



# U-Treat v3.2 Quick Reference Sheet



## Treater

TD - 09 - 06 - 2006

Revision: B

### SEED WHEEL FLOW CALIBRATION

1. Use the cup, funnel, funnel stand, and scale that are supplied with the LPX series seed treater to find the cup weight for the seed you are to be treating.
2. Always make sure you put the cup on the stand and **zero out the weight of the cup** before getting the seed weight.
3. While plugging the bottom of the funnel with your hand, fill it with the desired seed. Then remove your hand and let it fill the cup. **(Always use the funnel for getting weight. Scooping the seed by hand will give you inconsistent weights.)**
4. Strike off the excess seed with a flat edge so that it is even with the top of the cup.
5. Weigh the seed on the provided scale. **Ensure the scale is on a level and smooth surface.**
6. On the main screen of the treater, press the START button and press the CUP WEIGHT button to enter in the weight of the seed.
7. To complete the seed flow calibration, you must now enter the rate of seed (lbs/min) that you would like to treat at. Press the UTILITIES button on the treater main screen and then select the button on the top left of the utilities screen titled DESIRED TREATING RATE. Put in your desired rate and then hit enter.
8. You have now completed your seed flow calibration!

### LIW FLOW CALIBRATION

1. Press the UTILITIES button on the main screen to advance to the utilities screen. Enter in the TARGET TREATING RATE.
2. Next, press the PRODUCT EDITING button to advance to the product editing screen. Select the type of seed you will be treating on the left side of the screen from the list. The seed profile details will populate on the right where they may be edited and the seed actuator gate can be calibrated for that seed. The operator must press SAVE before leaving the profile if any changes were made or the changes will be lost and return to what was previously set to that profile.
3. All settings in the orange section are global variables and will be consistent between all product profiles. The operator may choose to have the Auto Calibration Ratio Off = uses operators entry, one time run = does one calibration at the beginning of a run, or Continuous = updates each profile automatically throughout the running process for the active seed profile.
4. Setting Maximum Gate Position is important to set before running the treater so the system will not cause an alarm by asking the actuator to extend further than it physically can. To set this parameter, be sure that there is no seed open to flow through the gate as it will open for several seconds as the warning popup will indicate. Once pressed and the warning confirmed, the actuator gate will open to the maximum possible position and record the position in the program. Once set, this should not need resetting unless the hardware is moved for any reason. Again this will be the same on all product profiles.
5. Setting Minimum Gate Position is adjustable for every profile or may be set the same for every profile. If you have varying seed sizes it is suggested to set them for each profile. This setting indicates the lowest setting that seed will flow at. To set it for a certain seed, you will need to have seed available in the buffer zone above the actuator gate. With the gate completely closed, go to the H-O-A screen and set the LIW ACTUATOR's Position setting to 5% and place the actuator in HAND mode. Then open the gate in small increments until a small but steady stream of seed is flowing out of the gate. Note the Gate Position reading and place the actuator back in Auto mode of operation. Then, enter the noted gate position reading minus 200 into the Min Gate Position setting. This will allow the program to accurately calculate the seed flow through the actuator gate.



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## Treater

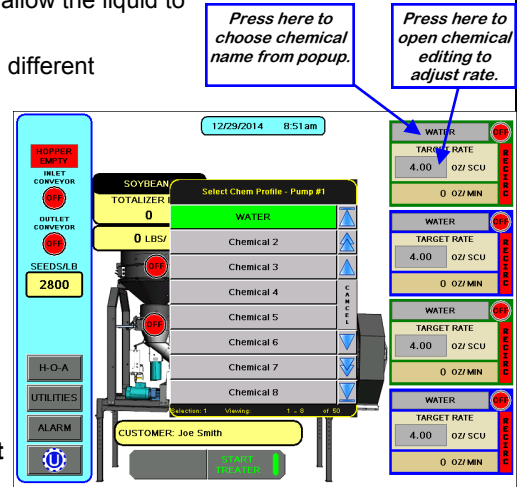
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### PUMP CALIBRATION

1. Run pump tubing through peristaltic pump heads and clamp down on the tubing.
2. Premix enough liquid for the amount of seed you are treating and pour into the pump stand tank. It is always a good practice to mix a half gallon extra to help fill all the lines.
3. Place the desired mix tank's mixing motor to the ON position to allow the liquid to mix.
4. On the treater main screen press the chemical name to select a different chemical from a popup list or change the target rate by selecting the target rate box which will take the operator to the chemical edit screen to select the chemical you wish to adjust and modify its rate. Once you have modified the rate and saved it return to the main screen and verify the correct chemicals are on the correct pumps.
5. You have now calibrated your chemical pumps.

- **With the LPX Series treaters the flow of the seed and chemical pump speed is automatically calibrated and adjusted throughout the day to ensure accurate rates and eliminate over or under application of chemicals. You may also adjust your rate of seed while the machine is running and the system will automatically recalibrate itself to adjust to match the new chemical flow rate needs during the run.**



### PROXIMITY SWITCH ADJUSTMENT GUIDE

The proximity switches mounted in the extension ring and in the seed wheel on the seed treater detect when seed is present. The extension ring sensor is used to shut off the inlet conveyor when the surge hopper is full. The seed wheel sensors are used to automatically shut off the pump when all seed has left the hopper. Sometimes the sensitivity of these switches needs to be adjusted. Below are instructions and a picture of how to adjust the sensitivity of these switches when not working properly.

Using the small screw driver shipped inside the main control panel, you can adjust the proximity switch by turning the adjusting screw.

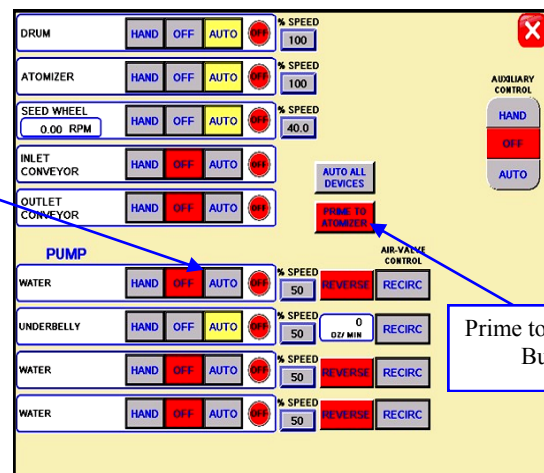
- Turn Clockwise for more sensitive.
- Turn Counterclockwise for less sensitive.



### TREATING SEED

1. Under the H-O-A Screen, place the DRUM, ATOMIZER, SEED WHEEL, INLET CONVEYOR, OUTLET CONVEYOR and desired pumps in AUTO.
2. Next, prime the chemical line to the atomizer. Press and hold the PRIME TO ATOMIZER button. The atomizer will turn on and liquid will begin pumping up to the atomizer. When liquid reaches the atomizer, release the PRIME TO ATOMIZER button

Auto buttons



(Continued on Back)



# U-Treat v3.2 Quick Reference Sheet



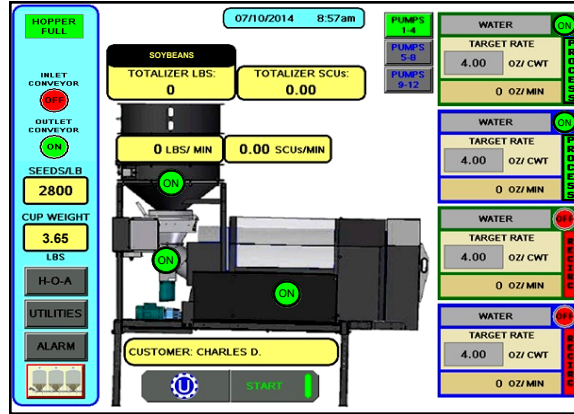
## Treater

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### (Treating Seed Continued)

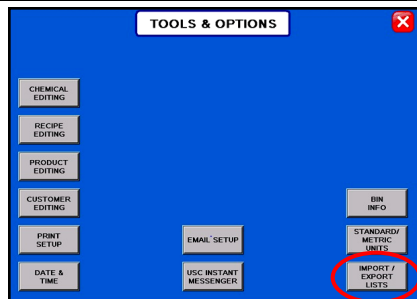
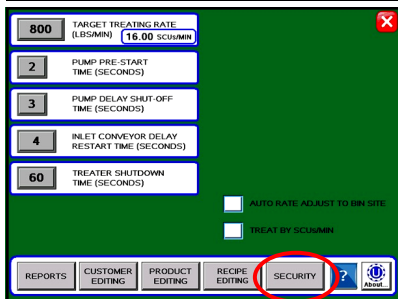
- Advance back to the main screen and press the STARTUP button. Once all options are verified on the startup wizard press START. The drum, atomizer, inlet and outlet conveyors will activate. The pump will turn on and recirculate until it reaches the desired flow rate needed to match the target treating rate that was entered.
- When the pumps flow rate has been reached, the air actuated 3-way valve will open and allow liquid to pump up to the atomizer. Simultaneously, the seed wheel will turn on and the seed treating process will begin.  
**(There must be at least 90 psi supplied to the air actuated valve.)**
- You will notice that the HOPPER EMPTY indicator light will disappear when the proximity switches in the seed wheel are covered. When the hopper is full the HOPPER FULL indicator light will come on and the inlet conveyor will shut off.
- As the seed is being treated, the main screen will display the pounds per minute, the total pounds, and the liquid flow rate. If the system needs to be stopped for a moment because of a problem, the PAUSE button can be pressed to halt the process. When ready to begin again, the CONTINUE button is pressed.
- When all seed passes through the seed wheel, the seed wheel will turn off and the pump will switch to recirculate. When more seed is fed into the treater, the treating process



## Reports

(How to enter your reports after your run has been completed)

- After the SHUTDOWN button has been pressed, a dialog box will appear (right), notifying the operator that the system is shutting down. The run data is automatically saved at this time under the reports.
- To access the reports go to the UTILITIES screen and press the REPORTS button. Under the reports screen (right), the operator can choose a record to view on the left to see details on the right side. The operator can choose to see more details of that run by using the detail buttons on the bottom of the right side, can print the record and if enabled e-mail the record to the last email address saved in your tools and options.
- If you would like to export or erase the reports, press the SECURITY button under the utilities screen to advance to the security screen. Enter password of USC and go to the Tools and Options page. Find and press the IMPORT/EXPORT LISTS button to go to the file management screen. On this screen you can choose to EXPORT or DELETE the Job Reports. To export insert a USB drive into the port on the bottom of the panel after formatting to FAT32 and press export once USB Status changes to CONNECTED.



**For more information on operation, troubleshooting, and maintenance of equipment please refer to your equipment manual.**



# U-Treat v3.2 Quick Reference Sheet



## Tri - Flo ® Bin Site

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### LOADING SEED INTO BINS

Before seed is pulled out of the bins and run through the Tri - Flo ® System, all the applicable information about the seed that was loaded into each individual bin must first be entered into the Tri - Flo ® System. If the same seed was loaded into multiple bins the same information still needs to be loaded into each bin separately.

The following is a list of steps to perform to enter the bin information for each bin once seed has been loaded into that bin:

1. Load the seed into the bin. Take a seed sample for the cup weight of each bin at this time. Also, note the seed type, seed variety, lot number, seed weight and total inventory weight of the seed that is loaded into the bin. The seed weight can be defined in either pounds, seed count units or seed weight units.
2. Press the UTILITIES button in the lower left corner of the Bin Site main screen.
3. Press the SECURITY button on the bottom of the Utilities screen.
4. Press the PASSWORD box, then from the popup keyboard enter the letters USC and press enter.
5. Press the TOOLS & OPTIONS button in the lower left hand corner of the Security screen.
6. Press the BIN INFO button on the Tools & Options screen.
7. Select the desired bin to enter information into from the select bin list.
8. Enter the seed type, seed variety, lot number, seeds per pound and cup weight of the seed in the bin into their respective box under the Current Bin Info.
9. Enter in the total weight of seed that was added to the bin into the bin inventory section on the lower portion of the screen. The system will automatically subtract inventory after each run. Press the save button when all the information has been entered.
10. When finished, exit back to the Main screen.



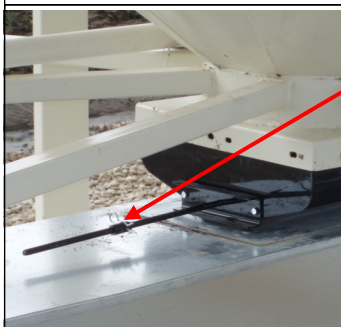
### SETTING THE SEED FLOW RATE

The following is a list of steps for setting the seed flow rate. This must be completed before running the Tri - Flo ® system. Repeat steps 1 & 2 for each bin.

1. Set the manual gate on the bin to the fully open position. Once opened, this gate should be set in place and not moved through out the entire season. If this gate is adjusted during a run or between runs then it will effect the calibration of the system and the system will need to be re-calibrated.
2. Set the stop for the air actuated slide gate on the bin. This stop controls how far the slide gate will open and the flow rate at which seed can exit the bin. To set the stop, adjust the position of the collar on the rod that exits the slide gate opposite of the air valve (below). Placing the collar closer to the slide gate will restrict flow and farther away from the slide gate will increase seed flow for the system. Once a collar location has been selected, use the hitch pin to lock the collar in place. If the stop is adjusted between runs then it will effect the calibration of the system and the system will need to be re-calibrated.

It is recommended to initially place the collar closer to the slide gate and then move it farther away from the slide gate one hole at a time to increase the flow rate of the system. This will protect against overloading the underbin conveyor with seed.

**Note: A minimum of 2000 pounds is recommended but not necessarily needed to calibrate flow rate for the first time. The system needs roughly that amount to enter it's real time calibration (depending on the distance of the bin, it may be far less) but at the end of any alarm/pause free run of seed the system will do a calibration. If the run is long enough, then no initial calibration is needed as the system will set it's calibration during the run. If running a small batch there may not be enough seed run to have the flow rate updating in real time during the run. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display at the end of the run.**



Move the position of the collar along this rod to adjust the flow of seed through the bin slide





# U-Treat v3.2 Quick Reference Sheet



## Tri - Flo ® Bin Site

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### SCALE FILL FROM BINS

The following is a list of steps to use when running the Tri - Flo ® system in the Scale Fill From Bin mode of operation. This allows the operator to automatically fill the scale from the bin.

- Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. (below left) Ensure that the diverter is in the appropriate position as well.
- Under the Utilities screen, ensure that all settings are appropriate. (below right)

SCALE FILL CONVEYOR: HAND OFF AUTO ON

UNDERBIN #1 CONVEYOR: HAND OFF AUTO ON

TRANSFER CONVEYOR: HAND OFF AUTO OFF

TRANSITION CONVEYOR: HAND OFF AUTO OFF

UNDERBIN #2 CONVEYOR: HAND OFF AUTO OFF

OUTLET CONVEYOR: HAND OFF AUTO ON

REVERSE UNDERBIN #1 CONVEYOR: HAND OFF

REVERSE UNDERBIN #2 CONVEYOR: HAND OFF

INLET DIVERTER: HAND OFF AUTO OFF INDEX 1

DISCHARGE VALVE #1: HAND OFF AUTO CLS OPEN CL OSE

DISCHARGE VALVE #2: HAND OFF AUTO CLS OPEN CL OSE

DISCHARGE VALVE #3: HAND OFF AUTO CLS OPEN CL OSE

BIN SLIDE GATES (Press for 2 sec.): #1-#8 OPEN/CLOSE

TREATER DIVERTER (Press for 2 sec.): TREAT BYPASS

SHUTDOWN TIMERS (SECONDS)

10 SCALE FILL CONVEYOR

9 UNDERBIN #1 CONVEYOR

8 TRANSFER CONVEYOR

7 TRANSITION CONVEYOR

6 UNDERBIN #2 CONVEYOR

5 OUTLET CONVEYOR

REPORTS CUSTOMER EDITING PRODUCT EDITING SECURITY ? ABOUT

- Select the bin that you wish to call seed from by pressing the START SCALE FILL FROM BIN / HOPPER button on the Main screen and press the gray button under selected bin then select the bin from the pop-up window.
- Next press the seed outlet path button and then select either AUTO TREAT or MANUAL TREAT mode of operation depending upon what you plan to do with the seed once it has been pulled from the bin and weighed by the batch hopper system. There may be other names set for different outlet paths an operator may see based on different configuration settings.
- In the box labeled TARGET WEIGHT enter the amount of weight that is to be brought into the Tri - Flo ® on this run.
- Press the box labeled CUSTOMER at the top of the startup wizard and enter in the current customer's name in the search box or scroll through the list with the navigation buttons.
- Press the START button at the bottom of the startup wizard screen. This toggles the button to CANCEL SCALE FILL FROM BIN and activates the PAUSE button. The system will first turn on the scale fill conveyor and then the underbin conveyor. Once all needed conveyors are running, the slide gate for the selected bin will open and seed will flow through the conveyors to the Tri - Flo ® hoppers.
- As the Tri - Flo ® system is running, the main screen will display the total pounds of seed in each of the three weight hoppers, and the status of the conveyor motors.
- The slide gate on the bin will automatically close once the target weight in seed passes through the slide gate. Once the gate closes, a window will appear notifying the operator that the batch is finishing. It will then be replaced with another window indicating amount of time before the system shuts down. If operating in the Manual Treat mode the treatier will have to be turned on and off separately. The system will then shutdown the conveyors in reverse order of startup. This will ensure the conveyors have an opportunity to clean out any product from them. (bottom)

BIN #1 SOYBEANS ABCDEF 123456 2800 SEEDS/LB 100000 LBS (INVENTORY) 3.65 LBS (CUP WEIGHT)

CUSTOMER NAME: CHARLES D.

SELECTED BIN: BIN 4

TARGET WEIGHT: 0 LBS

SEED OUTLET PATH: MANUAL TREAT

START CLEAN OUT

TARGET WEIGHT: 2500 LBS

50 SCU

FLOW RATE: 1800 LBS/MIN

TRAVEL TIME: 15.0 SEC

TOTAL ACCUM WEIGHT: 0 SCU

FINAL BATCH WEIGHT: 0 SCU

SHUTTING DOWN: 30 SECONDS

DRAFT SIZE: 700 LBS

WHT WEIGHT: 0 LBS

WH2 WEIGHT: 0 LBS

WH3 WEIGHT: 0 LBS

TARGET WEIGHT: 2500 LBS

50 SCU

SHUTDOWN IN PROGRESS

System Shutting Down.





# U-Treat v3.2 Quick Reference Sheet



## Tri - Flo ® Bin Site

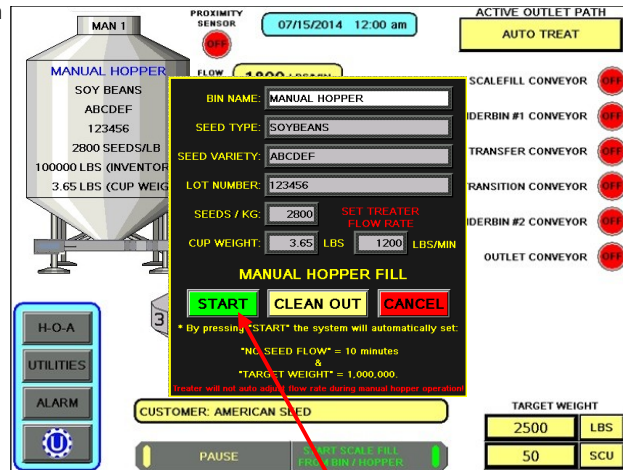
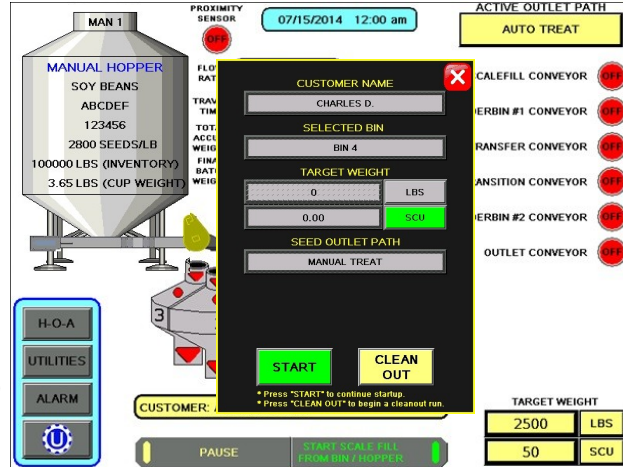
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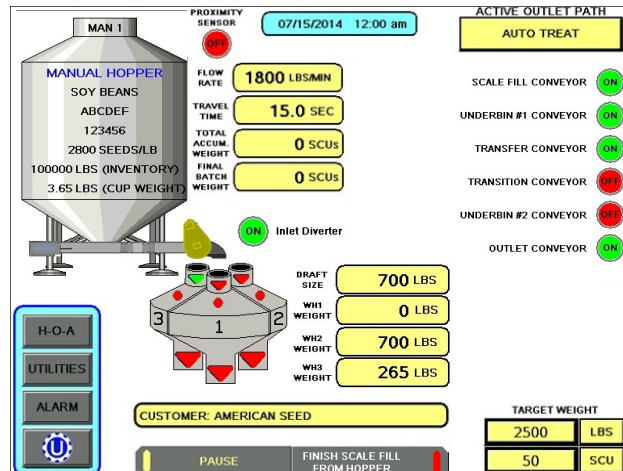
### CALLING IN SEED FROM PRO BOXES

The following is a list of steps to use when running the Tri - Flo ® system using the START SCALE FILL FROM HOPPER button. This button will automatically move seed from the manual hopper, via the transfer conveyor, to the scale. The START SCALE FILL FROM HOPPER button is only available if the Tri - Flo ® system has a manual hopper.

- Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. Depending upon the setup of the equipment, some bin sites will require only the transfer conveyor or the scale fill conveyor to be in AUTO mode and some sites will require the transfer, underbin and scale fill conveyors to all be in the AUTO mode. Ensure that the diverter is in the appropriate position as well.
- Under the Utilities screen, ensure that all settings are appropriate.
- Press the START SCALE FILL FROM BIN/HOPPER button and under Bin Select button choose MANUAL HOPPER.
- Press the Seed Outlet Path button then select either AUTO TREAT or MANUAL TREAT mode of operation depending upon what you plan to do with the seed once it has been pulled from the Pro Box and weighed by the Tri - Flo ® system. There may be other names set for different outlet paths an operator may see based on different configuration settings.
- Press START button at the bottom of the startup wizard screen. Once all seed information is correct press START. This toggles the button to FINISH SCALE FILL FROM HOPPER and activates the PAUSE button. The system will first turn on the scale fill conveyor, the underbin conveyor, then the transfer conveyor (if applicable) and the outlet conveyor (if applicable).
- As the Tri - Flo ® system is running, the Main screen will display the total pounds of seed in each of the three Tri - Flo ® weigh hoppers. If the system needs to be stopped for a moment because of a problem, the PAUSE button can be pressed to halt the process. When ready to begin again, the CONTINUE button is pressed.
- Once all of the seed has passed from the manual hopper, through the conveyors and through the weigh hoppers, press the FINISH SCALE FILL FROM HOPPER button. At this point, the conveyors will shutdown in reverse order of startup.
- The system will automatically print the report for the run from the scale head printer.



Start





# U-Treat v3.2 Quick Reference Sheet



## Tri - Flo ® Bin Site

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### TRI - FLO ® CALIBRATION

Once the initial calibration is established, the system continuously updates the seed flow rate. The calibration is based upon time and weight. The system first calculates the amount of time it takes for the seed to travel from the bin slide gate to the first Tri - Flo ® weigh hopper. This is called the travel time. Then the system calculates how long it takes to fill the first weigh hopper. This allows the system to calculate the seed flow rate of pounds per minute. Finally, the system uses the travel time and seed flow rate to calculate the amount of seed in the conveyors at any given time. Once this weight is known, it will automatically close the bin gate at the appropriate time to reach the target weight of seed that the operator has entered.

Initial calibration procedure:

1. Set the bin collar in the fourth hole from the end of the rod in. This sets the Flow Rate at approximately 1200 pounds. Adjust as needed (each hole adjusts up or down by approximately 200 pounds). These figures are based on Soybeans.
2. From the main screen check the Flow Rate to verify it is at the default setting of 1800 lbs/min and the Travel Time is at it's default of 15.0 sec. Then set your Target Weight at 2000 pounds. At the end of the run the Final Batch Weight must be 1500 pounds. These values are recommended but not necessary depending on the setup. For the system to be able to record the calibration the first two Tri - Flo ® hoppers must be weighed full and the third is in the process of filling with no alarm faults. After the run, check to see if the Flow Rate and Travel Time have changed from the default settings. If they have the system has been successfully calibrated. Each bin must be individually calibrated. If running a small batch there may not be enough seed run to have the flow rate updating in real time during the run. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display after the run is complete.

**NOTE: If you change the location of the bin collar or the bin runs out of seed before the Target Weight is reached the system will need to be re-calibrated.**

The screenshot displays the U-Treat control interface with the following sections:

- Bin 1 Information:** BIN #1 SOYBEANS, ABCDEF, 123456, 2800 SEEDS/LB, 100000 LBS (INVENTORY), 3.65 LBS (CUP WEIGHT).
- Proximity Sensor:** 07/15/2014 12:00 am.
- Flow Rate:** 1800 LBS/MIN.
- Travel Time:** 15.0 SEC.
- Total Accum. Weight:** 0 SCU.
- Final Batch Weight:** 0 SCU.
- Active Outlet Path:** AUTO TREAT.
- Conveyor Status:** SCALEFILL CONVEYOR (OFF), UNDERBIN #1 CONVEYOR (OFF), TRANSFER CONVEYOR (OFF), TRANSITION CONVEYOR (OFF), UNDERBIN #2 CONVEYOR (OFF), OUTLET CONVEYOR (OFF).
- Draft Size:** 700 LBS.
- Wh1 Weight:** 0 LBS.
- Wh2 Weight:** 0 LBS.
- Wh3 Weight:** 0 LBS.
- Customer:** AMERICAN SEED.
- Target Weight:** 2500 LBS, 50 SCU.
- Buttons:** H-O-A, UTILITIES, ALARM, PAUSE, START SCALE FILL FROM BIN / HOPPER.

**BIN INFO Section:**

- Bin Profile List (Unsorted):** Bin #3: BIN 3, <Unused>, <Unused>, Bin #6: BIN 6, Bin #7: BIN 7, <Unused>, <Unused>, <Unused>.
- Current Bin Info:** Bin Name: BIN 3, Seed Type: SOYBEANS, Seed Variety, Lot Number, Seeds / LB: 2800, Cup Weight: 3.65 Lbs, Flow Rate: 1800 Lbs/Min, Travel Time: 15.0 (Seconds), Gate Time Adj: 0.00 (Seconds), Date Auto Calibrate.
- Amount to Adjust Inventory:** 0.00.
- Current Inventory:** 0 LBS, 0.00 SCU.
- Buttons:** SAVE, CANCEL, Plus, Minus.





# U-Treat v3.2 Quick Reference Sheet



## Batch Weigh Hopper Bin Site

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### LOADING SEED INTO BINS

Before seed is pulled out of the bins and run through the Batch Hopper System, all the applicable information about the seed that was loaded into each individual bin must first be entered into the Batch Hopper System. If the same seed was loaded into multiple bins the same information still needs to be loaded into each bin separately.

The following is a list of steps to perform to enter the bin information for each bin once seed has been loaded into that bin:

1. Load the seed into the bin. Take a seed sample for the cup weight of each bin at this time. Also, note the seed type, seed variety, lot number, seed weight and total inventory weight of the seed that is loaded into the bin. The seed weight can be defined in either pounds, seed count units or seed weight units.
2. Press the UTILITIES button in the lower left corner of the Bin Site main screen.
3. Press the SECURITY button on the bottom of the Utilities screen.
4. Press the PASSWORD box, then from the popup keyboard enter the letters USC and press enter.
5. Press the TOOLS & OPTIONS button in the lower left hand corner of the Security screen.
6. Press the BIN INFO button on the Tools & Options screen.
7. Select the desired bin to enter information into from the select bin list.
8. Enter the seed type, seed variety, lot number, seeds per pound and cup weight of the seed in the bin into their respective box under the Current Bin Info.
9. Enter in the total weight of seed that was added to the bin into the bin inventory section on the lower portion of the screen. The system will automatically subtract inventory after each run. Press the save button when all the information has been entered.
10. When finished, exit back to the Main screen.



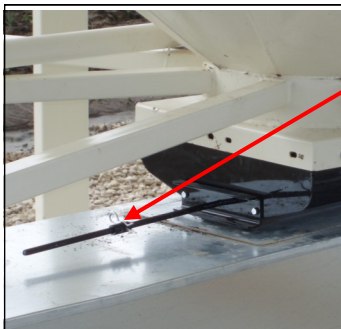
### SETTING THE SEED FLOW RATE

The following is a list of steps for setting the seed flow rate. This must be completed before running the Batch Hopper system. Repeat steps 1 & 2 for each bin.

1. Set the manual gate on the bin to the fully open position. Once opened, this gate should be set in place and not moved through out the entire season. If this gate is adjusted during a run or between runs then it will effect the calibration of the system and the system will need to be re-calibrated.
2. Set the stop for the air actuated slide gate on the bin. This stop controls how far the slide gate will open and the flow rate at which seed can exit the bin. To set the stop, adjust the position of the collar on the rod that exits the slide gate opposite of the air valve (below). Placing the collar closer to the slide gate will restrict flow and farther away from the slide gate will increase seed flow for the system. Once a collar location has been selected, use the hitch pin to lock the collar in place. If the stop is adjusted between runs then it will effect the calibration of the system and the system will need to be re-calibrated.

It is recommended to initially place the collar closer to the slide gate and then move it farther away from the slide gate one hole at a time to increase the flow rate of the system. This will protect against overloading the underbin conveyor with seed.

**Note: A minimum of 1500 pounds is recommended but not necessarily needed to calibrate flow rate for the first time. The system needs roughly that amount to enter it's real time calibration (depending on the distance of the bin, it may be far less) but at the end of any alarm/pause free run of seed the system will do a calibration. If the run is long enough, then no initial calibration is needed as the system will set it's calibration during the run. If running a small batch there may not be enough seed run to have the flow rate updating in real time during the run. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display at the end of the run.**



Move the position of the collar along this rod to adjust the flow of seed through the bin slide







# U-Treat v3.2 Quick Reference Sheet



## Batch Weigh Hopper Bin Site

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Revision: B

### SCALE FILL FROM BINS

The following is a list of steps to use when running the batch hopper system in the Scale Fill From Bin mode of operation. This allows the operator to automatically fill the scale from the bin.

- Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. (below left) Ensure that the diverter is in the appropriate position as well.
- Under the Utilities screen, ensure that all settings are appropriate. (below right)

SCALE FILL CONVEYOR: HAND OFF AUTO ON

UNDERBIN #1 CONVEYOR: HAND OFF AUTO ON

TRANSFER CONVEYOR: HAND OFF AUTO OFF

TRANSITION CONVEYOR: HAND OFF AUTO OFF

UNDERBIN #2 CONVEYOR: HAND OFF AUTO OFF

OUTLET CONVEYOR: HAND OFF AUTO ON

REVERSE UNDERBIN #1 CONVEYOR: HAND OFF

REVERSE UNDERBIN #2 CONVEYOR: HAND OFF

WEIGH HOPPER DISCHARGE VALVE: HAND OFF AUTO OPEN CLOSE

UNDERBIN ENCODER 1: 0.0 CTS/SEC

UNDERBIN ENCODER 2: 0.0 CTS/SEC

BIN SLIDE GATES (Press for 2 sec.):

- OPEN #1 CLOSE
- OPEN #2 CLOSE
- OPEN #3 CLOSE
- OPEN #4 CLOSE
- OPEN #5 CLOSE
- OPEN #6 CLOSE
- OPEN #7 CLOSE
- OPEN #8 CLOSE

TREATER DIVERTER (Press for 2 sec.): TREAT BYPASS

5000 WEIGH HOPPER MAXIMUM WEIGHT

SHUTDOWN TIMERS (SECONDS)

- 10 SCALE FILL CONVEYOR
- 9 UNDERBIN #1 CONVEYOR
- 8 TRANSFER CONVEYOR
- 7 TRANSITION CONVEYOR
- 6 UNDERBIN #2 CONVEYOR
- 5 OUTLET CONVEYOR

REPORTS CUSTOMER EDITING PRODUCT EDITING SECURITY ? About

- Select the bin that you wish to call seed from by pressing the START SCALE FILL FROM BIN / HOPPER button on the Main screen and press the gray button under selected bin then select the bin from the pop-up window. (right)
- Next press the seed outlet path button and then select either AUTO TREAT or MANUAL TREAT / BYPASS mode of operation depending upon what you plan to do with the seed once it has been pulled from the bin and weighed by the batch hopper system.
- In the box labeled TARGET WEIGHT enter the amount of weight that is to be brought into the batch hopper on this run.
- Press the box labeled CUSTOMER at the top of the startup wizard and enter in the current customer's name in the search box or scroll through the list with the navigation buttons.
- Once all fields are set press START from the pop-up screen. This toggles the start button to CANCEL SCALE FILL FROM BIN and activates the PAUSE button. The system will first turn on the scale fill conveyor and then the underbin conveyor. Once all needed conveyors are running, the slide gate for the selected bin will open and seed will flow through the conveyors to the batch hopper.
- As the batch hopper system is running, the main screen will display the total pounds of seed in the weigh hopper, and the status of the conveyor motors.
- The slide gate on the bin will automatically close once the target weight in seed passes through the slide gate. Once the gate closes, a window will appear notifying the operator that the batch is finishing. It will then be replaced with another window indicating amount of time before the system shuts down. If operating in the Manual Treat mode the treator will have to be turned on and off separately. The system will then shutdown the conveyors in reverse order of startup. This will ensure the conveyors have an opportunity to clean out any product from them. (right)
- If the system is running in the AUTO TREAT mode the hopper gate will open automatically at the appropriate time. In the MANUAL TREAT mode the operator must go to the H.O.A. screen, place the Weigh Hopper Discharge Valve in the HAND mode and press and hold the OPEN button. There may be other names set for different outlet paths an operator may see based on different configuration settings.

BIN #1 SOYBEANS ABCDEF 123456 2800 SEEDS/LB 100000 LBS (INVENTORY) 3.65 LBS (CUP WEIGHT)

CUSTOMER NAME: CHARLES D.

SELECTED BIN: BIN 4

TARGET WEIGHT: 0 LBS

SEED OUTLET PATH: MANUAL TREAT

START

ACTIVE OUTLET PATH: AUTO TREAT

SCALE FILL CONVEYOR: OFF

UNDERBIN #1 CONVEYOR: OFF

TRANSFER CONVEYOR: OFF

TRANSITION CONVEYOR: OFF

UNDERBIN #2 CONVEYOR: OFF

OUTLET CONVEYOR: OFF

TARGET WEIGHT: 2500 LBS, 50 SCU

BIN #1 SOYBEANS ABCDEF 123456 2800 SEEDS/LB 100000 LBS (INVENTORY) 3.65 LBS (CUP WEIGHT)

FLOW RATE: 1800 LBS/MIN

TRAVEL TIME: 15.0 SEC

SHUTTING DOWN: 30 SECONDS

CURRENT BATCH WEIGHT: 2500 LBS

TOTAL HOPPER WEIGHT: 2500 LBS

FINAL BATCH WEIGHT: 2500 LBS

CUSTOMER: AMERICAN SEED

SHUTDOWN IN PROGRESS

ACTIVE OUTLET PATH: AUTO TREAT

SCALE FILL CONVEYOR: ON

UNDERBIN #1 CONVEYOR: ON

TRANSFER CONVEYOR: OFF

TRANSITION CONVEYOR: OFF

UNDERBIN #2 CONVEYOR: OFF

OUTLET CONVEYOR: ON

TARGET WEIGHT: 2500 LBS, 50 SCU

System Shutting Down.



# U-Treat v3.2 Quick Reference Sheet



## Batch Weigh Hopper Bin Site

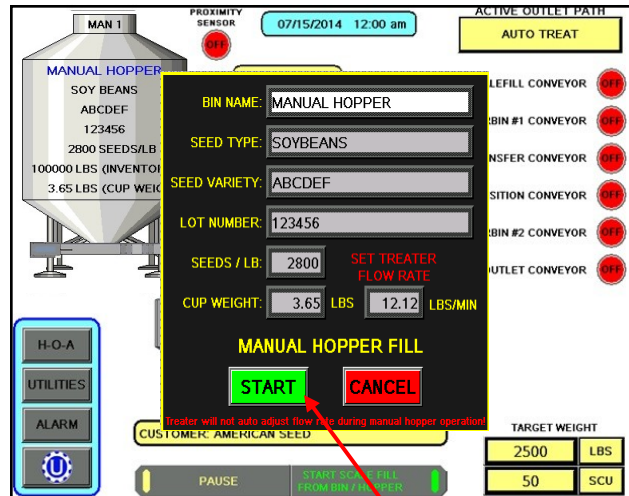
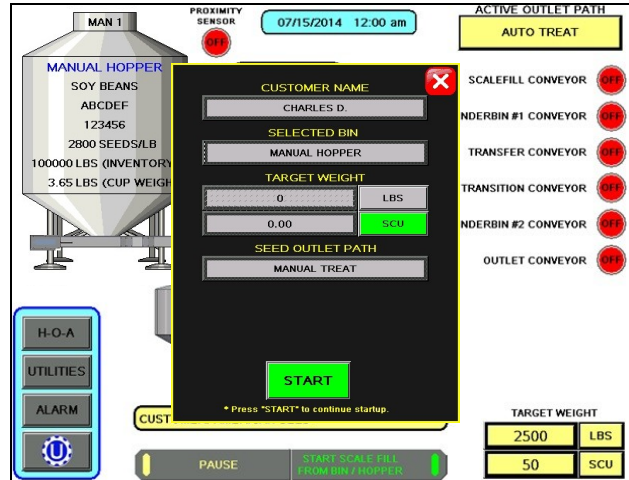
TD - 09 - 06 - 2006

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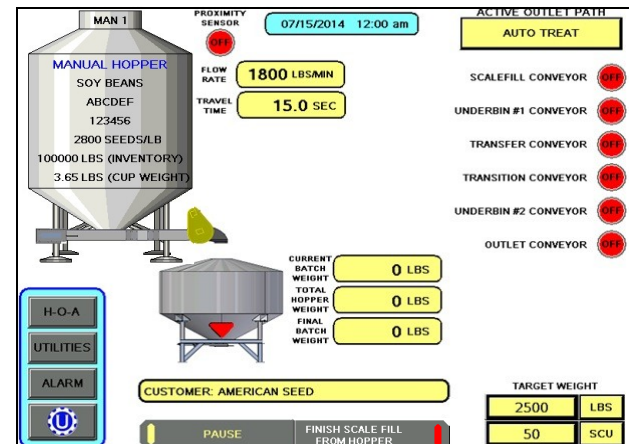
### CALLING IN SEED FROM PRO BOXES

The following is a list of steps to use when running the batch hopper system using the START SCALE FILL FROM BIN / HOPPER button. This button will automatically move seed from the manual hopper, via the transfer conveyor, to the scale.

- Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. Depending upon the setup of the equipment, some bin sites will require only the transfer conveyor or the scale fill conveyor to be in AUTO mode and some sites will require the transfer, underbin and scale fill conveyors to all be in the AUTO mode. Ensure that the diverter is in the appropriate position as well.
- Under the Utilities screen, ensure that all settings are appropriate.
- Press the START SCALE FILL FROM BIN/HOPPER button and under Bin Select button choose MANUAL HOPPER.
- Press the Seed Outlet Path button and then select either AUTO TREAT or MANUAL TREAT mode of operation depending upon what you plan to do with the seed once it has been pulled from the Pro Box and weighed by the batch hopper system. There may be other names set for different outlet paths an operator may see based on different configuration settings.
- Press START button at the bottom of the startup wizard screen. The MANUAL HOPPER FILL window will pop up. Once all seed information is correct press START. The system will first turn on the scale fill conveyor, the underbin conveyor, then the transfer conveyor (If applicable) and the outlet conveyor (If applicable).
- As the batch hopper system is running, the Main screen will display the total pounds of seed in the batch hopper. If the system needs to be stopped for a moment because of a problem, the PAUSE button can be pressed to halt the process. When ready to begin again, the CONTINUE button is pressed.
- Once all of the seed has passed from the manual hopper, through the conveyors and through the weigh hopper, press the FINISH SCALE FILL FROM HOPPER button. At this point, the conveyors will shutdown in reverse order of startup.
- The system will automatically print the report for the run from the scale head printer.



Start





# U-Treat v3.2 Quick Reference Sheet



## Batch Weigh Hopper Bin Site

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### BATCH HOPPER CALIBRATION

Once the initial calibration is established, the system continuously updates the seed flow rate. The calibration is based upon time and weight. The system first calculates the amount of time it takes for the seed to travel from the bin slide gate to the weigh hopper. This is called the travel time. Then the system calculates how long it takes to fill the weigh hopper. This allows the system to calculate the seed flow rate of pounds per minute. Finally, the system uses the travel time and seed flow rate to calculate the amount of seed in the conveyors at any given time. Once this weight is known, it will automatically close the bin gate at the appropriate time to reach the target weight of seed that the operator has entered.

Initial calibration procedure:

1. Set the bin collar in the fourth hole from the end of the rod in. This sets the Flow Rate at approximately 1200 pounds. Adjust as needed (each hole adjusts up or down by approximately 200 pounds). These figures are based on Soybeans.
2. From the main screen check the Flow Rate to verify it is at the default setting of 1800 lbs/min and the Travel Time is at it's default of 15.0 sec. Then set your Target Weight at 2000 pounds. This Target Weight is recommended but not necessary depending on the setup. After the run, check to see if the Flow Rate and Travel Time have changed from the default settings. If they have the system has been successfully calibrated. Each bin must be individually calibrated. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display after the run is complete. For the Travel Time to update, there must be seed in the hopper before the bin slide gate closes

**NOTE: If you change the location of the bin collar or the bin runs out of seed before the Target Weight is reached the system will need to be re-calibrated.**

**BIN 1**  
 BIN #1  
 SOYBEANS  
 ABCDEF  
 123456  
 2800 SEEDS/LB  
 100000 LBS (INVENTORY)  
 3.65 LBS (CUP WEIGHT)

PROXIMITY SENSOR: 07/15/2014 12:00 am

FLOW RATE: 1800 LBS/MIN

TRAVEL TIME: 15.0 SEC

ACTIVE OUTLET PATH: AUTO TREAT

SCALEFILL CONVEYOR: OFF

UNDERBIN #1 CONVEYOR: OFF

TRANSFER CONVEYOR: OFF

TRANSITION CONVEYOR: OFF

UNDERBIN #2 CONVEYOR: OFF

OUTLET CONVEYOR: OFF

CURRENT BATCH WEIGHT: 0 LBS

TOTAL HOPPER WEIGHT: 0 LBS

FINAL BATCH WEIGHT: 0 LBS

TARGET WEIGHT: 2500 LBS, 50 SCU

CUSTOMER: AMERICAN SEED

PAUSE, START SCALE FILL FROM BIN / HOPPER

**BIN INFO**

Select the bin you wish to edit and adjust its associated settings.

REFILLING BINS?

Bin Profile List (Unsorted):

- Bin #3: BIN 3
- <Unused>
- <Unused>
- Bin #6: BIN 6
- <Unused>
- <Unused>
- <Unused>

Current Bin Info:

Bin Name: BIN 3

Seed Type: SOYBEANS

Seed Variety:

Lot Number:

Seeds / LB: 2800

Cup Weight: 3.65 Lbs

Flow Rate: 1800 Lbs/Min

Travel Time: 15.0 (Seconds)

Gate Time Adj: 0.00 (Seconds)

Amount To Adjust Inventory: 0.00

Current Inventory: 0 LBS

Plus, Minus, Save, Cancel, Gate Auto Calibrate