points to select them. Right click and choose **Add Label**.





Modifying Soil Sample Grid Maps

There will be times that Farm Site will place sample points in places that do not satisfy you. Sample points can be added, deleted and moved as needed.

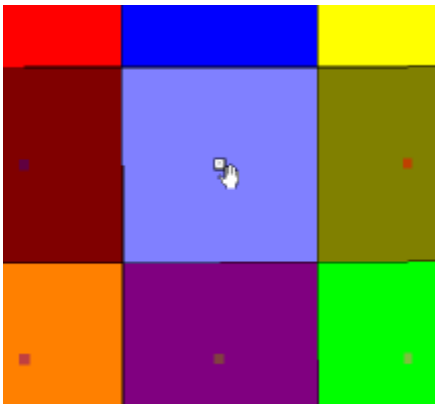
To modify existing soil sample points:

1. Double click on the points layer to edit under **Displayed Layers** to move it to the top of the display.

2. Select the **Edit Layer** button to show the **Map – Editing** toolbar.

3. To move a point, click and hold on it until the cursor turns to a hand. Drag and drop the point to the new location.

4. To add a sample point to the map, select the **Define Points** button and click on the map where you want the new sample location. If you chose to create Sample IDs, you can enter one for the new point.



5. You can delete points by selecting them and pressing the **Delete** key, or right clicking and selecting **Delete**.

6. When finished modifying sample points, press the **Save and Close Editing** button on the toolbar or press the **Cancel Changes** button to discard any changes made.

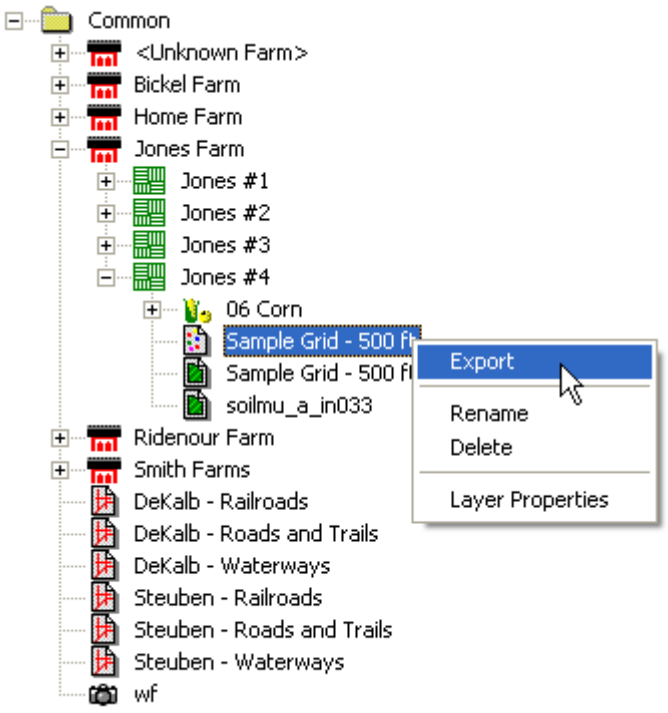
Exporting Soil Sample Grid Maps

Farm Site lets you export soil-sample grid point and area maps for use with Site Mate running on a handheld computer or the Titan RT. Once these soil-sample grid maps are copied to the device you can display them as background layers in the Site Mate program. Site Mate will navigate to each point or area on the map so that you can take a soil sample for each point to send to a lab.

To export soil-sample grid maps:

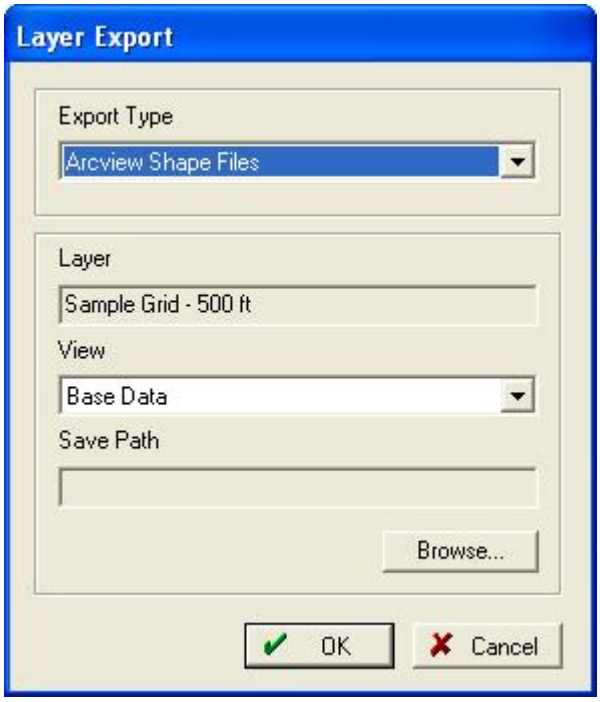
1. Locate the Sample Grid layer(s) that you want to export in the **Farm** tab. You can double click on the layer(s) to display in the **Map** tab.

2. Right click on the layer in the **Farm** box and select **Export** on the shortcut menu.



3. The **Layer Export** dialog box appears:

    - Select the **Export Type**
        - § Ag Leader Basic or Advanced (for use with PF3000, etc)
        - § ArcView Shape File (Sitemate, other GIS program)
        - § Comma Separated Values (Excel)
    - If multiple views were created, select which **View** to export.
    - Select the **Browse** button to specify the location to export to.



4. Pressing **OK** exports the layer to the destination specified.

Importing Soil Sample Data

After you receive the results of soil sample tests from a lab, Farm Site lets you to import this data directly into the Soil Sample layer that was used when sampling. After importing soil-sample data, the program can create grid or contour maps based off of nutrient values. This information can then be used to create variable rate prescription maps.

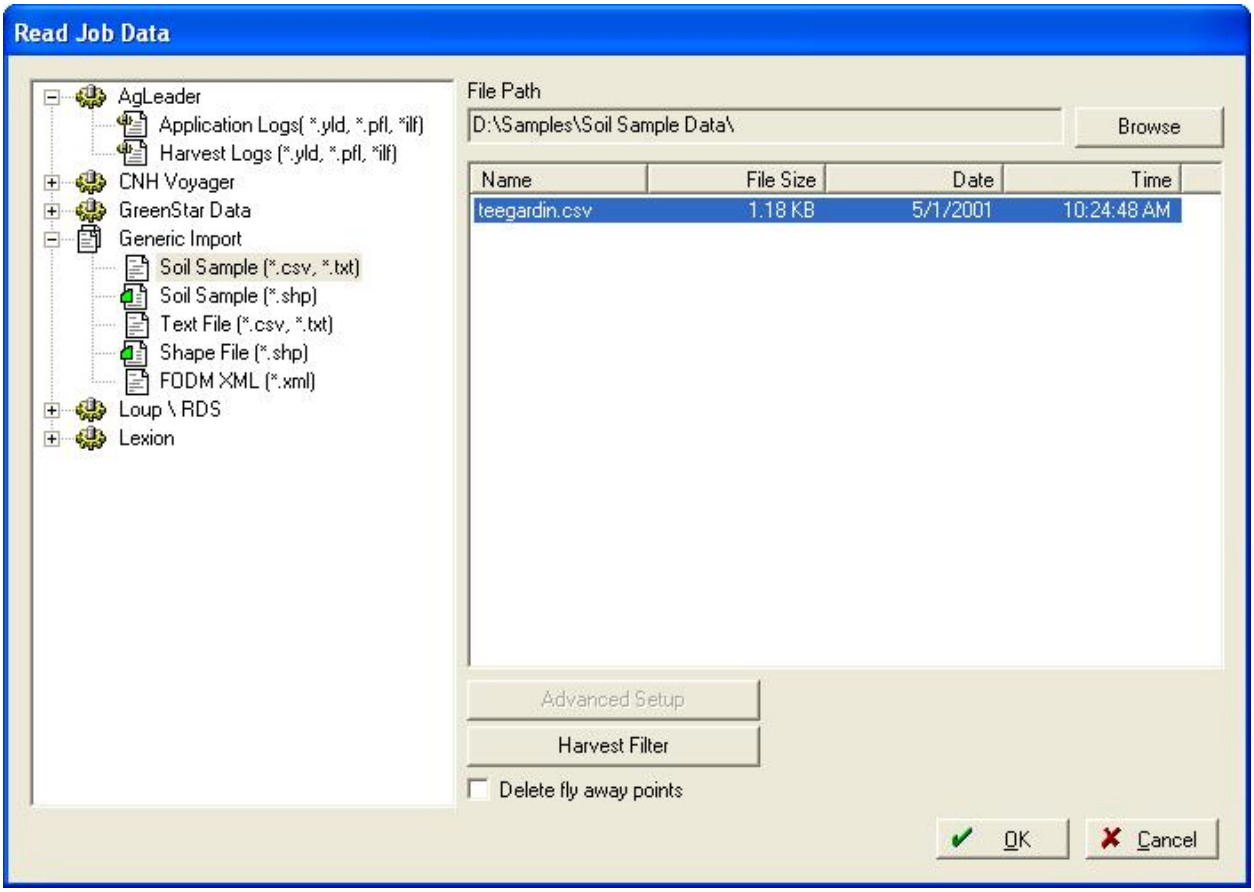
To import soil sample data into Farm Site:

1. Select **Read Job Data** on the **File** menu or select the **Read Job Data** toolbar button on the toolbar at the top of the program.

2. In the **Read Job Data** dialog box that opens, select the appropriate type of file under **Generic Import** (.csv, .txt, or .shp)

3. **Browse** to locate the file that contains the soil sample data.

4. Select the file and press **OK**.



5. Choose whether the file contains latitude and longitude coordinates along with soil sample values or if it needs joined with another file to get the coordinates from. You can open the .csv or .txt files in Microsoft Excel to see if coordinates are included. When receiving data directly from the lab, they usually are not. If it needs joined with a file and you created the sampling points in Farm Site, simply export the points layer as described in the previous section.

6. Many times it is easier to open the file that contains the data in Excel while going through the import process.

7. Templates can be saved to make the import process much faster if you will be importing more than one file. If a **Template** has been previously created, select it in the drop down list. You can also **Delete** any previously created templates.

8. Select the type of **Delimiter** within the file. If you open the file using Notepad, whatever character separates the values from each other is the delimiter. (.csv files are always Comma Delimited.)

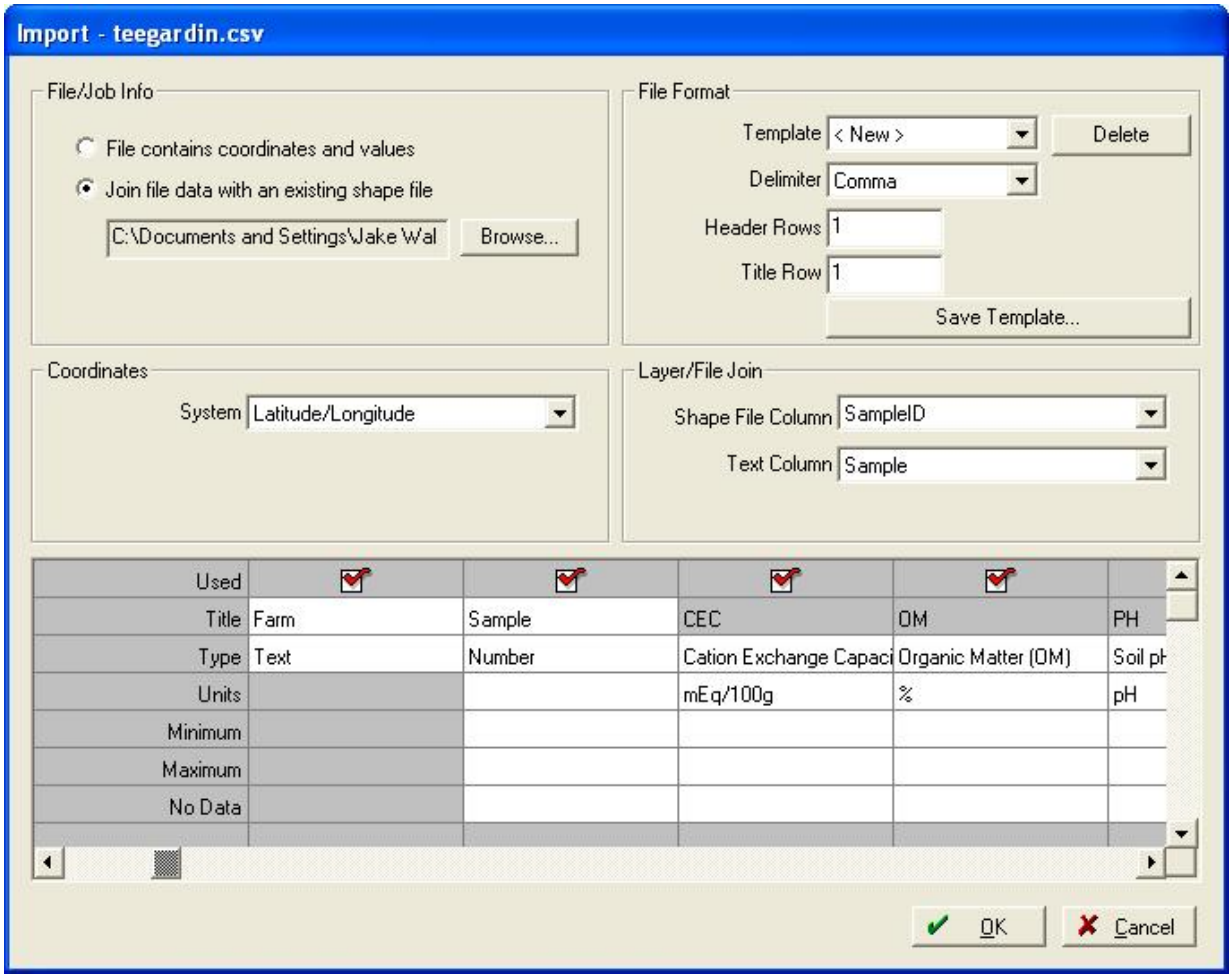
9. The **Header Row** is how many rows there are in the file before the data. The program will skip these rows when importing the data.

10. The **Title Row** is the row in the file that contains the name of the attribute to be imported. (Client, Field, pH, K, OM, etc)

11. If joining a file with a Shape File, you must select an attribute to match the rows in the data file to the points in the Shape File. SampleID is generally used to do this.

12. Select which columns in the data file to use by checking the boxes above each of the attributes to be imported. If the correct Title Row was selected above, the Title row will populate.

13. Enter the **Attribute Type, Units**, etc in each column. Example data directly from the file can be viewed if you scroll down in this window. Use this to determine the correct number of header rows and the title row. See the section on **Layer Attributes** for more information.

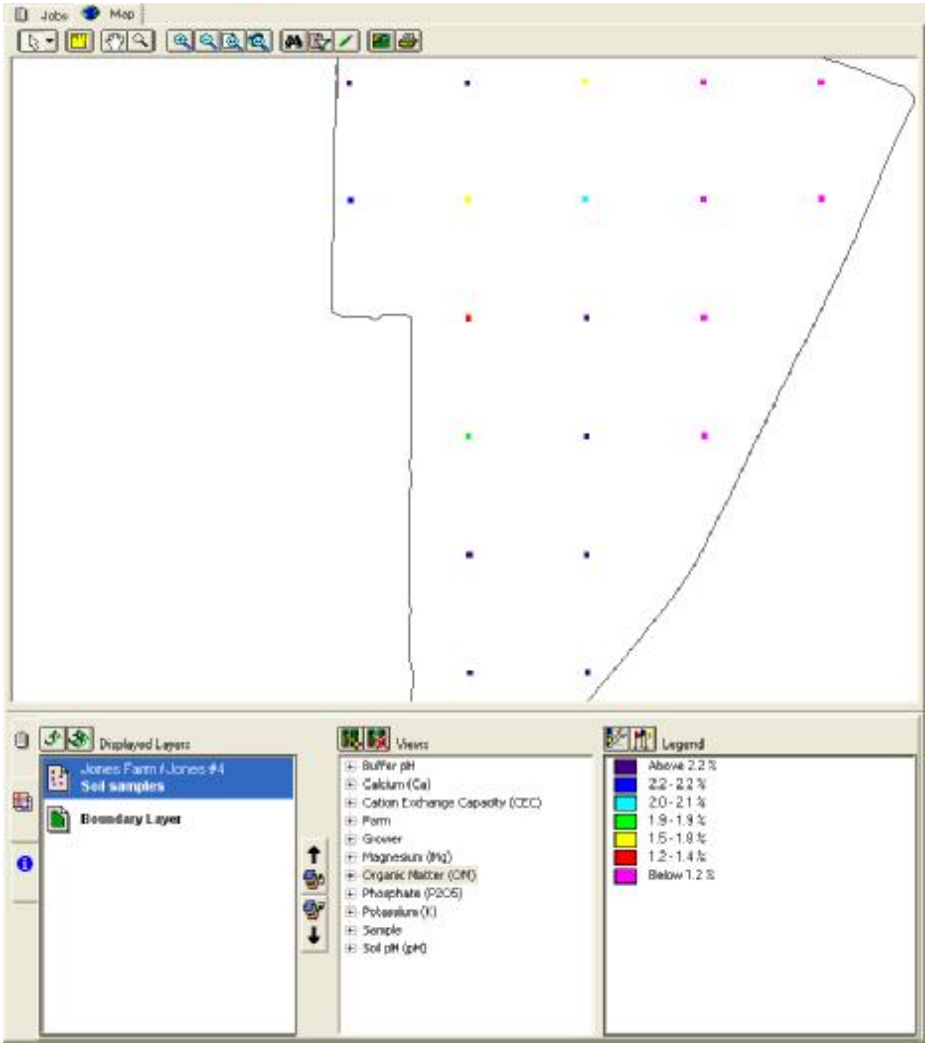


14. To save the template to import a similar file at a later time, select the **Save Template** button and give the template a name.

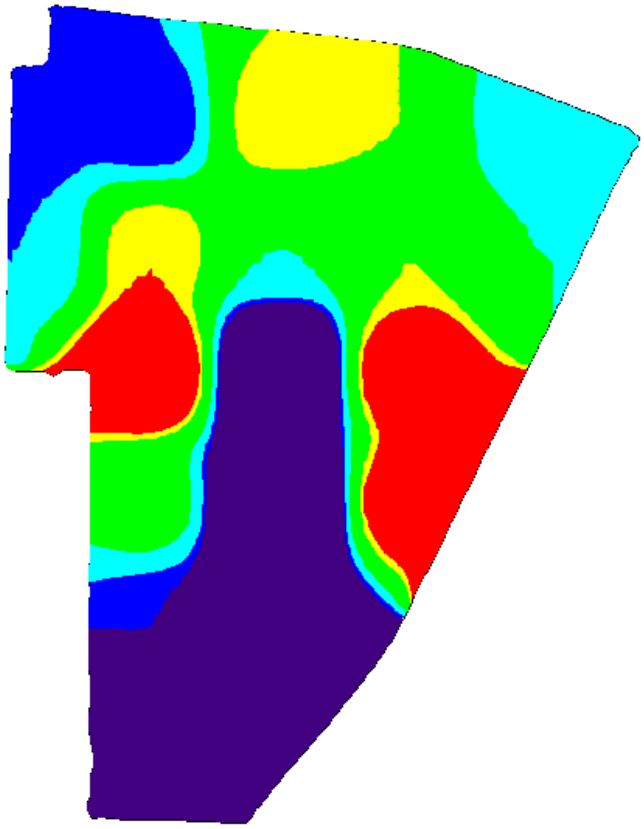
15. When you press **OK**, the Farming dialog box appears where you can enter all of the applicable information. Be sure the correct Field Name is selected and press **OK**.

16. Farm Site places the job under the field selected. To display the map, double click on the job name under the **Farm** tab.

17. You can now select any of the attributes for Farm Site to automatically create a legend under the **Views** box.



18. Grid and contour maps can be created with soil sample points, similar to yield maps. Consider changing the parameters when drawing a grid or a contour map from soil sample data compared to yield data. (Ex. Use fewer neighbors, 6 instead of 800, and a larger search radius since there are much fewer points.)



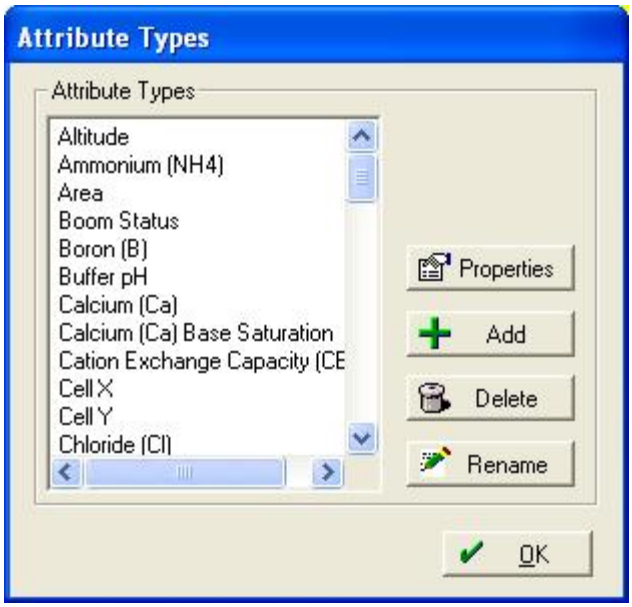
19. These grid and contour maps can now be used to create variable rate prescription maps. This will be covered in the following sections.

Setting Up/Selecting Layer Attributes

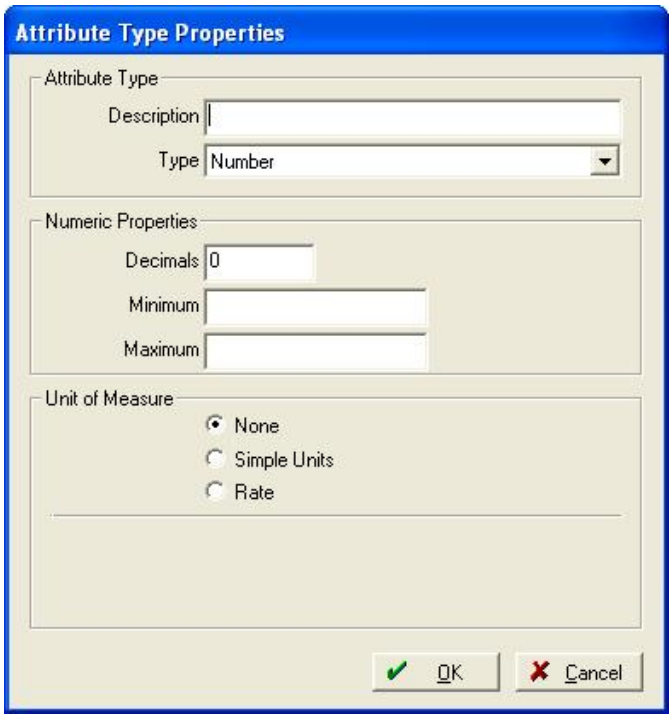
Attributes contain the data that is within a layer. For example, a yield layer imported from a yield monitor might contain the following attributes: Mass flow, moisture, dry yield, flags, region, etc. When importing a layer or soil sample data, for example, you will have to specify each attribute and what type of attribute it is. Farm Site has a lot of attributes predefined for you. You can always add more attributes to the program. Setting a type for an attribute is very important. While there are generic types of attributes, such as Numbers, Text, and Yes/No, defined attribute types can be very helpful. If an attribute type is defined, the units will always be the same when that attribute is selected and you can also have one common legend for all layers. This is very helpful when visually comparing two different maps (ex: soil test levels from one field to another). This will also become critical when making formulas for prescription generation.

To add an attribute type:

1. Select **Other, Attribute Types** under the **Resources** menu.



2. Press the **Add** button to add a type to the list.



3. In the Attribute Type Properties dialog box, give the type a **Description** and specify the **Type** it will be. Select **Number** if the attribute will contain only numbers or **Text** if the attribute will be text (cannot create a legend from a text attribute). The **Choice** option should be used if there is a set list of values that the attribute will use. Legends can then be created based off of the different choices. When choice is selected, whenever that attribute is used on a layer, they will all have common legends. If an attribute is set up with a **Yes/No** type, it can only return one of those values, either Yes or No. This is

commonly used in yield monitors as to whether the header is up or down (engaged/disengaged).

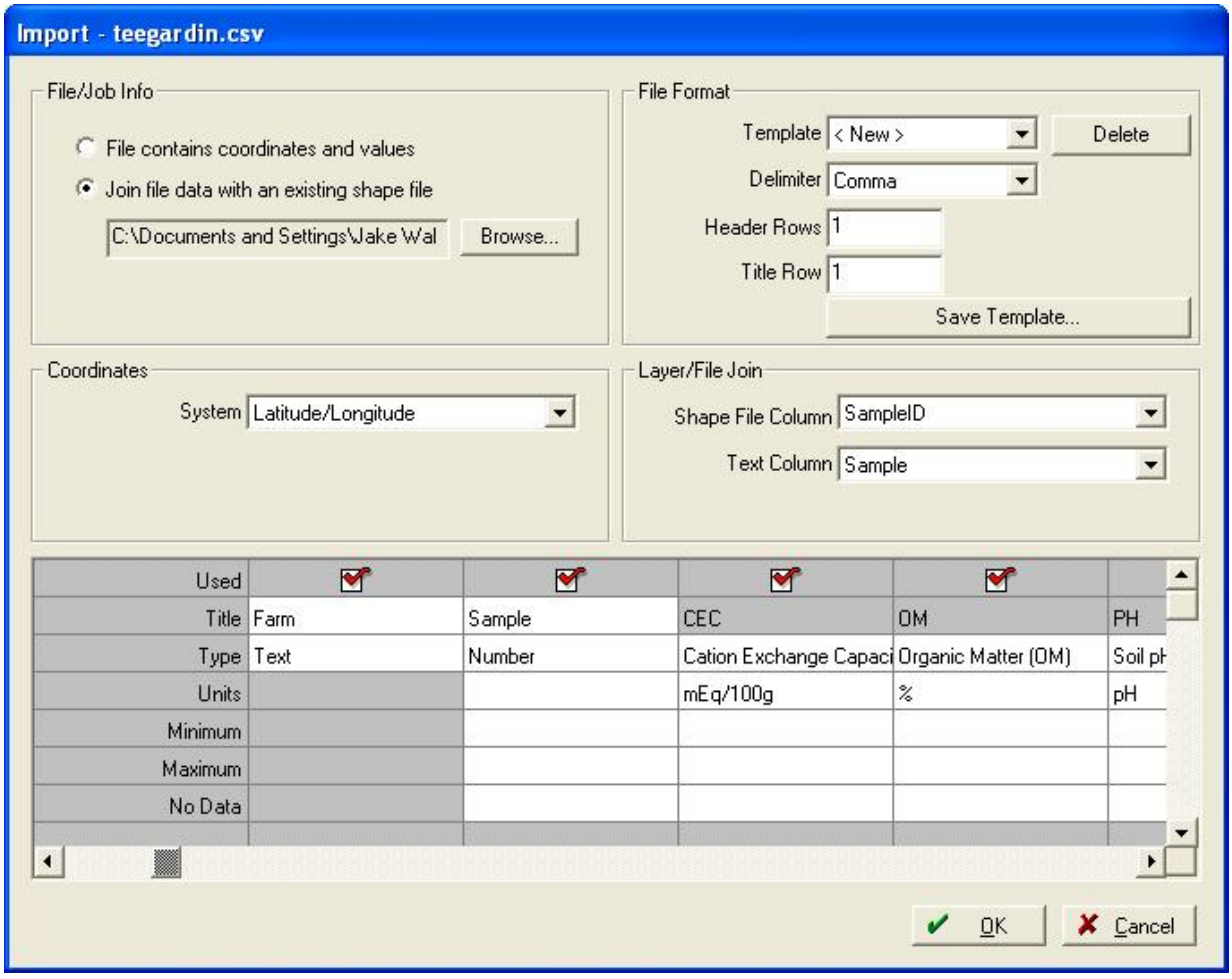
4. If **Number** is selected, enter how many **Decimal** points you want the attribute to display. You can also enter a minimum and maximum value for the attribute. The program will disregard anything outside of these bounds if you do so.

5. If **Number** is selected, you must also choose what kind of units the attribute will have. **None** if there are no units associated with the number, **Rate** if the units are <unit1>/<unit2> such as bushels/acre, and **Simple** units for everything else (seconds, pounds, bushels, etc.)

6. Press **OK** when finished.

Selecting attributes and attribute types:

1. When importing a generic file (.csv, .txt, etc) or when importing a shape file, you have to choose which attributes to use and set their properties and limits. The soil sample import above will be used as an example.



2. Check the box in the **Used** row for each attribute that you want the program to import.

3. Select the **Type** under each attribute that is to be imported. New types can be added here by selecting **Add/Edit**. Selecting the correct type is important. If legends are to be shared from one layer to another, an attribute type must be created for that attribute. Otherwise, Text or Number may be selected for the type.

4. If Text or Number is selected, you can give the attribute a **Title** or a name.

5. If the attribute is a **Number**, you can select the units that are associated with the attribute as well as set minimum and maximum values on what is imported. Anything outside of these numbers will be ignored. If you enter a value in the **No Data** row, anything matching this value will also be ignored and not imported.

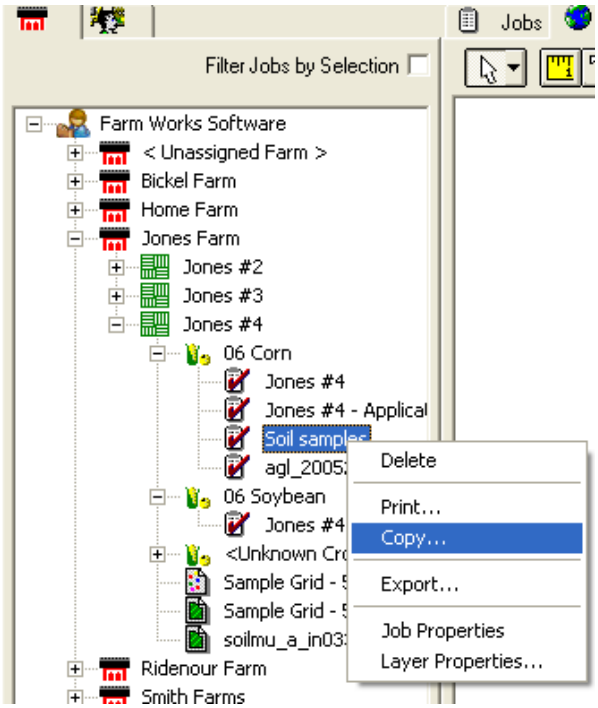
6. When you have finished selecting all of the attributes to import, press **OK**.

Copying a Layer to a different Farm or Field

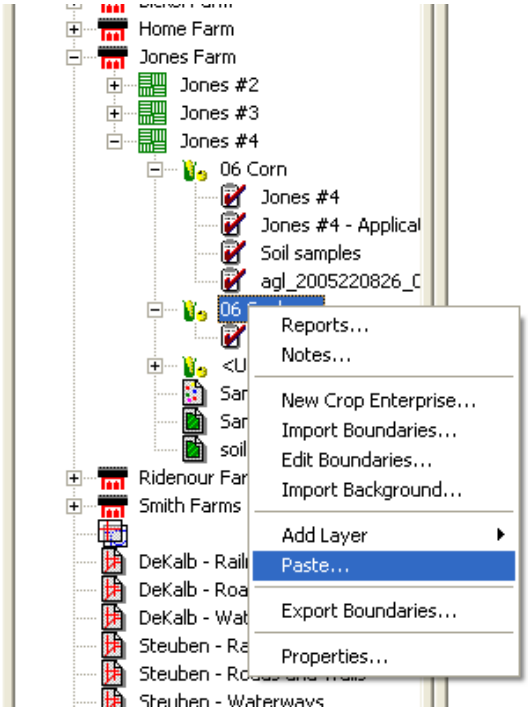
There may be a need at times to copy a layer from one Farm, Field, or Category to another. It may have gotten placed in the incorrect location or maybe you need another copy for a different crop. (Using the same soil sample locations in different years) The layer copy option makes this very simple.

1. Locate the layer you want to copy in the Farm box.

2. Right click on the layer and select **Copy**.



3. Right click on the Farm, Field, or Category that you want to paste the layer to and select **Paste**. (If you do not select the Category, or crop enterprise, Farm Works will place the layer under <Unknown Crop>.)



Creating Variable Rate Prescription Maps

You can use soil type maps as well as any soil sampling maps that you have imported into Farm Site to create Variable Rate Application (VRA) maps. You can export the application maps that you create out of Farm Site for use with almost all commonly used variable rate controllers and hardware systems including Site Mate – VRA.

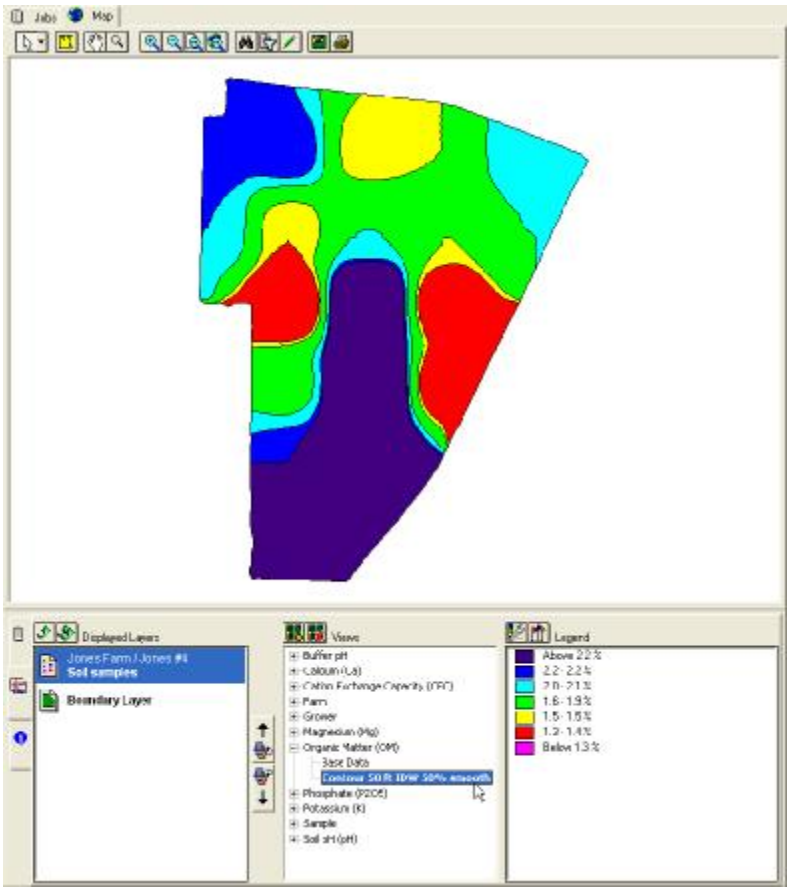
With Site Mate – VRA installed on a handheld computer, laptop, or Titan RT, you can connect to a GPS receiver and controller capable of variable rate to change the application rate based on the position in the field. The Site Mate – VRA will tell the controller what rate to apply based on the map that you have created.

To create a VRA map:

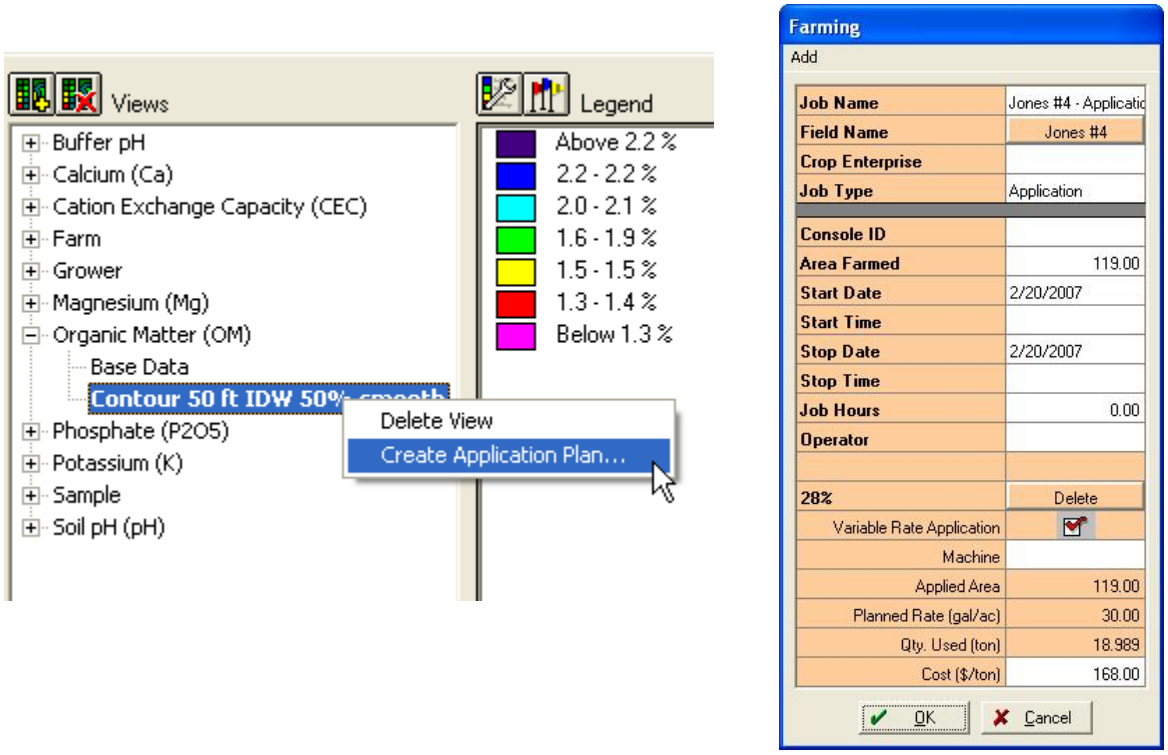
1. Add the people, machines, and supplies that will be used for the job to the **Working Group** box. You can opt to only add the supplies used and leave the people and equipment until later if preferred. See the Farm Trac manual for more information.

2. On the **Farm** tab, locate the layer that you want to create a variable rate map from and double click on it to display it in the **Map** tab. This layer must be an area layer that has different zones (soil type layer, for example) or a points layer that grid or contour views have been created. To create your own layer with custom drawn zones, see the following section of this manual.

3. Select the attribute and the view that you want to create the VRA map from in the **Views** box.

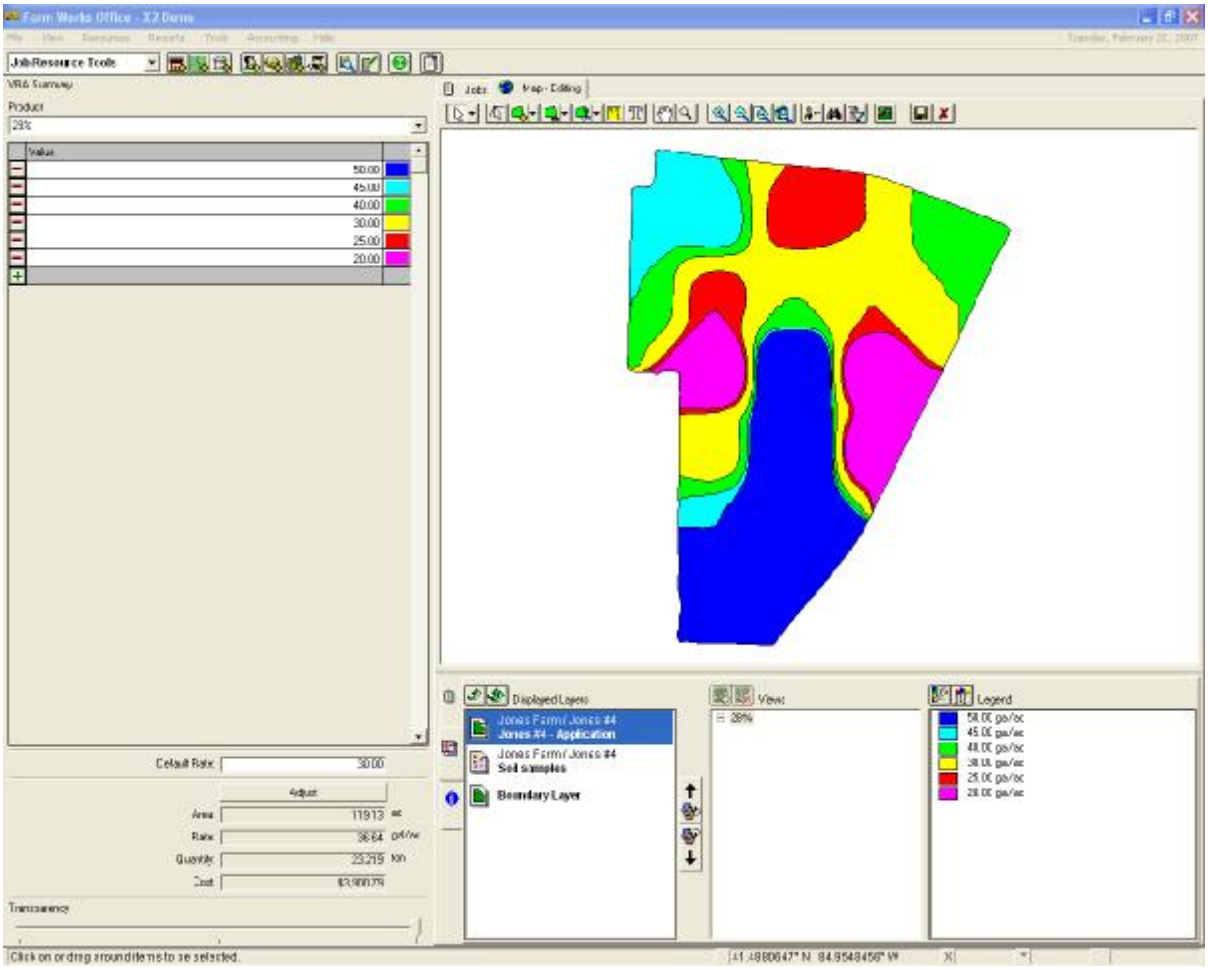


4. Right click on the view and select **Create Application Plan**.

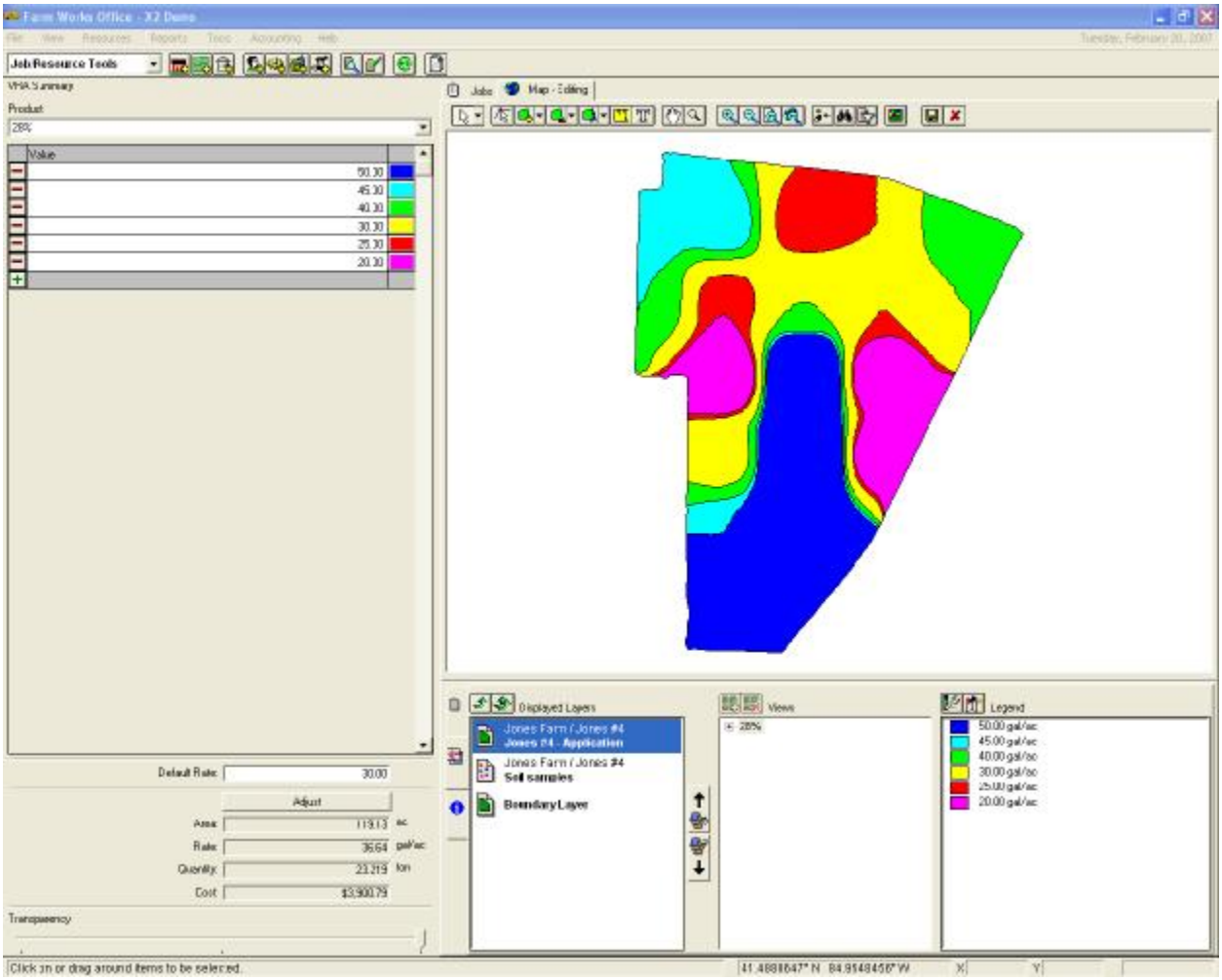


5. The Farming dialog box will appear to create a planned VRA job.

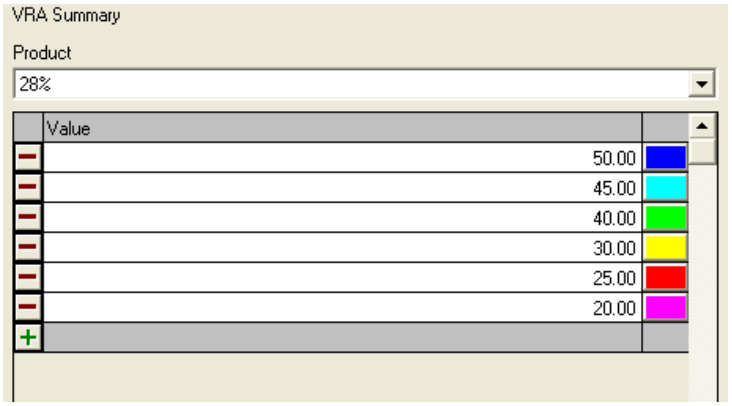
6. Make any necessary modifications to the plan and press **OK**.



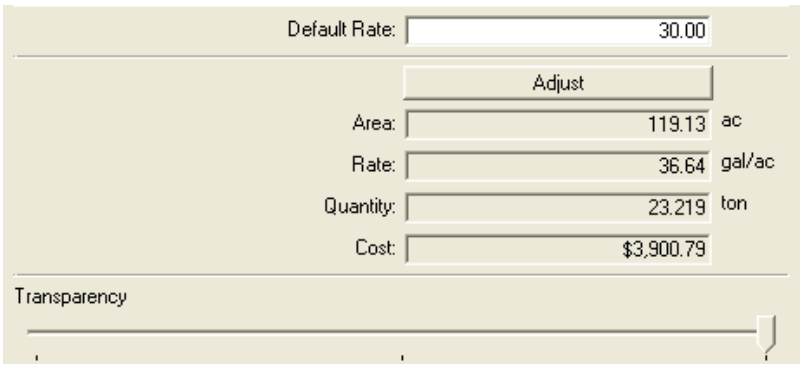
7. Enter the **Default Rate** which will be the rate that is applied any time the machine travels outside of the VR map.



8. Select the product to be varied and enter the prescription values into the cells that correspond with the zone colors showing on the map.



9. Farm Site automatically calculates the average rate you will be applying over the total acres as well as a total quantity and cost. This information can be extremely helpful when purchasing supplies.



10. You may want to adjust the total quantity to be used on the job. Press the **Adjust** button and make the changes. This will change the rate in each zone to compensate for the added/subtracted total quantity.

11. If there is a layer displayed underneath the application layer, you can view it through the new application layer by adjusting the **Transparency**. Slide the **Transparency** slider to view items beneath the current layer.

12. When finished creating the Variable Rate Prescription map, select the **Save and Close Editing** toolbar button.

13. The planned job will now show up under the **Job** tab as well as in the **Farm** box under the appropriate Field.

Exporting/Synchronizing VRA Maps

After you use Farm Site to create Variable Rate Application (VRA) prescription maps, the program will allow you to export the prescription maps for use with various hardware systems, including the Agco GTA console, and software applications, such as Site Mate – VRA. There are two ways to export prescription maps: (1) right-click a job with a prescription map in the Jobs box and select Export on the shortcut menu (will export a shape file), or (2) point to Work Order on the shortcut menu and select Trac Mate (will synchronize with Trac Mate/Site Mate).

You have the option of exporting the prescription maps to a handheld computer connected to your desktop or laptop computer, to a USB drive, a storage card, or any another removable storage device. If you export the prescription maps to your USB drive or storage card, you can bring the removable storage device to your Titan RT, variable rate controller, or other hardware device. If you mark jobs for export to Trac Mate, you can use the Sync Trac Mate feature of Farm Site to copy the prescription maps to your handheld computer or to the USB drive for your Titan RT.

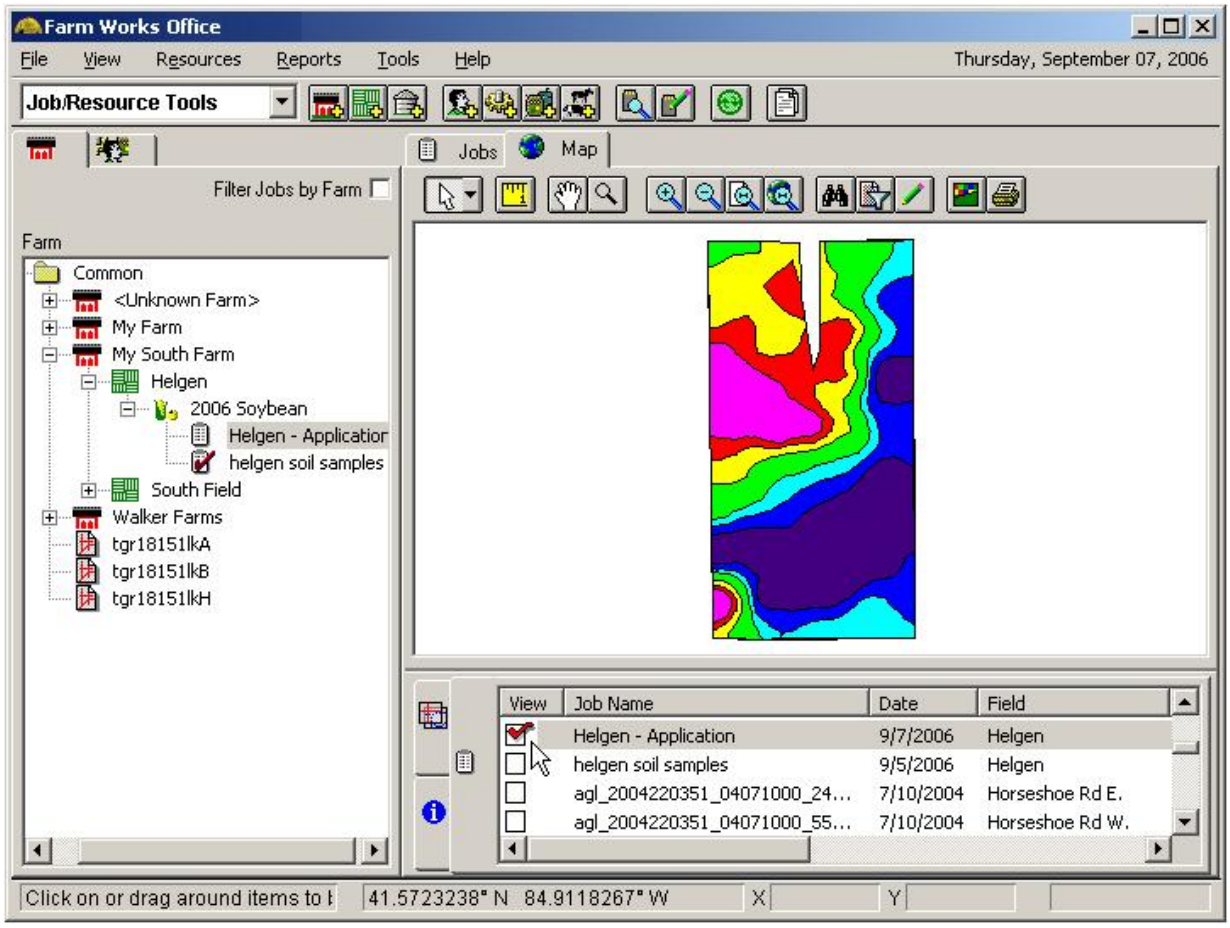
When you display the prescription maps in Site Mate – VRA, and connect a GPS receiver and variable rate controller, the controller will change its rates based on the prescription map and the GPS position as the applicator drives across the field.

Exporting VRA Maps as Shape Files

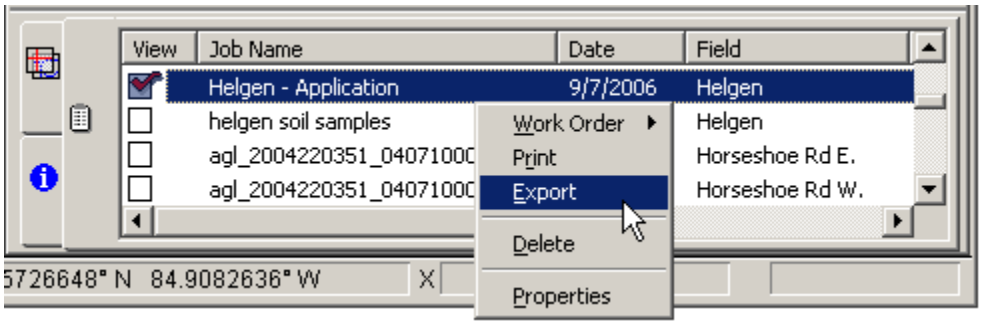
To export a VRA prescription map that was previously created in Farm Site as a Shape file for use with a 3 party variable rate controller:

1. Select the **Map** tab.

2. Select the **Jobs** tab *below* the **Map** box. Find the planned job that contains the prescription map that you want to export and select the **View** check box. Farm Site will display the prescription map in the **Map** box.



3. Right-click on the job to export, point to **Export** on the shortcut menu.



4. In the **Job Export** dialog box that appears, select the location that you want to save the prescription map to, type in a name for the file, and select **Arcview Shape Files** in the Save as type box. Press Save when finished.

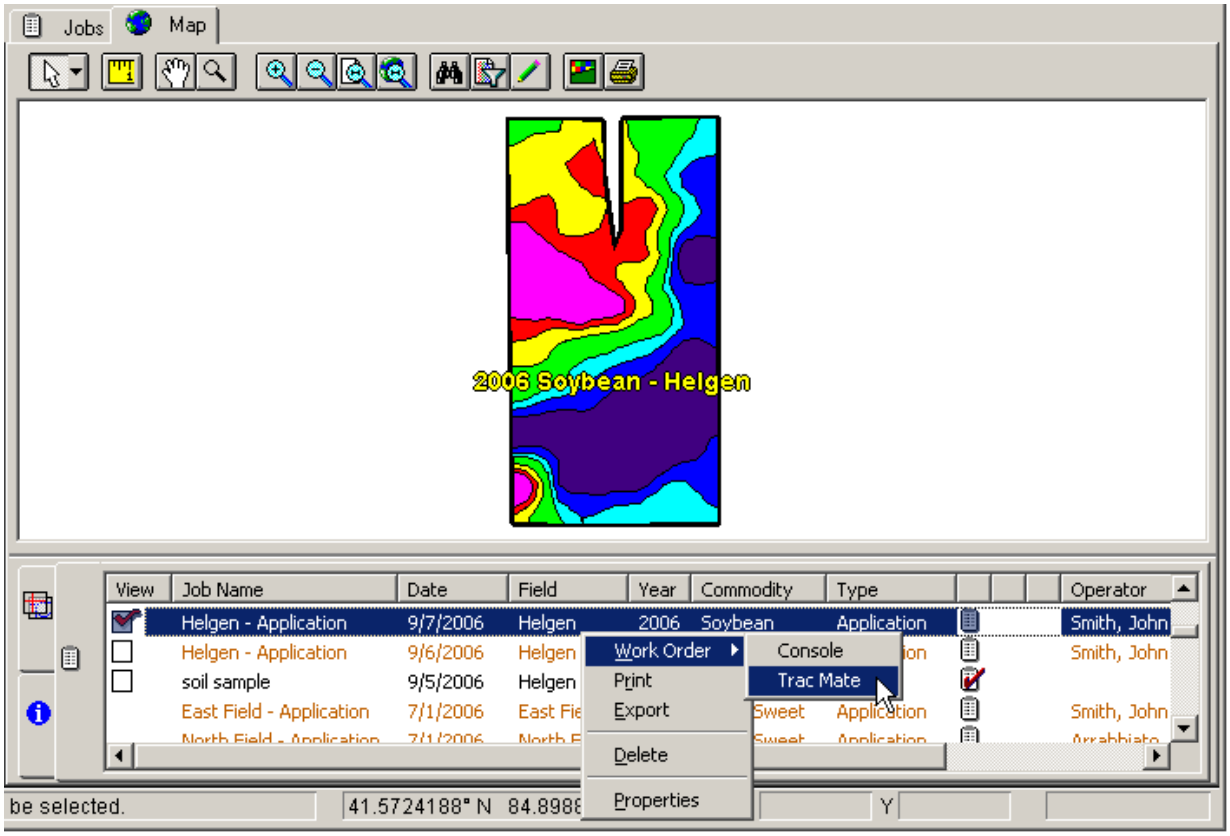
5. The shape file can now be copied or used where needed from the location that it was saved to. Remember when copying and pasting shape files that one shape file actually contains three files. (.shp, .shx, .dbf)

Synchronizing a VRA Map with Trac Mate/Site Mate

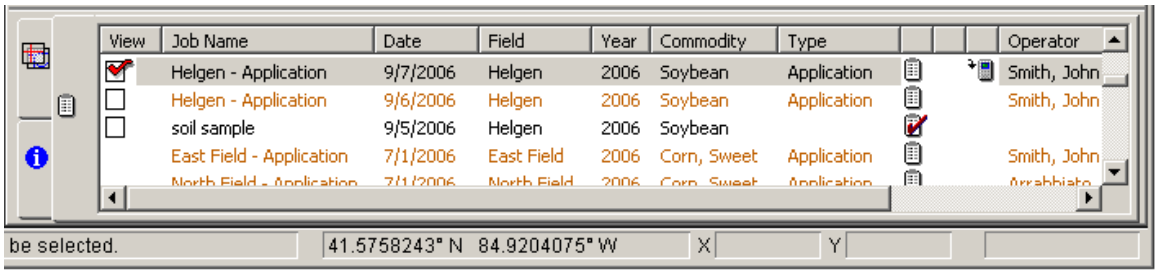
1. Select the **Map** tab.

2. Select the **Jobs** tab *below* the **Map** box. Find the planned job that contains the prescription map that you want to export and select the **View** check box. Farm Site will display the prescription map in the **Map** box.

3. Right-click on the job to export, point to **Work Order** on the shortcut menu, and select **Trac Mate** on the submenu.

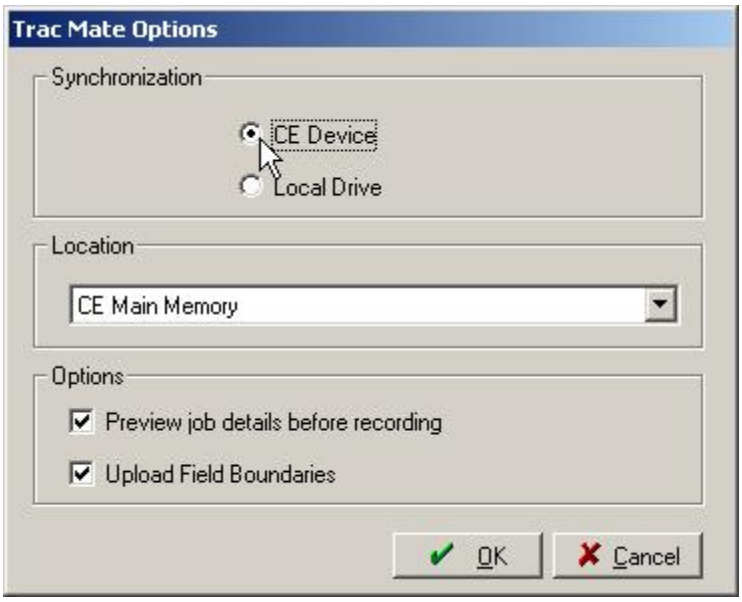


4. Farm Site adds the synchronize icon to the row of the job.



5. If synchronizing to a handheld computer, connect it to your desktop with Microsoft ActiveSync or insert a USB drive or other removable media to synchronize to.

6. Select the **Synchronize Trac Mate** toolbar button, or select **Synchronize Trac Mate** on the **File** menu.



7. In the **Trac Mate Options** dialog box, select the **CE Device** option if synchronizing to a device connected with ActiveSync. It will synchronize the data to the **CE Main Memory** unless you have a storage card in the device. It is then strongly suggested to select the **Storage Card** as the location to synchronize to. This will prevent any data loss in case of a dead battery.

8. **Preview Job Details** allows you to view and edit the details of a job before they are synchronized back to the desktop computer after completion.

9. **Upload Field Boundaries** will upload all of your boundaries from your desktop to Trac Mate/Site Mate. Site Mate will then show the boundary of the field when performing the job.

10. Select **OK** and Farm Site will synchronize the marked job to Site Mate. The Linker dialog box may appear. See the Farm Trac manual for more information on linking resources.

11. The Variable Rate job can now be opened in Trac Mate/Site Mate as a Workorder. The VRA map is also now on the handheld. Using Variable Rate maps with Site Mate will be covered in the Site Mate manual.

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