

Trial Creation Guide

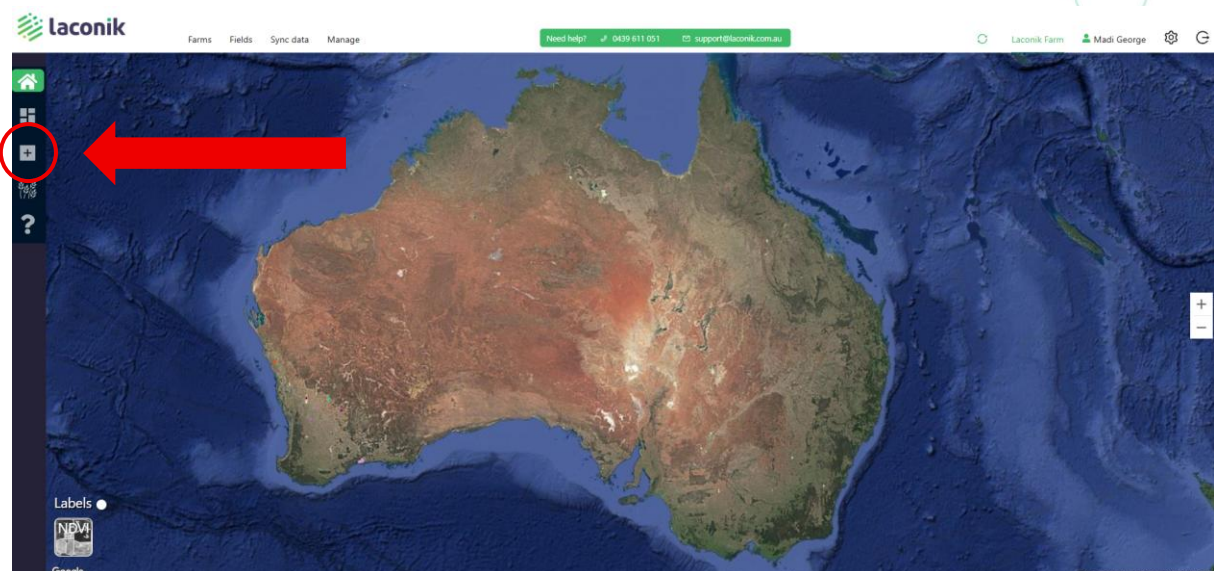
Accessing Laconik

Create Your Account

Go to fertiliser.laconik.com.au and click **Get Started** to sign up and create your Laconik account.

How to Choose a Laconik Trial Type

Laconik offers three trial types depending on the question you want to answer.



Create a trial by selecting the appropriate trial type:

Laconik Trial

Replicated strip trial for testing single products, varieties, or seeding rates across a paddock.

These trials are commonly used for:

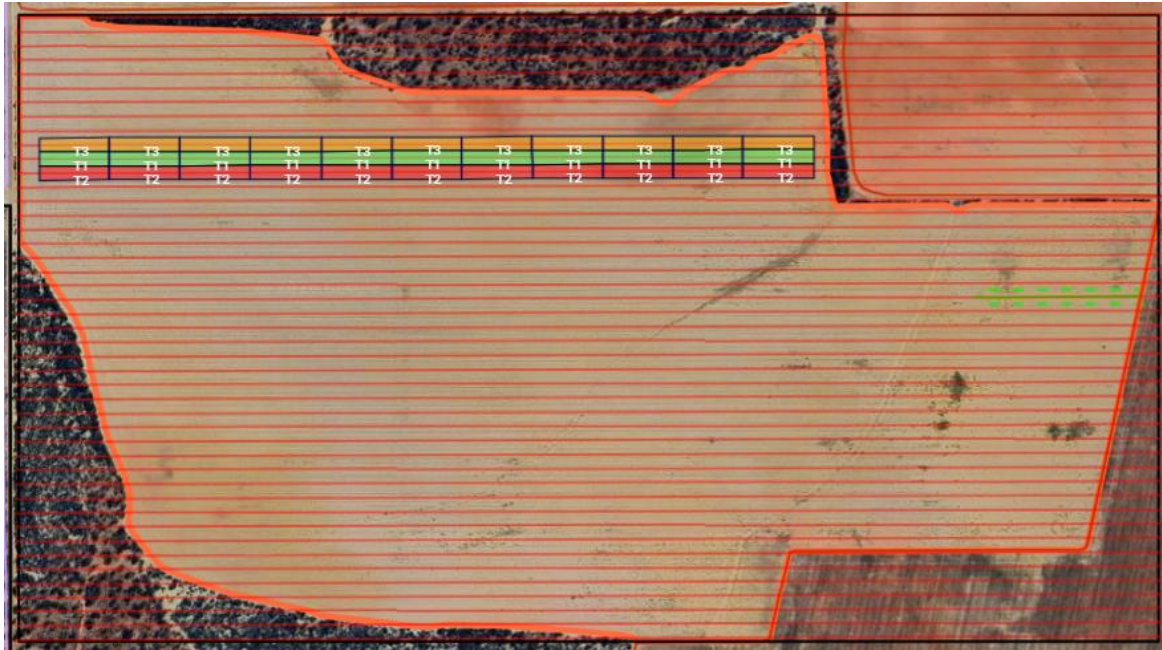
Fertiliser rate trials

Variety comparisons

Seeding rate trials

Single product evaluations

Treatments are applied in **replicated strips across the paddock.**



Laconik Combine

Randomised paddock-scale trial for testing a single factor while accounting for spatial variability.

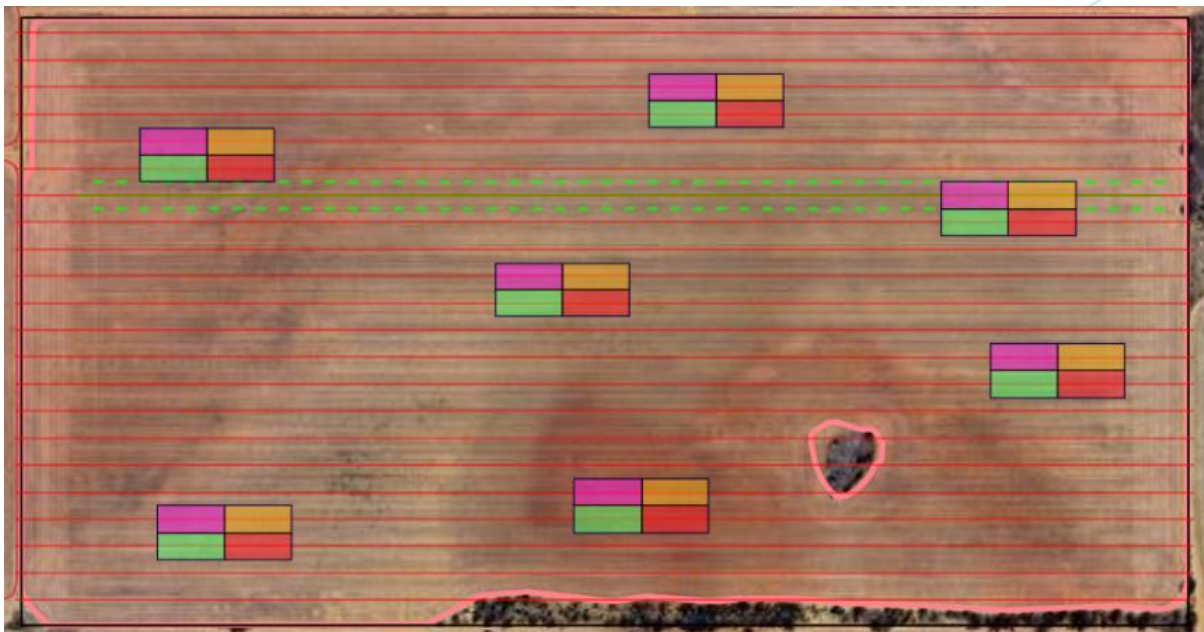
This design distributes treatments across the paddock so the analysis can separate **treatment effects from natural paddock variation.**

Common examples include:

Fungicide comparisons

Fertiliser program trials

Herbicide trials



Laconik Factorial

Paddock-scale trial used to test **multiple inputs at the same time** and measure how they interact.

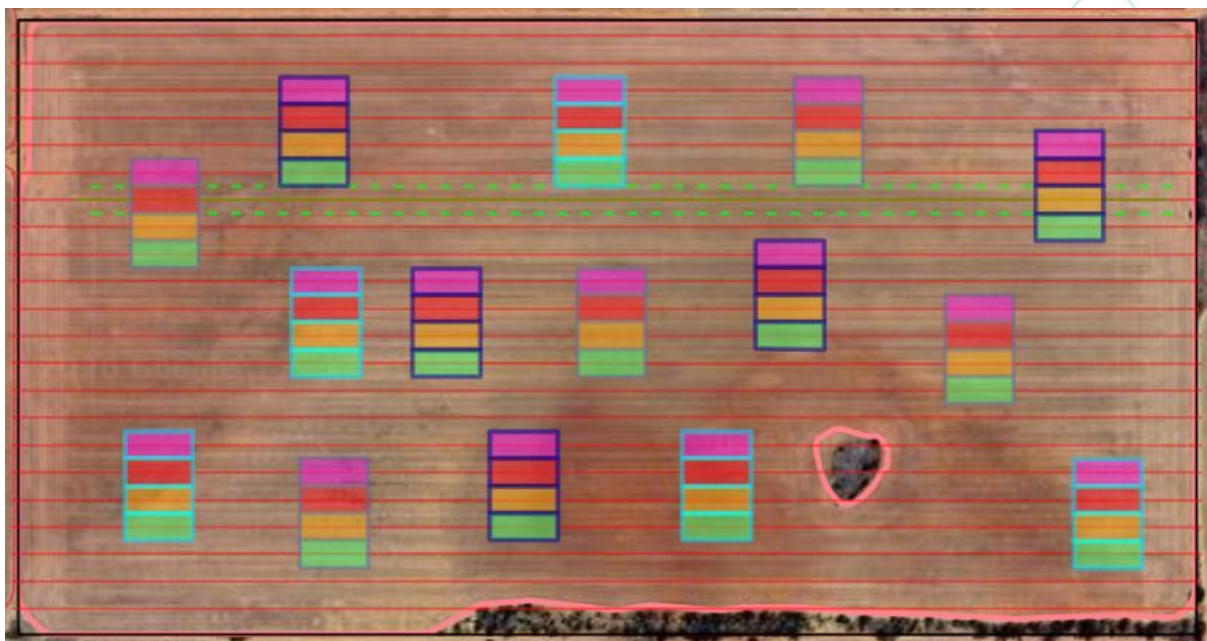
Examples include:

Nitrogen rate × fungicide

Seeding rate × seeding speed

Phosphorus × nitrogen

Factorial trials help determine not only which treatments perform best, but **how different inputs influence each other**.



Laconik Free-Form

A flexible trial design where treatments can be applied in any layout across the paddock, **without predefined strips or structure.**

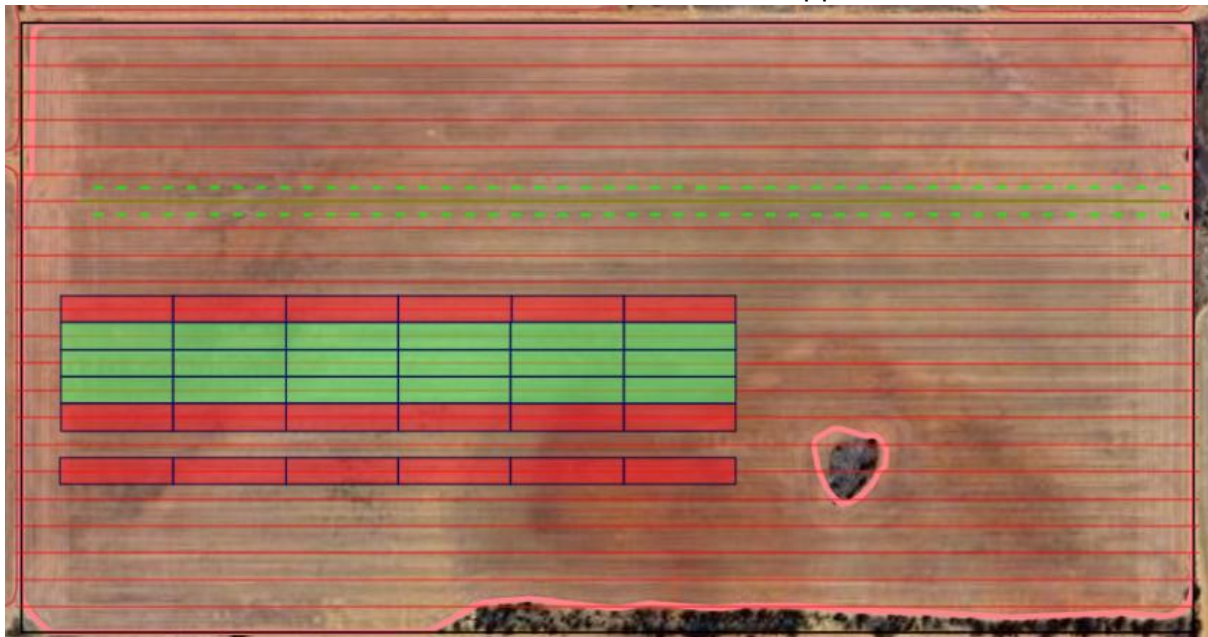
This is useful when treatments are **applied irregularly** or when **working with existing application patterns that do not follow standard trial designs.**

Common examples include:

Deep ripping comparisons

Where comparisons have been applied in blocks

Where a trial is to be created **after** treatments have been applied



How to create a Strip Trial

Step 1: Select the Farm

In the **top right corner**, select the **Farm** (Company) from the dropdown menu. The field boundaries for this farm will appear on the **map**. Then use the map to select the **field** where you want to create the trial.

Step 2: Create a New Trial

From the **main menu on the left**, click the **+ icon** and select **Strip Trial**. This will open the **trial creation panel**.

Step 3: Enter Trial Details

Some trial information will be **pre-filled automatically**, but can be edited if required. Enter or confirm the following details for the trial:

- **Trial Owner** – usually the grower.
- **AB Line** – select the AB line that the grower is using for field operations.
- **Objective** – a short description of what the trial aims to evaluate.
- **Machinery Width** – the working width of the machine applying the treatments (e.g. seeder, sprayer, or spreader).
- **Application Offset** – the offset from the AB line where the first treatment strip begins.
- **Plot Width** – The number of **multiples of the machinery width**.
- **Plot Length** – the length of each plot.
- **Replicates** – the number of times each treatment will be repeated across the paddock.
- **Crop** – the crop being grown in the paddock.
- **Product/s** – the product being tested in the trial.
- **Base Rate** – the base application rate of the product. This is the rate that will be applied across the paddock outside of the trial areas. Enter the rate using the same units as the rate controller (e.g. **kg for solids or L for liquids**). Or click “Upload VR” to upload the growers’ variable rate map.

As these details are entered, an auto-generated trial layout will appear in the paddock. When any trial settings are changed, the layout will update automatically.

Providing this information ensures the trial layout aligns with **machinery operations and field implementation**.

Step 4: Add Treatments

Create the treatments you want to test in the trial.

For each treatment, enter:

- **Treatment Name** – the name used to identify each treatment
- **Treatment Rate** - the rate of product being tested (e.g. t/ha for solids or L/ha for liquids).
- **Application Rate** - the rate that will be applied by the machine, entered in the same units used by the rate controller (e.g. kg/ha for solids or L/ha for liquids).

Note: **Treatment Rate** is used for reporting and analysis, while **Application Rate** is the rate sent to the machinery rate controller.

To add additional treatments, click **+ Add Treatment**.

For example, a **urea rate strip trial** may include treatments such as:

T	Treatment Name	Treatment Rate ⓘ	Application Rate ⓘ
1	0kg/ha Urea	0.00	0.00
2	50kg/ha Urea	0.05	50.00
3	100kg/ha Urea	0.10	100.00
4	150kg/ha Urea	0.15	150.00

Step 5: Configure Trial Layout

You can now adjust the trial layout by modifying settings such as **replicates, plot width, and plot length**.

Use the **map view** to position replicates within the field boundaries.

- Hold **Shift** to place a replicate **outside or over the field boundary**.
- **Right-click a replicate and select Delete to remove it.**
- **Right-click a replicate** and use the **arrows** to add another replicate beside an existing replicate.

When positioning the trial, consider any **variation across the paddock**, or areas of the paddock that may be compromised throughout the season such as:

- Soil type changes
- Areas of vegetation
- Historical fertiliser or seed piles
- Historical dump points
- Field entry or high traffic areas
- Other management zones

It can also be useful to place some replicates **near the field edges** so they remain accessible if monitoring or field walks are required.

Ensure the trial layout aligns with **how treatments will be applied in the paddock** and the limitations of the machinery. For example, variety trials typically need all treatment replicates positioned along the same AB line, allowing the grower to empty and refill the seed box between varieties.

Additional **precision agriculture layers**, such as historical yield maps or NDVI imagery, may help identify areas of variability when positioning replicates.

For robust results, trials generally benefit from **more replications with smaller plots** rather than **fewer large plots**, as this increases the statistical power of the trial.

Step 6: Name and Save the Trial

Once the layout and treatments are correct, enter an **appropriate trial name**.

Then click **Save Trial**.

Your **Laconik Trial** is now created and ready to be implemented in the paddock.

What Happens Next?

After creating a trial, you will be taken to the **Trial Dashboard**, where you can **edit the trial attributes** if any changes are required.

How to create a Laconik Combine

Step 1: Select the Farm

In the **top right corner**, select the **Farm** (Company) from the dropdown menu.

The field boundaries for this farm will appear on the **map**. Then use the map to select the **field** where you want to create the trial.

Step 2: Create a New Trial

From the **main menu on the left**, click the **+ icon** and select **Combine Trial**.

This will open the **trial creation panel**.

Step 3: Enter Trial Details

Some trial information will be **pre-filled automatically**, but can be edited if required.

Enter or confirm the following details for the trial:

- **Trial Owner** – usually the grower.
- **AB Line** – select the AB line that the grower is using for field operations.
- **Objective** – a short description of what the trial aims to evaluate.
- **Machinery Width** – the working width of the machine applying the treatments (e.g. seeder, sprayer, or spreader).
- **Application Offset** – the offset from the AB line where the first treatment strip begins.
- **Plot Width** – The number of **multiples of the machinery width**.
- **Plot Length** – the length of each plot.
- **Replicate Density** – the number of times each treatment will be repeated across the paddock.
- **Crop** – the crop being grown in the paddock.
- **Product/s** – the product being tested in the trial.
- **Base Rate** – the base application rate of the product. This is the rate that will be applied across the paddock outside of the trial areas. Enter the rate using the same units as the rate controller (e.g. **kg for solids or L for liquids**). Or click “Upload VR” to upload the growers’ variable rate map.

As these details are entered, an auto-generated trial layout will appear in the paddock. When any trial settings are changed, the layout will update automatically.

Providing this information ensures the trial layout aligns with **machinery operations and field implementation**.

Step 4: Add Treatments

Create the treatments you want to test in the trial. A combine trial must consist of **four treatments**.

For each treatment, enter:

- **Treatment Name** – the name used to identify each treatment
- **Treatment Rate** - the rate of product being tested (e.g. t/ha for solids or L/ha for liquids).
- **Application Rate** - the rate that will be applied by the machine, entered in the same units used by the rate controller (e.g. kg/ha for solids or L/ha for liquids).

*Note: **Treatment Rate** is used for reporting and analysis, while **Application Rate** is the rate sent to the machinery rate controller.*

For example, a **urea rate trial** may include treatments such as:

T	Treatment Name	Treatment Rate ⓘ	Application Rate ⓘ
1	0kg/ha Urea	0.00	0.00
2	50kg/ha Urea	0.05	50.00
3	100kg/ha Urea	0.10	100.00
4	150kg/ha Urea	0.15	150.00

Step 5: Configure Trial Layout

You can now adjust the trial layout by modifying settings such as **replicates, plot width, and plot length**.

Use the **map view** to position replicates within the field boundaries.

- Hold **Shift** to place a replicate **outside or over the field boundary**.
- **Right-click a replicate and select Delete to remove it.**
- **Right-click a replicate** and use the **arrows** to add another replicate beside an existing replicate.

When positioning the trial, consider any **variation across the paddock**, or areas of the paddock that may be compromised throughout the season such as:

- Soil type changes

- Areas of vegetation
- Historical fertiliser or seed piles
- Historical dump points
- Field entry or high traffic areas
- Other management zones

It can also be useful to place some replicates **near the field edges** so they remain accessible if monitoring or field walks are required.

Ensure the trial layout aligns with **how treatments will be applied in the paddock** and the limitations of the machinery. For example, variety trials typically need all treatment replicates positioned along the same AB line, allowing the grower to empty and refill the seed box between varieties.

Additional **precision agriculture layers**, such as historical yield maps or NDVI imagery, may help identify areas of variability when positioning replicates.

For robust results, trials generally benefit from **more replications with smaller plots** rather than **fewer large plots**, as this increases the statistical power of the trial.

Step 6: Name and Create the Trial

Once the layout and treatments are correct, enter an **appropriate trial name**. Then click **Create**.

Your **Laconik Combine Trial** is now ready to be implemented in the paddock.

What Happens Next?

After creating a trial, you will be taken to the **Trial Dashboard**, where you can **edit the trial attributes** if any changes are required.

How to create a Laconik Factorial

Step 1: Select the Farm

In the **top right corner**, select the **Farm** (Company) from the dropdown menu. The field boundaries for this farm will appear on the **map**. Then use the map to select the **field** where you want to create the trial.

Step 2: Create a New Trial

From the **main menu on the left**, click the **+ icon** and select **Factorial Trial**. This will open the **trial creation panel**.

Step 3: Enter Trial Details

Some trial information will be **pre-filled automatically**, but can be edited if required. Enter or confirm the following details for the trial:

- **Trial Owner** – usually the grower.
- **AB Line** – select the AB line that the grower is using for field operations.
- **Objective** – a short description of what the trial aims to evaluate.

- **Machinery Width** – the working width of the machine applying the treatments (e.g. seeder, sprayer, or spreader).
- **Application Offset** – the offset from the AB line where the first treatment strip begins.
- **Plot Width** – The number of **multiples of the machinery width**.
- **Plot Length** – the length of each plot.
- **Laconik Combine Trial Design** - toggle this option **on** if you want the factorial treatments to be distributed across the paddock using the **Laconik Combine randomisation approach**. This helps account for spatial variability across the field.
- **Shuffle Plots Individually** - toggle this option **on** to randomly shuffle each plot independently. This increases randomisation and helps reduce bias caused by paddock variation.
- **Crop** – the crop being grown in the paddock.
- **Product/s** – the product being tested in the trial.
- **Base Rate** – the base application rate of the product. This is the rate that will be applied across the paddock outside of the trial areas. Enter the rate using the same units as the rate controller (e.g. **kg for solids or L for liquids**). Or click “Upload VR” to upload the growers’ variable rate map.

Step 4: Add Treatments and Replicates

Create the treatments you want to test in the trial.

For each treatment for both **Primary** and **Secondary** treatments, enter:

- **Treatment Name** – the name used to identify each treatment
- **Treatment Rate** - the rate of product being tested (e.g. t/ha for solids or L/ha for liquids).
- **Application Rate** - the rate that will be applied by the machine, entered in the same units used by the rate controller (e.g. kg/ha for solids or L/ha for liquids).

Enter the desired **number of replicates** per **secondary treatment**.

*Note: **Treatment Rate** is used for reporting and analysis, while **Application Rate** is the rate sent to the machinery rate controller.*

For example, a **Urea by MAP trial** may include treatments such as:

Primary treatments

T	Product	Treatment Name	Treatment Rate	Unit	Apply	
1	Urea	0kg/ha Urea	0.00	t/ha	0.00	
2	Urea	50kg/ha Urea	0.05	t/ha	50.0	🗑️
3	Urea	100kg/ha Urea	0.10	t/ha	100	🗑️
4	Urea	150kg/ha Urea	0.15	t/ha	150	🗑️

➕ Add Treatment

Secondary treatments

T	Product	Treatment Name	Treatment Rate	Unit	Apply	
1	MAP	40kg/ha MAP	0.04	t/ha	40.0	
2	MAP	80kg/ha MAP	0.08	t/ha	80.0	🗑️
3	MAP	120kg/ha MAP	0.12	t/ha	120	🗑️
4	MAP	160 kg/ha MAP	0.16	t/ha	160	🗑️

➕ Add Treatment

Then click **“Generate Layout”**, where you will see your trail appear on the **map**.

Step 5: Configure Trial Layout

Use the **map view** to position replicates within the field boundaries.

- Hold **Shift** to place a replicate **outside or over the field boundary**.
- **Right-click a replicate and select Delete to remove it.**
- **Right-click a replicate** and use the **arrows** to add another replicate beside an existing replicate.

When positioning the trial, consider any **variation across the paddock**, or areas of the paddock that may be compromised throughout the season such as:

- Soil type changes
- Areas of vegetation
- Historical fertiliser or seed piles
- Historical dump points
- Field entry or high traffic areas
- Other management zones

It can also be useful to place some replicates **near the field edges**, so they remain accessible if monitoring or field walks are required.

Ensure the trial layout aligns with **how treatments will be applied in the paddock** and the limitations of the machinery.

Additional **precision agriculture layers**, such as historical yield maps or NDVI imagery, may help identify areas of variability when positioning replicates.

For robust results, trials generally benefit from **more replications with smaller plots** rather than **fewer large plots**, as this increases the statistical power of the trial.

Step 6. Save the Trial

Once the layout is correct, click **Create**.

Your **Laconik Combine Trial** is now ready to be implemented in the paddock.

What Happens Next?

After creating a trial, you will be taken to the **Trial Dashboard**, where you can **edit the trial attributes** if any changes are required.

How to create a Laconik Free-Form

Step 1: Select the Farm

In the **top right corner**, select the **Farm** (Company) from the dropdown menu.

The field boundaries for this farm will appear on the **map**. Then use the map to select the **field** where you want to create the trial.

Step 2: Create a New Trial

From the **main menu on the left**, click the **+ icon** and select **Factorial Trial**.

This will open the **trial creation panel**.

Step 3: Enter Trial Details

Some trial information will be **pre-filled automatically**, but can be edited if required.

Enter or confirm the following details for the trial:

- **Trial Owner** – usually the grower.
- **AB Line** – select the AB line that the grower is using for field operations.
- **Objective** – a short description of what the trial aims to evaluate.
- **Machinery Width** – the working width of the machine applying the treatments (e.g. seeder, sprayer, or spreader).

- **Application Offset** – the offset from the AB line where the first treatment strip begins.
- **Plot Width** – The number of **multiples of the machinery width**.
- **Plot Length** – the length of each plot.
- Enter the desired **number of replicates per treatment**.
- **Crop** – the crop being grown in the paddock.
- **Product/s** – the product being tested in the trial.
- **Base Rate** – the base application rate of the product. This is the rate that will be applied across the paddock outside of the trial areas. Enter the rate using the same units as the rate controller (e.g. **kg for solids or L for liquids**). Or click “Upload VR” to upload the growers’ variable rate map.

Step 4: Add Treatments


Create the treatments you want to test in the trial.

For each treatment, enter:

- **Treatment Name** – the name used to identify each treatment
- **Treatment Rate** - the rate of product being tested (e.g. t/ha for solids or L/ha for liquids).
- **Application Rate** - the rate that will be applied by the machine, entered in the same units used by the rate controller (e.g. kg/ha for solids or L/ha for liquids).

*Note: **Treatment Rate** is used for reporting and analysis, while **Application Rate** is the rate sent to the machinery rate controller.*

For example, a deep ripping trial may include treatments such as:

T	Treatment Name	Treatment Rate ⓘ	Application Rate ⓘ	
1	Deep Ripped	0.00	0.00	
2	Not Deep Ripped	0.00	0.00	

Step 5: Configure Trial Layout

You can now adjust the trial layout by modifying settings such as **replicates, plot width, and plot length**.

Use the **map view** to position replicates within the field boundaries.

- Hold **Shift** to place a replicate **outside or over the field boundary**.
- **Right-click a replicate and select Delete to remove it.**
- **Right-click a replicate** and use the **arrows** to add another replicate beside an existing replicate.

When positioning the trial, consider any **variation across the paddock**, or areas of the paddock that may be compromised throughout the season such as:

- Soil type changes
- Areas of vegetation
- Historical fertiliser or seed piles

- Historical dump points
- Field entry or high traffic areas
- Other management zones

It can also be useful to place some replicates **near the field edges** so they remain accessible if monitoring or field walks are required.

Ensure the trial layout aligns with **how treatments have been/will be applied in the paddock** and the limitations of the machinery. For example, variety trials typically need all treatment replicates positioned along the same AB line, allowing the grower to empty and refill the seed box between varieties.

Additional **precision agriculture layers**, such as historical yield maps or NDVI imagery, may help identify areas of variability when positioning replicates.

For robust results, trials generally benefit from **more replications with smaller plots** rather than **fewer large plots**, as this increases the statistical power of the trial.

Step 6: Name and Create the Trial

Once the layout and treatments are correct, enter an **appropriate trial name**. Then click **Create**.

Your **Laconik Free-From Trial** is now ready.

What Happens Next?

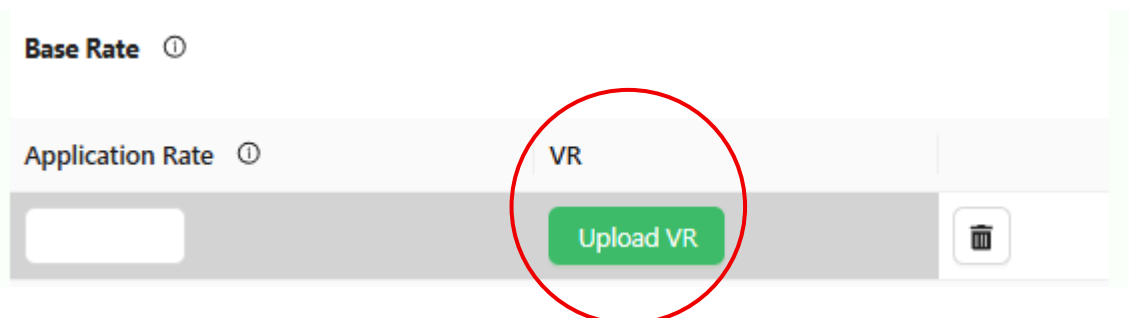
After creating a trial, you will be taken to the **Trial Dashboard**, where you can **edit the trial attributes** if any changes are required.

Uploading Variable Rate maps

If a grower is applying a product using **Variable Rate (VR)**, upload the VR map to **Laconik** so it can be integrated with the trial design.

This ensures the **VR application runs across the paddock**, while the **trial treatments override the VR map within the trial replicates**.

VR maps can be uploaded in the **Base Rate** attribute during trial creation, or afterwards via the **Trial Dashboard**.



Machinery Considerations

Plot width is often determined by the **wheel track pattern of machinery operating in the paddock**.

For example, if a **header is 12 m** wide and a **sprayer is 36 m**, the recommended plot width would be **36 m**.

This ensures that at harvest, each plot contains **three header passes**, while also aligning with **one sprayer wheel track**. Aligning plot widths with machinery widths helps ensure plots contain equal variation.

To ensure accurate application and reliable data collection, trial plots should meet the following **minimum lengths** depending on the machinery used:

Machinery	Minimum Plot Length
Sprayer	80 m
Spreader	80 m
Seeding Bar	90 m

These minimum lengths allow sufficient distance for machinery to **adjust application rates and stabilise**, while ensuring enough treated area within each plot for meaningful data collection.

How to View & Edit Laconik Trials

To access and view **trials**, navigate to the menu on the left and select **Trial Dashboard**. In the pop-up window, choose the relevant **season** and then select the trial you wish to view.

Once you are inside the **trial dashboard**, you can;

- View the **trial location** in Google Maps
- View and **edit trial attributes**
 - Toggle **Lock Layout** off to unlock and edit the trial layout
 - Trial attributes will also become editable here
- Download **Summary Reports** and **Final Reports** for trials with associated yield data (for example, trials from previous years)

Please note that when downloading a report, the system generates a new dynamic version each time using AI. As a result, there may be slight wording differences between downloads. These reports **must be proofread before being distributed**.