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General Information

About This User Guide
This user guide illustrates the proper installation and use of the Linear Variable Rate Irrigation (VRI) Prescription software. This product works with the following 32- or 64-bit operating systems: Windows 7, Windows 8, or Windows 10†. And, it requires that Microsoft .NET, version 4.0 be installed.

All information in this manual is based on information available at the time of printing. Valmont Industries Inc. reserves the right to make changes at any time without notice and without incurring any obligation. Specifications are applicable to equipment sold within the United States, and may vary outside of the United States.

Minimum Hardware Requirements
• 8 GB RAM
• i5 Processor - 2.0 GHz
• Intel HD Graphics 4400
• 128 GB Hard Drive
• USB 2.0 port with USB to serial adaptor Valmont part no. 0178021
• Wi-Fi Capability
• Serial connection (USB to RS232 converter).

Valmont Recommended Laptop or Tablet Computer:
GETAC V110 or F110 preloaded with Valmont Applications available at www.integron.com/valley. This recommendation meets all the above minimum hardware requirements.

Installed Software
• Adobe Reader 8.0, or later, for display of the Installing the Linear Variable Rate Irrigation (VRI) Prescription Software User Guide.

NOTE
• Uninstall all previous versions of VRI prescription software from the computer before installing the new version.

Prescription Software
• CD Delivery - Put CD in the CD drive. If the CD does not auto start go to Start/Run and select the CD drive and the setup icon, then click OK.

† Windows is a registered trademark of Microsoft Corporation in the United States and other countries.
Introduction

Overview

Zone Control

Valley’s Variable Rate Irrigation (VRI) operates with the sprinklers of the machine arranged in groups (zones); each zone is controlled independently. A prescription map assigns an application percentage to each zone for a sector of the field.

Prescriptions

VRI Prescription software creates the irrigation plan that tells the irrigation system when and where to adjust the application depth in each sector in the field. This plan can be based on topography information, soil data maps, yield data, and other user-defined information.
Introduction

Glossary of Terms and Acronyms
The following are definitions of terms and acronyms used in this manual.

**AgSense ComanderVP** – Remote monitoring and communication device used to report changes in equipment operation to the user and to communicate user-initiated control commands to the equipment control panel.

**Base Station** – The combination of a computer with control software and hardware that is used to remote control or monitor a device. (i.e. a pivot or pump controlled with a computer).

**GPS** (Global Positioning System) - A space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.

**Grid** - Pattern of Sectors.

**Irrigation Sector** - A predetermined area of a field requiring a unique management plan comprised of one or more sectors.

**Linear Irrigation System** – Overhead irrigation system consisting of several segments of pipe joined together and supported by trusses, mounted on wheeled towers with sprinklers positioned along its length that moves in a straight line, termed Linear Move.

**Linear Length** - Length of the End Feed linear as measured from the cart to the end of the machine which includes the overhang.

**Linear Project** - Collection of all prescriptions related to a single linear. One project per linear.

**Linear Run Length** – Length of travel for the cart’s path across the field.

**Prescription** - Irrigation plan that tells the linear when and where to adjust the application percentage (depth) in specific irrigation management sectors in the field.

**Remote Telemetry** - Measurement and transmission of data from a remote source.

**RTU ID** (Remote Telemetry Unit Identification) - Three-digit, user-defined number identifying the remote telemetry device associated with the linear.

**Sector** - A predetermined area of a field to be prescribed a water application percentage. A Linear Sector area is defined by zone length and length of run segment.

**Segment** –Defined/programmed lengths (ft.) along the Linear machine path that begins at the cart location starting point. Length of run is divided by 180 possible segments maximum then rounded to the next foot, creating equal distance segments.

**Sprinkler Package** - A group of sprinklers with each sprinkler designed to deliver a specific amount of water based upon the sprinklers position along the length of the machine. This package also includes pressure regulators and required components to install the sprinkler on top, on the side or below the span pipeline.

**VRI** - Variable Rate Irrigation.

**Watering Rates** – Percent of water application depth.

**Zone** – Bank of sprinklers grouped along a Linear machine controlled by a single control. End Feed zone numbering starts at cart location and continues along the Linear machine.

**Zone Control** - Variable rate irrigation where the sprinklers of the machine are arranged in groups (zones), each zone controlled independently. A prescription map assigns an application percentage to each zone for each sector in the field.
Create a Project and Prescription

Create a Working Folder

Before you begin creating a linear project, you must create a working folder. The working folder is where all the new linear (projects), maps, images, and prescriptions, that you create or select with the Linear Variable Rate Irrigation (VRI) Prescription software, are stored. The suggested format is as follows. See Figure 7-1.

Drive

VRI Files
  Folder <Name of Linear A>
  Folder <Name of Linear B>
  Folder <Name of Linear C>
  Folder <Name of Linear D>
    Images Folder
    Maps Folder
    Linears-Projects Folder
    Prescriptions Folder

Opening the VRI Application

To open the VRI application, double click on the VRI icon on your desktop. See Figure 7-2.

The Project Selection screen appears. Choose Linear and click OK. The Variable Rate Irrigation screen for Linears appears. See Figure 7-3.

Figure 7-1   Folder format

Figure 7-2   VRI Icon

Figure 7-3   1. Project Selection screen  3. Click OK  
2. Choose Linear  4. Variable Rate Irrigation screen appears
Create a Project and Prescription

Creating a Linear Project

Note: Within VRI, each project defines one linear. Each project can have multiple prescriptions.

To create a VRI project, select **New Project** from the VRI drop-down menu. See Figure 8-1. The Add New Linear screen appears.

![Add New Linear Screen](image)

The Add New Linear screen provides basic information regarding the layout of the field covered by the linear machine. The following are examples of terms used in this section. See Figure 8-2.

![Field Layout Diagram](image)
Create a Project and Prescription

Creating a Linear Project

Linear Parameters
The Linear Parameters section of the Add New Linear screen provides fundamental information about the linear machine. See Figure 9-1.

1. Enter the farm name in the Farm Name field.
2. Enter the linear’s Remote Telemetry Unit (RTU) number in the RTU ID field. This is a user-defined number, and must be three digits long.

Linear Description
The Linear Description section of the Add New Linear screen provides the physical and logistical information about the linear. See Figure 9-2.

1. Currently Linear Type cannot be changed from End Feed in the design program.
2. Enter the linear’s total length in feet in the Linear Length (ft) field. The length of the linear for VRI Prescriptions is from the cart to the end of the machine, which includes the overhang. The default length is 1320 feet. The range is from 150 to 3,300 feet.
3. Enter the run length in the Linear Run Length (ft) field. The linear run length is from the machine start point to the machine stop point. The default value is 2640. The linear run length can be up to 20,000 feet.
4. The individual segment lengths are automatically calculated and displayed in the Segment Length (ft) field. This is equal to the linear run length divided by 180 (the maximum number of segments allowed) and rounded up in feet. You can enter the segment length in this field, if you want to. In this case, the segment length cannot be less than the default segment length displayed.

Irrigation Zones
The Irrigation Zones section of the Add New Linear screen provides information on the number of zones and their lengths. See Figure 9-3.

See the Irrigation Zones section of the Appendix for more information.

1. In the Irrigation Zones section, select the number of zones in the Number of Zones drop-down menu. The maximum number of zones allowed is 30. See Figure 9-4.
Create a Project and Prescription

Creating a Linear Project

Zone Length

2. Select either **Fixed Even** or **Variable Length** to describe the irrigation zone length.
   - If you select **Fixed-Even**, the fixed length is equal to the linear length divided by the number of zones. See Figure 10-1.
   - If you select **Variable Length**, enter the individual lengths for each zone shown in the drop-down list box, beginning with zone 1 (closest to the cart). As each zone length is entered, it is deducted from the total linear length. See Figure 10-2.

3. Click **OK** on the Add New Linear screen once all selections are filled out correctly. See Figure 10-3.

   If any of the fields on the Add New Linear screen have been left blank or need to be corrected, the List of Errors screen appears on the errors identified. The errors must be corrected before continuing.

   If there are no errors, the Prescription Name Entry Screen appears. See Figure 10-4.

4. Enter the name of the linear’s prescription in the **Prescription Name** field.

5. Click **OK**.
Creating a Project and Prescription

Creating a Linear Project

The Tools screen appears with a popup window which states “By default the machine path is from Top Left to Top Right.” This means that if the user does not select and place the grid on a Background image, the cart location is in the upper left corner and the machine path segments start there and move to the right. Also the machine orientation will start in the same corner and is configured down the left side of the screen starting with zone 1. Select OK. See Figure 11-1.

You will use this screen to create a linear prescription.

![Figure 11-1](image)

**NOTE**

- When creating VRI Zone Prescriptions, a good understanding of the overall hydraulics of the linear pipeline (if any), and pump is necessary to ensure equipment is not damaged by shutting off too many zones at once, thereby decreasing flow to less than the minimum flow rate.
- Most pumps will experience an increase in pressure as the flow is decreased. The minimum flow rate must be determined in order to calculate the maximum changes that can be made.
- A variable speed pump is a good option.

Zone Control Tools Grid

The grid for the Zone Control linear is either a rectangle or a square, depending on the lengths of the linear and the linear run. See Figure 11-2. You can designate up to 30 zones for the linear, and up to 180 segments (depending on how the Segment Length calculates the minimum length). It is possible that you could establish as many as 5400 single segments in the linear grid.

![Figure 11-2](image)
Create a Project and Prescription

Selecting a Background Field Image

Background Field Image

The first thing to do when creating a linear prescription is to select the image of the field to be used as the map’s background.

1. Click the Change Background tab on the Variable Rate Irrigation screen. See Figure 12-1.

   The Change Background screen appears.

   Following are descriptions of the buttons and boxes found on the Change Background screen.

   - **Browse Image** - Opens the Images folder for the selection of the image of the field for which you are creating a prescription.
   - **Clear Image** - Clears the selected image from the screen.
   - **Multiple Images** - Lists and displays all images related to the project/linear. Choosing different images will change the background image of your prescription. Individual images can be deleted from this list with the use of the X button.
   - **Draw Linear Grid** – Places grid over field based off of Zones and Segments to create Sectors.
   - **Delete All Images** - Deletes all images from this list.
   - **Zoom In** - Increases the detail of the image.
   - **Zoom Out** - Decreases the detail of the image.
   - **Panning** - Used in conjunction with the Zoom In button to move the image around the screen.

   Instructions - Provides instructions for the Browse Image, Machine Path, and Draw Linear Grid buttons.

   Status Box - Indicates which actions (Browse Image, Machine Path, and Linear Grid) have been completed.
Create a Project and Prescription

Selecting a Background Field Image

Background Field Image (continued)

2. Click the **Browse Image** button on the Tools screen, select the image of the field for which the prescription is being created, and click **Open**. See Figure 13-1.

   The image appears on the screen.

![Figure 13-1](image-url)

At any point in the Change Background process, you may remove the image from the screen and start over with a different image by clicking the **Clear Image** button.
Create a Project and Prescription

Selecting a Background Field Image

Background Field Image (continued)

3. The image will appear with a white rectangle just outside a red rectangle. See Figure 14-1.

   Position these rectangles on the field with the red rectangle as the field outline.
   • Move the rectangle by grabbing the center with the mouse. See Figure 14-2.
   • Change the size of the rectangle by grabbing one of the white square corners of the white rectangle and dragging it in and out to adjust the size smaller or larger. See Figure 14-3.
   • Rotate the rectangle by grabbing one of the white squares just outside of the rectangle corners and moving it in the desired direction to rotate the square. See Figure 14-4.

Be sure the field boundary is correctly oriented as it is not changeable once proceeding onto the next step unless the image is cleared and these steps are repeated with the image. Once the red rectangle is lined up with the field boundary proceed to the next step.

Figure 14-1

Figure 14-2

Figure 14-3

Figure 14-4
Step 4. With the field displayed, click the **Machine Path** button. See Figure 15-1.

Once the button is selected green outlined arrows will appear in the corners of the rectangle. Figure 15-2

- Select the arrow that is the location of your cart starting point. The green arrow selected should be pointing the Path direction of travel from the starting point. See Figure 15-2.

- Once an arrow is selected a yellow arrow will appear that represents the Linear span orientation from the cart and the start point for the first zone along the machine. See Figure 15-3.

- You will have the ability to change the selection until you select the next step **Draw Linear Grid**. Once that is selected the Path and Linear direction is not changeable unless you clear the image and start over with the image.
Create a Project and Prescription

Selecting a Background Field Image

Background Field Image (continued)

5. Click the **Draw Linear Grid** button. See Figure 16-1.

6. The Grid will appear over the image with the orientation that was specified. See Figure 16-2.

---

Figure 16-1  1. Draw Linear Grid

Figure 16-2
Create a Project and Prescription

Building a Prescription

After selecting the image of the field on the Change Background screen, you now use the Tools screen to create the linear's prescription.

Note that the RTU or Tracker Device ID and prescription name appear at the top of the screen.

1. Click the **Tools** tab on the menu bar. See Figure 17-1.

![Figure 17-1 1. Tools Tab 2. RTU ID 3. Prescription Name](image)

The Tools screen appears with the prescription grid overlaid on the image of the field. See Figure 17-2. The Tools screen is used to create a new Linear VRI-Zone (VRI-Z) map, or to edit an existing map. The lines on the map outline sectors.

![Figure 17-2  Tools Screen](image)
Building a Prescription (continued)

Drawing Tools

The Drawing Tools section contains buttons that are used to define the area in which the watering rates are to be applied. See Figure 18-1.

2. Select one of the following tools to identify a watering area:

   (1) **Horizontal Sector Tool** - Click on a sector to fill all sectors horizontally with the desired watering rate.

   (2) **Adjacent Sector Tool** - Click anywhere on the map to fill all connecting sectors not already selected by any of the other tools with the desired watering rate, or to change a block of sectors to a different watering rate.

   (3) **Polygon Tool** - Draw a multi-sided shape by left-clicking the mouse button at each position, then right-click the mouse button to close and complete the shape and fill in the desired watering rate.

   (4) **Panning Tool** - Click and hold the left mouse button on the grid after zooming in to move the grid around the screen.

   (5) **Vertical Sector Tool** - Click on a sector to fill all sectors vertically with the desired watering rate.

   (6) **Single Sector Tool** - Click on a single sector to fill it with the desired watering rate.

   (7) **Hide Polygon Lines Tool** - Click to hide the lines of the polygon. Selecting it again will unhide the polygons.
Building a Prescription (continued)

Watering Rate

The Watering Rate buttons are used with any of the Drawing Tools buttons to describe the amount of water to be applied to sectors. The color-coded buttons range in 5 percent increments from 0 to 100 percent. This is the percent of application depth. See Figure 19-1.

As you may have noticed in Figure 19-1 there is an open drop down menu that can be used to select 3 possible Watering Rate Color pallets.

1. **Valley 1** (Figure 19-1) which is based off of a gradient system similar to that of a soil map.

2. **Valley 2** (Figure 19-2) designed with varying high contrast colors.

3. **Custom Color** (Figure 19-3) a user definable and savable color pallet.
Create a Project and Prescription

Building a Prescription (continued)

Watering Rate (continued)

To make your Custom Color pallet See Figure 20-1:

1) Select **Custom Color** in the drop-down menu. **Note**: You can change colors in Valley 1 and Valley 2 but the program will ask you if you want to save this as your Custom Color pallet.

2) At each watering rate there is a drop-down arrow. Select it and color options will appear.

3) Choose the desired colors for your Custom Color pallet from the **Default Colors**

4) Or select **More Colors**

5) The **More Colors** screen will appear if selected. Choose a color shade then click on the watering rate drop-down arrow to exit color selection.

6) Once you have chosen your colors try selecting **Valley 1** or **Valley 2**

7) A popup window will appear asking “Do you want to save the color palette in Custom Colors.” Click **Yes** if you would like to save.
Create a Project and Prescription

Building a Prescription (continued)

Watering Rate (continued)

3. Click the appropriate Watering Rate button (0-100%).

4. Select the areas of the Zone Control prescription grid on which to apply the watering rate. Figure 21-1.

   The example in Figure 21-1 displays the effect of using each of the drawing tools. Note that when you apply the **Vertical Sector tool** (2) after first applying the **Horizontal Sector tool** (1), the Vertical overrides the Horizontal. Also note that the polygon lines can be removed with the **Hide Polygon Lines tool**.

   **NOTE**

   - When creating VRI Zone Prescriptions, a good understanding of the overall hydraulics of the linear, pipeline (if any), and pump is necessary to ensure equipment is not damaged by shutting off too many zones at once, thereby decreasing flow to less than the minimum flow rate.
   - Most pumps will experience an increase in pressure as the flow is decreased. The minimum flow rate must be determined in order to calculate the maximum changes that can be made.
   - A variable speed pump is a good option.

When determining water rates throughout the field be sure to keep in mind the note above as to not damage the irrigation system.
Create a Project and Prescription

Building a Prescription (continued)

Text
The Text tool is used to add text to the grid, and to edit or delete the text. See Figure 22-1.

Do the following to add text to the image.

1. Click the text icon.
2. Click on the area of the grid in which you want to place the text.
   The Enter Text pop-up screen appears. See Figure 22-2.
3. Enter the text you want displayed on the grid.
4. Click the Font button to change the appearance of the text.
   The Font pop-up screen appears. See Figure 22-3.
5. Select the Font, Font Style, and Size you want applied to the text.
6. Click OK.
Create a Project and Prescription

Building a Prescription (continued)

Text (continued)

The Irrigation Plan Text box now displays the text as you want it to appear on the grid. See Figure 23-1.

7. Click OK.

The Text tool now displays the text that was inserted, and its location on the screen. See Figure 23-2.

If you want to remove the text first select the text in the tool bar (See Figure 23-3) then the Irrigation Plan Text box will appear (See Figure 23-1). Delete the text from the box and click OK. The text now is removed from the screen.

Zoom

Use the + button to increase the size of the image, and use the - button to decrease it. See Figure 23-4.

Background Details

The Background Details tool provides the file name and location of the background image being used for this grid. See Figure 23-5.
Create a Project and Prescription

Building a Prescription (continued)

Grid Specification

The **Grid Specification** tab provides the means to change the appearance of the grid, the grid’s transparency, transparency level, grid line color, and segment details. See Figure 24-1.

Grid/Lines Transparency

**Hide/Show Grid** - This feature allows you to hide the grid and watering level colors, leaving only the image of the field and any polygons you have drawn on the image. Clicking on **Show Grid** returns the grid and colors to view. See Figures 24-2 and 24-3. To hide the polygon lines, click on the **Hide Polygon Lines** drawing tool.
Building a Prescription (continued)

Grid/Lines Transparency (continued)

Hide/Show Lines - You can hide the lines from view by clicking the Hide Lines button. You will still see any text you have added to the grid and any polygon lines you may have drawn. See Figure 25-1.

![Figure 25-1](image.png)
Create a Project and Prescription

Building a Prescription (continued)

Transparency Level Of Grid

At some point you may want to increase the transparency of the grid to view it in relation to the image behind it. To do this, click on the slider and move it to the right as far as you need. See Figure 26-1. The before and after affects of this can be seen in Figure 26-2.

Figure 26-1

Figure 26-2  1. Image Before Increased Transparency  2. Image After Increased Transparency
Building a Prescription (continued)

Grid Line Color

There may be times when the color of the grid lines needs to be changed to provide more clarity. To do this, click on the Grid Line Color icon, and choose the desired color. See Figures 27-1 and 27-2. Note: The More Colors option can also be selected Figure 27-3.

The grid lines automatically change to the newly selected color. See Figure 27-4.
Create a Project and Prescription

Building a Prescription (continued)

Segment Details

If you change either the linear run length or the segment length in the Segment Details section of the Grid Specifications tab, you will be asked if you want to start a new project when you click the Update button. See Figure 28-1. A popup will appear stating “Do you want to save the current project and create New Project?” Note: This action will start a new blank Prescription. See Figure 28-2 If you choose Yes, you will be asked for a new prescription name and a new grid is displayed. You will also have to add your background. If you choose No, nothing is changed.

![Figure 28-1](image1)

![Figure 28-2](image2)
Working With Projects and Prescriptions

After you have created and saved a prescription, there are several things you can do with it, such as:

- Open
- Save As
- Edit
- Reload
- Copy
- Export
- Delete
- Save
- E-mail

Opening a Project

In order to work with a prescription after it has been created and saved, you first need to open it. To do this, click on the File VRI drop-down menu and do one of the following. See Figure 29-1.

1. Locate the project in the Recent Projects list, and click on its name to open it.
2. Click on Open Project, locate it in the appropriate project folder, and click on it to open it.

   The project prescription opens on the Tools screen.

Copying a Prescription

Once the project prescription has been opened, you can copy it and save it under another prescription name.

1. Open the project and select Copy Prescription in the VRI drop-down menu. See Figure 29-2.

   The Prescription Name Entry Screen appears. See Figure 29-3.

2. Highlight the “Copy of...” prescription name and cut it, if you want.
3. Enter the new prescription name and click OK.

   A pop-up screen appears verifying that the prescription has been successfully copied. See Figure 29-4.
4. Click OK.
Create a Project and Prescription

Working With Projects and Prescriptions (continued)

Save As Project
You may want to save the project under a different name or in a different location. To do this, open the project and do the following:

1. Click on the File VRI drop-down menu, and select Save As Project. See Figure 30-1.
   The Save As screen appears.

2. Locate the folder in which you want to save the new project, enter the new project name in the File name field, and click Save. See Figure 30-2.
   A pop-up screen appears verifying that the project has been successfully saved. See Figure 30-3.

3. Click OK.
Create a Project and Prescription

Working With Projects and Prescriptions (continued)

Editing a Prescription

Once the project prescription has been opened, the watering rates for sectors can be changed through the use of the Drawing Tools and Watering Rate buttons on the Tools screen. Any text added to the grid can also be changed or deleted. The background image can be changed using the Change Background screen.

To view or edit a specific prescription when multiple prescriptions exist:

1. Select Edit Prescription in the VRI drop-down menu. See Figure 31-1.
2. Select the name of the prescription in the right column. See Figure 31-1.
3. Once you have selected a prescription it will load. Check the name in the top menu bar to confirm the selected prescription has loaded. See Figure 31-1.

Reloading a Prescription

If, while editing a prescription but before the changes have been saved, a mistake has been made or an edit needs to be changed, the prescription can be reloaded and started over. To do this:

1. Select Reload Prescription in the VRI drop-down menu. See Figure 31-2.
   A pop-up warning screen appears. See Figure 31-3.
2. Click Yes to discard changes, or No keep changes.
3. If you select No, you are returned to the grid with the changes made.
4. If you select Yes, the prescription is reloaded without the changes.
Create a Project and Prescription

Working With Projects and Prescriptions (continued)

Exporting a Prescription

Within the VRI application, you can export a prescription to both a PDF (Portable Document Format) file and to a CSV (Comma-Separated Values) file.

Exporting to a PDF File

Exporting the prescription to a PDF file provides the ability to view details online, to print a hardcopy, and to electronically share it with others.

To export a prescription to a PDF file:

1. Select **Export Prescription** in the VRI drop-down menu and click on **PDF**. See Figure 32-1.
   
The Select Images to Export screen appears. See Figure 32-2.

2. Select the images to export by clicking in the appropriate checkboxes, and click **Export**.
   
The Export screen appears.

3. Locate the folder in which you want to store the PDF file, and click **Save**. See Figure 32-3.
   
   A pop-up screen appears verifying that the prescription details have been successfully exported.

4. Click **OK**. See Figure 32-4.
Create a Project and Prescription

Working With Projects and Prescriptions (continued)

Exporting a Prescription (continued)

Exporting to a PDF File (continued)

5. Open the PDF (from saved location) The following information will be available:
   
a. **Cover Sheet** - Includes Farm Name, Date the PDF was created, Prescription Name, RTU ID, number of zones, the linear length, the linear run length, the segment length, and a colored picture of the grid. See Figure 33-1.
   
b. **Image Page** - Includes the Farm Name, Prescription Name, and a colored copy of the image used in the prescription. See Figure 33-1.
   
c. **Sector Information** - Includes the Farm Name, Prescription Name, Zone Settings for Length, and Segments and Sectors. Each Sector is filled in with its Watering Rate Percentage. See Figure 33-1.

Figure 33-1  1. Cover Sheet  2. Image Page  3. Sector Information
Create a Project and Prescription

Working With Projects and Prescriptions (continued)

Exporting a Prescription (continued)

Exporting to a CSV File

Exporting the prescription to a CSV file provides the ability to import the prescription into other data collecting programs, such as spreadsheets and databases, for reporting purposes. It can also be used for graphing and other such applications.

To export a prescription to a CSV file:

1. Select **Export Prescription** in the VRI drop-down menu and click on **CSV**. See Figure 34-1.
   The Export screen appears.

2. Locate the folder in which you want to store the CSV file, and click **Save**. See Figure 34-2.
   A pop-up screen appears verifying that the prescription details have been successfully exported.

3. Click **OK**. See Figure 34-3.
Working With Projects and Prescriptions (continued)

Exporting a Prescription (continued)

Exporting to a CSV File (continued)

4. Open the CSV file (from saved location).

The file will be opened by a spreadsheet application. See Figure 35-1.

The file can also be imported into other data-gathering applications.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
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<td>Zone-4</td>
<td>Zone-5</td>
<td>Zone-6</td>
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<td>Zone-10</td>
<td>Zone-11</td>
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<tr>
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<td>2</td>
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<tr>
<td>Farm Name</td>
<td>Prescription Name</td>
<td>RTU ID</td>
<td>Number of Zones</td>
<td>Linear Length (ft)</td>
<td>Segment Length (ft)</td>
<td>Linear Run Length (ft)</td>
<td>SEGMENT</td>
<td>Zone-1</td>
<td>Zone-2</td>
<td>Zone-3</td>
<td>Zone-4</td>
<td>Zone-5</td>
<td>Zone-6</td>
<td>Zone-7</td>
</tr>
<tr>
<td>Valley Farms</td>
<td>Aug-14</td>
<td>1</td>
<td>14</td>
<td>1200</td>
<td>15</td>
<td>2230</td>
<td>1</td>
<td>90</td>
<td>95</td>
<td>55</td>
<td>23</td>
<td>70</td>
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<tr>
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<td>Prescription Name</td>
<td>RTU ID</td>
<td>Number of Zones</td>
<td>Linear Length (ft)</td>
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<td>55</td>
<td>23</td>
<td>70</td>
<td>70</td>
<td>45</td>
</tr>
</tbody>
</table>

Figure 35-1

1. Farm Name
2. Prescription Name
3. RTU ID
4. Number of Zones
5. Linear Length
6. Segment Length
7. Linear Run Length
8. Zone Numbers
9. Segments
10. Sectors
Delete a Prescription

Individual prescriptions for linear projects can be deleted without deleting the project. To delete a prescription, do the following.

1. Open the project containing the prescription you want to delete.
2. Select **Delete Prescription** in the VRI drop-down menu, and click on the name of the prescription in the right-hand column. See Figure 36-1.
   
   A pop-up decision screen appears asking if you are sure you want to delete the prescription.

3. Click **Yes**. See Figure 36-2.
   
   You can click **No** if you have changed your mind.
   
   A second pop-up screen appears confirming that the prescription was successfully deleted.

4. Click **OK**. See Figure 36-3.
Saving a Linear Project
In order to save a project

1. Select **Save Project** in the **File** VRI drop-down menu. See Figure 37-1.
   The Save As screen appears.

2. Locate the folder in which you want to save the project, give the file a name, and click Save. See Figure 37-2.
   A pop-up screen appears stating that the project has been successfully saved. See Figure 37-3.

3. Click **OK**.
E-mailing or Exchanging a Prescription

Prescriptions can be e-mailed or exchanged from one user to another.

To e-mail the files properly, there must be an understanding of the file structure of a VRI Project file.

When a VRI Project is saved the program creates a Project folder inside of the folder in which it was placed.

In Figure 38-1 the prescription ABC Farms was saved in the Linear-Projects Folder. The program created the ABC Farms folder and inside of that folder it created an Image folder (which contains the image/ images if any used in the programs prescription) and the actual VRI file.

Additional information about these files:

1. The VRI file is all that is needed to load into a Panel. (Example: ABC Farms.vri) If the file is only going to be loaded with the RxLoader program only this file needs to be sent. Note: Sending only this file will not open properly in the VRI Program.

2. The second and preferred method for transfer is to exchange the entire ABC Farms folder. An easy way to do that is to Zip the folder with a zip program (most computers are equipped with the need program). Right click on the file and a drop-down menu will appear select Send to, then choose **Compressed (zipped) Folder**. Figure 38-2

You now have a Zipped file. Figure 38-3

This gives the recipient the entire project with the imagery and VRI prescription. They will need all of it to properly view the prescription.
Uploading a Prescription

VRI Prescription Loader
The VRI Prescription Loader application is used to convert the user-entered VRI prescription details into a format that can be read by a control panel in the field.

Hardware and Software Requirements
• AutoPilot control panel software v. 2.01

Prescription Upload Methods
• Prescription loader: Upload or save a prescription created with the VRI prescription map program.
  » Upload a prescription directly to the AutoPilot control panel through a serial cable connection with a personal computer. A null modem cable or a null modem adapter is needed for the upload.
Uploading a Prescription

Loading Prescriptions

To load a VRI prescription:

1. Open the pivot project.

2. Select **Prescription Loader** in the VRI drop-down menu. See Figure 40-1.
   
   The Prescription Loader screen appears. See Figure 40-2.

3. In the Data Source File Selection section of the screen, select one of the following to identify the prescription's source:
   
   - **Use Valley VRI program Generated XML** (default)
   - **Use Third Party program Generate XML**

4. Select the RTU ID of the prescription that is to be loaded, or saved, by clicking the appropriate checkbox.

   **NOTE:** The control panel RTU ID must be the same as the VRI prescription RTU ID selected in this section before data is sent to the panel.

5. Select one of the following by clicking on the appropriate checkbox:
   
   - **Write to panel** - will cause the prescription to be sent directly to the control panel
   - **Save to file** - will cause the prescription to be saved either to a location of your choosing or to the C:\Program Files\ValleyBase\VRI folder

6. If writing to the panel, select the COM port to be used in the drop-down menu.

   **NOTE:** Use the 9-pin COM port on the control panel with constants set at Remote Control and baud rate at 9600.

7. Clicking **Clear All** removes all selections made on the screen.

8. Click **Continue** to be taken to the next screen.
Uploading a Prescription

Loading Prescriptions (continued)

If you selected Write to panel and clicked Continue, the file is sent to the control panel and the Prescription Loader screen is updated with the status of the data transmission. See Figure 41-1.

NOTE: “All 64 records loaded” defines the sector details. This particular prescription has 16 zones, and the grid is divided into 4 quarters by the system. The prescription records are therefore calculated as $4 \times 16 = 64$.

If you selected Save to file and clicked Continue, the Browse For Folder pop-up screen appears. See Figure 41-2.

9. Locate the folder in which you want to store the file and click OK.
   - If you want to store it in a new folder, click Make New Folder and place it there.
   - If you click the Close button without specifying a location, the system automatically saves the file in the C:\Program Files\ValleyBase\VRI folder.

Figure 41-1  1. Data Transmission Status

Figure 41-2  1. Make New Folder Button
2. OK Button
3. Close Button
Uploading a Prescription

Loading Prescriptions (continued)

The Upload pop-up screen is updated to indicate that the file has been uploaded correctly. See Figure 42-1.

10. Click **OK**.

11. Click the **Close** button on the Prescription Loader screen to exit the Prescription Loader application. See Figure 42-2.

![Figure 42-1](image1.png)  1. OK Button

![Figure 42-2](image2.png)  1. Close Button
Irrigation Zones

Number of Sprinkler Zones
The Number of Zones setting controls the number of zones shown on the map. Selection is made from the Number of Zones drop down list depending on the Variable Rate Irrigation (VRI) Control being used.

- VRI Zone Control, The range is from 1 to 30 zones. Example: If the number of sprinkler banks is set to 16 there will be 16 zones shown on the map from the cart to the edge of the field.

Sprinkler Zone Length
Sprinkler zone length controls the length for each zone shown on the map.

- When fixed value is selected, the zone lengths are equal to the linear length entered in the linear description divided by the number of sprinkler zones.
- When variable length is selected, the zone length on the map can be customized to represent the actual length of the sprinkler group on the machine.
- One Valley VRI tower box controls two sprinkler zone solenoids. One sprinkler zone solenoid can control multiple sprinklers.
- Sprinkler zone number 1 in the list box is the sprinkler group next to the cart point.
- Sprinkler zone length is an approximate measurement from the first sprinkler to the last sprinkler controlled by one solenoid.

If variable length is selected, enter the individual lengths for each sprinkler zone shown in the list box beginning with sprinkler zone number 1 and proceeding numerically. As each sprinkler zone length is entered it is deducted from the total linear length. Lengths cannot be a negative number.