

**Farm Works Software®**  
*For Windows™*

# Site Pro

*For version 10.0 and higher*

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# Site Pro



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# Preface

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## About Farm Works Software

Farm Works Software is a complete line of management tools for the grower as well as the agricultural professional. The grower level packages (Farm Trac+, Farm Fund\$, Farm Site, Farm Stock, Farm Trac Mate, Farm Site Mate and Guide Mate) offer the farmer an integrated approach to farm management. Site Pro takes this integration to the next level. Site Pro allows the agricultural professional to exchange information with his clients, and provides a powerful tool in analyzing the wealth of information that can be collected with today's precision farming technology. Using devices equipped with a Global Positioning System (GPS), analysts can use Site Pro to map and query such information as fertility, soil type, elevation, harvest moisture, and production. In addition to the layering and mapping features, Site Pro has an integrated field history and chemical application record system built into the program.

## Layout of this Manual

This manual is designed to give you explanations of how your Site Pro program works and what you need to do to use the program successfully. This manual is not designed to give you step by step instructions on how to complete certain tasks. Refer to the tutorials and help files for detailed descriptions of how to enter information as well as a listing of commonly asked questions. This manual is designed so that you can sit down and read it in an evening and have a good idea of how Site Pro works and what you will need to do to get started.

## Overview of Site Pro

Site Pro has been developed with the special needs of the agricultural professional in mind. Data collected from yield monitors, soil tests, and field scouting can all be recorded on an unlimited number of layers for each of your clients. This information is organized by client and category to provide a quick and simple means of accessing any layer of data.

Once these layers are generated, correlations and trends can be identified using the layering and analysis tools. For example, to analyze the variability of yield due to soil type, Site Pro can give you an average yield for each soil type in the field. The effect of other factors such as weeds, elevation, and soil fertility can also be mapped and analyzed with Site Pro. Problem areas can be quickly identified using the **Show Me** option to limit the points or areas displayed to those with certain characteristics, such as corn yields less than 75 bushels per acre.

Site Pro also helps you and your clients comply with federal chemical record keeping requirements. Using the fields on the map as a type of filing system, product applications can be recorded and EPA reports generated with just a few clicks of the mouse.

Along with application records, scouting and other important information can be recorded on each field using notations. Each notation can be categorized and later queried to help keep track of important observations that can help you make recommendations in the future.

Farm Site Pro is unique in that it works with nearly any type of yield data. Farm Works maintains a list of all such types of data that can be used with Site Pro. If the type of data you are working with is not on this list, contact Farm Works and a Farm Works representative will contact the precision equipment company and try to work with their data.

### Some other features:

- Reads industry standard ArcView Shape Files.
- Gives you an unlimited number of layers. Layers can represent anything from yield maps to soil types to field tiling.

- Reads ASCII soil test data from most soil labs. Soil Test data can be matched to previously mapped soil sample locations.
- Exports data in many standard formats including ArcView Shape Files.

## Installing Farm Site Pro

Following is a list of hardware and software required to run Farm Site Pro:

- Personal Computer with Pentium processor or higher.
- 64 megabytes or more of RAM.
- Hard Disk with 10 megabytes of free space.
- Microsoft® Windows™ 95 (or higher) installed.

There are two important notes before you start installing your software:

- The files on all Farm Works installation CDs and diskettes are compressed, so you cannot install Farm Works by copying the files.
- Choosing **Cancel** during installation halts the process and Farm Works will not be properly installed on your computer.

## Installation Procedures

1. Insert the Farm Works CD into the appropriate CD ROM drive. Windows™ will automatically begin the installation process for you. If the installer does not start itself, choose **Run** from the **Start** menu and then type **D:\Setup** in the box under the command line (where “D” is your CD drive).
2. Select the “Install Farm Mate Programs” from the installation screen, and then select the programs that you wish to install. Some programs will require a code in order to be installed. These codes may be found on cards that are packaged with each program.
3. Follow the instructions on the screen to complete the installation process.
4. After the program has been successfully installed, a message will appear that says, “Farm Works successfully installed.” You may now close the installation window.

5. Exit Windows™ and reboot the computer.

## Registering Your Software

To obtain full use of your copy of Site Pro and to receive information on future upgrades to the program, you must register it under the owner's name with a number provided by Farm Works. Registration takes just a few moments to complete.

To use the on-line registration form, go to [www.farmworks.com/register](http://www.farmworks.com/register) and select the programs you have installed. You will need to enter your Installation ID or Machine ID that is displayed on your screen, along with your product code numbers and click Submit. Fill in your contact information and the place of purchase on the next page and click Submit Registration. If you have completed the information correctly, you will receive an e-mail containing your registration numbers, typically, within an hour.

To register your software by fax or mail, you will need to complete and print the registration form from your registration screen.

1. Type your name or company name in the Licensee Name text box.
2. Choose **OK** and the Farm Works Registration box appears.
3. To print the registration form, choose the **Go To Registration Form** button. The Registration Information dialog box will appear.
4. Fill in your name, mailing address, who you purchased the software from, any comments, your phone and FAX numbers.
5. Choose **Print** to make a copy of this information.

Mail or fax your completed form to:

Farm Works Software  
PO Box 250  
Hamilton, IN 46742-0250  
FAX (260) 488-3737  
Phone 1-800-225-2848  
E-mail: [farmwork@farmworks.com](mailto:farmwork@farmworks.com)

To receive your registration number directly by phone, be sure to have the printed form in front of you so that you can answer all information correctly. It is a good idea to be at your computer, with the software Registration dialog box on your screen, when you call. You do not have to mail the registration form if you get your number over the telephone.



# Getting Around in Farm Works

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## Menus

*Menus* are lists of things from which you can do one of four things:

- **Do something immediately.** An example would be saving any changes you have made to your map. The computer will know where to save the changes.
- **Ask for more information, then do something.** An example would be making a backup of your project. The computer needs to know what you want to call the backup and whether to put it on a floppy disk or on your hard disk, so it will ask for that information before making the backup.
- **Change a setting in the computer.** An example would be selecting the line drawing tool. When you select this kind of item from a menu, a check mark will appear next to it to indicate that it has been selected.
- **Display another menu.** Most menu items at the top of the main map window are of this type. These menu items help to organize choices into logical groups, so that individual actions are easier to find and use. These items usually have a small arrow on the right to indicate that they activate another menu.

Sometimes menu items are gray and they cannot be selected. For example, if you do not have a printer, the print option will be gray.

## Menu Bars



Menu Bars, when available, are always at the top of a window. Most items on a menu bar display another menu. There are a few exceptions, such as the date on the main map window; clicking it allows you to change the working date for transactions.

## Right-click Menus

Another kind of menu you will find in Farm Works is a *right-click menu*, so called because it will appear when you press the right mouse button. Choices on a right-click menu are associated with the currently selected item. For example, the pointer and text tools have right-click menus available, as do the icons used to represent your equipment, people, and animals. Depending on what is selected when you right-click, the menu will be different. This illustration shows the menu when you right-click on a field; if a tractor icon is selected, fuel will be an option.



## Button Bars

A *button bar* is a row of buttons across the top of a window. Each button is a shortcut to a menu item, and pressing the button has the same effect as selecting the menu item. When a button changes a setting in the computer, it remains highlighted while selected, and a check mark appears by the menu item it is associated with. With Farm Works you can change the group of buttons displayed by selecting the category, such as Mapping Tools, from the list.



## Dialog Boxes

When the computer wants information or an answer to a question, it will display a *dialog box*. A dialog box is a window that contains various means of inputting data.

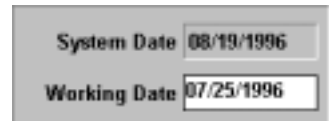
### Buttons

A *button*, when pressed, acts immediately. For example, the Print button prints the report.



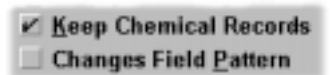
### Edit Boxes

An *edit box* is a place in which to type information. There are three basic types of edit boxes, designed for dates, numbers, or text. A date edit box allows you to enter the date several ways. For example, 7/25/03, 7-25-03, or 72503. In addition, a date edit box allows the use of the plus or minus keys to add a day or subtract a day from the date it contains.



### Check Boxes

A *check box* is a small, square button next to text and is used for single options that are either on or off. Click on the square box to turn it on or off.



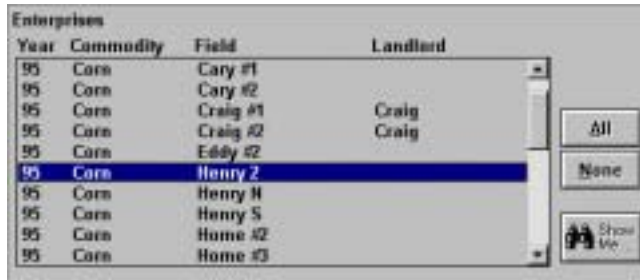
### Radio Buttons

*Radio buttons* always come in sets and work in groups. They are used when there are two or three choices that cannot be on at the same time. When you press one radio button in a group, it turns off all the other radio buttons.



## Lists

A *list* or *list box* contains a list of items. To select more than one item at a time, try holding down the *Shift* key to select a group of items or the *Ctrl* key to select several individual items.



## Paired Lists

A *paired list* is used to select a group of items. One list has all available choices, the other the selected choices. Move an item from one list to the other by selecting the item you want to move and clicking the appropriate arrow button, or by double clicking on the item to be moved.



## Drop-down Lists

A *drop-down list* is used where a list would take up too much space. The current selection is displayed, and pressing the arrow button pops up a list of other possible selections.



## <Add/Edit>

In Farm Works, many drop-down lists contain an <Add/Edit> item. Selecting this item will display a dialog box that allows you to enter or change information about the choices in that list.

## <New>

Another choice is the <New> item. Selecting this signals that you want to create a new entry, as opposed to editing an existing entry. As pictured, this box is often paired with an edit box where you can enter the name for the new entry.



## Combo Boxes

A *combo box* is similar to a drop-down list, but allows you to add items not already in the list.



## Calendar Button



The calendar button is available any time that a data can be entered or changed. Simply click on the button and a calendar will appear. Use the arrow buttons at the top of the calendar to scroll forward or backward through the months and left click on the desired date. You can also left click on the month or year at the top of the window select the desired month and year.





# Using the CD Tutorial and Demos for Help



The installation CD contains Tutorials and Demos to help the user learn the Farm Works programs. This should be one of the first places to look for help on questions and problems. The tutorials contain step-by-step instructions on how to use the Farm Works programs, while the demos present a general overview of programs features. Viewing the CD will give the user information about all of Farm Works products.

The Tutorial/Demo is located on the installation CD ROM. The best way to use the Tutorials/Demos is to run the Farm Works program at the same time you are running the tutorial and switch between the programs.

## Running the Tutorials and Demos

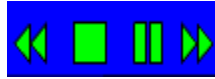
To run the Tutorials or Demos insert your Farm Works CD into the appropriate CD ROM drive. Windows will automatically display the CD start screen. Select the Tutorials or the Program Demos button.



## Tutorials

At the next screen, select the tutorial you wish to view from the list. Click on the Plus button beside a Program to view its contents. Individual topics may be viewed by opening a category.

The guidance buttons (Reverse, Stop/Go, Pause/Resume, or Fast Forward) on the bottom right side of the screen help the user move around in the tutorial.



- **Back**—Goes back one screen in the tutorial
- **Stop/Go**—Starts and Stops the tutorial
- **Pause/Resume**—Pauses and Resumes the tutorial
- **Fast Forward**—Advances the tutorial

## Switching between Programs

To switch between Farm Works and the Tutorials/Demos click on the appropriate program button in the Windows status bar.



An alternate way to switch between the programs can be achieved by holding down the <Alt> key and pressing the <Tab> key as many times as necessary to select the program you wish to view.



## Demos

At the Tutorials and Demos screen select the demo you wish to view.

The guidance buttons on the bottom right side of the screen help the user move around in the demo.



# Using Help Files

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This manual is designed to give an overview of how Site Pro works. More detailed instructions on how to use specific areas of the program will be included in the help system. The help files will always contain up-to-date, detailed instructions on how to enter information into Site Pro.

The easiest way to access the help files is to select the **Help Index** option on the menu at the top of the Farm Works screen. You can also select **How to use Help** to get more information on using the help system.

In addition to the help menu, you will see a **Help** button in most dialog boxes. By clicking on this button you can go to a short explanation of how to enter information.



At the end of each help topic, notice that the words **Commonly Asked Questions** and **Detailed Explanation** are colored and underlined. Any text within the help file that is a different color can be clicked to get a short “Pop-up” explanation or “jump” to another help

topic.

For example, if you clicked on **Commonly Asked Questions** you would go to a list of commonly asked questions for your topic. You could then click on any of the listed questions to see the answer.

Most of the topics that you access with the **Help** button will give a general overview of how the dialog box works. If you click on **Detailed Explanation** at the end of the help topic, you will get an in-depth explanation that includes examples and typical

uses for that dialog box. Additionally, this detailed help will include a picture of the dialog box that you were working in.

As you move the cursor over the dialog box, notice that it turns into a hand. By positioning the hand over any part of the dialog box, you can click and get an explanation of that part of the box.

Inside the Farm Works on-line help system, there are several buttons at the top of the screen. Following is a brief explanation of each of the buttons:

- **Contents:** Clicking on this button will display the Contents page, where you can browse the available help topics.
- **Search:** Opens a dialog box where you can enter any word or phrase and find help topics that apply.
- **Back:** Returns to the previously displayed help topic.
- **Arrows:** On-line help topics are grouped by area; for example, all Layer Management help topics are grouped together. These buttons move between the help topics within the current area.
- **Q & A:** Displays a list of commonly asked questions and their answers.
- **Close:** Exits the help system and returns you to Farm Works.
- **WINHELP:** Displays general information about Microsoft Windows helps.
- **Print:** Prints the currently displayed help topic.



# Clients and Layers

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## Overview

At the heart of Site Pro is its ability to organize information for each client into layers. These layers can represent various attributes about each location on the farm including soil type, fertility, elevation, yield, weed infestations, or just about anything else that can be measured and mapped. Layers can also be created to map the area's roads, waterways, and other landmarks to help locate and identify a client's field just by looking at the map.

## Clients

A client represents each of the growers that you work with, and is represented by the file cabinet within the Layer Management window. Every layer in Site Pro is associated with a client. Each client that is added to Site Pro will have a **Main Layer**. The Main Layer will contain all the fields for that client, and is the source for boundary information about each field. This layer is also the primary means of accessing field history and chemical application records.

There will be one client that is slightly different from the rest of those you will create. It is labeled as **Common**, and it is used to organize information that does not belong to a particular client, such as road or waterway layers. The Common client is also unique in that it will not have a **Main Layer**.

# Category

A category is used within a client's directory to help organize layer data. It is represented by a file folder. Category examples include Yield Data, Soil Samples, Scouting Data, etc.

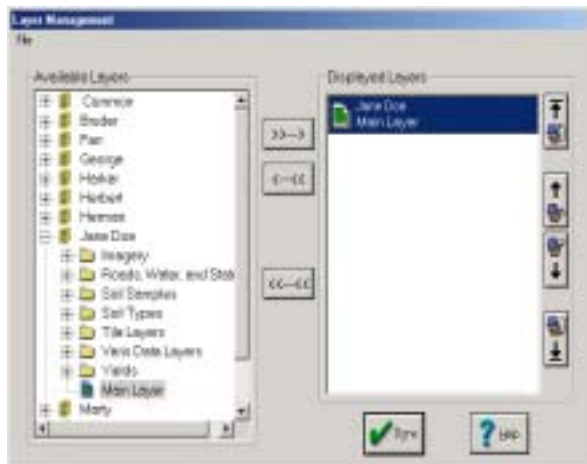
# Layers

Each layer in Site Pro is represented by a sheet of paper and acts like a sheet of transparent paper that contains just about any information that can be mapped. The layers that you create may contain georeferenced data that can represent attributes about a single point or an entire area. The type of data that you wish each layer to contain is customized by you to meet whatever needs you and your clients may have. Since these layers are like transparencies, the information from one layer can overlay information on another, thus allowing correlations and relationships to be studied.

## Selecting Layers to Display

The **Layer Management** dialog box is where you will select which layers to display and in what order. The Layer Management window is found by selecting Active Layer-More Layers within Site Pro or by selecting the Layer Management button from the layers tab at the left of the main Site Pro screen. The two main features of this box are two lists-**Available Layers** and **Displayed Layers**.

The **Available Layers** box contains all layers that have been cre-



ated and resembles Windows Explorer, in that there is a hierarchy of client, category, and layer. To view items under a client or category simply double click on that item or click on the + that precedes it.

The second box in the Layer Management window is the **Displayed Layers** box and lists those layers to be displayed and their order. Layers closer to the top of this list are painted over those layers closer to the bottom of the list. This order can greatly affect the results you achieve when overlaying multiple layers on the screen. The very topmost layer is special and is referred to as the **Active Layer**. This is the layer that the drawing tools will be editing and whose data can be added to, deleted, or modified.

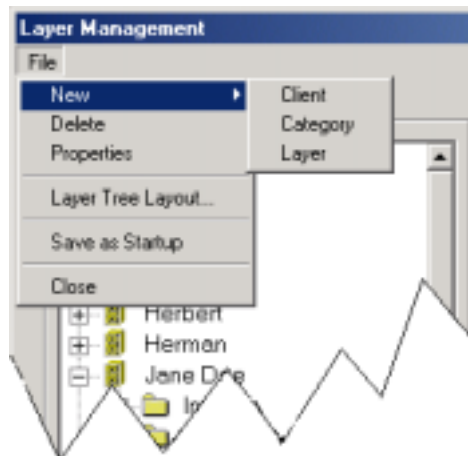
Layers can be moved to and from the list of displayed layers by dragging them with the mouse from one list to the other, or by using one of the buttons that separate the two lists. Layers that are being displayed will have a blue background in the list of available layers. Once in the displayed list, layers can be ordered by dragging them with the mouse or by using the appropriate button to the right of the list.

## Creating and Editing Clients

New clients may be created by selecting **New-Client** from the **File** menu or by right clicking on an existing client, category or layer and select New-Client.

Selecting **Delete** from the File menu will delete the selected Client and its contents.

Selecting **Properties** from the File menu will allow you to edit the name of selected client.



These options may also be accessed by right-clicking on a client and selecting the desired item on from the right-click menu.

## Creating and Editing Categories

To create a new category:

1. Select **New-Category** from the **File** menu within the **Layer Management** window  
  
or  
  
Right click on a client, category or layer and selecting **New-Category** from the pop-up menu that appears. The **Layer Category** window will appear.
2. Type the name of the new category in the **Description** box.
3. Select the **Add** button. The new category will be added to the **Layer Category** list on the left.
4. Select **Done** when the new category(s) has been added.

**NOTE:** New categories will not appear in the Available Layers window until a layer has been assigned to that category.

To edit the name of an existing category:

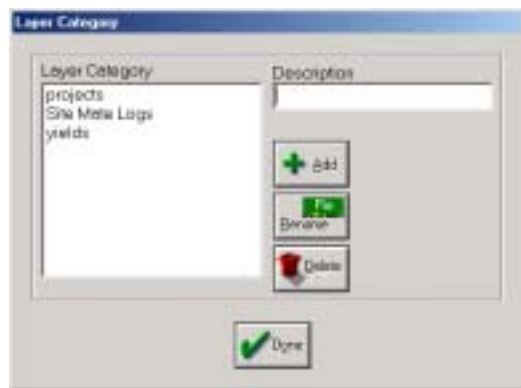
1. Highlight the category and select **Properties** from the Layer Management **File** menu

or

Right click on the category and select **Properties**.

The **Layer Category** screen will appear.

2. Highlight the category in the **Layer Category** window.
3. Make the desired changes to the name in the **Description** window and



select **Rename**.

4. Select **Done** when finished.

Existing categories may be deleted by highlighting the unwanted category and selecting **Delete** from the **File** menu within Layer Management or by right clicking on the unwanted category and selecting **Delete**. Deleting a category will delete all layers within the selected category as well.

## Creating and Editing Layers

A new layer may be created by first selecting the client or category to which you wish to add the layer, and then choosing **New - Layer** from the **File** menu in the **Layer Management** dialog box or by right clicking on an existing client, category or layer and selecting **New-Layer** from the pop-up menu.

Each layer may be assigned to a category. Layers will generally be grouped in one of two ways. The first method is by the type of information in each layer. An example of this type of grouping would be to have the following categories: Soil Tests, Yields, and Seed Variety. The second method is to group layers based on the farm for which the information is associated. An example of this type of grouping would be to have the following categories: McCool



Farm, Home Farm, and South Farm. Layers do not have to be assigned a category and may be assigned to a different category at any time.

There are three types of layers that may be created: **Point**, **Area**, and **Lines Only**.

- **Point:** Represents data collected for a particular point, such as yield monitor data or soil samples.
- **Area:** Used when attributes apply for an entire area of a field, such as soil type or seed variety planted.
- **Lines Only:** Information that is only expressed as lines drawn on the screen, such as roads or waterway maps.

Once the type of layer to be created has been decided, it is necessary to determine the data fields that the layer is to record. If the layer is Lines Only, you will not have the option to set up a georeferenced database for that layer. The rows in the table represent each data item you wish to record on this layer. Each item in this database must be given a description and assigned one of the following data types:

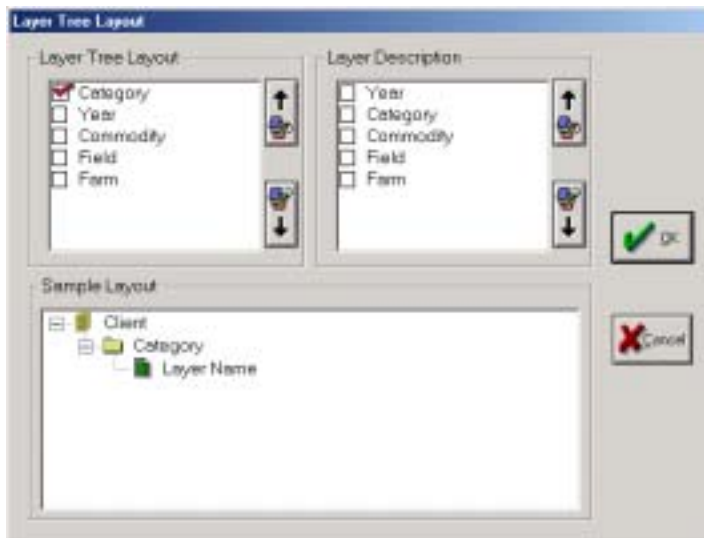
- **Choice:** items that can be enumerated in a list, such as seed variety, soil type, or weed species.
- **Date:** items such as planting and harvesting dates.
- **Field:** used to associate a record with a particular field that has been created on the Main Layer.
- **Number:** items that represent any type of numeric information, such as yield, pH, or elevation.
- **Pattern:** allows a color and/or pattern to be assigned for that data item.
- **Size:** a special form of numeric data that is automatically defaulted to the acreage of the defined area.
- **Text:** used to record free form text about the point or area defined.
- **Yes/No:** used for field marker data for most yield monitors, Yes represents where the marker was on and No represents where it was off.

Layers that contain information collected from yield monitors must have specific data items, and should be created when you are ready to import the data from the PC card or text file.

Once created, the layer's name, data items, and type can be changed by selecting **Properties** from either the **File** or right-click menus.

## Layer Management Organization

Selecting **Layer Tree Layout** from the **File** menu within Layer Management will allow you to choose how your clients, categories and layers are sorted.



For each box that is checked within **Layer Tree Layout**, a subcategory will be created beneath the client. The order of the items beneath **Layer Tree Layout** determines the order of the subcategories. To change the order of the options highlight the item to be moved and left click on the appropriate arrow to the immediate right of the **Layer Tree Layout** window. Each time an arrow is selected, the item will be moved up/down one place.

**Layer Description** will allow you to select how layer names will be displayed. Each box that is checked beneath Layer Description will allow that item to be

displayed within the name of the layer on the Layers tab. The order information is displayed in a layer name is determined by the **Layer Description** window as well. To change the order of the options highlight the item to be moved and left click on the appropriate arrow to the immediate right of the **Layer Description** window. Each time an arrow is selected, the item will be moved up/down one place.

The **Sample Layout** area allows you to preview the selected changes before they are accepted.

The information for the **Layer Tree Layout** is pulled from the **Layer Properties** of a layer (right click on a layer name and go to properties). If any information is selected for use in the **Layer Tree Layout**, but is missing from Layer Properties it will display as 'Undefined commodity, field, etc.'

The image shows a screenshot of a software dialog box titled "Layer Properties". At the top, there is a text input field labeled "Layer Name". Below this, there are four dropdown menus: "Category", "Commodity", "Field", and "Farm/Landlord". At the bottom of the dialog, there is a text input field labeled "Year".

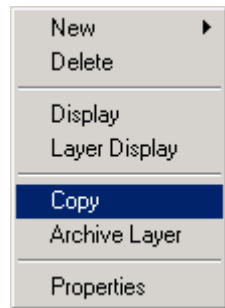
## Memorized Display Configurations

The process of selecting and ordering the layers to display will play a large role in determining the results you achieve on the screen. Site Pro automates this process somewhat through the use of saved display configurations. The Startup configuration is a set of layers that you use often and would like to have displayed when the program starts. To set up or change this configuration, organize the layers you wish to use in the Displayed Layers list in the Layer Management dialog box, and then choose **Save As Startup** from the **File** menu.

When working with a particular client, it may be convenient to select a number of layers as a starting point. This client specific configuration may be saved as the default for the client. To save this set of layers organize them in the Displayed Layers list, right-click on the client, and select **Save As Default for Client**. This configuration may be recalled by right-clicking on the client and selecting **Use Default for Client**.

## Copying and Archiving Layers

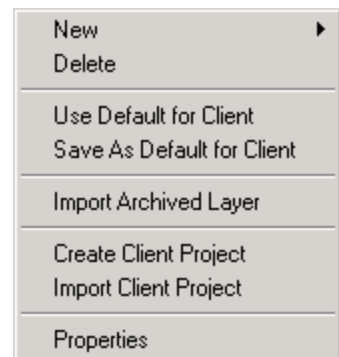
A copy of an existing layer can be made by right-clicking on the layer and selecting **Copy**. Site Pro now knows which layer to copy and is waiting for you to choose where the new layer is to be placed. Right-click on the client or category you wish to create the new layer in, and select **Paste**. All the information on the original layer will be copied to the new layer, with one exception: if one of the attributes for the layer is Field and you are pasting the layer under a different client, the Field information will be removed because the two clients have different fields.



Layers may also be archived for use by the client, or as a backup in case of computer failure. To create a layer archive, right-click on the layer and select **Archive Layer**. This will create a compressed file with all the information on that layer. This archive can be retrieved by right-clicking on a client or category and selecting **Import Archived Layer**. Your client can also use this archive to create a layer in his Farm Site project.

## Importing Client Projects

For those clients who already have Farm Site, you may wish to import the layers that they have already created. These layers may be imported individually as an archived layer, or all together by selecting **Import Client Project** on the right-click menu in the Available Layers list. The client can create the file to be imported by making a backup of his Farm Site project.



## Creating Client Projects

Once you have created layers of information for your client, you can provide them with a starting point for their own Farm Site project. To create a client project, right-click on the desired client and select **Create Client Project**. After selecting the layers you wish to export to the client, a compressed file will be created that can be

used as a project backup in Farm Site.

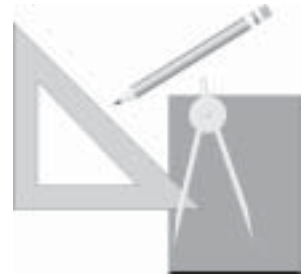
## Current Layers Window

In order to help you work with several layers at one time, Site Pro provides a list of layers that are being displayed to the left of the mapping screen. This list is known as the **Layers Window**. The top layer is displayed in a different color to signify that it is the **Active Layer**, and is the only one that the mapping tools will affect. Another layer may be made the Active Layer by double-clicking on it or dragging it to the top of the list. The order of layers in this list can be changed by dragging the selected layer to a new position or using the buttons at the bottom of the Layers Window. This list also provides a quick means of accessing the various display options for each layer. These options can be selected through the right-click menu on each layer.









# Mapping Tools

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With the Farm Works mapping tools, you can draw lines, squares, circles, or any other shape representing your fields, barns, woods, and other landmarks and structures. You will use these tools to their fullest if you also understand how to operate the **Zoom** and **View** tools, important positioning aids that help you view your farm on the screen.

The more that you practice and play with these tools, the easier they will be to use when you start drawing your actual maps.

Use this chapter to understand the tools available and their use. For step-by-step instructions on the use of a particular tool, see the tutorials or help system.



## Pointer Tool

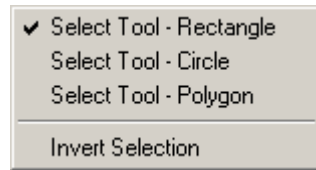
The **Pointer** tool is used to select lines and objects for editing. It is also used to work with objects that have been drawn and defined.

### Selecting Lines and/or Objects

A line or object must be selected to delete it, move it, or to use the right-click menu. A single line or object can be selected by clicking on it with the **Pointer** tool.

The pointer tool may be set to one of four different uses through the pointer tool drop-down list. The standard Rectangle option will allow you to select a square area. The Circle option will allow you to select a circular area. The Polygon option will allow you to left click around an irregular object to select everything inside that area. This tool works much like the multi-line tool. To select multiple lines or ob-

jects using the Rectangle option, click just outside the group and drag the “rubber band” to the opposite corner so that all items within the group are selected. Lines that are selected will blink. Objects that are selected will have a gray crosshatch pattern. Alternately, hold down the *Shift* or *Ctrl* key on your keyboard and click on each item. Clicking on the Invert Selection option will select everything outside the highlighted area.



## Deleting Lines and/or Objects

Once the lines and/or objects have been selected, use the *Delete* key on the keyboard or the **Delete** option on the right-click menu to erase them. If an object is chosen for deletion, the object itself, lines that are not part of an object, or both may be deleted.

## Moving Lines and/or Objects

To move lines and/or objects, select the lines or objects, hold down the mouse button until the cursor turns into a hand, then continue to hold down the mouse button while you move the object to the desired position.

## Displaying a Field's Acreage

When a field has been selected with the **Pointer** tool, its size will be displayed on the bar at the bottom of the screen.

## Right-Click Menu

The right-click menu offers various options that can be performed on the object such as merging, deleting, printing notations, etc. Use the **Pointer** tool and right-click on an object to display the options available.

## Measure

The **Measure** tool is used to measure the length of lines. After selecting this tool, left click at the starting point of the line and left click at each point a direction change is needed. The total length of the line will be displayed at the bottom right corner of the screen. Right click to remove the measure line from the screen.

## Edit Points

**Edit Points** is used to stretch lines or to add end points to the middle of lines to create bends and curves. This is very useful when the calculated acres differ from the actual acres. By moving a corner in or out, the size and shape of objects can be changed.

If an object is selected with the **Edit Points** tool, its area will be displayed in the bar at the bottom of the screen. As points are moved and/or deleted, the area of the object changes, and the new area will be displayed.

## Freehand (Pencil)

The **Freehand** tool works just like a pencil with the added feature that you can straighten the lines. To use this tool just hold the left mouse button down as you trace objects on the screen. Individual lines connected end to end are generated to create the final outline. The relative smoothness of the shape drawn can be adjusted once the mouse button is released. The more smooth the curve the fewer the number of lines that are required to be generated.

Although this is a versatile tool, use it sparingly, as this tool creates lots of small lines that can slow the speed of loading and displaying maps.

## Line Tool

The **Line** tool is used to draw a single line on the screen.

## Multi-Line Tool

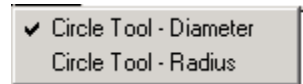
The **Multi-Line** tool is used for drawing irregular field boundaries and is the most commonly used tool for tracing field boundaries and other objects. To use this tool, left click at the start of the line and continue to click at each bend in the line. The right mouse button is used to end the operation.

## Rectangle Tool

The **Rectangle** tool is used by dragging in any direction from where you originally clicked. This tool is very useful when drawing structures.

## Circle Tool

Circles are represented as collections of small lines which can be moved or deleted as necessary to create ovals or semicircles. The **Circle** tool is ideal for drawing ponds and center-pivot irrigation systems. Circles may be drawn by their diameter or radius by making the appropriate choice using the circle drop-down button.



## Dual Line Tool

The **Dual Line** tool is used for drawing a pair of lines that are a set distance apart. It is similar in operation to the **Multi-Line** tool, but allows you to set the distance between the lines once the right mouse button is clicked.

## Contour Drawing

The **Dual Line** tool in conjunction with the **End Point** tool can be used to draw fields for contour farming. For detailed instructions, refer to Commonly Asked Questions in the helps.

## Corner Tool

The **Corner** tool works with two lines, extending or shortening them as necessary to form a clean corner. This is useful to ensure that two lines intersect and that there

are no gaps in the border of an object.

## Tee Tool

The **Tee** tool extends or trims one line to a point that would intersect with a second line. This is different from the **Corner** tool in that it only changes one of the lines and does not ensure that the two intersect.

## Define Objects

The **Define Object** tool is used to identify areas on the screen as fields, structures, or landmarks.

A field is any area that contains a growing crop and where farming actions take place. Structures include buildings and other objects such as barns, grain bins, and houses. A landmark is anything that is neither a field nor a structure such as woods, ponds, and non-tillable ground.

*Note:* A woods can be a landmark or a field. If you are cutting the timber and you want to keep records on this, the woods should be classified as a field, otherwise use the landmark category.

To define an object as a field, structure or landmark, select the **Define Object** Tool and click inside the object.

*Caution:* The most common problem when defining objects is a gap where intersections occur (a small gap can be impossible to see, even when fully zoomed). If you think you have this problem, or if the computer beeps and refuses to define the object, use the **Corner** tool to rebuild all intersections for the object.

When an object is defined the **Object Properties** box will appear. The Object Properties box is broken into four different sections that are represented by tabs. The sections are:

**General:** The General tab is where you'll enter a Description for the object and select a Category (Field, Structure or Landmark) and enter the size of the object. When choosing a name for an object, you may wish to use names that list similar fields, structures, and landmarks together. For example, if you are renting from someone named Smith, enter descriptions such as Smith1, Smith2, etc. for those fields. The fields will be listed together, which makes them easier to select when printing reports. Normally, you will not want to enter the legal description for the



field. If you delete an object, you can restore the information that was saved with it. After the field is redrawn, use the **Define Object** tool to redefine it. Choose the deleted field name from the drop-down list of objects.

**Field:** The **Field** tab is used to enter owner/landlord information as well as FSA information and a legal description. When you first define a rented field, you may create a list of landlords by selecting <Add/Edit> from the **Name** drop-down list. Additionally the **FSA** and **Legal Description** areas can be used to enter additional information for each field. This information will be used for creating reports for the FSA, crop insurers and others.

**Pattern:** The Pattern area is used to select the colors and patterns that will appear on objects on the map. These colors and patterns can be used on fields to indicate the type of crop being grown as well as the stage of the field. This allows you to display your farm and know the status of each field based on its color and pattern. Pattern Templates can be used to assign a name to any selected color and pattern. By assigning a name, you will be able to recall the same colors and patterns for other fields by selecting the template name from the drop-down list. The template names will also be used as a legend when printing maps. Select <Add/Edit> from the Template drop-down list to add names to the list of templates.

**Photo:** The Photo area is used to assign an image to the object being defined. This can be useful if you are defining a bin, barn or other structure since keeping pictures of structures can be useful for insurance and other purposes. Images can be a picture from a digital camera or a scanned image of a normal picture. Im-

ages need to be in either a .jpg, .tif, .bmp or .pcx format. Note that this area is not normally used for displaying aerial images that will be used for mapping. See the chapter in this manual titled *Using Images* for more information on using aerial imagery.

## Text Tool

The **Text** tool is used to add text anywhere on your map. Select the location on your map where the text is to appear and enter the text. To change the type or size of the font, select the **Text** tool and right-click on the text.

Once a field has been drawn and defined, a label can be added that will display the name of the field on the map. Using the **Pointer** tool or the **Text** tool, right-click on the object and select the **Add Label** option from the drop-down menu.

To remove the label, right-click on the object with the **Pointer** tool or **Text** tool and select **Remove Label**.

## Endpoint Tool

The **Endpoint** tool is used to select the endpoint of an existing line as the beginning or ending point when using other tools.

## Midpoint Tool

The **Midpoint** tool is used to select the midpoint of an existing line as the beginning or ending point when using other tools.

## Grid Snap

The **Grid Snap** feature allows precise positioning of objects and lines on the drawing

screen. The grid will display on the map as points that are evenly spaced across the drawing screen based on the grid size that was entered. The **Grid Snap** tool cannot be used alone, it must be used in conjunction with other tools.

To set the size of the grid choose **Grid** from the **View** menu or right-click the **Grid Snap** button on the tool bar.

## Horizontal Tool

The **Horizontal** tool is used to force the drawing of lines or the movement of objects in a horizontal (left to right) direction.

## Vertical Tool

The **Vertical** tool is used to force the drawing of lines or the movement of objects in a vertical (up and down) direction.

## Pan Tool

The **Pan** tool allows you to move the display of your map with greater detail than the slide bars along the bottom and right side of the screen. After selecting this tool, left click and hold down on your map. Move you map to the designated area on the screen and release the mouse button. The Map will remain in the selected location.

# Other Options

## Merging Objects

The **Merge** option is used to combine two fields that share a common boundary. This is very useful if you plant the same crop in two adjacent fields at the same time and there is no recognizable boundary where one field stops and the other starts. For detailed instructions on merging objects, refer to the helps.

## Splitting Objects

The **Split** option is used when a field needs to be cut into one or more sections. This is useful when planting more than one crop in a specific field. For detailed instructions on splitting objects, refer to the helps.





# Using Images

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Aerial photos or other types of scanned images can be displayed on the screen to trace features such as fields, ponds, barns, fences, and other important structures and landmarks. Scanners, which work something like a photocopying machine, produce computer images of paper maps that can be read by your computer and used as a backdrop for tracing your maps.

Site Pro also has a *Get from the Web* feature that can be used to download free government imagery from the internet into Site Pro. This feature provides a very easy way of getting high-resolution imagery that is geo-referenced. This feature is discussed in more detail in the chapter titled **Creating a Map**. When these maps are used, there is typically no reason to use other imagery such as scanned FSA maps.

This section of the manual covers the use of other types of imagery such as scanned maps and other types of satellite and aerial imagery.

## Calibrating a Scanned Image

Normally when you use an image such as an aerial photo, it will not be to scale (which means when you trace a field you will not get the correct acreage). Before an image may be used, it must be calibrated. Calibrating an image scales the map so that fields are close to their appropriate size. It also turns the map so that North is to the top and East is to the right.

To access the calibration program, select the calibrate option in Site Pro. On computers with limited memory, you may access the calibration program through the start menu, thus eliminating the overhead of the Site Pro program.

Once the map is calibrated, you may load as many maps as your computer has memory resources for.

*Remember, in most situations your maps do not need to be precise. However, through calibration, you can make your map more accurate. If you are having problems getting your maps precisely calibrated, do not worry about it.*

## **Full Calibration**

This is the most thorough way of calibrating without GPS. This calibration scales the map as well as rotates it so that North is to the top and East is to the right. With the **Full Calibrate** option, you will need to draw two lines; one that runs North-South and the other East-West. You must also know the distance the two lines represent. Roads or boundaries are the best features to use for this.

The length and direction of each line needs to be entered. The map will then be calibrated according to this information. This may take some time depending on the speed of your computer.

## **Scale & Rotate**

This option is used when you can identify two points on your map that are a known distance apart and only one line points North, South, East, or West.

## **Scale**

This option is used when you can identify two points on your map that are a known distance apart, but are not on a North-South or East-West line, or the map is already pointing in the correct direction.

## **Rotate**

This option is used when you can identify one line that points North, South, East, or West but cannot identify any known distances. Since Rotate does not change the scale of the map, it will often be used in conjunction with Scale by Area or Scale by Percent.

## **Scale by Area**

This option is used to scale the map without rotating it and should be used when you have a map that has no lines (such as roads or field boundaries) that are a known distance. With this option, you may trace a field and enter its size. The entire map will be scaled accordingly.

## **Scale by Percent**

This option allows you to increase or decrease the scale of the map by a percentage. It is usually used if you are unable to use any of the previously mentioned options.

# **Changing the Appearance of the Scanned Image**

## **Changing Contrast, Sharpening, and Smoothing**

These features may be used to improve the clarity of your map. Be sure to save your map before you do this in case it does not achieve the desired effect.

## **Half Resolution**

Reduces the resolution of your map. In many cases a scanned map's resolution may be cut in half with no significant difference in appearance. The advantage of **Half Resolution** is that the map can be displayed in Site Pro much more quickly, and it only requires one-fourth of the memory (RAM).

## Saving Your Calibrated Map

Once the map has been calibrated, it is important to save the new image to your hard drive. Use the **Save** option to save the map using the same name as before, which will replace the original map. To save the calibrated map with a new name, select the **Save As** option. We suggest using the **Save As** option so that the original is not destroyed.

### Save Selected

**Save Selected** allows you to select an area of your map (with the **Select** tool) and save just the area that was chosen. This works well when you have a large map, but only a small part of the map will be needed.

## Loading an Image

Loading an image allows you to use it to trace field boundaries. In the **Backdrop** area, select the **Load** option.

*Warning: Images will slow down a computer. Unless you have a fast computer with plenty of RAM, do not display more than two or three images at a time. Images are usually used just for tracing and are then removed from display.*

## Changing the way Images are Displayed

### Moving Images

Once an image is loaded into Site Pro, it can be moved to align with other areas on the drawing screen. Use the **Move** option from the **Backdrop** menu.



## Changing the Sort Order of Images

Site Pro will allow you to open as many backdrops (images) on your farming window as your computer's memory will allow. If two backdrops overlap, the backdrop that is listed first will be the one that is visible. Use the **Sort** option from the **Backdrop** menu to change the display order of the images.

## Removing Images that are Displayed

Removing the images will not erase them from the hard drive or floppy diskette. This will just remove them from the drawing screen. Normally you do not want to display images all the time because this slows down the program when you are displaying the drawing area. We recommend removing the images when they are not in use. When you reload the images, they will load in the same position they were in before they were removed. If the images are on a separate layer (that only contains the images), then it is only necessary to remove the layer from display.

## Calibrating World files

Geo-referenced image files, including geo-tiff, tfw, jpw and bpw files, may be loaded into Farm Works along with their geographic coordinates. Select the **Calibrate**  button from the **Backdrop Tools** button bar and click the **Open**  button to select the location of the file to be loaded. If the file has imbedded GPS data, the program will prompt you to calibrate the image with this data. This file may be saved directly into your mobile device with Farm Site Mate, if connected. You will need to save the calibrated image and will be able to load it as a background image in Farm Site Pro or Farm Site Mate.

Note: Some files, such as .tfw files, consist of 2 files: the image file (.tif, .jpg or .bmp) and a coordinate file (.tfw, .jpw or .bpw). Opening the image file in the calibrate program will also use the related coordinate file information.

# Calibrating Images with GPS Coordinates

Real world coordinates may be obtained from road and waterway maps, or GPS data from yield maps or a GPS receiver. These coordinates may then be used to calibrate a scanned FSA map (or other non-referenced image) which can be used to draw your farm. Normally you will only want to use this image if you are unable to use the *Get from the Web* feature as internet imagery will be easier to work with and will normally be of a higher resolution than most non-referenced imagery (such as scanned maps).

To calibrate your image with real world coordinates:

1. Road and waterway maps will be needed. These are on a CD that was included with Site Pro.
2. Import these maps into Site Pro. Please refer to the chapter titled *Creating a Map* for more information.
3. In order to calibrate the image, three positions will need to be located on the road and waterway maps that can also be located on the image. We suggest using intersections of roads. These three points should form some sort of triangle. The larger the area covered by the triangle the more accurate the calibration will be. These positions can be recorded using the **Registration Points** tool in the *Backdrop Tools*.

The next step is to load the image into the Calibrate program. Using the Register Points tool, locate one of the three points. Zoom into the area to get an exact point. The Point Name that corresponds with this location can then be chosen. After the third point is registered, the map will be calibrated.

Save the map in the Calibrate program and reload it in Site Pro. The image can then be loaded to a new layer with a name such as "Scanned Images".

The map will now be displayed in Farm Site Pro at the proper position (based on the coordinates that were registered) and to the proper scale. Use the mapping tools to draw around the fence lines of the fields. The boundaries should be drawn on the Main Farming Layer for the client you are working with.

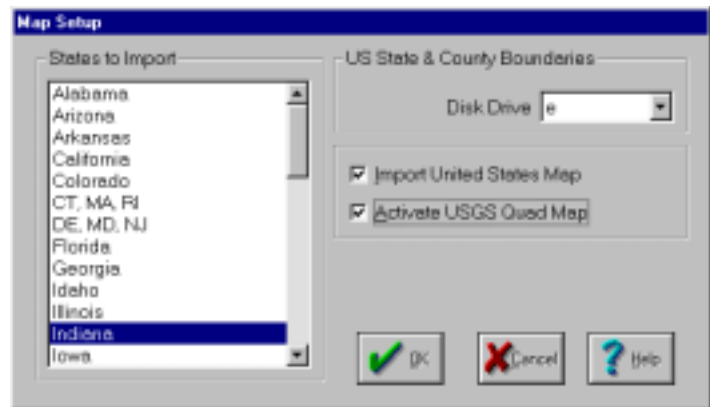


# Creating a Map

Your Farm Works Software includes a CD with USGS Road and Waterway data for an area representing one to five states. Site Pro can read the data from this CD to create GPS referenced road, waterway and other maps. With these maps, you can use the “Get from the Web” feature in Site Pro to download free; GPS referenced imagery from the Internet. With the roads and waterways & images, maps can be created that will be GPS referenced. When you take the time to carefully draw your maps, Site Pro can give you a very accurate estimate of the size of each field!


## Loading USGS Road & Waterway Maps

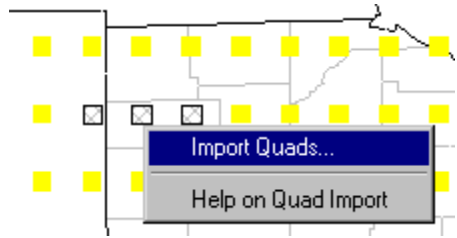
U.S. Geological Survey maps (USGS Quads) are geo-referenced maps of roads, waterways, railroads and other significant features. Quads CDs typically contain map data for a one to five state area and a CD for your area is included with Site Pro. To load the maps for your farm into Site Pro:




1. Select **Map Setup** from the **File** menu. The **Map Setup** box will appear.
2. Insert the USGS Quads CD into your CD drive and select the **Drive** from the drop-down list.

3. Select the **States to Import** from the list to load maps with county boundaries.
4. Select **Import United States Map** to load a map of all US state boundaries.
5. Select **Activate USGS Quads Map**. This will make the quads layer, which is used for selecting the area of your farm, your active layer once it is imported.
6. Click **OK** to load the selected maps. You will see a map of the United States on the screen with county boundaries for the states from step #3.

7. Use the **Zoom** tool  to zoom in on the area where your farm is located. You will now see a series of yellow squares. Each yellow square represents a quad, which is an area that you can import road and waterway data for.



8. Using the **Pointer**  **Tool**, select the quads to import. Hold down the **Ctrl** or **Shift** key on your keyboard to select multiple quads or click and drag to *rubber band* a section. Selected quads will have a gray crosshatch pattern.



9. Right click with your mouse and select **Import Quads** from the menu. The **Import USGS Quads** box will appear.
10. Select the type of data you wish to Import. Each data type will be loaded to a separate layer.
  - a. **Roads and Trails**: Includes streets, highways and roads.

- b. **Waterways:** Includes lakes, rivers and creeks.
- c. **Railroads:** Includes major railroads that have been mapped.
- d. **Misc. Transportation:** Includes features such as major pipelines and high overhead power lines.



11. If your quads border a state boundary, they may be available on more than one CD. In that case, you will need to select the CD # from which you are loading the quads. The CD # is written on the front of the CD.

12. Click **OK** to load the quads for your area.

13. In the **Import USGS Quads** box select your **CD-ROM Drive Letter** from the drop-down list and click **OK**. Depending on the number of quads selected and the speed of your computer, it may take several minutes to import the quads. Each type of data (roads, waterways, etc.) for each quad will be loaded onto a separate layer. These layers will all be assigned to a "Common" client so they can be shared between all of your individual clients.

14. After the quads have been loaded, switch to the **Layers** tab as shown on the right.

15. Select the **Layer Management** button. The **Layer Management** box will appear. **Available Layers** and **Displayed Layers** will be listed.

16. Available layers (which includes the newly imported road and waterway layers) are listed under clients in folders. Click on a plus + sign to view the contents. New Clients may be added by selecting *New* then *Client* from the *File* menu in Layer Management.




17. Remove the US Quad Layer from the Displayed Layers list and add the **Main Farming Layer** for the Client that you are working with to the Displayed Layers list. The Main Farming Layer is the layer where you will draw field boundaries. This is also the layer that will be used for field records.


Items may be removed from the Displayed Layers by double clicking on them. To add an item to the **Displayed Layers** list, double click on the item in the **Available Layers**. Items may also be added or removed by clicking on them and using the arrows between the lists. The bottom arrow will remove all items from the display.

18. Select the **Done** button in Layer Management to display the selected layers. Site Pro will automatically color the roads red, the waterways blue, the railroads black and the misc. transportation green.

## Deleting Extra Roads & Waterways

You may find that the quads give you more data than you need. The following steps will help you to delete data from the USGS Quad maps that you will not need, such as roads and waterways that are not on your farm.

1. Select the Layer Management  **Layer Management** button to go to **Layer Management** and use the **Remove All**  button to remove all layers from display.
2. Click and drag the *Roads* folder from the **Available Layers** (under the Common client) to the **Displayed Layers**. The result is that all roads will be displayed.
3. Select the **Done** button and the layers will be displayed. If all maps are not visible, select the  **Zoom All** button (located in the lower left corner of the map screen).
4. The Layers tab on the left will list the layers that are displayed. The top layer (known as the *Active Layer*) is the layer you will be working with. Use the **Pointer Tool** to click and drag to select any lines on the *Active Layer* that you would like to delete. Multiple areas may be selected by using the *Ctrl* key on your keyboard and clicking and dragging. Selected lines will have dotted lines and will be flashing.
5. Right-click and select **Delete** and the lines will be deleted.
6. Select the next layer that you wish to work with (in the Layers tab) and select

the **Top**  button to make the layer the top/Active Layer so you can delete

the extra lines on this layer.

7. Repeat step #6 for each of the layers that are displayed.
8. Repeat this entire process for Waterway, Railroad and Misc. Transportation maps so each map layer contains only the data that you wish to use.

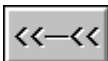
## Setting up a Startup Combination of Maps for Display

Each time that you go into Site Pro, the program can display a default combination of maps. The following section will show you how to set the program up so so a default combination of layerw (such as Roads & Waterways) will be displayed at startup:

1. Select the Layer Management

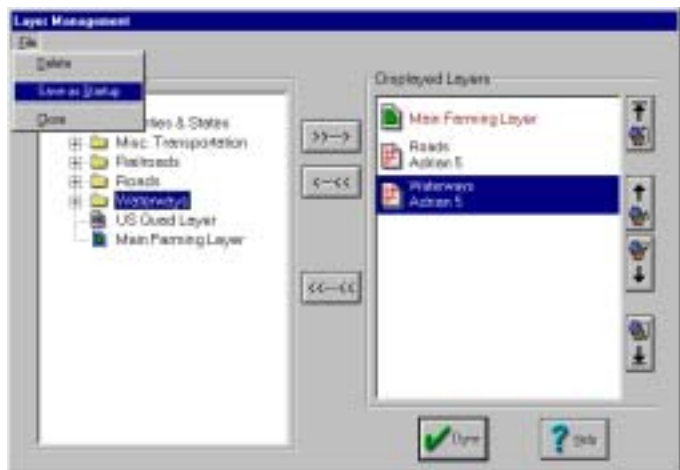


button to go to **Layer Management** and use the **Remove All**



button to remove all layers from display.

2. Select the layers to be displayed (in the **Available Layers** section) and move them to the **Displayed Layers** area.
3. In Layer Management, select **Save as Startup** from the **File** menu. This will cause Site Pro to load this combination of layers each time you start the program.
4. Select the **Done** button and the layers will be displayed.



# Using Aerial Photos from the Internet


Site Pro includes a method to quickly and easily download free, geo-referenced images from the Internet. To obtain the aerial images, you will need to know at least one geographic coordinate in your area and have an active Internet connection. Coordinates may be obtained from the USGS road and waterway maps that you have loaded into Site Pro.

## Registering a Point

1. To begin you will need to obtain at least one set of GPS coordinates that are to the North and West of the farm being mapped. The easiest way to obtain these coordinates is to use USGS road and waterway maps that have been loaded into Site Pro. Select the Layer Management



button to go to Layer Management and display the road and waterway layers.




2. Next switch to the **Backdrop Tools** and click on the **Registration Points**  button. The Registration Points box will appear.



3. Click on a point on the map that represents the Northwest corner of the farm. The coordinates will appear in the Registration Points box.
4. Enter a **Description** that defines the location in terms you will understand later: *Smith Farm NW*, for example.
5. Click **Record** to save the information and click **Done** to close the Registration Points box.



## Downloading and Calibrating the Image


1. Select the **Calibrate**  button from the **Backdrop Tools** button bar. The **Calibrate Image** screen will appear.
2. Select the **Get From Web**  button. The **Enter Coordinates** box will appear.
3. Select the **Saved Location** from the drop-down list for the point from step#4 in the previous section: *Smith Farm NW*, for example. Alternately, you may enter the coordinates for the point. Be sure to select **Approx. Top Left Corner** for the *Location of Point* option. Click **OK** to continue.
4. The image will automatically be downloaded from the Internet and will be calibrated with geo-referencing data. The downloaded image covers an area approximately 1.2 miles East and South from the selected point. Note that depending on the download speed of your Internet connection, this process can take anywhere from a minute to several minutes.
5. The map will now be displayed in the Calibrate screen. Select the **Save As**  button to save the image.
6. The **Save As** box will appear. Enter a name for the file (such as Smith Farm). The program will default to saving the file in the C:\Sitepro\Images\Backdrop folder/directory.
7. Click **Save** and the image will be saved.
8. Select **Exit** from the **File** menu to close out of the Calibrate screen and return to Site Pro.





## Loading the Image

1. Go to Layer Management and create a new category under the *Common* client (select *New* then *Category* from the *File* menu of Layer Management). Give the category a name such as "Imagery" or "Internet Imagery".
2. Select the Common client and select *New* then *Layer* from the *File* menu of

Layer Management. Create a new layer for the image. The layer name will describe the area covered by the image (such as "Smith Farm" or "West Half of Smith Farm"). This layer should be a *Lines Only* layer.

3. Display the new layer as the top/Active Layer. Then click **Done** to exit Layer Management.
4. To load the image onto the layer, select the **Load**  button in the **Backdrop Tools**. The **Load backdrop** box will appear.
2. Select the directory in which the calibrated image was saved. This will normally be the C:\Sitepro\Images\Backdrop folder, which is what the program will default to.
3. Select the file from Step #6 from the previous section.
4. Select the **Open** button to load the image onto the current Active Layer. The scanned map will appear on the screen.
5. If the image does not cover your entire farm, repeat this process, for the next area that is needed. If desired you can load more than one image onto the same layer. However, it is not recommended that you load too many images as this can slow down the display of the maps.

The USGS Roads & Waterways and the imagery are not perfect and there may be times where the maps do not line up exactly. Normally this is due to one of the maps being shifted. To fix this and make the maps line up:

1. Display the Road & Waterway Layers along with the downloaded imagery. Make sure that the layer with the imagery is the top/Active Layer.
2. Select the Zoom Tool  and zoom in on an intersection of two roads or a road and a waterway that is visible on the imagery.
3. Select the **Move**  button in the **Backdrop Tools**.
4. Position your cursor over the intersection on the image. Then hold down the left-mouse button until your pointer turns to a hand and drag the image until your cursor is over the same intersection on the USGS roads and waterways.

After all of the images are loaded and lined up with the roads and waterways, you can start drawing and defining your field boundaries on the Main Farming Layer for the client you are working with. Fields will typically be drawn using the **Multi-Line** tool (from the **Mapping Tools** toolbar). With the Multi-Line tool, you will left-

click around the corners of each field to trace the boundary. When the boundary is completely drawn, you can right-click to stop drawing.

***Hint:** When drawing a boundary it is very important to not leave gaps. Gaps can be caused by not stopping a boundary where it was started. To insure that there are no gaps, turn on the **End Point** tool by pressing the <e> key on your keyboard before you click on the last corner of the field (the same corner where you started drawing). This will snap the end of the last line to the start of the first line. Pressing the <e> key again will turn off the End Point tool.*

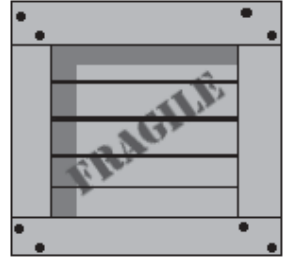
Once a field is drawn, it can be defined by selecting the **Define Objects** tool from the Mapping Tools toolbar and clicking inside the boundary. When this is done, Site Pro will display the acreage for the field and will ask for details such as the field name, landlord and other important information.

The **Drawing Tools** section of this manual includes more information on using the Multi-Line, End Point and Define Objects tools along with information on other important tools that can be used to create maps. Additionally, the Farm Works Tutorial and Helps include more information on creating maps.



# Importing & Exporting Data

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## Overview

The ability to access information collected from several sources is crucial to making accurate and informed recommendations. This information may come from yield monitors, soil testing labs, scouting reports, or even the government, and it all needs to be mapped. Site Pro allows access to this information through a process known as importing.

The information collected and stored in Site Pro may be useful to other software and hardware you wish to use. This information, however, is in a format that the other program may not understand and needs to be converted. This process of converting data from Site Pro into other formats is known as exporting.

## Importing

There are several types of files that can be imported with Site Pro. Examples include data from universities and government agencies, maps from the US Geological Survey (USGS), and ASCII text files from soil labs. The list of supported imports is continually growing and a complete list is available by contacting Farm Works Software.

The process of importing data has a few basic steps that are the same regardless of the type of information imported.

- Choose the type of data file that you will be importing. This includes deciding if the data to be imported will be represented as lines.

- Enter the name of the file that contains the data to be imported.
- Select the layer to receive the new information.

After these questions have been answered, other information may be required to complete the import, such as what data is in each column of an ASCII file.

The layer you are importing to may be set to become the Active Layer by marking the **Activate Layer** checkmark. A defined zoom may also be saved that encompasses the newly imported data by selecting the **Create Zoom View** checkmark. Finally, a legend by which to color the data may also be automatically created by selecting the **Create Legend** checkmark.

It is important that you carefully select the layer to which you wish to import the data. Information such as road maps should be kept on a separate layer from waterways. Similarly, soil tests for different years should be imported to separate layers. The way in which the information is organized in Site Pro will greatly affect performance.

## Generic Imports

The Generic Import feature is used to import any ASCII text file that is delimited by commas, tabs, or spaces. This is the type of import that can be used to map information provided by soil testing labs. Generic Import is called *generic* because the file to be imported can be organized in many different ways. The key feature of this import is that the data items in the destination layer may be mapped to any column in the source file. The data item on the layer may also be set to a constant value that all records will have.

Data may also be imported and added to points or areas already on the layer by matching a value from the file with one of the points previously mapped. For example, you could collect soil samples, mark their location on a soil test layer, and give each a sample number. Then when the results are returned from the lab, that sample number can be used by generic import to match each record in the data file to the corresponding point already on the layer.

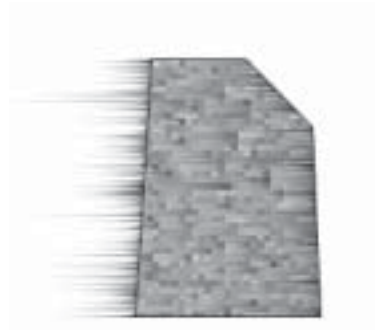
# Exporting

There are several types of files that may be exported with Site Pro for use by other software and hardware. Examples include the export for spot spraying applications, and the export of the entire layer for use by other Farm Works Software programs.

## Generic Exports

The Generic Export feature is used to export the information on the layer in an ASCII text file. This type of export allows for either commas, tabs, or spaces to be used to delimit the different data items stored on the layer. The organization of the resulting export is also configurable so that each column represents the desired data item.





# Quick Yields

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## Overview

The Quick Yield Import box may be used to import any yield map. The Quick Yield Import will automatically default the values for key steps such as creating the legend and activating the layer after the import. It will also automatically create averaged and contoured views. To create your own legend, go to the Edit Legend box in the Quick Yields area after importing.

## Quick Yield Tools

The Quick Yield Import is used to create a yield map utilizing a “wizard” that takes you step-by-step through the process. The wizard features different screens where you will enter different information. The bottom of the box will include a **Next** button that is used to proceed through each step of the yield mapping process. Additionally, a **Back** button will be available so you may go back and check or change any information that was previously entered. The following is a brief overview of some of the information entered in each screen of the wizard, note that some of these screens will only be available for certain types of yield data:

- **Filename** – Use the **Browse** button to select the yield file that is being imported. When doing this, you will normally select the PC card slot on your computer to find the file to be loaded.

- **File Type** – Select the type of yield file that you are loading. Site Pro will normally be able to detect the type of file and will not ask for this information.
- **Loads** – This area will list each of the fields (as entered on the yield monitor) that are in the selected file. If you do not wish to import a field, simply turn off the red checkmark to the left of the field name. Use the **Field** column to select the name of each field. These are the names of the fields as they are defined on the Main Layer in Site Pro. If the field has not yet been defined on the Main Layer, select <Add> and set the field up. Use the **Commodity** column to select the crop for each field. Select <Add/Edit> to set up or change a commodity. Note that the commodity will include information such as **Crop Weight, Dry Moisture, Shrink Percent** and **Shrink Increment**. These settings will affect the way the program computes the dry yield that will be used for your map. You will also need to select a **Combine** to use for creating the yield map. Select <Add/Edit> to set up or change information about the combine being used. The Combine settings will include information such as the **Start, Stop, and Combine Delays**. These settings will be used to determine the positioning of yield points. The Loads area will also include an option to “*Save a copy of the card image or file*”. This is useful for making a backup of a yield file.
- **Layers** – This is where the layer for each field being imported will be selected. Note that normally it is best to import the yield data for each individual field onto a separate layer. Site Pro will default to creating a new layer that includes the field name, year and commodity as the layer name. To use a different layer name, select the layers button to the right and you will be able to select a previously created layer or create a layer with your own name.
- **Markers** – If the yield data includes field markers, you will be able to assign the appropriate attribute that each button or marker represents.
- **Finish** – Once all of the requested information has been entered, you will see the finish screen. At this point you can use the **Back** button to review any of the information that was previously entered. Select the **Finish** button and the yield data will be imported and your map will be created.

Once the yield map has been imported, there are several different areas that can be used to display legends, average views, contoured views, etc.

The following is a list of quick yield functions:

- **Yield**—Displays the map with yield data.
- **Moisture**—Displays the map using moisture data.
- **Elevation**—Displays the map using elevation data when it is available.
- **Base Data**—This view of the data will show the raw data points with a 30 foot by 30 foot square for each point.
- **Average**—This view of the data will show the gridded average of the data. The average is based on a 50 foot grid. The size of the grid may be changed by right-clicking on the Average button and entering the desired size.
- **Contour**—This view of the data will show a contoured view of the yields. The contours will be based on a 50 foot gridded average.
- **Field Average**—This view of the data will show the field colored based on the average yield for the entire field. Right-click on the field and select Properties to display detailed information for the field.
- **Layers**—The Open Yield Layer box is used to change the yield map or layer that is displayed or to display additional yield map layers.
- **Coordinates**—This displays the Coordinates box which will show the exact coordinates where the cursor is at on the map. This can be used to check that coordinates of lines or objects are correct.
- **Legend**—Default legend which is based on the information imported. This legend can be changed through the Edit-Legend area.



# The File Menu

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## Overview

The options in the **File** menu perform important tasks, such as making backups, printing maps, and setting preferences for Site Pro's working environment.

## Saving the Map

Any change to the map is automatically saved when the layer is removed from the display or when the program is closed. However, if you have been working on the map and do not want to risk losing your changes due to a power failure or some other computer problem, you can have Site Pro save immediately. To save any changes to the map, select **Save Map** from the **File** menu.

## Making a Backup

The information stored in Site Pro is very valuable and precautions should be taken to ensure its safety. The **Make Backup** option on the **File** menu can help to prevent the loss of this important data. This option copies all the information stored in Site Pro to a compressed file that can be later restored in the event that data is lost or another copy of the information is needed on another computer.

This option makes a backup of all the information in Site Pro. Individual layers may be archived by using the **Archive Layer** option on the right-click menu in the Layer Management dialog box.

It is recommended that backups be made regularly, and that multiple sets of diskettes be used to store the archived data. For example, you may want to use seven sets of diskettes, one for each day of the week, and use each set on its corresponding day. Every now and then a backup should be made and stored in a safe place such as a fire box or off site to prevent data loss in case of major disaster.

## Restoring from a Backup

If the need arises that you must retrieve the information from a backup, the **Restore from Backup** option on the **File** menu may be used. This option will replace all the information currently stored in Site Pro with the data in the backup file.

**Warning:** This will delete all the information currently in Site Pro and will only return the data that is in the backup file. Any layers or information that have been added since the backup was made will be lost.

## Printing the Map

It is often helpful to have a hard copy of the map printed so that it can be referenced when you are not at your computer. To obtain a printout of the map, select **Print** from the **File** menu. There are several options that can be set at this time.

- **Output:** Select **Bitmap Image** when printing map to file. Select **Printer** when printing to paper. You have the option to enter the number of copies to be printed.
- **Options:** The **Layout** of a printed map has two standard settings: Standard-Portrait and Standard-Landscape. Select **<Add/Edit>** to create a new **Map Print Layout**. Select the items to print (such as a legend, scale, logo, etc.), then click and drag images to their desired location. You may adjust the print margins as well as the display margins. Entering a **Description** and selecting **Record** will save the new Layout.
- **Print Logos, Compass and Scale:** The Farm Works logo, a scale bar and a compass may be printed on your map. You may also print your personal

Logo. (For best results, use a 300x150 pixel bitmap.)

- **Use Printer Resolution:** Most printers can print at a much higher resolution than that of the screen. Printing at the printer resolution will make text and lines appear much sharper. Objects are printed with a solid pattern when this option is selected. The patterns used on the screen have stripes that are only one or two pixels wide and are not recognizable at printer resolution. As such, printer resolution should not be used when you wish to print patterns.
- **Print Outlines and Text Only:** This option allows for the map to be printed without filling any of the objects with a color or pattern. This is useful when printing maps that will be used to make notes about areas of the course.
- **Title and Map Info:** **Title** allows you to enter a name for the map. **Info** allows you to add a description or explanation to the printed map.

**Area:** There are several options that determine which area of the map will be printed.

- **Window:** The area to be printed will include all items currently visible on the screen.
- **All:** Every item on all currently loaded layers will be included in the area to print.
- **Select Area:** This option allows you to select the exact area of the map that will be printed. A red box representing the area to be printed will appear on the screen. This box may be moved and sized by dragging it with the left mouse button.
- **Specific Area:** Select this option to print an area centered on a specific object.

**Scale:** The scale will determine the size at which items on the map are printed.

- **Best Fit:** The program will calculate the largest scale that will fit all of the selected area on one printed page.

- **Scale:** This option allows the map to be printed at a specific scale. This is useful when several maps need to have a consistent scale. The selected area will be centered and may extend beyond the edges of the page if the scale is too small.

To select a printer or change the printer's settings, use the **Printer Setup** option on the **File** menu or the button in the Print Map dialog box.

- **DPI:** This stands for **Dots Per Inch**. This setting is useful when the output is to have specific scale. This value is ignored when using Best Fit for the scale.

## Logo Options

Printed maps may be customized by adding personal logos and/or changing the appearance of the Farm Works logo. Logos may be printed: full color, black and white, or a single line of text. These options may be accessed by selecting **Preferences - Logo Options** on the **File** menu. You may also select the **Logo Opt.** button from the **Print Map** screen.

If you wish to add your own logo to the map, it will be printed directly above the Farm Works logo in the lower right corner, but may be moved anywhere on the map. Personal logos may be created using Windows Paintbrush, and should be saved as either a 16 or 256 color bitmap (.bmp). For best results personal logos should be 300 x 150 pixels.

## Selecting a Measurement System

Site Pro may be configured to use US/English or metric units as well as to express coordinates in a variety of systems. To change these settings use the **Preferences - Measurements** option on the **File** menu. The choice of measurement system should be made prior to defining fields, so that the calculated area will be expressed in the desired units. Changing this setting does not change the values or units of the areas already defined or supplies already used.

There are several ways in which Site Pro can express coordinates, including decimal degrees, degrees - decimal minutes, degrees - minutes - seconds, state plane, and Universal Transverse Mercator (UTM).

# Map Setup

Site Pro includes the ability to load in a map of the United States as well as county maps for every state in the continental US. These maps will be on the CD that has the USGS roads and waterways. The **Map Setup** box is where you will load this road and waterway data from the USGS CD.

The USGS Quads CDs from Farm Works also include road, waterway, railroad and other USGS maps. A CD with data for your area should have been included with the Farm Works program CD.

To complete Map Setup:

1. Select **Map Setup** from the **File** menu.
2. If you wish to import US State and/or County maps, insert the USGS quads CD into your computer and select the proper Disk Drive in the upper right-hand corner of the Map Setup box.
3. Select the States that you wish to import. Note that you can select as many states as you need. The program will import the county boundaries for the states that you select.
4. Select the Import United States Map option to load a map of the United States that shows all state boundaries off of your program or USGS Quads CD.
5. Select the option to *Activate USGS Quad Map* to load the US Quad Layer as the active layer.
6. Select the OK button to load the desired maps.
7. If you selected the option to Activate USGS Quad Map, then you will see map(s) of the state(s) that you selected. The USGS maps are divided into rectangular sections (called "Quads") that are roughly 11 by 17 miles for most areas of the United States. The map will have yellow squares that represent the different quads for the state(s) that you selected.

8. Use the **Zoom Tool** to zoom in on the area that you are working with and use the **Pointer Tool** to select the quads that you want. You can select the desired quads by holding down the <shift> or <ctrl> keys on your keyboard and clicking on each square. Alternately, you can click and drag to form a "rubber-band" that surrounds the quads that you need. The quads that you have selected will be displayed with a gray cross-hatch pattern.
9. After you have selected all of the desired Quads, right-click and select *Import USGS Quads*.
10. To cancel out of the import process, right-click and choose *Cancel Quad Import*.
11. Once imported, each type of map (road, waterway, railroad and misc.) will be put onto a separate layer for each quad. These layers will be grouped by category in the *Common* client. You may display these layers from the **Layer Management** box.

# Viewing and Analyzing Data



## Overview

Once the information is collected, imported, and stored in Site Pro, the important process of analyzing the data is ready to begin. The maps generated with Site Pro will become a powerful tool in helping you make accurate recommendations to your clients. By identifying trouble spots and their effect on yield, you will be better able to assist your clients to raise crops more profitably.

## Layers Tab

The **Layers** tab shows which layers are displayed. Once displayed, a layer's characteristics can be changed to highlight an aspect of the data or to make this layer distinguishable from other layers. For example, the color of the lines can help distinguish between a road layer and a waterway layer.




## Properties

To change a Layer's Name, Category or any of its

Attributes, select the layer then select the **Properties** button.  Properties may also be accessed from each layer's right-click menu.


## Display Properties

There are several characteristics that affect how the information on a layer is dis-

played. A layer's appearance may be changed by selecting it from the Layer Window and clicking the **Display Properties** button  or by right-clicking on it, and selecting **Layer Display** from the menu. Some of the options that affect a layer's appearance include:

- **Visible/Hidden checkmarks:** used to make a particular type of item on the layer be visible, such as showing or not showing lines, text, backdrops, or data points.
- **Lines:** allows for the color and width of lines on the layer to be changed.
- **Data Points/Areas:** allows for the data to be represented in many different ways, such as a grid of average values or an average based on soil type. Any views that are no longer needed may be deleted by using the button to the right of the list.
- **Point Size:** the size of the dots that represent point data on the layer.
- **Borders on Points:** allows for the points to be outlined to make individual points more distinct.
- **Clip Points to Field Boundaries:** points and average grids generated for yield maps can be made to stay within their associated field boundaries as defined on the Main Layer. If the field is drawn incorrectly, the points may not display at all when this option is selected. Therefore it is very important that the fields be drawn and defined correctly on the Main Layer.
- **Color Scheme:** allows for the points or data areas to be colored based on any of the legends that have been created for this layer. By changing the legend, the data item that determines the color can also be changed. For example, on a yield layer you may have one legend for yield and another for moisture. If there are any data items that are of the type *Pattern*, they will appear as choices along with the list of legends and can be used to determine an object's color. This option also allows for all the data on the layer to be drawn using only one color.

## Show Me

The **Show Me**  option allows you to pick and choose the attributes that are displayed. By using the **Edit** button, attributes may be limited by assigning a range to them. In this way, areas of high moisture and/or low yields, for example, may be isolated. This option is covered in more detail at the end of this chapter.

## View Legend

The way in which items are colored is usually determined by which legend the layer is currently using. A legend is an association between a particular choice or range of values and a color pattern. To edit or add a legend to a layer, select the layer in the Layer Window and click the **View Legend** button or right-click on the layer and select **Edit Legend** from the menu. Each layer may have many different legends.

## Zoom Layer

The **Zoom Layer** button allows you to zoom in to a selected layer automatically.



## Remove from Display

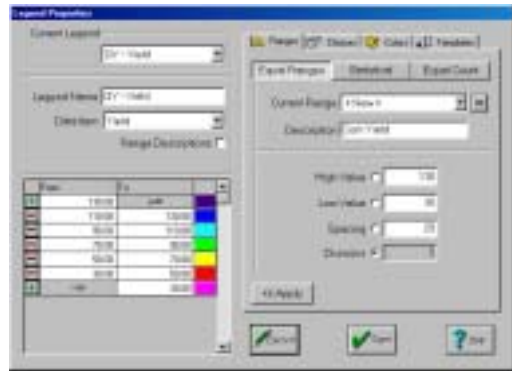
This button allows you to remove a selected layer automatically.

## Editing/Creating Legends

The **Edit Legend** box is used to assign colors to data on a layer. Colors will be displayed on the points or areas on the map and creates a legend that may be printed with the map. The Edit Legend box is where new legends may be created and existing legends may be modified.

The **Current Legend** drop-down list is used to select a previously created legend. Once selected, a legend may be modified or deleted. To create a new legend, select <New> from the *Current Legend* drop-down list then enter a **Legend Name** and select the **Data Item** to be used. *The Data Item* drop-down list will display all numerical and choice data items that are available on the selected layer.

Once a *Legend Name* and *Data Item* have been selected, the legend may be created. The Legend Properties box will include an area where the actual legend will be displayed. In this area you can change the numbers that represent the ranges or select the choice items to be used. New ranges may be added to the top and bottom of the legend by using the  buttons. The  buttons can be used to remove rows from the legend. Additionally, the color buttons to the right of each range may be used to assign colors to ranges of numbers or choices.



When the **Range Descriptions** option is enabled, a description can be added to each line of the legend. This can be useful for adding descriptions such as “High”, “Medium” and “Low” that will be displayed with the numeric ranges.

The **Ranges**, **Choices**, **Colors**, and **Templates** tabs in the Legend Properties box can be used to assign values and colors to a legend.

The **Ranges** tab can be used to assign ranges of numbers to a legend. When the *Equal Ranges* option is used, entering high or low values as well as the spacing or number of divisions can create a legend. You must enter three of the four values and the program will compute the fourth value. The *Statistical* option may be used to create a legend statistically based on the data that is on the layer. When doing this there will be options for entering the number of divisions to be used along with other information. Information including the number of data items, maximum and minimum values, and the average and standard deviation of the values will be displayed. The *Equal Count* option may be used to create the legend so that each line of the legend contains the same number of data items. Once the desired settings have been entered, the *Apply* button may be used to update the actual legend.

The **Choices** tab can be used with a legend that has choice data (such as soil types or other data that contains text) to quickly assign the desired choices to the legend. When the desired choices have been selected, the *Apply* button may be used to update the actual legend.


The **Colors** tab is used to quickly fill in the colors for the legend. The *Spectrum* area can be used to select different methods of assigning colors. When the *Narrow* or *Wide* method is used, colors for the top and bottom of the legend may be selected, and the colors in between will be assigned based on the color spectrum. When *3 Color* is used, you will be able to assign a color for the top, bottom and middle of the legend. Items in between are assigned colors automatically. The *Contrast* option assigns a variety of colors to the legend. Once the desired colors have been selected, the *Apply* button can be used to update the actual legend.

The **Templates** tab can be used for sharing different numeric legends between layers. The *Templates* tab will display a listing of all the legend templates that may currently be shared between layers. To add to this list, enter a *Description* for the template and click on the *Add* button and the legend that is currently displayed will be added to the list. To use a previously created template, first select the template name and then select the *Apply* button and the legend will be filled in with the values and colors from the template. The *Update* button can be used to update a selected template with the settings and colors on the left. The *Delete* button can be used to remove previously created template. Once the desired legend has been created, select the *Record* then *Done* buttons to display the data on the Active Layer with the legend.

## View Legends

The legend that a layer is currently using may be displayed and utilized as a reference while working with the layer. To display or hide a legend, right-click on the layer in the Layer Window and select **View Legend** from the menu. To display a legend on a printed map, select the **Print Legend** option before printing.

# Views

The ability of Site Pro to aggregate and interpolate data is a useful tool when looking for trends and correlations between variables. Different views may be generated from the data using the **Smoothing** button  in the *Layer Tools*.

## Average

The Average method creates a grid of points, where each point represents the average of all the points contained in that grid square. This method is useful when there are many points in each grid square, as with yield data. Grid squares that do not contain any points are left blank. This makes Average less useful for sparsely distributed points, such as soil samples. The number of points in an Average view will usually be much fewer than the number of points in the base data. This reduction in the number of points not only clarifies areas that need attention, it increases performance when loading and displaying the layer.

## Smooth

The Smooth method also generates a grid of points. Each point represents a weighted average of the data points nearest the center of the grid square. The weighting of each point is determined by its distance from the center of the grid square. Each square has a value calculated, regardless of whether or not any points are actually contained within its boundaries. This method is useful when the data is sparse, as with soil test data. The parameters used in the calculations can be changed by selecting the **Options** button when creating the view.

## Average & Contour

The Average & Contour method uses the grid generated by the Average method to calculate a contour map of the data. A contour map is an area map where each area represents one line on the legend. Contour maps are very useful to outline large areas of the field that have similar values. Since this method uses the Average method, it has the same limitations as the Average method, and should be used when each grid square contains many points.

## Smooth & Contour

The Smooth & Contour method uses the grid generated by the Smooth method to calculate a contour map of the data. A contour map is an area map, where each area represents one line on the legend. Contour maps are very useful to outline large areas of the field that have similar values. Since this method uses the Smooth method, it has the same limitations as the Smooth method, and should be used when there is a sparse distribution of points.

## Average Polygons

The ability to combine the information from two layers is a key feature in Site Pro. The Average Polygons method allows for the average value for an entire area from one layer to be used to calculate a view for data on another layer. For example, you can use this method to find the average yield for each soil type in a field. To generate such a view, use the Pointer tool to select the areas that represent the soil types contained in the field. Then right-click and select **Average Polygons** from the menu. In the dialog box, select the layer that contains the yield information to be averaged. The resulting view will contain objects that correspond to the soil type areas and will have the average yield as a data item.

## Show Me

The ability to query and filter the information is an important feature for any system that deals with large amounts of data. To filter information in Site Pro, right-click on the layer in the Layer Window and select **Show Me** from the menu. Each data attribute for the layer will be listed. The data points or areas displayed can be filtered by pressing the **Edit** button and entering the desired range of values that the data must fit. For example, to view just those points that have a yield less than 20 bushels, you would enter 20 for the upper limit. More than one attribute may be used when filtering. When multiple attributes are used, the data must fit all selected filters to be displayed.

To quickly return to viewing all data, select the **Make All Data Visible** button in the Show Me dialog box. This will remove the *Use* checkmarks from all the attribute filters that signal whether or not they are being used.



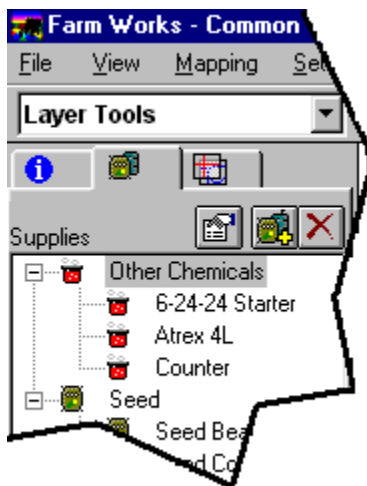



# Product Applications


## Overview

One of the unique features of Site Pro is its ability to record product applications. By keeping these records, Site Pro can help you and your clients comply with EPA regulations that require records of restricted use pesticides (RUP) be kept. In addition to the RUP reporting requirements, Site Pro can generate a field activity report that lists all the product applications for a field along with a cost for each.

## Setting up Supplies



The **Supplies** tab is where you will go to set up the supplies you will need for your clients. The supplies will be added to a master list that is organized into categories including chemicals, seed, fertilizer and other items. Each category will have a “+” to the left of the name. When you click on the “+”, the category will open and the individual supplies will be listed below it. You may display or change the properties of a listed supply by right clicking on it and selecting “Properties” or by left-clicking on the supply and then clicking on the  “Properties” button. A supply may be deleted by clicking on it and then clicking on the “Delete” button or by right-clicking on the supply and selecting “Delete”.

To set up a new supply, select the  “Add” button or right-click on the appropriate category and select “Add New Supply”. The Supply Properties box will appear. This box will be broken into five different tabs that are used for entering information. These tabs include:

## General

The General area is used for entering basic information about each supply. The following information will need to be entered:

- **Description:** a unique name for the item. Usually a brand name or variety, such as Roundup or Pursuit.
- **Part Number:** a code or reference number for the supply. This can be used as a reference for a number that your supplier uses or it can be used as a link to a master supply database from another source.
- **Type:** the category for the supply that is being set up. The Type will be used to determine the category that the supply will be listed under in the Inventory Items box. The Type will also determine what type of other information may be set up for the supply as well as the types of reports that will be kept for the supply.
- **Purchased Unit:** the unit of measure that describes how the supply is purchased. This is the unit of measure that will be used for the total amount of supply used on each field and the unit of measure that the unit price is based on.
- **Distributed Unit:** the unit of measure used when applying the supply to a field. This is the unit of measure that the application rate is expressed in.
- **Conversion Factor:** the number of distributed units that are in one purchased unit. For example, you purchase seed corn by the bag but plant it by the population. The purchased unit would be “bags”, the distributed unit would be “pop”, and the conversion factor would be 1 bag = 80,000 pop since there are 80,000 kernels of seed corn in one bag.

- **Unit Price:** the current price or cost of the product.

## Chemical

The Chemical area is used for entering details about chemicals. This area will only be available if Herbicide, Insecticide, Fungicide, Nematicide, Rodenticide, Fertilizer/Lime, Adjuvant, Growth Regulator, or Other Chemical is selected for the *Type* in the General area. The following information may be entered:

- **Restricted Use Pesticide:** marks applications of this chemical for inclusion on Restricted Use Pesticide reports.
- **Chemical Name:** the name of the Active Ingredient for the chemical. This can usually be found on the label of the chemical.
- **EPA Number:** the number that the Environmental Protection Agency has assigned to this chemical. This can usually be found on the label of the chemical.
- **Manufacturer:** the company that makes the chemical. This can usually be found on the label of the chemical.
- **Formulation:** the formulation of the Active Ingredient. This can usually be found on the label of the chemical.
- **Mode of Operation:** this is how the chemical works. Select the Mode from the drop-down list or select <Add/Edit> to add to the list.
- **Target Problems:** select up to five pests (weeds or insects) that the chemical controls. If the desired pest is not listed select the **Add/Edit Problem List** button.

## Fertilizer

The Fertilizer area is used for entering details about fertilizers. This area will only be available if Fertilizer is selected for the *Type* in the General area. The following information can be entered:

- **%N - %P - % K:** enter the Analysis percentage of Nitrogen, Phosphorous, and Potassium for the fertilizer. These percentages will be used to compute the number of pounds of each item used.
- **Product Weight:** this number is used to convert the quantity of fertilizer used to pounds. This value will be used along with the Analysis Percentages to compute the total pounds of N, P and K used.

## Pesticide Restrictions

The Pesticide Restrictions area is used to enter restricted entry information for chemicals. These items will be used when re-entry schedules are required under the Workers Protections Standards. The following information can be entered:

- **Re-entry Restrictions:** Select this to indicate that the chemical has re-entry restrictions. Once this is enabled, you will be able to enter other information in the Pesticide Restrictions area.
- **Restricted Entry Interval:** This is the length of time (in hours) that entry to areas treated with the chemical must be restricted. This information should be displayed on the label of all restricted use chemicals.
- **PPE and Other Label Requirements:** This information is required if you will be printing out Application Schedules that will be provided to people that will be working in or near areas that have recently had the pesticide applied. This information should be displayed on the label of all restricted use chemicals.
- **Treated Area Posting and Oral Notification Required:** Select this option if the owner or operator is required to make a Treated Area Posting or make Oral Notifications of the pest application to all workers.

## Pattern

The Pattern area is used to select the colors and patterns that fields will have when the supply is used in an application. This option will only be available when a seed is being set up or when the “Changes Field Pattern” option is enabled in the General tab. For seeds, the pattern should represent the crop that the seed is planting


so that the map will always reflect the crop that is in each field. Pattern Templates may be used to assign a name to any selected color and pattern. By assigning a name, you will be able to recall the same colors and patterns for other supplies by selecting the template name from the drop-down list. The template names will also be used as a legend when printing maps. Select <Add/Edit> from the Template drop-down list to add names to the list of templates.

## Setting up Applicators

Each application of any restricted use pesticide should record the person who actually applied the product. To add new applicators or edit existing ones, select **Applicators** from the **Setup** menu. Each applicator must be given a unique name along with his or her chemical application license number.

## Recording Product Applications

Once supplies and applicators have been set up, product applications may be recorded. To record a product application:

1. Go to the Supplies tab.
2. Move the supplies that are being used to the *Working Group*. This can be done as follows:
  - Select the supply, then select the Add  button or
  - Double click on the item
3. Make sure that the Main Layer for the client is displayed as the Active Layer.
4. Select the field(s) that the product is being applied to. To select multiple fields,



hold down the Shift or Ctrl key on your keyboard and click on each field.

5. Right click and select Apply Working Group.
6. The Farming box will appear so that you may enter details about the application.

## The Farming Box

The farming box is a spreadsheet in which you will enter specific information about the application. The table contains a column for each field involved in the application as well as a column for any totals. Each row in the table represents a different piece of information that can be recorded about that application. Information entered in the total column will be distributed to the other columns based on the number of acres treated or copied to all columns for data that is not numeric such as the chemical carrier. The main topics for input include:

- **Area Farmed:** the size of the area that had product applied. This value is defaulted to the size of the field but may be less if the whole field was not treated, or more if multiple passes were made.
- **Date:** the date the application was completed.
- **Commodity:** the crop that is growing in the field. If there is no crop currently in the field, select **Field Prep** or the crop that will be grown.
- **Notation Category:** the classification this application notation should have. Different categories can help sort out particular types of applications. For example, you may have categories for each of the various methods of application you may use.
- **Field Pattern:** the color pattern by which the field will be colored after completing the operation. This allows fields that have been treated differently to be identified on the map.
- **Applicator:** the person who applied the product. The applicator's license number will be included on chemical application reports.
- **Quantity, Rate, and Cost:** the amount and unit price of the product applied.

This information can then be used to generate statements of field activity for your client.

- **Additional Chemical Information:** if the product applied is marked as Keep Chemical Records, additional information about the application may be entered. This includes the chemical carrier and the carrier rate, such as water at 10 gallons per acre. This information is optional but will appear on chemical reports if it is entered.
- **Field and Weather Information:** if the product applied is marked as Keep Chemical Records, information about field and weather conditions at the time of application may be entered. This information is optional but will appear on chemical reports if it is entered.

## Removing Product Applications

The simplest way to correct a product application that was entered incorrectly is to undo the operation and enter the correct information. To remove an erroneous application select **Remove Product Application** from the **History** menu. Select the field and the date range for which the operation was entered, and press the **Update Operation List** button. Then select the operation to remove from the list of descriptions and press the **Remove** button. This will delete the notations, chemical records, and field activity records created by this operation.

## Editing Product Applications

Product applications may be edited by right clicking on the desired field and selecting **Operation Maintenance**. Users will be able to add an existing supply to the operation. Editing the product application will update notations, chemical records and field histories.

### To edit a farming operation:

1. Right click on the desired field and select **Operation Maintenance** from the pop-up menu.

2. Highlight the product application(s) to be edited. Use the sorting fields at the left to narrow your selection.

**For example**, if you want to view only the operations that have a **Type** of 'planting' for April of 2004 – enter the **Start Date** as 04/01/2004, **End Date** of 04/30/2004 and select 'planting' from the **Type** drop down list. Select the **Update List** button to display only the operations that fit these restrictions.

The displayed operations may be further sorted by left clicking on the column headings. For example, left clicking on the **Field** column heading will sort the currently displayed operations into alphabetical order by the field name. Left clicking on the **Field** column heading once more will sort the operations in reverse alphabetical order by field name.

**NOTE:** To select more than one operation, hold down the <Shift> or <Ctrl> and left click on the desired operations.

3. Select the **Edit** button. The **Farming** box will appear.
4. Make the necessary changes to the application.

**To add a supply to an operation:**

- a. Select **Add-Supply** from the Farming screen. The **Inventory Item** screen will appear.
- b. Open the appropriate supply category by left clicking on the '+' to the left of the category.
- c. Highlight the supply to be added.
- d. Select **OK** to add the supply to the application.
- e. Enter the application rate or total quantity used for of the supply added.
- f. Repeat steps a-e for each supply added to the operation.

## Merging Product Applications

Product applications may be merged by selecting **Operation Maintenance** from the right-click menu of a field. Hold down the <Ctrl> or <Shift> key and left click on the operations to be merged. Product applications must have the same field, crop and type before a merge can be completed.

## Editing Chemical Records

Chemical records can be edited or added without using the Apply Product menu item. This type of editing, however, will not change notations or field activity. For this reason, chemical records should usually be edited by removing the original operation, and re-applying the product to the field or using the Edit feature in Operation Maintenance. To edit a chemical record directly, select **Chemicals - Add / Edit Record** from the **History** menu. This method is useful for changing information such as the field or weather conditions.

## Creating Restricted Entry Schedules

Pesticide application schedules that conform to the Worker Protection Standards can be created with Site Pro. These schedules may be posted to warn employees that pesticides are scheduled to be applied that will restrict entry into the field. A map, which highlights all the fields that are currently restricted, may also be printed.

### Adding a Restricted Entry Application to a Field

An application of a Restricted Entry Information (REI) chemical may be scheduled by right-clicking on the desired field and selecting **Restricted Entry** from the menu. The information requested will be used to generate worker notification postings and a map of fields that have re-entry restrictions.

The schedule of restricted entry applications may be edited by selecting **Restricted Entry - Edit Application Schedule** from the **History** menu.

## Printing a Restricted Entry Application Schedule

The schedule of restricted entry applications may be printed by selecting **Restricted Entry - Report** from the **History** menu. This report conforms to the Worker Protection Standards and may be posted for your employees.

## Creating a Map of Fields with Restrictions

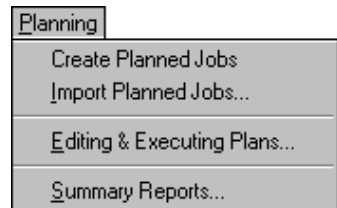
A map highlighting all restricted entry fields may be created by selecting **Restricted Entry** from the **View** menu. The **Display Restricted Fields** checkmark activates the restricted entry filter. This filter allows only those fields that have restrictions between the specified dates to be highlighted. This map may then be printed and posted to alert employees of potential hazards in the area.

# Planning

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Site Pro gives you the ability to enter **Planned Jobs** for upcoming planting, tillage, spraying, spreading and other farming operations. These Planned Jobs can be used for **Planned Summary Reports** that include the expected amount of product usage (seed, chemicals, fertilizer, etc.) along with planned equipment and personnel usage. These reports are ideal for resource allocation, product ordering, prepaying and budgeting. Additionally you can edit or complete planned jobs so actual farming actions do not have to be reentered.



Planned operations are very easy to enter as they follow the same user interface that is used when entering actual farming actions. Site Pro has a Planning menu at the top of the screen that is used for working with planned operations.


## Creating Planned Jobs

Planned Jobs will be entered into Site Pro in the same manner as normal farming actions. This will involve selecting people, equipment and supplies from the tabs on the left and then selecting fields on the map. The following are the steps you will follow:

1. Select **Create Planned Jobs** from the **Planning** menu to go into *Planning Mode*.


2. Select the Supplies tab on the left and select the chemicals, seed, fertilizer or other supplies that you wish to use for the planned operation. It is not necessary to use any supplies in planned jobs. However, you should select any items that you wish to include in your planning reports. You will select the items that you want and move them to the Working Group below. To select and move a supply to the **Working Group**, do one of the following:



- Double click on the supply item.
- Right-click on the supply and select **Add to Working Group**.
- Click on the supply and then click on the  button in the lower left-hand corner of the screen.



4. Select the fields that you wish to apply the plan to. This can be done by either:

- Clicking on the  button. After this button is selected your cursor will change to a Tractor and you can click on the fields that you wish to enter planned jobs for. After you have selected all fields you can click on the **Stop Planning** button.

Or by

- Holding down the *<Shift>* or *<Ctrl>* key on your keyboard and left clicking on each field that you want to enter planned data for. This will select the field and give it a gray cross-hatch pattern. Once all of the desired fields have been selected, right-click and select **Apply Working Group**.



- After the **Stop Planning** button is selected (or **Apply Working Group** is selected from the right-click menu), the **Planned Farming** box will appear. This box will list each of the selected fields in a column along with a Total column. The rows of this box will be the information that you will enter for your plan. Information entered in the Total column will either be split between the fields based on the size of each field (for numeric data such as quantities) or will be copied to each field (for text such as crops). The following is a summary of the data that will be entered:



Area Farmed	83.61
Date	07/19/2004
Start Time	
End Time	
Commodity	Field Prep.
Operation Type	
Notation Category	Farming
Note/Instruction	<input checked="" type="checkbox"/> Job Notes
Field Pattern	
Line	
Applied Area	83.61
Expected Rate (lbs/acre)	0.00
Actual Rate (lbs/acre)	0.00
Qty. Used (lbs)	0.000
Cost per lbs	1.25

- **Area Farmed** Enter the number of acres for the planned job for each field.
- **Date & Time** Enter the date and the start and stop time when you plan to perform the job, if desired.
- **Commodity** Enter the crop that you plan to have in the field. Site Pro will default to this crop for future operations.
- **Notation Category** Refers to the type of operation being recorded. For example, Tillage, Planting, Harvest, etc.
- **Note/Instruction** Enter any notes that you wish to include with this plan. Notes can include descriptions of where certain supplies should be applied. An example would be *Plant P3388 in the west half of the field.*
- **Charge Units** Enter the planned number of charge units (hours, tach hours, acres, etc.,) for any people and equipment to be used in the planned job.
- **Supplies** Enter the planned number of acres and the planned application

rate or total quantity to be used for each supply. A cost may also be assigned to each supply. The cost will default to the cost that was assigned to the supply when it was last used (if the supply has never been used it will default to the cost that was entered when it was set up).

6. When you are finished with a planned job, items can be removed from the Working group by doing one of the following:
  - Double click on the equipment or person in the **Working Group**.
  - Click on the person or equipment in the **Working Group** then click on the  button.
  - Click on the  button and all items will be removed from the **Working Group**.
  
7. Select **Create Planned Jobs** from the **Planning** menu to exit *Planning Mode*.

## Importing Planned Jobs

Site Pro gives you the ability to import **Planned Jobs** that are in an FODM format (with an .fsf file extension). These can include plans made by seed reps and crop consultants. Once imported, these plans will give you the same planned reports as would be created if you entered planned data using the above steps. Planned Jobs can be imported by selecting **Import Planned Jobs** from the **Planning** menu.

## Editing and Executing Plans

Once a plan has been completed, you can use Site Pro to document what actually occurred as a farming action. Farming actions will be used for creating field histories, notations, chemical reports and more.

To complete a planned job:



1. Select **Editing & Executing Plans** from the **Planning** menu.
2. Use the area to the left to restrict the planned operations to a certain Date Range, Commodity, Field, or Landlord. Once you have made the desired selection, click on the **Update List** button so only the appropriate plans will be displayed.
3. Select the planned operation(s) on the right by clicking on the operations. Alternately the **Select All** button can be used to select all displayed operations.
4. Select the **Complete** button to complete the selected operations. After this is done the Farming box will come up with the planned information displayed. Make any changes that are needed to reflect what was actually done. Completed Farming Actions will be included in Notations, Chemical, Fertilizer, Seed and other reports.
5. Select **Done** to close the window.



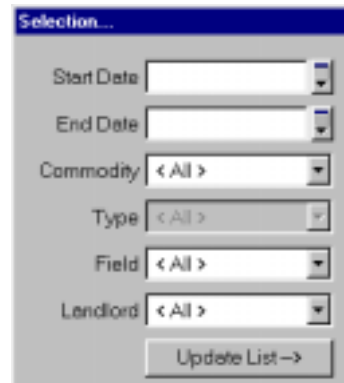
Planned jobs may be edited, printed, deleted or exported from this screen as well. Simply complete steps 1-3 as discussed previously and follow the appropriate steps below.

## Edit



Editing a planned job will allow you to edit existing information within a planned job. Applied quantities of supplies as well as charge units for people and equipment may be edited.

To edit a planned job, highlight the desired job(s) and select the **Edit** button.



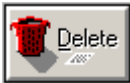
## Print



Printing a planned job will give you an *Operation Worksheet*. This worksheet will be useful to send to the fields with workers, as it includes a picture of the field as well as the information that was entered in the planned job. Additionally, this report, when printed, will allow record keeping of weather and field conditions.

To print an *Operation Worksheet* for a planned job, highlight the desired job(s) and select the **Print** button.

## Delete



Deleting a planned job removed all information associated with a planned job.

To delete a planned job, highlight the unwanted job(s) and select the **Delete** button.

## Export



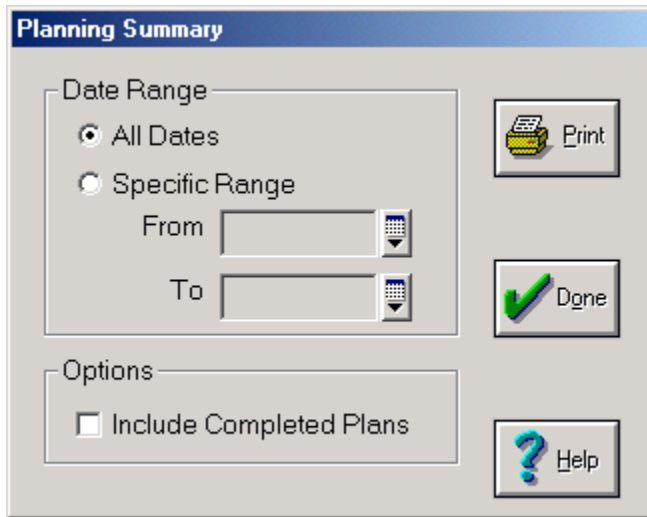
Exporting a planned job will allow the job to be synchronized to Trac Mate as a work order. If synchronizing with more than one hand held, a planned job will have to be exported prior to synchronization with each hand held.

To export a planned job, highlight the desired job(s) and select the Export button.

Exported jobs will be marked as *Pending* and will remain in the Editing & Executing screen until the completed job has been synchronized from Trac Mate or the job has been completed on the desktop.

## Printing Planned Summary Reports

Select **Summary Reports** from the **Planning** menu to display planned reports. Planned summary reports can be sorted according to a date range and can include complete or incomplete plans. Planned reports can be used for resource allocation, budgeting, planning, product ordering, prepaying and other functions.



The image shows a software dialog box titled "Planning Summary". It contains the following elements:

- Date Range:** A section with two radio buttons: "All Dates" (selected) and "Specific Range". Below "Specific Range" are two text boxes labeled "From" and "To", each with a calendar icon to its right.
- Options:** A section with a checkbox labeled "Include Completed Plans", which is currently unchecked.
- Buttons:** Three buttons are located on the right side of the dialog: "Print" (with a printer icon), "Done" (with a green checkmark icon), and "Help" (with a blue question mark icon).





# History and Reports

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## Overview

The information stored in Site Pro can be compiled and shared with your clients through its many reports. These reports will provide a historical account of the actions taken and practices used in the production of your clients' crops. This record will assist you in determining what has and has not worked in the past. The successes of the past can then be repeated, and lessons can be learned from past failures. With the advent of site specific technologies such as yield monitors and global positioning receivers, the effect of these actions can be measured and put into terms that every producer understands: their bottom line. In addition to providing insight into past practices, these reports will help you and your clients comply with the growing regulations on pesticide applications.

## Field Activity

Each time a product is applied to a field, several records are generated. The first of these records is used to generate the Field Activity report. This report lists the date of application along with the product's rate and cost. This report can serve as the basis for estimating the direct costs of production. To print this report, select **Field Activity Report** from the **History** menu, then select the fields to include.

## Crop Summary

The **Crop Summary Report** will allow you to view data by field, landlord, crop, year and/or county. To view or print this report, select it from the **History** menu.

# Yield Monitor Load

The **Yield Monitor Load Report** will allow you to view yield data for each client. To view or print this report, select it from the **History** menu. You may print a load report for any field(s) to display a summary of: the Layer and Field name, Load ID, number of Samples (or points), average Moisture, Area covered, Average Yield and Total Yield. Some data (such as Ag Leader basic format) will not have load IDs and will only give a summary for the field.

## Notations

Notations are used to tell a story about the history of a field. These notes contain product applications along with scouting reports, comments about practices, and weather observations. These notations may be categorized and filtered to give a brief summary about a single aspect of production. For example, the list of notations may be filtered to show just those that involved the application of Atrazine. This information would be useful in determining the type of crop to produce in this field the following year.

Notations may be viewed by right-clicking on the desired field and selecting **Notations** from the menu. A report for more than one field may be printed by selecting **Notations - Report** from the **History** menu.

## Editing Notation Histories

Notes may be added to a specific field by right-clicking on the field and choosing **Notations** from the menu. The notes that are listed may be edited, deleted, or added to. Those notations created by applying products should only be deleted by removing the operation through the **Remove Product Application** option on the **History** menu. Editing an application notation will have no effect on the field activity report or the chemical application records.

Notes may be categorized to allow each type of notation to be filtered and accessed more easily. For example, you may have a category for scouting reports,

and another for notes about the weather. Application notes may also be queried to show just those involving a particular chemical. To activate such a filter, press the **Show Me** button, and select the categories and supplies to be included in the list of notes.

A notation may be added to several fields at one time by selecting the fields, right-clicking, and choosing **Add Multiple Notations**. A special type of notation may also be created that applies to all of a client's fields. This type of notation can be created by selecting **Notations - General** from the **History** menu. Since a *General* notation applies to all fields, any change to this type of notation is reflected on all fields.

## Chemical Application Reports

Site Pro can help you and your clients meet EPA regulations that require records to be kept for applications of restricted use pesticides. Application records are generated each time a product is applied to a field. Only those supplies that are marked as **Keep Chemical Records** will generate the information that is needed for EPA compliance. These records may then be sorted and filtered by date, field, crop, or chemical applied. To generate a report, select **Chemicals - Report** from the **History** menu.

The chemical report may be printed in two different formats: The **Line Format** lists the basic information regarding each operation. The information on this report includes the application date, location, applicator, and product details. The **Page Format** lists all the details about the operation, including field and weather conditions, in addition to the information included on the Line Format. The **RUP Only** option allow you to print only Restricted Use Pesticides. This report may be printed in either format.

## Restricted Entry Schedules

Future applications of pesticides may also be scheduled in order to protect workers who may need to be warned before entering the treated area. The procedure for scheduling an application is covered in the Creating Restricted Entry Sched-

ules section of this manual and in the help files.

The schedule of restricted entry applications may be printed by selecting **Restricted Entry - Report** from the **History** menu. The information on the report is customized for three different levels of notification.

- **Pesticide Application List:** use this form to notify anyone working in or near the area of scheduled treatments.
- **Owners & Operators:** provide this form to custom applicators or independent crop advisors that you hire who should be warned of any scheduled treatments.
- **Custom Applicators:** provide this form to your clients so that they are warned of scheduled treatments that may prevent re-entry into the affected fields.

These reports conform to the 1992 Federal Worker Protection Standards.

## Operations Maintenance

The **Operations Maintenance** report is available by right clicking on a field and selecting **Operation Maintenance**. This report will break down the farming operation by region and will show a total cost of supplies per region as well as an operation grand total. Any field and weather information that was recorded for the operation will be included in this report as well. Operations may be sorted by Start Date, End Date, Commodity, Type, Field or Landlord by using the filter at the left of this screen.

Farming operations may also be deleted from this screen as well. To **Delete** a farming operation, highlight the unwanted operation and select **Delete**. This will remove the entire farming operation.

Farming operations may also be merged within this screen. To **Merge** multiple farming operations, highlight the desired operations by holding down <Ctrl> and left clicking on each operation to be merged. Once highlighted, select the **Merge** button. The selected operations will become one. The merged operations will now show on a single report, each as a different region.

The **View Map** button within this screen will allow you to view a map of an operation completed in Trac Mate. Simply highlight the desired operation and select the **View Map** button. This will cause the map created by the Trac Mate/Site Mate job to become the active layer.



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