



KLINKENBORG AERIAL CREW 2016





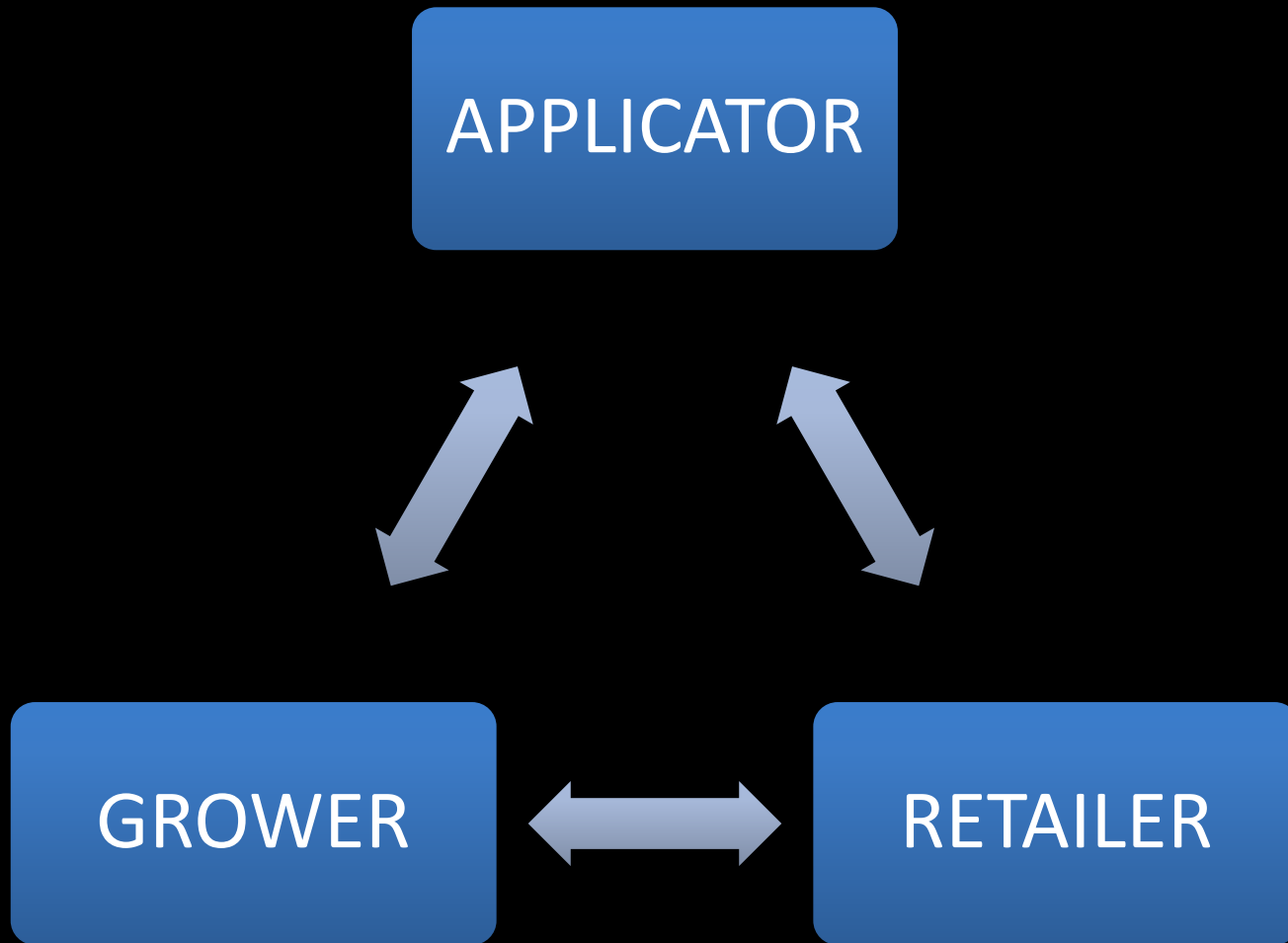
Klinkenborg Aerial Spraying

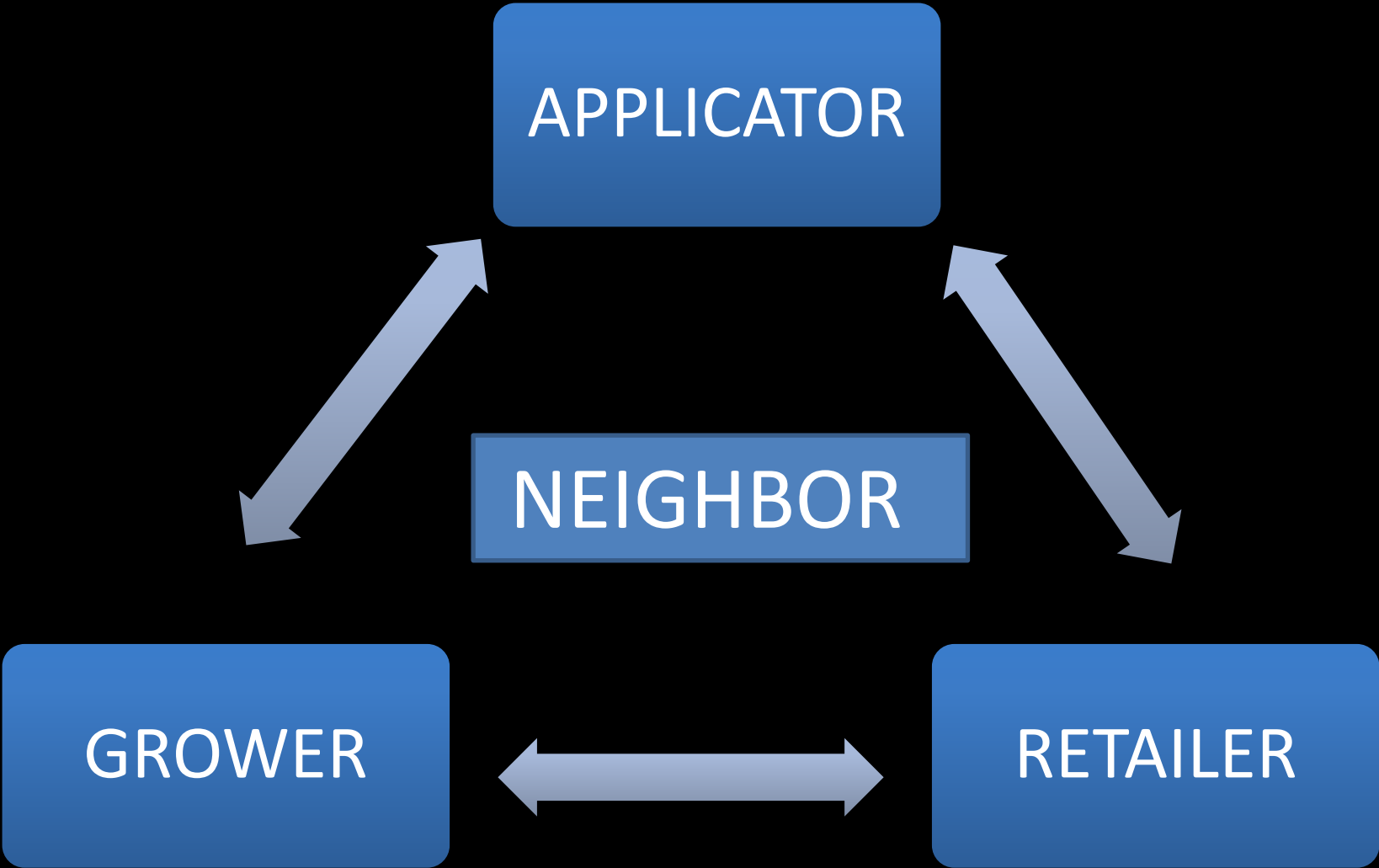
IMPROVING UNDERSTANDING
BETWEEN SPECIALTY CROP
FARMERS AND PESTICIDE
APPLICATORS

KLINKENBORG AERIAL SPRAYING AND
SEEDING INC

Agrismart information systems

COMMUNICATION





AIR TRACTOR 402 COCKPIT



(c) Except in an emergency, landing and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use; and

(d) The aircraft at all times remains clear of, and gives way to, aircraft conforming to the traffic pattern for the airport.

Sec. 137.47 Operation without position lights.

Notwithstanding part 91 of this chapter, an aircraft may be operated without position lights if prominent unlighted objects are visible for at least 1 mile and takeoffs and landings at--

(a) Airports with a functioning control tower are made only as authorized by the control tower operator; and

(b) Other airports are made only with the permission of the airport management and no other aircraft operations requiring position lights are in progress at that airport.

Sec. 137.49 Operations over other than congested areas.

Notwithstanding part 91 of this chapter, during the actual dispensing operation, including approaches, departures, and turnarounds reasonably necessary for the operation, an aircraft may be operated over other than congested areas below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures, if the operations are conducted without creating a hazard to persons or property on the surface.

Sec. 137.51 Operation over congested areas: General.

(a) Notwithstanding part 91 of this chapter, an aircraft may be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft operation if the operation is conducted--

(1) With the maximum safety to persons and property on the surface, consistent with the operation; and

(2) In accordance with the requirements of paragraph (b) of this section.

(b) No person may operate an aircraft over a congested area except in accordance with the requirements of this paragraph.

(1) Prior written approval must be obtained from the appropriate official or governing body of the political subdivision over which the operations are conducted.

(2) Notice of the intended operation must be given to the public by some effective means, such as daily newspapers, radio, television, or door-to-door notice.

(3) A plan for each complete operation must be submitted to, and approved by appropriate personnel of the FAA Flight Standards District Office having jurisdiction over the area where the operation is to be conducted. The plan must include consideration of obstructions to flight; the emergency landing capabilities of the aircraft to be used; and any necessary coordination with air traffic control.

(4) Single engine aircraft must be operated as follows:

(i) Except for helicopters, no person may take off a loaded aircraft, or make a turnaround over a congested area.

(ii) No person may operate an aircraft over a congested area below the altitudes prescribed in part 91 of this chapter except during the actual dispensing operation, including the approaches and departures necessary for that operation.

the runway from any point on takeoff up to the time of attaining, with all engines operating at normal takeoff power, 105 percent of the minimum control speed with the critical engine inoperative in the takeoff configuration or 115 percent of the power-off stall speed in the takeoff configuration, whichever is greater, as shown by the accelerate stop distance data. In applying this requirement, take-off data is based upon still-air conditions, and no correction is made for any uphill gradient of 1 percent or less when the percentage is measured as the difference between elevation at the end points of the runway divided by the total length. For uphill gradients greater than 1 percent, the effective takeoff length of the runway is reduced 20 percent for each 1-percent grade.

(ii) No person may operate a multiengine airplane at a weight greater than the weight that, with the critical engine inoperative, would permit a rate of climb of at least 50 feet per minute at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within the area to be worked or at an altitude of 5,000 feet, whichever is higher. For the purposes of this subdivision, it is assumed that the propeller of the inoperative engine is in the minimum drag position; that the wing flaps and landing gear are in the most favorable positions; and that the remaining engine or engines are operating at the maximum continuous power available.

(iii) No person may operate any multiengine aircraft over a congested area below the altitudes prescribed in part 91 of this chapter except during the actual dispensing operation, including the approaches, departures, and turnarounds necessary for that operation.

Sec. 137.53 Operation over congested areas: Pilots and aircraft.

(a) *General.* No person may operate an aircraft over a congested area except in accordance with the pilot and aircraft rules of this section.

(b) *Pilots.* Each pilot in command must have at least--

(1) 25 hours of pilot-in-command flight time in the make and basic model of the aircraft, at least 10 hours of which must have been acquired within the preceding 12 calendar months; and

(2) 100 hours of flight experience as pilot in command in dispensing agricultural materials or chemicals.

(c) *Aircraft.*

(1) Each aircraft must--

(i) If it is an aircraft not specified in paragraph (c)(1)(ii) of this section, have had within the preceding 100 hours of time in service a 100-hour or annual inspection by a person authorized by part 65 or 145 of this chapter, or have been inspected under a progressive inspection system; and

(ii) If it is a large or turbine-powered multiengine civil airplane of U.S. registry, have been inspected in accordance with the applicable inspection program requirements of Sec. 91.409 of this chapter.

(2) If other than a helicopter, it must be equipped with a device capable of jettisoning at least one-half of the aircraft's maximum authorized load of agricultural material within 45 seconds. If the aircraft is equipped with a device for releasing the tank or hopper as a unit, there must be a means to prevent inadvertent release by the pilot or other crewmember.

Report generated by DropletScan, a product of WRK and DSI.
 File: C:\Dathold2016\Klingenborg16\N3006L.dif 4/17/2016

Operation S.A.F.E. Clinic
 Klinkenborg Aerial
 Charles City IA
 April 2016

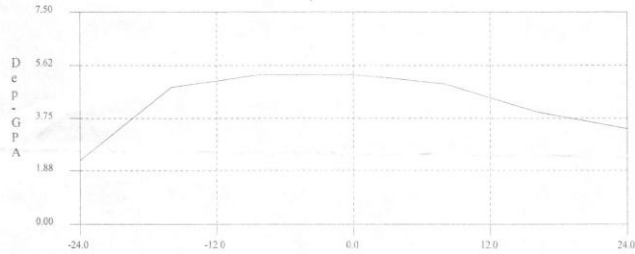
GPA = 4.30
 % Area Coverage = 10.6
 Run ID: N30661_01
 Target Rate (GPA): 2
 Target Swath (Ft): 85
 Application Height (Ft): 14
 Number of Passes: 1
 Ground Speed (MPH): 161
 Wind Velocity (MPH): 7.4
 Wind Direction(deg.): 180
 Cross Wind (MPH):
 Temperature (F): 59
 Humidity (%): 69

Material: Water/Dye
 Number of Nozzles: 61
 Nozzle Pres. (PSI): 45
 Flow Rate at 40 PSI (GPM): .60
 Nozzle Type: CP11/.125

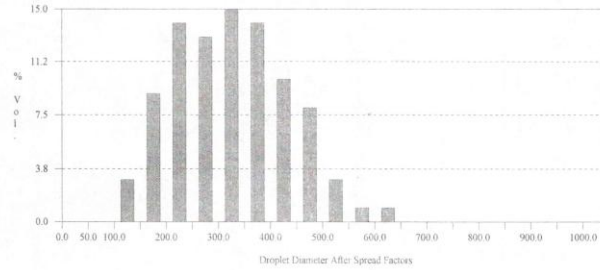
Spread Factors Equation
 $SF = 1.6333 + 0.0009 * D + 0.0000 * D * D$

Composite results
 VMD = 324 - Avg 300-350
 VD(0.1) = 181 - Small > 200 Dri ↓
 VD(0.9) = 481 - Large < 600

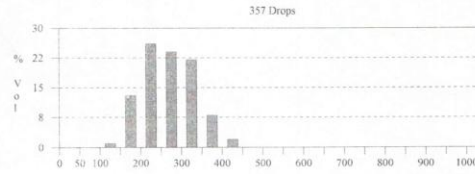
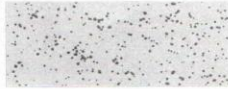
Deposition vs Distance



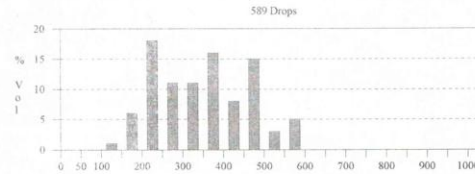
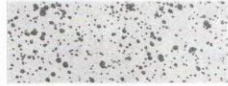
Histogram of Droplet Diameters



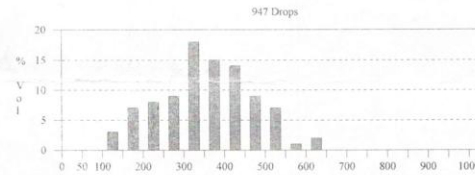
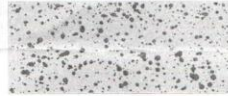
-24.0 with 2.26 GPA & VMD = 268



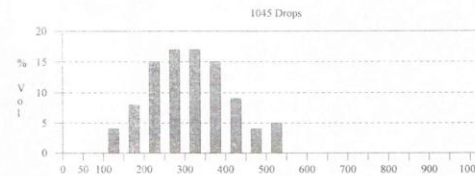
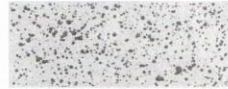
-16.0 with 4.87 GPA & VMD = 347



-8.0 with 5.31 GPA & VMD = 354



0.0 with 5.31 GPA & VMD = 308





Managing Risk with:

Flight Plan Online™

INFORMATION MANAGEMENT SYSTEM FOR AERIAL APPLICATIONS



 AgriSmart
INFORMATION SYSTEMS LLC

Kevin Britten

Red Oak IA



Agenda

- Flight Plan Online software overview
- Sensitive Areas
- Obstructions
- Seed Corn Crews
- Data Sources



About Flight Plan Online

- Flight Plan Online is an information management system that provides a ***standardized format*** for two-way communication between aerial applicators and their customers.
- Flight Plan Online is a ***complete system*** that includes all the features the aerial applicator needs for the entire application process.
- Flight Plan Online is a ***proven system*** currently in use across a wide geography by a diverse customer base. It provides value to aerial applicators, their pilots, and their customers.



Complete System

- Forecasting & Planning
- Orders & Mapping
- Scheduling & Application
- **Risk Management Tools**
- Records & Reports
- Billing & Invoicing
- Inventory Management Tools
- Analysis and Marketing
- Customer Service



Key Features

- Standardized job order and mapping system
- Information is centralized and shared electronically
- Timely records and reports
- Sensitive area notification
- Adjacent crops identification
- Tools to manage partially sprayed jobs
- Automated process to provide as-applied information
- Complete, self-contained billing system
- Ease of use



Establishing Partnerships

Partnerships are created with each key account, identifying contact and billing information, preferred airports, ground support roles, and fee schedule. Each account is issued a login and password to Flight Plan Online, allowing them to place and track job orders.



Your network of customers can include growers, retail dealers, seed companies, processors, consultants, or anyone else that you work with directly. All jobs are created in an accurate and consistent manner that your staff and pilots can easily understand.



Easy, Accurate Mapping

- Mapping program is fully integrated within Flight Plan Online. No need to go from one program to another.
- Select fields as pre-defined FSA field borders (CLU's) or draw field boundaries.
- You and your customers can create and save field boundaries pre-season or create them “on the fly” as jobs are created.
- Advanced search methods, including by section, township, range.
- Acres are automatically calculated.
- Color aerial imagery
- Displays lat/long and legal description.



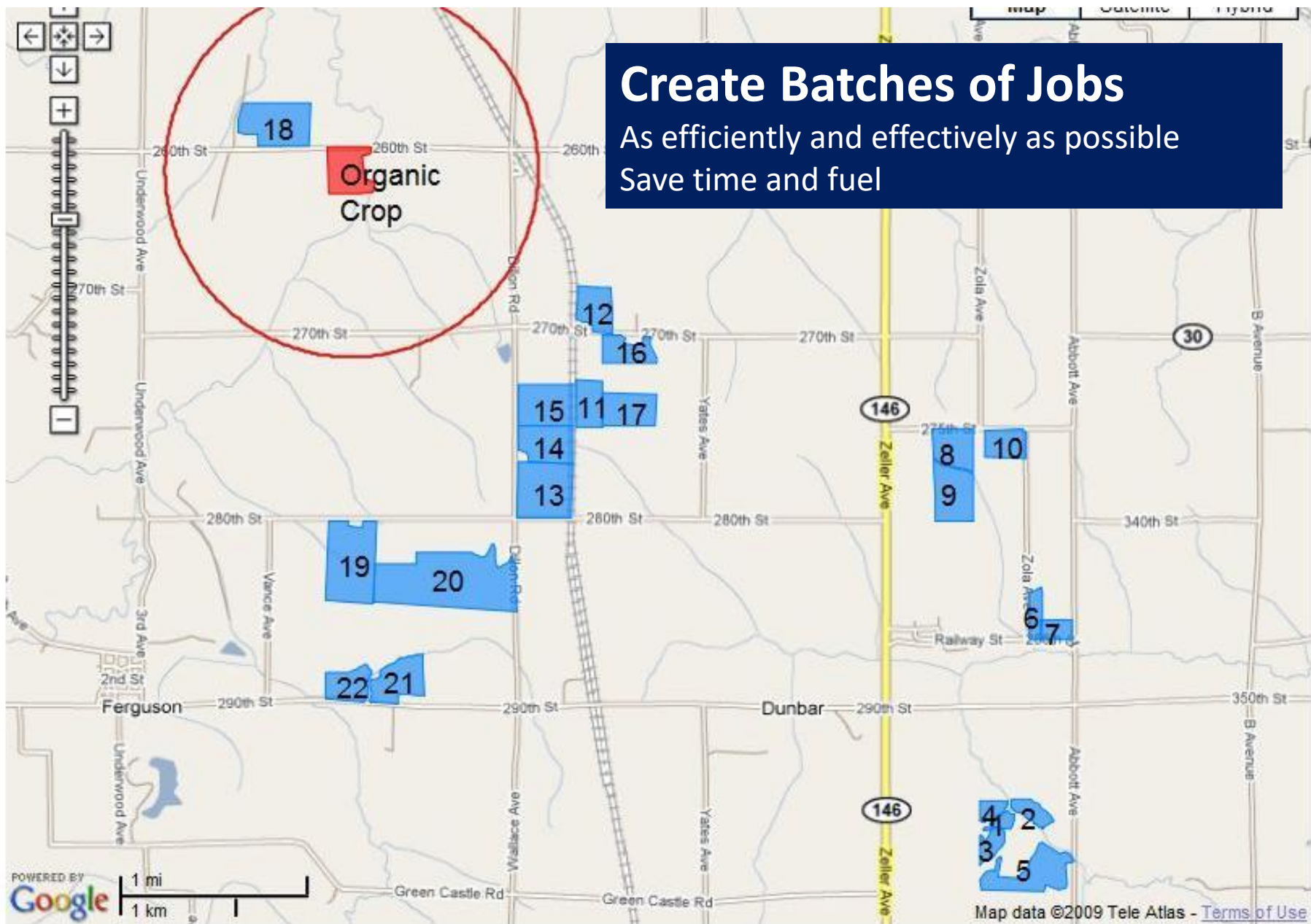


Scheduling Tools

Filter jobs in a variety of ways to create batches of jobs...

- By Product Combination
- By Airport
- By Release Date
- By Customer
- By Crop...





Create Batches of Jobs
As efficiently and effectively as possible
Save time and fuel

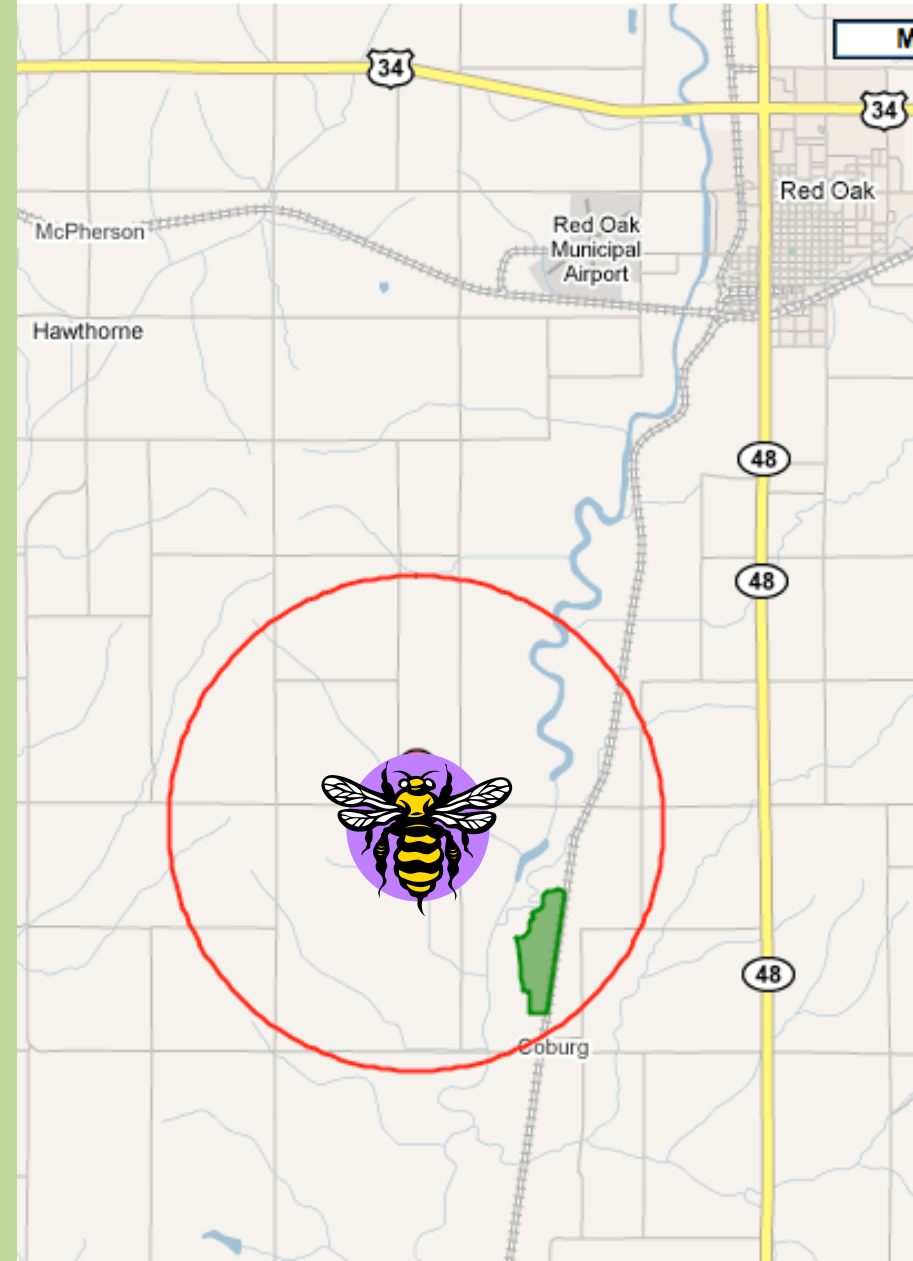


Sensitive Areas Notification

Examples

- Bees
- Organic Crops
- Vineyards
- Orchards
- Acreages
- Livestock
- Municipalities
- Wind Farms
- Communication Towers

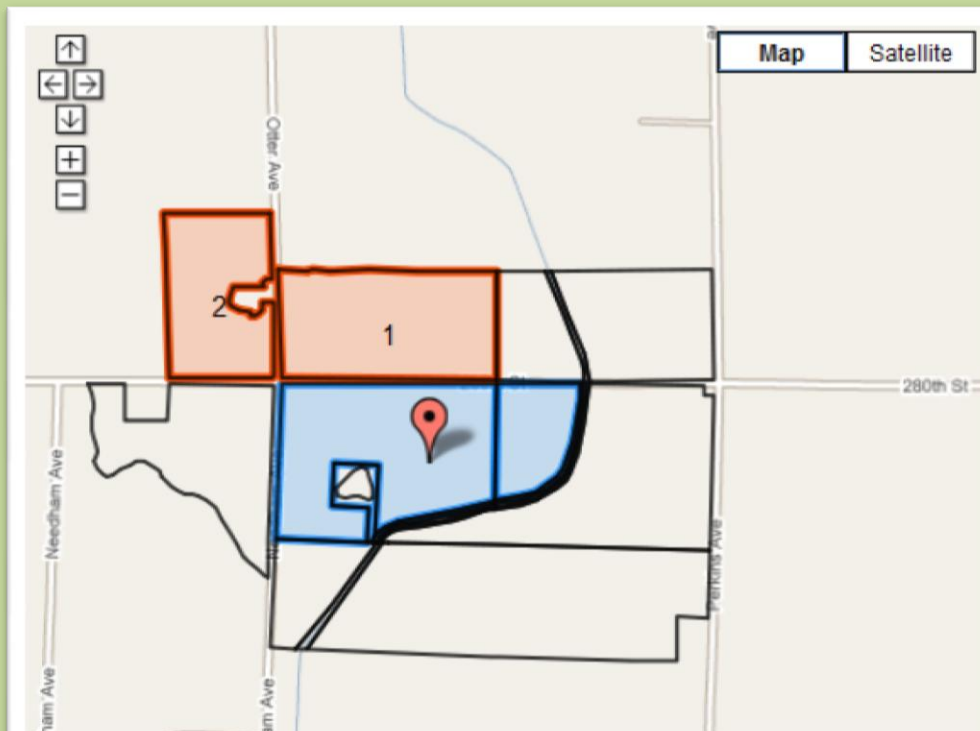
Aerial operators can map out sensitive areas for their entire trade area. These sensitive area can be displayed on master maps and pilot maps.





Adjacent Crops Identification

Fields adjacent to a job can be automatically displayed, allowing aerial operators or their customer to identify sensitive crops that are nearby. This information is displayed on the pilot maps. This feature is especially helpful for herbicide applications.



SENSITIVE AREAS

There are no known sensitive areas in the area.

ADJACENT CROPS

#	Crop	Description
1	Soybeans	Seed Production Field
2	Pasture	Watch for Cattle

Crop Description

Alfalfa

Select CLU Draw Field

[Cancel](#)



Pilot Reports



Sensitive Areas
Category
1 - Organic Crop

Assigned to: Joe Flyer/IA 34568

Acres Applied			
Pilot/Operator			
Pest. Lic. #			
NRE/Equipment			
Airport			
App. Date			
Start Time			
End Time			
Temperature			
Wind Direction			
Wind Speed			
Rinsate	1 None 1 N/A * Applied to Field	1 None 1 N/A * Applied to Field	1 None 1 N/A * Applied to Field

Center: 40.971885°, -95.199958°
 Polygon #: 1
 State, County: IA, Montgomery
 Township: Grant
 Tier & Range: 10-71N-38W
 Acres: 77
 Crop: Corn
 Purpose: Disease
 Customer: Ag Applicators Customer
 Accts.
 Grower: Bart Kane
 Grower Phone: 402-555-1212
 Field name(s):
 Job Type: Aerial Application
 Job Category: --Select--

Start Date	Jan 10	End Date	Jan 24
Assigned App. Date:	Jan 19		
Job #:	802687 Batch #: 5		
Created By:	Joe Jones - 712-005-1234		
Airport:	Red Oak Facility		
Miles to job:	3.54 (151')		
GPA:	2.00		
Products:	Crop Oil Concentrate ^A (1.0 pint - 9.63 gallons)		
Headline ^A :	(6.0 foos - 3.61 gallons)		



Integration with Guidance Systems

- Flight Plan Online creates the batch of job files
- Download files directly to spray card
- Once done, upload log files to Flight Plan Online
- Make “as-applied” reports available to customers in an amazingly easy fashion.
- Meets customer expectations
- Saves time = more sprayed acres
- Compatible with most Satloc, Ag-Nav, TracMap, DynaNav, and Trimble systems






Application Reports

Standard

With As-Applied Information

Aerial Application Report

AgriSmart Aerial - PO Box 542 - Red Oak, IA 51566



Job #: 28620
Batch #: 37
Airport Information
 Airport: Rockwell City Municipal Airport
 Pilot: Pete Pilot
 Pilot Address: 123 Main Street, Anytown, IA, 55555
 Ground support provided by: Aerial Applicator

Retailer
 Tri County Coop - Red Oak
 123 Main Street, Anytown, Iowa 55555
 555 555-1212
 Joe Retailer - 555 555-1214

Grower
 Fred Farmer
 100 1800th Avenue, Red Oak, IA 51566
 712 555-1212

Field Information
 Acres: 82
 Crop: Corn Pest: Gray Leaf Spot
 State: IA, County: Sac
 Township: Boyer Valley
 Tier & Range: 33-89N-37W
 Center: 42.393571° -95.152834°
 Field name(s): Sample 1

Product(s) Provided by Retailer:

Product	Company	Restricted Use?	EPA Reg #	Rate per Acre	Acres	Total Volume Used
Headline MRLiStik (pyraclostrobin)	BASF	No	7569-156	6.0 flOZs	82	3.84 gallons

Product(s) Provided by Applicator:

Product	Company	Restricted Use?	EPA Reg #	Rate per Acre	Acres	Total Volume Used
Crop Oil Concentrate (COC)	Distributor	No	Exempt	1.0 gal	82	10.28 gallons

Carrier:

Product	Rate per Acre	Acres	Total Volume Used
Water	1.828125 gallons	82	149.9 gallons

GPA: 2.0
 Comments:

Released by Customer	Spray Date Range		Assigned Spray Date	Actual Spray Date	Actual Spray Time	
	Spray Start Date	Spray End Date			Start Time	End Time
YES	Aug 21	Aug 28	Aug 21	Aug 21	01:00 PM	01:50 PM


Temperature	Wind Speed	Wind Direction	Acres Sprayed
85.0	5.0	SW	82

Pilot Name	Pilot Pest. Lic. #	Business Name	Bus. Pest. Lic. #	Plane #
Pete Pilot	123456	Petes Planes	A56789	N555KC

Created at 08/21/2008 01:38 PM JOB # 28620

Aerial Application Report

AgriSmart Aerial - PO Box 542 - Red Oak, IA 51566



Job #: 28620
Batch #: 37
Airport Information
 Airport: Rockwell City Municipal Airport
 Pilot: Pete Pilot
 Pilot Address: 123 Main Street, Anytown, IA, 55555
 Ground support provided by: Aerial Applicator

Retailer
 Tri County Coop - Red Oak
 123 Main Street, Anytown, Iowa 55555
 555 555-1212
 Joe Retailer - 555 555-1214

Grower
 Fred Farmer
 100 1800th Avenue, Red Oak, IA 51566
 712 555-1212

Field Information
 Acres: 82
 Crop: Corn Pest: Gray Leaf Spot
 State: IA, County: Sac
 Township: Boyer Valley
 Tier & Range: 33-89N-37W
 Center: 42.393571° -95.152834°
 Field name(s): Sample 1

Product(s) Provided by Retailer:

Product	Company	Restricted Use?	EPA Reg #	Rate per Acre	Acres	Total Volume Used
Headline MRLiStik (pyraclostrobin)	BASF	No	7569-156	6.0 flOZs	82	3.84 gallons

Product(s) Provided by Applicator:

Product	Company	Restricted Use?	EPA Reg #	Rate per Acre	Acres	Total Volume Used
Crop Oil Concentrate (COC)	Distributor	No	Exempt	1.0 gal	82	10.28 gallons

Carrier:

Product	Rate per Acre	Acres	Total Volume Used
Water	1.828125 gallons	82	149.9 gallons

GPA: 2.0
 Comments:

Released by Customer	Spray Date Range		Assigned Spray Date	Actual Spray Date	Actual Spray Time	
	Spray Start Date	Spray End Date			Start Time	End Time
YES	Aug 21	Aug 28	Aug 21	Aug 21	01:00 PM	01:50 PM

Temperature	Wind Speed	Wind Direction	Acres Sprayed
85.0	5.0	SW	82

Pilot Name	Pilot Pest. Lic. #	Business Name	Bus. Pest. Lic. #	Plane #
Pete Pilot	123456	Petes Planes	A56789	N555KC

Created at 08/21/2008 01:00 PM JOB # 28620



Invoice

AgriSmart Aerial - PO Box 542 - Red Oak, IA 51566



Bill To:
 Fred Farmer
 Red Oak
 100 1602th Avenue, Red Oak, IA 51566
 712 555-1212

Invoiced on: August 26, 2009
 Invoice #: 13576
 Job #: 26620
 Sprayed on: August 21, 2009
 Invoice Due on: September 27, 2009

Retailer
 Tri County Coop
 123 Main Street, Anytown, Iowa 55555
 Joe Retailer
 555 555-1212

Field Information
 Acres: 62.00
 State: IA
 County: Sac
 Township: Boyer Valley
 Tier & Range: 33-66N-37W
 Center: 42.993711° -95.152534°
 Field name(s): Sample 1

Services Provided by AgriSmart Aerial

Service	Fee	Acres	Total	Share %	Share \$
Aerial Application Fee	\$9.65 / acre	62.00	\$791.30	100.00%	\$791.30
Total Fees for Service			\$791.30		\$791.30

Product(s) Provided by Applicator:

Product	Price/Unit*	Price/Acre†	Quantity	Total	Share %	Share \$
Crop Oil Concentrate (COC)	\$1.00 / pint	\$1.00	62.0 pints	\$62.00	100.00%	\$62.00
Total Fees for Products		\$1.00		\$62.00		\$62.00

Product(s) Provided by Retailer:

Product	Quantity
Headline Minibulk	492.0 Rows
Grand Total	\$16.65
	\$873.30

Please pay this amount by September 27, 2009
 Any balance due after this date will be assessed an 18% APR service charge

* Product prices based on July prices.
 Refer to Application Reports, Job number 26620 for full details

Comments:

Thank you for your business!

Billing & Invoicing

- Automatically create invoices once jobs are marked as sprayed.
- Many aerial applicators using Flight Plan Online create invoices the same day the jobs are sprayed!
- You can choose to invoice at regular intervals (daily, weekly, monthly).
- Set payment terms
- Perform Split-billing
- Multiple formats available
- Interfaces with QuickBooks to supplement your accounting needs.



Exceptional Customer Service

We offer a high level of customer service so that you can too.

At AgriSmart we provide:

- Help menu with tutorials
- Call center, open 24/7 during spray season

100% of our time and energy is focused on delivering the best products and services to ag applicators and their customers

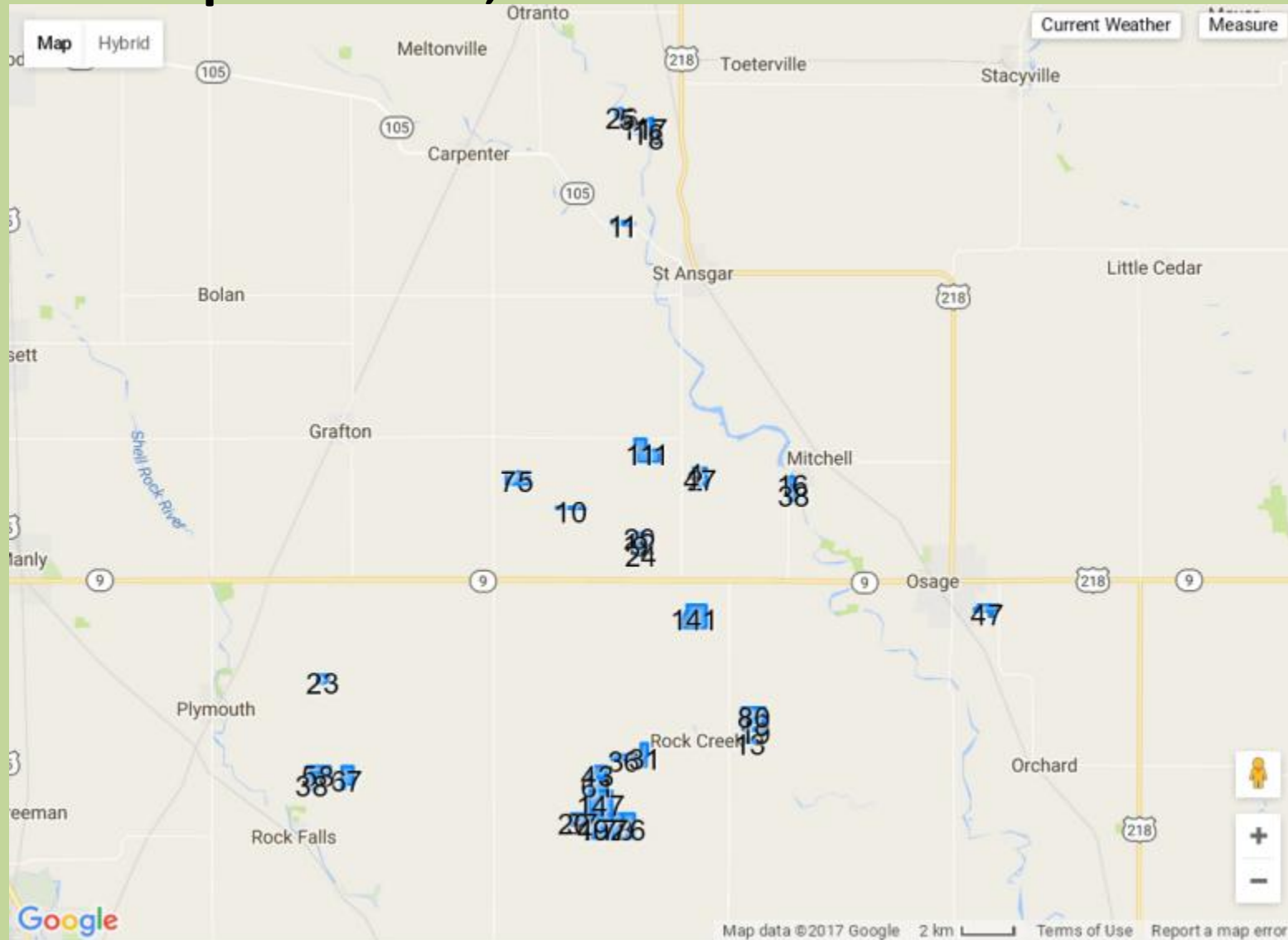


Thank You



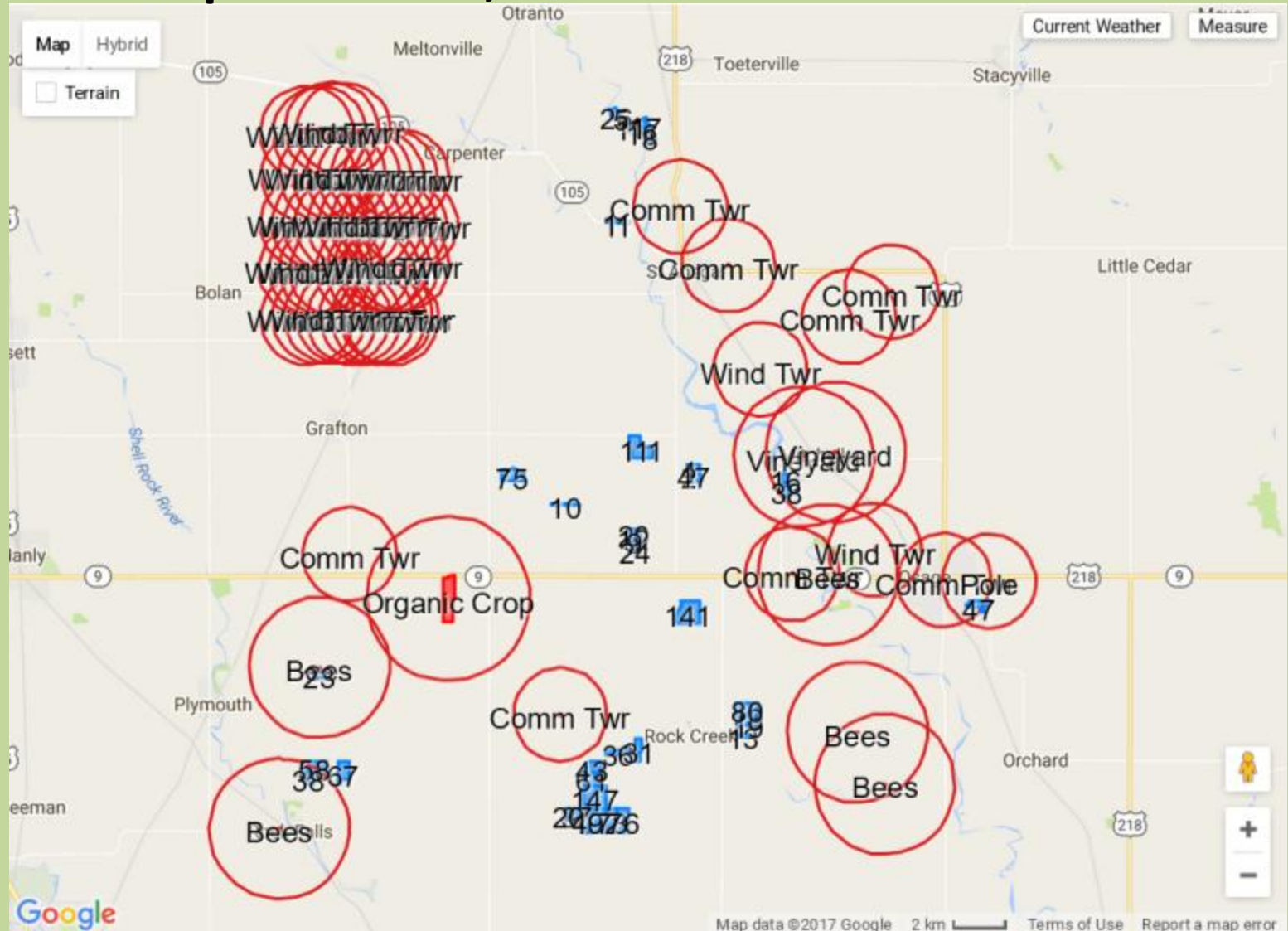


Batch Map #1178 - 1,659 Acres



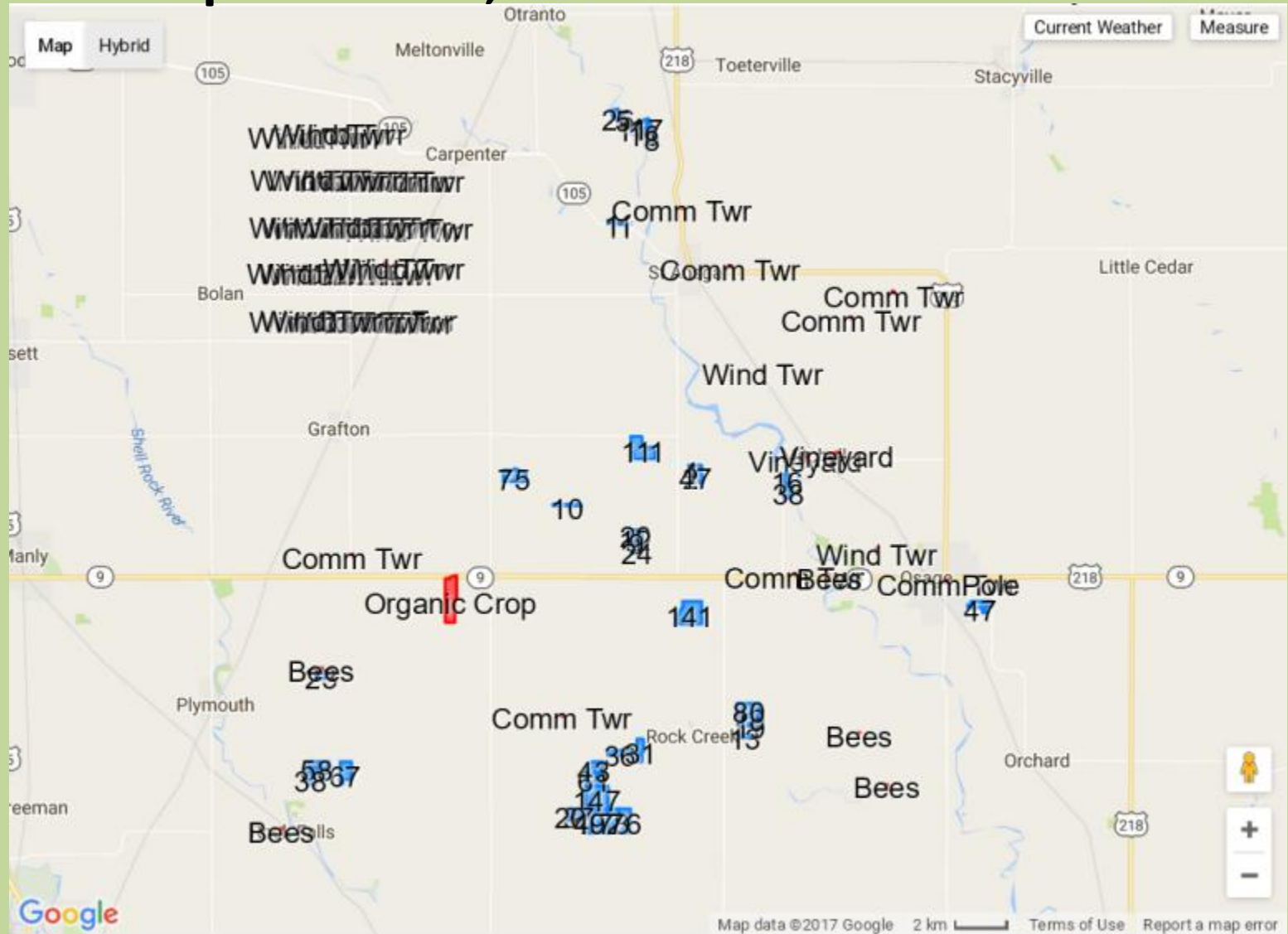


Batch Map #1178 - 1,659 Acres





Batch Map #1178 - 1,659 Acres





Batch Map #1178 – Zoomed In

