



Rentabilisez votre capteur de rendement !

Utilisation de la plateforme difm.farm

Journées horticoles et grandes cultures

26 novembre 2024

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Direction régionale de la Mauricie

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation



Comment rentabiliser son capteur de rendement?

- a) En mesurant la variabilité dans ses champs pour planifier des améliorations foncières (nivellation, drainage, etc.)
- b) En calculant des coûts de production par secteur
- c) En planifiant la fertilisation
- d) En ne l'achetant pas
- e) En s'en servant pour faire des essais au champ

Plan de présentation

- Notions géomatiques sur les équipements agricoles;
- Courbe de réponse 101;
- Créer un essai et analyser les données avec la plateforme DIFM.



- [exemple_polygone.cpg](#)
- [exemple_polygone.dbf](#)
- [exemple_polygone.prj](#)
- [exemple_polygone.qix](#)
- [exemple_polygone.shp](#)
- [exemple_polygone.shx](#)

Notions géomatiques

Fichiers « shape »

Fichier « shape » en polygone



Table d'attributs

| | id | Nom | Culture | Superficie |
|---|----|-----------------|---------|------------|
| 1 | 1 | Champ_Jean-Guy | Blé | 59,534215 |
| 2 | 2 | Champ_Jean_Paul | Soya | 32,462750 |

Fichier « shape » en ligne



Table d'attributs

| | id | Nom | Longueur |
|---|----|--------------------------|-------------|
| 1 | 1 | Haie_brise_vent_feuillus | 1193,533785 |
| 2 | 2 | Haie_arbustes | 497,403928 |
| 3 | 3 | Haie arbustes #2 | 302,445322 |

Fichier « shape » en points



Table d'attributs

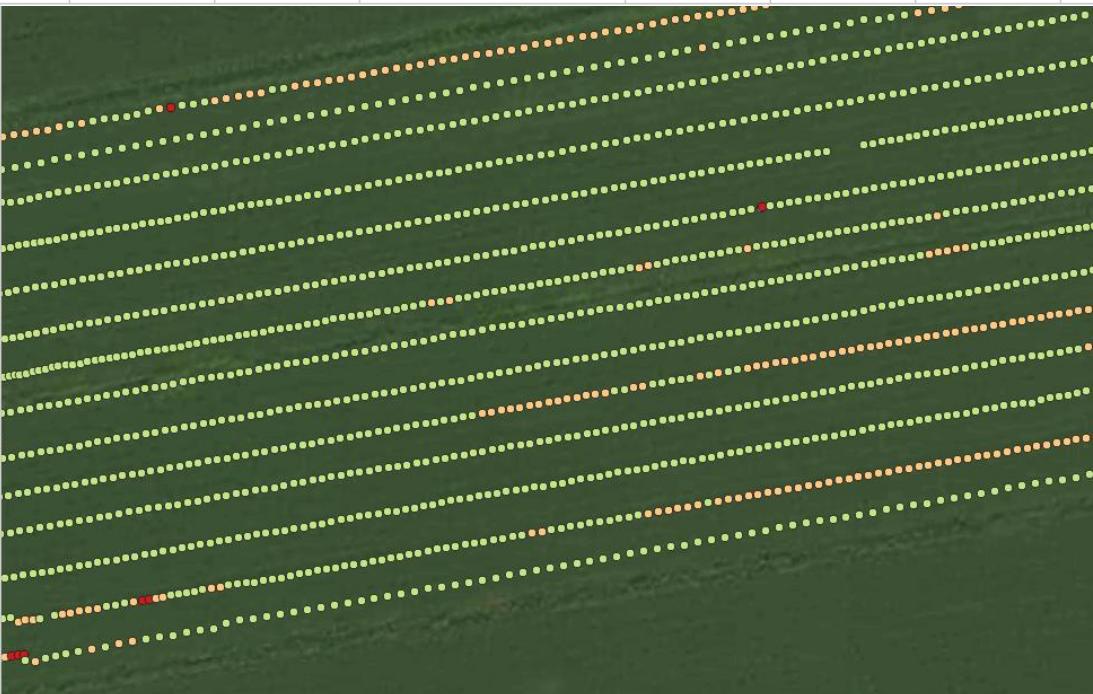
| | id | Nom | Poids | Note |
|---|----|----------------------|-------------|--------------|
| 1 | 1 | Échantillon amarante | 12,000000 | Présence ... |
| 2 | 2 | Échantillon de sol | 500,000000 | Sableux |
| 3 | 3 | Cuvette | <i>NULL</i> | à réparer |

Fichier d'une batteuse : « shape » de type point



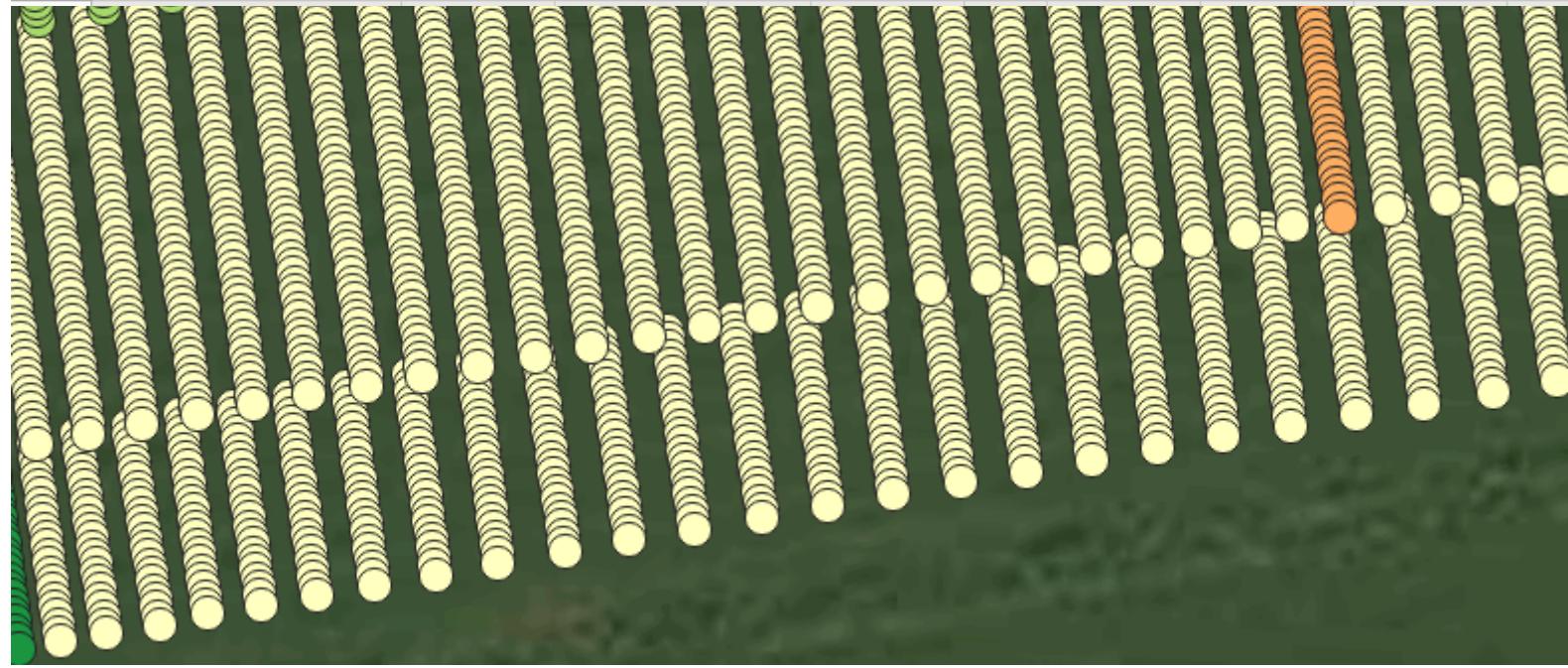
Fichier d'une batteuse : 1 point par seconde

| | DISTANCE | SWATHWIDTH | VRYIELDMAS | SECTIONID | Crop | WetMass | Moisture | Time | Heading | VARIETY | Elevation | IsoTime | lachin | FUEL | VEHICLSPEED | DRYMATTER |
|----|------------|------------|------------|-----------|------|------------|--------------|-----------------------|--------------|---------|--------------|-------------------|--------|------------|-------------|-------------|
| 8 | 0,693 | 9,14400000 | 3,01682618 | 2050 | 173 | 3,01682618 | 10,400000... | 11/16/2023 3:15:44 PM | 78,792354... | P8294AM | 36,306234... | 2023-11-16T15:... | 1 | 0,02019677 | 2,12188250 | 89,60000000 |
| 9 | 0,783 | 9,14400000 | 2,35178537 | 2050 | 173 | 2,35178537 | 10,400000... | 11/16/2023 3:15:45 PM | 78,574602... | P8294AM | 36,365234... | 2023-11-16T15:... | 1 | 0,02000139 | 2,56468250 | 89,60000000 |
| 10 | 0,829 | 9,14400000 | 2,15823067 | 2050 | 173 | 2,15823067 | 10,400000... | 11/16/2023 3:15:46 PM | 77,756725... | P8294AM | 36,454234... | 2023-11-16T15:... | 1 | 0,0198625 | 2,57332250 | 89,60000000 |
| 11 | 0,703 | 9,14400000 | 2,48229995 | 2050 | 173 | 2,48229995 | 10,400000... | 11/16/2023 3:15:47 PM | 78,379461... | P8294AM | 36,419234... | 2023-11-16T15:... | 1 | 0,01924234 | 2,74900250 | 89,60000000 |
| 12 | 0,584 | 9,14400000 | 3,73334112 | 2050 | 173 | 3,73334112 | 10,400000... | 11/16/2023 3:15:48 PM | 77,764041... | P8294AM | 36,388234... | 2023-11-16T15:... | 1 | 0,0198859 | 2,44948250 | 89,60000000 |
| 13 | 0,66751275 | 9,14400000 | 4,42705868 | 2050 | 173 | 4,42705868 | 10,400000... | 11/16/2023 3:15:49 PM | 78,231927... | P8294AM | 36,351578... | 2023-11-16T15:... | 1 | 0,02099896 | 2,37477250 | 89,60000000 |
| 14 | 0,63878187 | 9,14400000 | 6,09780334 | 2050 | 173 | 6,09780334 | 10,400000... | 11/16/2023 3:15:50 PM | 78,481381... | P8294AM | 36,343578... | 2023-11-16T15:... | 1 | 0,01976481 | 2,64106750 | 89,60000000 |
| 15 | 0,77878187 | 9,14400000 | 6,16535337 | 2050 | 173 | 6,16535337 | 10,400000... | 11/16/2023 3:15:51 PM | 78,940520... | P8294AM | 36,305578... | 2023-11-16T15:... | 1 | 0,02101667 | 2,67130750 | 89,60000000 |



Applicateur de 32-0-0 : fichier de type point – 1 entrée/buse/seconde

| | Time | Heading | DISTANCE | ATHWID | Product | CTION | AppliedRate | ControlRate | TargetRate | Elevation | IsoTime | Machine | FUEL | VEHICLSPEED | difference |
|----|-----------------------|--------------|------------|--------|---------|-------|--------------|--------------|--------------|--------------|------------------|---------|------------|-------------|------------|
| 52 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1566 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 53 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1567 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 54 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1568 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 55 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1569 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 56 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1570 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 57 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1571 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 58 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1572 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 59 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1573 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 60 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1574 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 61 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1575 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 62 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1576 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |
| 63 | 6/23/2023 10:50:11 PM | 77,857672... | 1,88000000 | 0,508 | 32-0-0 | 1577 | 348,58000... | 235,00000... | 235,00000... | 35,502844... | 2023-06-23T22... | 1 | 0,00022568 | 6,80184000 | 113,580 |



Ligne AB : un fichier « shape » en ligne

(rien d'utile dans la table d'attributs)

| ab_id | |
|-------|---|
| 1 | 2 |

Pour aligner la machinerie selon :

- l'emplacement
- la direction



Fichier de prescription lu par un applicateur (semoir, épandeur, pulvérisateur)

Type : polygones

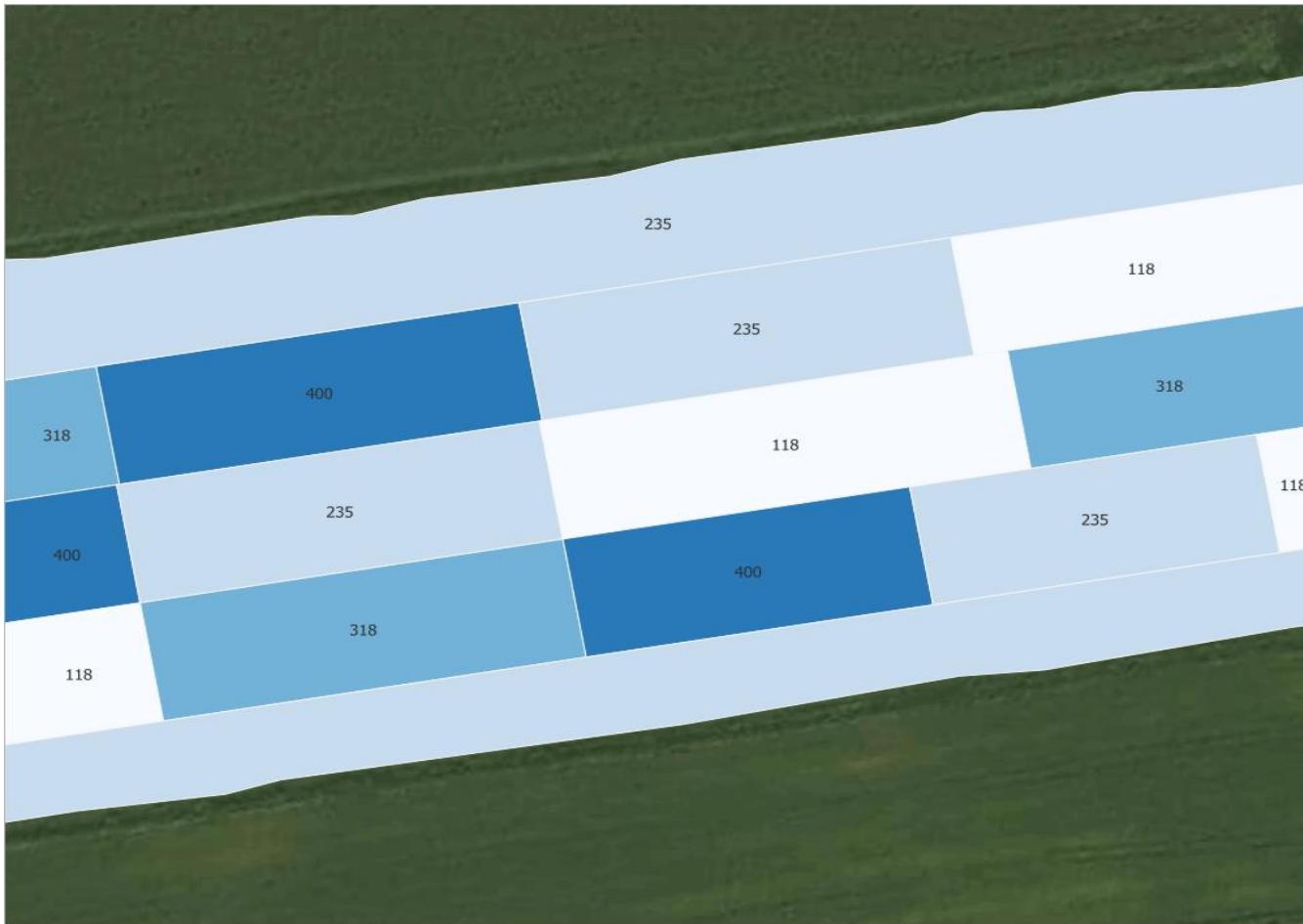


Table d'attributs : 1 colonne utile par intrant

| | tgn |
|----|--------------|
| 1 | 235,00000... |
| 2 | 118,00000... |
| 3 | 318,00000... |
| 4 | 400,00000... |
| 5 | 235,00000... |
| 6 | 118,00000... |
| 7 | 318,00000... |
| 8 | 400,00000... |
| 9 | 235,00000... |
| 10 | 118,00000... |

Semoir : fichier shape en point (1 par seconde)

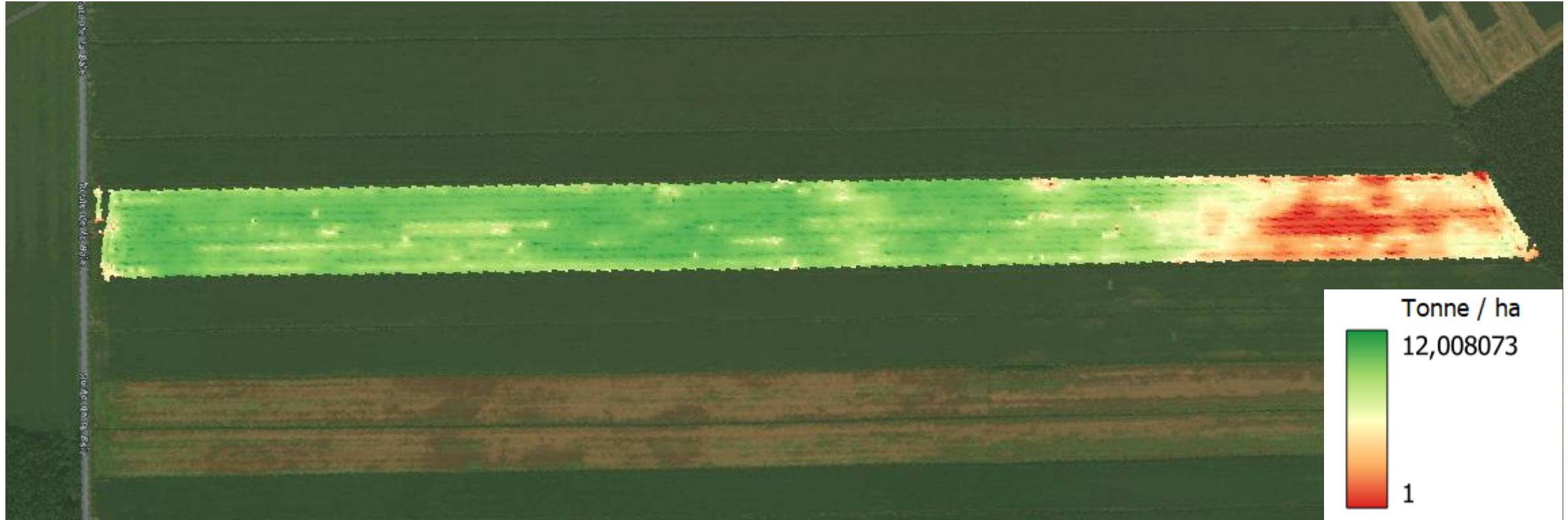
| | Time | Crop | AppliedRate | SWATHWIDTH | DISTANCE | Heading | SECTIONID | ControlRate | TargetRate | Variety | Elevation | IsoTime | Machine |
|---|---------------------|------|--------------|------------|------------|--------------|-----------|-------------|--------------|-----------|-------------|--------------|---------|
| 1 | 9/2/2022 5:34:02 PM | 13 | 130,58000... | 3,04000000 | 1,33000000 | 133,98792... | 10632 | 0 | 120,00000... | Pois 4010 | 26,01445684 | 2022-09-0... | 1 |
| 2 | 9/2/2022 5:34:02 PM | 13 | 129,74000... | 3,04000000 | 1,33000000 | 133,98792... | 10649 | 0 | 120,00000... | Pois 4010 | 26,01445684 | 2022-09-0... | 1 |
| 3 | 9/2/2022 5:34:02 PM | 13 | 129,92000... | 3,04000000 | 1,33000000 | 133,98792... | 10666 | 0 | 120,00000... | Pois 4010 | 26,01445684 | 2022-09-0... | 1 |
| 4 | 9/2/2022 5:34:02 PM | 13 | 133,10000... | 3,04000000 | 1,33000000 | 133,98792... | 10683 | 0 | 120,00000... | Pois 4010 | 26,01445684 | 2022-09-0... | 1 |
| 5 | 9/2/2022 5:34:03 PM | 13 | 130,58000... | 3,04000000 | 1,32500000 | 134,22386... | 10632 | 0 | 120,00000... | Pois 4010 | 26,00045684 | 2022-09-0... | 1 |
| 6 | 9/2/2022 5:34:03 PM | 13 | 129,74000... | 3,04000000 | 1,32500000 | 134,22386... | 10649 | 0 | 120,00000... | Pois 4010 | 26,00045684 | 2022-09-0... | 1 |



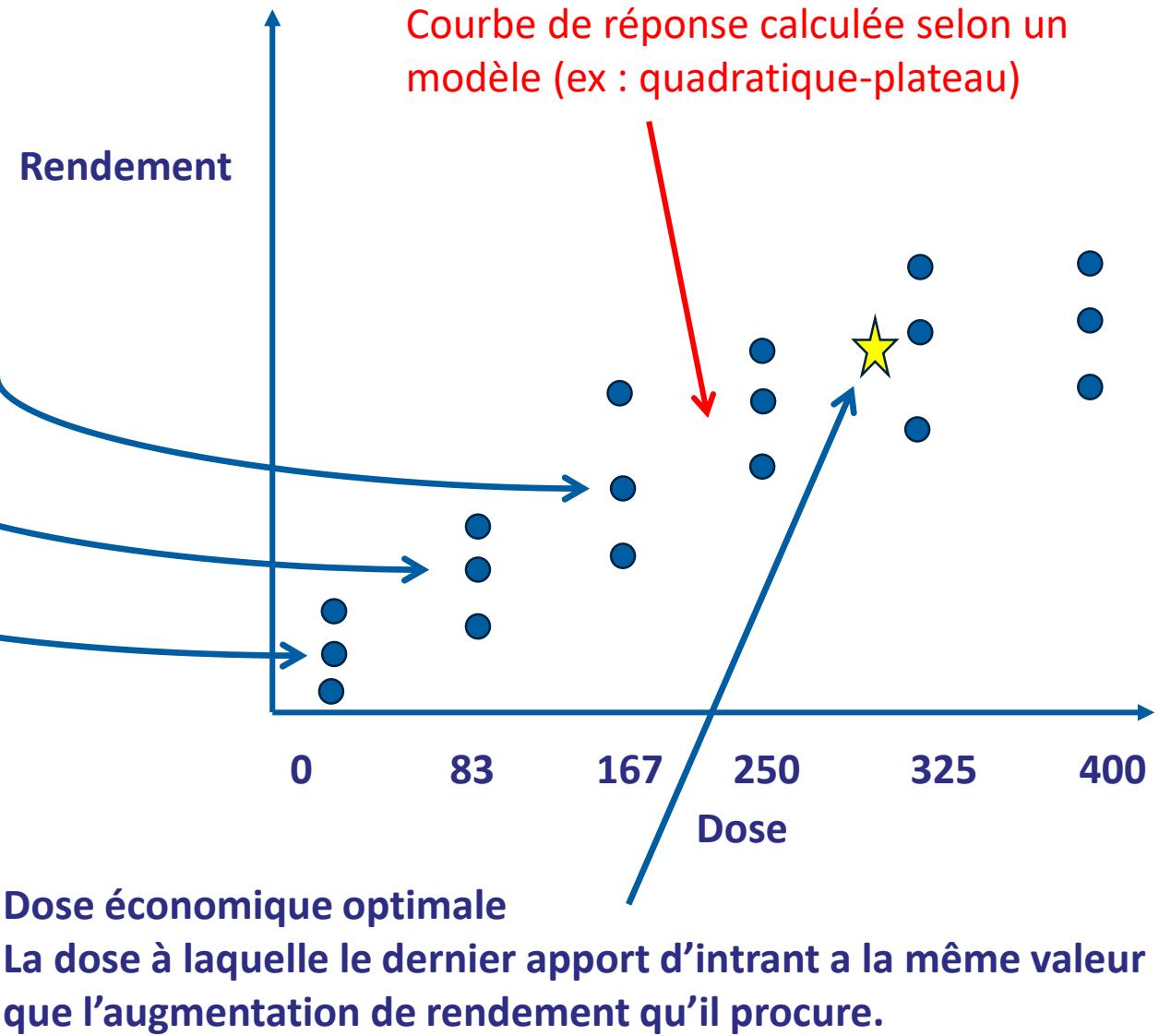
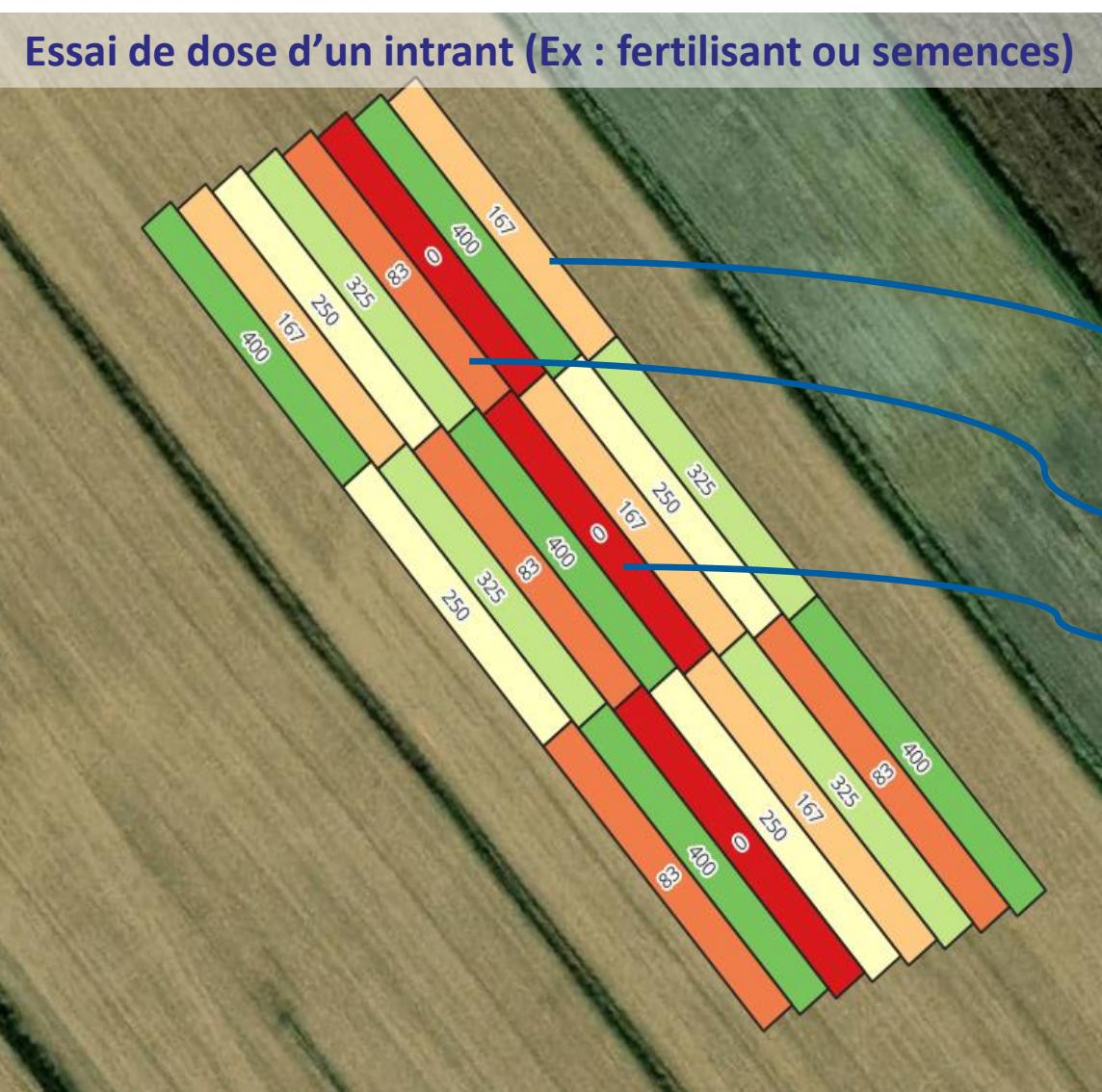
Les fichiers raster : des images géoréférencées

Exemples

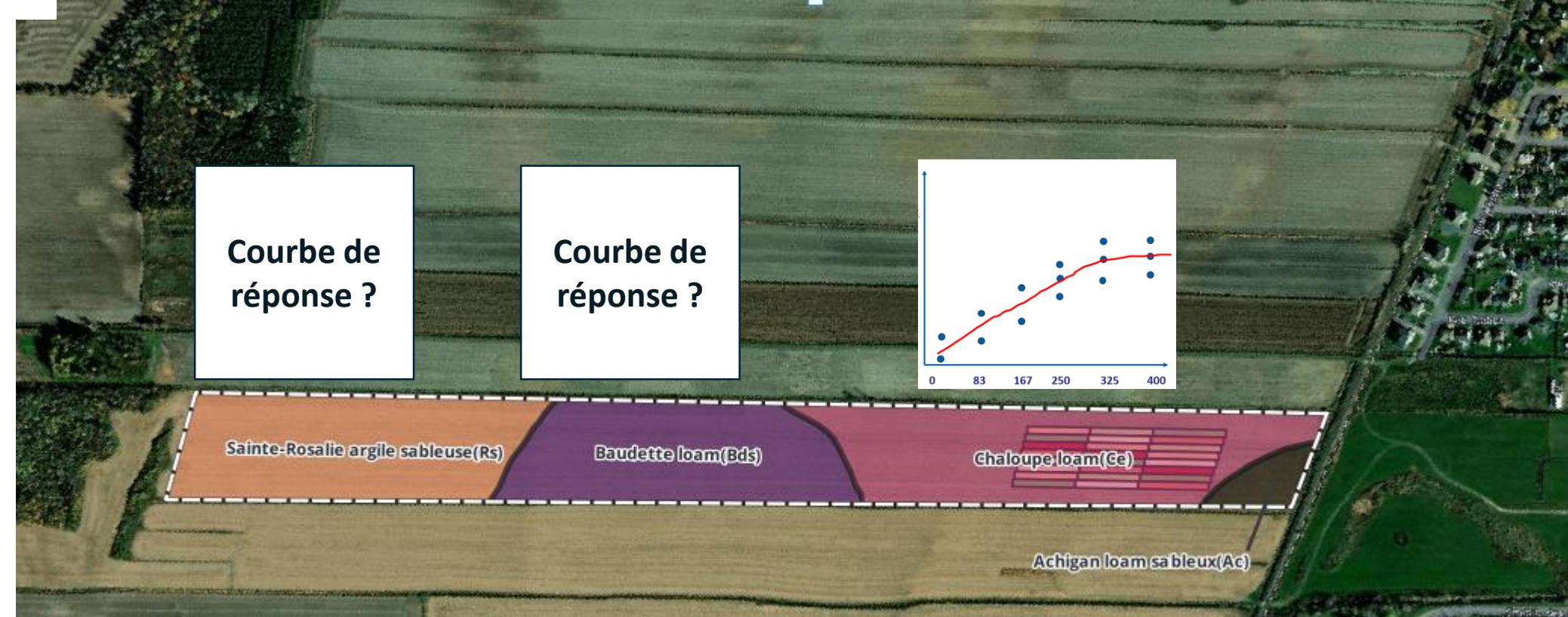
- Cartes de rendement
- Cartes de pente



Courbe de réponse 101

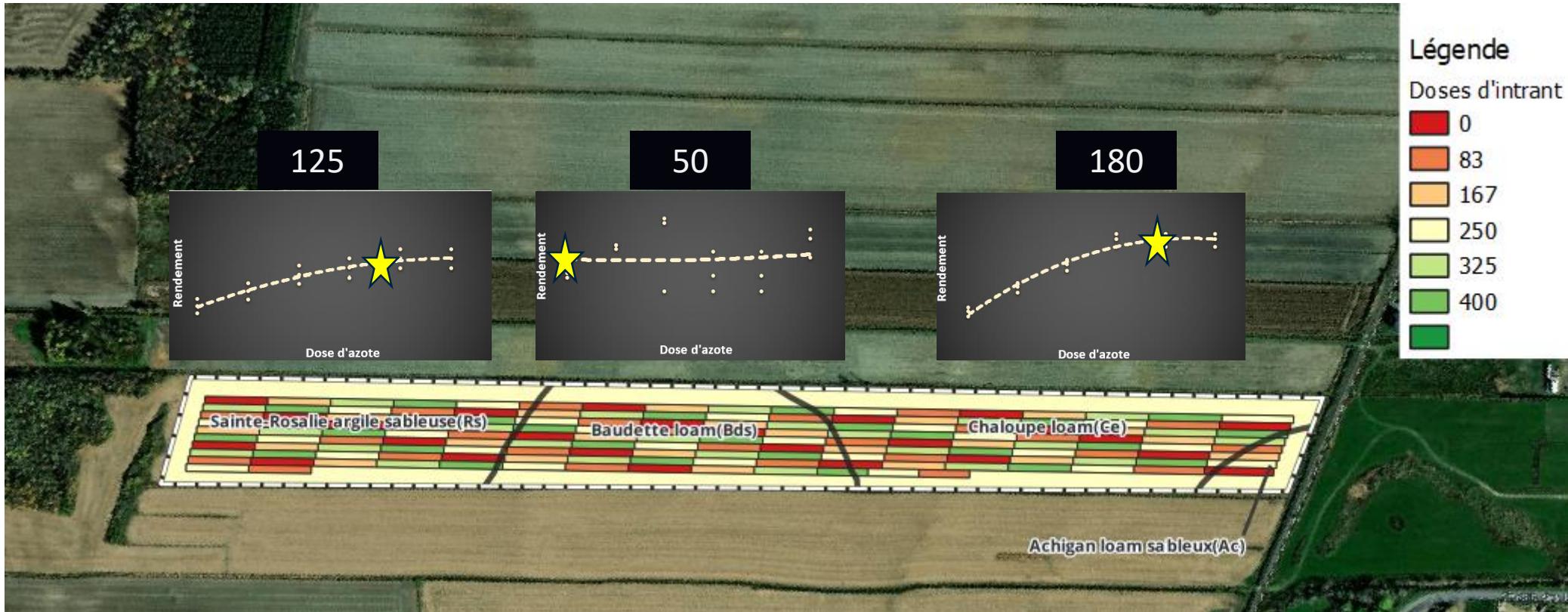


Petit essai = espace d'inférence limité



Solution : Répliquer l'essai avec l'agriculture de précision

- Intrants appliqués selon carte de prescription
- Récolte avec capteur de rendement géoréférencé
- Plus rapide et permet de générer des courbes distinctes



Une petite expérience de perception...



The Gambler
Kenny Rogers

This land is your land
Woody Guthrie

Five feet high and rising
Johnny Cash



Rendement =

Effet de la
GESTION

+

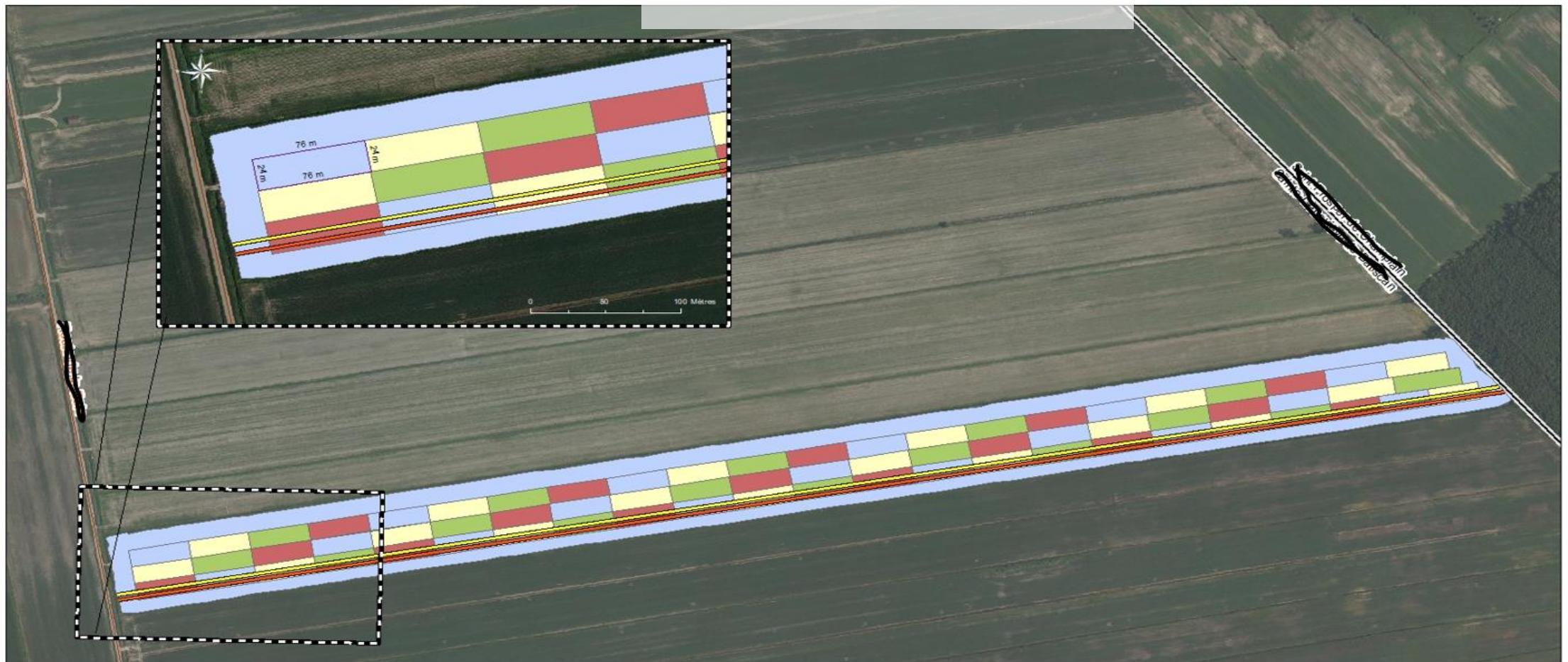
Effet du
TERRAIN

+

Effet de la
MÉTÉO

$$y = f(x, c, z)$$

Essai au champ réalisé en 2023 en Mauricie



Essai de doses d'azote

Doses d'azote

Litres/ha de 32-0-0

| | |
|-----|------------------------|
| 118 | AB-Batteuse |
| 235 | AB-Applicateur d'azote |
| 318 | |
| 400 | |

Route
Municipalité



Projection cartographique

Conique conforme de Lambert

0 50 100 200 Mètres

Sources

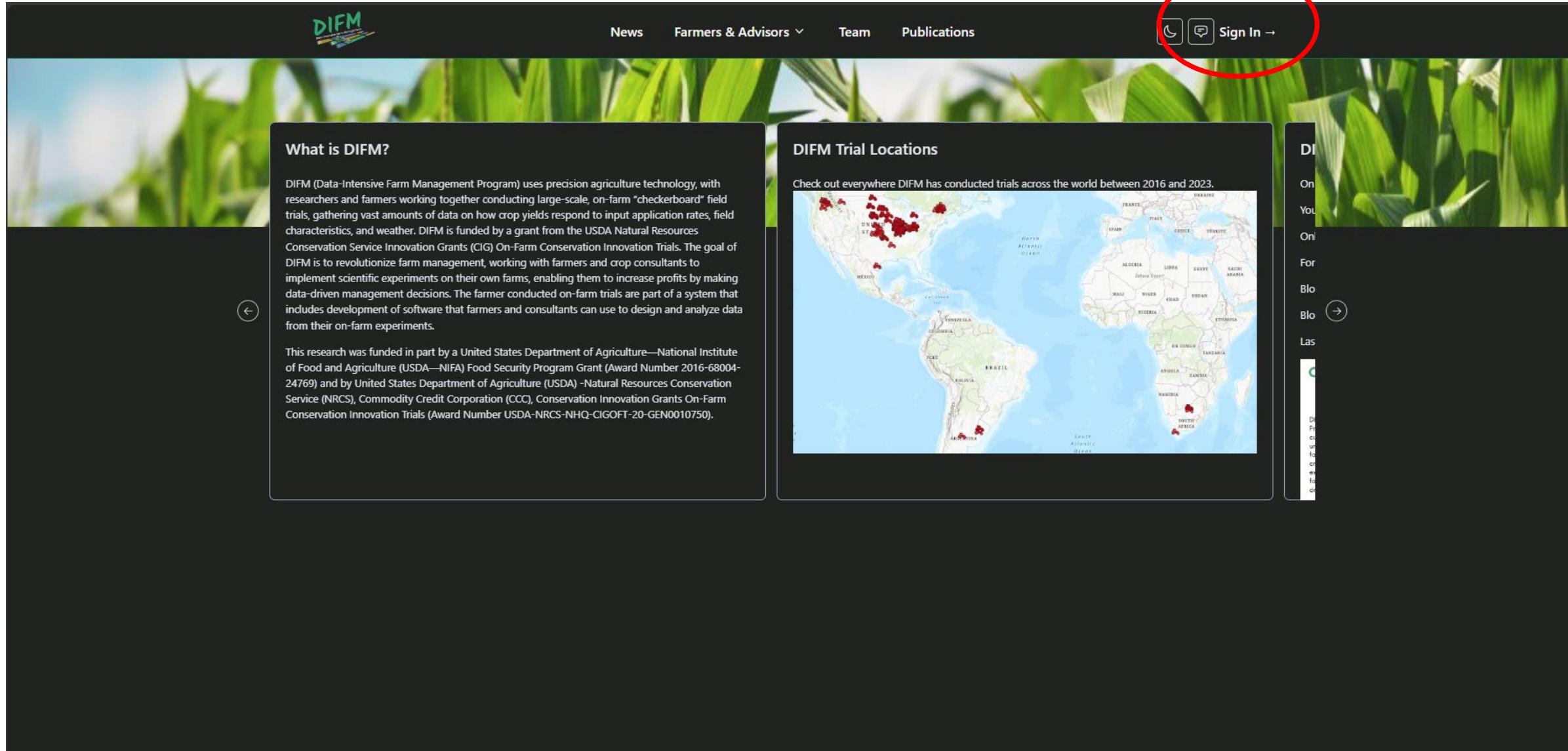
Doses d'azote Université d'Illinois 2023
Fond de carte Gouv.Qc. 2022
Limite administrative 2023
Réseau routier

Réalisation

Ministère de l'Agriculture,
des Pêcheries et de l'Alimentation du Québec
Note : Le présent document n'a aucune portée légale.
© Gouvernement du Québec, 2^e trimestre 2023

Étapes de l'utilisation de la plateforme DIFM

1) Se créer un compte et se connecter



The screenshot shows the DIFM website homepage. At the top, there is a navigation bar with links for News, Farmers & Advisors (with a dropdown arrow), Team, Publications, and a Sign In button. The Sign In button is circled in red. Below the navigation bar, there is a large banner image of green crops. On the left side of the banner, there is a box containing text about 'What is DIFM?' and funding information. On the right side, there is a map titled 'DIFM Trial Locations' showing trial sites across the world, with a focus on North America and Africa.

What is DIFM?

DIFM (Data-Intensive Farm Management Program) uses precision agriculture technology, with researchers and farmers working together conducting large-scale, on-farm "checkerboard" field trials, gathering vast amounts of data on how crop yields respond to input application rates, field characteristics, and weather. DIFM is funded by a grant from the USDA Natural Resources Conservation Service Innovation Grants (CIG) On-Farm Conservation Innovation Trials. The goal of DIFM is to revolutionize farm management, working with farmers and crop consultants to implement scientific experiments on their own farms, enabling them to increase profits by making data-driven management decisions. The farmer conducted on-farm trials are part of a system that includes development of software that farmers and consultants can use to design and analyze data from their on-farm experiments.

This research was funded in part by a United States Department of Agriculture—National Institute of Food and Agriculture (USDA—NIFA) Food Security Program Grant (Award Number 2016-68004-24769) and by United States Department of Agriculture (USDA) -Natural Resources Conservation Service (NRCS), Commodity Credit Corporation (CCC), Conservation Innovation Grants On-Farm Conservation Innovation Trials (Award Number USDA-NRCS-NHQ-CIGOFT-20-GEN0010750).

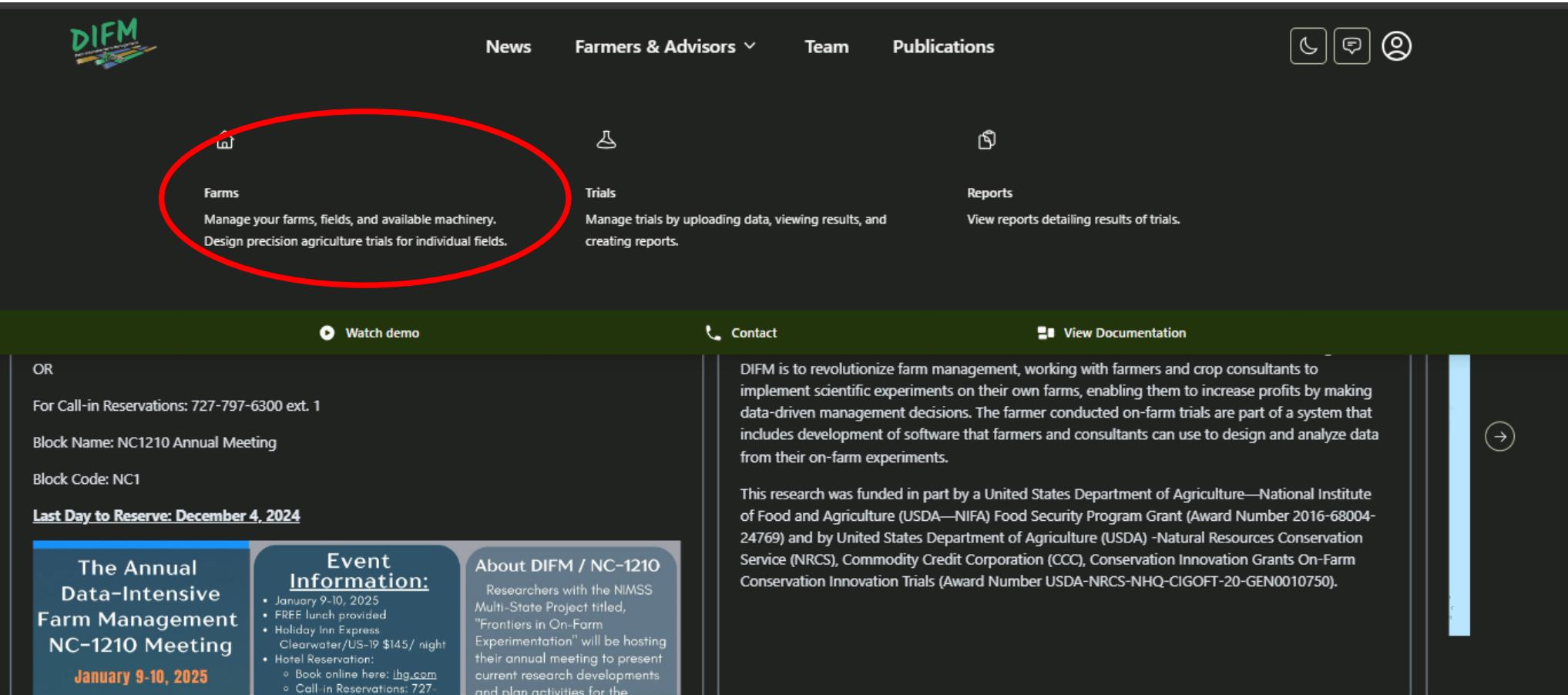
DIFM Trial Locations

Check out everywhere DIFM has conducted trials across the world between 2016 and 2023.



Étapes de l'utilisation de la plateforme DIFM

2) Créer une entreprise



The screenshot shows the DIFM website homepage. A red oval highlights the 'Farms' section, which includes the text: 'Manage your farms, fields, and available machinery. Design precision agriculture trials for individual fields.' Below this, there are sections for 'Trials' and 'Reports'. At the bottom, there's information about an event ('The Annual Data-Intensive Farm Management NC-1210 Meeting') and a summary of the project's purpose and funding.

Farms
Manage your farms, fields, and available machinery.
Design precision agriculture trials for individual fields.

Trials
Manage trials by uploading data, viewing results, and creating reports.

Reports
View reports detailing results of trials.

Watch demo

Contact

View Documentation

OR
For Call-in Reservations: 727-797-6300 ext. 1
Block Name: NC1210 Annual Meeting
Block Code: NC1
Last Day to Reserve: December 4, 2024

The Annual Data-Intensive Farm Management NC-1210 Meeting
January 9-10, 2025

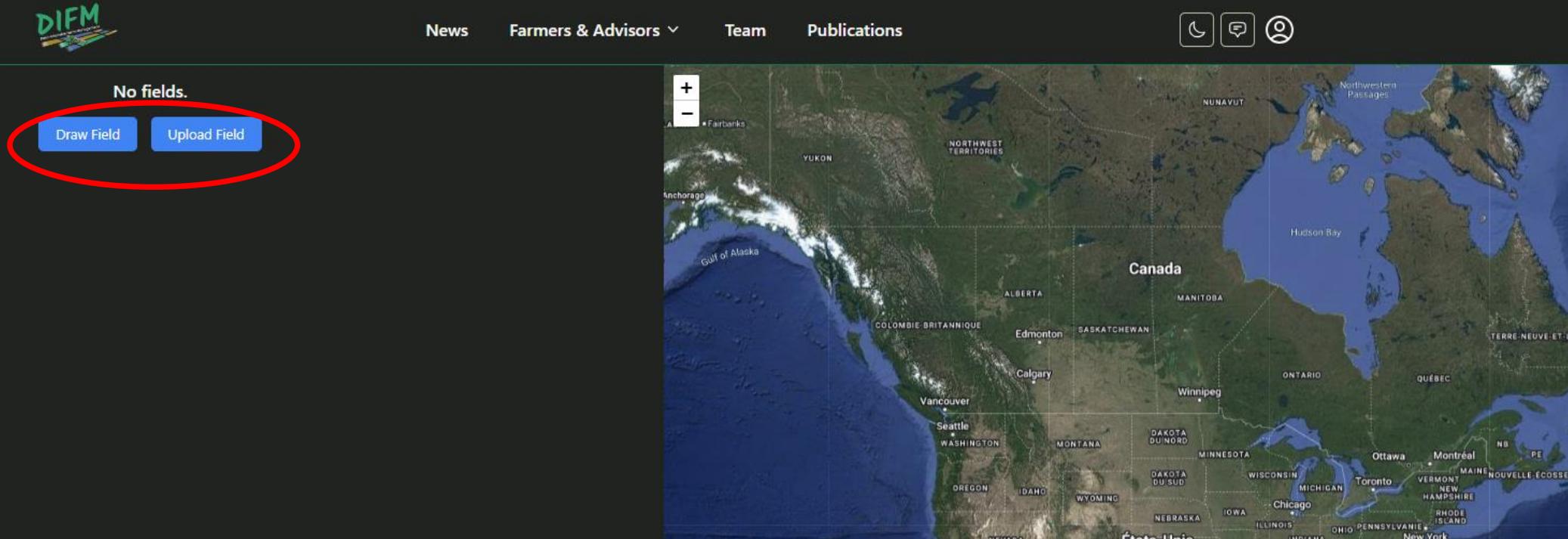
Event Information:

- January 9-10, 2025
- FREE lunch provided
- Holiday Inn Express Clearwater/US-19 \$145/ night
- Hotel Reservation:
 - Book online here: [ibg.com](#)
 - Call in Reservations: 727-797-6300 ext. 1

About DIFM / NC-1210
Researchers with the NIMSS Multi-State Project titled, "Frontiers in On-Farm Experimentation" will be hosting their annual meeting to present current research developments and plan activities for the

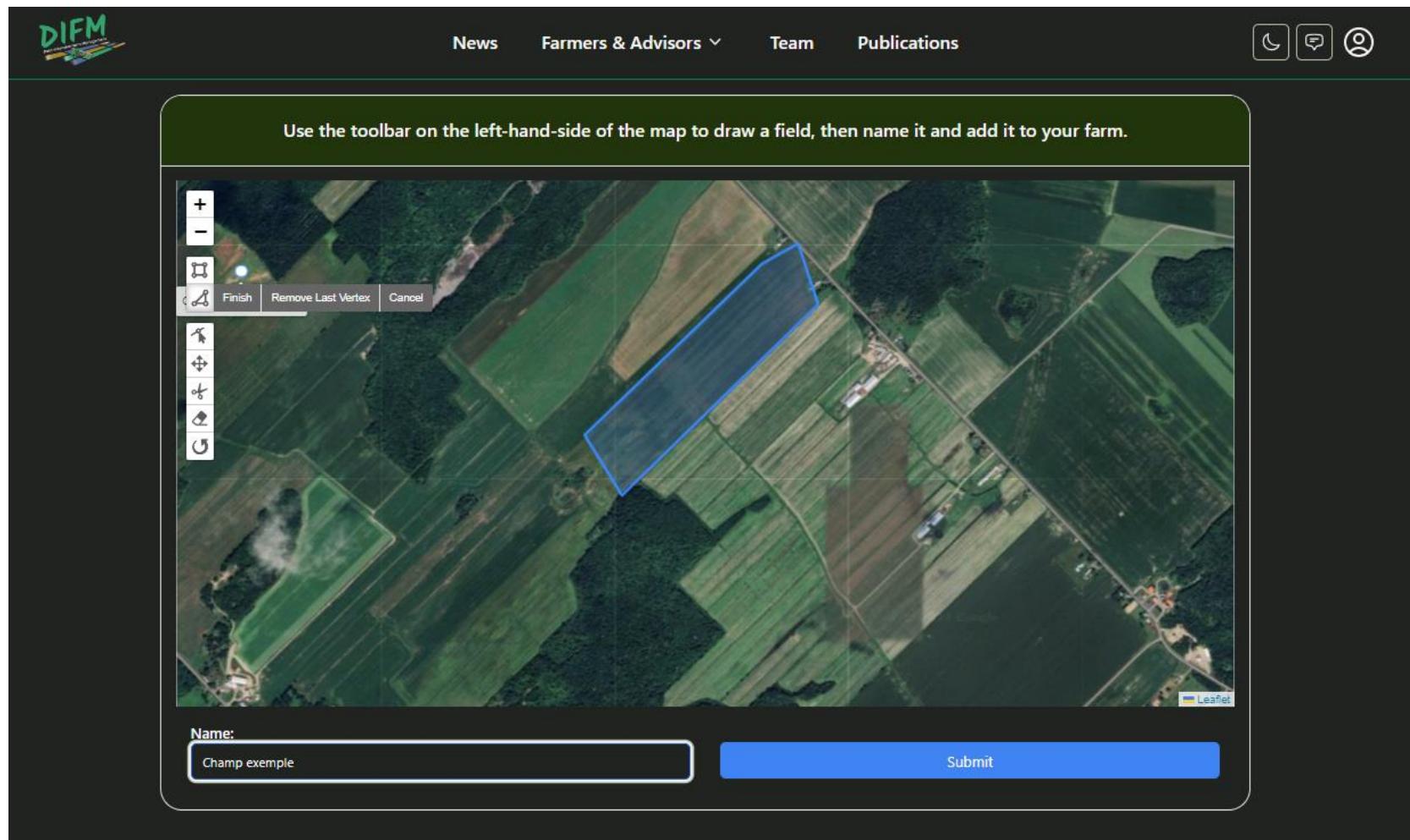
Étapes de l'utilisation de la plateforme DIFM

3) Créer ou importer un champ



Étapes de l'utilisation de la plateforme DIFM

3a) Crédit d'un champ : pas idéal



Étapes de l'utilisation de la plateforme DIFM

3b) Importer un champ : plus rapide et précis

[News](#)[Farmers & Advisors](#) ▾[Team](#)[Publications](#)

Name your field and upload its shapefile in .zip format containing all required files (i.e., .dbf, .prj, .shp, .shx).

Field Name

Petit_champ_exemple

Drag & drop your file here, or click to select file.

Accepted file types: .zip

petit_champ_exemple.zip - 3751 bytes

Upload

Étapes de l'utilisation de la plateforme DIFM

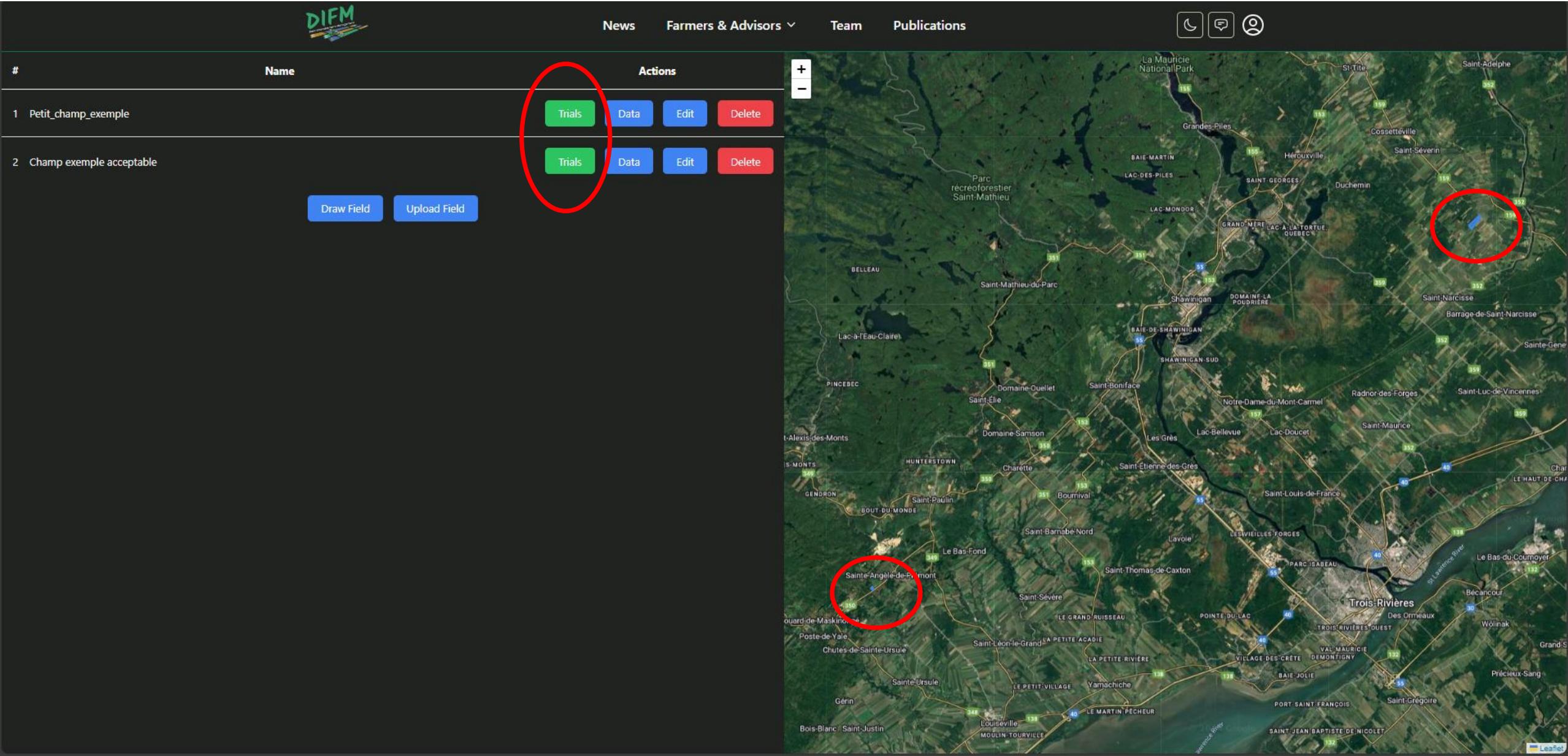
4) Création d'un essai dans un champ

Screenshot of the DIFM platform interface showing the creation of a field trial.

The interface includes a top navigation bar with links for News, Farmers & Advisors, Team, Publications, and user icons. Below the navigation is a table listing two existing fields:

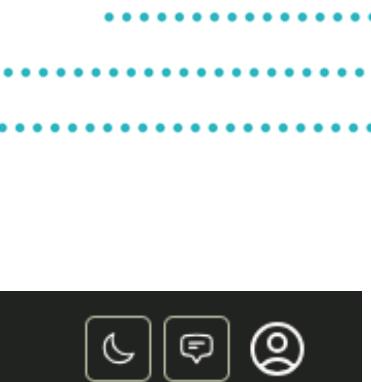
| # | Name | Actions |
|---|--------------------------|------------------------------|
| 1 | Petit_champ_exemple | [Trials, Data, Edit, Delete] |
| 2 | Champ exemple acceptable | [Trials, Data, Edit, Delete] |

Buttons for "Draw Field" and "Upload Field" are located below the table. A red circle highlights the "Trials" button for the first field entry. To the right is a satellite map of a rural area in Quebec, Canada, with various towns and roads labeled. Two specific locations are circled in red: one near the town of Sainte-Angele-de-Plessis and another near the town of Trois-Rivières.



Étapes de l'utilisation de la plateforme DIFM

4a) Création d'un essai dans un champ



DIFM

News Farmers & Advisors ▾ Team Publications

Fill in the required trial design form.

Trial Name
Essai d'avoine/pois

Year
2024

Crop
Generic Wheat

Save

Étapes de l'utilisation de la plateforme DIFM

4) Il reste à configurer l'essai

The image shows a screenshot of the DIFM (Diversified Integrated Farm Management) platform. On the left, there is a table titled "Trials" with one row of data. The columns are labeled: #, Name, Year, Crop, Status, and Action. The data row is: 2, Essai d'avoine/pois, 2024, Generic Wheat, Incomplete, and a series of icons in the Action column. The fourth icon from the left in this row is highlighted with a red circle. Below the table is a blue button labeled "Add trial". At the top of the page, there is a navigation bar with links for News, Farmers & Advisors, Team, Publications, and user icons. On the right side of the image is a satellite map of a agricultural field. A specific rectangular area within the field is outlined in blue, indicating the trial's spatial extent. Labels on the map include "Route St Louis", "Chemin de la Côte St Louis", and "Chemin de la Côte St Louis".

| # | Name | Year | Crop | Status | Action |
|---|---------------------|------|---------------|------------|--------|
| 2 | Essai d'avoine/pois | 2024 | Generic Wheat | Incomplete | |

Add trial

News Farmers & Advisors Team Publications

Route St Louis

Chemin de la Côte St Louis

Chemin de la Côte St Louis

Étapes de l'utilisation de la plateforme DIFM

4) Saisie des paramètres de base de l'essai

DIFM

News Farmers & Advisors Team Publications

AB-Lines

Number of AB-Lines for Champ exemple acceptable: 1

Add an AB-Line to Champ exemple acceptable by either drawing it on the map or uploading a shapefile.

+

-

Leaflet

Name Action

1 ligne AB Delete

Draw AB-Line Upload AB-Line

Trial Configuration

Trial configuration for **Champ exemple acceptable, Essai d'avoine/pois**
Add info about the harvester and the headland distance for this trial.

| Harvester Width | Headland Distance | Sideland Distance | Min Plot Length | Max Plot Length | Action |
|-----------------|-------------------|-------------------|-----------------|-----------------|----------|
| 30.00 ft | 100.00 ft | 45.00 ft | 200.00 ft | 300.00 ft | Add/Edit |

Étapes de l'utilisation de la plateforme DIFM

5) Saisie des paramètres de l'intrant à l'essai

DIFM

News Farmers & Advisors Team Publications

Cover Crop
Generic input category, e.g. Nitrogen or Seed

Input Name
Avoine_pois

Input Unit
kg

Name of the input if not available in the provided lists.
More specific input, e.g. UAN32 or Sulfate of Potash

The unit in terms of the input, e.g., gallons of UAN32

Machinery Details

Harvester Width
30,00

Width of the harvester as given on the trial definition.

Input Machine Width (ft)
15,00

The width of the machine.

Machine
Semoir

The machine used with the specified input.

Input Machine Sections
1

The number of independently controllable sections (or 1 if no independent control).

Trial Information

Headland Distance (ft)
100,00

Headland distance as given by the trial information.

Sideland Distance (ft)
45,00

Sideland distance as given by the trial information.

Design Type
Checkerboard

The design type for the trial.

Input Plot Width (ft)
60

The width of the plot for the trial.

Number of Rates
2

The number of different input rates for the trial.

Normal Input Rate (kg)
0

The status quo or normal input rate.

Minimum Rate (kg)
0

The minimum input rate for the trial.

Maximum Rate (kg)
100

The maximum input rate for the trial.

AB Line
ligne AB

The AB Line for the trial.

Étapes de l'utilisation de la plateforme DIFM

6) Générer la carte de prescription

Trial Input Specifications

Trial inputs for Champ exemple acceptable, Essai d'avoine/pois

| AB-Line | Design Type | Input Name | Machine Name | Machine Width | Sections | Plot Width | Unit | Sq. Rate | Min Rate | Max Rate | Levels | Action |
|--|--------------|-------------|--------------|---------------|----------|------------|------|----------|----------|----------|--------|-----------------------|
| <input checked="" type="checkbox"/> ligne AB | checkerboard | Avoine_pois | Semoir | 15.00 ft | 1 | 60.00 ft | kg | 0 | 0 | 100 | 2 | <button>Edit</button> |

[Add Inputs](#)

Select a maximum of two input specifications and click on 'Create' to generate a trial design. Make sure that both input specifications selected have the same AB-Line ID. Wait until the page is refreshed to see the output.

[Create](#)

Étapes de l'utilisation de la plateforme DIFM

6) Visualiser la carte de prescription

DIFM

News Farmers & Advisors Team Publications

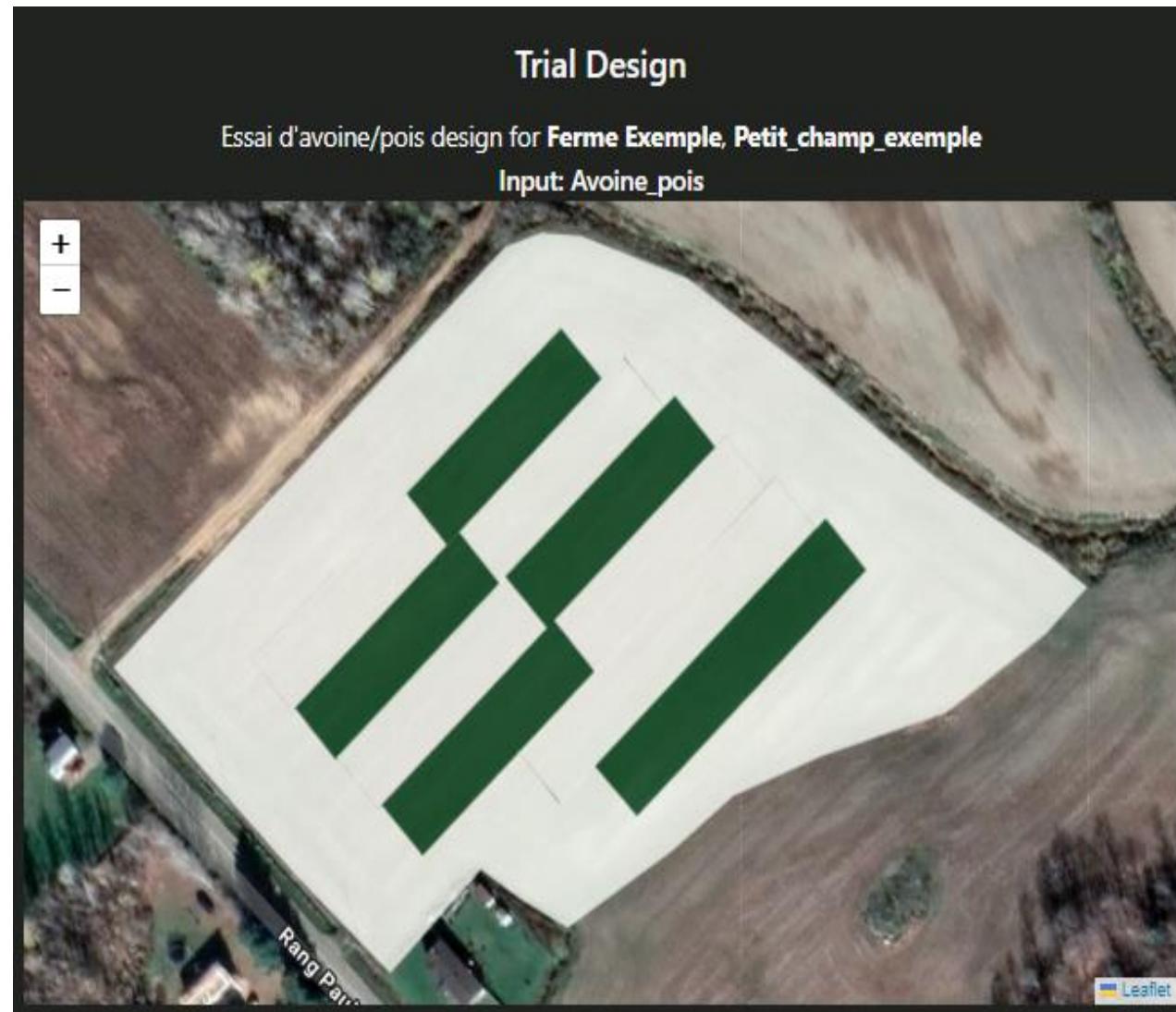
Trial Design

Essai d'avoine/pois design for Ferme Exemple, Champ exemple acceptable
Input: Avoine_pois

Leaflet

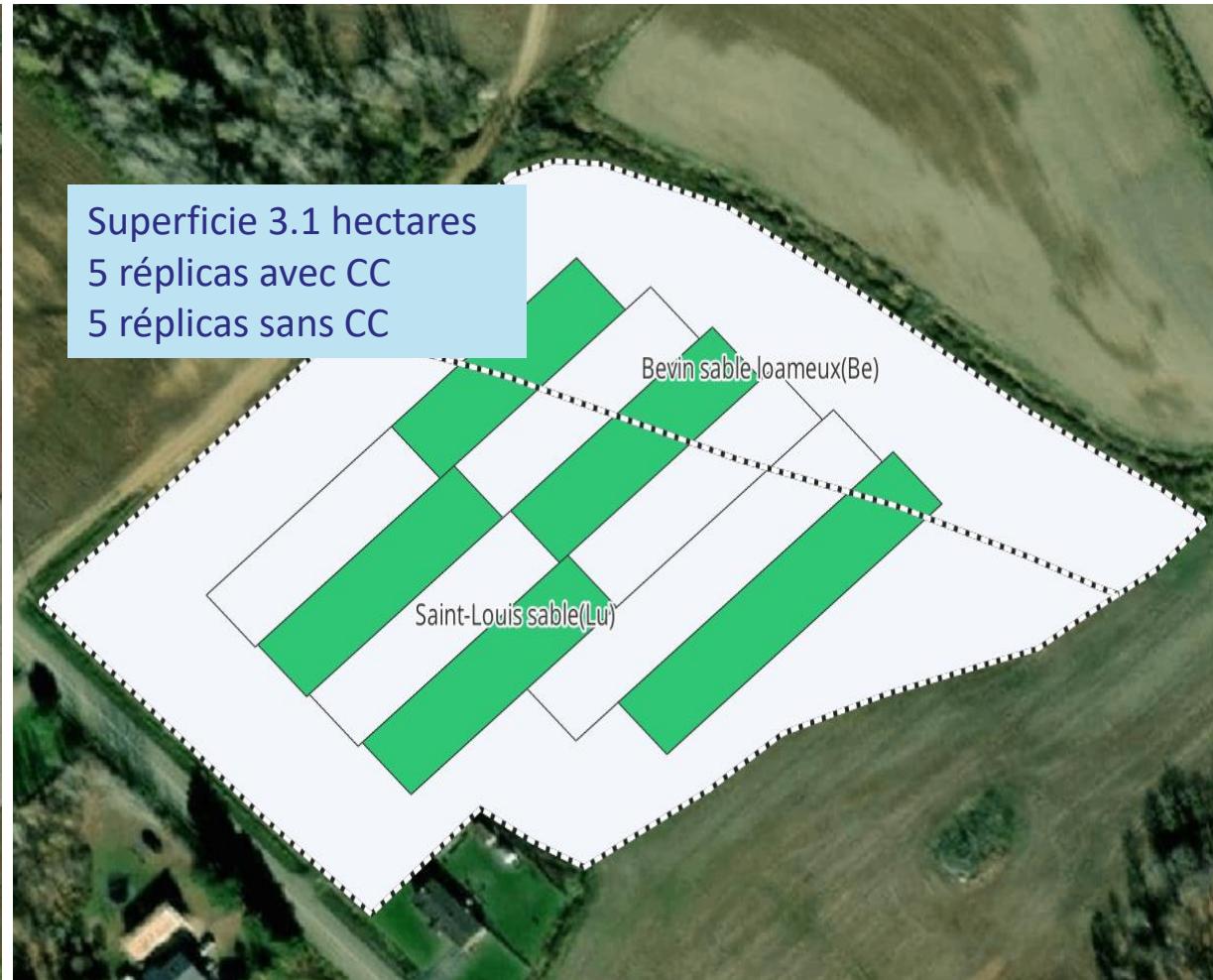
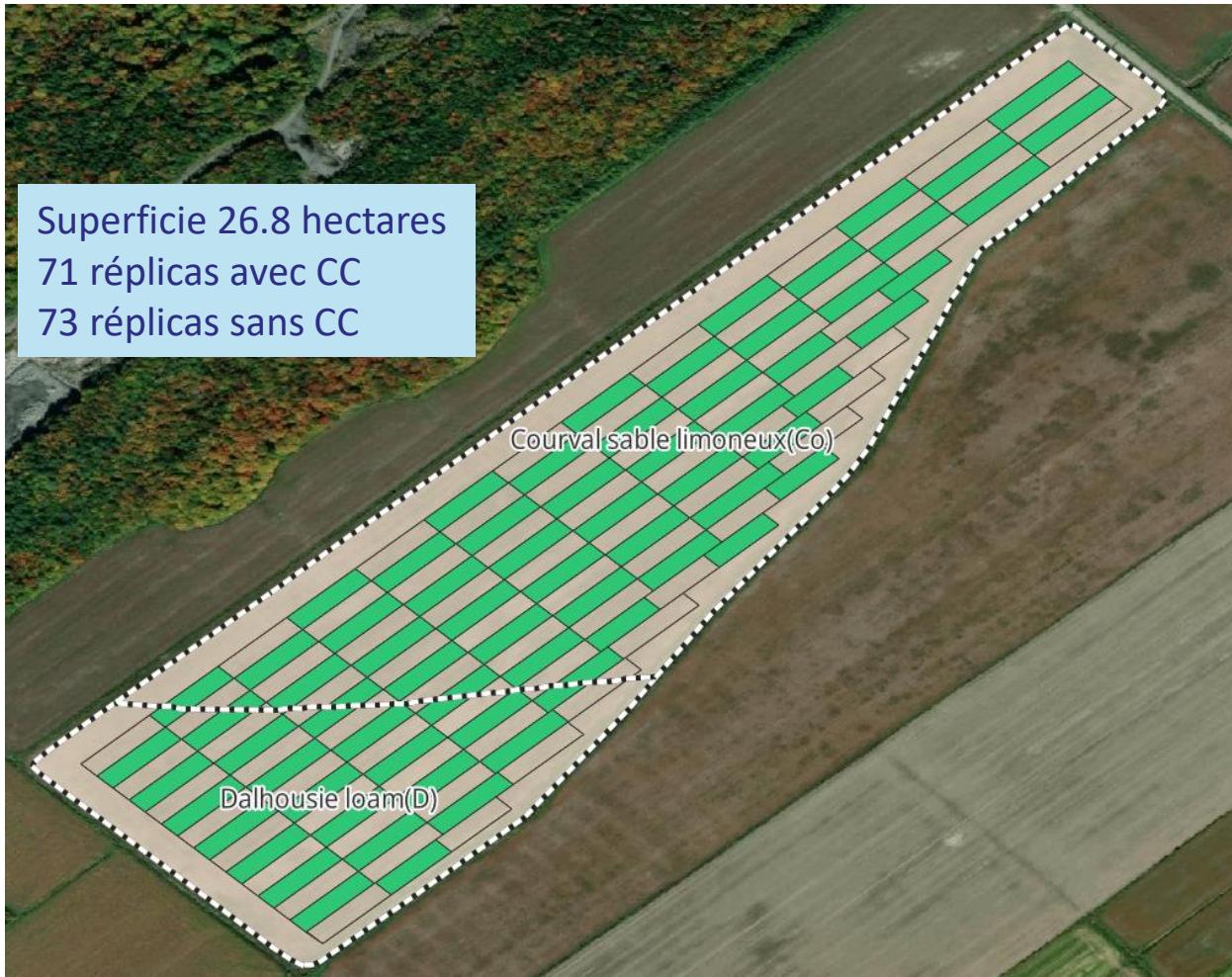
Download

La taille a de l'importance

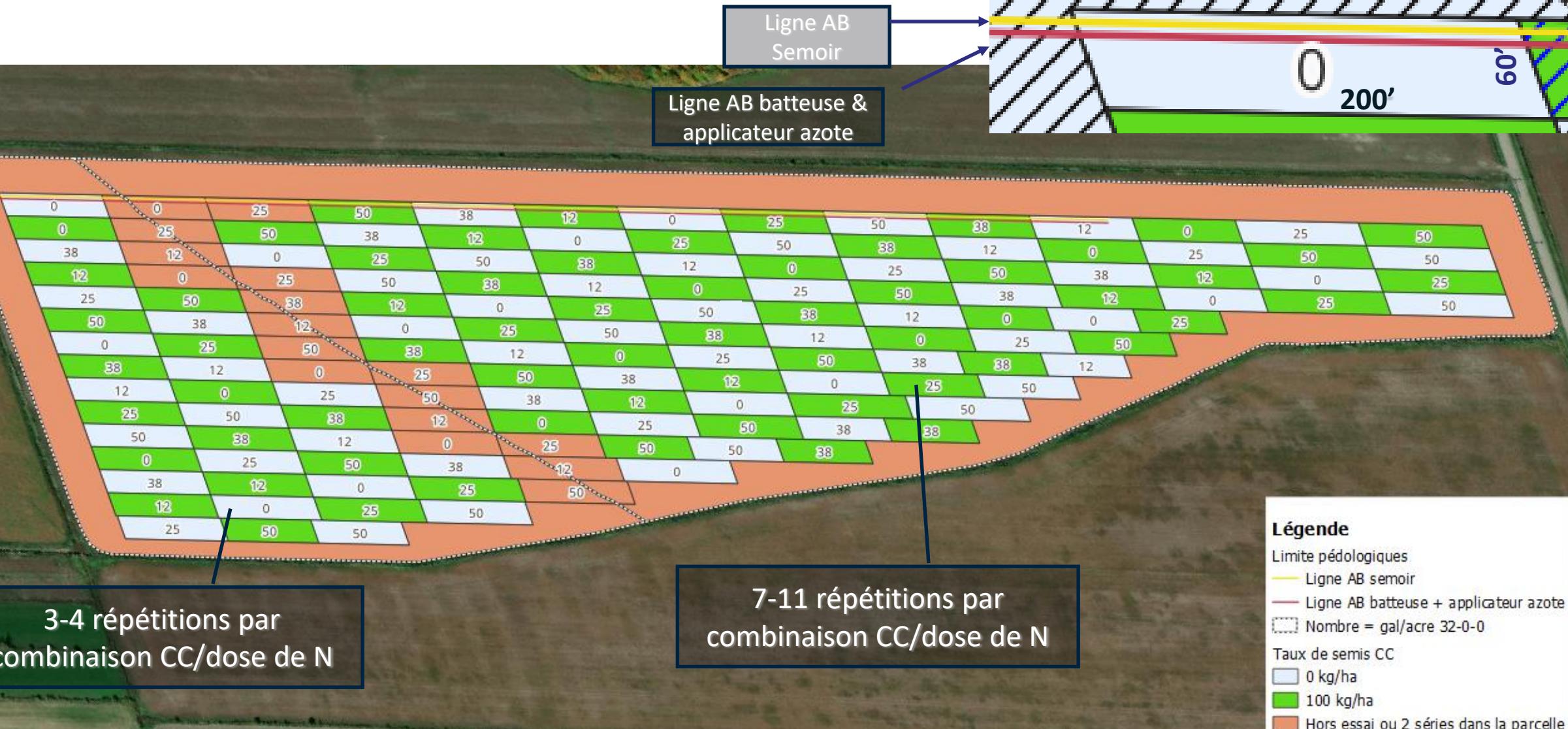


Important d'avoir suffisamment de répliques par zone

Parcelles de 200' X 60'



Essai avoine/pois + essai de doses d'azote



Étapes de l'utilisation de la plateforme DIFM

6) Télécharger les fichiers

Étapes de l'utilisation de la plateforme DIFM

6) Appliquer les intrants et récolter en suivant les lignes AB fournies

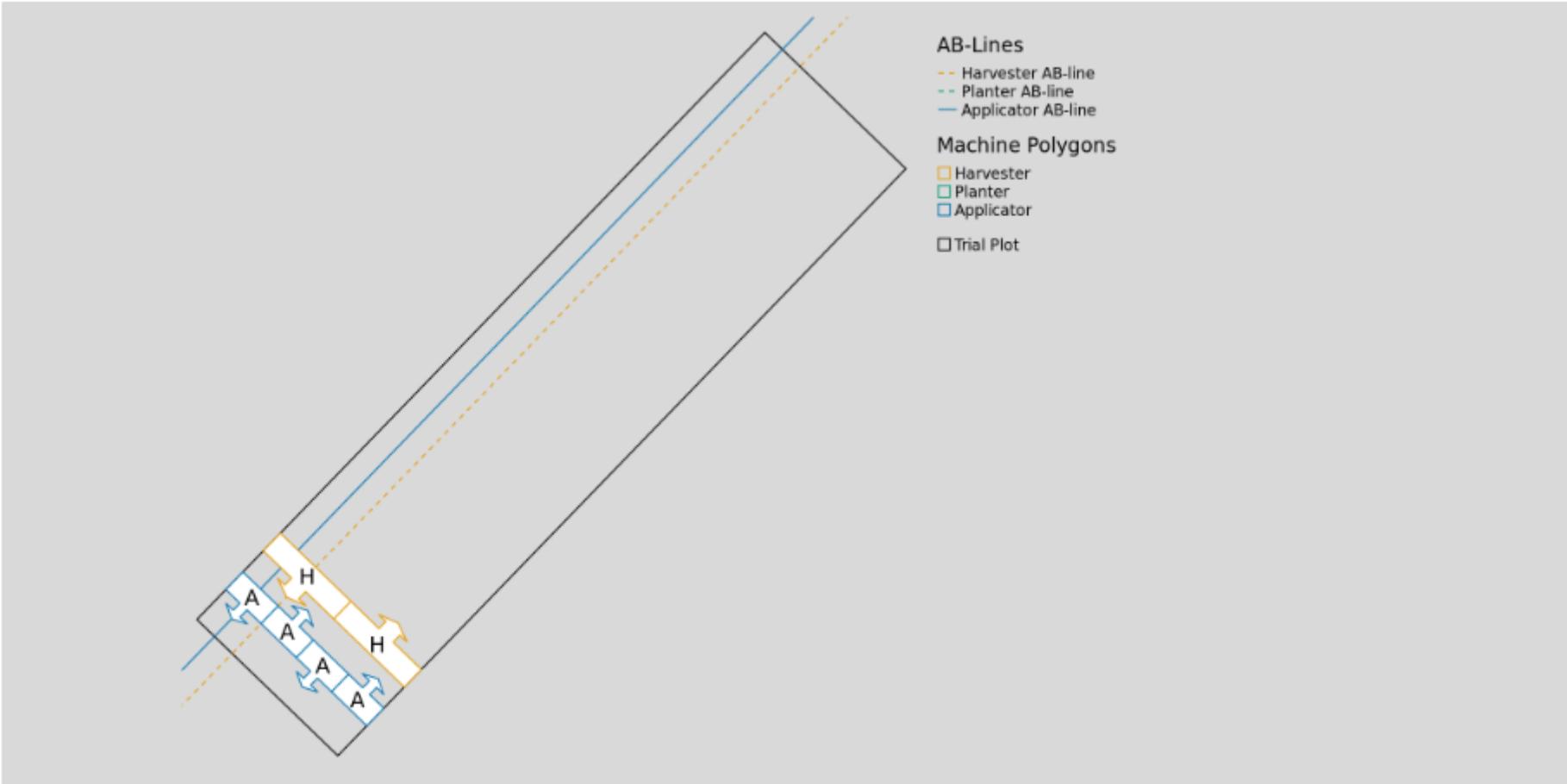


Figure 4: Alignment of Machinery inside a Trial Plot

Étapes de l'utilisation de la plateforme DIFM

6) Télécharger les fichiers et utiliser la carte de prescription pour l'application

The screenshot shows the DIFM platform interface. At the top, there is a navigation bar with links for News, Farmers & Advisors, Team, Publications, and user icons for notifications, messages, and profile.

The main content area displays a trial titled "Trial: azote_2024 2024". On the left, there is a "Trial Design" section featuring a 3D-like visualization of a field plot. To the right, there are two sections: "Trial Parameters" and "Inputs".

Trial Parameters:

- Crop: Generic Corn
- Status: Trial Designed
- Harvester Width: 30

Inputs:

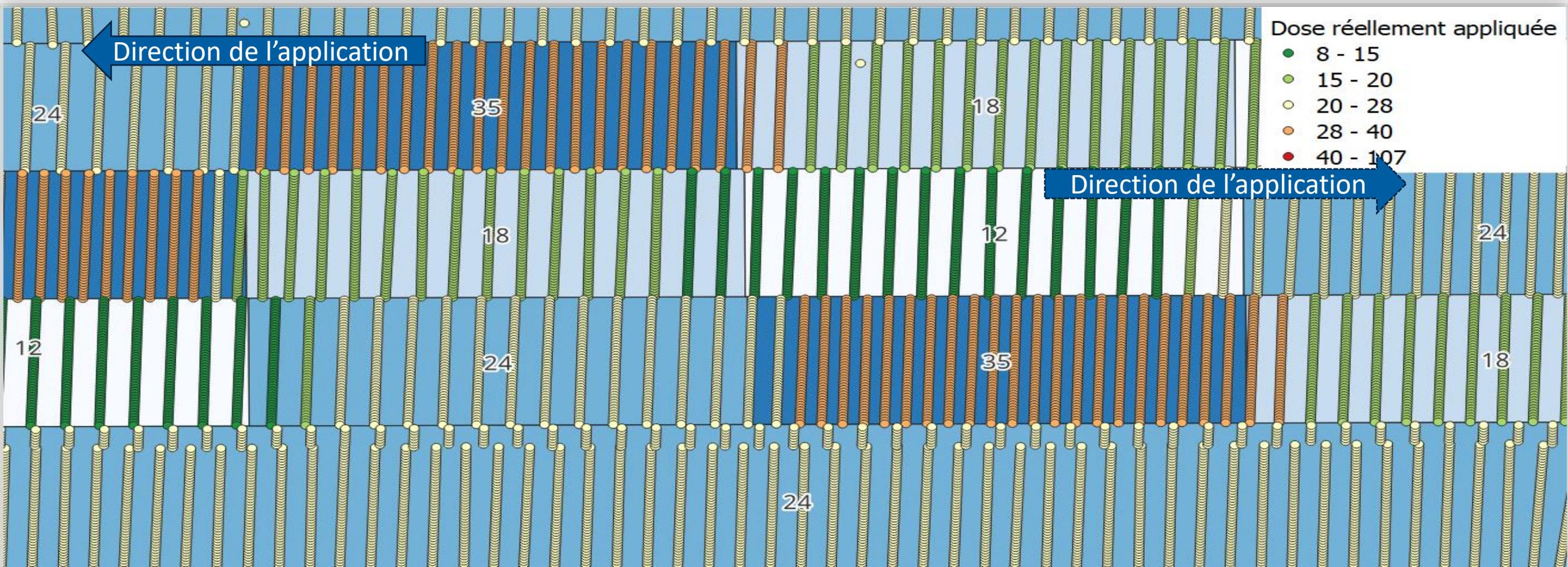
- Input 1: UAN32
- Range: 12-35
- Status Quo: 24
- Machine Width: 80

Below these sections is a table showing datasets, price, and status:

| DATASET (SHAPE FILE) | PRICE | STATUS |
|----------------------------|--------------|---|
| Raw Yield | Price: 260 | Ready |
| As-applied Input 1 (UAN32) | Price: 2,889 | Ready |

At the bottom of the table are two buttons: "View Files" and "Process Data".

Les résultats bruts



Qualité des données brutes : importance de l'alignement

Essai de doses d'azote

- Ligne AB batteuse corrigée
- Passages de batteuse 30 pieds prévus

Doses réellement appliquées (gal/acre)

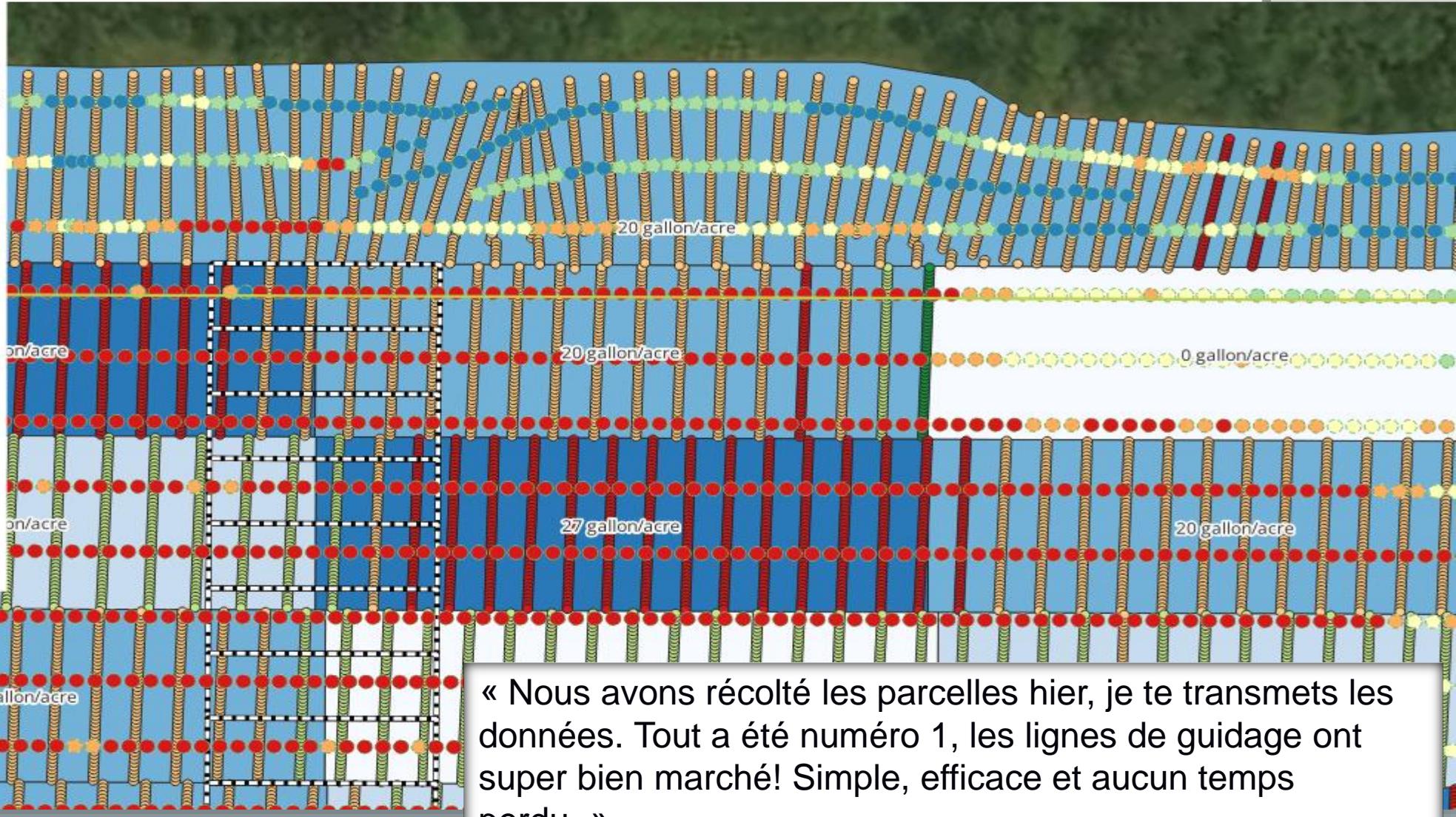
- 0 - 8
- 8 - 14
- 14 - 24
- 24 - 73

Doses prévues (gallons US/acre)

- 0
- 12
- 20
- 27

Données de battage (T/ha)

- 0 - 6
- 6 - 8
- 8 - 10
- 10 - 11
- 11 - 97



Une fois les données dans la plateforme...

Nettoyage automatique des données

- Données aberrantes
- Données mal alignées
- Données de transition entre parcelles

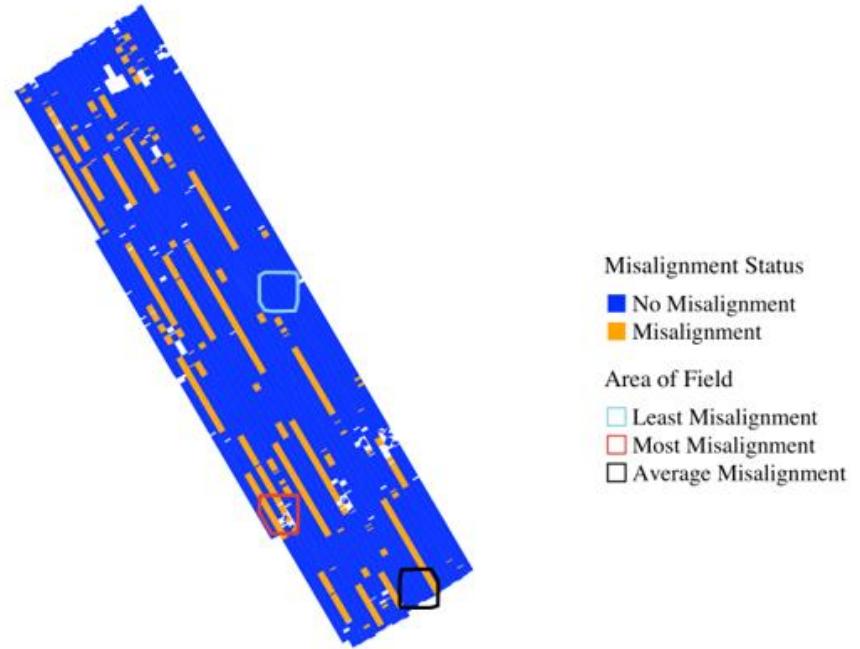
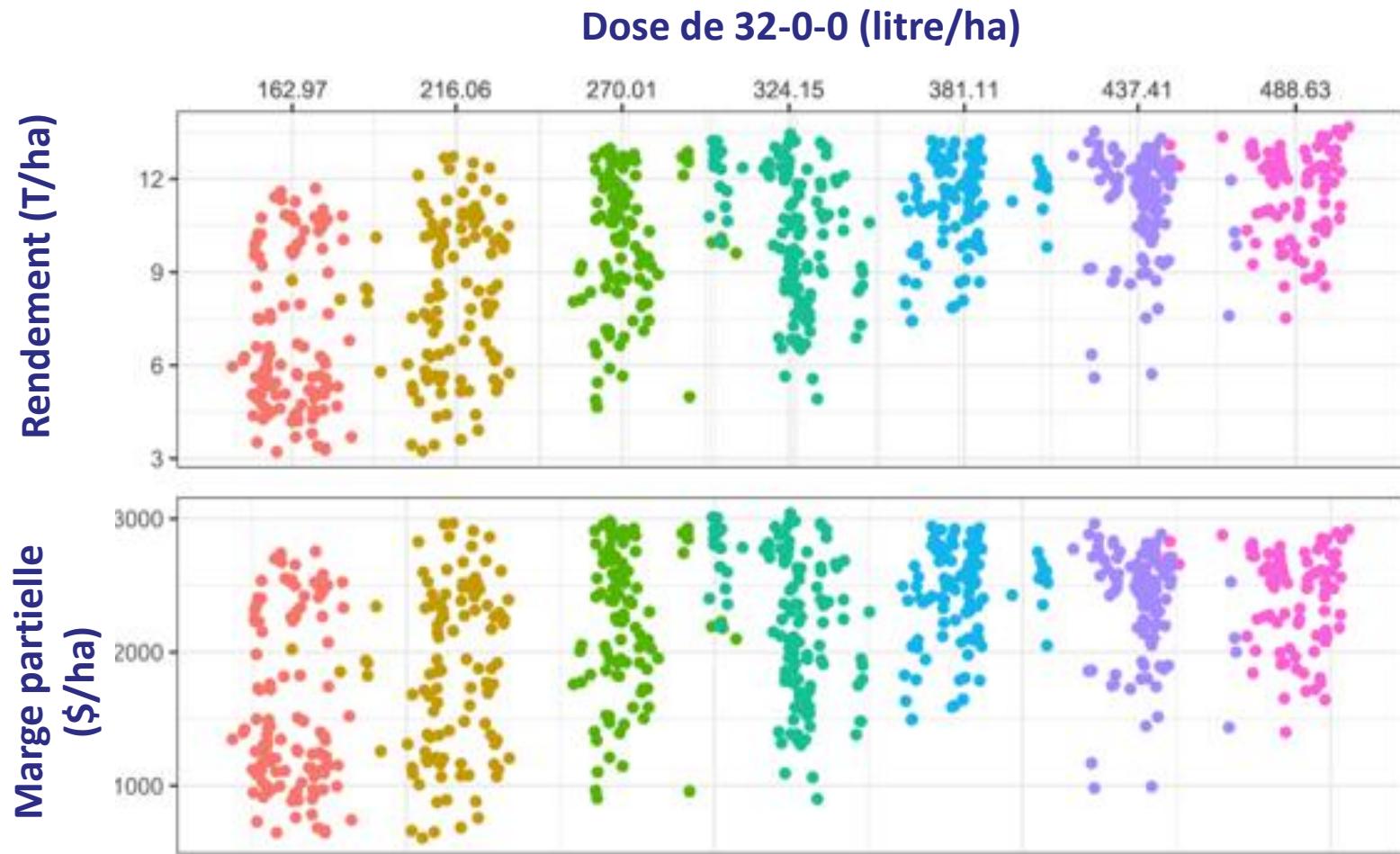
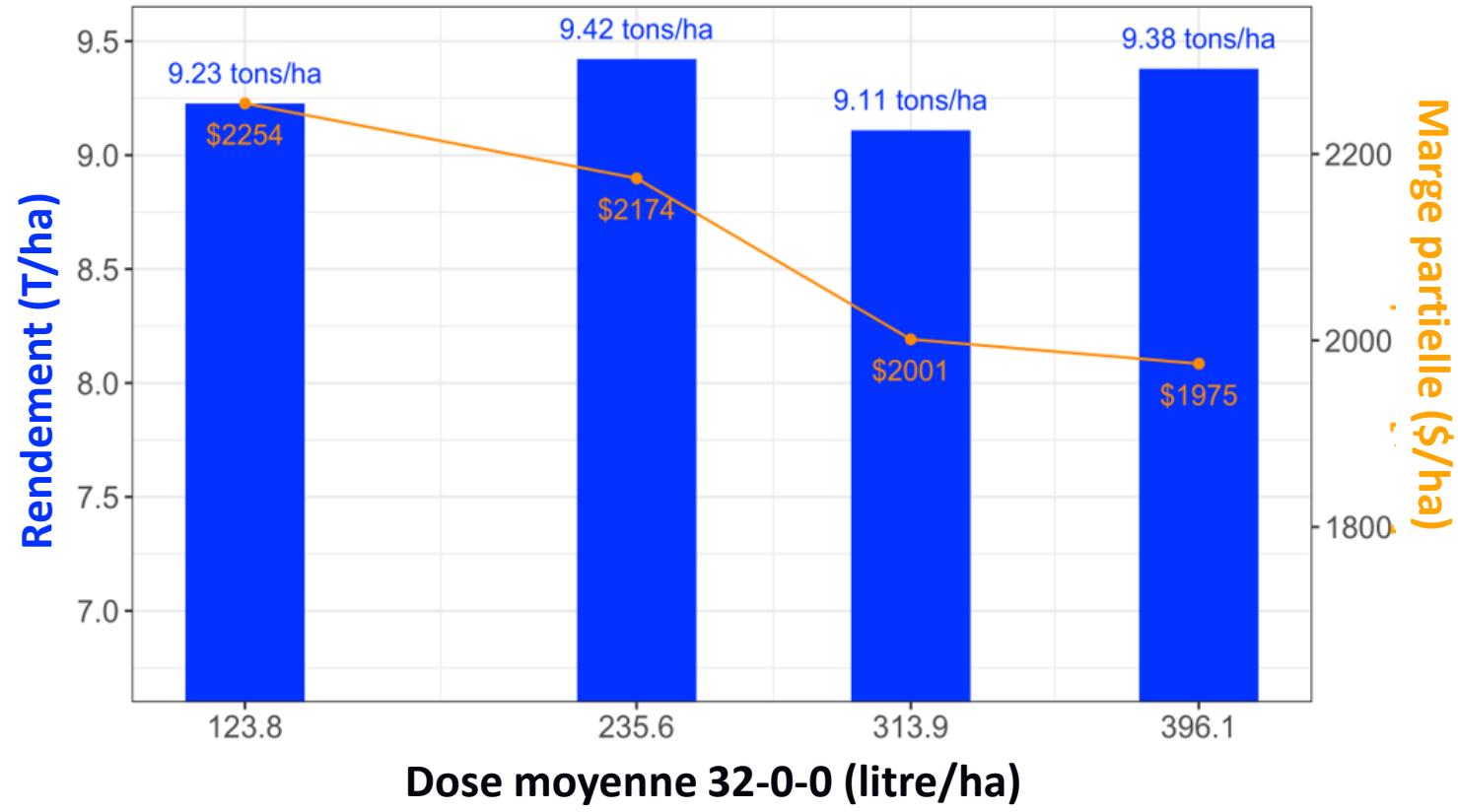


Figure 2: Map of misalignment status across the field and the areas of focus for implementation figures

Nuage de points sur les données brutes



Analyse des données – exemple

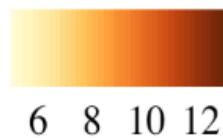


Analyse des données

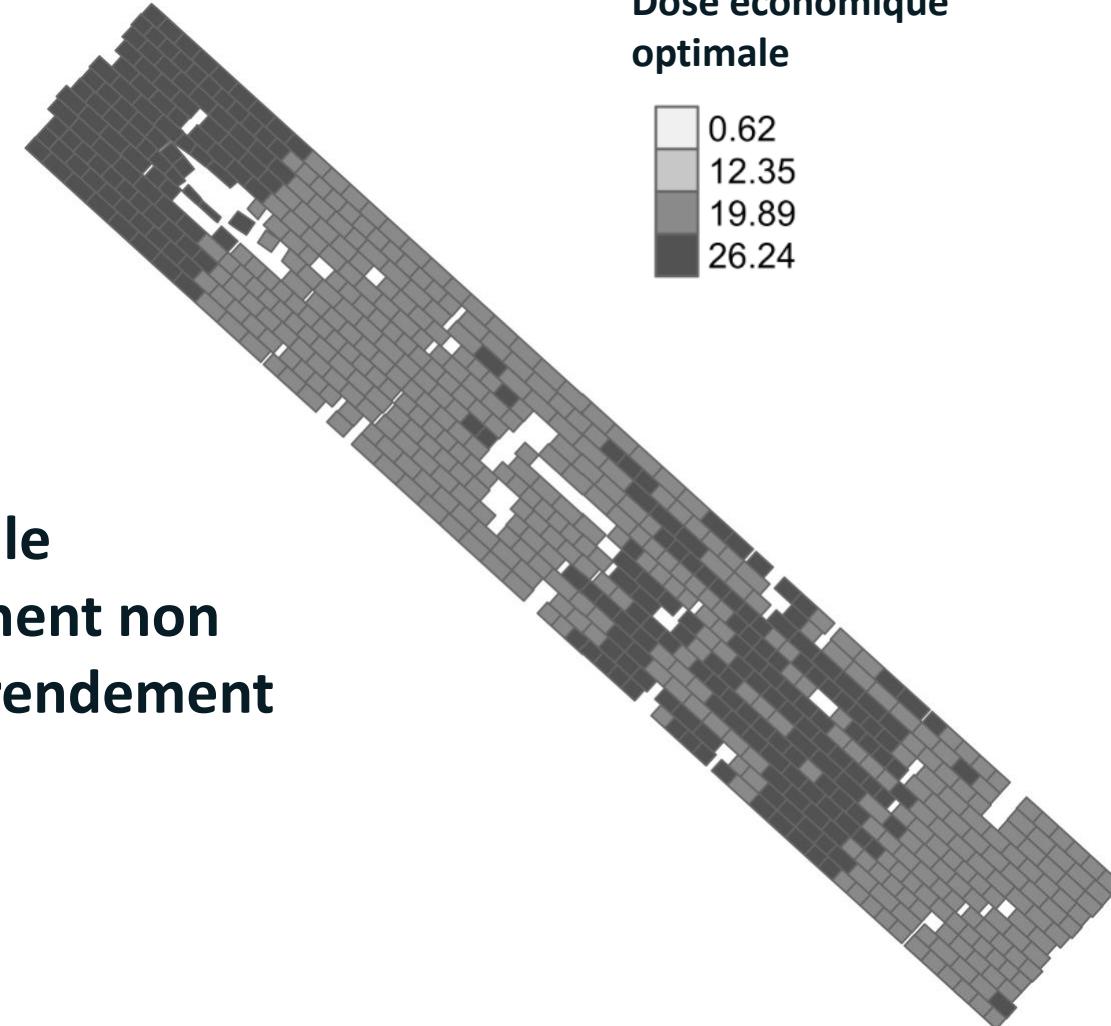
- Dose variable optimale
- Dose uniforme optimale
(20 Gal = statut quo)



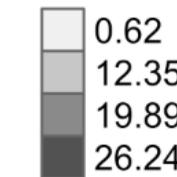
Rendement (T/ha)



**Dose optimale
majoritairement non
corrélée au rendement**



Dose économique
optimale



Analyse des données

Par série de sol

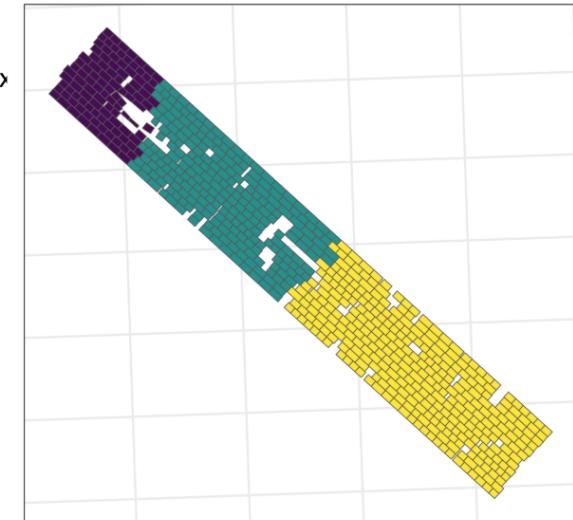
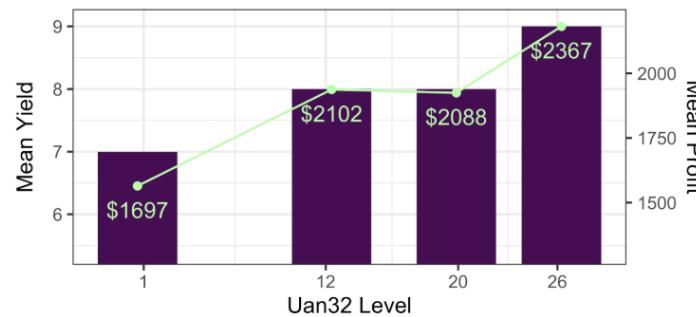
Mean Yields and Profit on Courval sable limoneux Co
(36% of field)



Mean Yields and Profit on Saint Laurent loam argileux
(49% of field)

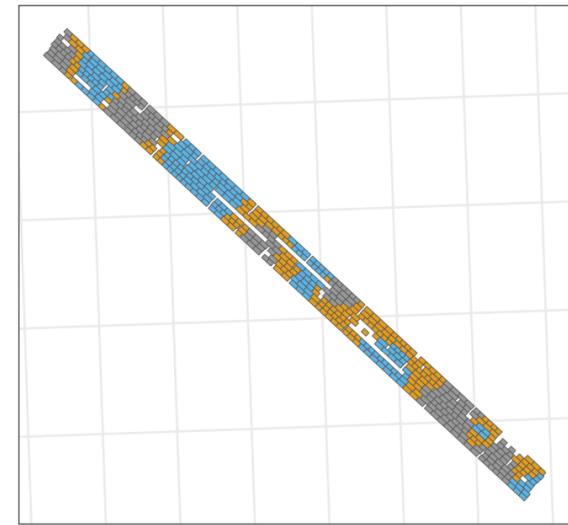
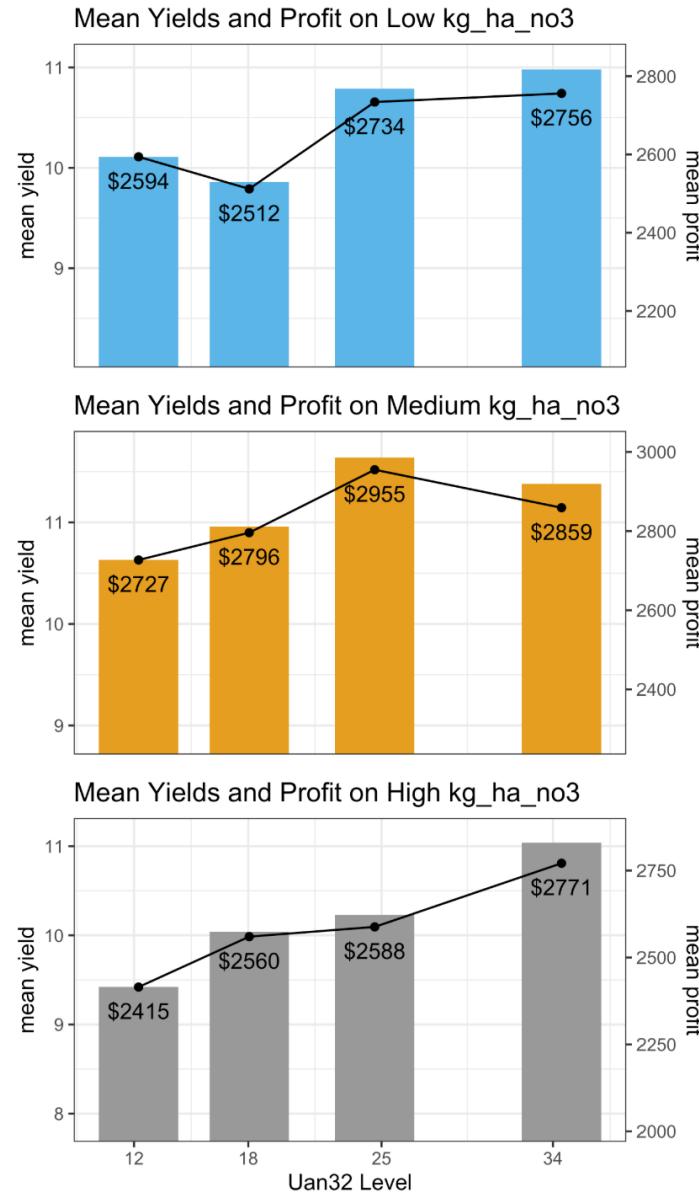


Mean Yields and Profit on Affleurements rocheux A
(16% of field)



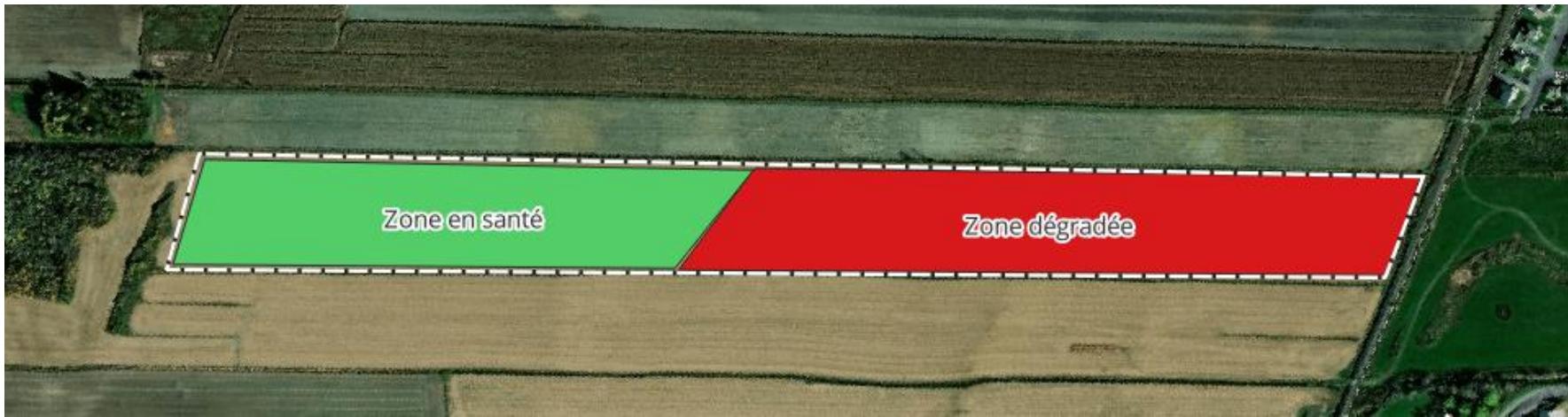
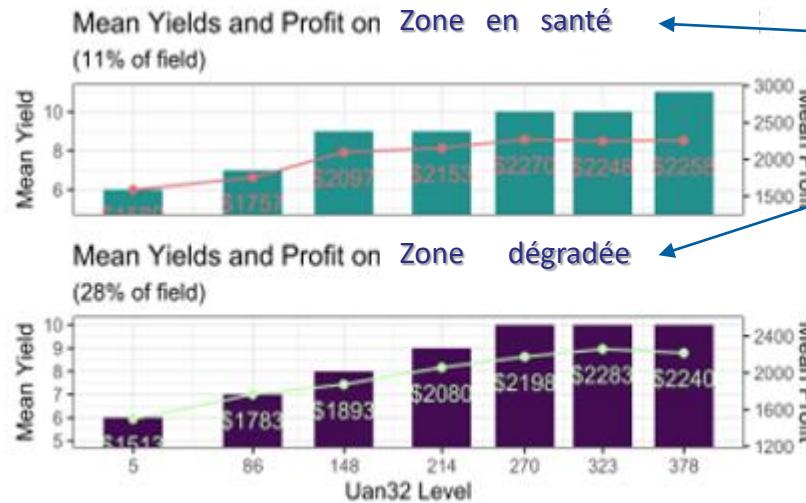
Analyse des données

Par niveau de nitrate du sol



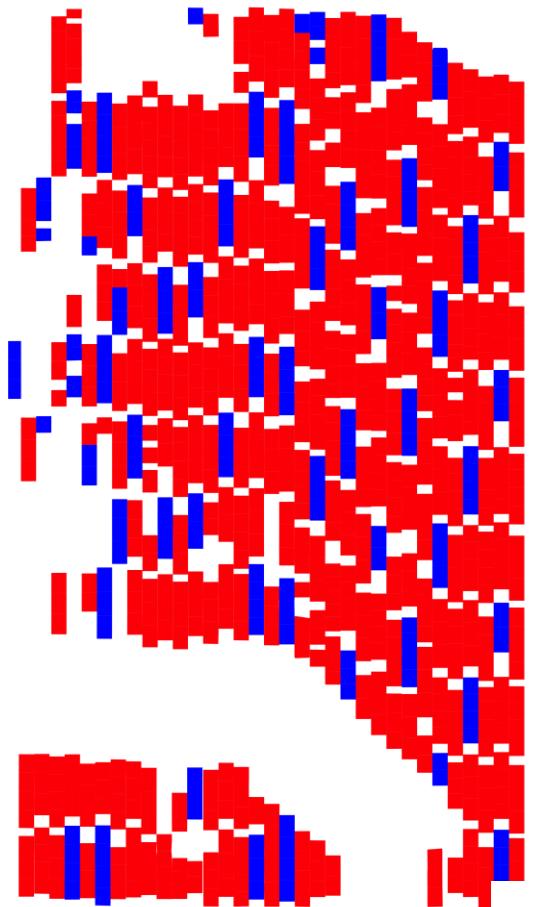
Analyse selon une autre variable : état du sol

La plateforme va analyser selon la variable fournie

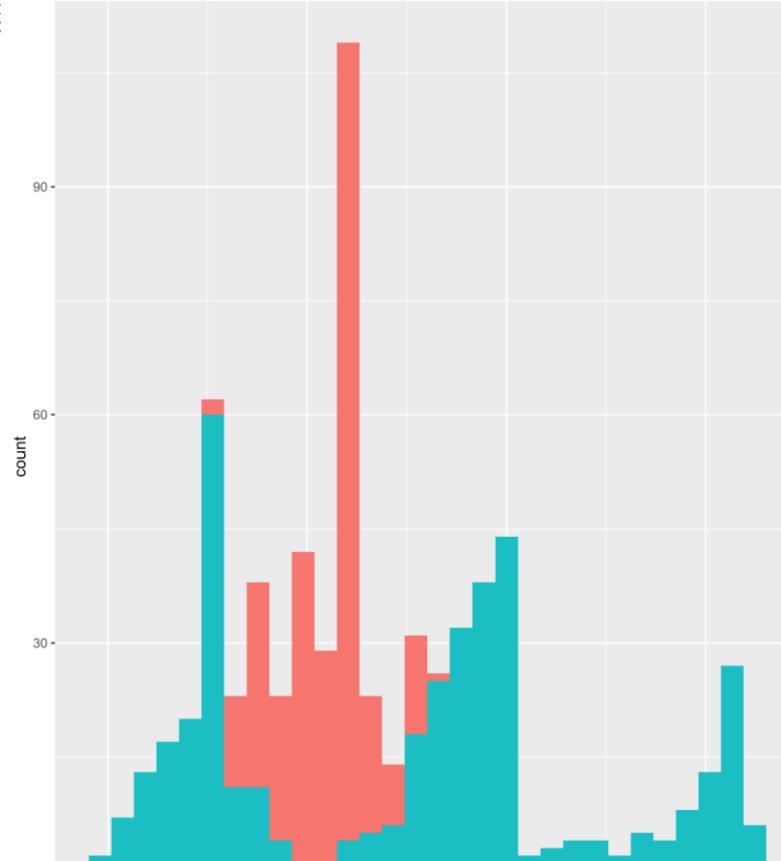


Combien a coûté l'essai ?

Marge parcelles témoin – Marge parcelles expérimentales = Coût de l'essai



Status Quo I
Non-Status C



Marge partielle (rendement – coût de l'intrant)

Intrants possibles

- Engrais
- Cultures de couverture
- Biostimulants
- Taux de semis
- Taux de fumier
- Etc.



Cultures possibles

- Grains
- Fourrage
- Pomme de terre



Conclusion

- Les essais aident à devenir de meilleurs joueurs!
- Les outils de l'agriculture de précision facilitent les essais à la ferme
- La plateforme difm.farm facilite l'élaboration et le traitement des données d'essais à la ferme
- D'autres méthodes existent pour analyser des données d'essais à la ferme



Source: <https://pxhere.com/>

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Questions ?

Analyse de rendements de capteur selon la méthode des tests de Student mobile

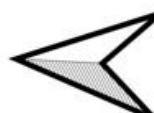
Exemple de maïs grain suivant une culture de couverture de trèfle



Précédent des points de rendement

- sans trèfle
- trèfle

0 50 100 m



Réplicat

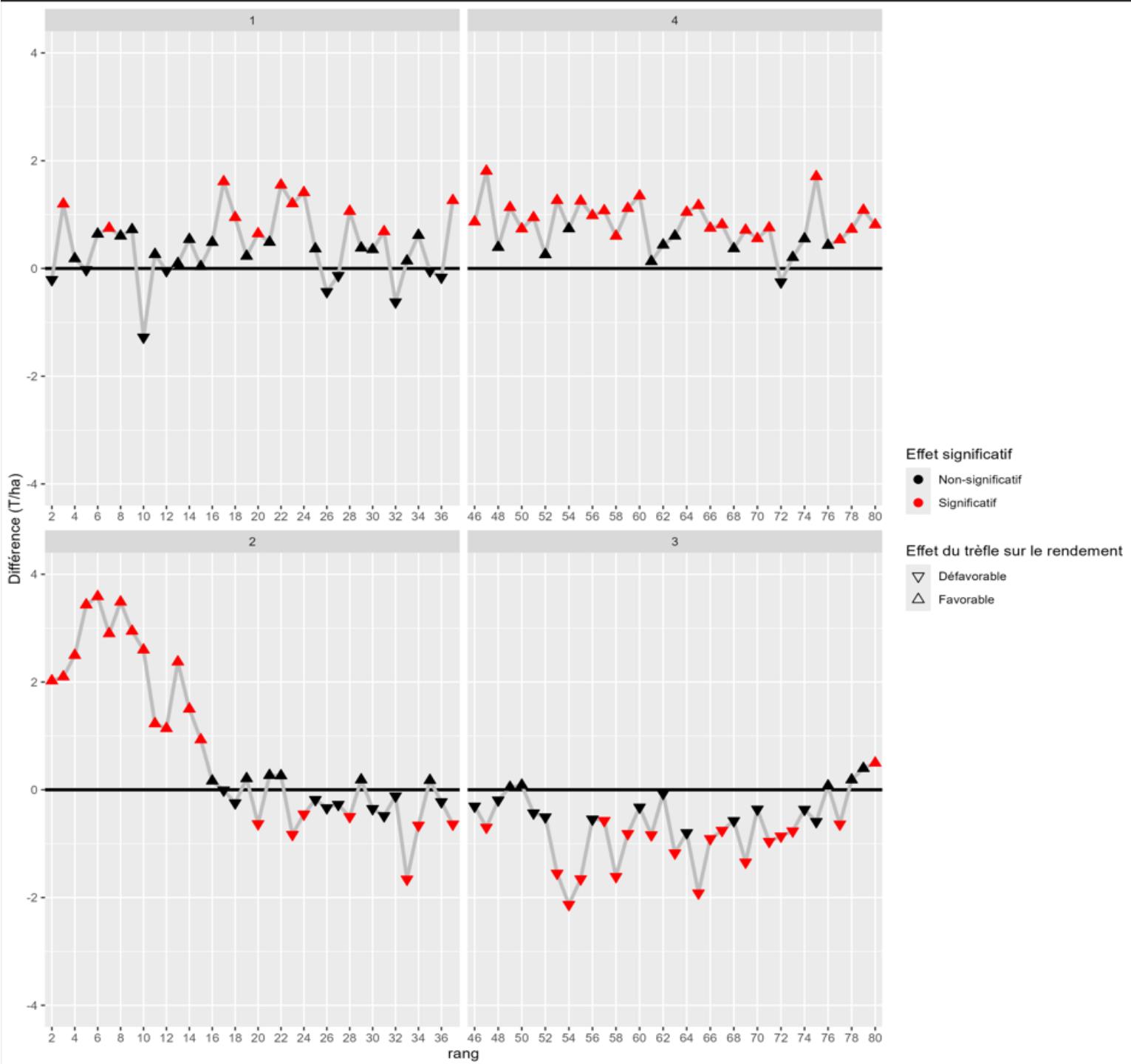
- 1
- 2
- 3
- 4

Essai réalisé en Mauricie
Semis trèfle 2016 (dans blé d'automne)
Récolte maïs 2017

Carte réalisée par Bruce Gélinas, agr.

Référence:
Lawes, R. A., & Bramley, R. G. V. (2012). A simple method for the analysis of on-farm strip trials. *Agronomy journal*, 104(2), 371-377.

Tests de Student mobiles : effet du trèfle sur le rendement du maïs



Tests de Student mobiles : effet du trèfle sur l'humidité du maïs

