

# ***RealToolbox Farm Management System Software***

**Jeff Dlott, PhD**

*RealToolbox*

**Deana Sexson, PhD**

**WWF/WPVGA/UW**

**Collaboration**

**WWF/WPVGA/UW Collaboration**

**Advisory Committee Meeting**

**November 14, 2002**

**Madison, WI**

# ***Collaborators***

---

## **UW**

- ❖ **Jeff Wyman**
- ❖ **Walt Stevenson**

## **WPVGA**

- ❖ **Randy Duckworth**
- ❖ **Mike Carter**
- ❖ **Growers**

## **RealToolbox**

- ❖ **Chris Van Coops**
- ❖ **Cliff Ohmart**

# *What is this Tool?*

---

- ❖ *Custom Software Application*
- ❖ **User Friendly Interface**
- ❖ **Relational Database**
- ❖ **Individual & Group Reporting**

# *Usefulness of this Tool?*

---

- ❖ **Individual Operations**
- ❖ **Wisconsin Potato & Vegetable Industry**

# *Uses: Individual Operation*

---

- ❖ **Effectiveness & Efficiency**
- ❖ **Reporting --**
  - ❖ **WPS, Spray Requests, Scouting,  
Field History, etc.**
- ❖ **Healthy Grown Certification  
Reporting**

# *Uses: Industry*

---

- ❖ **Effectiveness & Efficiency of Practices in Wisconsin**
  - ❖ **Benchmarking for Best Practices**
  - ❖ **Yearly Trends & Comparisons**
  - ❖ **Research Priorities & Analysis**

# Structure

➤ **Grower**

➤ **Farm(s)**

➤ **Field(s)**

The screenshot displays the 'Wisconsin Potatoes' software interface. On the left, a tree view shows the hierarchy of grower information, with a red box highlighting the 'AI LeBest' grower and its associated farms and fields. On the right, the 'Grower Information' tab is active, showing fields for Grower Name, Address, City, State, ZIP, Protected Harvest status, and Enrollment Date.

**Wisconsin Potatoes**

File Edit View Help

Grower Information | Contacts | Reports

**AI LeBest**

- LeBest & Sons
  - Joe's west 80
  - LeBest front 160
- Duckworth Packing, Inc.
  - Duckworth Enterprises
    - Randy's Front 80
- LWWC
  - Ohmart's South Farm
    - Ohmart's 640
    - Potato Hollow
    - West 95
  - The Big Western Spread
- Protected Harvest
  - Healthy Grown
    - down wind
    - Finest
- RealToolbox, Inc.
  - Dlott Farmwest
    - Dlott's Dream Acres
    - The Fifty
- University of Wisconsin
  - Sexson Northfork Farm
    - Deana's Back 60

Grower Name: AI LeBest

Address1: 121 Good Soil Lane

Address2:

City: Stevens Point State WI ZIP: 54481

Protected Harvest: ☒ Yes ☐ No Enrollment Date: Feb 12, 2002

Notes:

# *Grower Level Tabs*

➤ **Grower Information**

➤ **Contacts**

➤ **Reports**

The screenshot displays the 'Wisconsin Potatoes' software window. On the left is a tree view of growers, with 'Al LeBest' selected and circled in red. On the right, the 'Grower Information' tab is active, also circled in red. The form contains the following fields:

- Grower Name: Al LeBest
- Address1: 121 Good Soil Lane
- Address2: (empty)
- City: Stevens Point, State: WI, ZIP: 54481
- Protected Harvest: ☒ Yes ☐ No
- Enrollment Date: Feb 12, 2002
- Notes: (empty text area)

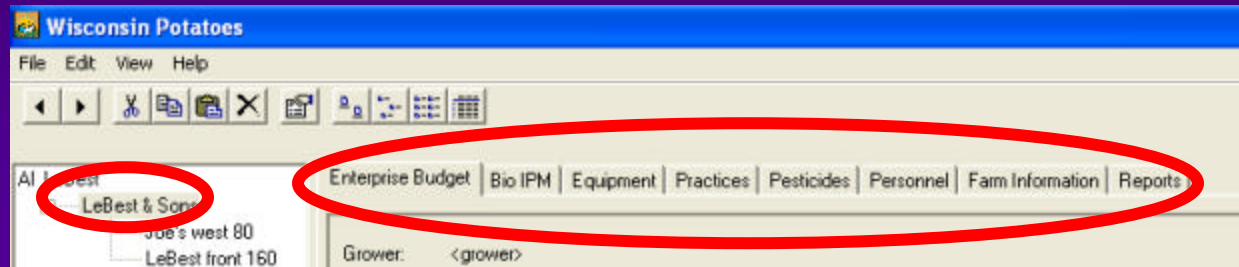
The tree view on the left includes the following entries:

- Al LeBest (selected)
- LeBest & Sons
  - Joe's west 80
  - LeBest front 160
- Duckworth Packing, Inc.
  - Duckworth Enterprises
    - Randy's Front 80
- LWWC
  - Ohmart's South Farm
    - Ohmart's 640
    - Potato Hollow
    - West 95
  - The Big Western Spread
- Protected Harvest
  - Healthy Grown
    - down wind
    - Finest
- RealToolbox, Inc.



# *Farm Level Tabs*

- Enterprise Budget
- BioIPM
- Equipment
- Practices
- Pesticides
- Personnel
- Farm Information
- Reports



## Field Level Tabs

- **Field Activities**
- **Planting**
- **Scouting**
- **Disease**
- **Insects**
- **Weeds**
- **Harvest**
- **Storage**
- **Quality**
- **Field Information**
- **Reports**

Wisconsin Potatoes

File Edit View Help

Field Activities Planting **Scouting** Disease Insects Weeds Harvest Storage Quality Field Information Reports

Al LeBest

- LeBest, Sons
  - Joe's west 80**
  - LeBest, west 160
- Duckworth Packing, Inc.
  - Duckworth Enterprises
    - Randy's Front 80
- LWWC
  - Ohmart's South Farm
    - Ohmart's 640
    - Potato Hollow
    - West 95
  - The Big Western Spread
- Protected Harvest
  - Healthy Grown
    - down wind
    - Finest
- RealToolbox, Inc.
  - Dlott Farmwest
    - Dlott's Dream Acres
    - The Fifty
- University of Wisconsin
  - Sexson Northfork Farm
    - Deana's Back 60

Scouting Data

Locations

**Grower:** Al LeBest  
**Farm:** LeBest, Sons  
**Field:** Joe's west 80

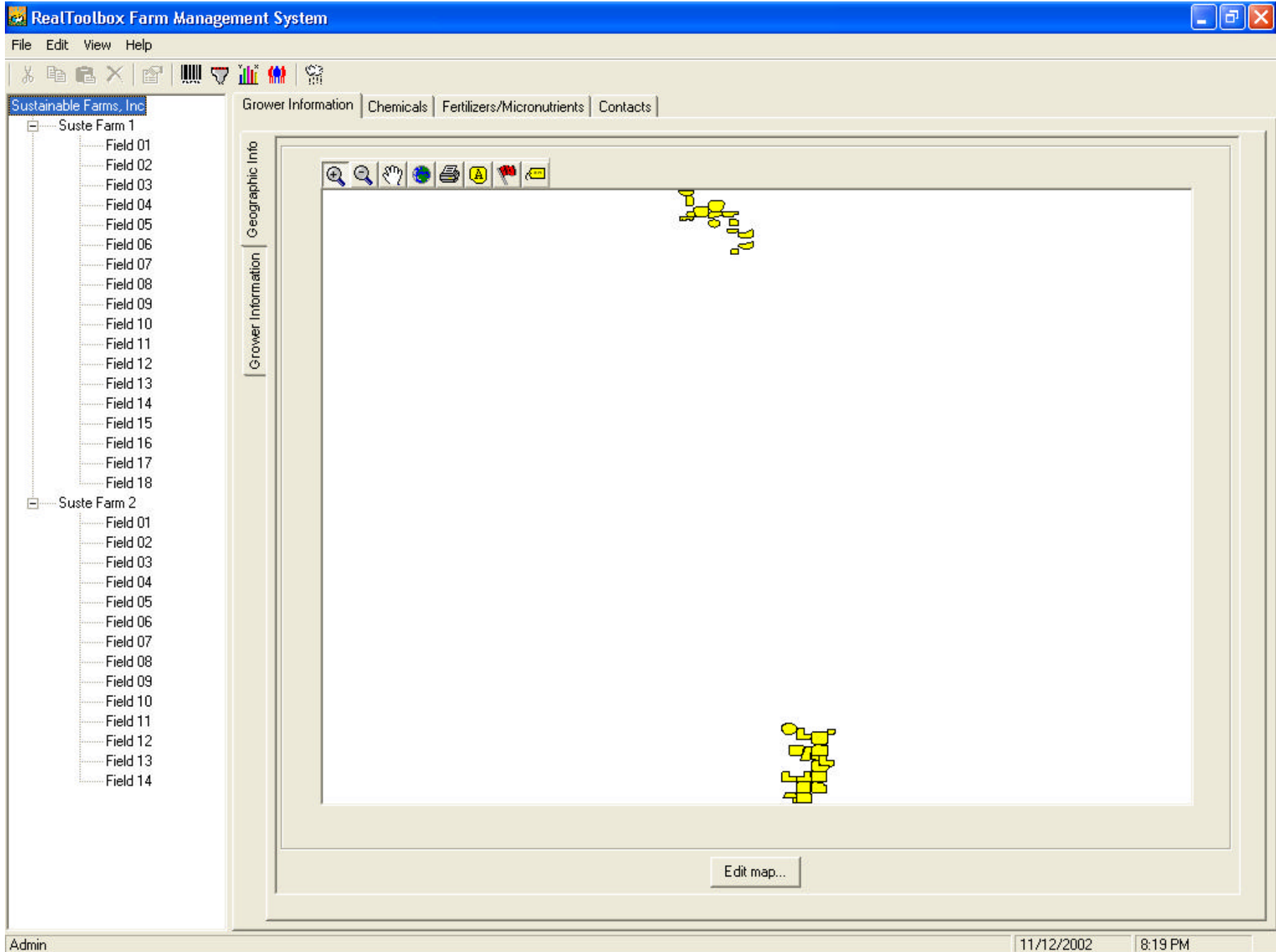
Show records for: ☐ <All Crops> ☐ Potatoes ☐ Snap beans

Scouting Records		
Date	Field	Crop

# *Reporting*

---

- **Menu of Reports at Each Level**
- **Grower (Contact, All Farm Info.)**
  - **Farm (Budget, Equipment, etc.)**
  - **Field (Scouting, WPS, etc.)**





Sustainable Farms, Inc

Suste Farm 1

- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14
- Field 15
- Field 16
- Field 17
- Field 18

Suste Farm 2

- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14

Farm Information

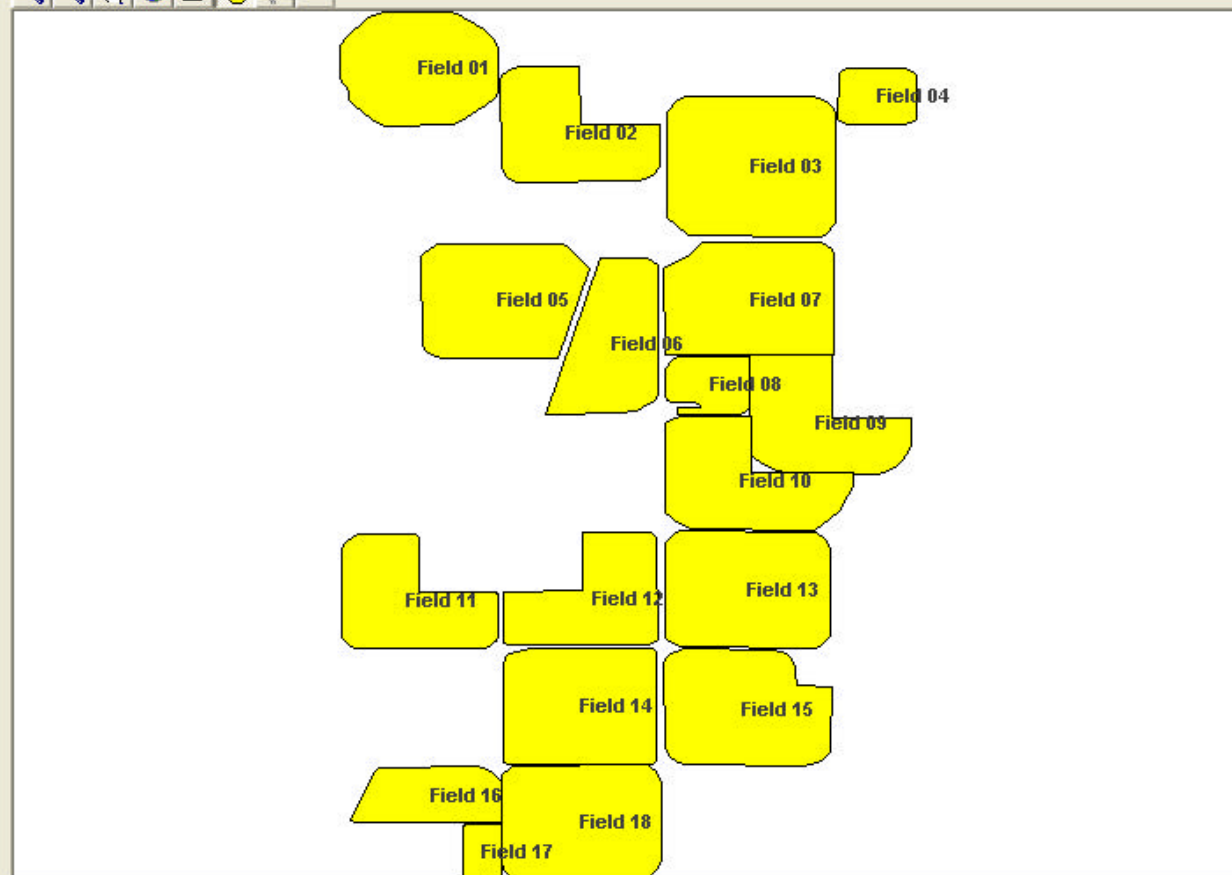
Equipment and Storage

Seed

Personnel

Geographic Info

Farm Information



Edit map...



Sustainable Farms, Inc

[-] Suste Farm 1

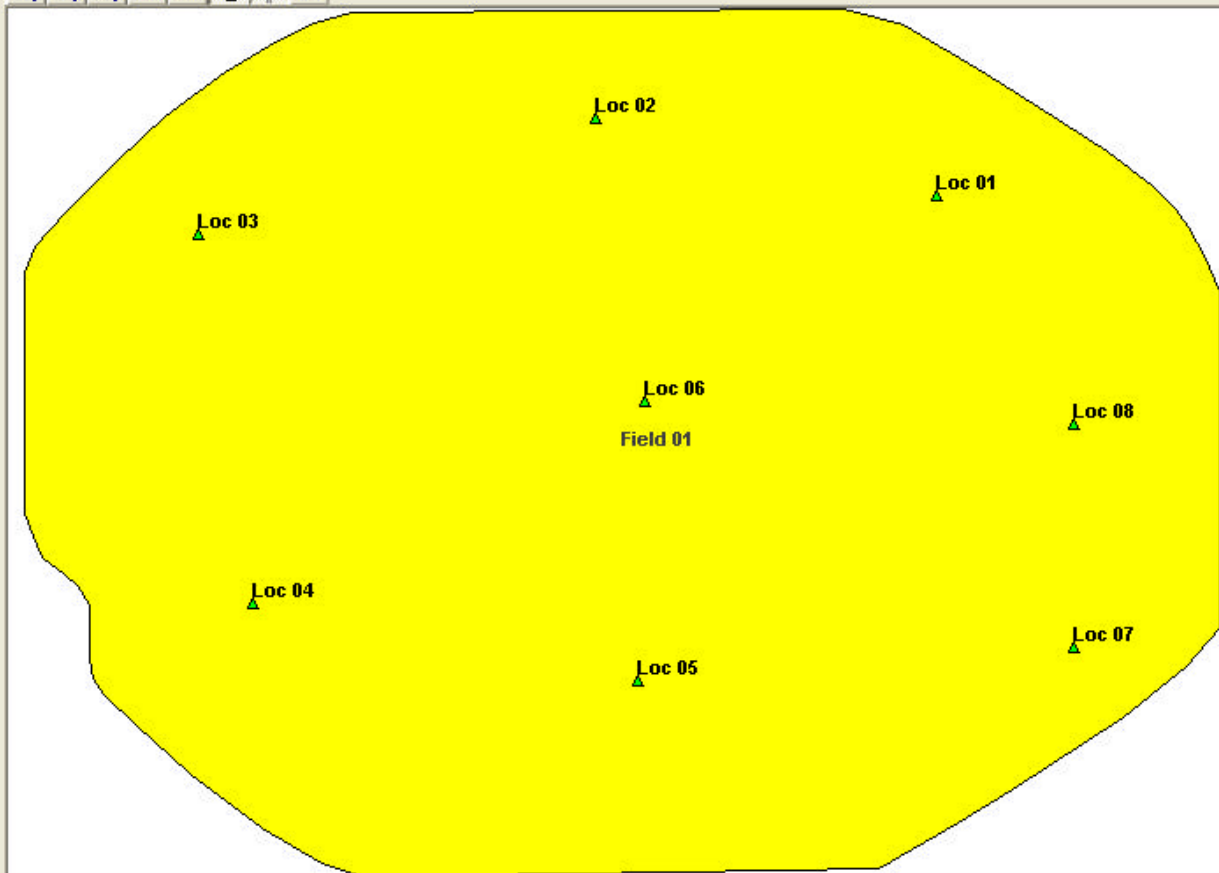
- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14
- Field 15
- Field 16
- Field 17
- Field 18

[-] Suste Farm 2

- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14

Field Activities Planting Scouting Bio IPM Disease Insects Weeds Harvest Storage Quality Crop Seasons Field Information Weather Data Scoring

Field Information  
Geographic Info  
Field Locations



Edit map...



Sustainable Farms, Inc

[-] Suste Farm 1

- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14
- Field 15
- Field 16
- Field 17
- Field 18

[-] Suste Farm 2

- Field 01
- Field 02
- Field 03
- Field 04
- Field 05
- Field 06
- Field 07
- Field 08
- Field 09
- Field 10
- Field 11
- Field 12
- Field 13
- Field 14

**Field Activities**

Planting

Scouting

Bio IPM

Disease

Insects

Weeds

Harvest

Storage

Quality

Crop Seasons

Field Information

Weather Data

Scoring

Chemical Application

Grower: Sustainable Farms, Inc  
Farm: Suste Farm 1  
Field: Field 01

☐ Show/Hide filter options

Irrigation

Fertility

Tillage

Growth and Development

Chemical Application Records

	Date	Field	Crop
▶	5/17/2002	Field 01	Potatoes
	6/12/2002	Field 01	Potatoes
	6/15/2002	Field 01	Potatoes
	6/20/2002	Field 01	Potatoes
	6/25/2002	Field 01	Potatoes
	6/29/2002	Field 01	Potatoes
	7/5/2002	Field 01	Potatoes
	7/11/2002	Field 01	Potatoes
	7/17/2002	Field 01	Potatoes
	7/24/2002	Field 01	Potatoes
	7/31/2002	Field 01	Potatoes
	8/7/2002	Field 01	Potatoes
	8/14/2002	Field 01	Potatoes
	8/19/2002	Field 01	Potatoes
	8/21/2002	Field 01	Potatoes

View...

Add...

Edit...

Delete...





Sustainable Farms, Inc

- Suste Farm 1
  - Field 01
  - Field 02
  - Field 03
  - Field 04
  - Field 05
  - Field 06
  - Field 07
  - Field 08
  - Field 09
  - Field 10
  - Field 11
  - Field 12
  - Field 13
  - Field 14
  - Field 15
  - Field 16
  - Field 17
  - Field 18
- Suste Farm 2
  - Field 01
  - Field 02
  - Field 03
  - Field 04
  - Field 05
  - Field 06
  - Field 07
  - Field 08
  - Field 09
  - Field 10
  - Field 11
  - Field 12
  - Field 13
  - Field 14

### Edit Chemical Application Record

Grower: Sustainable Farms, Inc

Farm: Suste Farm 1

\* Field(s): ☒ Field 01 (60 acres)

Edit Acres...

Date/Time

Date: 8/14/2002

Start time: 12:00:00 AM

Duration: hours

Crop: Potatoes

\* Product:

1. Bravo Ultrex

\* Amount:

1.25 lb/acre

Target pest(s):

☒ Blight (Early)

☒ Blight (Late)

☐ Black Dot

☐ Black Leg

Product:

2. Curzate 60DF

Amount:

.21 lb/acre

Target pest(s):

☐ Blight (Early)

☒ Blight (Late)

☐ Black Dot

☐ Black Leg

Product:

3.

Amount:

(units)

Target pest(s):

Personnel:

Crop maturity:

Senescence to Vine Kill

Equipment:

☒ JD 4555

☐ JD 4960

☐ JD 7800

Wind direction:

W

Wind speed:

3 mph

Gallons/acre:

4

Notes:

OK

Cancel

View...

Add...

Edit...

Delete...





Sustainable Farms, Inc

Suste Farm 1

Field 01  
Field 02  
Field 03  
Field 04  
Field 05  
Field 06  
Field 07  
Field 08  
Field 09  
Field 10  
Field 11  
Field 12  
Field 13  
Field 14  
Field 15  
Field 16  
Field 17  
Field 18

Suste Farm 2

Field 01  
Field 02  
Field 03  
Field 04  
Field 05  
Field 06  
Field 07  
Field 08  
Field 09  
Field 10  
Field 11  
Field 12  
Field 13  
Field 14

## Edit Chemical Record

Products  
Active Ingredients

* Product name:	Bravo Ultrex	* Chemical use:	Fungicide
Brand:	Syngenta	* Formulation:	Other solid formulation
EPA Reg. No.:	50534-201-100	* Application units:	Pound (lb)
* Crop(s):	<input checked="" type="checkbox"/> Potatoes <input type="checkbox"/> Snap Beans	Cost:	\$ 7 per pound
Active Ingredient 1 Chlorothalonil CAS No.: 1897-45-6 Class: EBDC Tox factor per lb: 81.77 Amt per lb of product: 82.5 %		Active Ingredient 2 CAS No.: Class: Tox factor per lb:	
Toxicity Information Pre-harvest interval: 7 days Re-entry interval: 12 hours Signal word: Danger Protected Harvest Classification: <input type="radio"/> Available <input checked="" type="radio"/> Use with restriction <input type="radio"/> Do not use		Environmental hazards: Notes:	

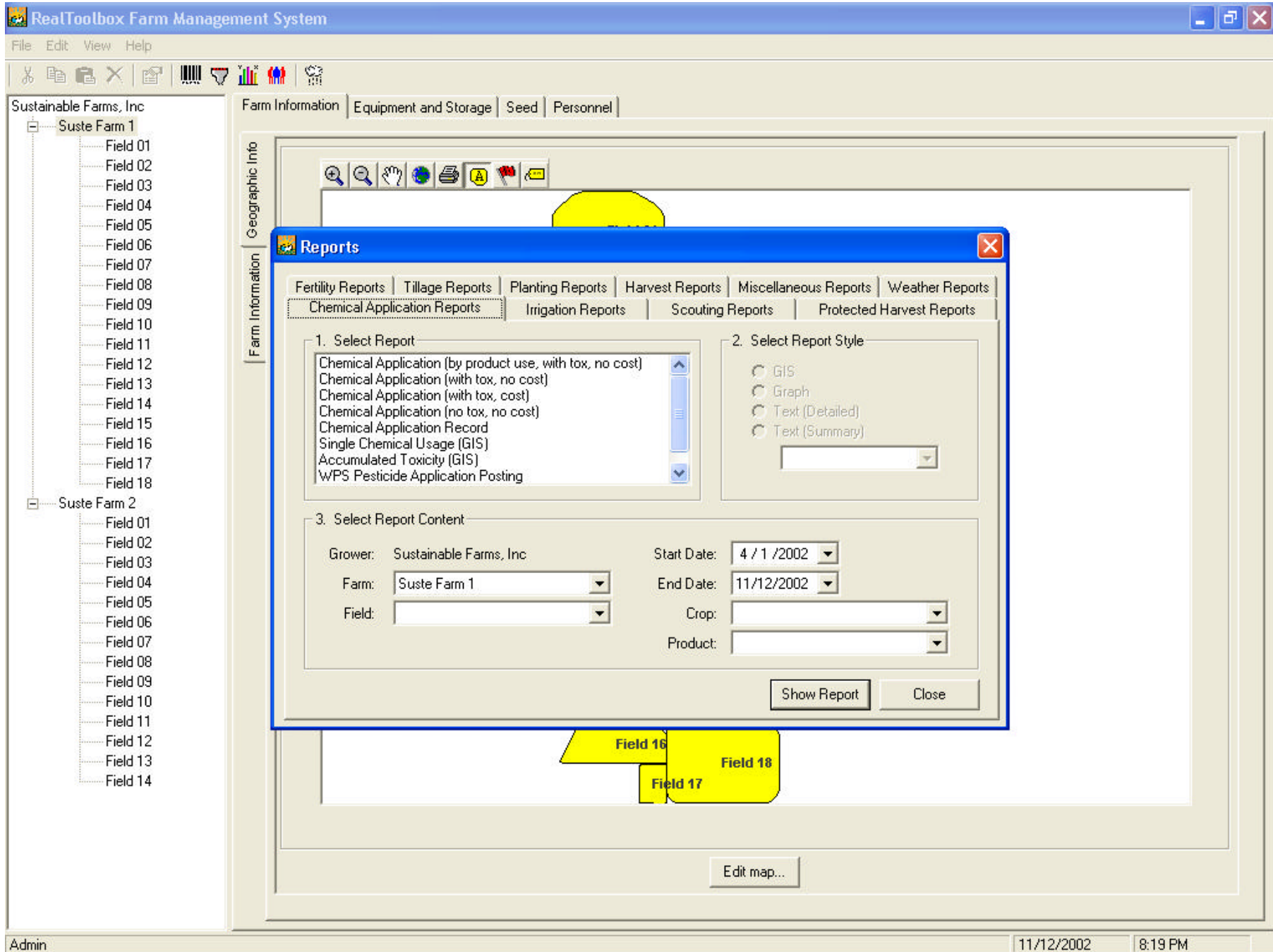
OK Cancel

View...

Add...

Edit...

Delete...



Preview

Sustainable Farms

Suste Farm 1

Field 01

Field 02

Field 03

Field 04

Field 05

Field 06

Field 07

Field 08

Field 09

Field 10

Field 11

Field 12

Field 13

Field 14

Field 15

Field 16

Field 17

Field 18

# Chemical Application Report

4/1/2002 through 11/12/2002

<i>Sustainable Farms, Inc</i>	Chemical Name	Type	Date	Acres	Amount (per acre)	Total Amount	Total Toxicity (per acre)
<b>Suste Farm 1</b>							
Field 01	Sencor DF	Herbicide	5/17/2002	60.00	0.60 lb	36.00 lb	51.36
	Curzate 60DF	Fungicide	6/12/2002	60.00	0.20 lb	12.00 lb	5.04
	Equs DF	Fungicide	6/12/2002	60.00	1.00 lb	60.00 lb	67.46
	Matrix	Herbicide	6/15/2002	60.00	1.00 oz	60.00 oz	2.70
	Equs DF	Fungicide	6/20/2002	60.00	1.25 lb	75.00 lb	84.33
	Leverage 2.7	Insecticide	6/20/2002	60.00	3.75 oz	225.00 oz	21.83
	Equs DF	Fungicide	6/25/2002	60.00	1.25 lb	75.00 lb	84.33
	Ridomil Gold Bravo	Fungicide	6/29/2002	60.00	1.70 lb	102.00 lb	108.91
	Actara	Insecticide	6/29/2002	60.00	1.50 oz	90.00 oz	3.73
	Quadris	Fungicide	7/5/2002	60.00	6.20 oz	372.00 oz	4.63
	Ridomil Gold Bravo	Fungicide	7/11/2002	60.00	1.70 lb	102.00 lb	108.91
	Quadris	Fungicide	7/17/2002	60.00	6.20 oz	372.00 oz	4.63
	Equs DF	Fungicide	7/24/2002	60.00	1.25 lb	75.00 lb	84.33
	Bravo Ultrex	Fungicide	7/31/2002	60.00	1.25 lb	75.00 lb	84.33
	Actara	Insecticide	7/31/2002	60.00	1.50 oz	90.00 oz	3.73
	Bravo Ultrex	Fungicide	8/7/2002	60.00	1.25 lb	75.00 lb	84.33
	Bravo Ultrex	Fungicide	8/14/2002	60.00	1.25 lb	75.00 lb	84.33
	Reglone	Herbicide	8/19/2002	60.00	1.50 pt	90.00 pt	27.35
	Bravo Ultrex	Fungicide	8/21/2002	60.00	1.25 lb	75.00 lb	84.33
<b>Total Field Toxicity (per acre):</b>							<b>1,000.57</b>
Field 02	Admire 2F	Insecticide	4/27/2002	60.00	16.00 oz	960.00 oz	39.75
	Sencor DF	Herbicide	5/24/2002	60.00	0.60 lb	36.00 lb	51.36
	Matrix	Herbicide	6/19/2002	60.00	1.00 oz	60.00 oz	2.70
	Manzate Flowable	Fungicide	6/20/2002	60.00	1.00 qt	60.00 qt	151.00
	Curzate 60DF	Fungicide	6/20/2002	60.00	0.20 lb	12.00 lb	5.04
	Equs DF	Fungicide	6/22/2002	60.00	1.25 lb	75.00 lb	84.33

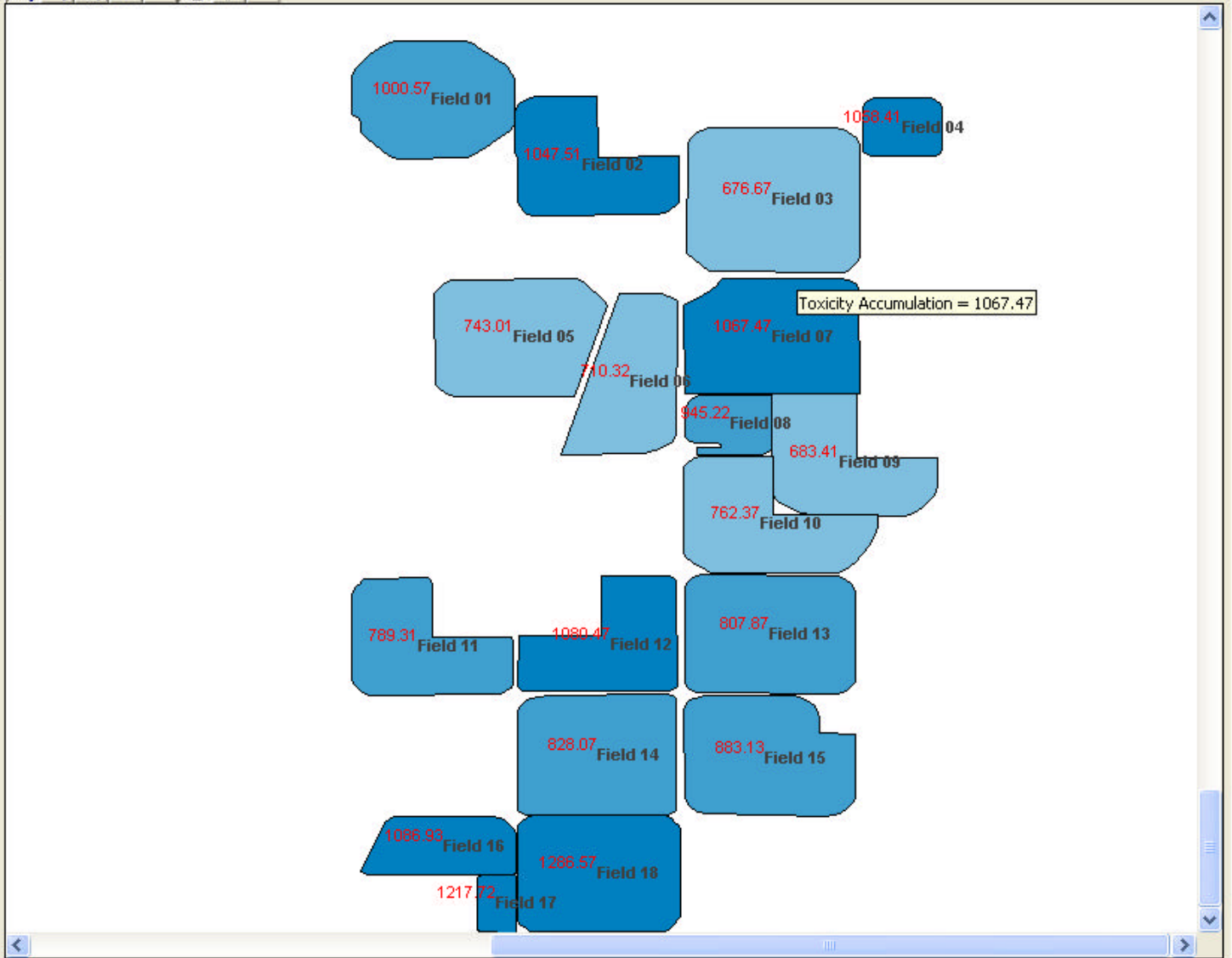
11/12/2002 8:20:32PM

Page 1 of 14



Min threshold: 0  
Max threshold: 1300  
Number of ranges: 5  
☒ Show/Hide values  
Color...  
Update map

- Legend
- 0 - 260
  - 260 - 520
  - 520 - 780
  - 780 - 1040
  - 1040 - 1300
- Toxicity Accumulation



OK



Min threshold 0  
Max threshold 1339.05  
Number of ranges 5  
Show/Hide values ☐

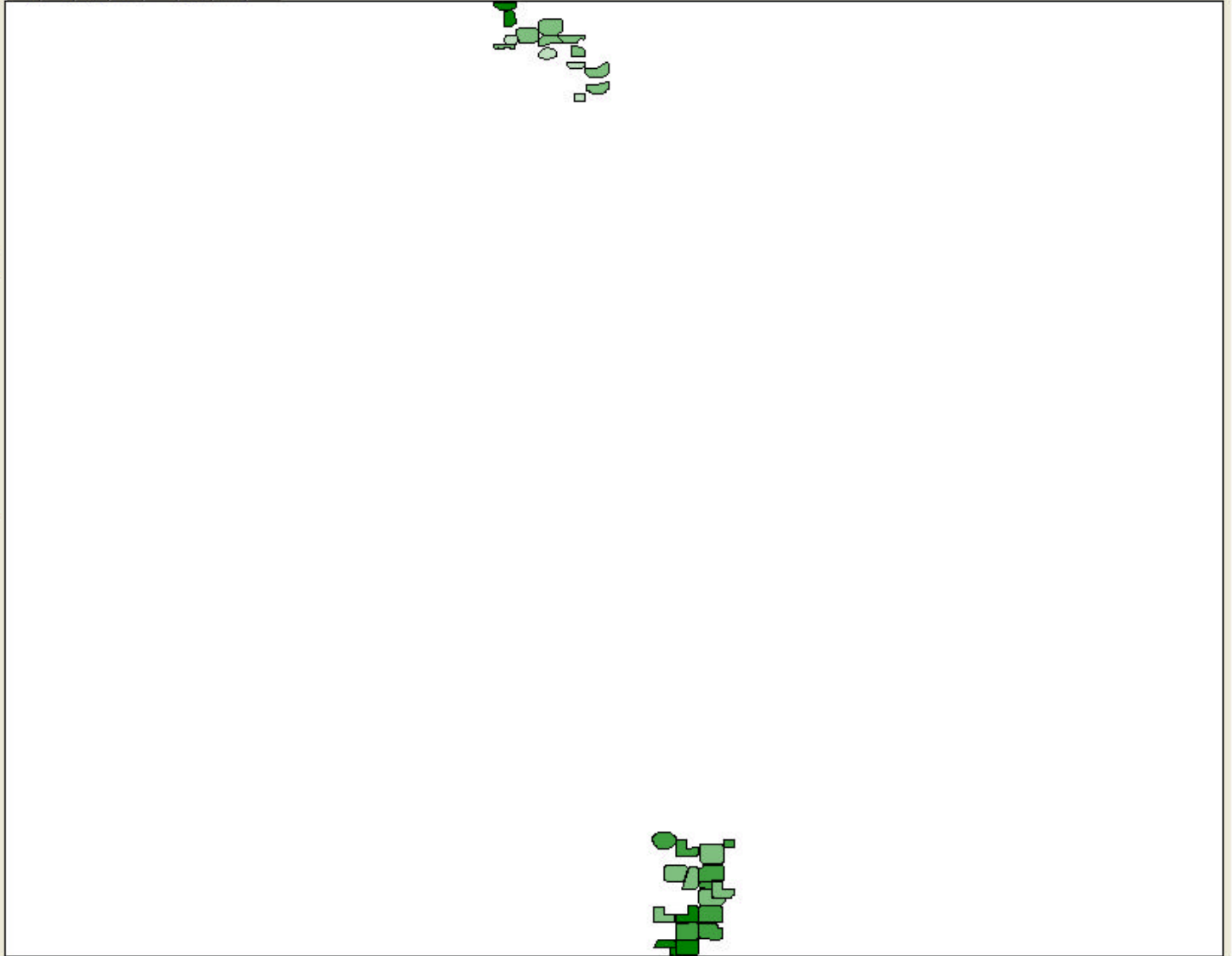
Color...

Update map

Legend

- 0 - 267.81
- 267.81 - 535.62
- 535.62 - 803.43
- 803.43 - 1071.24
- 1071.24 - 1339.05

Toxicity Accumulation



OK



Min threshold

0

Max threshold

40

Number of ranges

5

Show/Hide values



Color...



Update map

Legend



0 - 8



8 - 16



16 - 24

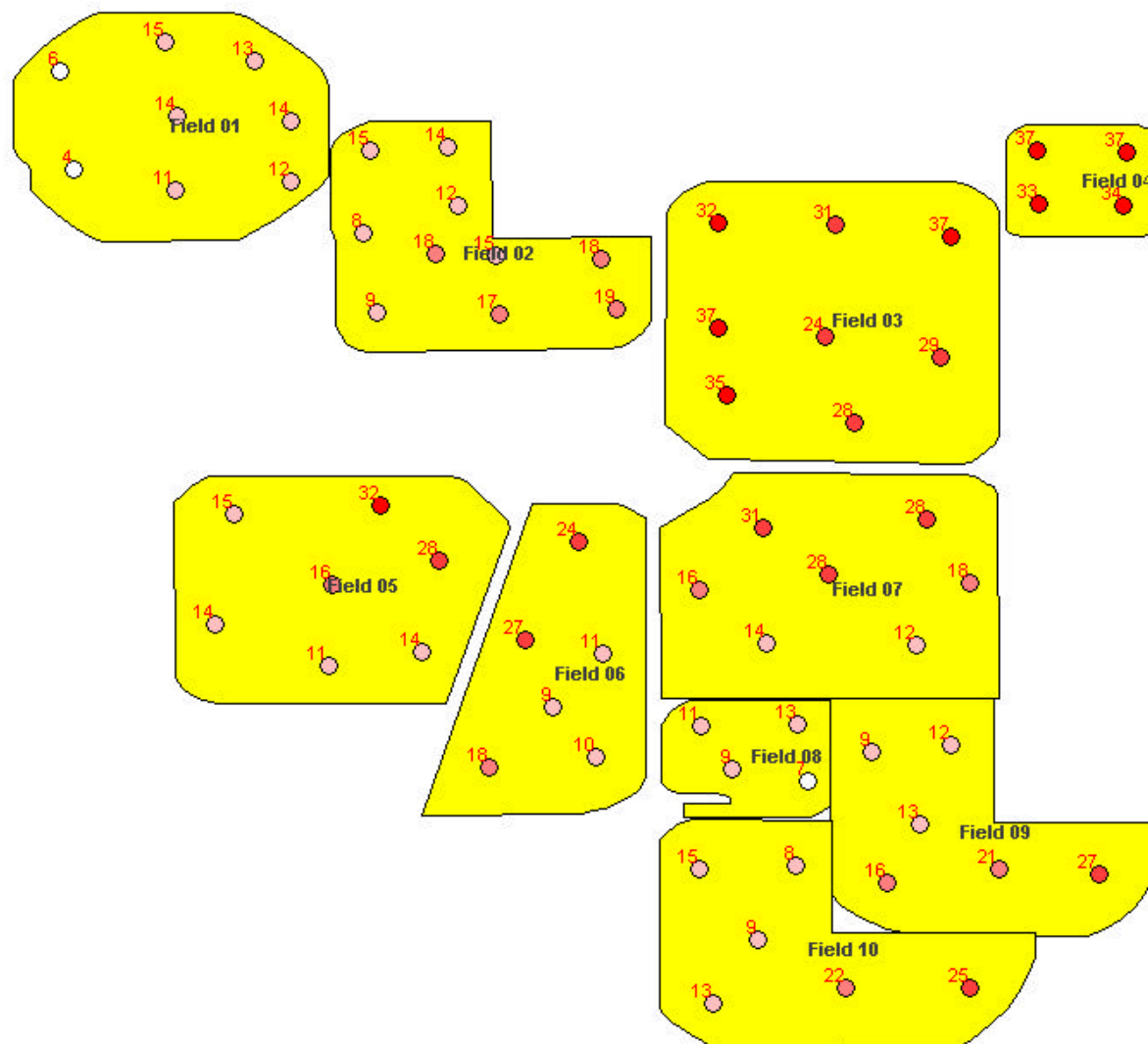


24 - 32



32 - 40

Potato Leafhopper Adult 25 sweeps



OK





Min threshold   
 Max threshold   
 Number of ranges   
 Show/Hide values ☒

Color...

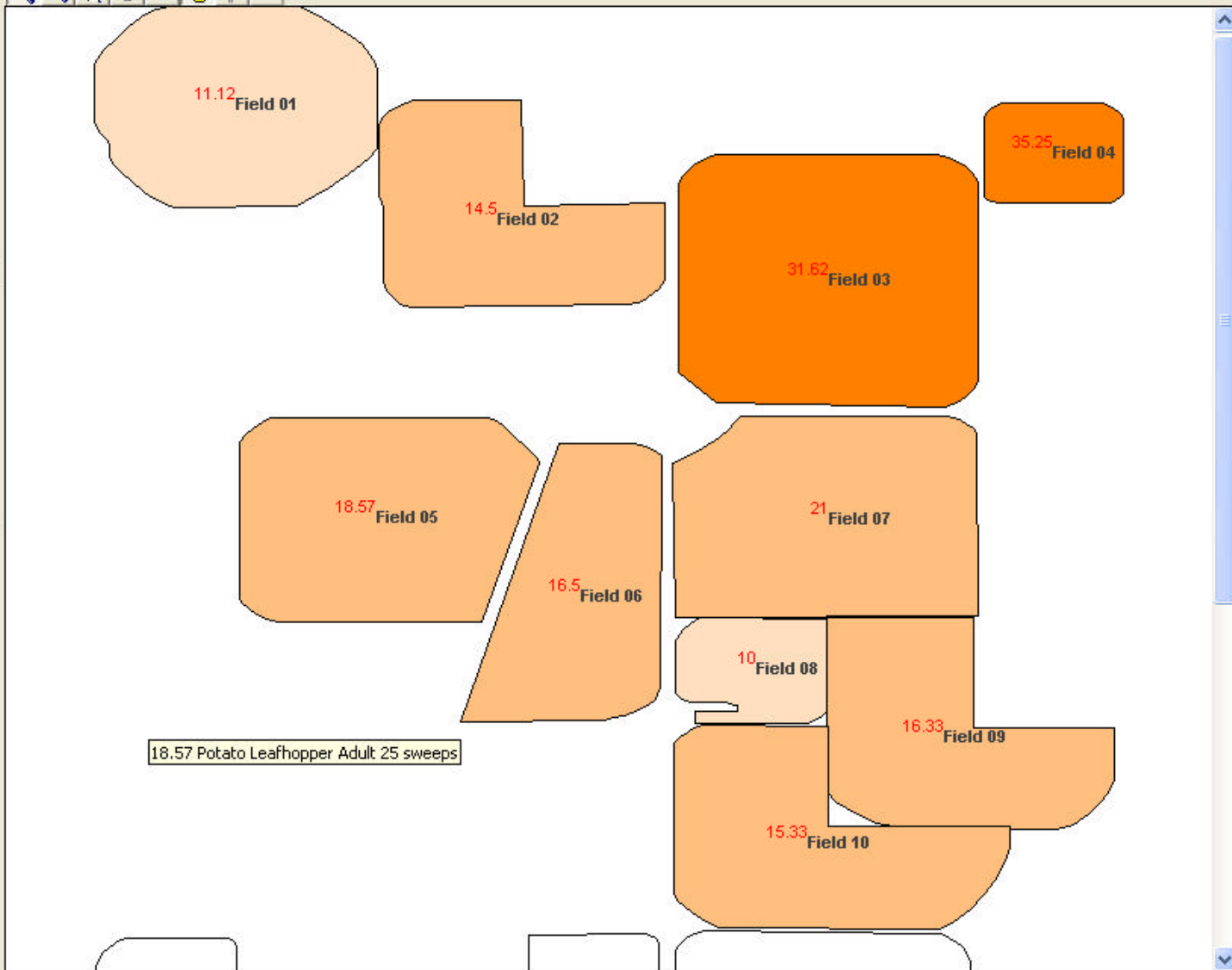


Update map

Legend

- ☐ 0 - 7.05
- ☐ 7.05 - 14.1
- ☐ 14.1 - 21.15
- ☐ 21.15 - 28.2
- ☐ 28.2 - 35.25

Potato Leafhopper Adult 25 sweeps



18.57 Potato Leafhopper Adult 25 sweeps

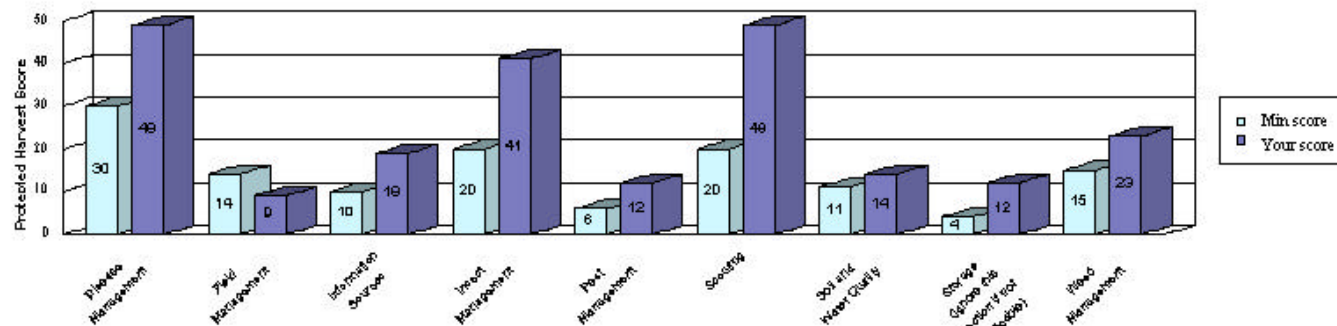
OK

Preview

+ Sustainable Farms

## Protected Harvest Score Report

**Grower Name:** Sustainable Farms, Inc.  
**Farm Name:** Suste Farm 1  
**Field Name:** Field 01 (4/1/2002 - 11/30/2002)  
**Year:** 2,002.00  
**Crop:** Potatoes



Section:	Score	Notes
<b>Disease Management</b>		
Min = 30 Points = 63 Bonus = 25 Total Possible = 88	49	
<b>Field Management</b>		
Min = 14 Points = 35 Bonus = 8 Total Possible = 43	9	Minimum score not reached, missed critical question.
<b>Information Sources</b>		
Min = 10 Points = 20 Bonus = 5 Total Possible = 25	19	
<b>Insect Management</b>		
Min = 20 Points = 49 Bonus = 15 Total Possible = 64	41	

11/13/2002 8:10:25PM

Page 1 of 2



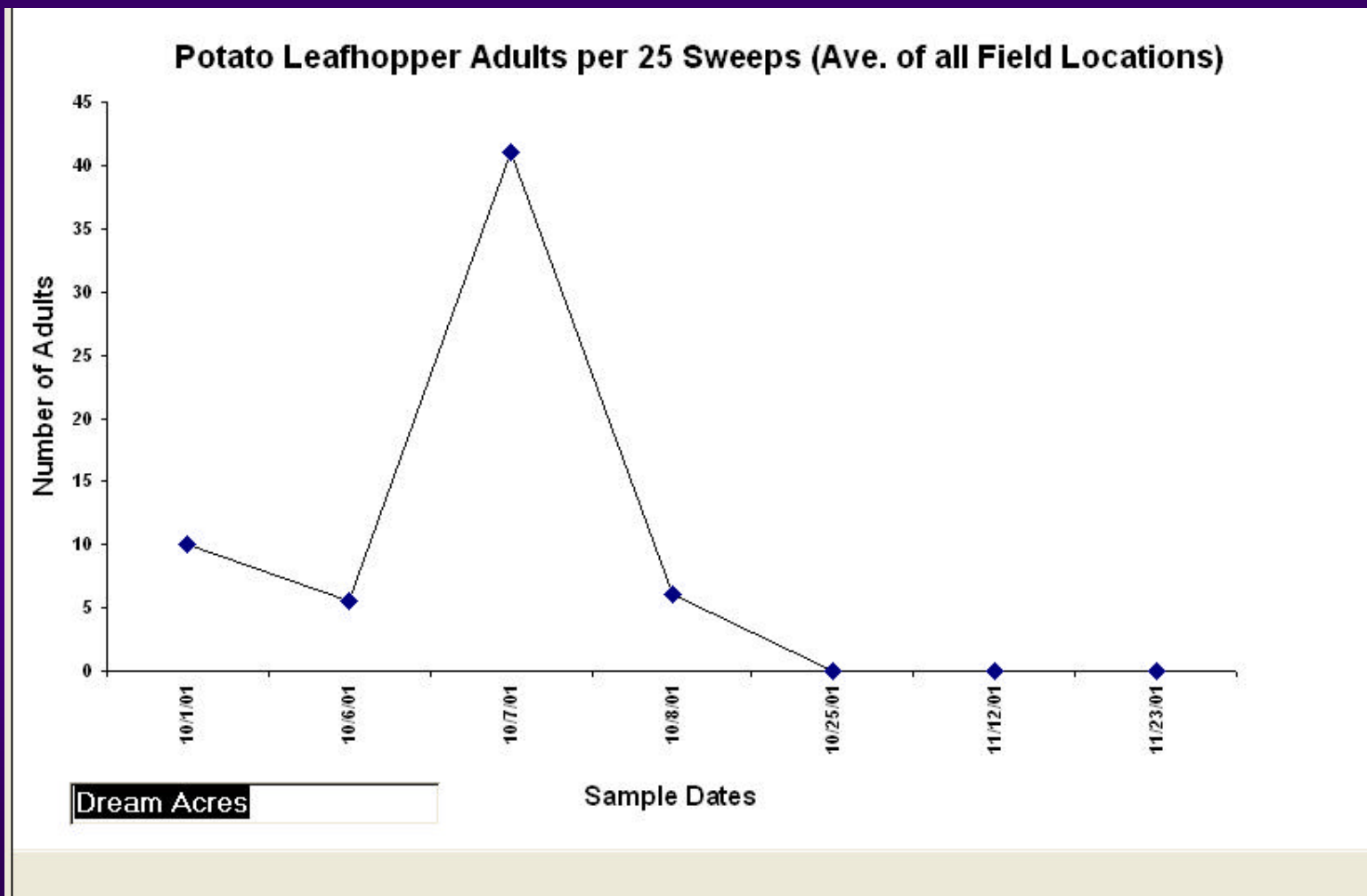
# *Example: Industry Summary*

## **Insecticide and Miticide Summary Report for the Wisconsin Potato Project**

from 1/1/01 to 12/31/01

<b>Grower</b>	<b>Block name</b>	<b>Input Date</b>	<b>Chemical name</b>	<b>Rate per Acre</b>	<b>Acres treated</b>	<b>Total applied</b>
<b>Delong, John</b>						
	<i>Dream Acres</i>					
		6/1/2001	Ambush 2E	2	60	120
<b>Duckworth, Randy</b>						
	<i>Randy's Front 80</i>					
		4/2/2001	Ambush 2E	3	80	240
<b>Sexson, Deana</b>						
	<i>Deana's back 60</i>					
		6/1/2001	Ambush 2E	2	60	120

# *Example: Seasonal Trends*



# ***Relational Databases***

---

- ❖ **Build Relational Reports:**
  - ❖ **Pest Levels by Plant Date**
  - ❖ **Field Practices by Storage Quality**
  - ❖ **Anything in the database....**

**TRENDS NOT NECESSARILY  
EXPERIMENTAL DATA**



*RealToolBox*



