
OPI
integris
Advanced Grain Management

Agenda

- OPI-integris Advantages
- OPI-integris System Solutions
- IntegrisPro Advanced Grain Management System
- IntegrisPro System Applications
- Advanced Grain Management
- OPI-integris Service Enhancements
- OPI-integris & You

OPI-integris Advantages

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Why OPI-integris?

Be confident. IntegrisPro technology gives you the power to monitor the exact conditions of your stored grain and the ability to manage those conditions to your best advantage.

- OPI-integris Advanced Grain Management technology improves the quality and profitability of grain storage by:
  - Delivering **proactive** grain storage management versus reactive management
  - Optimizing moisture content
  - Minimizing shrink and spoilage of stored assets
  - Reducing operating costs—achieve reduced fan run time by up to 80%

OPI-integris Value Proposition

When you choose OPI-integris you get…

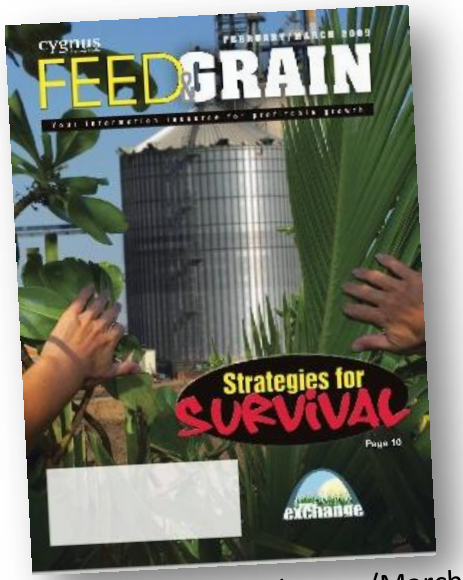
- Improved grain management resulting in:
  - Reduced shrink and spoilage
  - Optimized aeration control
  - Minimized energy consumption
  - Equipment that lasts longer and requires less maintenance
- Optimized moisture content
  - In-bin drying and potential rehydration
  - Reduced shrink and spoilage
- Improved labor utilization
  - Continuous Grain Level Monitoring
  - Optimized and automated aeration control
- Peace of mind
  - Increased visibility—removes guesswork about what is happening inside the bin
  - Reduced bin climbing and risk of injury
  - Maximized grain weight and profit

But don't just take our word for it…

"I was looking for better information out of a monitoring system…we experienced a great deal of variability in the data we were working with and maintaining quality was quite a challenge. The OPIsystem [Integris parent company] seemed to make sense to me and with the programmability, the steady updates and the graph systems which tell me exactly what's happening inside that bin, I was and still am, very impressed with the system."

Dan Imler, Grain Superintendant Farmers Cooperative

Imler says IntegrisPro report graphics make managing problem spots much easier.



Source: Feed & Grain February/March 2009

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Improved Grain Management: An OPI-integris Advantage

"We all know how fast corn can go out of condition. You've got 40 or 50,000 bushels of corn—that's a quarter million dollars. Why would anybody in their right mind want to risk that?...[With IntegrisPro] regardless of the weather I can check the grain. No matter where I'm at I can check the grain and we can detect any problems...It takes care of the guesswork."

"The reward, which is not having spoiled grain, is so much greater than the risk, i.e., writing the check to you guys. It's incredible...Plus, I can darn near pay for this thing [IntegrisPro] just on energy savings alone..."

"One of the nice things about your system is every year there's another aspect of it that stands out. As the years go by, you run into different conditions and considerations and your system [IntegrisPro] stands out in ways you didn't realize it would."

Tim Richter, Saratoga Partnership

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Improved Grain Management: An OPI-integris Advantage

Abe Hodgens, Roachdale, IN

"IntegrisPro has given me all the tools I need to be a better grain manager. I especially like it in the winter when all I have to do to check my grain temperatures is to log on to my computer."

"I reduced my fan run-time by at least 60%...The system paid for itself in 2 years."

"Now I know if I have enough corn left to sell another truckload."

[On Continuous Level Monitoring]

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Improved Grain Quality: An OPI-integris Advantage

Jeff Rutledge
Rutledge Farms

"I did zero storage on rice prior to this [IntegrisPro] just because it [rice] is so much more of a problem maintaining quality when you get a high moisture condition in a bin…Having something that monitors it [the rice] 24 hours a day, that gives me an audible alert when I'm at the house and that kicks the fans on by themselves if the parameters are met, gives you a little assurance that it's going to be taken care of."

"Last year I had to take some rice into the processor without drying it first because I didn't have enough capacity to store everything. The difference between what I took in "green" and what I dried myself [using IntegrisPro], was probably about $.50 to $1.00 higher just because the milling was so much better with what I dried in my bins."

"It allows me to make sure that I'm drying the crop down and it's staying in condition."

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Competitive Advantage: An OPI-integris Advantage

"Now we don't have a guy basically sitting around writing down temperatures 3 or 4 hours twice a week. Now it takes less time…about half an hour a day to go through everything and print out what we want and see where we're at."

"We had so many issues with maintenance and cables on our other system [Thermocouple]. A lot of times we had bins we couldn't get to read. We spent a lot of money on maintaining that system too. With Integris we haven't hardly spent anything…it's a quick change out if you got a problem."

Nathan Frohwein,
Prairie Land Cooperative

Competitive Advantage: An OPI-integris Advantage

Scott Stabbe, Key Cooperative

(formerly Heart of Iowa Cooperative

"The biggest selling point for me was how heavy-duty the blue cables are. And you can switch them out even when grain's in the bin. They just looked like they'd hold up better. So far they have."

"With the regular temperature cables it seems like you're fixing them every other year. And you'll pay. It's pretty good cash to get them fixed and then a year later you fixing them again, or some others, and it just irritates the heck out of you."

Energy Savings: An OPI-integris Advantage

"We had a system that didn't serve our needs and wasn't real user-friendly so we installed the Integris system …Each year is different but last fall we cut our run times by one-third. I can't tell you how much that is exactly, but it's enough to make a difference…it's [Integris system] another tool at our disposal to help maintain grain quality…"

Bob Reynolds, General Manager
Buckingham Cooperative

Source: Feed & Grain February/March 2009

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Energy Savings: An OPI-integris Advantage

Bernard Peterson, Peterson Farms

"…We're estimating we saved somewhere in the 20% range…that's probably around $30K a year in this operation."

"…We have the capability of drying all our grain and to save energy. "

"That's one of the beauties of the system. It will turn the fans on and off when you're not here, when they need to be run. And so that, in turn, is where we've saved a lot of the energy. You don't over-run it. Nor when it needs to run you're not missing that good opportunity. We're capturing the natural air when it suits our needs…"

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Maximized Carry Times: An OPI-integris Advantage

"Normally, we'd haul 20% of our corn in the summer. Now 80% is hauled in the summer time frame. The longer you keep grain stored, the more you earn from storage. We wouldn't have dared do that in the past. You can't afford to hold $4 corn and risk it going bad."*

"It is the best $30,000 I have spent. I have an employee who works 24/7, 365 days a year and managed my grain perfectly for the last 3 years."

Karl Eschelman, Eschelman Farms

Source: Farm Industry News, August 2009

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Maximized Carry Times: An OPI-integris Advantage

Mark Kistenmacher & Linda Kuhl, Mid-Iowa Cooperative

"Getting the bins under control, making sure that they are available to store longer term has been really key for me to be able to sell the carry in the market about the time I'm selling corn in August and September…rather than moving it in February and March and giving up six months of carry—that's a substantial reason we make money in the business."

-Linda Kuhl

"…we feel the system can take care of us until we're ready for just-in-time-delivery and we can call on those bins to go to the market.."

-Mark Kistenmacher

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Optimized Moisture Content: An OPI-integris Advantage

Randy Leka, Grigsby Farms
Tullula, IL

"How you treat grain up front determines shelf life down the road. Cool it down as quick as you can [after harvest]. After that, constantly manage moisture and temperature levels. This system [IntegrisPro] does that more reliably than I can."

Source: Successful Farming Magazine
July 16, 2009

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Optimized Moisture Content: An OPI-integris Advantage

Cole Pestorious, Pestorious Inc.

"We're pretty much recommending it to everyone. It's [IntegrisPro] hands down the best thing you can do for your grain system."

"I've taken out over 400K bushels from the 105 and every load is testing 15.5 to 15.4% moisture content. The consistency of the grain that filled that bin was variable, with some coming from the dryers at 95 degrees and some delivered dry from others. It [IntegrisPro] accomplished a uniform moisture in only 300 hours of fan run time. I saved approximately 3,000 bushels of shrink, which is about $12,000. I tried doing the other bins by hand and could not replicate those results."

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Peace of Mind: An OPI-integris Advantage

Mike Calderwood, Cedar Rapids, IA

"We were wanting to keep the grain longer and we needed to know what was going on inside a big pile of grain."

"We figured if we saved 5,000 bushels of corn, it more than paid for the system. The top could look just perfect—if the hot spot is down in the middle, you'll never know until you start pulling it down and you hit it. The energy efficiency of turning the fans on and off automatically and the natural air drying was a bonus."

Photo: Tom Block, Iowa Farm Bureau

Source: Iowa Farm Bureau, Autumn Harvest supplement August 26, 2009

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Peace of Mind: An OPI-integris Advantage

Bob Weiland, Laura, IL

Weiland counts on Integris Advanced Grain Management to protect his 590,000 bushels.

"When I used to check the grain by myself, I'd always wonder if it was going to be OK the next time…[the Integris system] saves energy, fuel and just gives you peace of mind that everything is OK in the bin."

"I can look at the computer and know if hot spots in the bin are developing . It [IntegrisPro] turns on the fans only when it's beneficial for the grain. I raised an awful lot of corn last year and it averaged a test weight of 60 pounds [per bushel] and 14.7% moisture. Had I manually controlled it that wouldn't have happened."

"At first there seems to be a lot of cost, but when you start calculating bushels the payback is extremely fast. The savings through using less electricity and only running fans when necessary are tremendous."

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Improved Labor Utilization: An OPI-integris Advantage

"With me, being able to get in and look at these [site systems], the guy's know I've been in there. They can tell it. And it drives them nuts, 'What are you doing in my system?' 'Checking you out. Sorry, I will continue to do that.'"

Denny Hines, Mid-Iowa Cooperative

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Improved Labor Utilization: An OPI-integris Advantage

Ron Barkema, Prairie Land Cooperative

"We've been trying to run our locations as efficient as possible labor wise so this is a substitute for some labor."

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Advanced Grain Management: An OPI-integris Advantage

- **INTEGRIS IS *MUCH MORE* THAN GRAIN TEMPERATURE MONITORING…**
- Integris is proactive Advanced Grain Management versus reactive monitoring!

Retractability and Digital Platform: An OPI-integris Advantage

Retractable Cables and Digital Technology Delivers

- **Accuracy:** To within 1° F
- **Reliability:** Sensors are protected inside the tube
- **Durability:** High-quality, hard-wearing enclosure
- **Simplicity:** Serviceable by the customer
- **Flexibility:** Serviceable whether bin is full or empty—no down-time
- **Scalability:** For current and future technologies

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Incremental Sizes: An OPI-integris Advantage

Varying cable sizes ensure a custom “fit” for your bin..

- Cables feature outer and inner removable tube and sensors.
- Cable length and the number of cables and sensors depend on your bin size:

Medium-duty
for less than 50’

Heavy-Duty
for lengths greater than 100’

Commercial-duty
for 50’-100’

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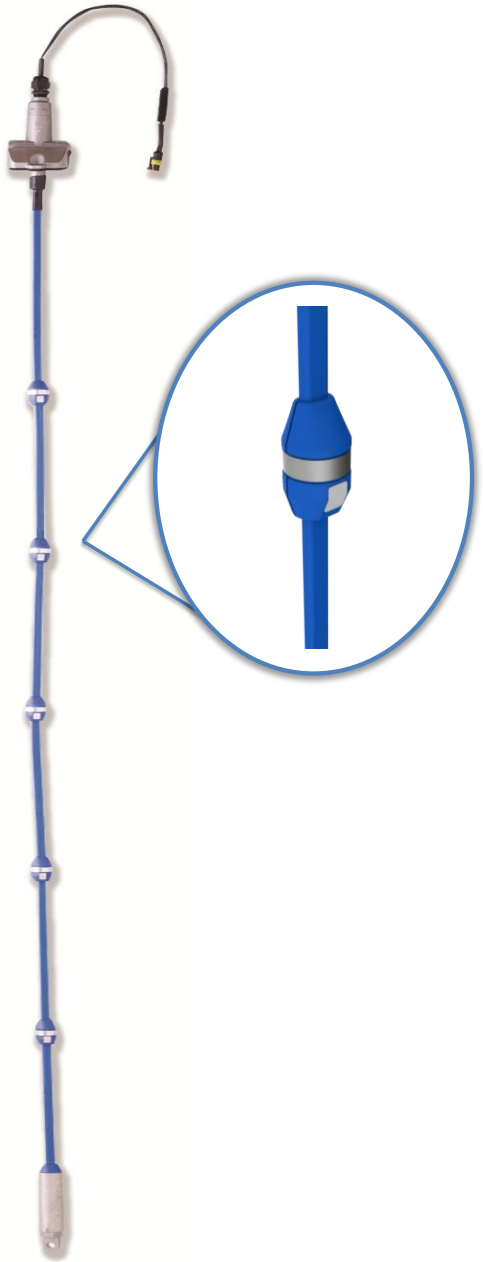
Introducing…

moisture OPI

- Based on a principle call Equilibrium Relative Humidity (ERH), relative humidity and temperature measurements are taken up through the grain mass to calculate grain moisture content
- With accuracies of +/- 1.5% or better, moisture cables provide feedback to Integris ProModel



AE50 outstanding innovations

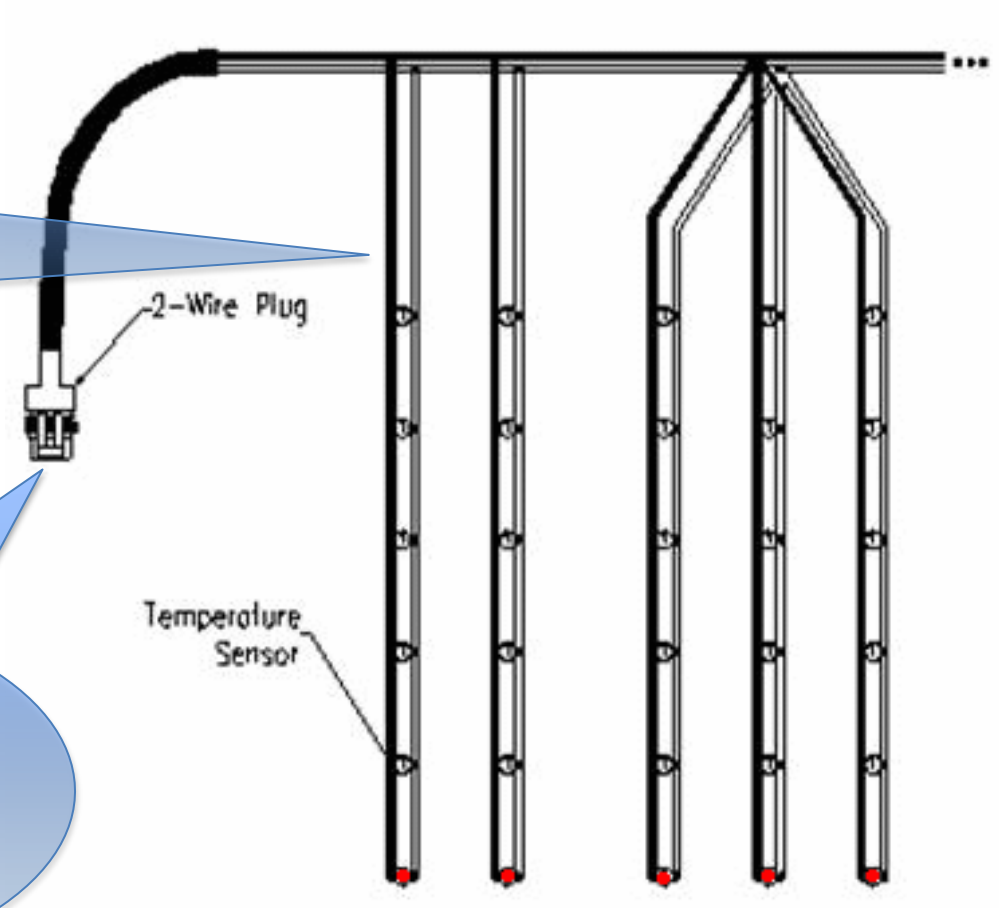
2011 AE50 Award for Outstanding Innovation in Product Technology

2011 AGRI TECHNICA INNOVATION

2011 Agritechnika Medaille Winner for Product Innovation

Digital Platform: An OPI-integris Advantage

Inside each temperature sensor is a microprocessor that measures temperature and converts it from an analog into a digital signal.



All sensors are connected to the same 2-conductor cable and all cables can be read at one plug.

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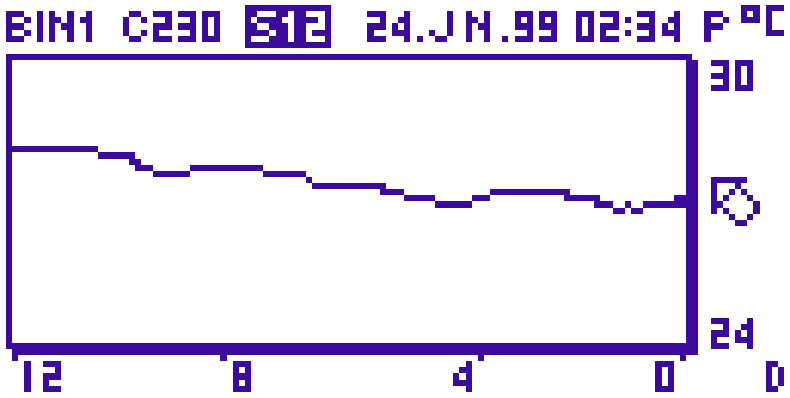
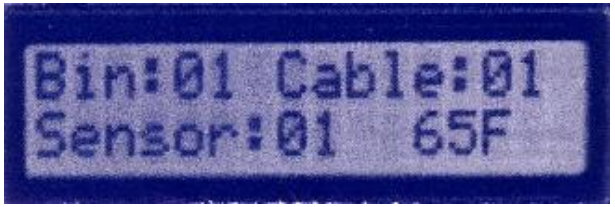
Proactive Monitoring: An OPI-integris Advantage

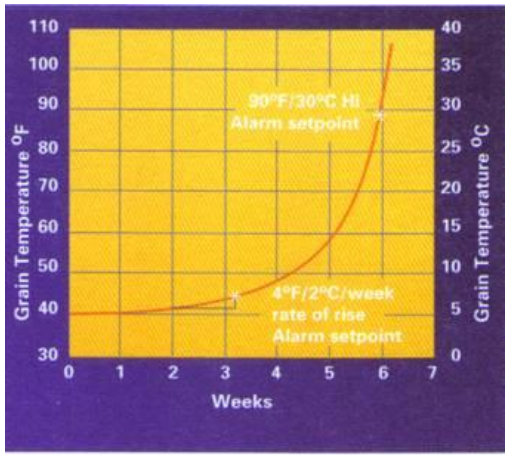
- StorMax—Digital
  - **PROACTIVE** Grain Storage Management
  - Log history tracks trends over time for better ongoing management
  - Optional auto-control



- Thermocouple—Analog
  - **Reactive** monitoring that "sees" only one sensor at a time



  - "Hot spots" detected only *after* the damage is done.



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OPI-integris System Solutions

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OPI-integris System Solutions

Integris Monitoring & Control Systems

- Fully upgradeable from StorMax Handheld system to the IntegrisPro
  - **StorMax** – Handheld temperature monitoring
  - **IntegrisBasic** – PC-based monitoring , alarms and continuous level
  - **IntegrisPro** – PC-based monitoring , alarms, continuous level and automated fan control

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StorMax

- StorMax Digital Monitor
  - One plug-in per bin/bin-group
  - Displays 32 sensors per screen
  - Graphical display
  - Stores 1+ years of historic data
  - Reads other kinds of cables
  - Easy upgrades for future technology
  - Optional PC upload

OPI Advanc

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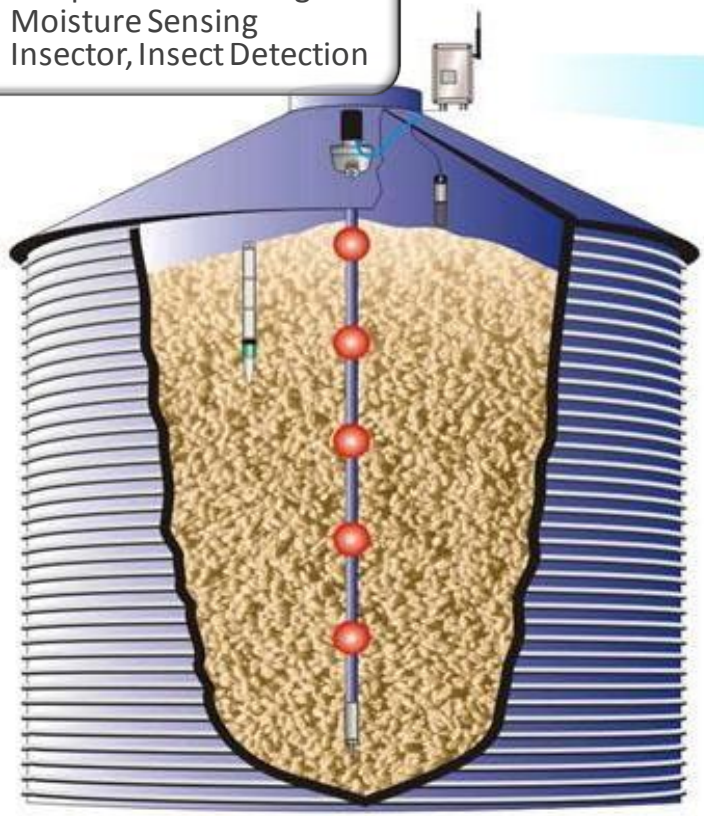
PC-Based Monitoring & Alarm System

Monitors
- Temperature Sensing
- Moisture Sensing
- Insector, Insect Detection



Communicates to the PC by wired and/or wireless connection

Alarms for
- High limit
- Rate of rise
- System Status

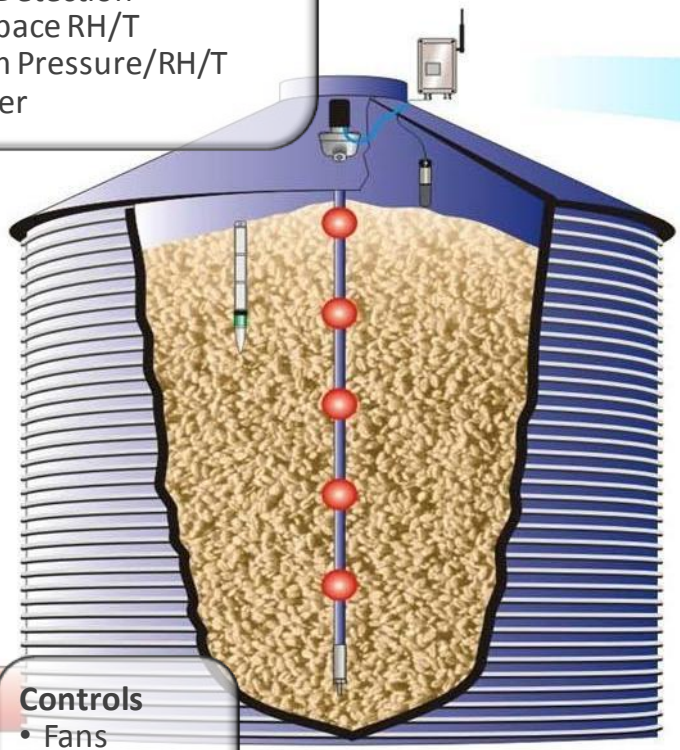
Interface Options
- On-site, PC-based
- Internet-based

Alarm Output Options
- On-screen
- On-site (audible or visual)
- Text messaging
- Email

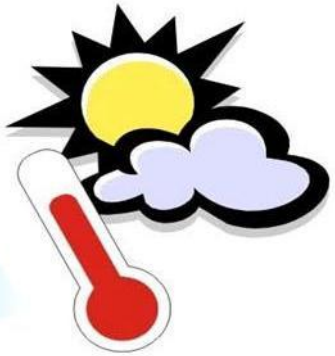
integrisPRO

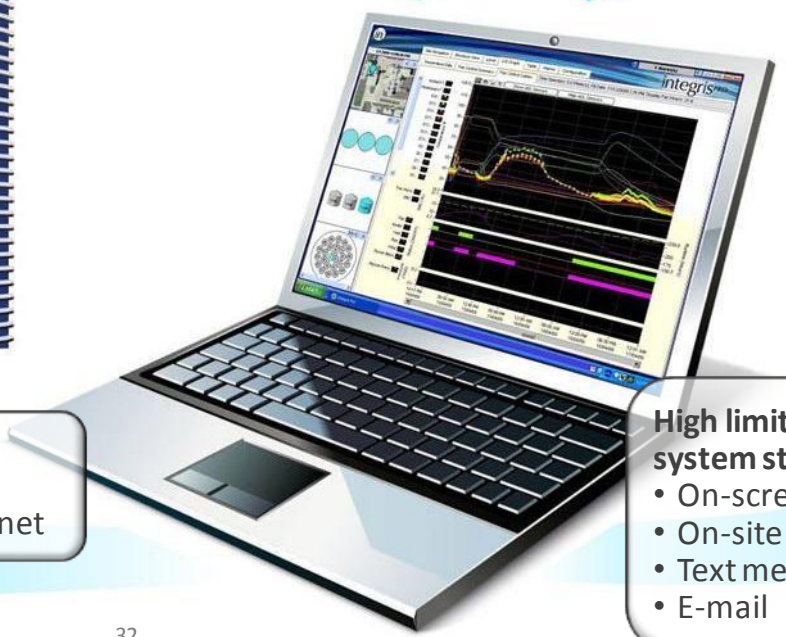
PC-Based Monitoring, Alarm & Control System

Monitors
- Temperature Sensing
- Moisture Sensing
- Insect Detection
- Headspace RH/T
- Plenum Pressure/RH/T
- Weather



Communicates to the PC by wired and/or wireless connection





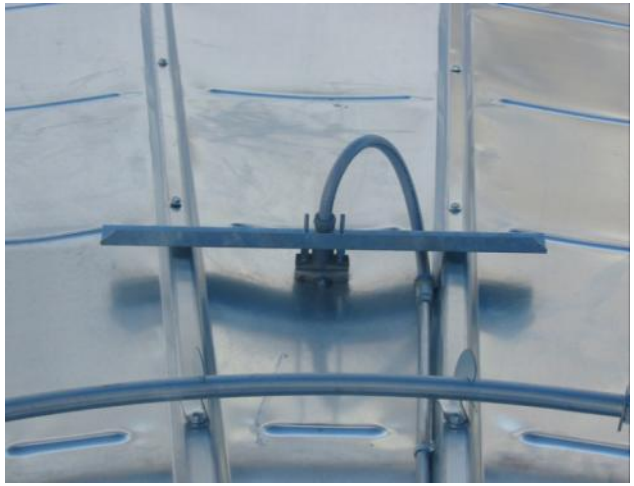
Controls
- Fans
- Heater
- Roof ventilation

Interface
- On-site
- By Internet

High limit, rate-of-rise and system status alarms
- On-screen
- On-site (audible or visual)
- Text messaging
- E-mail

Roof Support Options

BRK1+2



BRK3

BRK6

- Internally or externally mounted roof support brackets.
- Available for cables measuring up to 50’ for non-structure roofs.

Farm-Side Fan Control: IntegrisPro Systems Solutions

Termination Enclosure: 16 Sensors x 26 Cables = 416 Sensors

Outdoor RHT: IntegrisPro Systems Solutions

IntegrisPro Advanced Grain Management System

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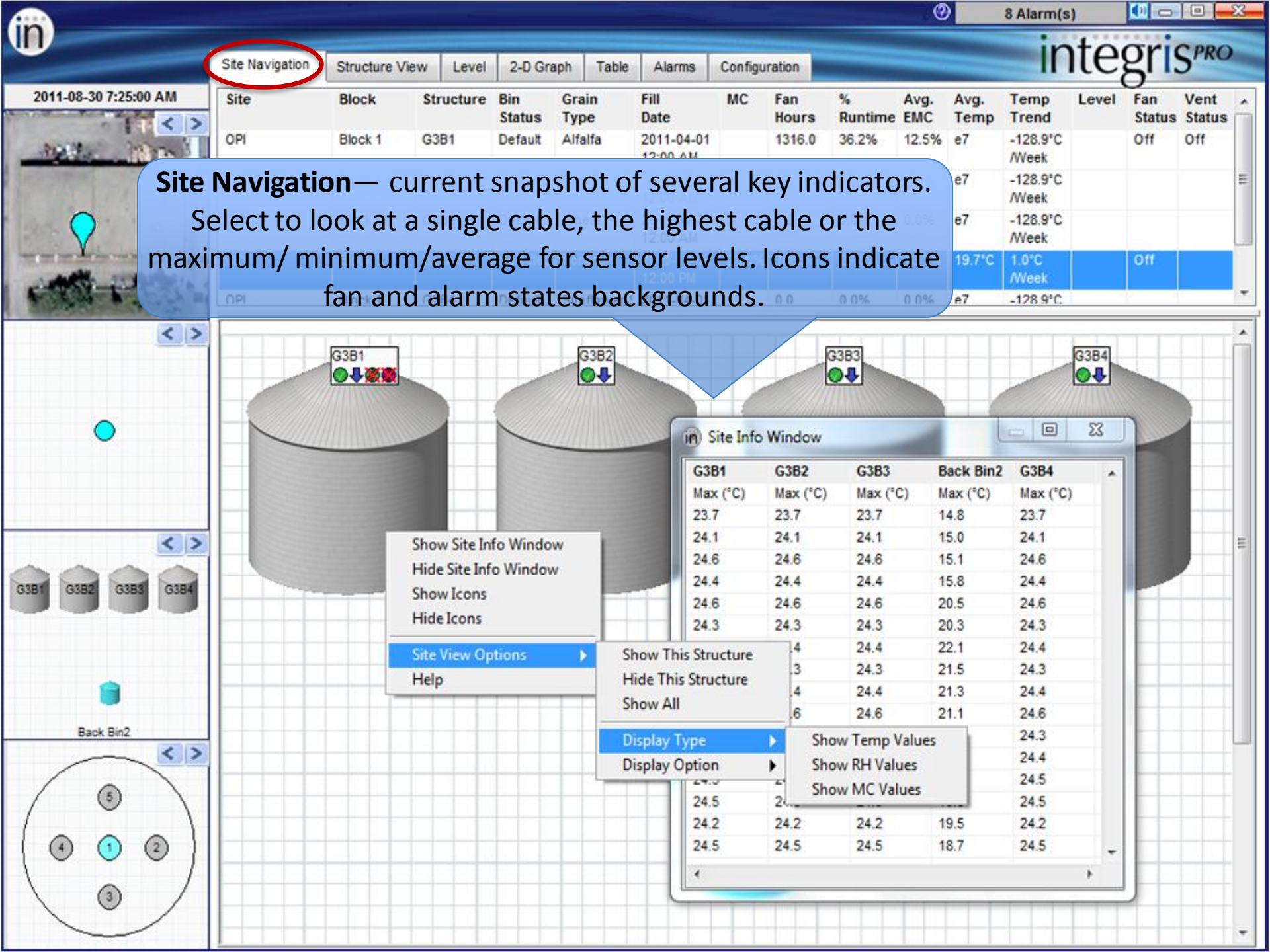
Software improvements for ease of use…

- Simplified operation
- High-level navigation options
- Real-time, on-screen EMC
- Updated aeration algorithms
- Improved navigation
- Auto-delete—simplified setting and reporting
- Continuous level monitoring
- Expanded and improved reports…


8 Alarm(s)
integrisPRO
Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
2011-08-30 7:25:00 AM
Site Navigation— current snapshot of several key indicators. Select to look at a single cable, the highest cable or the maximum/ minimum/average for sensor levels. Icons indicate fan and alarm states backgrounds.
G3B1
G3B2
G3B3
G3B4
Back Bin2
Show Site Info Window
Hide Site Info Window
Show Icons
Hide Icons
Site View Options
Help
Show This Structure
Hide This Structure
Show All
Display Type
Display Option
Show Temp Values
Show RH Values
Show MC Values
Site Info Window

1 Alarm(s)

integris PRO

Site Navigation | Structure View | Level | 2-D Graph | Table | Alarms | Configuration

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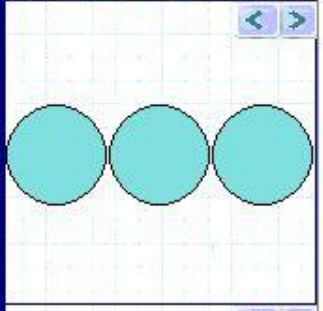
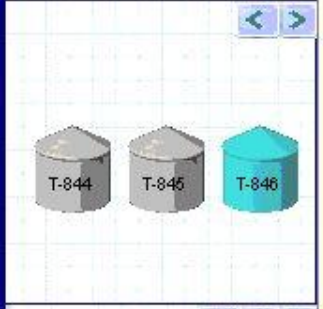
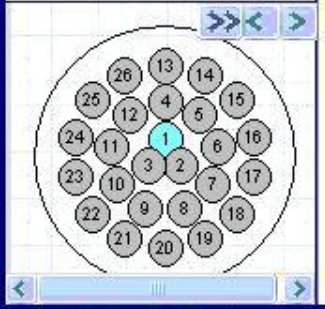


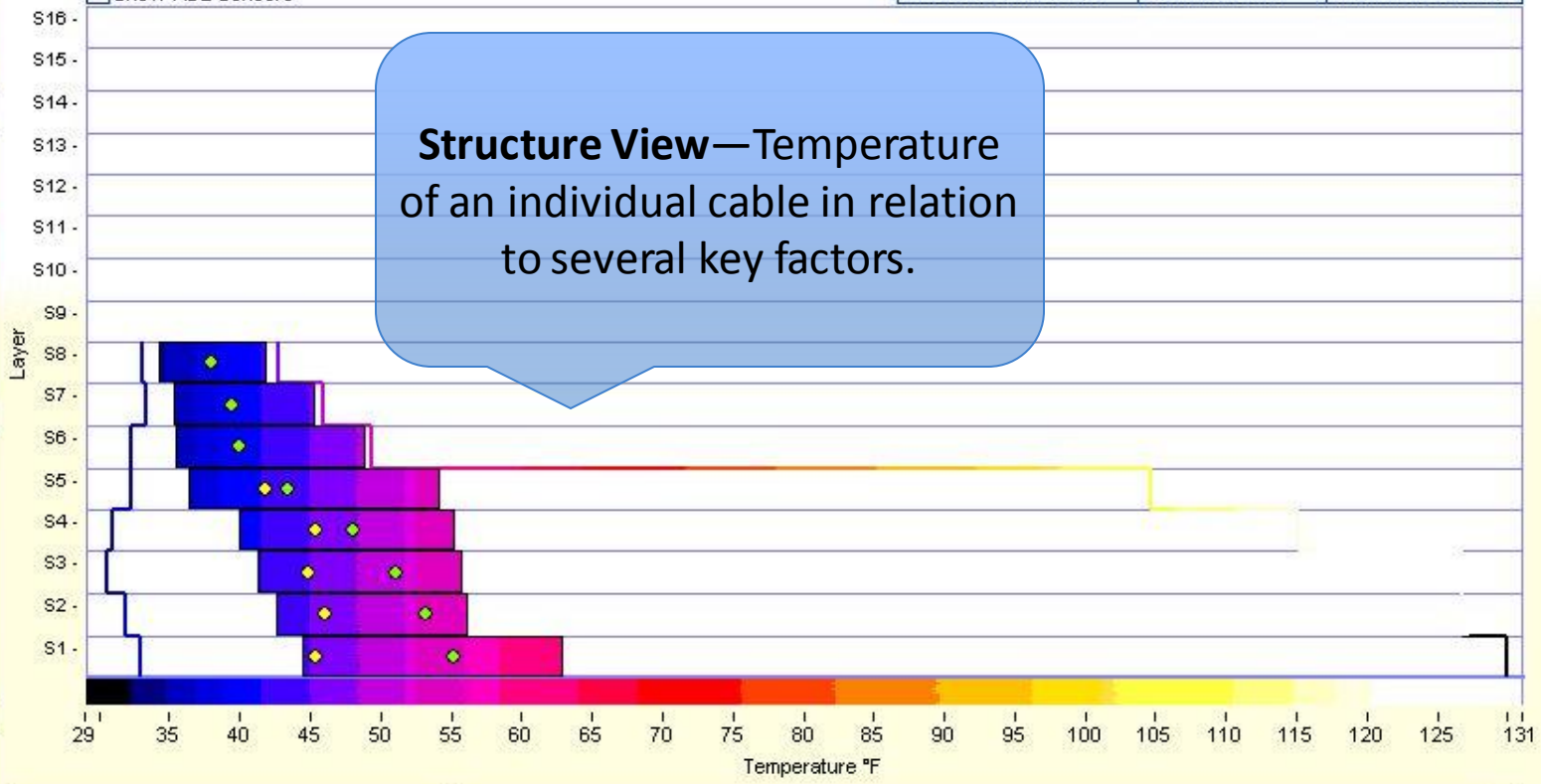




Ambient		Headspace		Ventilation	Mode	Status
Temperature	53.6°F	Temperature	66.0°F	Vent 0	Vent OFF - Temp, RH	Off
RH	53.0%	RH	48.3%			
EMC	13.1%	Dewpoint	45.9°F			
Wind Status						
Rain Status						

AutoScale X
Show ADL Sensors

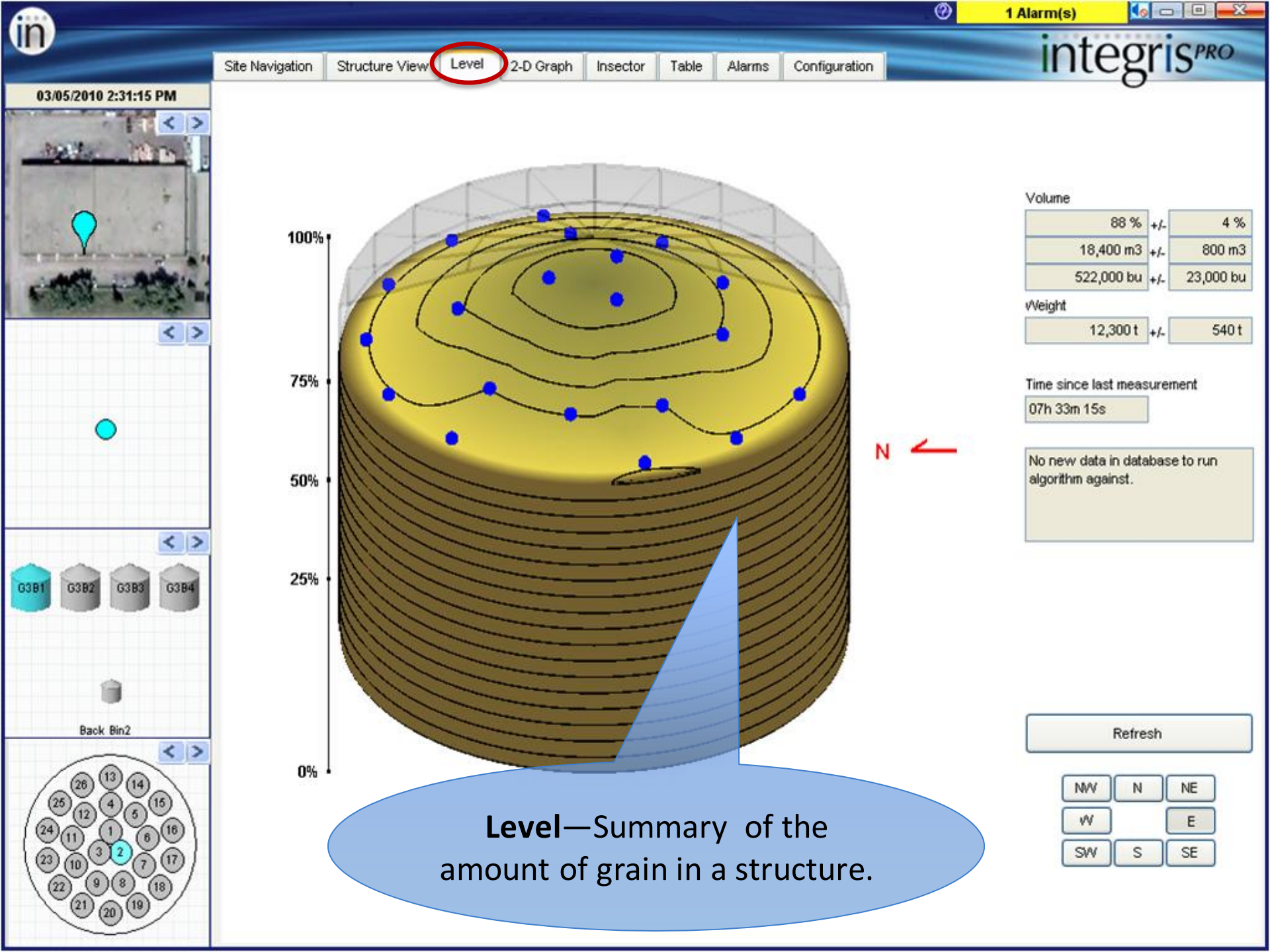
Selected Cable Value | Average Value | Min/Max for **Month**



Structure View—Temperature of an individual cable in relation to several key factors.

Plenum Conditions		Aeration	Mode	Status	Fan Hours	% Runtime	Avg EMC
Grain	Corn	Fan 1	Aeration	Off	239.9	5.9%	14.0%
Temp	57.6°F (Calc)						
RH	45.8% (Calc)						
EMC	11.8%						
Pressure							

start | Integris Pro | 11:49 AM


1 Alarm(s)
integrisPRO
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
03/05/2010 2:31:15 PM
G3B1
G3B2
G3B3
G3B4
Back Bin2
100%
75%
50%
25%
0%
N
Volume
88 % +/- 4 %
18,400 m3 +/- 800 m3
522,000 bu +/- 23,000 bu
Weight
12,300 t +/- 540 t
Time since last measurement
07h 33m 15s
No new data in database to run algorithm against.
Refresh
NW
N
NE
W
E
SW
S
SE
Level—Summary of the amount of grain in a structure.

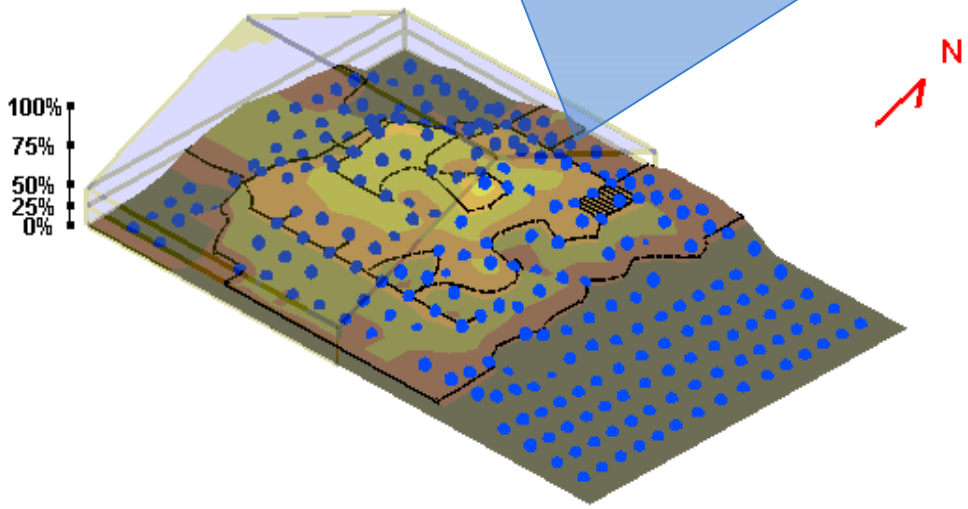
12 Alarm(s)

integris PRO

Site Navigation | Structure View | Level | 2-D Graph | Table | Alarms | Configuration

12/07/2011 10:42:32 AM

Large Flatstore level capabilities that allow users to view the level of the entire flatstore at once, even when the building is divided into smaller grain conditioning units (typically a single fan and duct).



Volume

48 %	+/-	8 %
21,000 m3	+/-	3,500 m3
597,000 bu	+/-	99,000 bu

Weight

16,700 ton	+/-	2,800 ton

Depth

26 ft

Time since last measurement

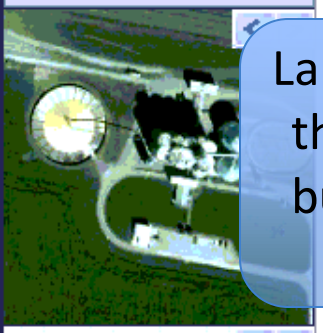
00h 08m 33s

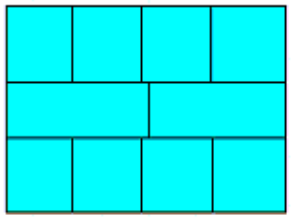
Data and processing successful.

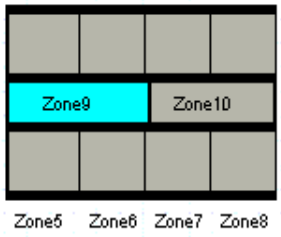
View Structure

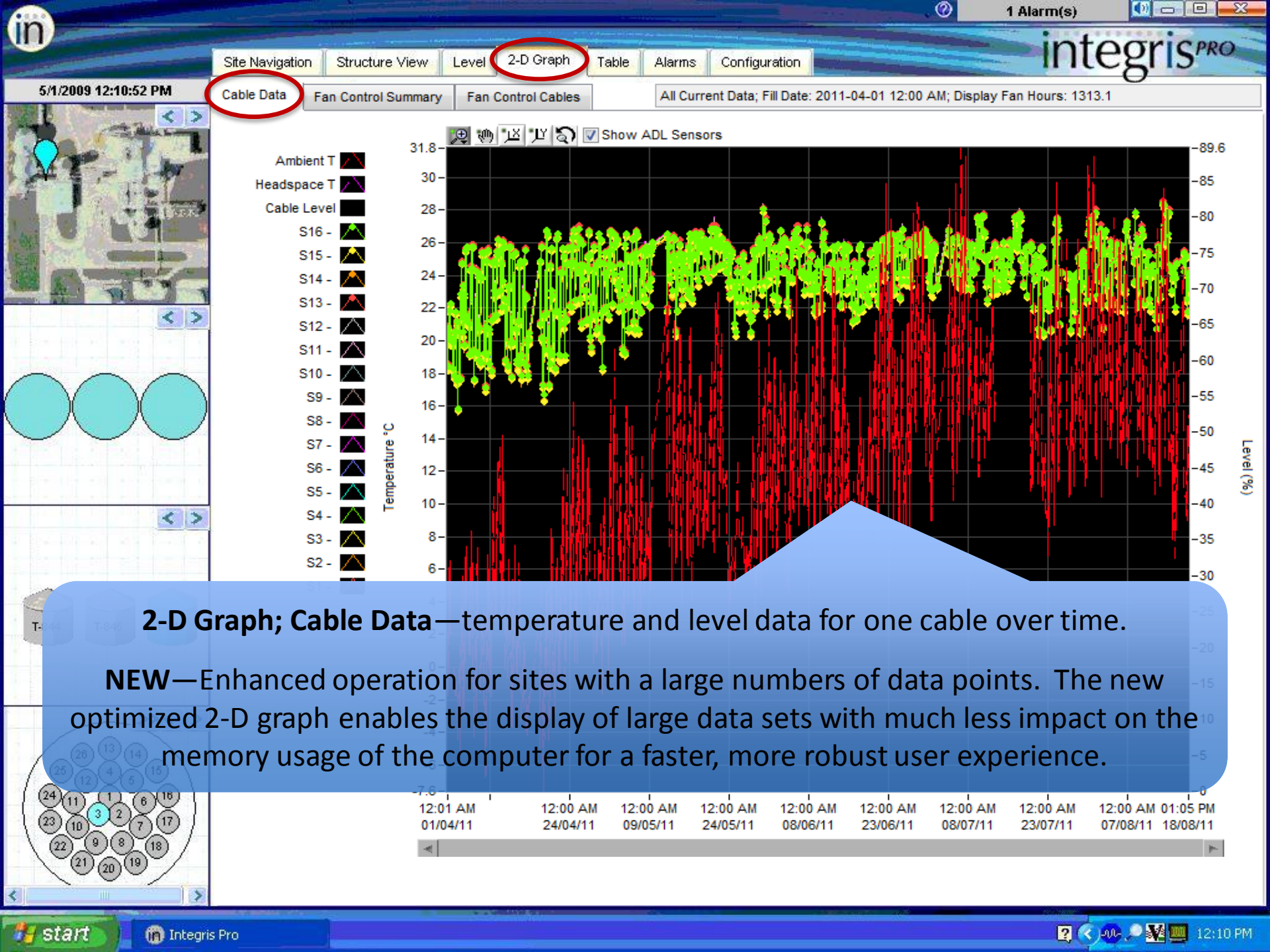
Refresh

NW | N | NE
W | E
SW | S | SE



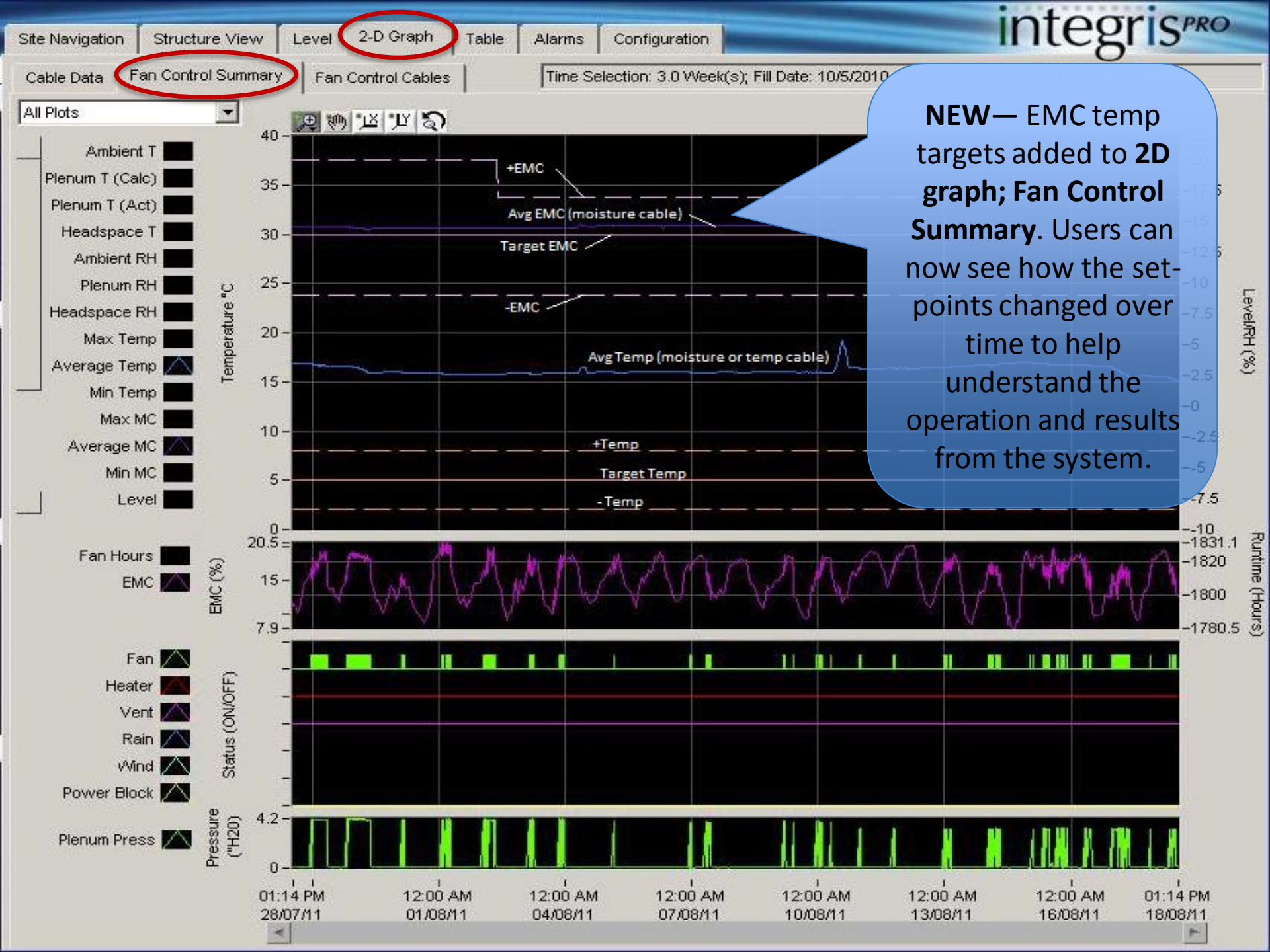


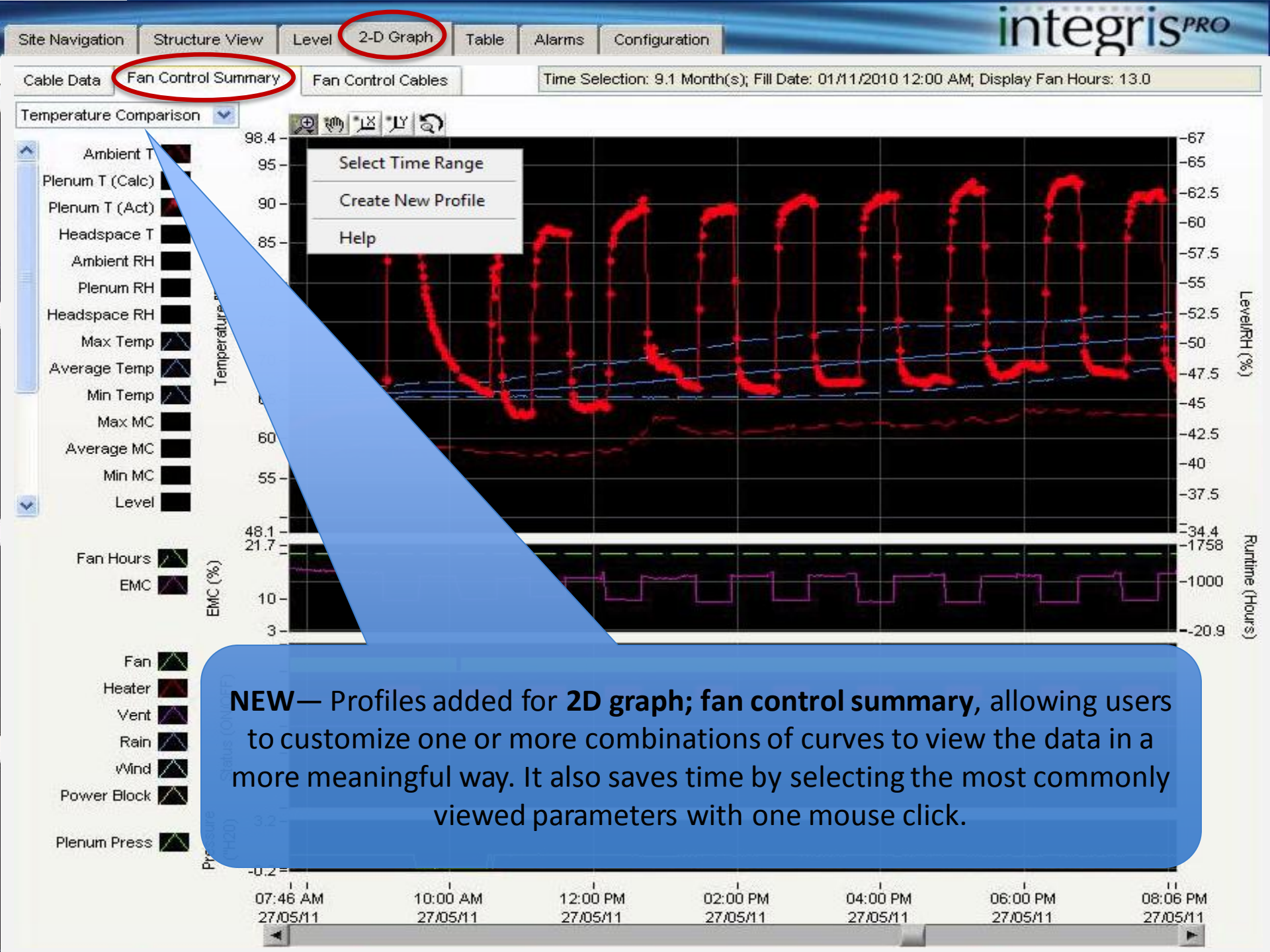


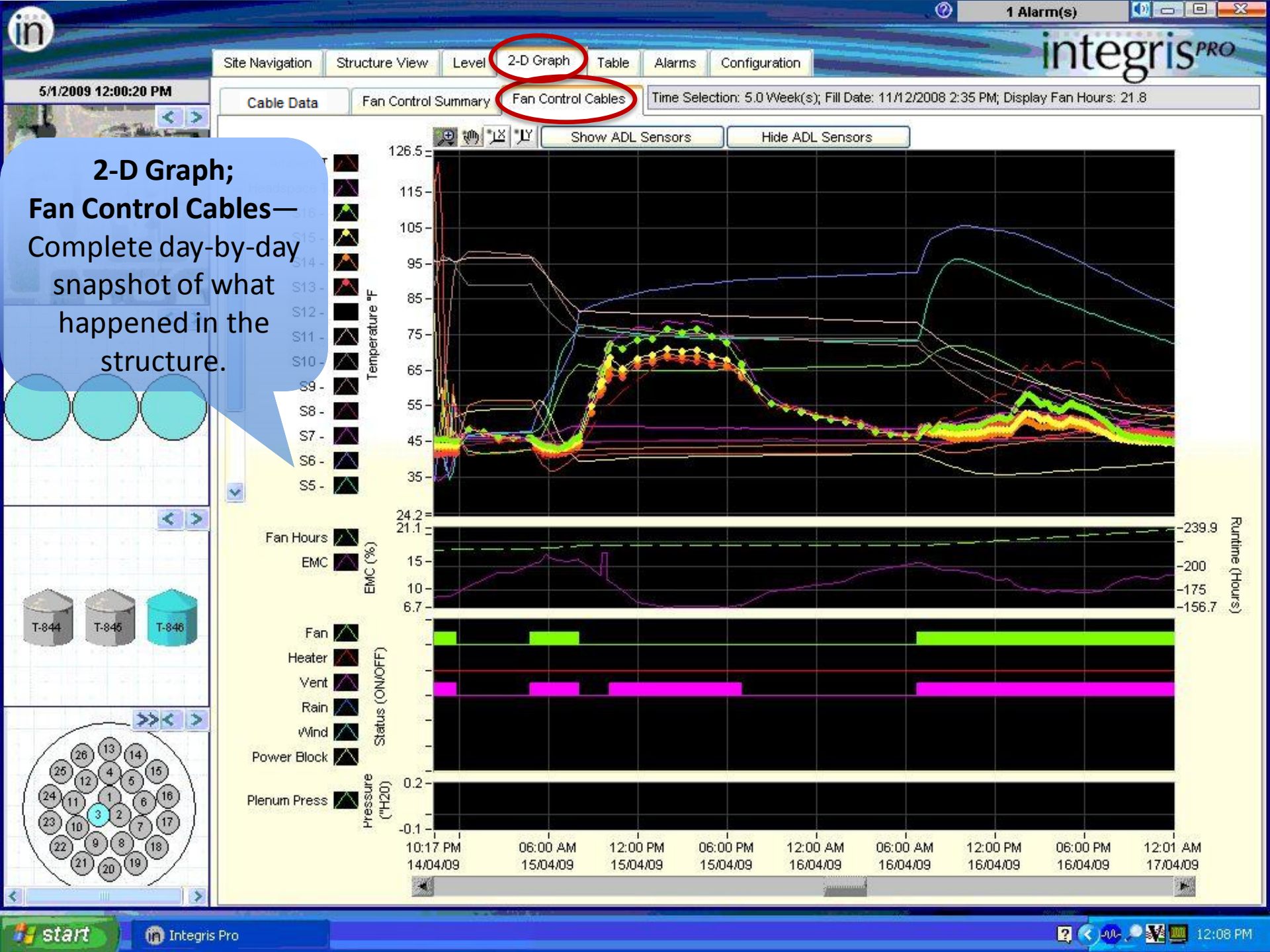


2-D Graph; Cable Data—temperature and level data for one cable over time.

NEW—Enhanced operation for sites with a large numbers of data points. The new optimized 2-D graph enables the display of large data sets with much less impact on the memory usage of the computer for a faster, more robust user experience.


Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
integris PRO
Cable Data
Fan Control Summary
Fan Control Cables
Time Selection: 3.0 Week(s); Fill Date: 10/5/2010
All Plots
Ambient T
Plenum T (Calc)
Plenum T (Act)
Headspace T
Ambient RH
Plenum RH
Headspace RH
Max Temp
Average Temp
Min Temp
Max MC
Average MC
Min MC
Level
Fan Hours
EMC
Fan
Heater
Vent
Rain
Wind
Power Block
Plenum Press
+EMC
Avg EMC (moisture cable)
Target EMC
-EMC
Avg Temp (moisture or temp cable)
+Temp
Target Temp
-Temp
Temperature °C
Level/RH (%)
EMC (%)
Runtime (Hours)
Status (ON/OFF)
Pressure ("H20)
01:14 PM 28/07/11
12:00 AM 01/08/11
12:00 AM 04/08/11
12:00 AM 07/08/11
12:00 AM 10/08/11
12:00 AM 13/08/11
12:00 AM 16/08/11
01:14 PM 18/08/11
NEW— EMC temp targets added to 2D graph; Fan Control Summary. Users can now see how the set-points changed over time to help understand the operation and results from the system.


Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
integrisPRO
Cable Data
Fan Control Summary
Fan Control Cables
Time Selection: 9.1 Month(s); Fill Date: 01/11/2010 12:00 AM; Display Fan Hours: 13.0
Temperature Comparison
Ambient T
Plenum T (Calc)
Plenum T (Act)
Headspace T
Ambient RH
Plenum RH
Headspace RH
Max Temp
Average Temp
Min Temp
Max MC
Average MC
Min MC
Level
Fan Hours
EMC
Fan
Heater
Vent
Rain
Wind
Power Block
Plenum Press
Select Time Range
Create New Profile
Help
Temperature (°F)
EMC (%)
Level/RH (%)
Runtime (Hours)
98.4
95
90
85
60
55
48.1
21.7
10
3
-0.2
67
65
62.5
60
57.5
55
52.5
50
47.5
45
42.5
40
37.5
34.4
1758
1000
-20.9
07:46 AM 27/05/11
10:00 AM 27/05/11
12:00 PM 27/05/11
02:00 PM 27/05/11
04:00 PM 27/05/11
06:00 PM 27/05/11
08:06 PM 27/05/11
NEW— Profiles added for 2D graph; fan control summary, allowing users to customize one or more combinations of curves to view the data in a more meaningful way. It also saves time by selecting the most commonly viewed parameters with one mouse click.


1 Alarm(s)
integrisPRO
Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
5/1/2009 12:00:20 PM
Cable Data
Fan Control Summary
Fan Control Cables
Time Selection: 5.0 Week(s); Fill Date: 11/12/2008 2:35 PM; Display Fan Hours: 21.8
Show ADL Sensors
Hide ADL Sensors
2-D Graph;
Fan Control Cables—
Complete day-by-day snapshot of what happened in the structure.
Temperature °F
126.5
115
105
95
85
75
65
55
45
35
24.2
S15
S14
S13
S12
S11
S10
S9
S8
S7
S6
S5
Fan Hours
EMC
EMC (%)
21.1
15
10
6.7
239.9
200
175
156.7
Runtime (Hours)
Fan
Heater
Vent
Rain
Wind
Power Block
Status (ON/OFF)
Plenum Press
Pressure ("H20)
0.2
-0.1
10:17 PM 14/04/09
06:00 AM 15/04/09
12:00 PM 15/04/09
06:00 PM 15/04/09
12:00 AM 16/04/09
06:00 AM 16/04/09
12:00 PM 16/04/09
06:00 PM 16/04/09
12:01 AM 17/04/09
T-844
T-845
T-846
start
Integris Pro
12:08 PM

Site Navigation | Structure View | Level | 2-D Graph | Table | Alarms | Configuration

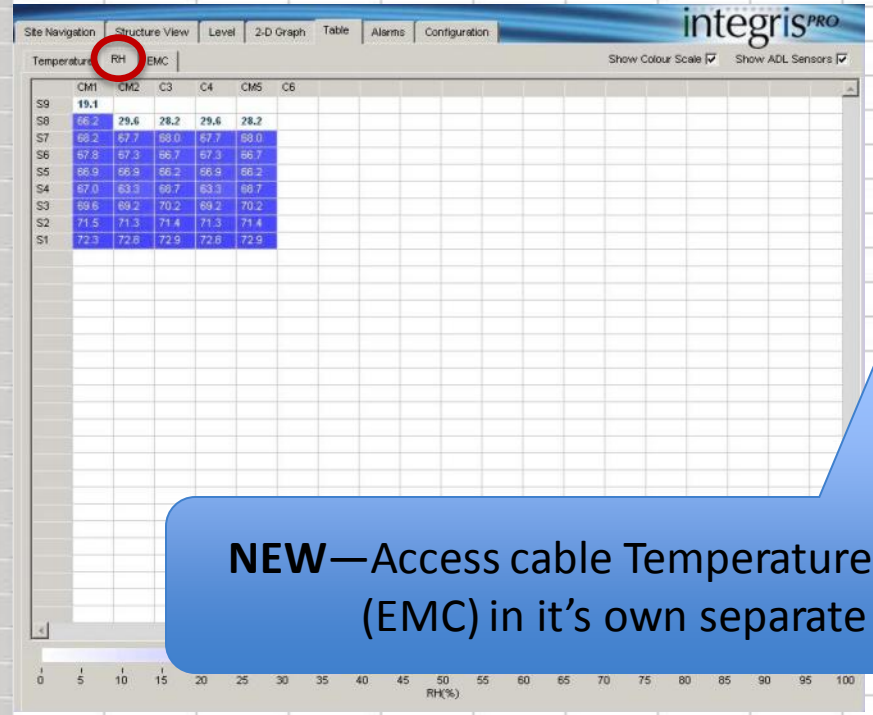
integris PRO

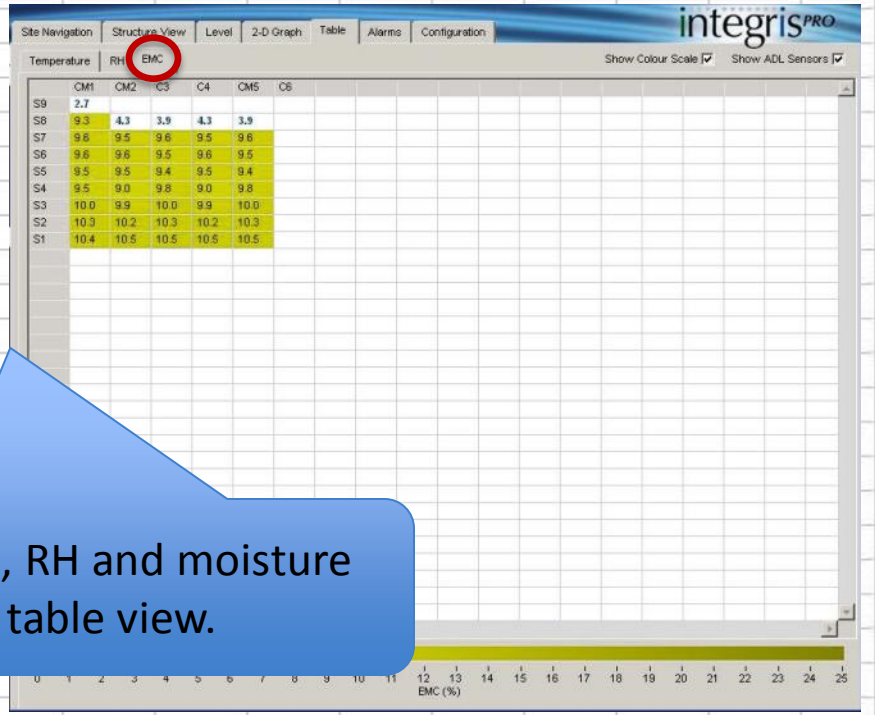
Temperature | RH | EMC

Show Colour Scale ☑ Show ADL Sensors ☑

	CM1	CM2	C3	C4	CM5	C6
S9	37.6					
S8	16.7	30.2	28.6	32.3	32.0	31.9
S7	14.4	16.2	17.2	16.9	15.7	16.3
S6	10.2	10.8	13.6	12.7	10.7	11.5
S5	10.6	10.4	10.2	10.8	10.8	10.2
S4	10.2	8.9	10.4	10.7	9.2	8.4
S3	9.2	8.4	9.2	9.6	9.3	7.9
S2	9.3	8.3	9.2	9.2	9.0	8.5
S1	9.4	10.5	9.3	9.8	12.4	10.3

Table— Provides an at-a-glance, color-coded visual of vital information in an easy-to-read table format.

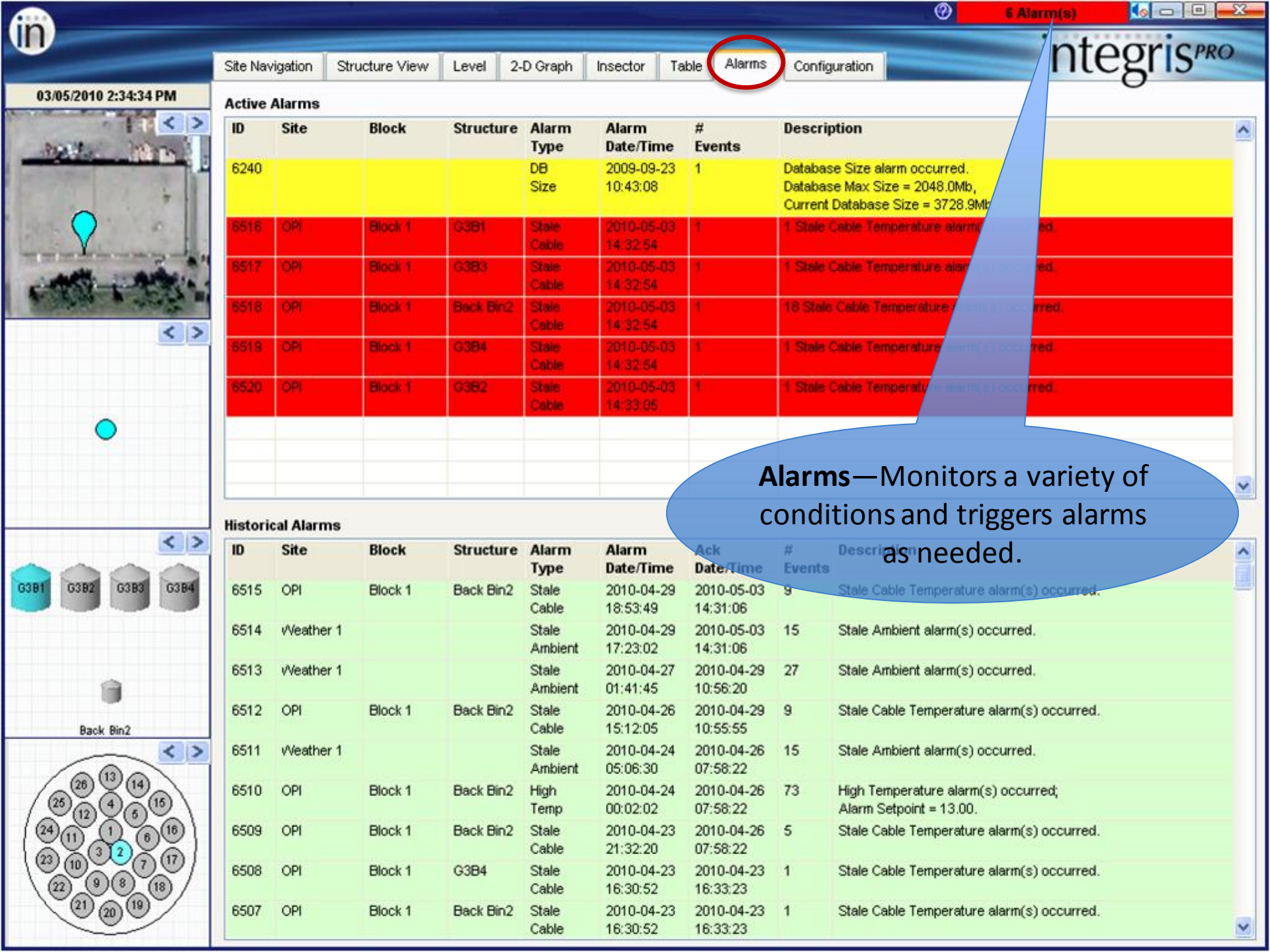




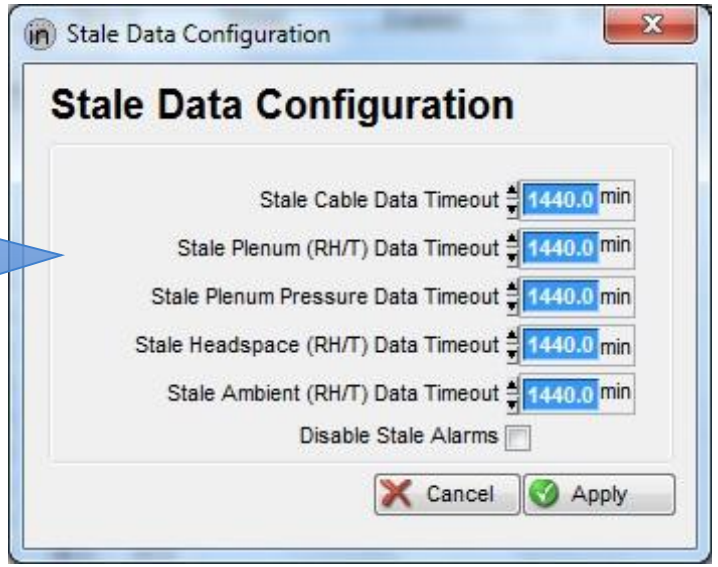
NEW—Access cable Temperature, RH and moisture (EMC) in it's own separate table view.

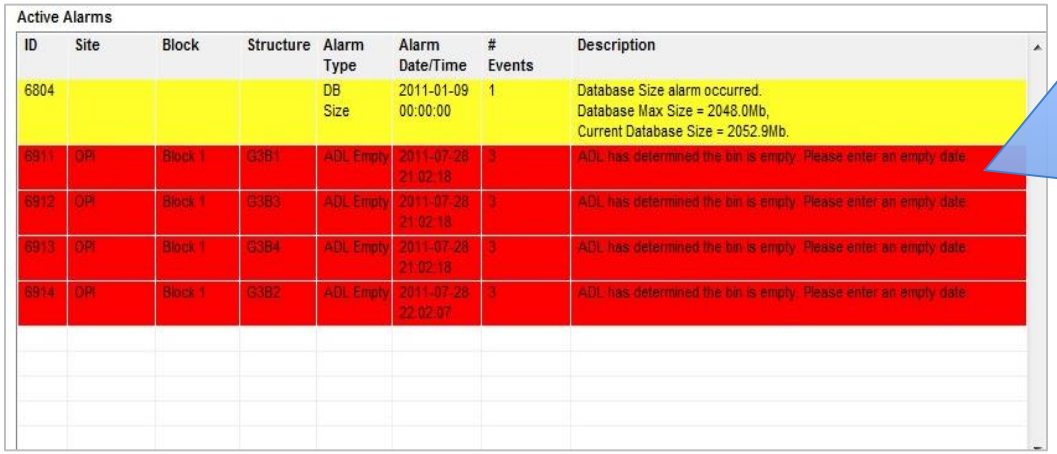
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Temperature °C


6 Alarm(s)
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
03/05/2010 2:34:34 PM
Active Alarms
ID Site Block Structure Alarm Type Alarm Date/Time # Events Description
6240 DB Size 2009-09-23 10:43:08 1 Database Size alarm occurred. Database Max Size = 2048.0Mb, Current Database Size = 3728.9Mb
6516 OPI Block 1 G3B1 Stale Cable 2010-05-03 14:32:54 1 1 Stale Cable Temperature alarm
6517 OPI Block 1 G3B3 Stale Cable 2010-05-03 14:32:54 1 1 Stale Cable Temperature alarm
6518 OPI Block 1 Back Bin2 Stale Cable 2010-05-03 14:32:54 1 18 Stale Cable Temperature
6519 OPI Block 1 G3B4 Stale Cable 2010-05-03 14:32:54 1 1 Stale Cable Temperature
6520 OPI Block 1 G3B2 Stale Cable 2010-05-03 14:33:05 1 1 Stale Cable Temperature
Historical Alarms
ID Site Block Structure Alarm Type Alarm Date/Time Ack Date/Time # Events Description
6515 OPI Block 1 Back Bin2 Stale Cable 2010-04-29 18:53:49 2010-05-03 14:31:06 9 Stale Cable Temperature alarm(s) occurred.
6514 Weather 1 Stale Ambient 2010-04-29 17:23:02 2010-05-03 14:31:06 15 Stale Ambient alarm(s) occurred.
6513 Weather 1 Stale Ambient 2010-04-27 01:41:45 2010-04-29 10:56:20 27 Stale Ambient alarm(s) occurred.
6512 OPI Block 1 Back Bin2 Stale Cable 2010-04-26 15:12:05 2010-04-29 10:55:55 9 Stale Cable Temperature alarm(s) occurred.
6511 Weather 1 Stale Ambient 2010-04-24 05:06:30 2010-04-26 07:58:22 15 Stale Ambient alarm(s) occurred.
6510 OPI Block 1 Back Bin2 High Temp 2010-04-24 00:02:02 2010-04-26 07:58:22 73 High Temperature alarm(s) occurred; Alarm Setpoint = 13.00.
6509 OPI Block 1 Back Bin2 Stale Cable 2010-04-23 21:32:20 2010-04-26 07:58:22 5 Stale Cable Temperature alarm(s) occurred.
6508 OPI Block 1 G3B4 Stale Cable 2010-04-23 16:30:52 2010-04-23 16:33:23 1 Stale Cable Temperature alarm(s) occurred.
6507 OPI Block 1 Back Bin2 Stale Cable 2010-04-23 16:30:52 2010-04-23 16:33:23 1 Stale Cable Temperature alarm(s) occurred.
G3B1 G3B2 G3B3 G3B4
Back Bin2
Alarms—Monitors a variety of conditions and triggers alarms as needed.

NEW—Ability to enable/disable stale alarms. Now sensors can be removed from the stale alarm routine to prevent false alarms from slowly changing values.




Active Alarms

ID	Site	Block	Structure	Alarm Type	Alarm Date/Time	# Events	Description
6804				DB Size	2011-01-09 00:00:00	1	Database Size alarm occurred. Database Max Size = 2048.0Mb, Current Database Size = 2052.9Mb.
6911	OPI	Block 1	G3B1	ADL Empty	2011-07-28 21:02:18	3	ADL has determined the bin is empty. Please enter an empty date.
6912	OPI	Block 1	G3B3	ADL Empty	2011-07-28 21:02:18	3	ADL has determined the bin is empty. Please enter an empty date.
6913	OPI	Block 1	G3B4	ADL Empty	2011-07-28 21:02:18	3	ADL has determined the bin is empty. Please enter an empty date.
6914	OPI	Block 1	G3B2	ADL Empty	2011-07-28 22:02:07	3	ADL has determined the bin is empty. Please enter an empty date.

NEW—Empty bin alarm. When auto delete and level routines detect an empty bin, users receive an alarm and automatic fan control will not operate. Users are also prompted to enter an empty date to complete the fill/empty cycle.

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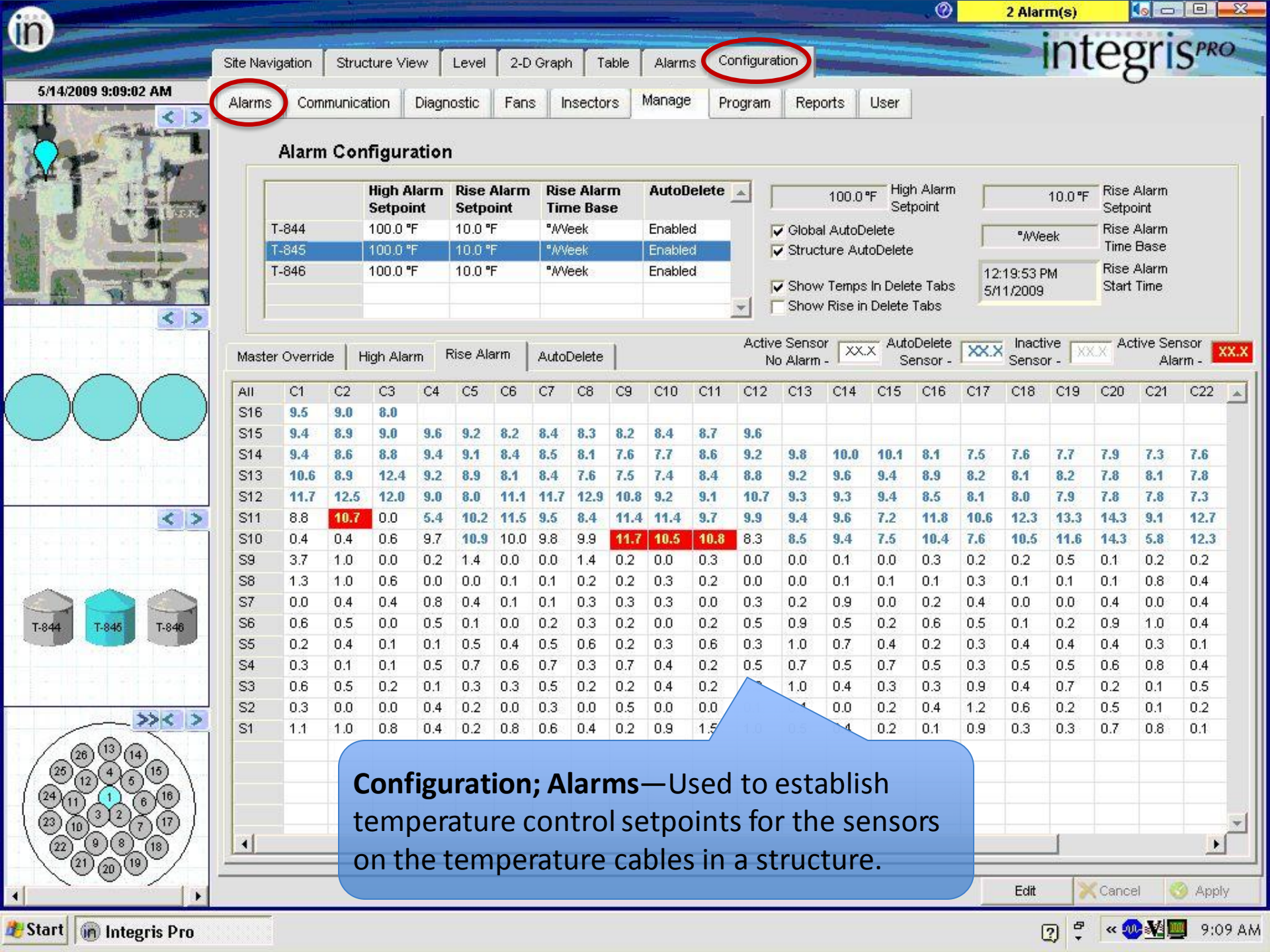
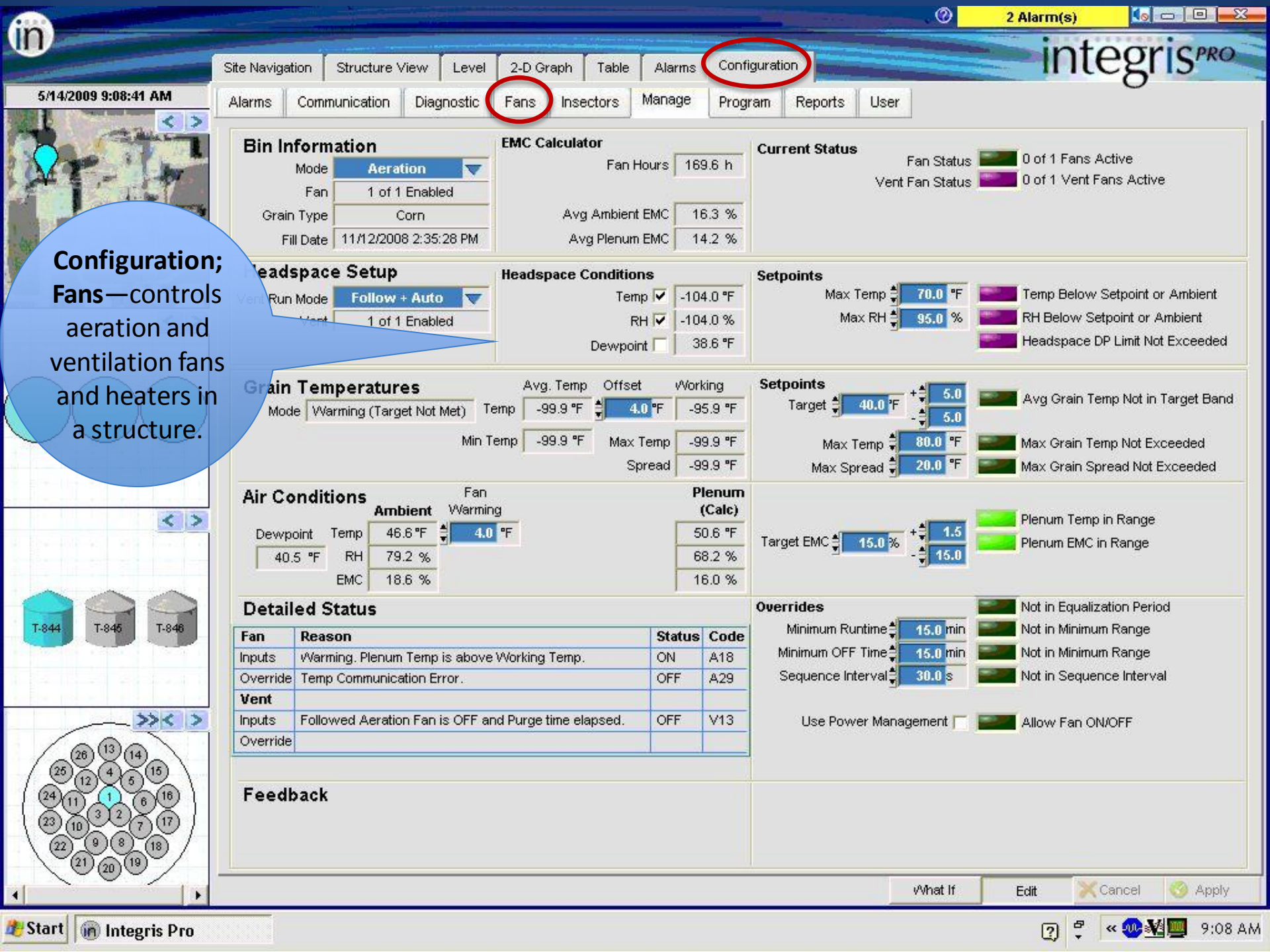
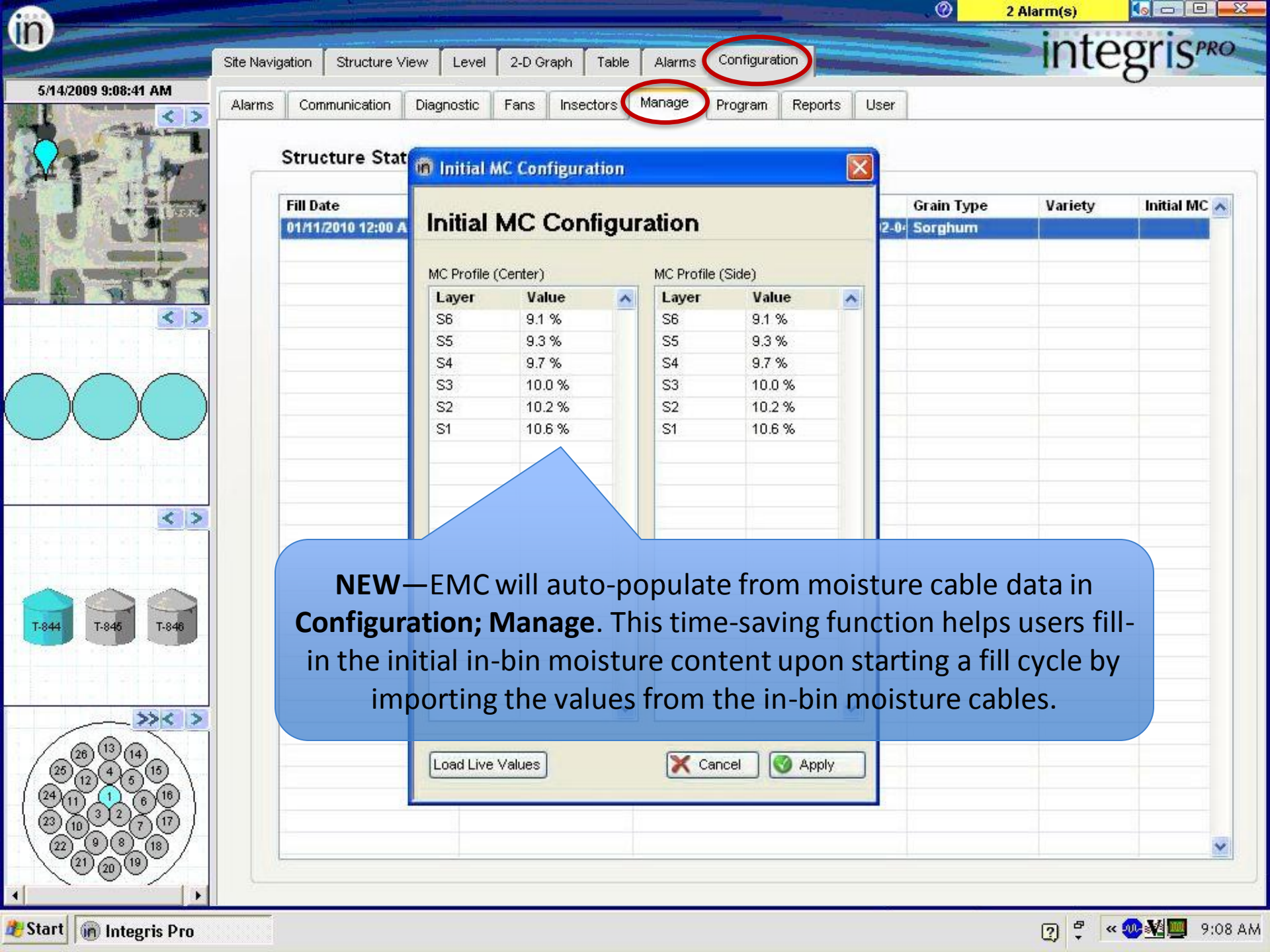

2 Alarm(s)
integrisPRO
Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
5/14/2009 9:09:02 AM
Alarms
Communication
Diagnostic
Fans
Insectors
Manage
Program
Reports
User
Alarm Configuration
High Alarm Setpoint
Rise Alarm Setpoint
Rise Alarm Time Base
AutoDelete
T-844 100.0 °F 10.0 °F °/Week Enabled
T-845 100.0 °F 10.0 °F °/Week Enabled
T-846 100.0 °F 10.0 °F °/Week Enabled
100.0 °F High Alarm Setpoint
10.0 °F Rise Alarm Setpoint
Global AutoDelete
Structure AutoDelete
°/Week Rise Alarm Time Base
12:19:53 PM 5/11/2009 Rise Alarm Start Time
Show Temps In Delete Tabs
Show Rise in Delete Tabs
Master Override
High Alarm
Rise Alarm
AutoDelete
Active Sensor No Alarm - XX.X
AutoDelete Sensor - XX.X
Inactive Sensor - XX.X
Active Sensor Alarm - XX.X
All C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22
S16 9.5 9.0 8.0
S15 9.4 8.9 9.0 9.6 9.2 8.2 8.4 8.3 8.2 8.4 8.7 9.6
S14 9.4 8.6 8.8 9.4 9.1 8.4 8.5 8.1 7.6 7.7 8.6 9.2 9.8 10.0 10.1 8.1 7.5 7.6 7.7 7.9 7.3 7.6
S13 10.6 8.9 12.4 9.2 8.9 8.1 8.4 7.6 7.5 7.4 8.4 8.8 9.2 9.6 9.4 8.9 8.2 8.1 8.2 7.8 8.1 7.8
S12 11.7 12.5 12.0 9.0 8.0 11.1 11.7 12.9 10.8 9.2 9.1 10.7 9.3 9.3 9.4 8.5 8.1 8.0 7.9 7.8 7.8 7.3
S11 8.8 10.7 0.0 5.4 10.2 11.5 9.5 8.4 11.4 11.4 9.7 9.9 9.4 9.6 7.2 11.8 10.6 12.3 13.3 14.3 9.1 12.7
S10 0.4 0.4 0.6 9.7 10.9 10.0 9.8 9.9 11.7 10.5 10.8 8.3 8.5 9.4 7.5 10.4 7.6 10.5 11.6 14.3 5.8 12.3
S9 3.7 1.0 0.0 0.2 1.4 0.0 0.0 1.4 0.2 0.0 0.3 0.0 0.0 0.1 0.0 0.3 0.2 0.2 0.5 0.1 0.2 0.2
S8 1.3 1.0 0.6 0.0 0.0 0.1 0.1 0.2 0.2 0.3 0.2 0.0 0.0 0.1 0.1 0.1 0.3 0.1 0.1 0.1 0.8 0.4
S7 0.0 0.4 0.4 0.8 0.4 0.1 0.1 0.3 0.3 0.3 0.0 0.3 0.2 0.9 0.0 0.2 0.4 0.0 0.0 0.4 0.0 0.4
S6 0.6 0.5 0.0 0.5 0.1 0.0 0.2 0.3 0.2 0.0 0.2 0.5 0.9 0.5 0.2 0.6 0.5 0.1 0.2 0.9 1.0 0.4
S5 0.2 0.4 0.1 0.1 0.5 0.4 0.5 0.6 0.2 0.3 0.6 0.3 1.0 0.7 0.4 0.2 0.3 0.4 0.4 0.4 0.3 0.1
S4 0.3 0.1 0.1 0.5 0.7 0.6 0.7 0.3 0.7 0.4 0.2 0.5 0.7 0.5 0.7 0.5 0.3 0.5 0.5 0.6 0.8 0.4
S3 0.6 0.5 0.2 0.1 0.3 0.3 0.5 0.2 0.2 0.4 0.2 1.0 0.4 0.3 0.3 0.9 0.4 0.7 0.2 0.1 0.5
S2 0.3 0.0 0.0 0.4 0.2 0.0 0.3 0.0 0.5 0.0 0.0 0.0 0.2 0.4 1.2 0.6 0.2 0.5 0.1 0.2
S1 1.1 1.0 0.8 0.4 0.2 0.8 0.6 0.4 0.2 0.9 0.2 0.1 0.9 0.3 0.3 0.7 0.8 0.1
T-844
T-845
T-846
Edit
Cancel
Apply
Configuration; Alarms—Used to establish temperature control setpoints for the sensors on the temperature cables in a structure.
Start
Integris Pro
9:09 AM

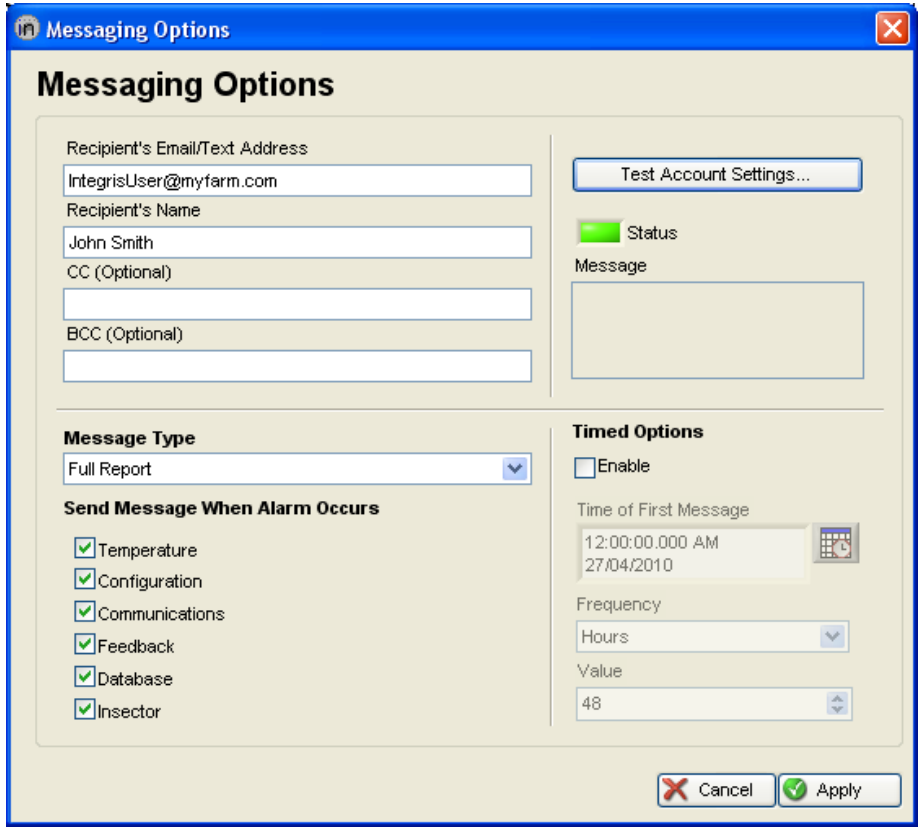


Configuration; Fans—controls aeration and ventilation fans and heaters in a structure.


2 Alarm(s)
integrisPRO
Site Navigation
Structure View
Level
2-D Graph
Table
Alarms
Configuration
5/14/2009 9:08:41 AM
Alarms
Communication
Diagnostic
Fans
Insectors
Manage
Program
Reports
User
Structure Stat
Fill Date
01/11/2010 12:00 A
Grain Type
Variety
Initial MC
Sorghum
Initial MC Configuration
Initial MC Configuration
MC Profile (Center)
MC Profile (Side)
Layer
Value
S6 9.1 %
S5 9.3 %
S4 9.7 %
S3 10.0 %
S2 10.2 %
S1 10.6 %
Load Live Values
Cancel
Apply
T-844
T-845
T-846
NEW—EMC will auto-populate from moisture cable data in Configuration; Manage. This time-saving function helps users fill-in the initial in-bin moisture content upon starting a fill cycle by importing the values from the in-bin moisture cables.
Start
Integris Pro
9:08 AM

Email/Text Messaging Options

- Includes choice of short or long messages:
  - Long messages can be selected from a list of message types to be sent.
- Messages can also be sent on a timed basis, which you can vary for different users.
- Multiple email or text messaging destinations for each users.



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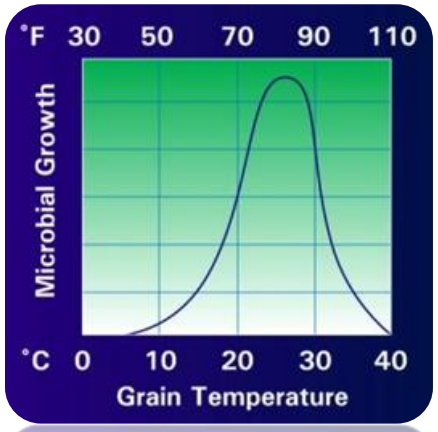
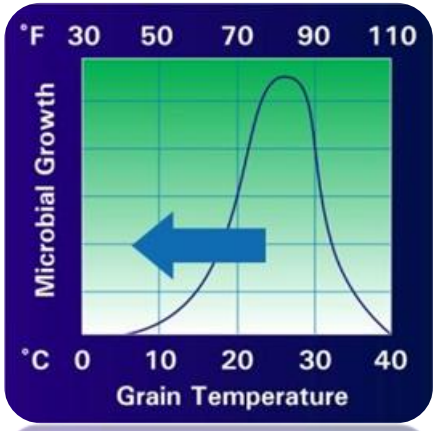
Ideal Temperature Settings



- Growth of insects, mites, molds and other microbes are at their highest levels in the 80° F range.

- For safe storage take grain down to the 40° F range
  - Forces adult insects into dormancy
  - Larvae, and eventually eggs, die after enough exposure to low temperatures
- Do not store grain below freezing for an extended period—ideally, take grain into the spring in the 40° F range



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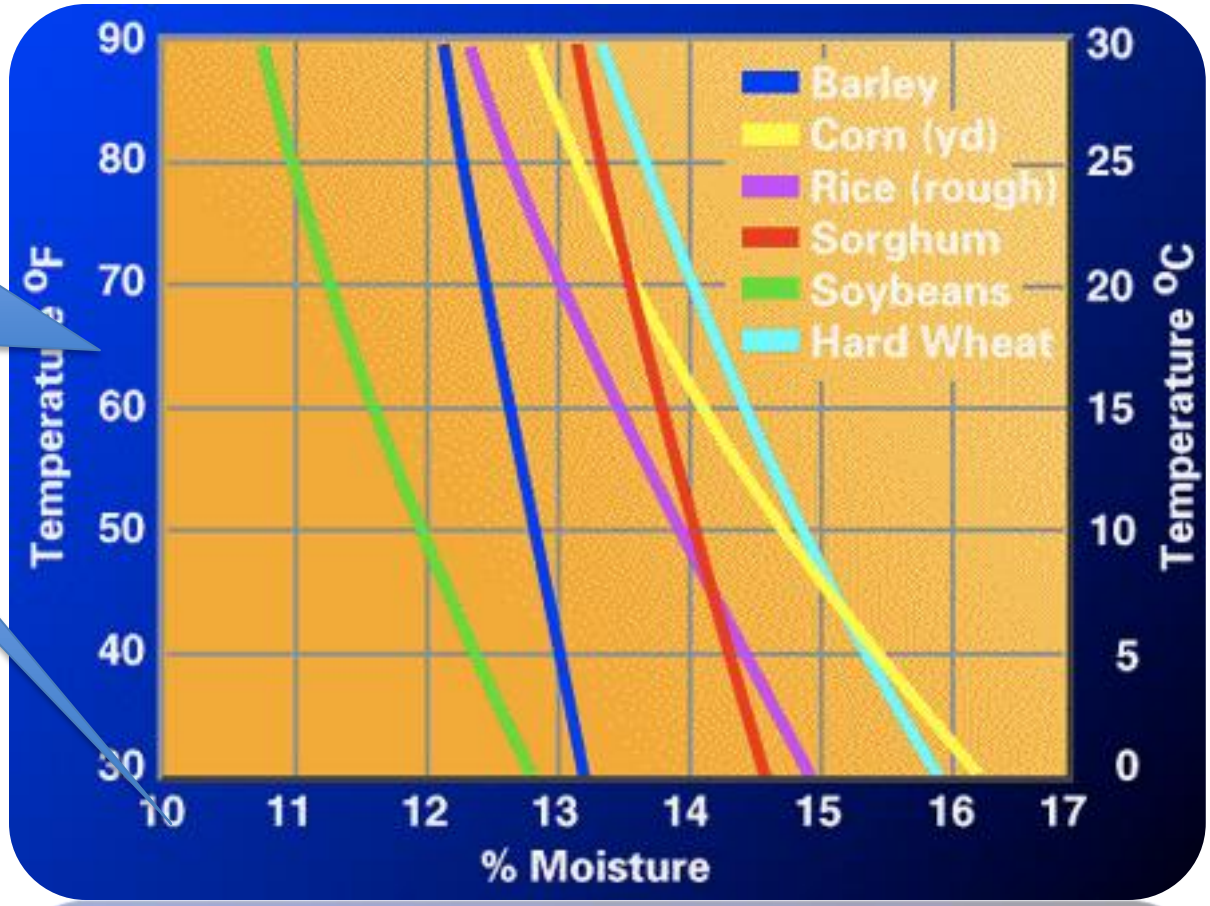
Safe storage requires a balance between temperature and moisture content.



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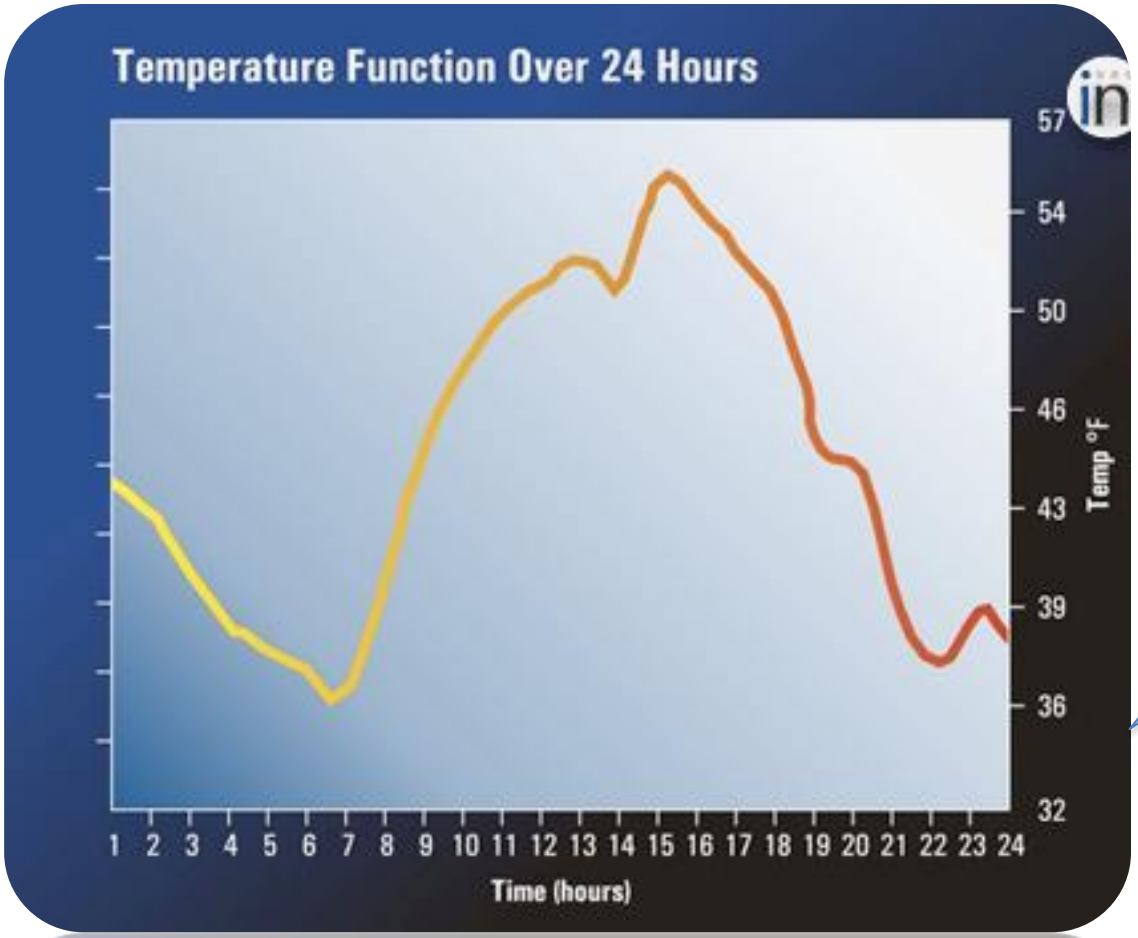

How EMC (Equilibrium Moisture Content) relates to grain moisture content.

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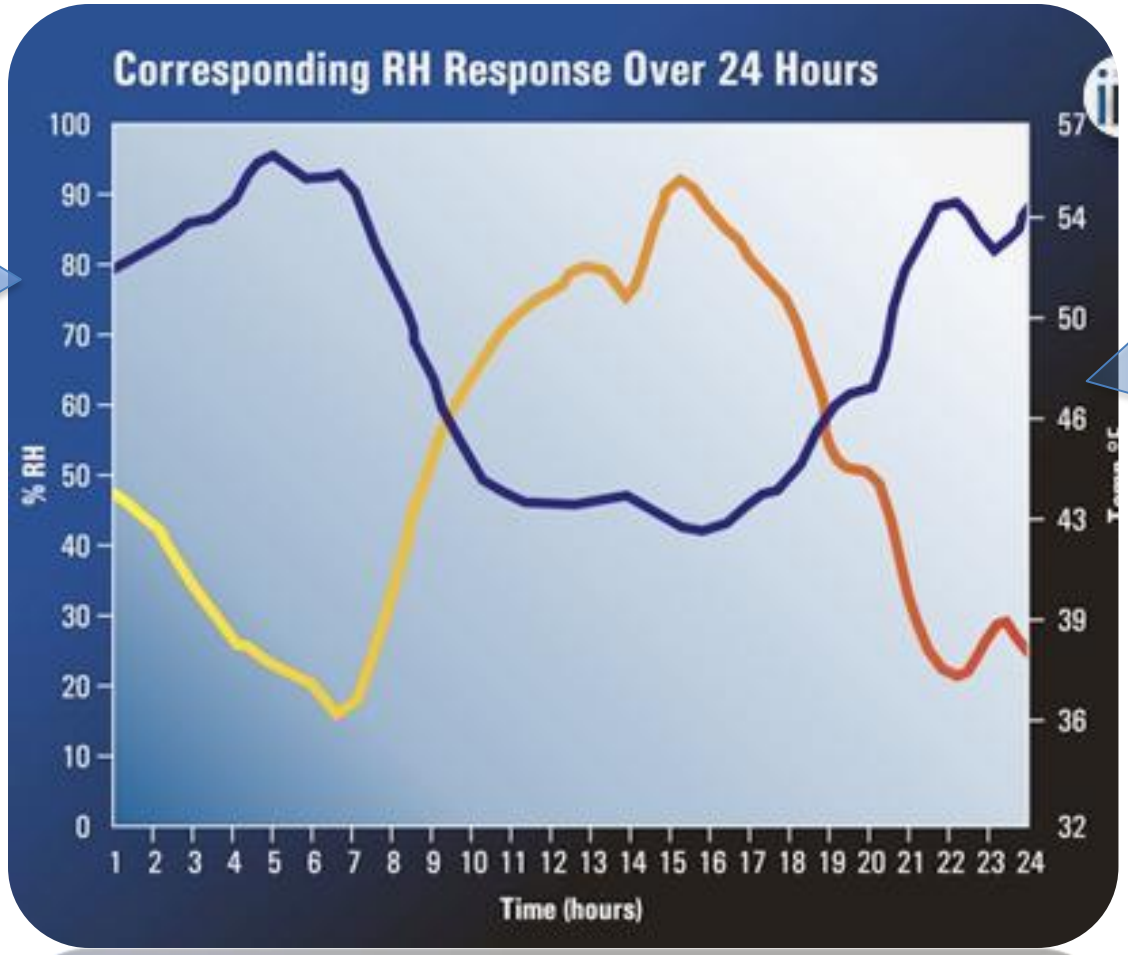
Relative Humidity (RH) runs opposite to Temperature over the 24-hour period.



Temperature

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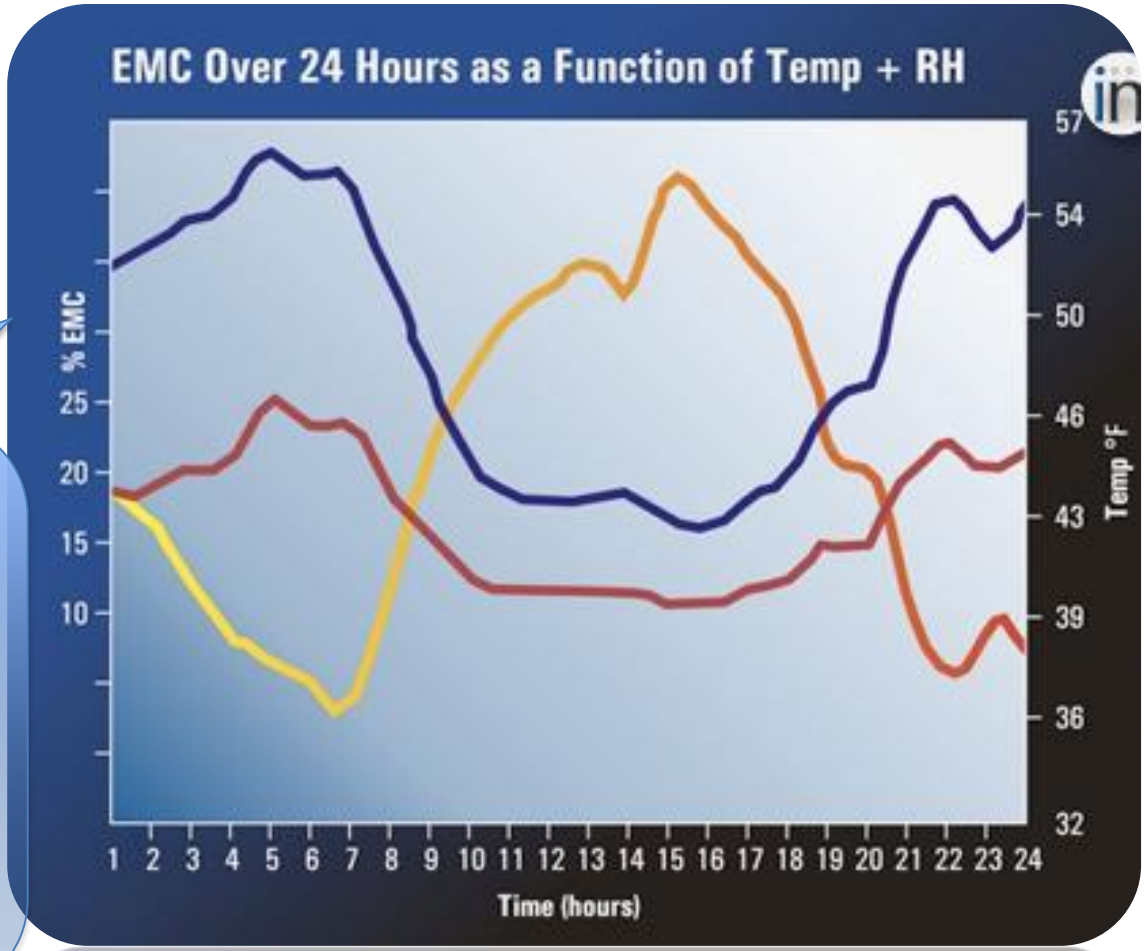
Every combination of Ambient Temperature and Relative Humidity generates an Ambient EMC value.



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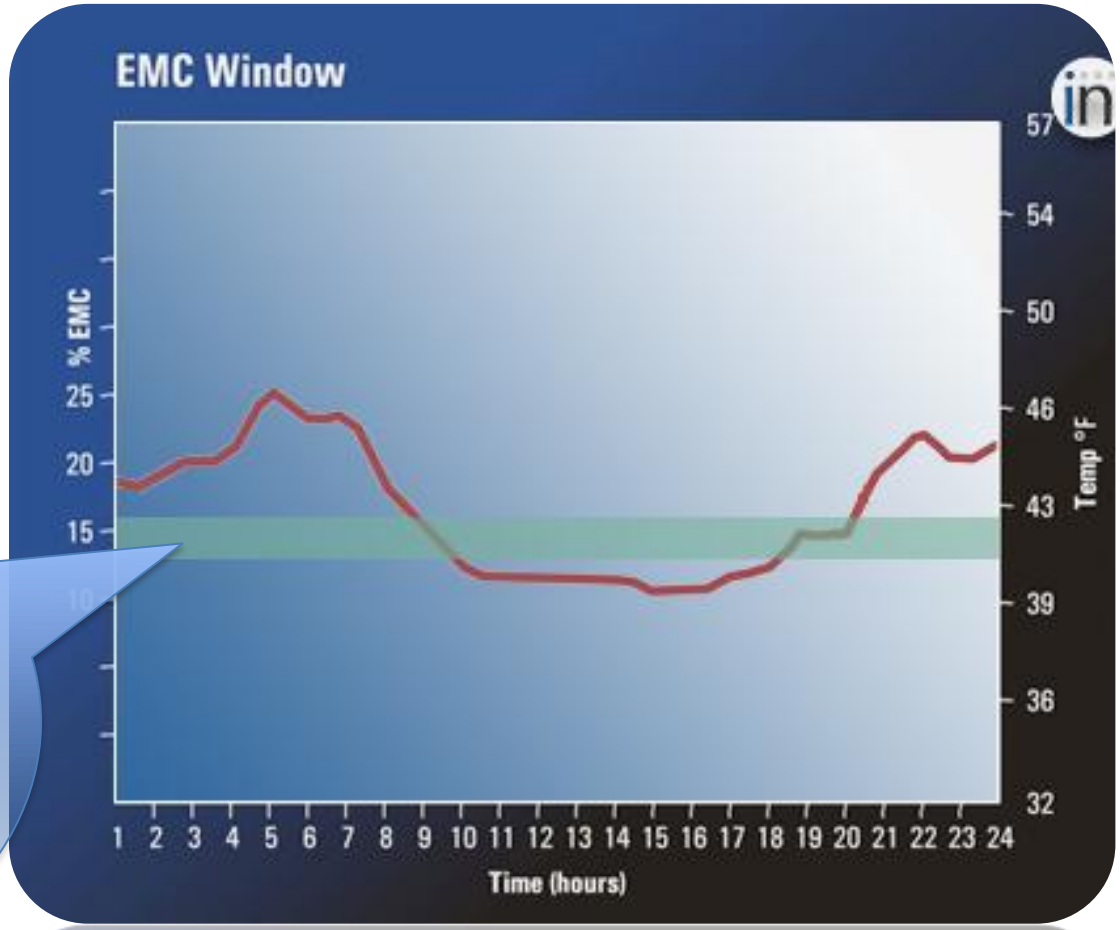
Aeration should occur only when EMC is in the grain moisture target band.



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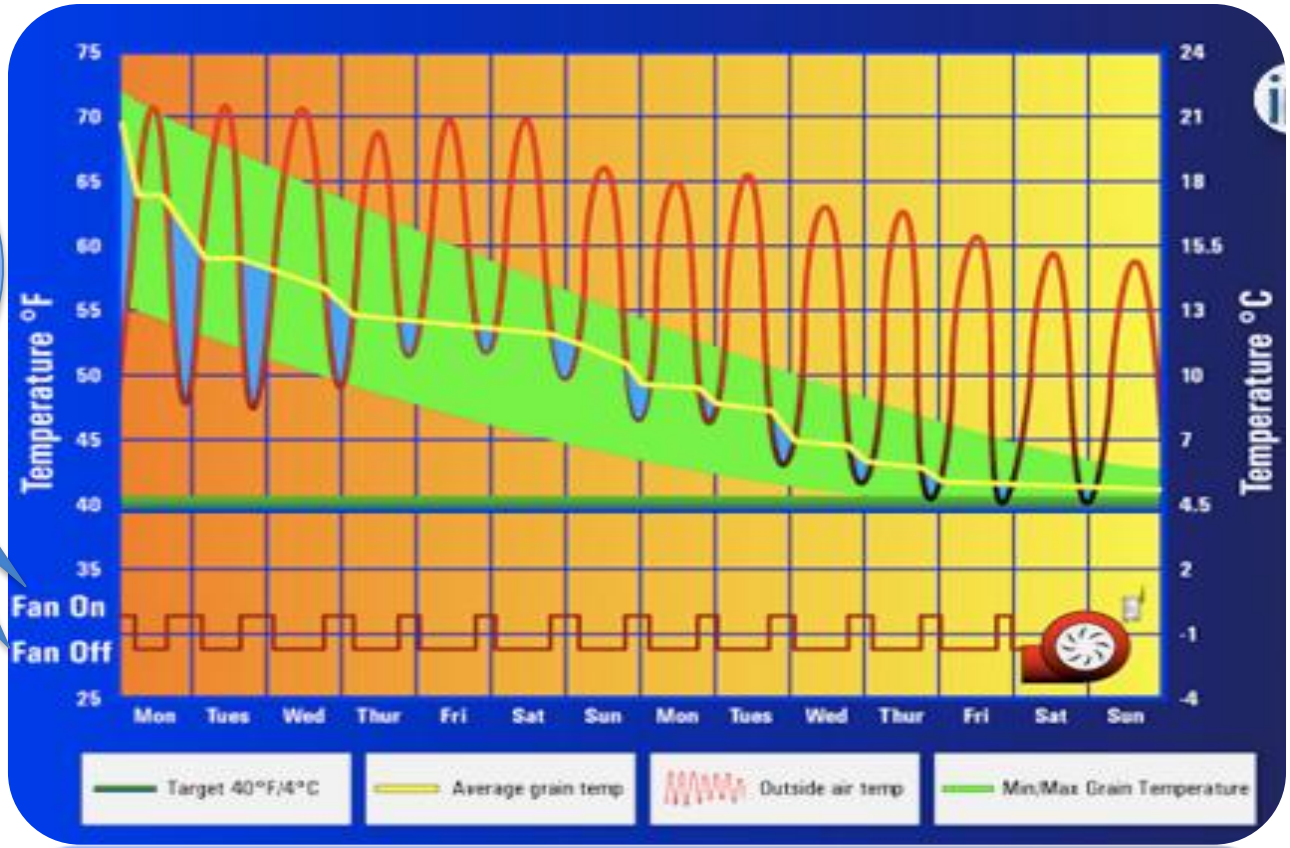
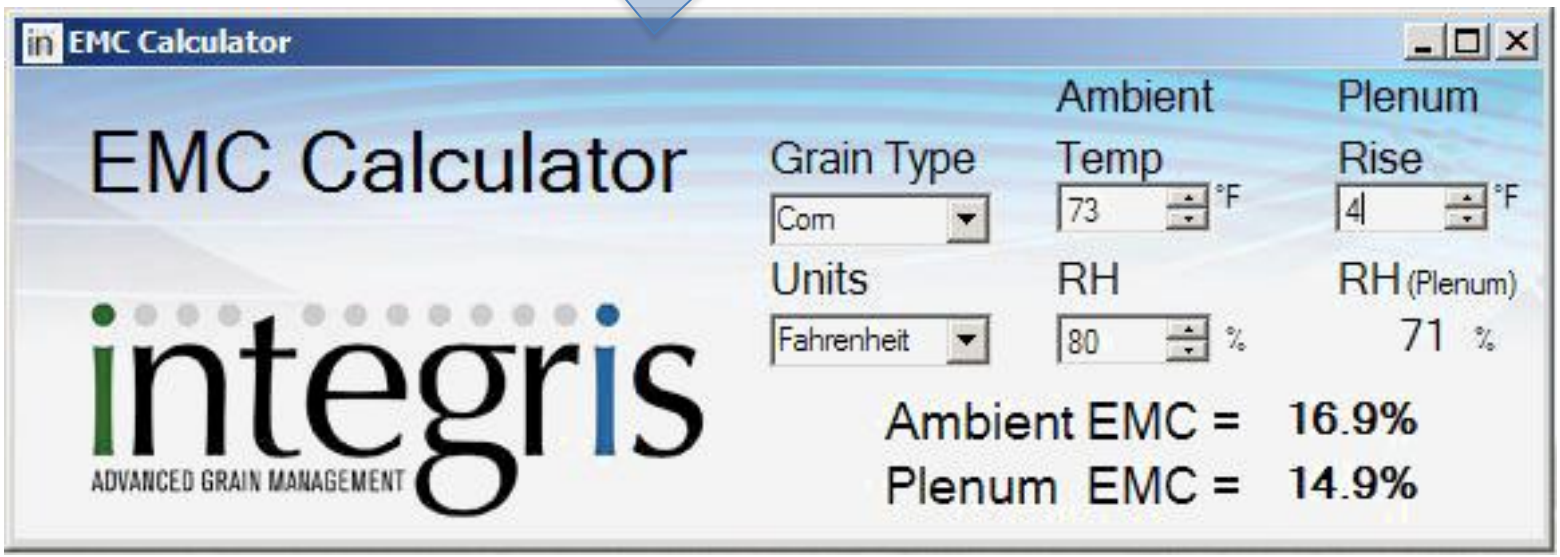
Automatic aeration occurs when the time is right!

Fans automatically run when conditions are optimal!



Ask about the exclusive Integris EMC Calculator to help you calculate EMC for various grain types, as well as ambient and plenum conditions.



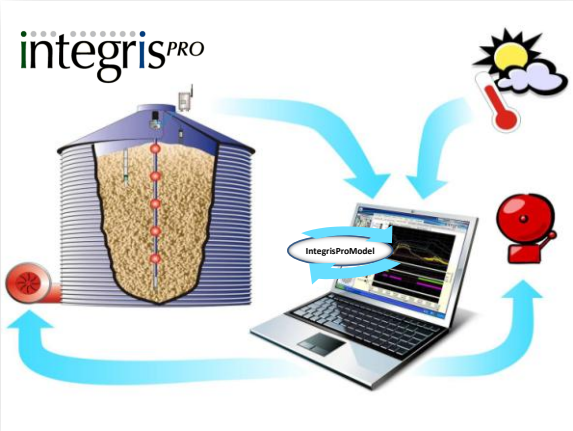
What's realistic to accomplish with my system

- Understand the capabilities and limitations of your system based on factors such as:
  - Climate
  - Airflow
  - Length of storage
  - Safe storage period
  - Moisture control objectives

Terminology	Airflow in cfm/bu	Application
Aeration	.08 - .250	Temperature control only
Conditioning	.25 to .50	Moving moisture down or up 2% Tightening min/max spread up to 2%
NAD (Natural Air Drying)	.75 to 2.0	.75 cfm/bu reducing moisture up to 5% 1-2 cfm/bu reducing moisture up to 10%
NAD + Heat	.75 to 2.0	Low heat added (typically < 10oF) to: -Reduce RH to bring air into drying zone -Increase temp to increase drying rate
Dryeration	.50 to1.0	Final removal of 1-3 points of moisture from the drier.

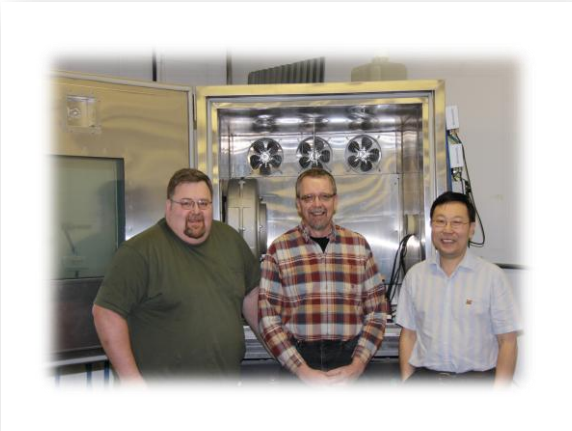
Moisture Management

The OPI-Integris 4-pronged approach delivers the most accurate grain storage moisture management system on the market today…



IntegrisPro Automated Controls

moisture Cable—NEW for 2010



Advanced Grain Management

Integris ProModel

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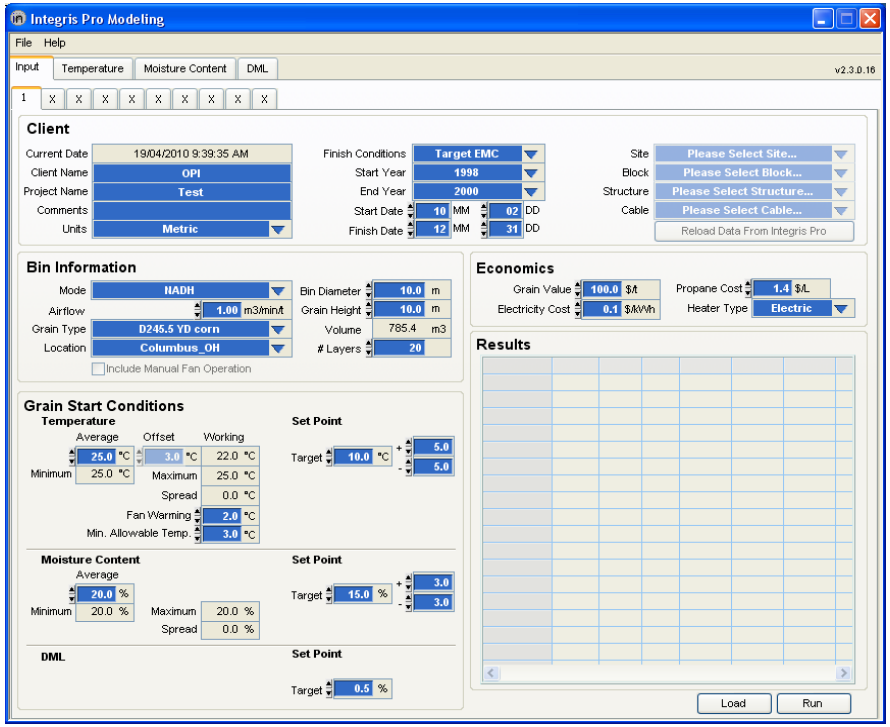
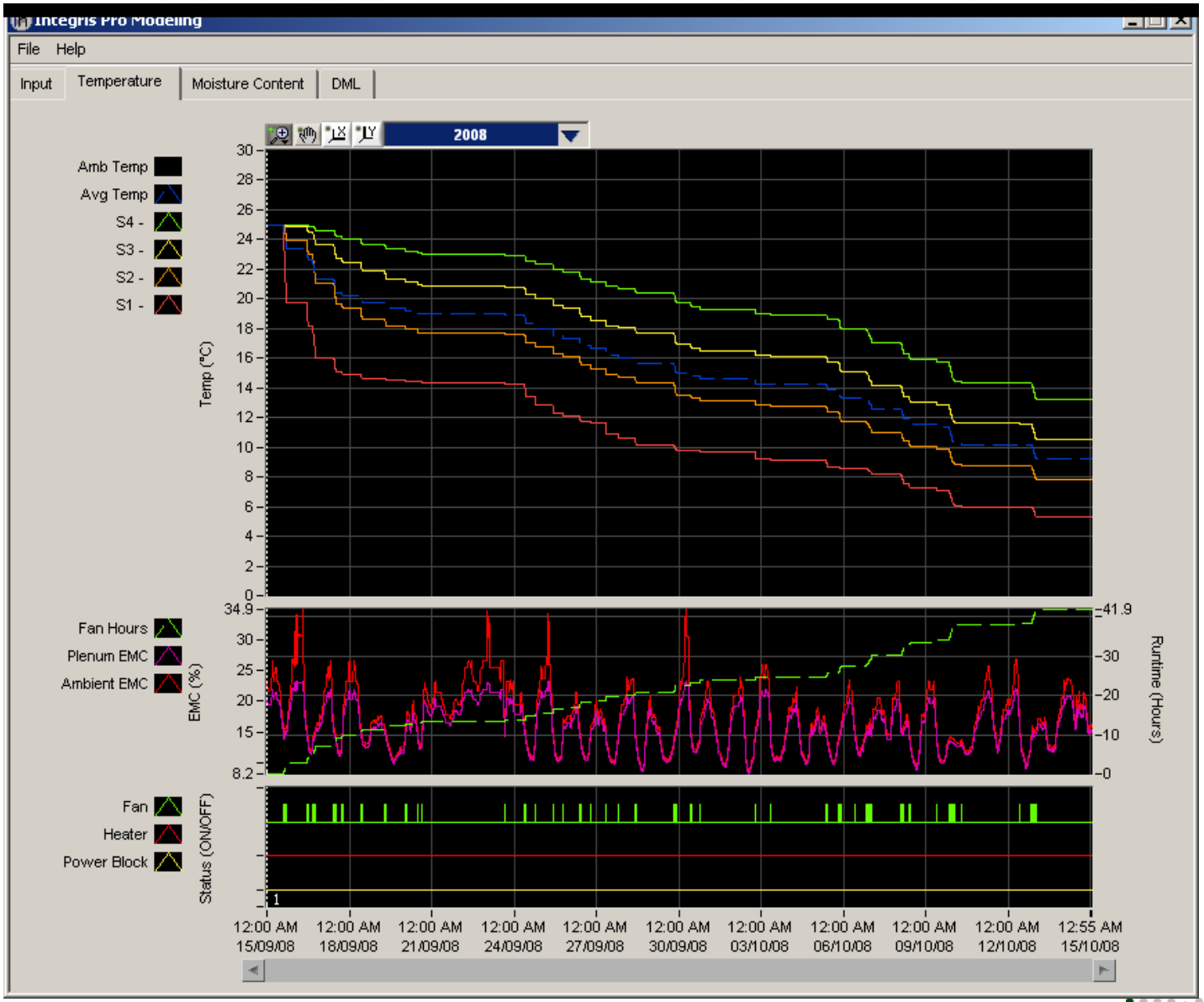
Integris ProModel for Moisture Management

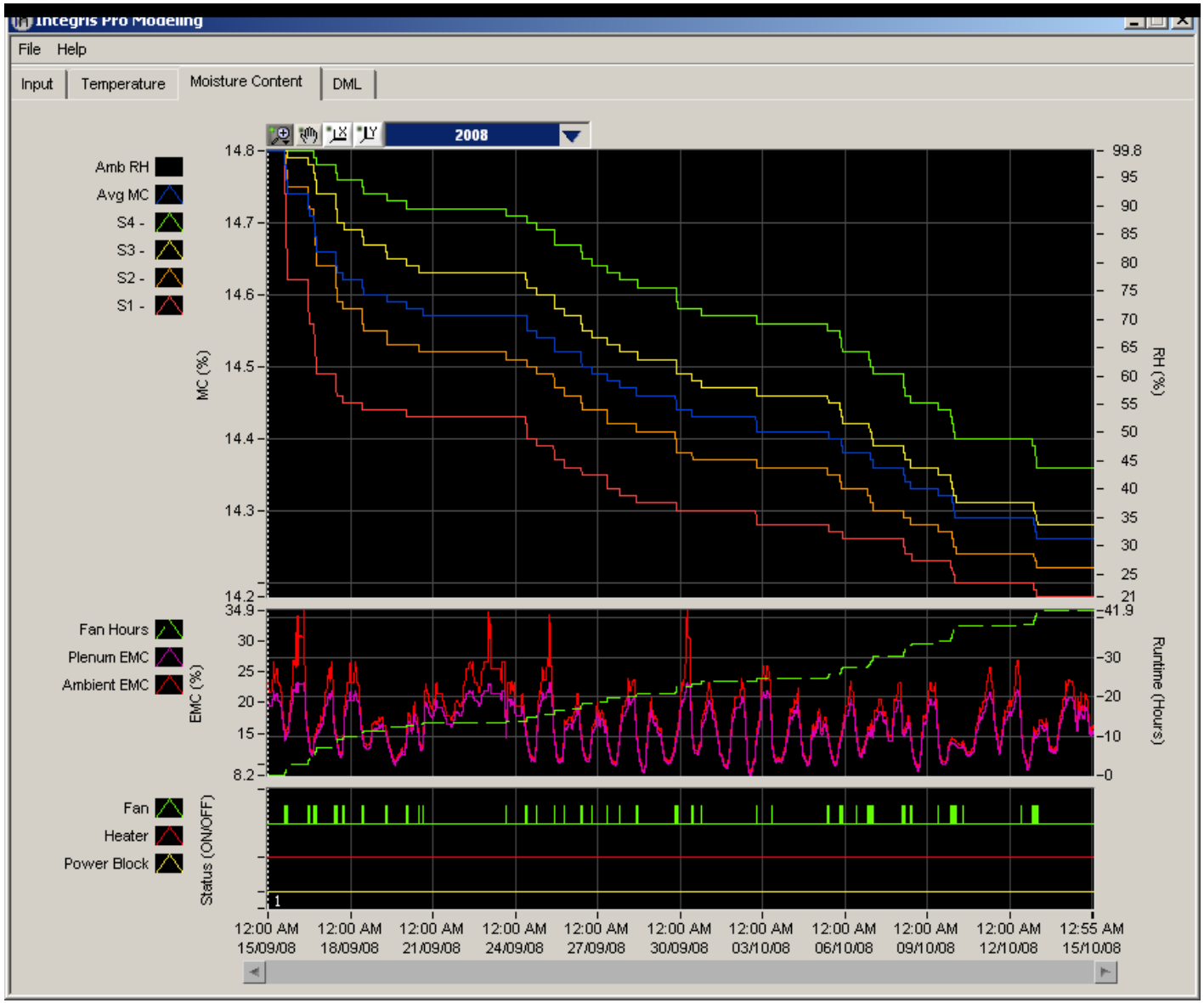
- Extracts historic data from the IntegrisPro database, to display moisture profile up through bin, accurately and in real-time!
- Improves storage profitability in three key ways:
  - **As a grain storage, aeration and storage management design tool:**
    - ✓ Select the best type and configuration of storage, aeration and conditioning equipment that will meet your in-bin storage and conditioning requirements, as well as to optimize drier throughput.
    - ✓ Delivers a better understanding as to how the IntegrisPro system could improve your grain value and minimize storage-related operating costs.
  - **Monitoring moisture from bottom to top and throughout the storage cycle:**
    - ✓ View your moisture profile throughout the storage cycle to better calculate moisture content and shrink.
  - **Enhanced moisture content and shrink control:**
    - ✓ Set EMC (moisture control) windows to obtain a higher level of moisture control with little or no shrink.
- Customer Care support required to run modeling scenarios



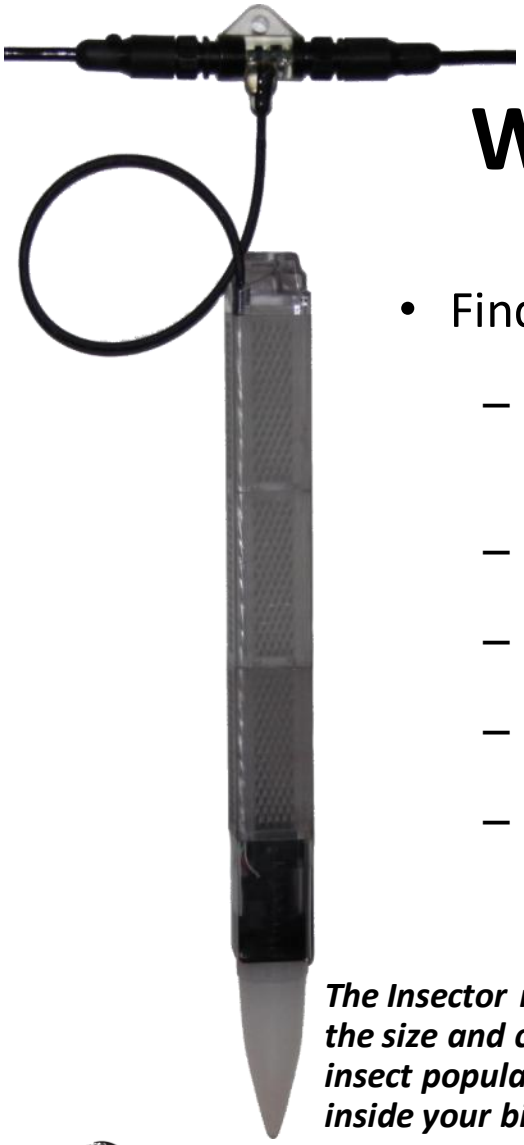
Temperature Control



Moisture Control



Insector™: IntegrisPro Innovation



What's living in your bin?

- Find out with the exclusive Integris Insector probe!
  - Easily integrated into both IntegrisBasic and IntegrisPro platforms
  - Captures and counts insects by species and time
  - Provides early detection for zonal control
  - Helps manage aeration control and reduce fumigation
  - Measures effectiveness of fumigation program

The Insector measures the size and count of insect populations inside your bins.

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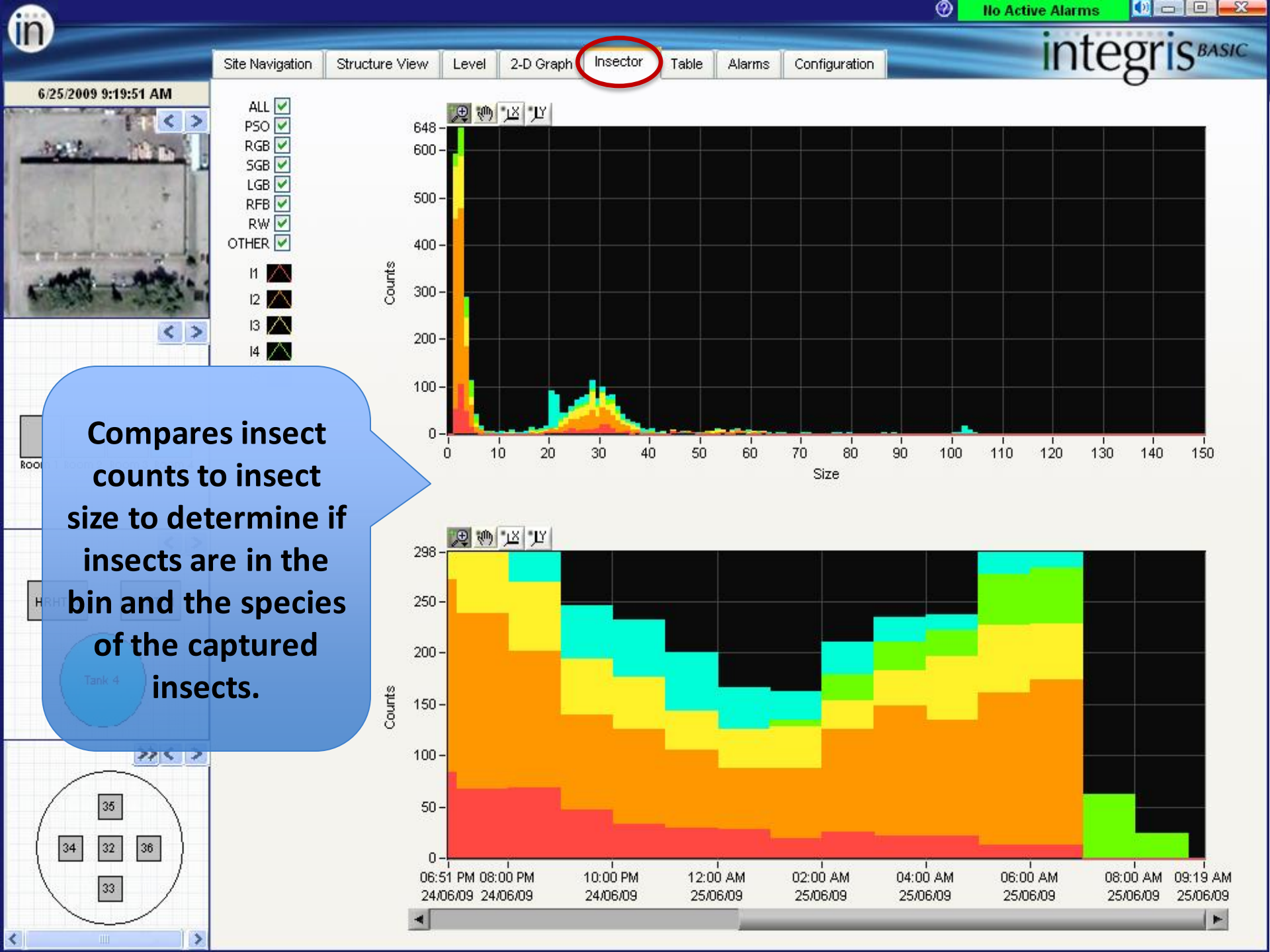
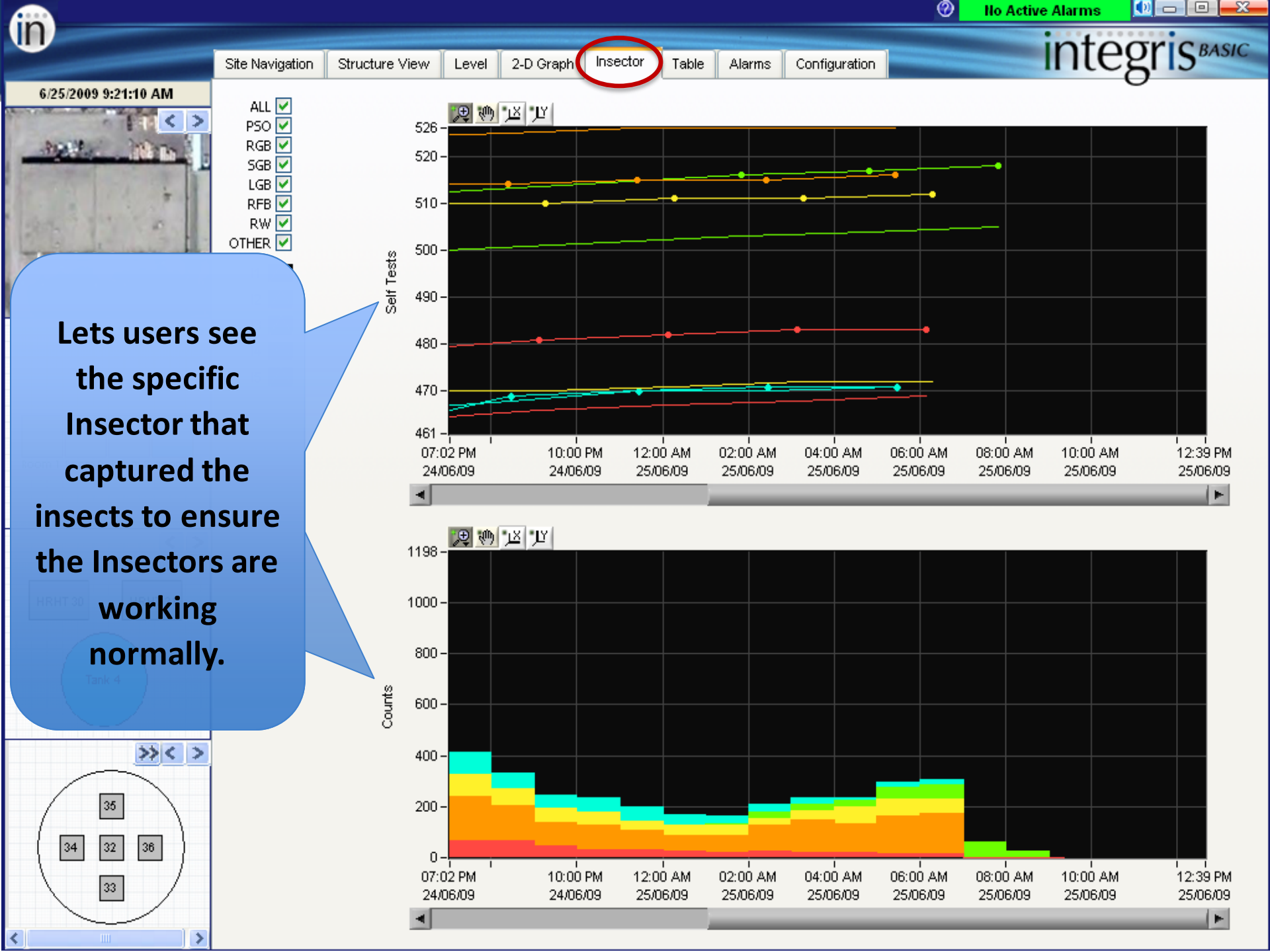
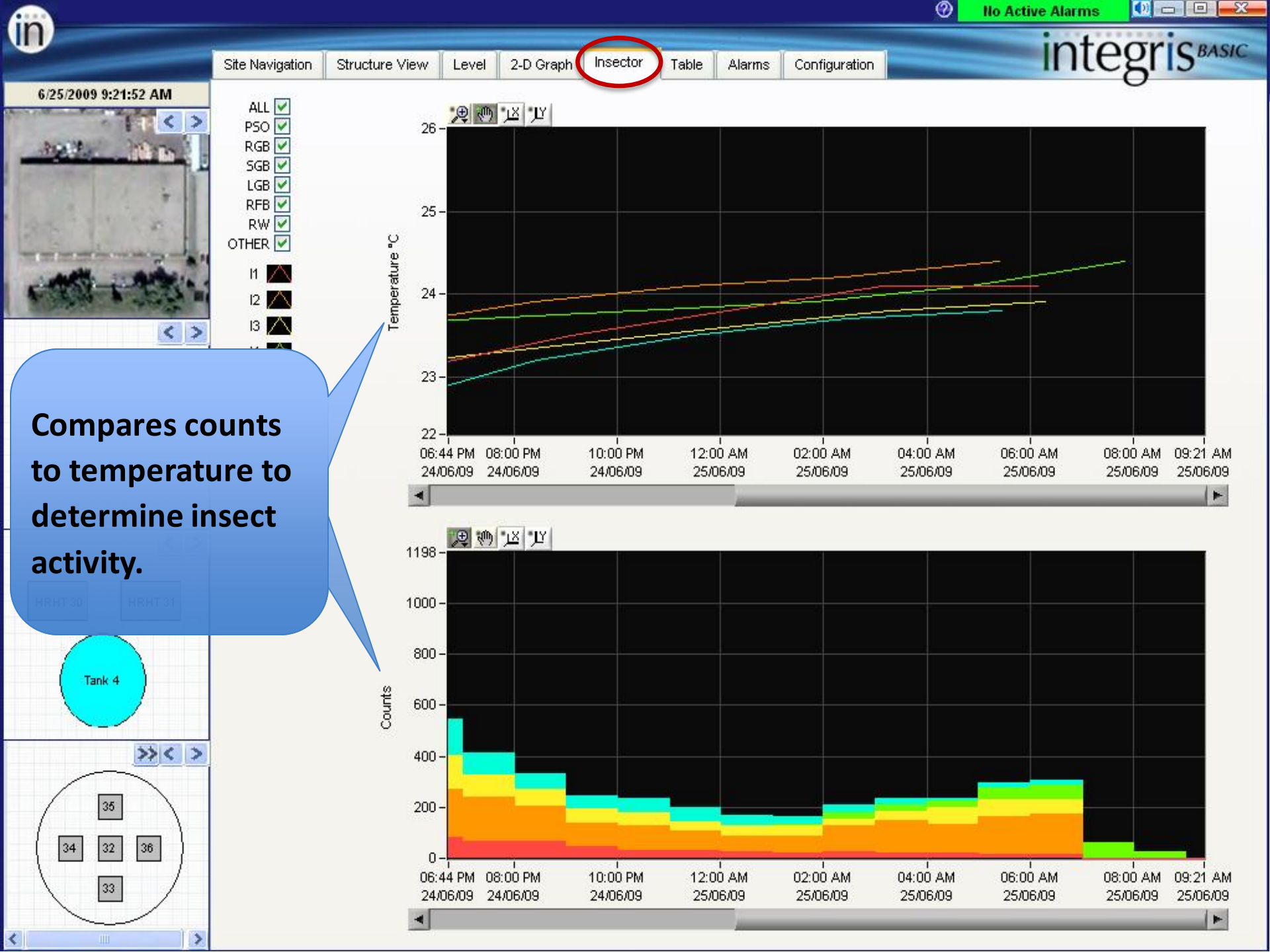
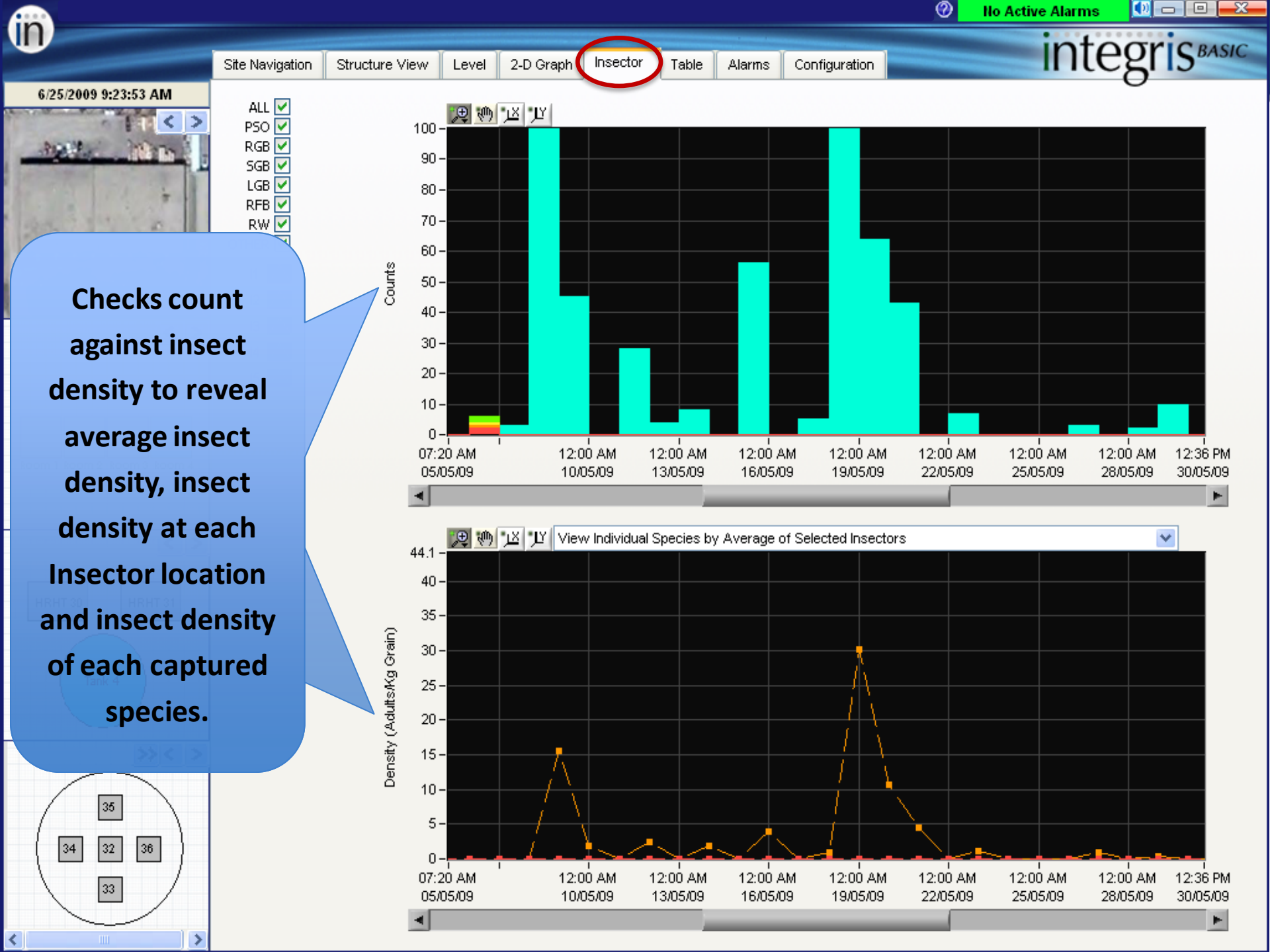
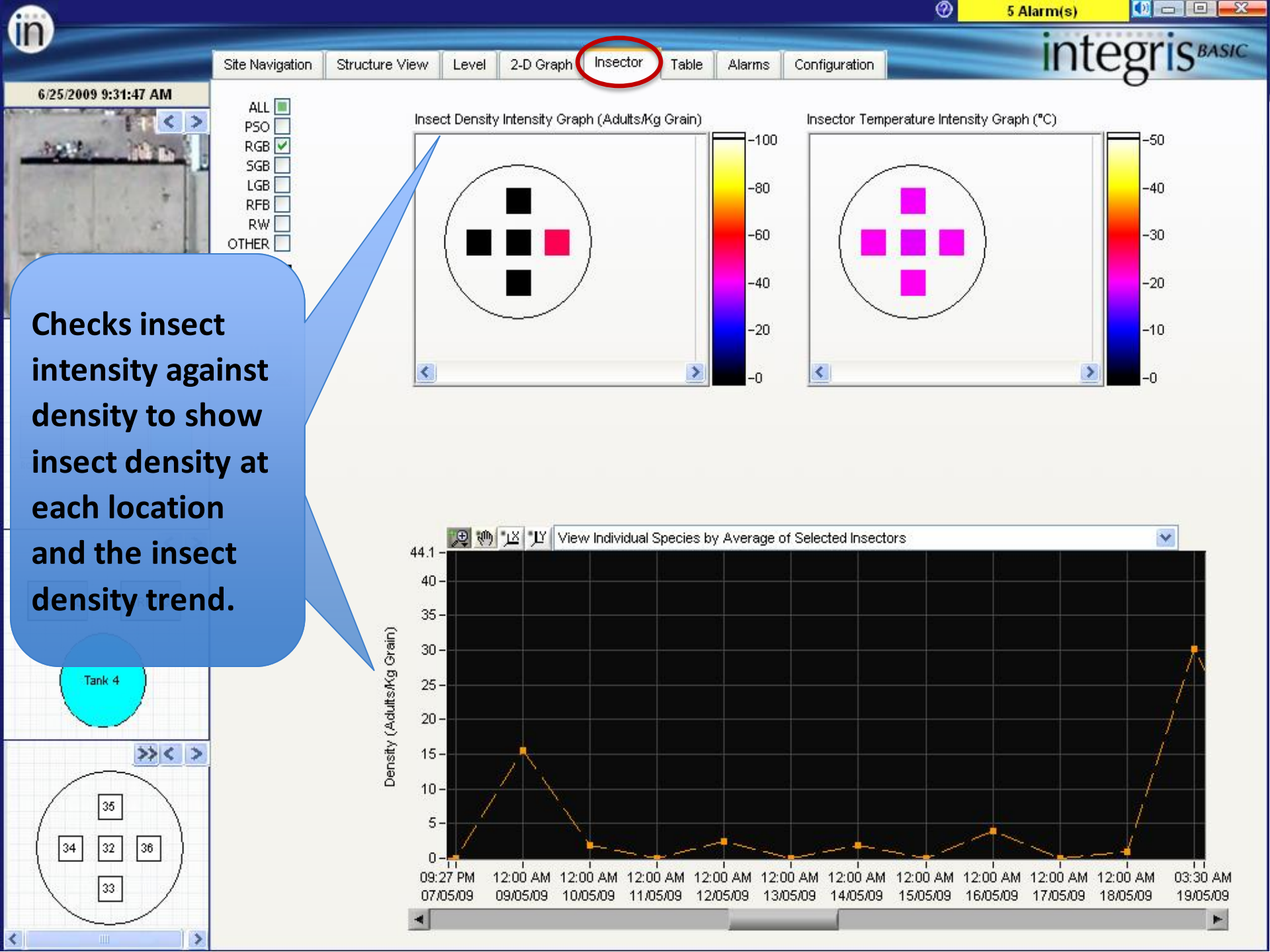

No Active Alarms
integris BASIC
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
6/25/2009 9:19:51 AM
ALL
PSO
RGB
SGB
LGB
RFB
RW
OTHER
I1
I2
I3
I4
Counts
Size
Compares insect counts to insect size to determine if insects are in the bin and the species of the captured insects.
06:51 PM 24/06/09
08:00 PM 24/06/09
10:00 PM 24/06/09
12:00 AM 25/06/09
02:00 AM 25/06/09
04:00 AM 25/06/09
06:00 AM 25/06/09
08:00 AM 25/06/09
09:19 AM 25/06/09
35
34
32
36
33


No Active Alarms
integris BASIC
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
6/25/2009 9:21:10 AM
ALL
PSO
RGB
SGB
LGB
RFB
RW
OTHER
Self Tests
526
520
510
500
490
480
470
461
07:02 PM 24/06/09
10:00 PM 24/06/09
12:00 AM 25/06/09
02:00 AM 25/06/09
04:00 AM 25/06/09
06:00 AM 25/06/09
08:00 AM 25/06/09
10:00 AM 25/06/09
12:39 PM 25/06/09
Counts
1198
1000
800
600
400
200
0
35
34
32
36
33
Lets users see the specific Insector that captured the insects to ensure the Insectors are working normally.


No Active Alarms
integris BASIC
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
6/25/2009 9:21:52 AM
ALL
PSO
RGB
SGB
LGB
RFB
RW
OTHER
I1
I2
I3
Temperature °C
26
25
24
23
22
06:44 PM 24/06/09
08:00 PM 24/06/09
10:00 PM 24/06/09
12:00 AM 25/06/09
02:00 AM 25/06/09
04:00 AM 25/06/09
06:00 AM 25/06/09
08:00 AM 25/06/09
09:21 AM 25/06/09
Counts
1198
1000
800
600
400
200
0
Tank 4
35
34
32
36
33
Compares counts to temperature to determine insect activity.


No Active Alarms
integris BASIC
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
6/25/2009 9:23:53 AM
ALL
PSO
RGB
SGB
LGB
RFB
RW
Counts
100
90
80
70
60
50
40
30
20
10
0
07:20 AM
05/05/09
12:00 AM
10/05/09
12:00 AM
13/05/09
12:00 AM
16/05/09
12:00 AM
19/05/09
12:00 AM
22/05/09
12:00 AM
25/05/09
12:00 AM
28/05/09
12:36 PM
30/05/09
View Individual Species by Average of Selected Insectors
Density (Adults/Kg Grain)
44.1
40
35
30
25
20
15
10
5
0
07:20 AM
05/05/09
12:00 AM
10/05/09
12:00 AM
13/05/09
12:00 AM
16/05/09
12:00 AM
19/05/09
12:00 AM
22/05/09
12:00 AM
25/05/09
12:00 AM
28/05/09
12:36 PM
30/05/09
35
34
32
36
33
Checks count against insect density to reveal average insect density, insect density at each Insector location and insect density of each captured species.


5 Alarm(s)
integris BASIC
Site Navigation
Structure View
Level
2-D Graph
Insector
Table
Alarms
Configuration
6/25/2009 9:31:47 AM
ALL
PSO
RGB
SGB
LGB
RFB
RW
OTHER
Insect Density Intensity Graph (Adults/Kg Grain)
-100
-80
-60
-40
-20
-0
Insector Temperature Intensity Graph (°C)
-50
-40
-30
-20
-10
-0
Checks insect intensity against density to show insect density at each location and the insect density trend.
Tank 4
35
34
32
36
33
View Individual Species by Average of Selected Insectors
Density (Adults/Kg Grain)
44.1
40
35
30
25
20
15
10
5
0
09:27 PM 07/05/09
12:00 AM 09/05/09
12:00 AM 10/05/09
12:00 AM 11/05/09
12:00 AM 12/05/09
12:00 AM 13/05/09
12:00 AM 14/05/09
12:00 AM 15/05/09
12:00 AM 16/05/09
12:00 AM 17/05/09
12:00 AM 18/05/09
03:30 AM 19/05/09

Integris Service Enhancements

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OPI-integris Service Enhancements

Integris is your Advanced Grain Management partner.

Committed to maintaining profound, long-term relationships.

- To that end, we have created add-on service enhancements that allow you to leverage our expertise to your greatest advantage:
  - Customer Care Support
  - Annual Site Service
  - Extended Warranty Program

Customer Care: OPI-integris Service Enhancements

Worry-free professional support is just a phone call away with Customer Care!

- **Help Desk** support from our team of operations experts providing you with:
  - Training, whether you need a "brush-up" or are introducing new users to the system
  - System operating parameters set-up support
  - Periodic reviews, including recommendations to help generate optimum results
  - Integris ProModel analysis with systems setting recommendations to help you achieve maximum grain quality
- **Software Updates**
  - Benefit from annual software updates throughout the year.

Let our team of Advanced Grain Management experts help you get the best possible results from your OPI-integris system.

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Annual Site Service: OPI-integris Service Enhancements

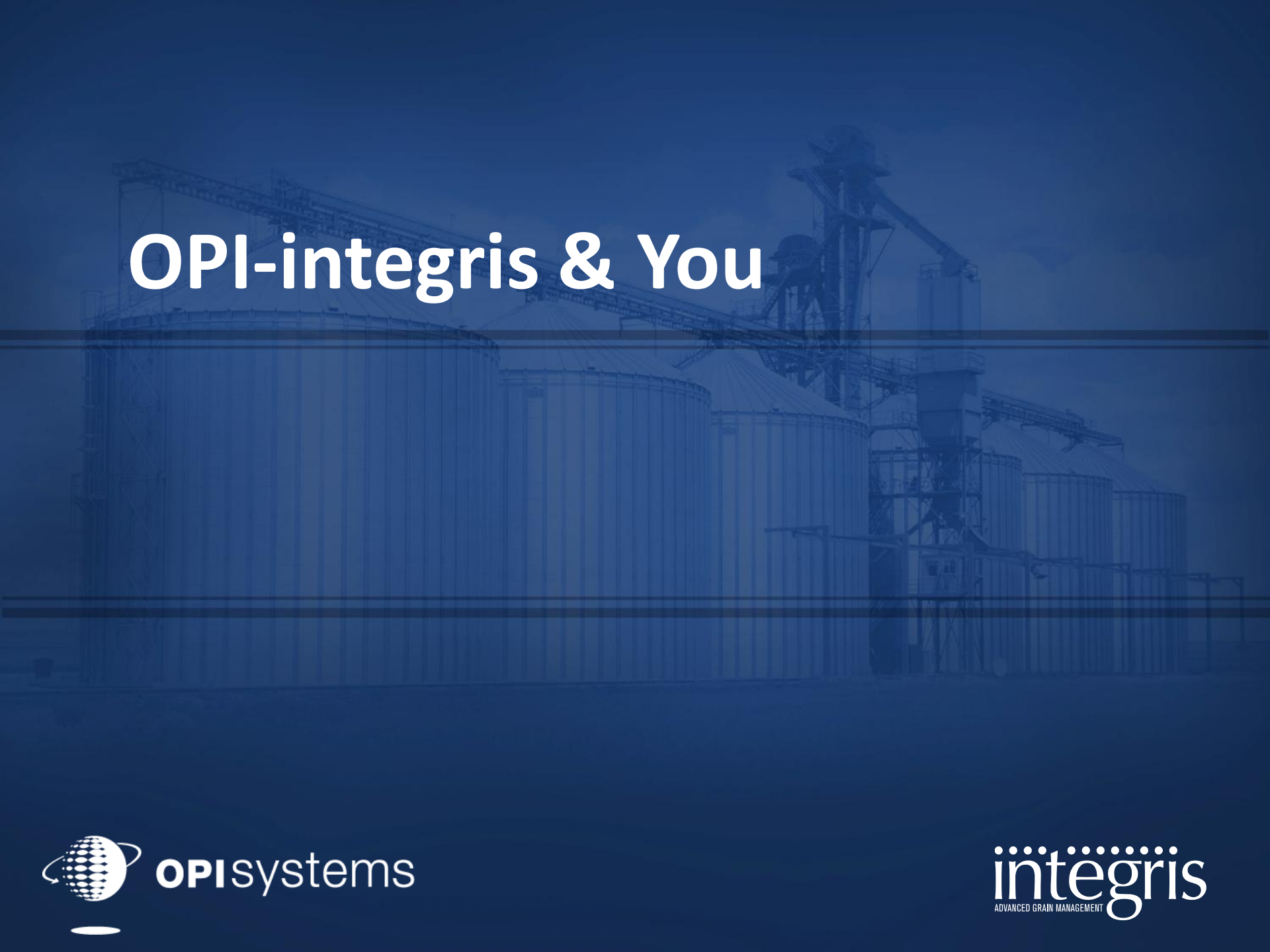
Maximize your system's performance!

- Annual Site Service includes:
  - Annual visit to each site for overall system service
  - Weather station and HRHT sensor calibration
  - Labor for repair and/or replacement of system components as needed
  - Materials will be billed as required unless covered by our **Extended Warranty Program…**

Protect your system and your wallet with the OPI-integris Extended Warranty Program!

- Warranty coverage for Integris system components that require replacement
  - For materials only and does not include removing and replacing components
  - Excludes coverage for excess wear and tear
  - Eliminates the separate billing for replacement materials as noted in the **Annual Site Service**

OPI-integris & You



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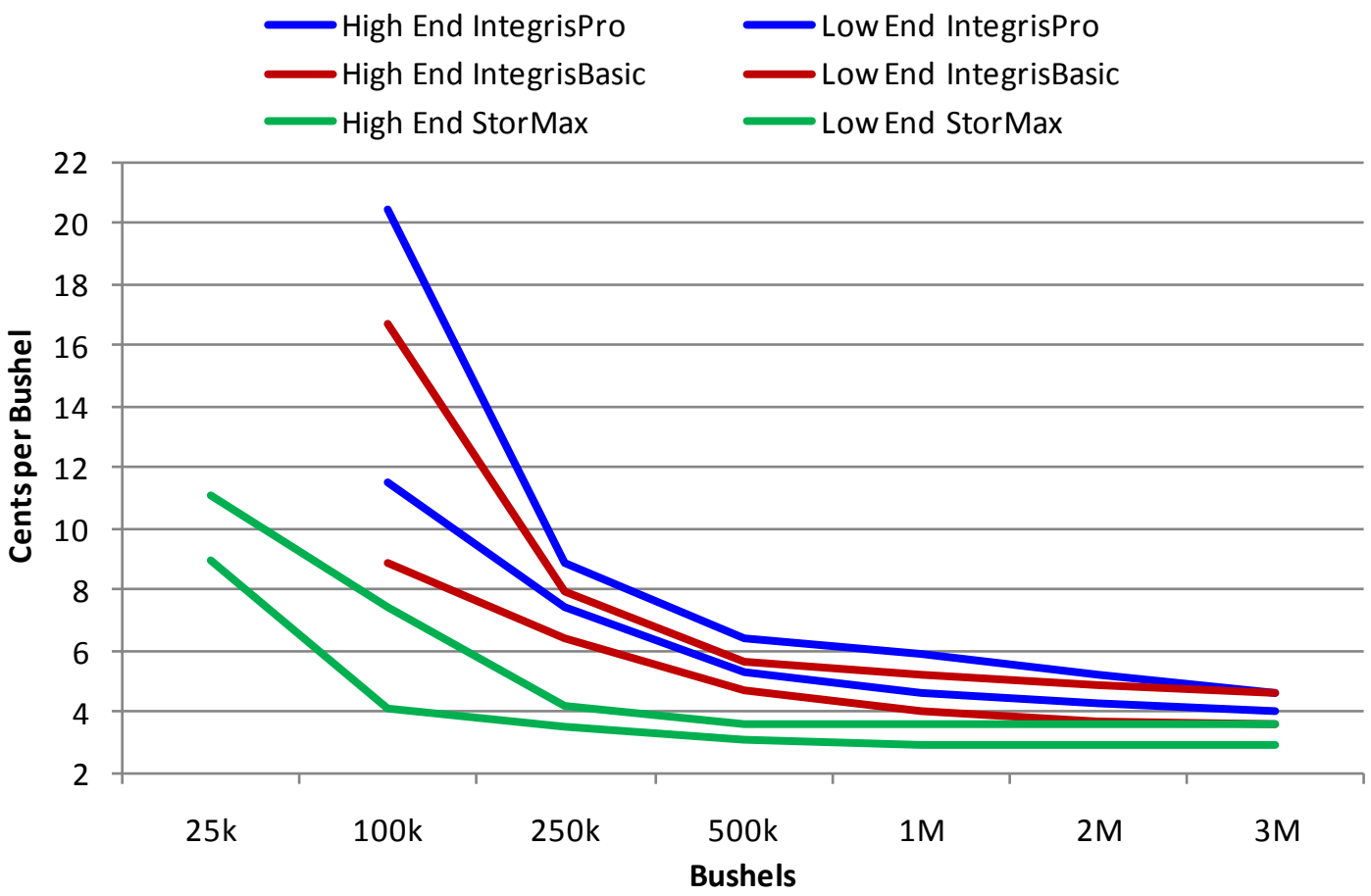
Maximize your ROI!



"Low End" systems have 1 bin and no frills. "High End" is a fully loaded 5-bin system.

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Traditional grain storage…
or Advanced Grain Management?

Thank you!

Let OPI-integris design a custom Advanced Grain Management solution for you.

Toll Free: (800) 661-1055
Web: www.advancedgrainmanagement.com