

A landscape photograph of rolling hills at sunset. The sun is low on the horizon, creating a warm, golden glow. The hills are covered in fields, some of which appear to be crops. A semi-transparent white rectangular box is overlaid on the center of the image, containing the main title and subtitle.

GECO

Strategic Weed Management

Overview March 2026



MARC HUTLET
SEEDS LTD.

GECO

Strategic Weed Management

Strategic Weed Management

If we could:

- know where weeds will emerge in the coming season,
- find resistant weeds before they spread,

what could we do differently?



Greg Stewart – intro

- Founder & CEO, Geco helping farmers map weed pressure and target control
- Previously worked in greenhouse crops for pest and disease monitoring and early warning
- Former Zamboni driver
- Licensed BBQ competition judge

Overview

- Geco predictive weed control
- Quantifying economic and agronomic impact
- Example fields

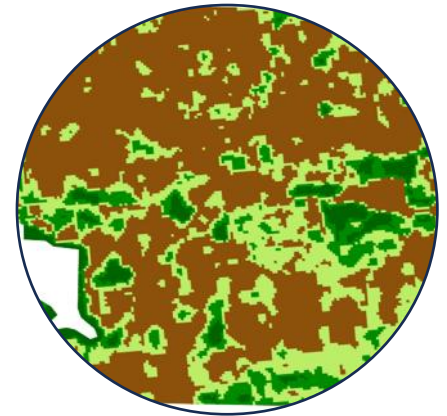
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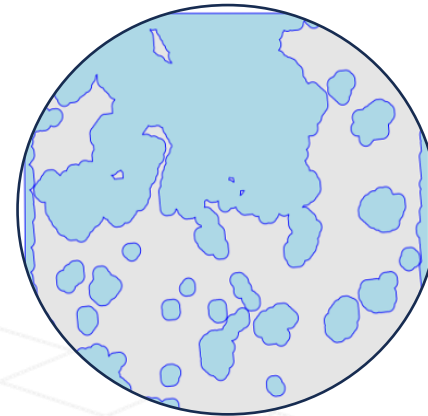
1. Changing patterns of weeds in field



2. Early detection of resistance

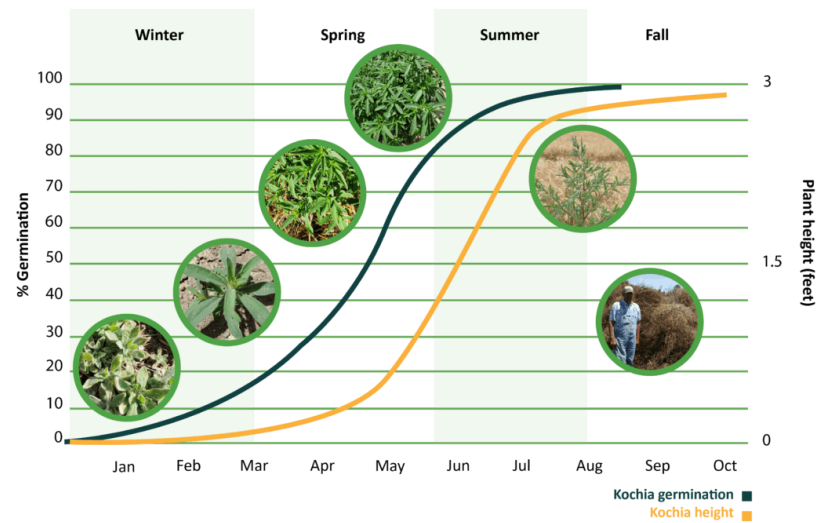


3. Predictive weed control



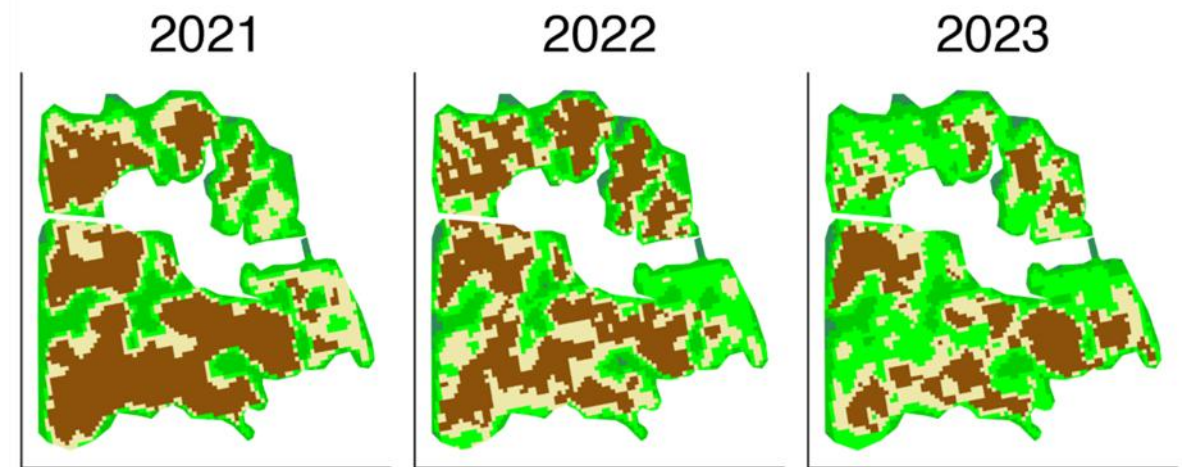
Weed patterns change within and across seasons

Kochia timing in US Midwest



Weed emergence and growth can occur over several months

Multi-year weed patterns in Alberta



Weed pressure varies across years within the same field

Continuous satellite monitoring captures these shifting patterns

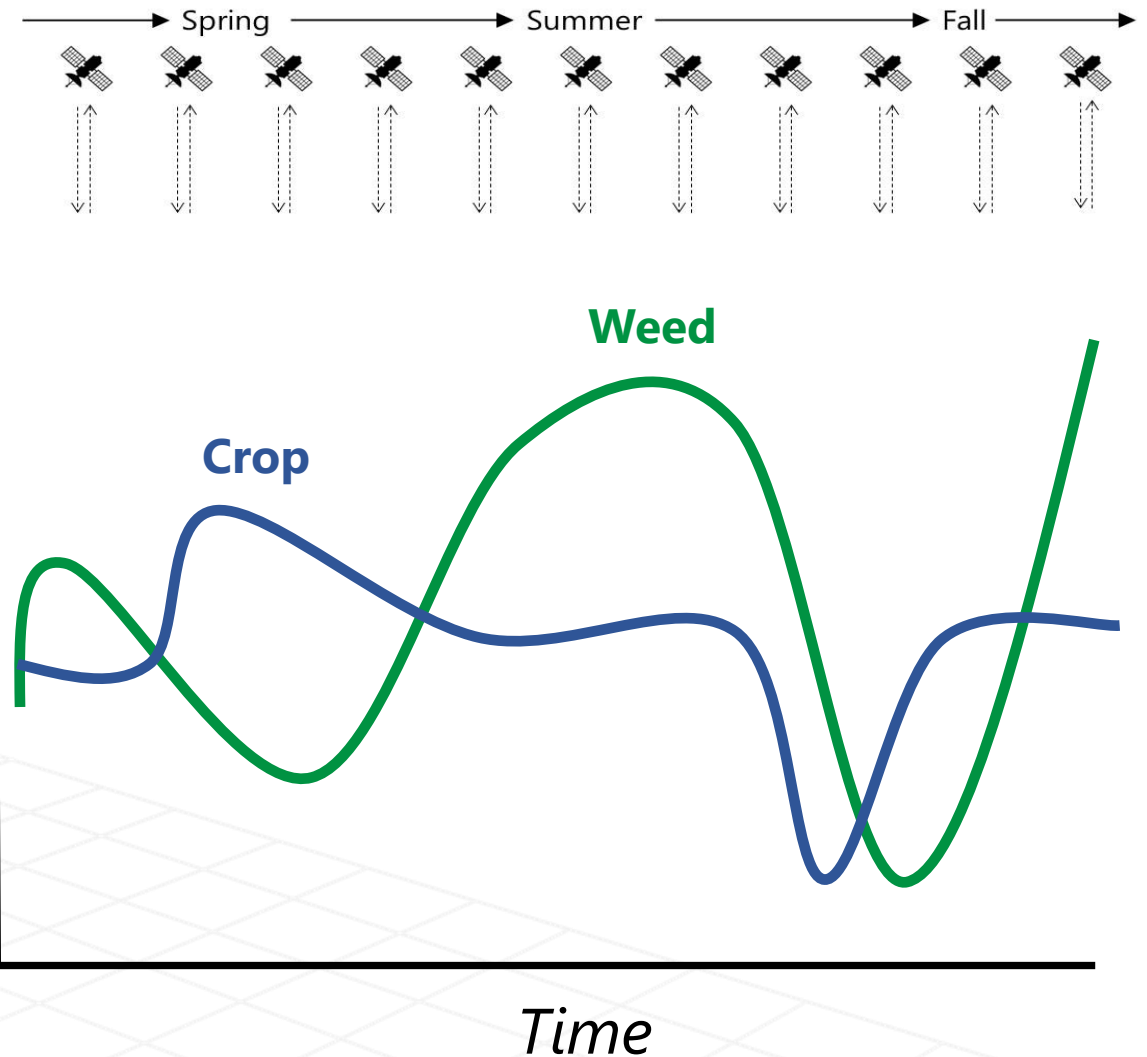
How does Geco detect weeds?

Weeds and crops show different seasonal signals in satellite imagery.

These differences may occur early, mid, or late in the growing season.

Geco's AI-powered tool uses all this relevant information to map weeds.

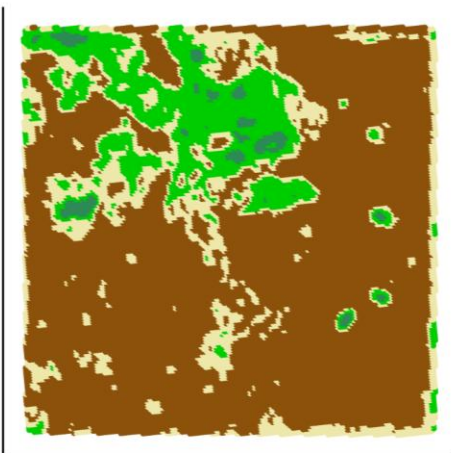
Geco composite satellite signal



Weed patterns change year over year

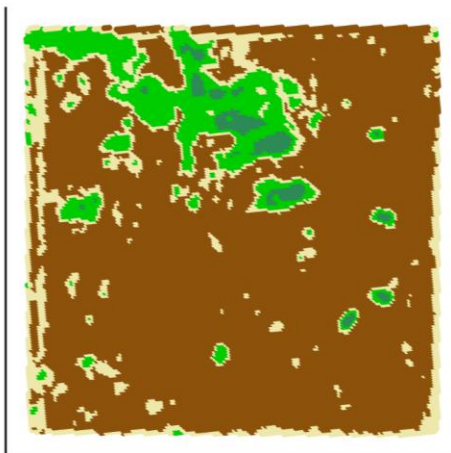
Spring Wheat

2019



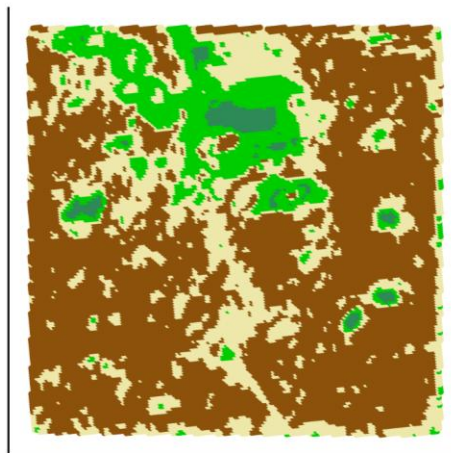
Red Lentils

2020



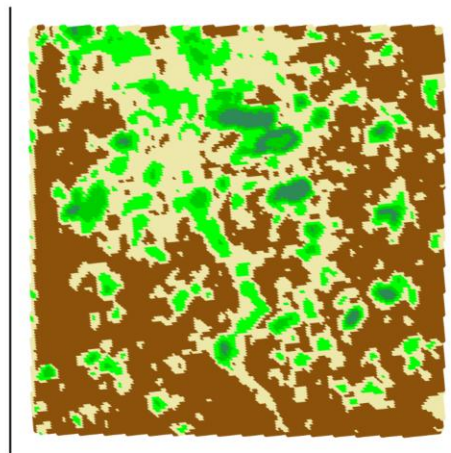
Barley

2021



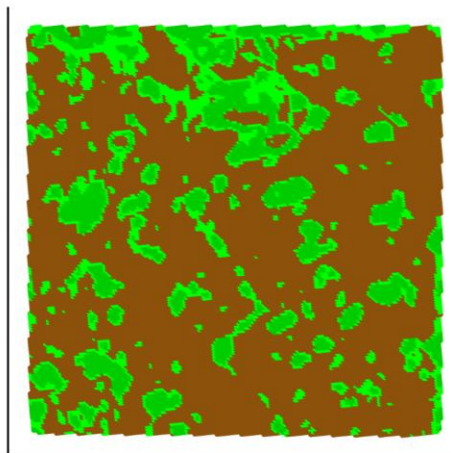
Canola

2022



Barley

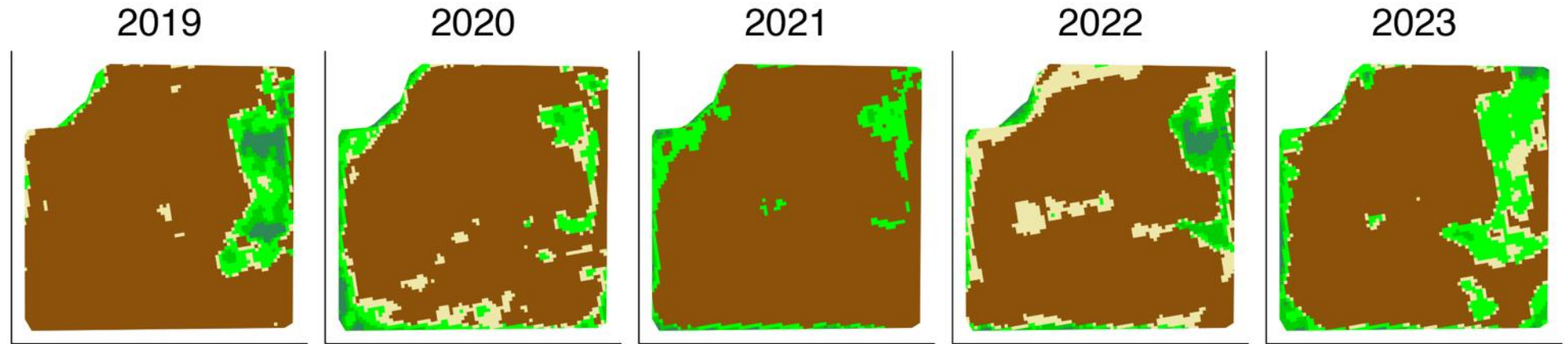
2023



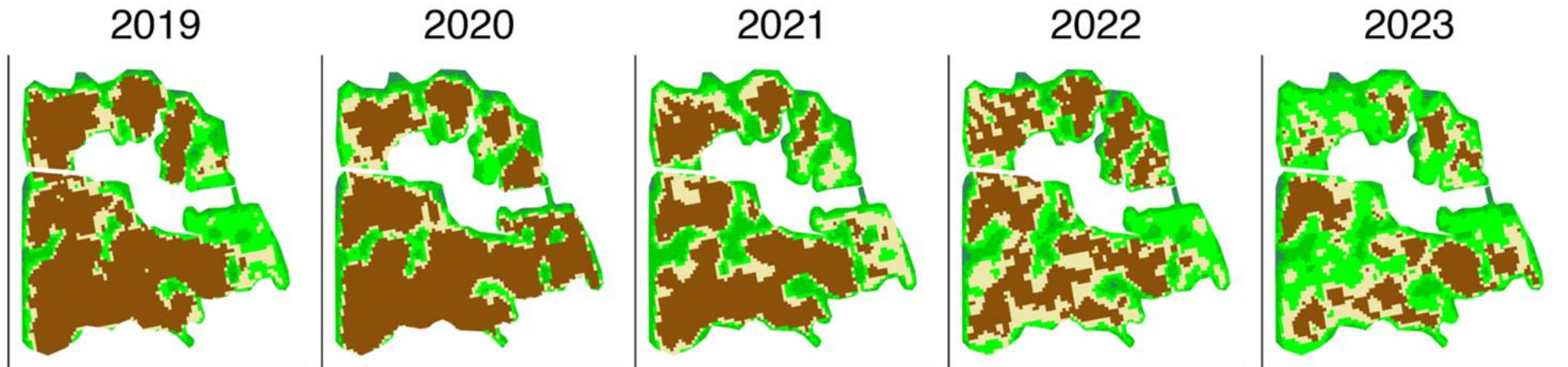
This is due to factors such as: weed patch spread, weather, soil, topography, crop competition, and herbicide options.

Weed patterns change year over year

Field 1



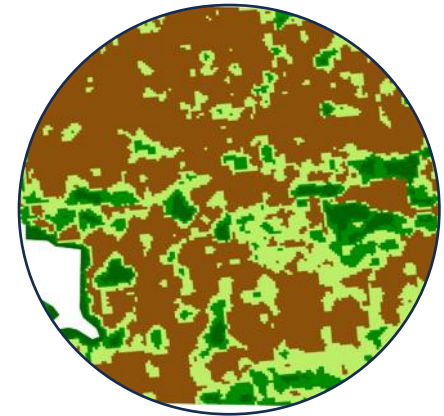
Field 2



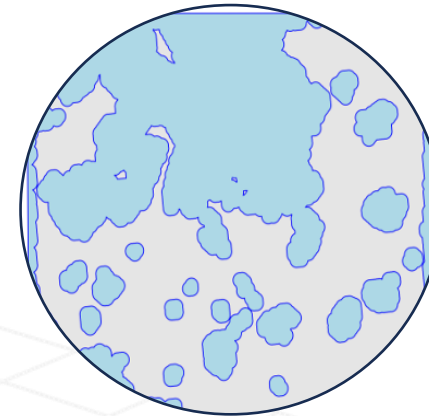
1. Changing patterns of weeds in field



2. Early detection of resistance



3. Predictive weed control



Early Detection of Herbicide Resistance

Directed scouting tool shows patches requiring expert attention and testing.

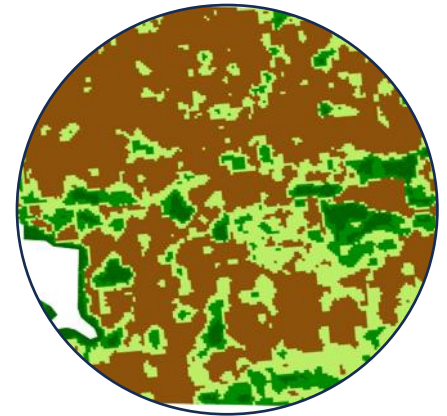


Resistance risk zone	Color on map	Potential resistance type	Latitude	Longitude
1	Purple	Groups 1 + 10	Deidentified	Deidentified
1	Teal	Group 9	Deidentified	Deidentified
2	Teal	Group 9	Deidentified	Deidentified

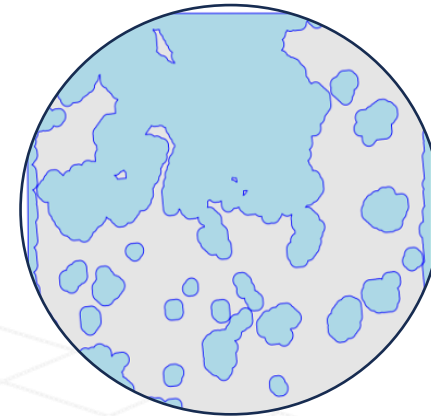
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3. Predictive weed control



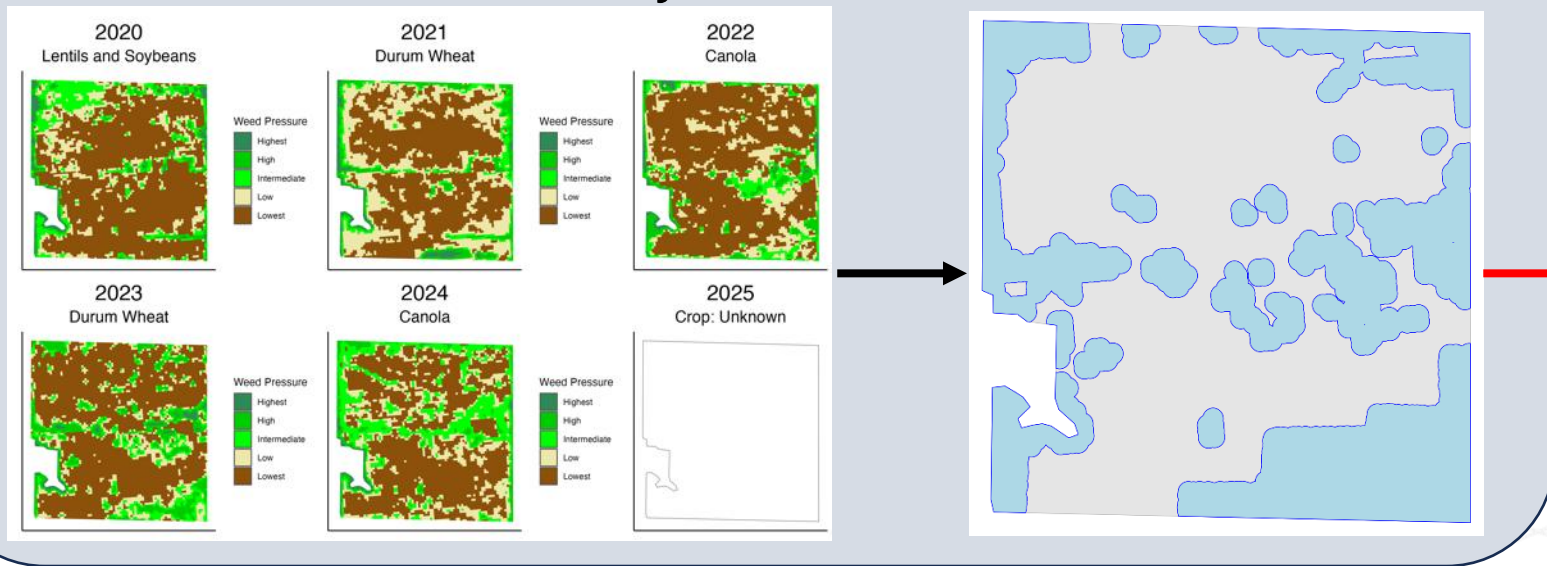
GECO Predictive Weed Control

Imagery and crop history



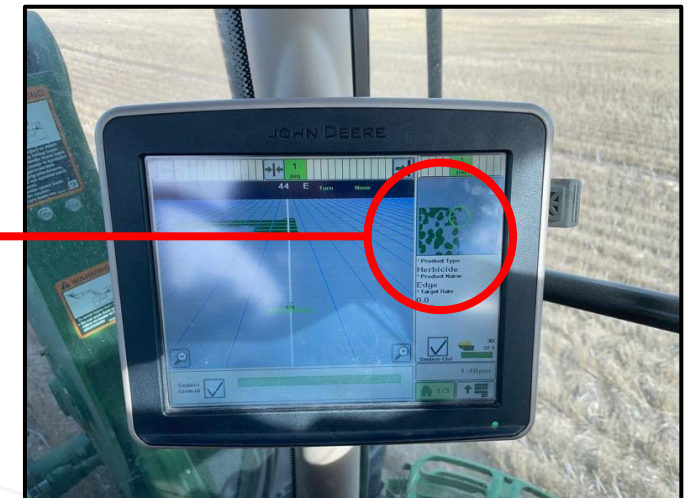
Geco weed history

Predict



Deploy

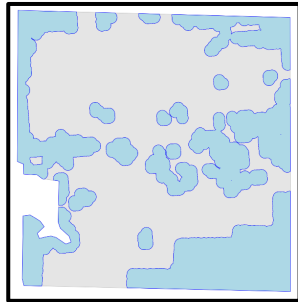
In Existing Farm Equipment



No new equipment. No new practices. Results in 1 day.

Targeted Weed Control for Problem Fields

Predictive prescription



Residual Herbicides



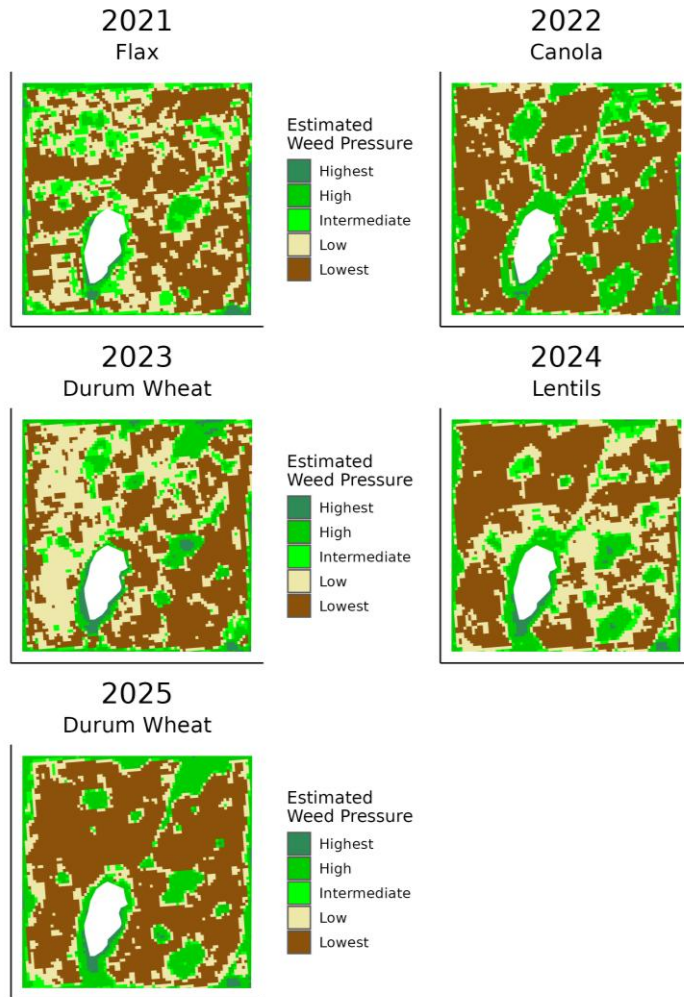
VR Seeding



Foliar Herbicides

Farm-Selected Coverage

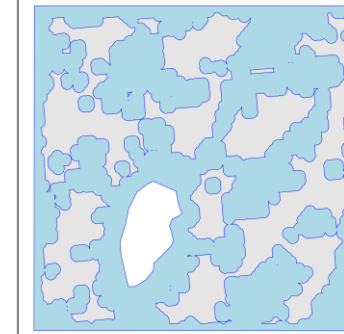
Historical weed patterns



Prediction



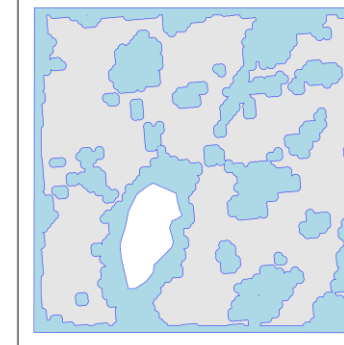
Comprehensive



Midrange



Focused



Hit more weeds



Farm selects option(s)

Save more chemical

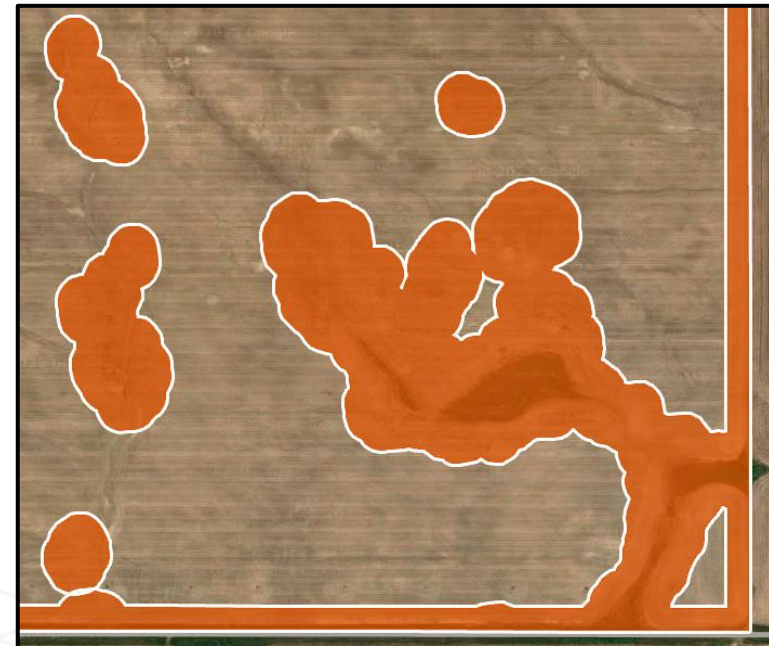
Multiple options for map deployment

Upload to existing farm equipment



Equipment automatically adjusts rates, or operator can manually adjust based on location.

View via Google Maps link on mobile device

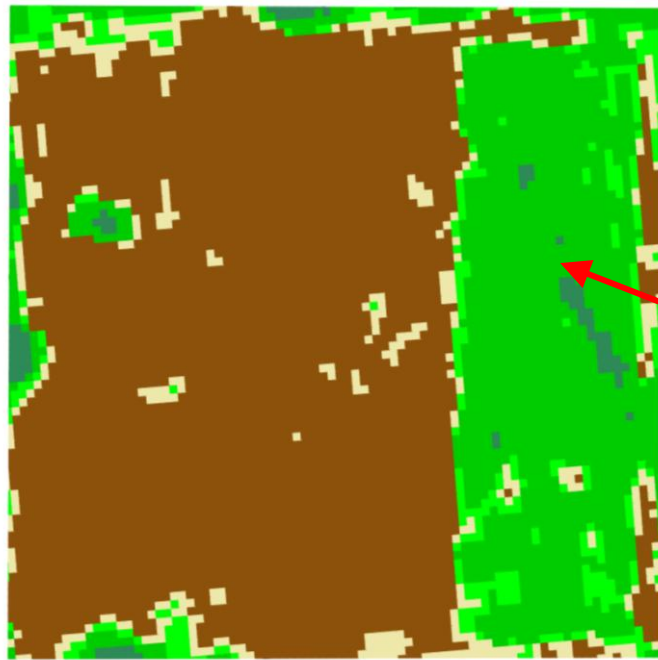


Operator manually adjusts rates based on whether they are currently within or outside of prescribed areas.

Overview

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- Quantifying economic and agronomic impact
- Example fields

Example: Impact of Seeding Rate on Weeds



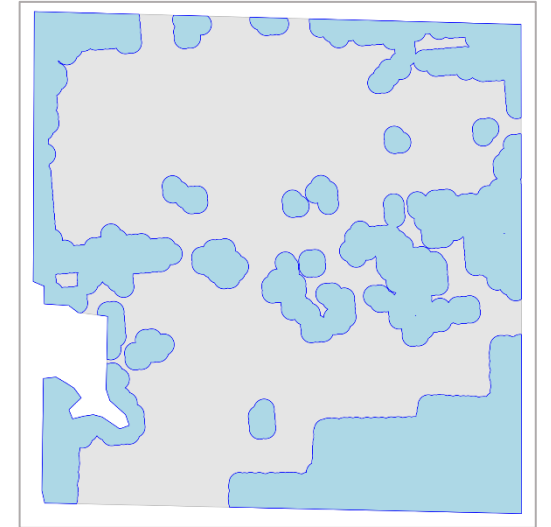
High crop density,
fewer weeds

Low crop density,
more weeds

- Herbicide applied uniformly across field
- Seed drill **partially plugged by accident** on the east side → lower planted crop density
- Significantly higher weed population in area of low crop density (as shown here)
- Weed seedbank meant this pattern “echoed” into the following seasons

Economic and Agronomic Impact

- Since our farms often decide to target **residual herbicide** and **VR seeding**, we are running trials to assess their impact



GECO

Strategic Weed Management

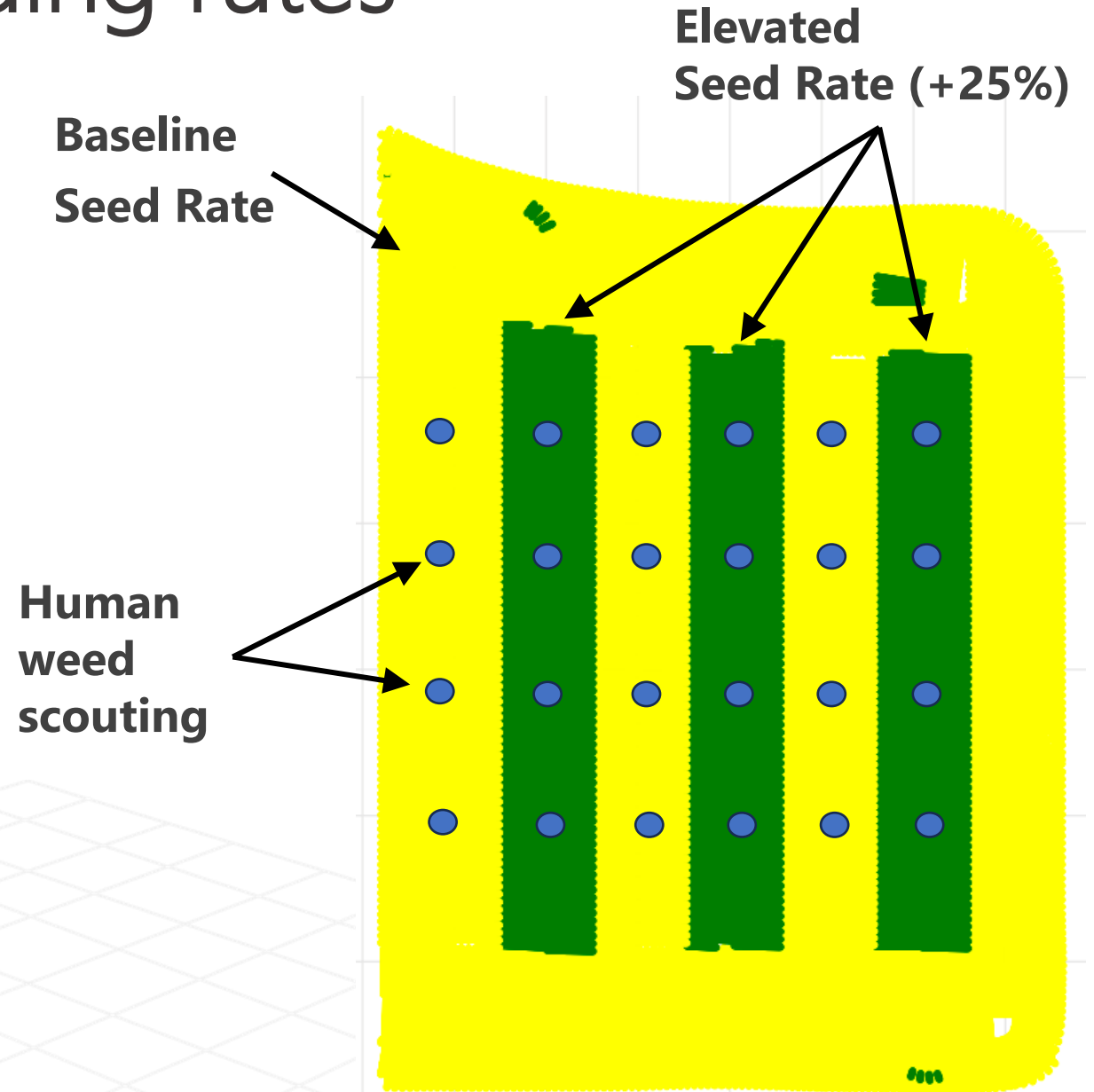
EMILI

Driving **Agriculture** Innovation

2025 Trial: targeted seeding rates

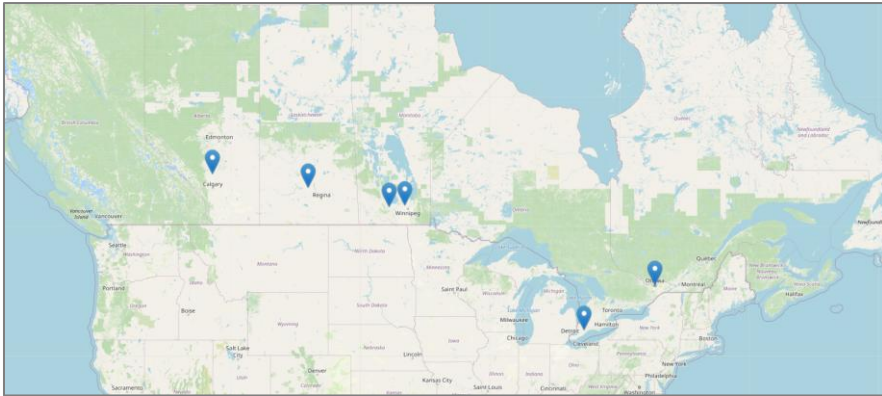
- A 25% increase in wheat (Hockley) seeding rate was associated with 7% increase in yield and 29% decrease in weeds
- **Increasing seeding rate by \$4.40/acre led to a 7x return on investment (\$32.50/acre)**

See full trial details ([LINK](#))



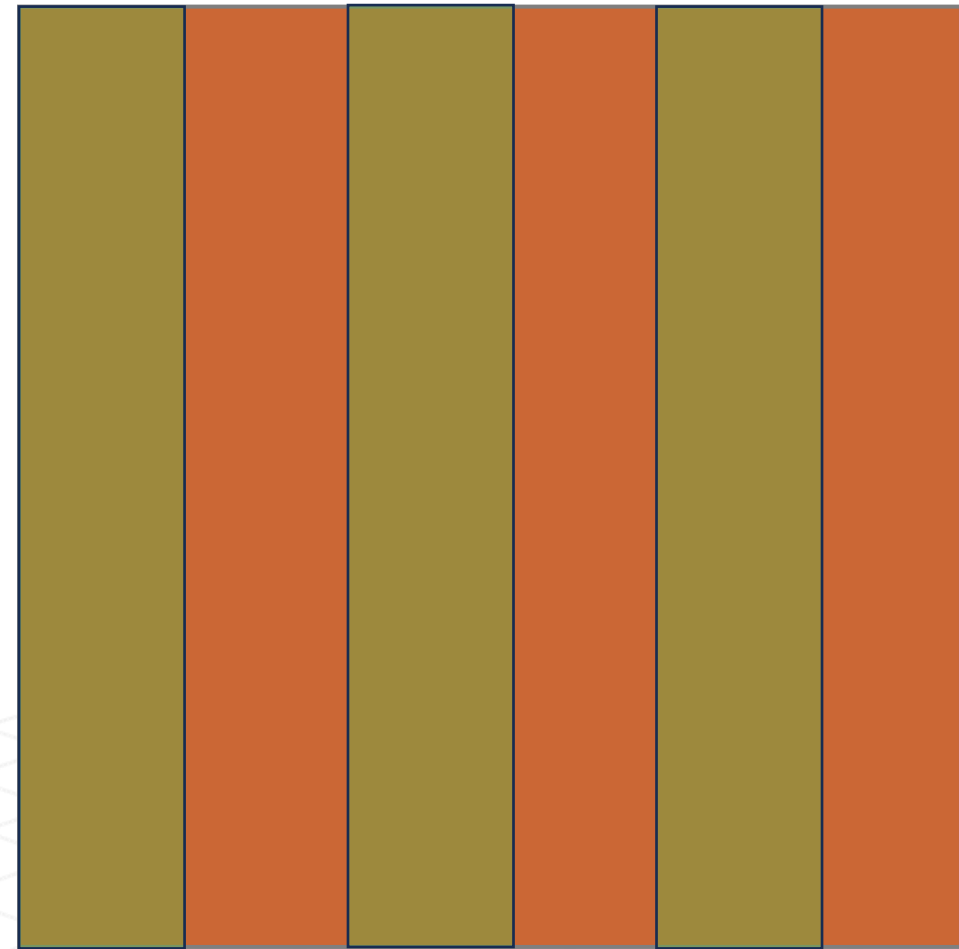
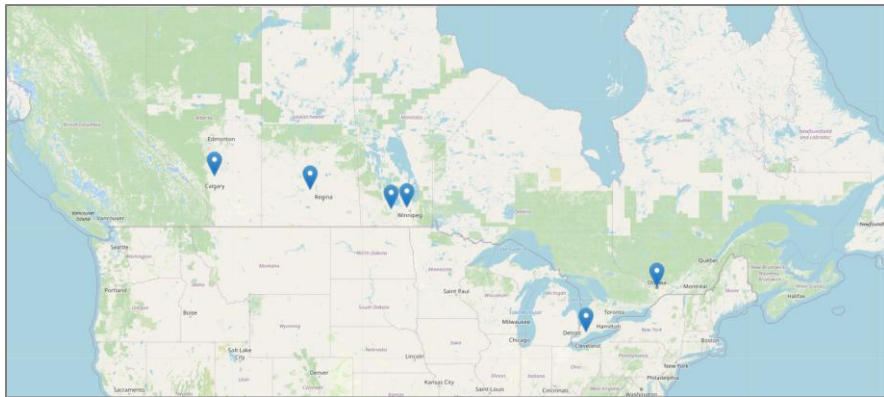
Trial Design – 2026 Season

- Cross-hatching **residual herbicide** and **VR seeding**
- Measuring impact on **yield** and **weed pressure**



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Elevated seeding

Baseline seeding

Elevated seeding

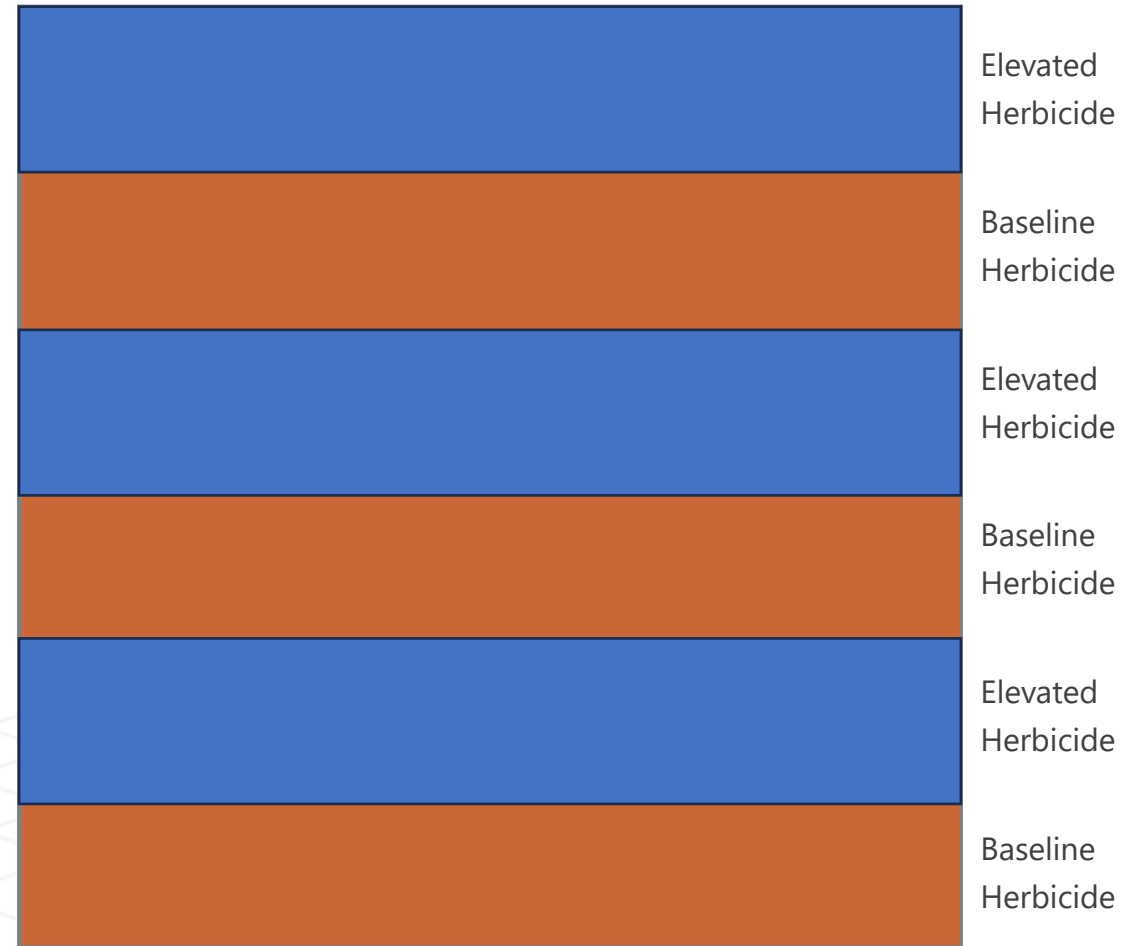
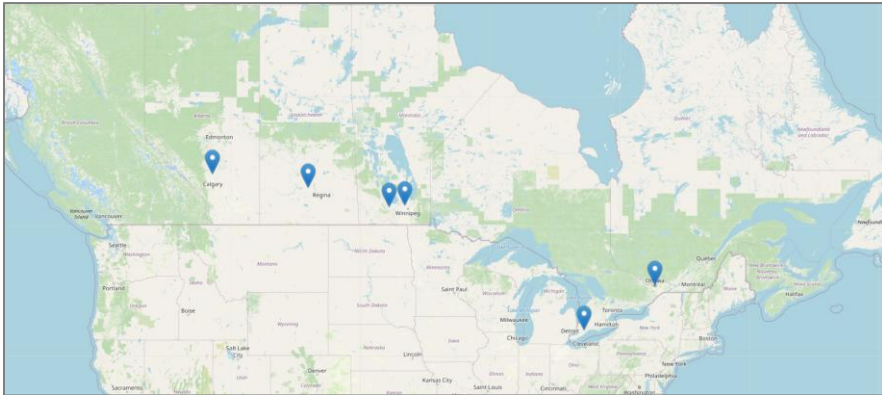
Baseline seeding

Elevated seeding

Baseline seeding

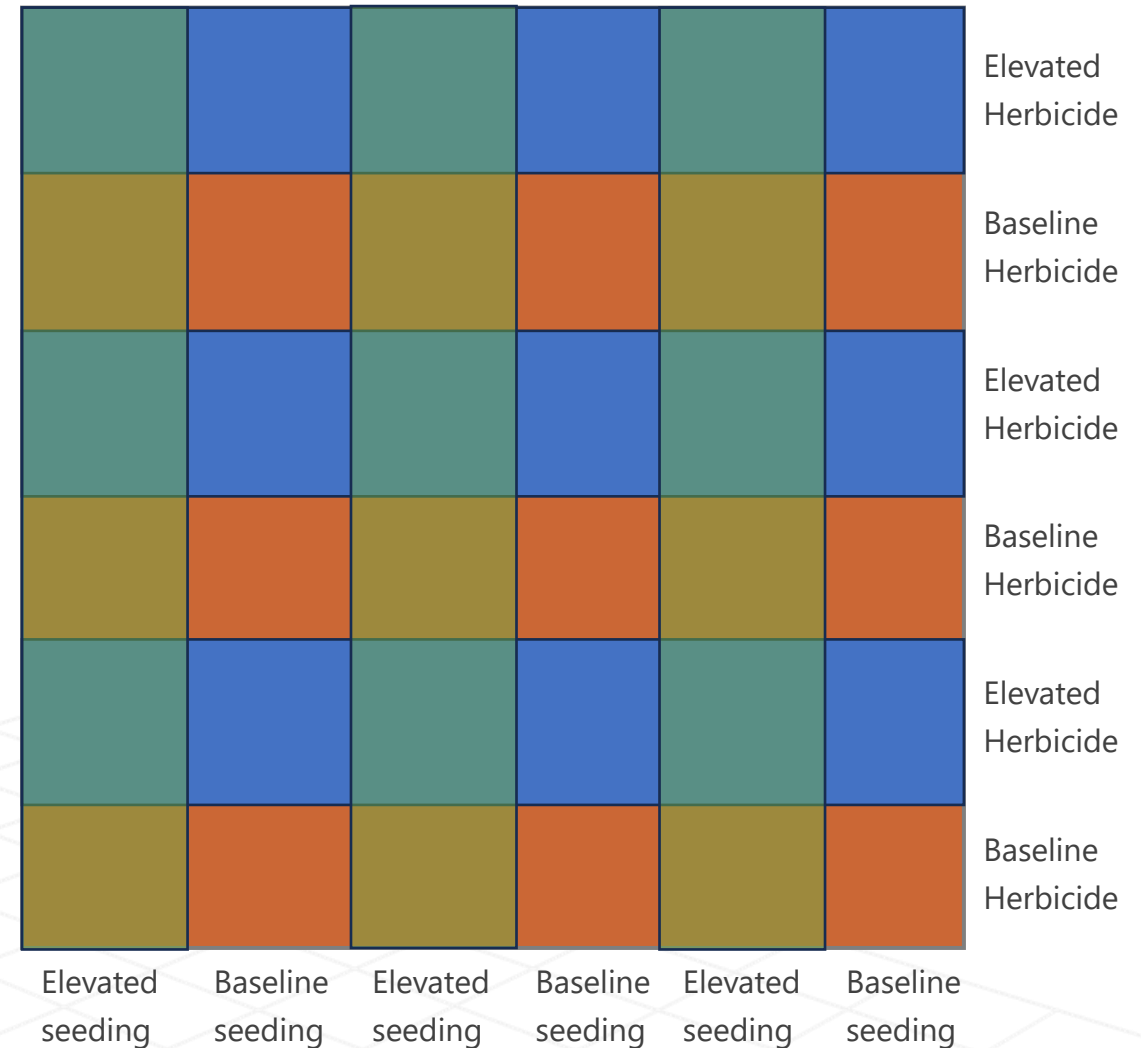
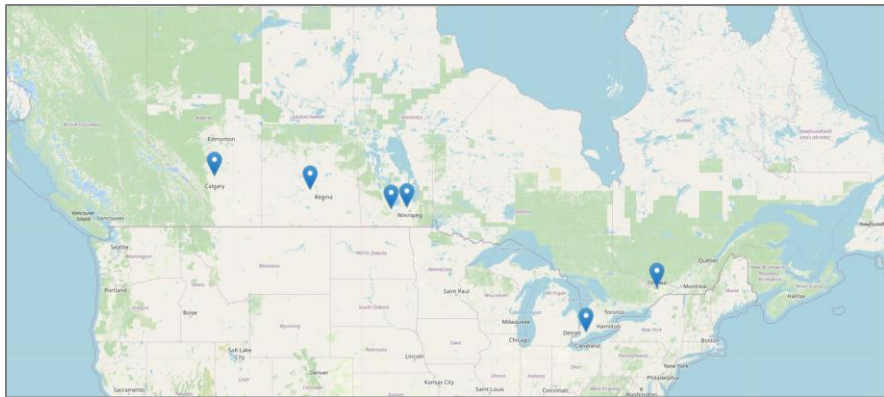
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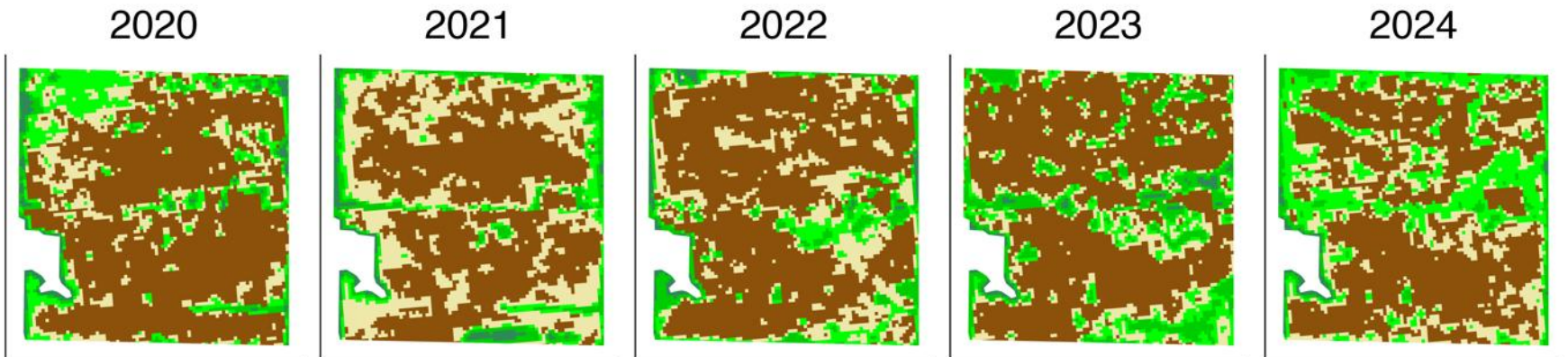
- Geco predictive weed control
- Quantifying economic and agronomic impact
- **Example fields**

GECO fields – Spring 2026



Farm 1: Saskatchewan, Canada

Weed History

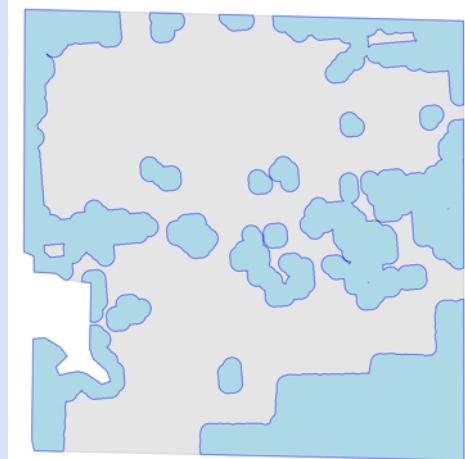


Background

Farm had been dealing with stubborn kochia patches.

Wanted to use a different, more effective residual herbicide but did not want to cover the entire field with it.

On/off herbicide prescription

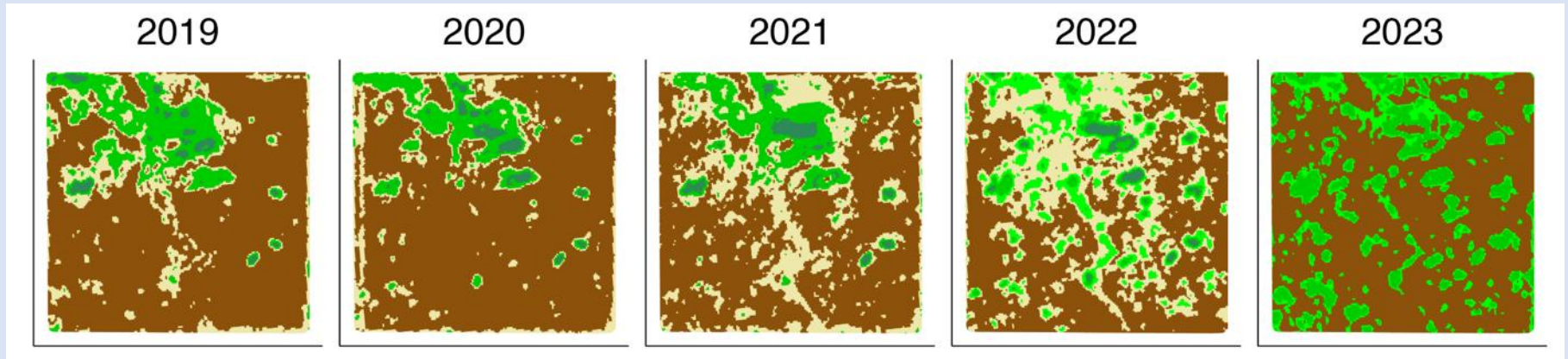


Action Taken with Geco

Edge (ethalfluralin) herbicide applied on/off at full rate in the blue areas of Geco prescription.

Farm 2: Saskatchewan, Canada

Weed History



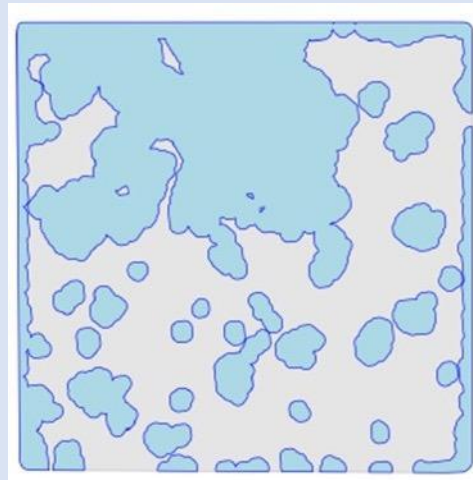
Background

Field had large, low-performing areas due to kochia patches.

Wanted to use a new herbicide and to till those areas, but was concerned with crop damage to the rest of the field.

Action Taken with Geco

Herbicide prescription

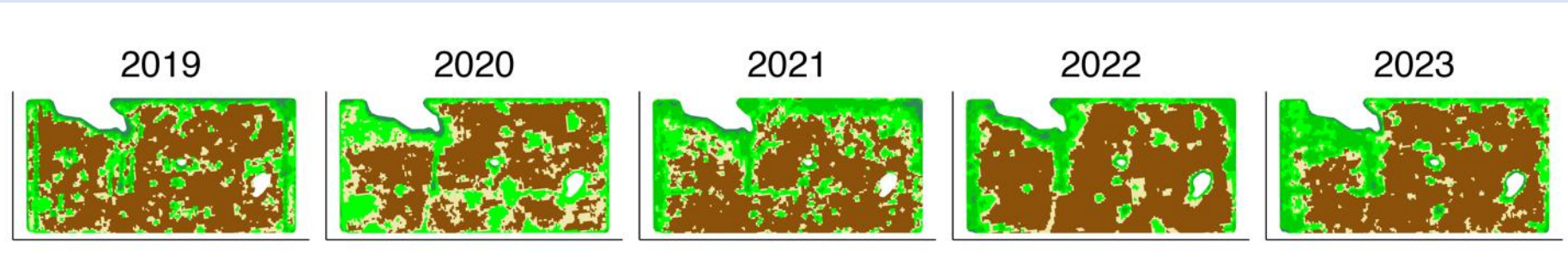


Tillage prescription



Farm 3: Saskatchewan, Canada

Weed History

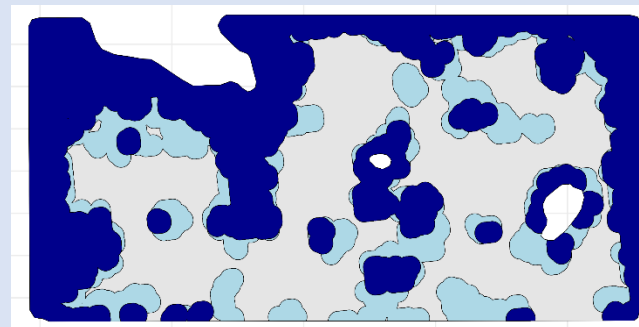


Background

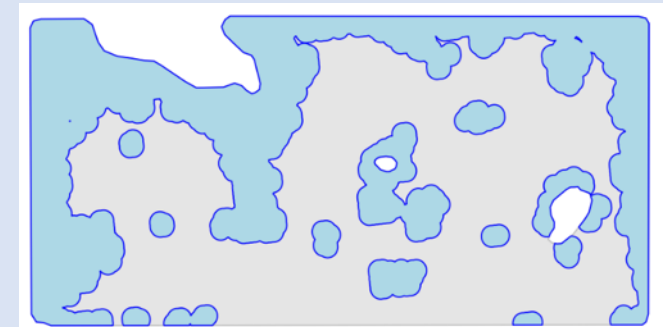
Farm had been dealing with low-performing weedy areas and wanted to manage them using multiple approaches.

Action Taken with Geco

Additional **herbicide** applied in three rates: maximum, intermediate, zero.

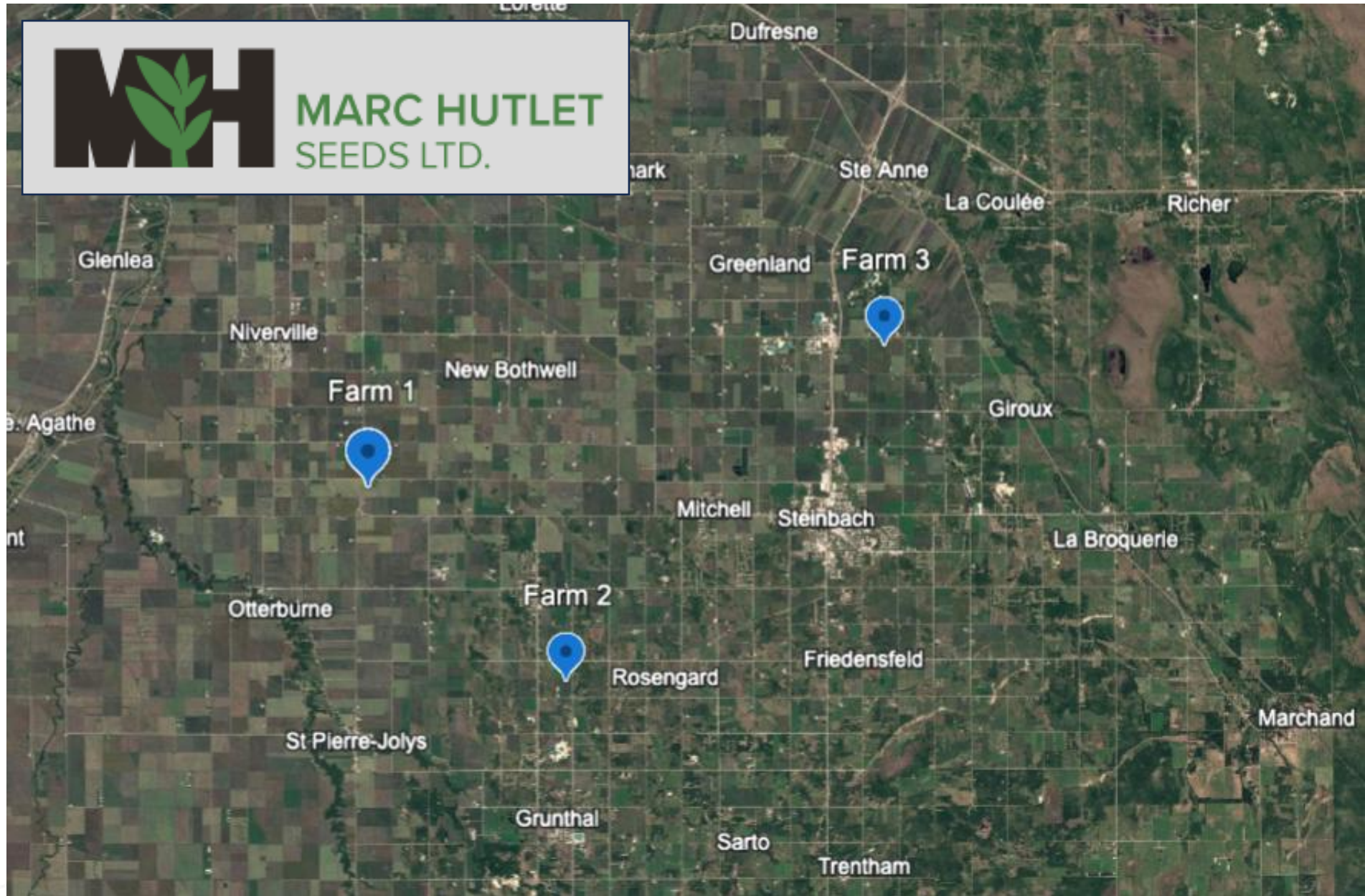


Seeding rate increased in blue areas to increase crop competition in weediest areas.



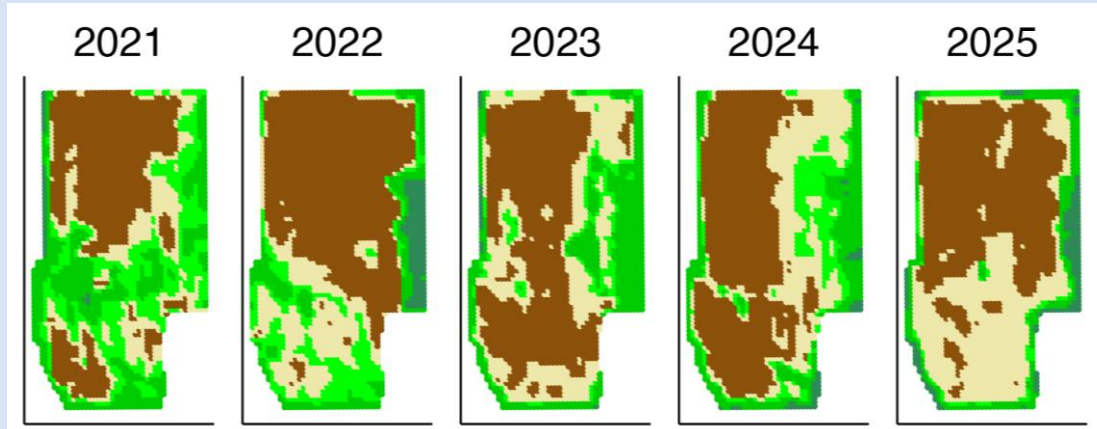


MARC HUTLET
SEEDS LTD.



Hutlet: Four Oak

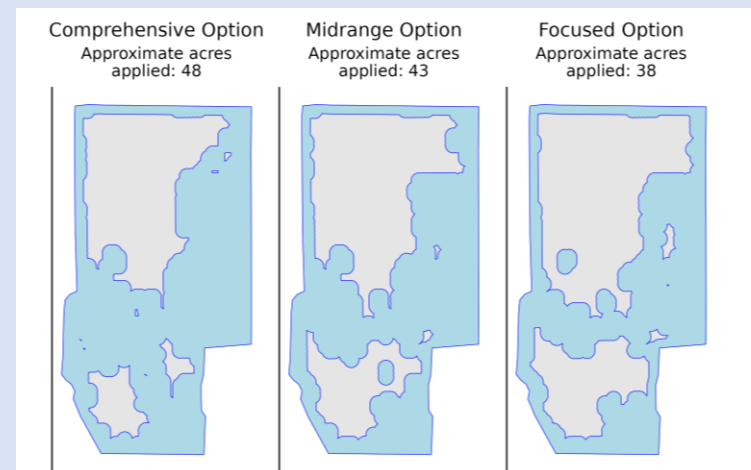
Weed History



Background

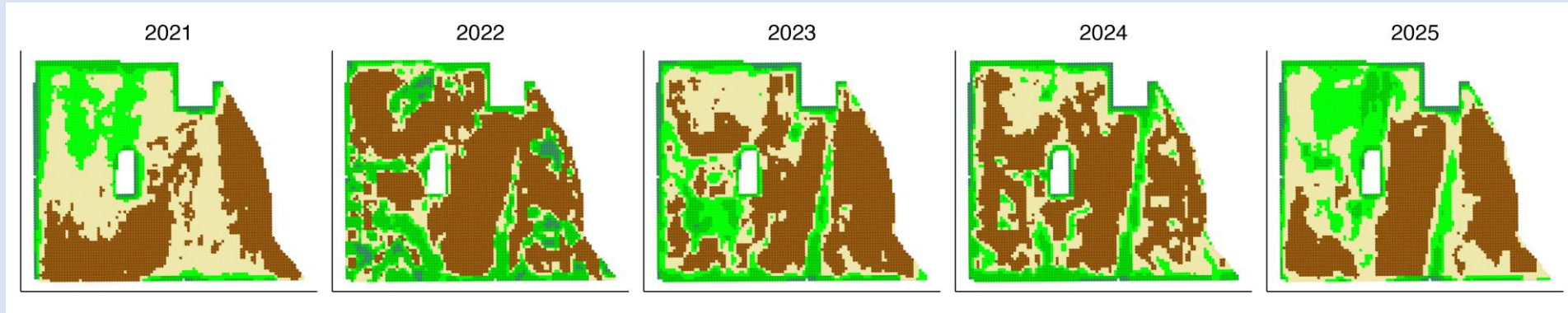
Field has issues with weeds in the peaty, tiled east area, as well as patches in the south.

Potential Actions Taken with Geco



Hutlet: Leighlee

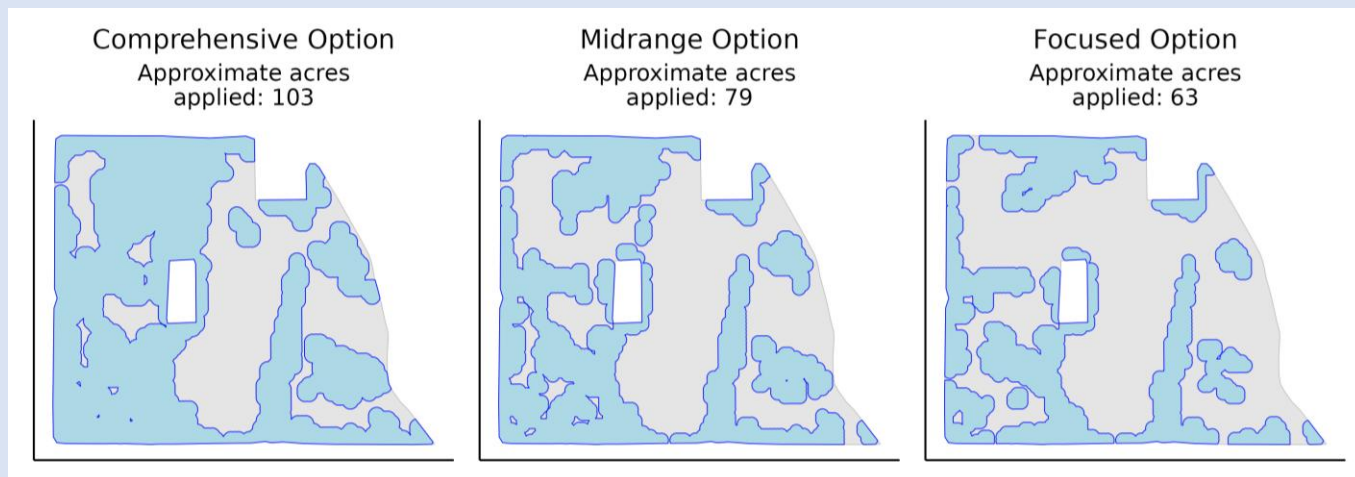
Weed History



Background

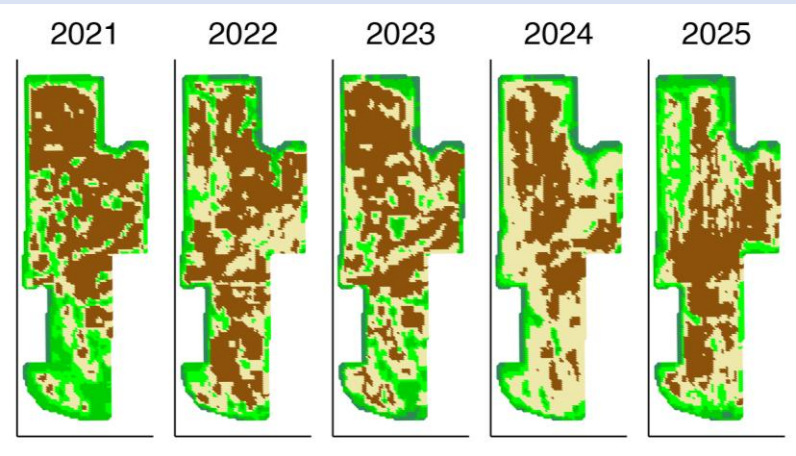
Several areas in the field have problems with weeds, sometimes related to the different soils that are present.

Potential Actions Taken with Geco



Hutlet: Legacy

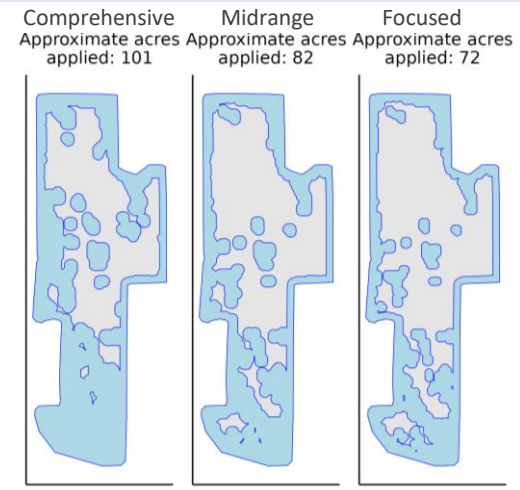
Weed History



Background

Weed problems in this field often show up in drainage areas, near bipoles, and in patchy alkaline spots throughout the field.

Potential Actions Taken with Geco



1. Contact Karis Hutlet

- karis.hutlet@plantpioneer.com, 204-392-2446

2. Share your field location

- Boundary files or field coordinates

3. Share relevant agronomic information, if you have it:

- What crops were planted the past five years?
- Top weed concerns?

4. Geco runs your analysis and reviews the results with you



Option 1: Single-Season Analysis

\$5 CAD/acre (one-time)

A detailed snapshot to guide your next herbicide or seeding decision.

Includes:

- ✓ Weed history
- ✓ Resistance detection
- ✓ Predictive prescription

Option 2: Field Remediation Plan

\$2.50 CAD/acre/year (3-year commitment)

Designed for growers who want to recover weedy areas to higher productivity over time.

Includes:

- ✓ Weed history
- ✓ Resistance detection
- ✓ Predictive prescription
- ↻ Continually updated analysis to support long-term field recovery

GECO Predictive Weed Control



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2026 promotion: buy 1 field get 1 free

Summary & Contact

If we could know where weeds will emerge in the coming season, or find resistant weeds before they spread, what could we do differently?



Contact us at
**[geco-ag.com/
contact-us](https://geco-ag.com/contact-us)**

greg.stewart@geco-ag.com

604 809 0430

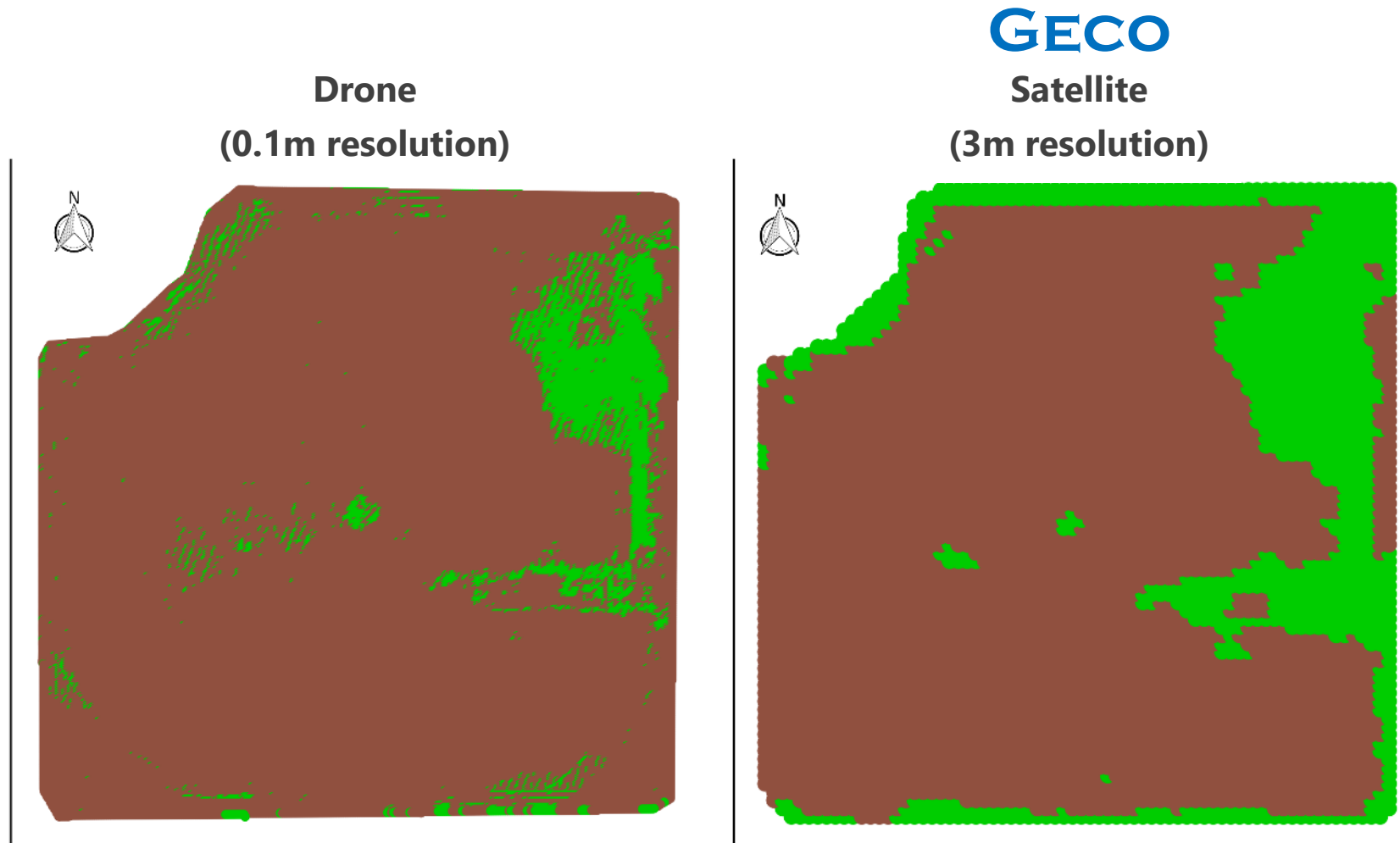
Geco in the news

- *Geco Predictive Weed Control* (2-minute animated explainer - [YouTube](#))
- *Gowan and Geco Partner to Bring Strategic Weed Management to Canadian Growers* ([link](#))
- *Future of Ag Podcast*. November 2024 ([Web](#), [Spotify](#), [Apple](#), [YouTube](#))
- *Predictive maps help weed control*, The Western Producer, December 2023 ([link](#))
- *High-tech weed control to give farmers a look into how precise spraying can be*, Grainews July 2023 ([link](#))
- *Upstream Ag Professional* - July 2023 ([link](#))
- *Recall is Risk Tolerance*, Software is Feeding the World, July 2023 ([link](#))

APPENDIX

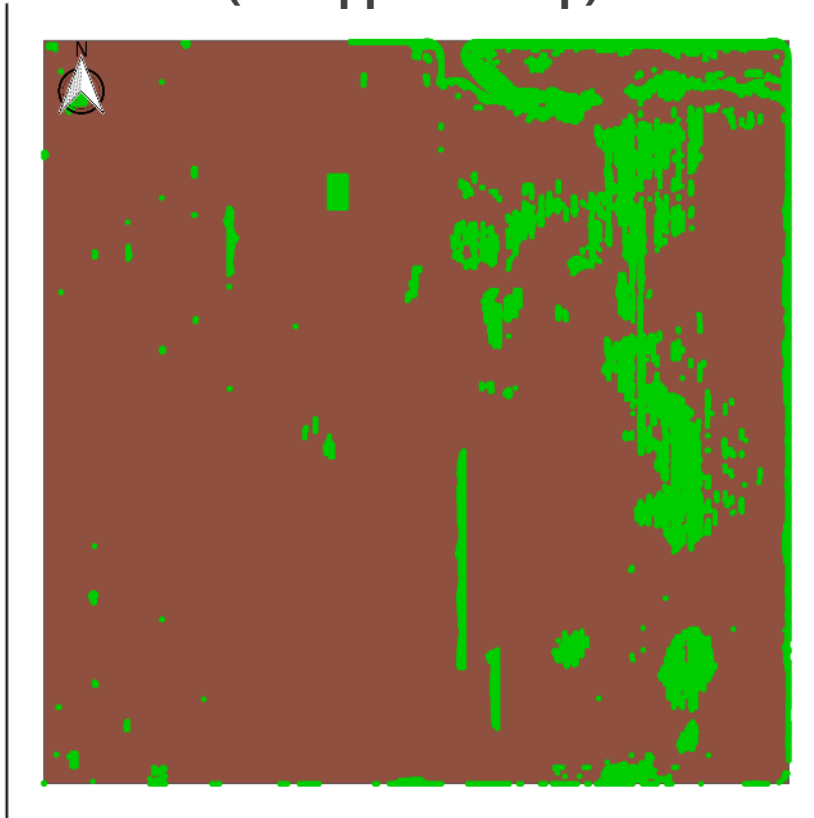
Validation

Example 1: Comparison with Drone Map

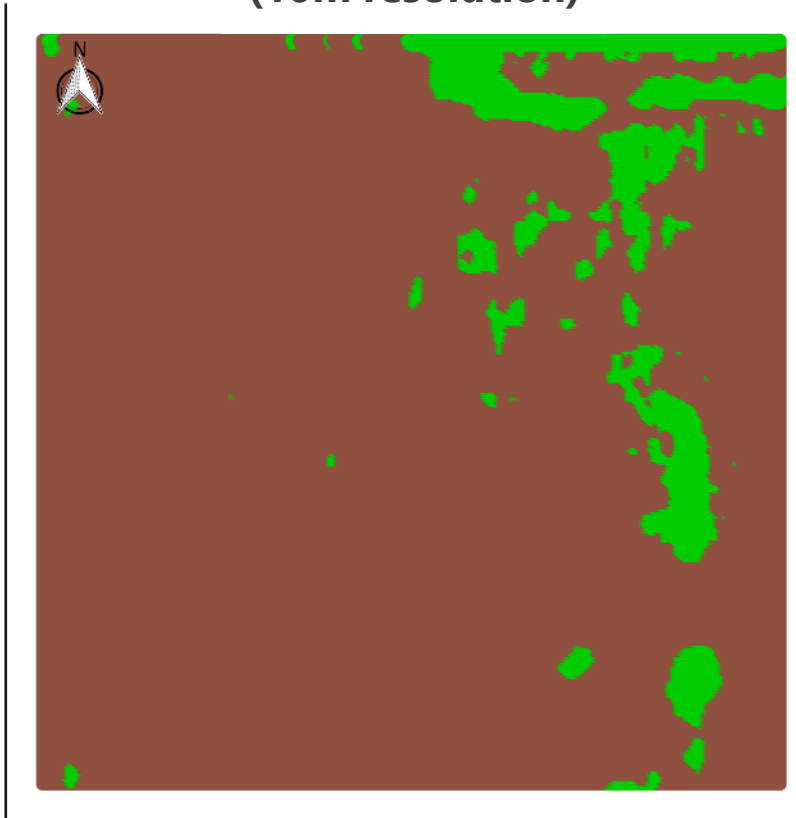


Example 2: Comparison with Optical Spot Sprayer

Spot Sprayer
("as applied" map)



GECO
Satellite
(10m resolution)



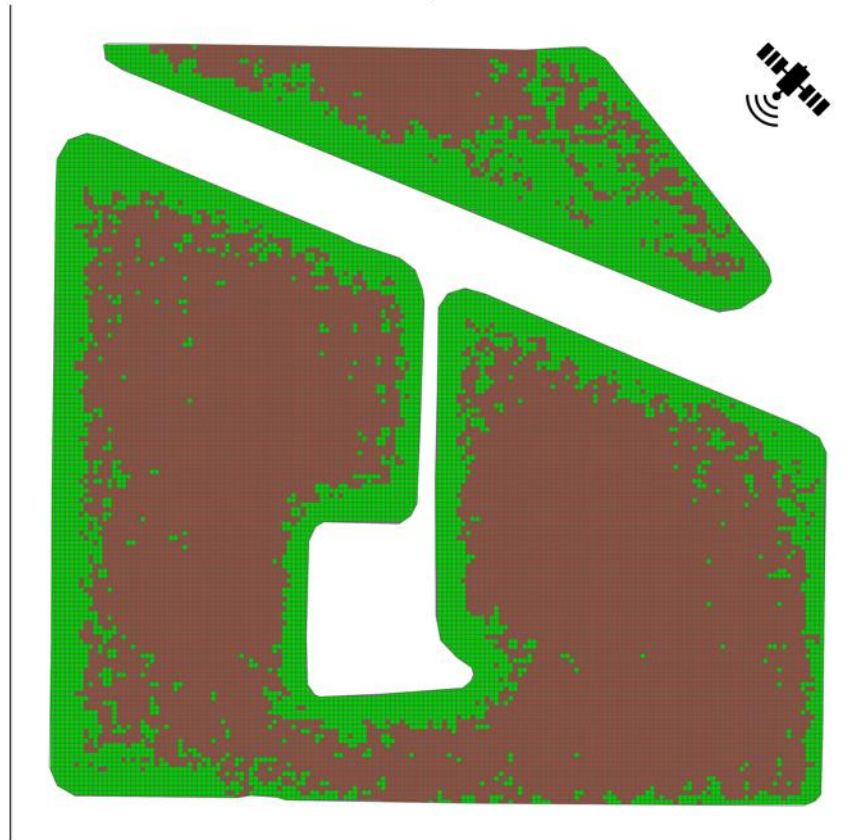
Example 3: Comparison with Drone

GECO

Weed Map: Drone



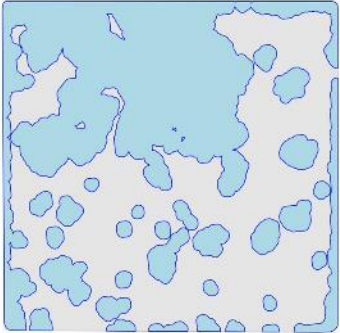
Weed Map: Satellite



Geco analysis using drone and satellite imagery obtained at the same time of year (early June) provided similar maps of kochia and other weeds in the field.

Comparison

GECO hot spot prediction for 2024 using 2019-2023 data



Independent spot sprayer map
May 2024

