



# SGA Pro Help

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(grayed-out entries are under construction)

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#### 1-1. What is SGA Pro; How is it Different from SGA?

SGA Pro was designed for use in commercial elevators (concrete silos, etc). SGA was designed for farm stored grain (small 1,000 -10,000 bushel metal bins).

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#### 1-2. Sampling Protocol

**Note:** The Risk Analysis module works best with a specific sampling protocol. Power vacuum sampling is the best way to sample grain for

insects. Four-foot sections of tubing are added to the probe as it is pushed down into the grain. Grain is normally sampled to a depth of 40 feet. Samples are processed over an inclined sieve to recover any insects in the grain.

**For training, purchasing sampling equipment, or using the SGA Pro software, contact:**

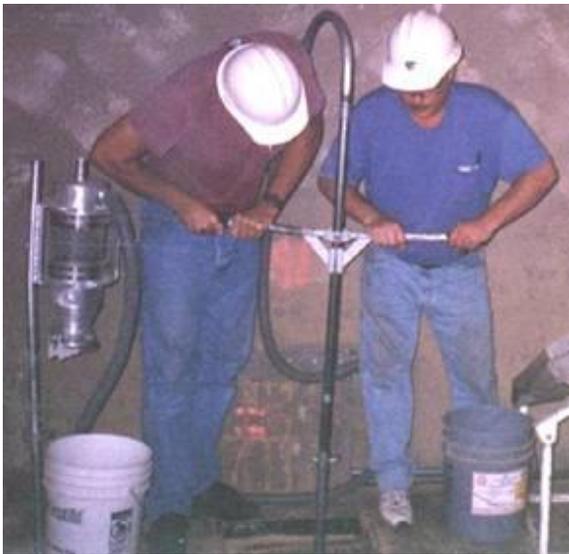
Precision Grain Management, Inc.

Stafford, KS 67578

Phone: 785-556-2109



The power vacuum sampler consists of a vacuum pump powered by a gasoline engine mounted in a trailer. A hose runs from the trailer to the top of the elevator, where it connects to the probe unit.



Power vacuum sampling proved to be the best way to sample grain for insects. Four-foot sections of tubing can be added to the probe as it is pushed down into the grain. Grain is normally sampled to a depth of 40 feet.

Technician using an inclined sieve to separate insects from grain samples. Insects are later identified and counted, and results entered into SGA Pro.



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## 1-3. System Requirements for SGA Pro

**The minimum system requirements to run SGA Pro are:**

- Windows ME, Windows 2000, and Windows XP
- Pentium 133 CPU or above
- 200 MB of free Hard Drive space
- 32 MB of RAM

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## 1-4. Installing SGA Pro

### Installing SGA Pro for the First Time

**For Windows 2000, Windows ME, and Windows XP:**

1. Download 'Setup.msi' from [bru.gmprc.ksu.edu/proj/sga/](http://bru.gmprc.ksu.edu/proj/sga/).
2. Close all windows programs.
3. Double-click 'Setup.msi' to start SGA Pro.Installer.
4. Follow the instruction of SGA Pro Installer step by step to install SGA Pro on your machine.

After installation is complete you may run SGA Pro from the Programs menu.

### Transferring SGA Pro From One Machine to Another

The installation procedure listed above directs you to install a 'clean' SGA Pro system on your machine. The word 'Clean' means that the installed SGA Pro will be in its initial state and contain no data. Suppose that you have installed SGA Pro on machine A and have entered a lot of data through SGA Pro. Now you want to transfer both SGA Pro system and your data to machine B.

**To do this you need to:**

1. Backup SGA Pro data on machine A to a portable media (Zip disk, CDR ...).
2. Install SGA Pro on machine B by following the instruction of 'Installing SGA Pro for the First Time'.
3. Restore your backup data to SGA Pro on machine B.

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## 1-5. Uninstall SGA Pro

### For Windows 2000, Windows ME, and Windows XP:

1. From the Windows Start menu, choose Settings and then Control Panel.
2. In the Control Panel dialog, double click Add/Remove Programs.
3. In the list box in the Add/Remove Program Properties dialog, select Sgapro.
4. Click the Add/Remove button.
5. In response to the confirmation message that appears, click yes.

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## 1-6. About SGA Pro

### An Expert System for Stored Grain Insect Management in Commercial Elevators

#### Version 3.0

(April 2005)

Please do not copy or distribute this program without the specific permission of :

**Dr. Paul Flinn, USDA-ARS,  
Grain-Marketing Research Lab  
1515 College Ave.  
Manhattan, KS 66502  
Phone (785) 776-2707  
[flinn@gmprc.ksu.edu](mailto:flinn@gmprc.ksu.edu)**

#### Project Director

- Dr. Paul Flinn  
[flinn@gmprc.ksu.edu](mailto:flinn@gmprc.ksu.edu)  
<http://bru.usgmrl.ksu.edu/sci/flinn/>

#### Programmers

- Ryan Reynolds
- Xinhua Zhu
- Kui Zhang
- Ken Friesen
- Ajay Bhargava
- Kurt Zhang
- Paul Flinn

#### In Collaboration With

- Dr. Tom Phillips - Oklahoma State University
- Dr. Carl Reed - Kansas State University
- Dr. David Hagstrum (Retired) Agricultural Research Service

The SGA Pro Windows interface is written in Microsoft Visual Basic 6.0.

The SGA Pro computer models are written in Fortran 77.

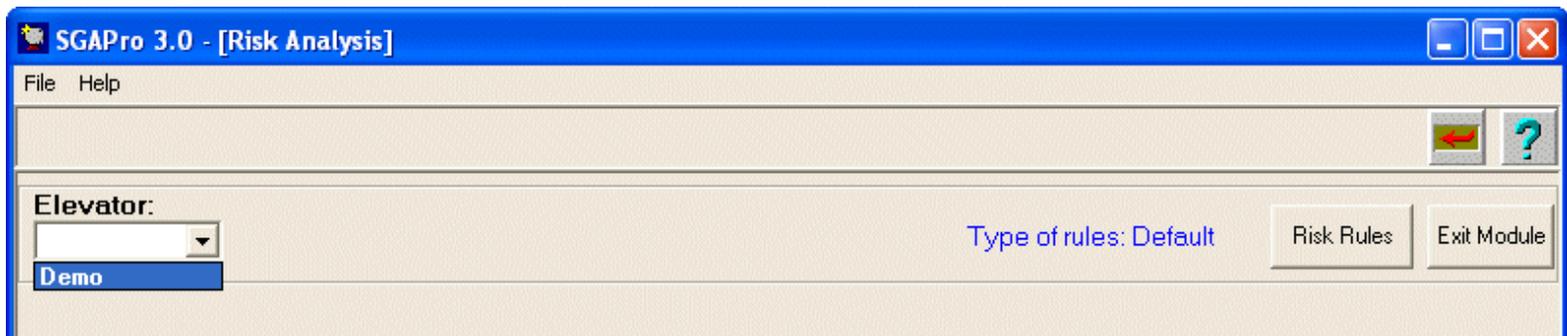
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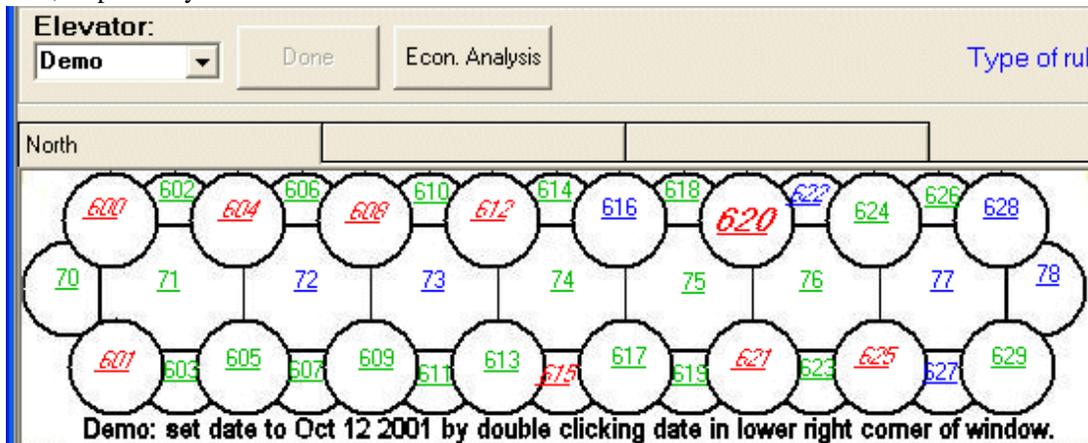
## 1-7. Try SGA Pro Demonstration

SGA Pro was installed with a **sample data set** to demonstrate the software's operation. This data represents a likely storage situation in concrete elevator bins. Information has been entered about the elevator and its bins, as well as insect, grain quality, and thermocouple values.





You should now see a bin diagram, with the bin numbers either red, blue, green or black, indicating high risk, moderate risk, low risk, or no data, respectively.



Click on bin number 620. You should see information about this bin in the lower half of the window. Click on the tabs to see information on insect data, insect graph, etc. This information is currently for bin 620, if you click on a different bin, it will show you the information for that bin.

Risk Analysis		Insect Data		Insect Graph		Thermocouple Data		Thermocouple Graph		Grain Quality Data		Bin Characteristics	
Grain	Avg. Moist	Ave. Temp.	IDK %	Max SS Internal	Insects/kilogram				Print:				
					9/13/2001	1 Month	2 months	3 Months					
Wheat	12.9	81	28%	6.7	2.5	14.6	85.2	497.6	Abbrev. Report				
Installed										Full Report	Elev. Diagram		
<b>Management Option:</b> Fumigate, cool Aeration This grain is at risk, fumigate now. Prevent population regrowth by aerating the grain to 60 F.								<b>Alerts:</b> Single Sample insect					
Bin#: 620								10/12/2001					

Click on the **Abbrev. Report** button on the lower right part of the window. You should see a new window with a report for the elevator. You can page through this report by clicking on the arrows on the bottom left of the window. You can print the report by clicking on the printer icon button on the upper left of the window. To go back to SGA Pro, click on the red X box on the upper right part of the window.

Click on the **Econ. Analysis** button to compare the cost of treating only the bins at high risk to treating all of the sampled bins at the elevator.

Click on **Risk Rules** to adjust the thresholds the program uses to classify bins at risk.

To leave the risk analysis module, click on the left-pointing red arrow on the window.

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## 2-1-1 Add New Elevator

- [Add Elevator](#)
- [Edit Elevator](#)

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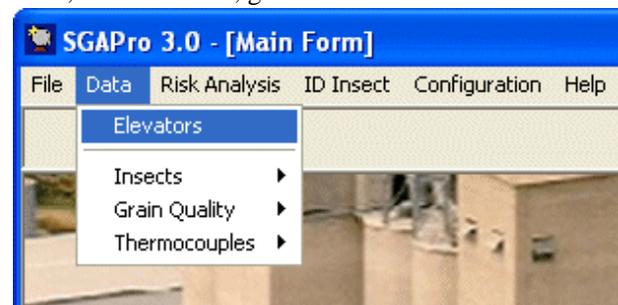
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### Add (Create) Elevator

When you first use SGA Pro, you need to provide information about the grain elevators you are going to work with. This elevator information is used by the Risk Analysis Module. Therefore, it is important that you create a new elevator before entering data into SGA Pro.

When entering a new elevator, it is helpful to draw a picture approximately 770 by 200 pixels. A template has been included with the SGA Pro installation package (C:\Program Files\SGAPro\pictures\blank.jpg). You can create the file in a simple program like Paint, that comes with windows, or any other graphics program that can save files as \*.bmp, or \*.jpg. After you draw the bins for the new elevator, save the file on the computer where you can find it easily. Give the file any name, but use no spaces in the name (such as C:\elevator.bmp).

Next, start SGA Pro, go to Data/elevators and click "Add Elevator".



#### Step 1

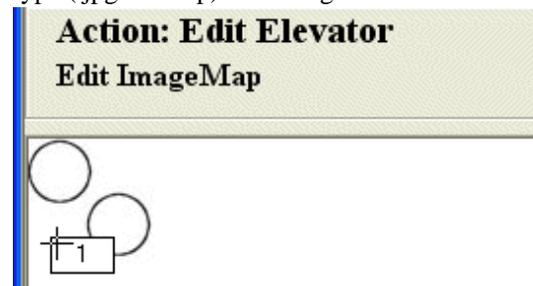
Input the name you want to call the new elevator in the elevatorID box (use a short name). Enter at least the Capacity and Horsepower for the elevator. Click "Next".

#### Step 2

Indicate the number of pictures you will use to represent your elevator (one is usually enough). Click "Next".

#### Step 3

Click "Load Picture" to load the picture you drew and saved on your computer previously. To see the file, you will need to select the image type (.jpg or .bmp) and navigate to where the file is saved on your computer. After you find the file, click "Import".



Next, click "Add Bin". This will make bin label "1". Drag the box by clicking in the upper left corner of the box, and position it over the bin you want to number. Keep doing this until you have numbers for all the bins. Select the "Edit/Delete Bin" function to change labels, then move the mouse over the number you want to change. Use the "Delete Bin" button to remove labels. Click "Next" when you are done.

#### Step 4

Characterize the bins you laid out in the previous step. Select a bin from the list on the left, and click "Characterize".

**Action: Edit Elevator****Elevator:****Edit Bin Characterization****Uncharacterized  
Bin(s)****Characterized Bin(s)**1  
2  
3

Bin#    Date    Height    Bu/Ft    Tablets    Pellets

Enter the information for the first bin:

Height	In feet/td>
Bu/Ft	bushels of grain per 1 foot of height
Bin Type	C=concrete, S=steel, F=flat
Tc. cables	number of thermocouple cables per bin
Bottom Type	F=flat, H=hopper bottom
#Fans/td>	number of aeration fans
Eave Vents	eave vents at the top of the bin

Characterize all the bins, and click "Done" when you are finished. Click "Exit Module" return to the main screen. You should then be able to go to "Risk Analysis" and see your new elevator in the elevator list. To use the Risk Analysis function, you will need to enter data for the elevator's bins.

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## 2-1-2. Input Insect Data

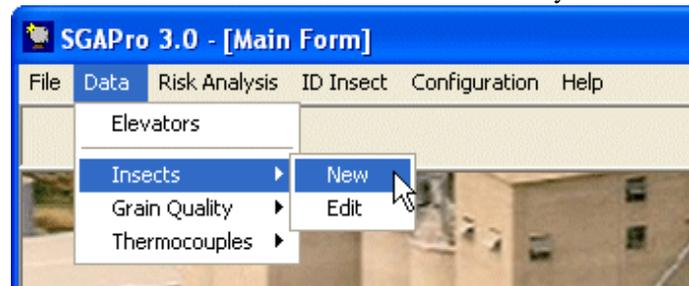
- [Add New Insect Sample Data](#)
- [Edit Insect Sample Data](#)

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### Add New Insect Sample Data

New Insects Entry Module helps you to add new Insect sample data to the database. You can start this module by selecting Data/Insects/New from the Main Form to start the New Insects Entry Form.



Fill out all items in Header Area and click 'OK' button. The first sample becomes activated and ready for entry.

**Header**

Elevator:  Date:  Sample Type:

Bin#.:  Measure Up:

**Sample Data:**

	Sample	Flat	Lesser	Sawtooth	Weevil	Flour Beetle	Other
*	<input type="text"/>						

Enter insect sample data for the bin, using Tab or arrow keys to move through the data fields. Click "Change Header" to select a new bin. Modify the header information if necessary, and enter sample data for the bin. When you are done entering insect data, click "Exit Module" to return to the Main Form.

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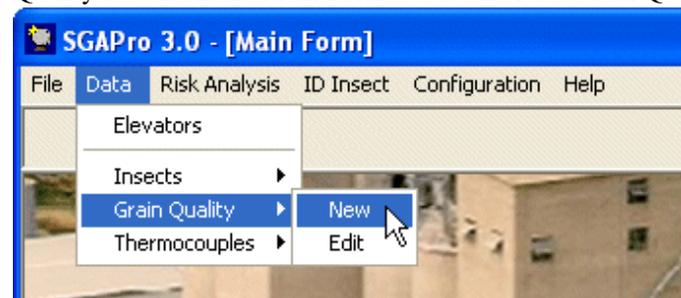
## 2-1-3. Input Grain Quality Data

- [Add New Grain Quality Data](#)
- [Edit Grain Quality Data](#)

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### Add New Grain Quality Data

New Grain Quality Entry Module helps you to add new Grain Quality data to the database. You can start this module by selecting Data/Grain Quality/New from the Main Form to start the New Grain Quality Entry Form.



Fill out all items in Header Area and click 'OK' button. The first sample becomes activated and ready for entry.

**Header**

Elevator:  Date:  Sample Type:  Bin#:  Grain:

**Grain Quality**

	Sample	Grade	DKG(%)	TW	Moist(%)	DK(%)	FM(%)	SHBK(%)	IDK	Protein(%)
*	<input type="text"/>									

Enter grain quality data for the bin, using Tab or arrow keys to move through the data fields. Click "Change Header" to select a new bin. Modify the header information if necessary, and enter sample data for the bin. When you are done entering grain quality data, click "Exit

