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FruitLook Manual

V4 - October 2015

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Content of this Manual

This manual will provide a 5-step basic introduction on FruitLook:

Step 1: Register to FruitLook (Only once)

Step 2: Place your fields orders

- A. New field orders
- B. Duplicate fields from other seasons
- C. Order single field from field database
- D. Delete fields from your account

Step 3: Analyse your fields

- A. MyFields Overview
- B. MyField
- C. MyField Analysis

Step 4: Export data to Excel or other software

Step 5: Get more information on FruitLook

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STEP 1

Register to FruitLook (Only once)

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Step 1: Register to FruitLook (only once)

Select

"Register for free"

on the FruitLook homepage

Step 1: Register to FruitLook (only once)

1. Fill in the registration form. The fields with an * are obligatory.
2. Press “Save” at the bottom of the form when you have completed your details.
3. FruitLook will send you an email with a link to confirm your registration. Please confirm your registration by pressing this link.[1]
4. Congratulations, you are now registered to FruitLook!
5. You are ready to go to step 2: ordering your field data!

[1] Please note:
Your confirmation email might end up in your spam-folder (especially if you use gmail or hotmail) . If you have not received a confirmation email please check your spam-folder. If you cannot find your email there, contact us via info@fruitlook.co.za and we will help you as soon as possible.

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STEP 2

Place your field orders

A. New field orders

B. Duplicate fields from other seasons

C. Order single field from field database

D. Delete fields from your account

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Step 2: Place your field orders
A. New field orders

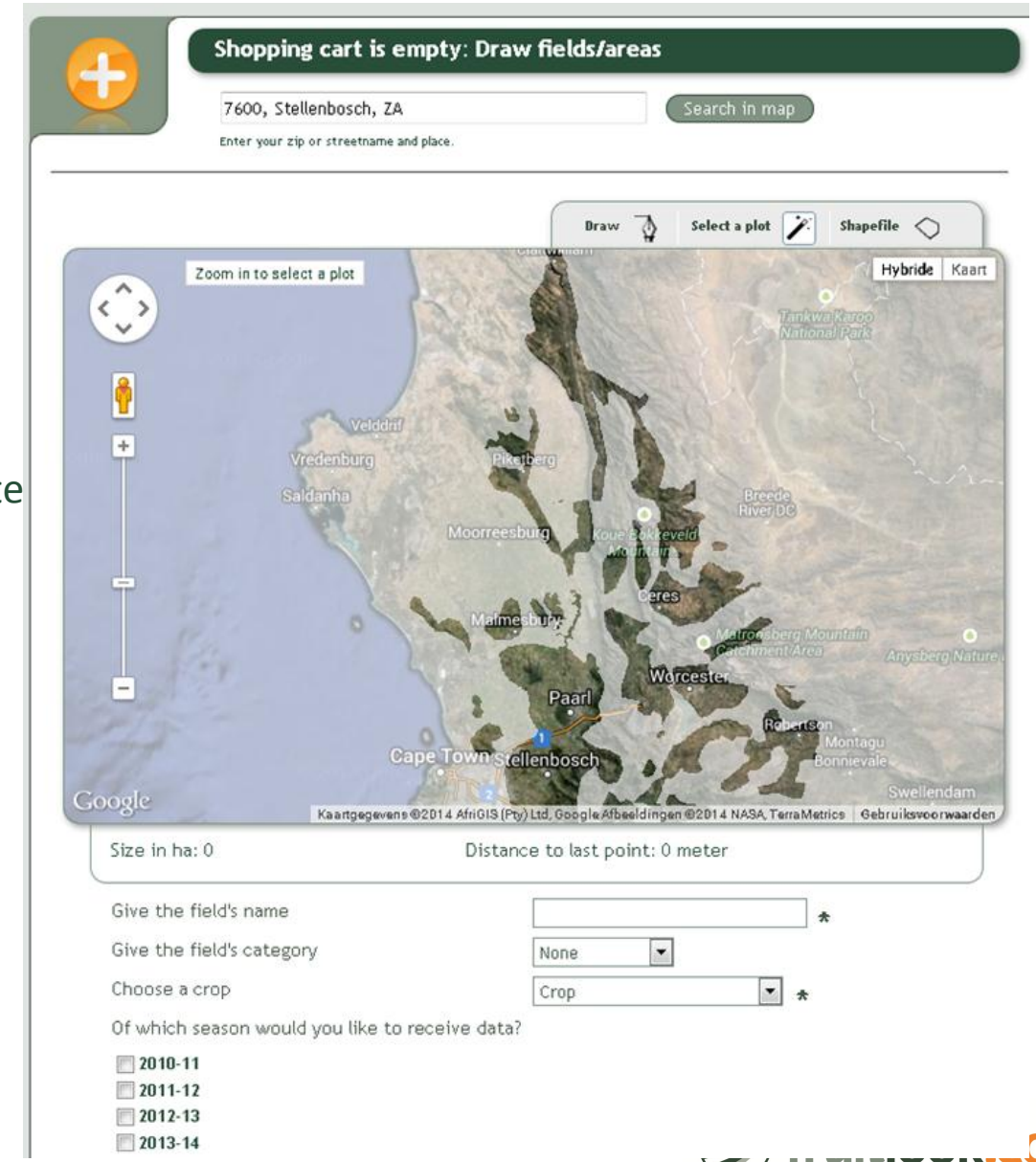
1. Select "Add new field" on the homepage

This button will open the screen depicted on the right.

2. Select how you want to delineate your fields:

a) Select a plot
b) Draw
c) Via a Shapefile

In the following slides the use of each tool is explained.



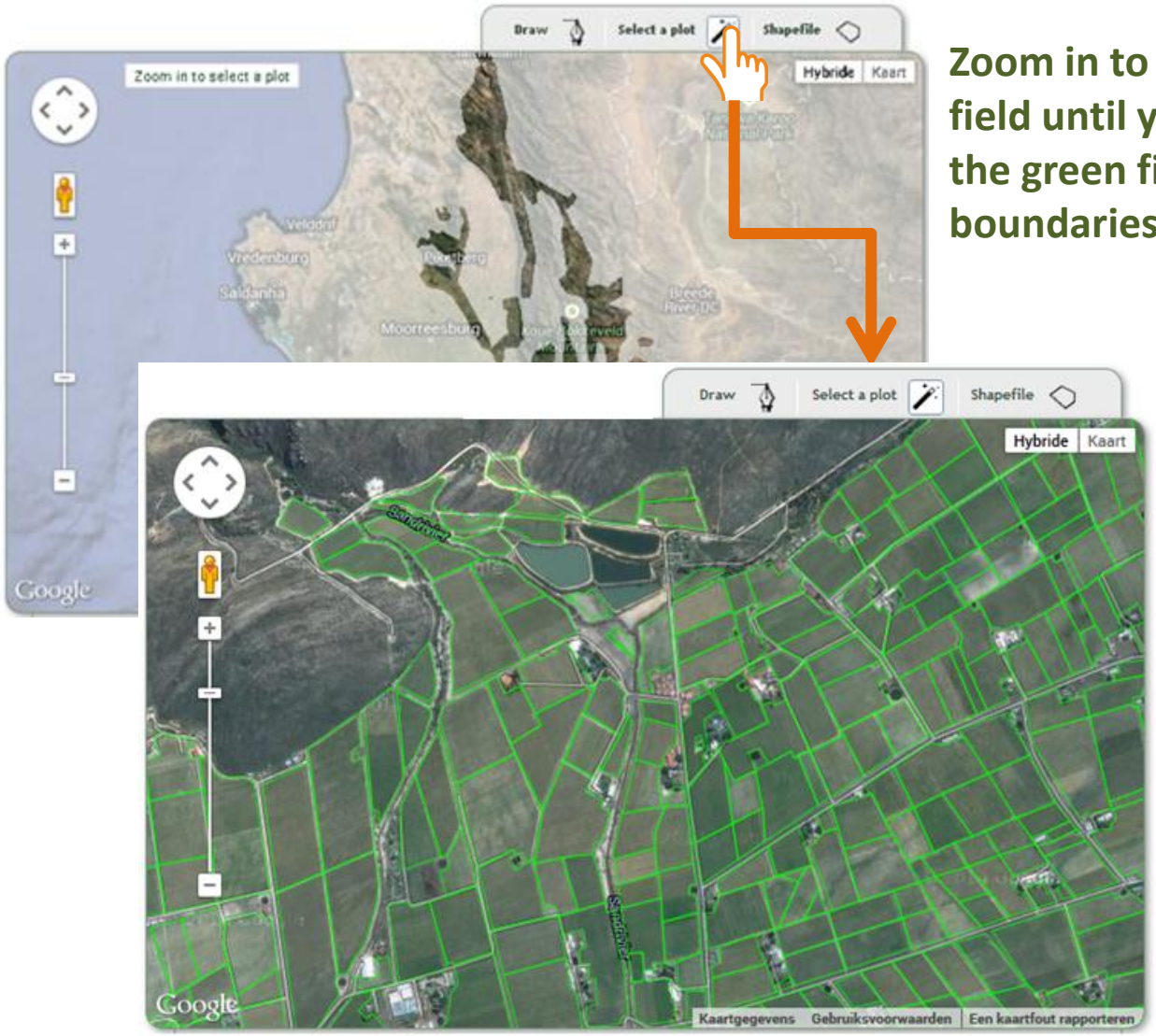
Step 2.A.a Select a plot

1. Go to your field via the viewer. You can also fill in your adress in the adress bar above the map. Zoom in until the green field boundaries appear.

2. Once the green field boundaries appear you can select your field by a click of your mouse > if required you can alter field boundaries by moving the white dots.

3. Fill in a field name, select a crop type and the required seasons.

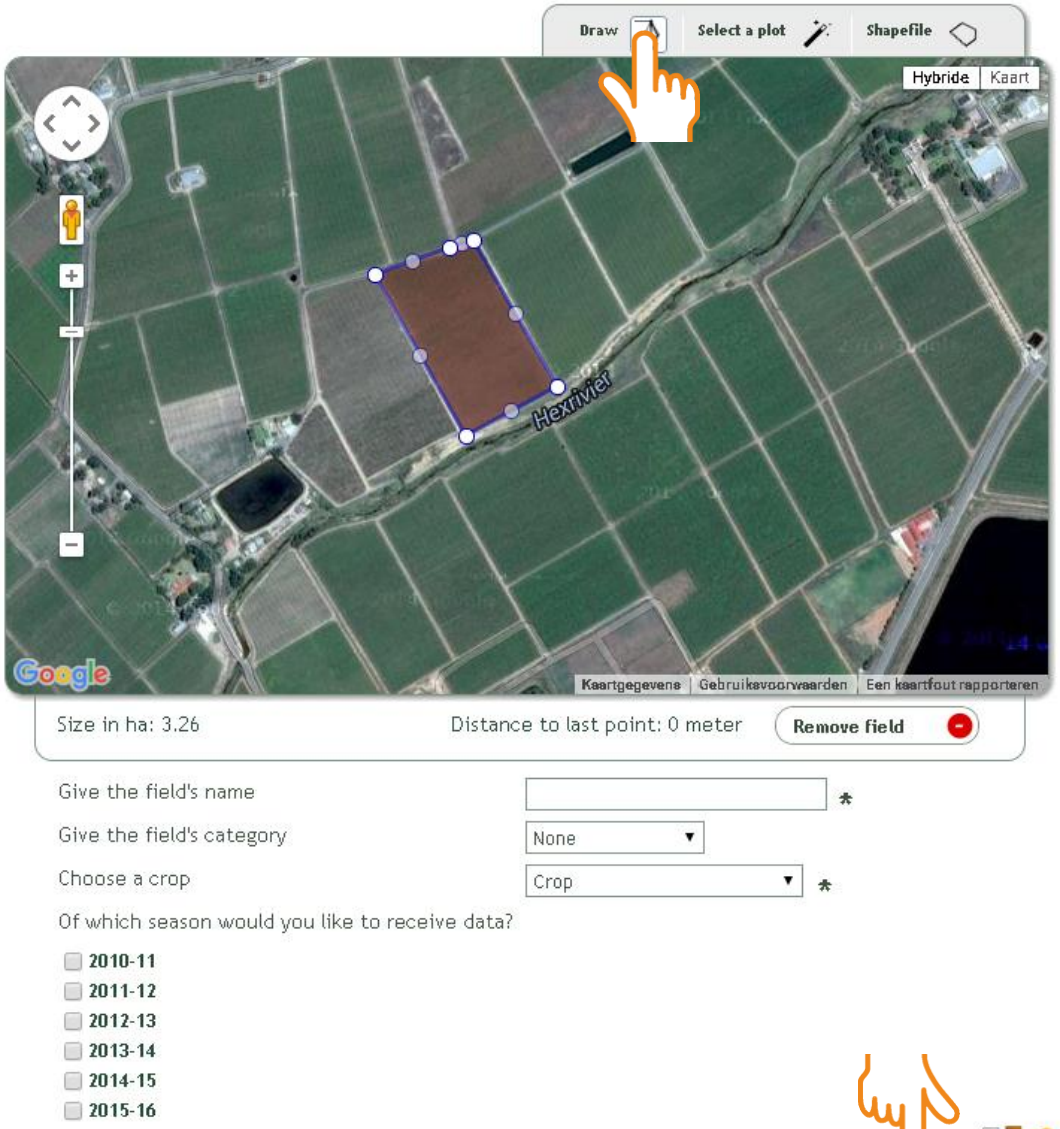
4. Select “Add to Cart” on the bottom of the screen to add your field to your shopping cart.



Zoom in to your field until you see the green field boundaries appear!

Step 2.A.b The draw-tool

1. Select “Draw”.
2. Zoom to your field via the viewer. You can also fill in your adress in the adress bar above the map
3. To draw your field, you click along the borders of the field. Once you have completed the drawing, you can still make changes by moving the white squares.
4. Once you are satisfied, fill in a field name, select a season and a crop type.
5. Click the ‘Add to cart’ button.



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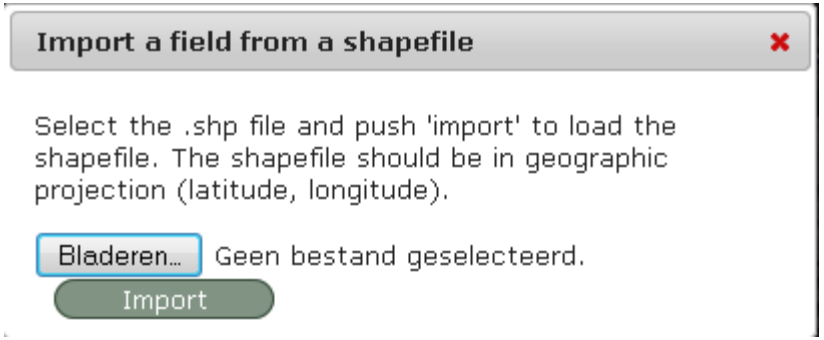
Step 2.A.c Via a Shapefile

1. Select “Shapefile” in the “Add your field”-screen ->

2. A pop-up will be visible on the screen. Press “Bladeren” and select your shapefile. Only shapes in Geographic projection can be used. The shape can only consist of one field. Once you have selected a shape, press “Import”.



3. Your added field is visible in the viewer. You can change the shape of your field by moving the white dots. When satisfied, press “Add to cart”. Your field is now moved to the shopping cart.

Step 2: Place your field orders
A. New field orders

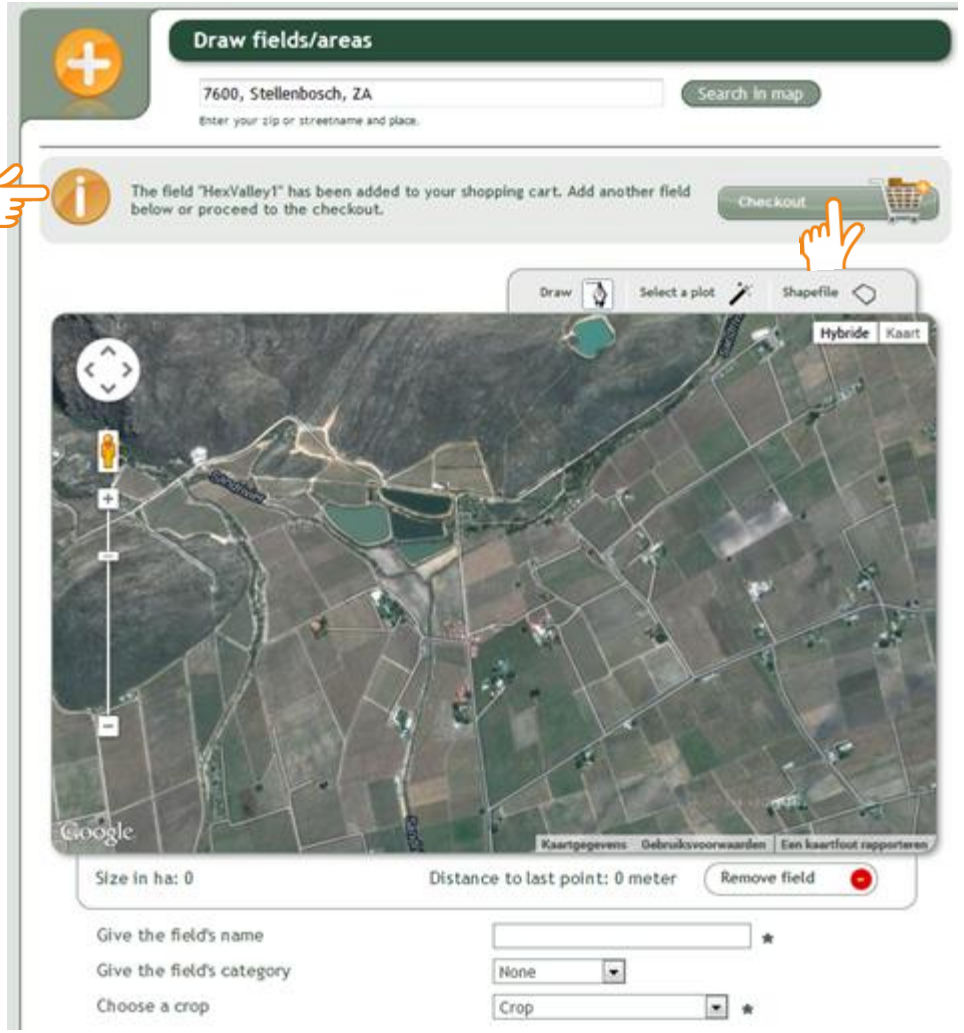
1. After pressing “Add to cart” a message will apear saying:

   “The field “X” has been added to your shopping cart. Add another field below or proceed to the checkout”

2. You can either choose to:

   a) delineate a new field and add this one to the cart as well. This is done through the same steps as described in the previous slides.

   b) Or proceed to the “Checkout”. This will open a new screen, which contains the shopping cart showing your field orders.



Step 2: Place your field orders
A. New field orders

By clicking “Checkout” you access the shopping cart. Here, you have two options:

1) You continue adding more fields by clicking the Add more fields button. By pressing this button you will return to the “Add your field”-screen.

2) You are finished adding fields and want to order your data:

   - Select “I agree with the terms”
   - Press “Order”

   A pop-up will appear to thank you for your order. Your products will be available in “MyFields Overview” in 5 minutes (continue to Step 3 of this Manual)

After you have placed your order you will receive an email with the invoice (0 Rand).

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Step 2: Place your field orders
B. Duplicate fields from other seasons

You can duplicate fields from season to season so you don't have to draw in your fields again. To do so:

1. Go to your "MyFields Overview"-page.

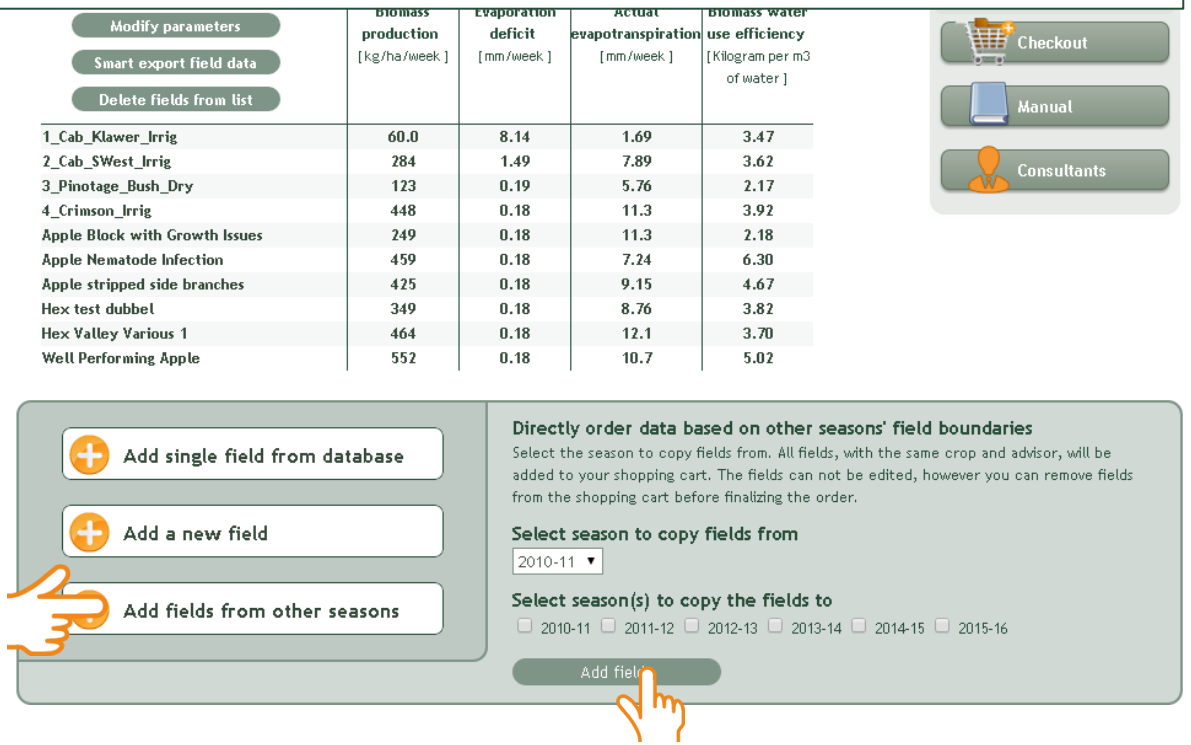
2. Select "Add fields from other seasons" in the submenu at the bottom of the page.

3. Select the season you want to copy fields from and the season(s) you want to copy these fields to. All fields of this season, with the same crop type and advisor, will be duplicated to your season of interest.

4. Once you have selected your season(s), press "Add fields". This will instantly move you to the shopping cart.

5. In the shopping care you <u>cannot</u> change field outlines, crop types, etc. You <u>can</u> remove fields from the ordering list by pressing the ⓧ -button behind each specific field.

6. When satisfied, select "I agree with the terms" and subsequently press "Order" to order all your fields for the new season.



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Step 2: Place your field orders
C. Order single field from field database

1. Go to your “MyFields Overview”-page.
2. Select “Add single field from database” in the submenu at the bottom of the page.
3. This button will open your field database, which consists of fields ordered in past seasons.
4. If you want to order a field for the new season, go to this field and press “add this field”.
5. This will open the “Add your field”-page. You will see your field delineated. You can make adjustments when required. Make sure your field name is correct and your crop type and season are selected. Subsequently press “Add to cart”.
6. Follow the remaining order process.

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Step 2: Place your field orders
D. Delete fields from your account

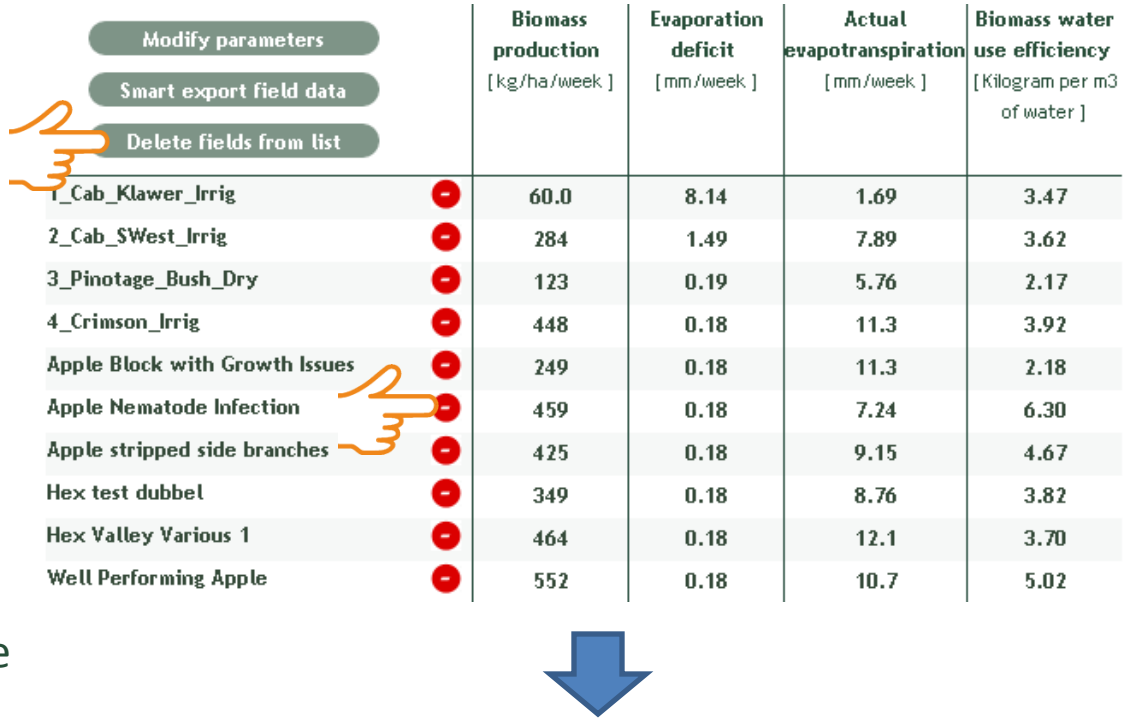
To delete fields:

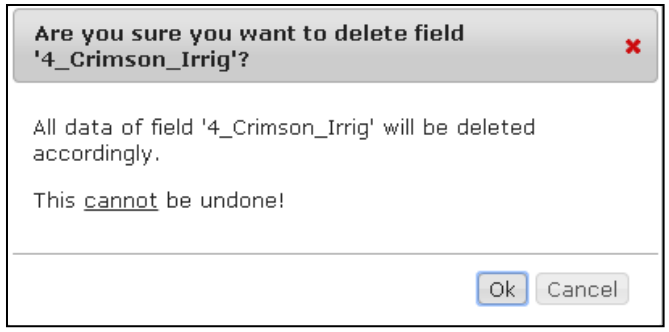
1. Select “Delete fields from list” in the “MyFields Overview” page.

2. Select the field you want to delete by clicking the ⊖ -symbol depicted behind this field.

3. A pop-up will appear. Select “Ok” to delete the selected field, or “Cancel” to not delete the field. After you press “Ok” the field will be deleted for the selected season.

PLEASE KEEP IN MIND THE DELETION OF A FIELD CANNOT BE UNDONE





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STEP 3

Analyse your fields

A. MyFields Overview
B. MyField
C. MyField Analysis

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Step 3: Analyse your fields

To view your ordered data, select “My fields” > this will direct you to the MyFields Overview page.

Step 3: Analyse your fields
A. MyFields Overview

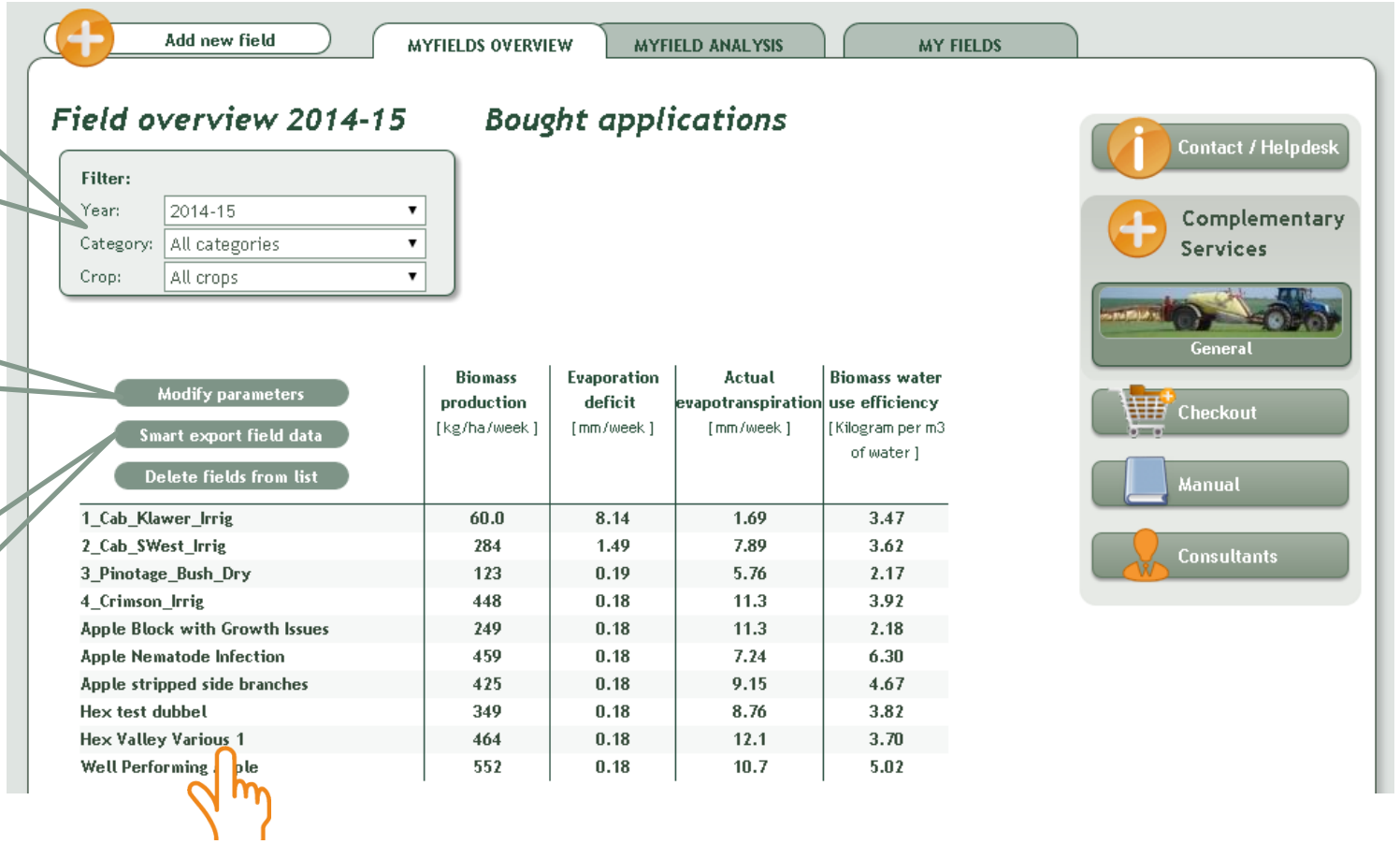
MyFields Overview

- The table shows the parameter values for the last week
- You can view the field details in “MyFields” by clicking the field within the table.

Filter the fields you see in the table, for example only show apricots, or only the fields of a certain category

Change the parameters visible in the table

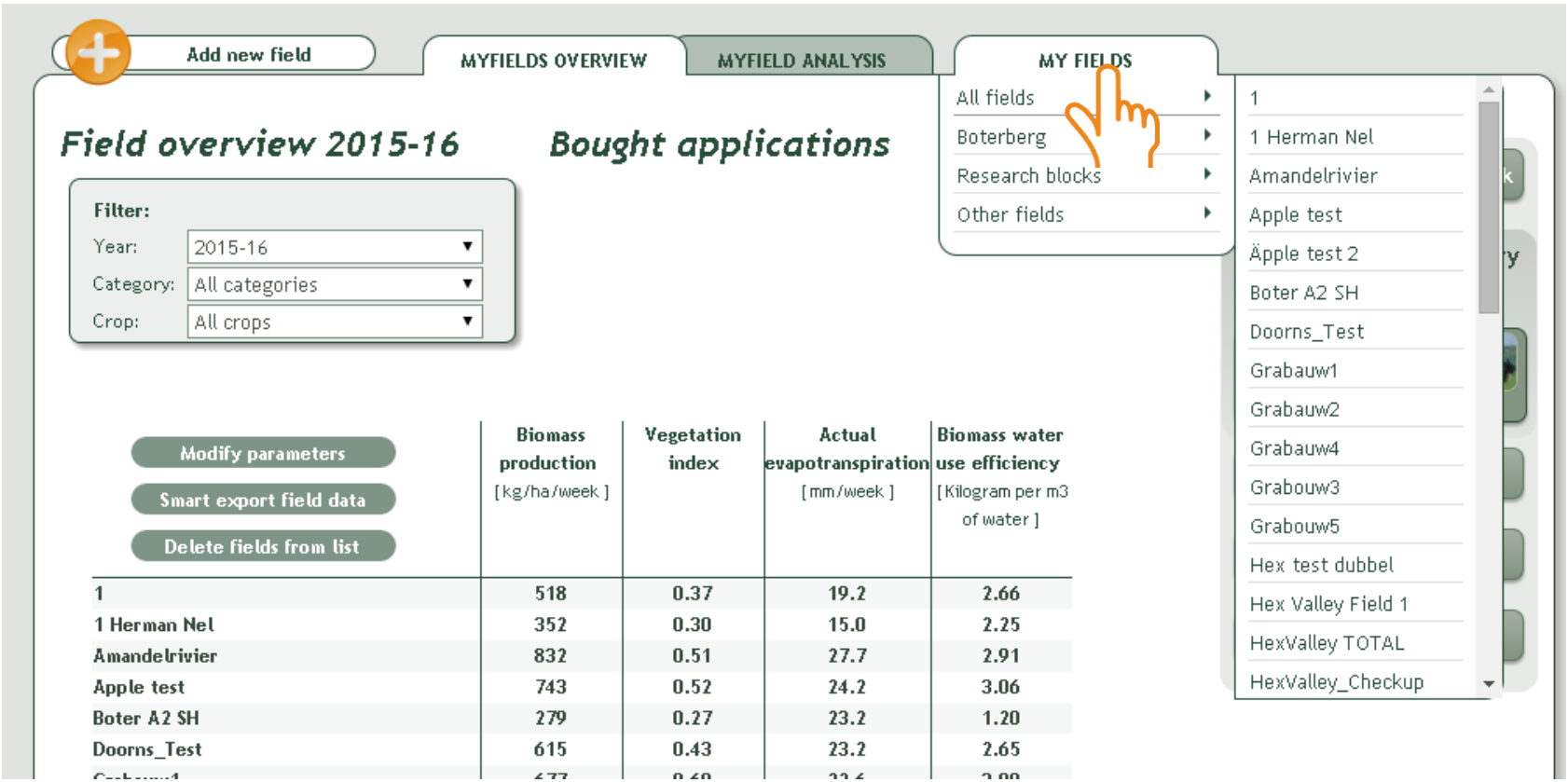
Smart Export of Field Data to Excel: Further explained in Step 4 of this Manual



	Biomass production [kg/ha/week]	Evaporation deficit [mm/week]	Actual evapotranspiration [mm/week]	Biomass water use efficiency [Kilogram per m3 of water]
1_Cab_Klawer_Irrig	60.0	8.14	1.69	3.47
2_Cab_SWest_Irrig	284	1.49	7.89	3.62
3_Pinotage_Bush_Dry	123	0.19	5.76	2.17
4_Crimson_Irrig	448	0.18	11.3	3.92
Apple Block with Growth Issues	249	0.18	11.3	2.18
Apple Nematode Infection	459	0.18	7.24	6.30
Apple stripped side branches	425	0.18	9.15	4.67
Hex test dubbel	349	0.18	8.76	3.82
Hex Valley Various 1	464	0.18	12.1	3.70
Well Performing ..ple	552	0.18	10.7	5.02

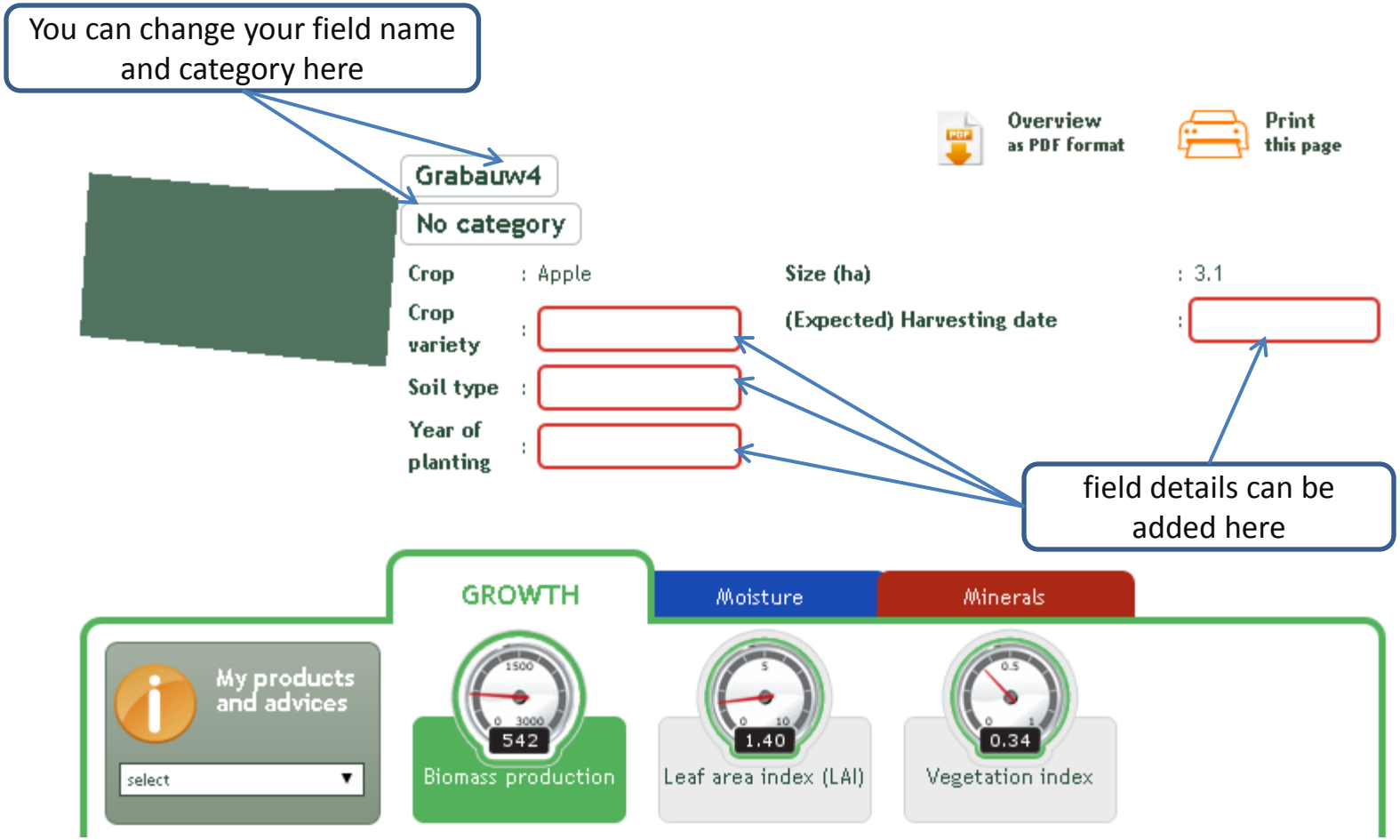
Step 3: Analyse your fields
A. MyFields Overview

The dropdown-menu “MyFields” shows your field categories. By moving over a category the fields within this category appear to the right. By clicking on one of the field names you go the “MyFields”-page of that field



Step 3: Analyse your fields
B. MyFields

In “My fields” you can view your field information field by field.



Step 3: Analyse your fields
B. MyFields

Select “Growth”, “Moisture” or “Mineral” data products.

Change to table or graph view

Average field values per week

Description of map

Select a specific pixel or edit your fieldshape

Change background view to satellite or hybrid (combination of satellite and map) for better orientation

The histogram displays variation in your field. Would like to see variation in your fields more clearly? You can adjust the legend by moving the sliders below the histogram. Press "Recalculate" to alter the legend, press "Reset" to go back to the original one.”

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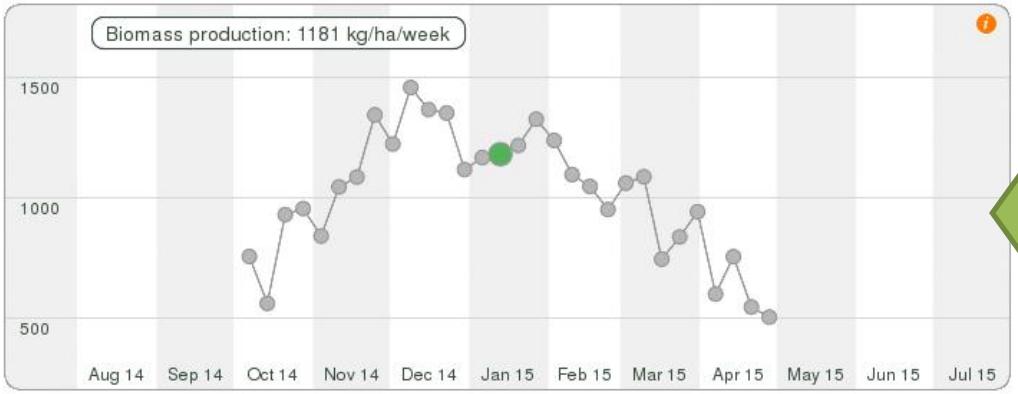
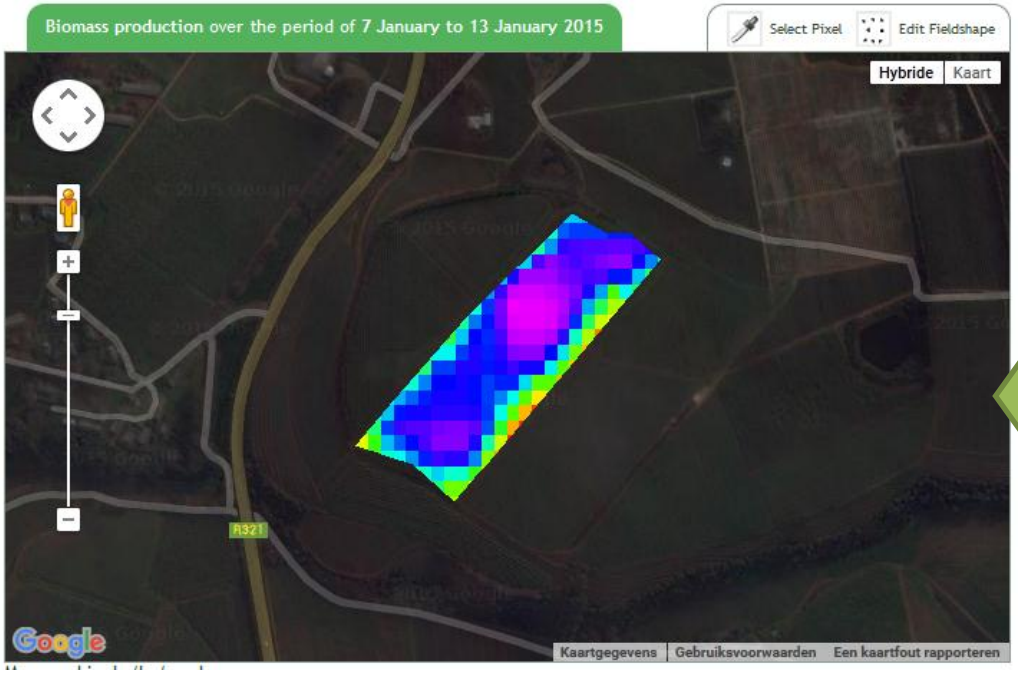
Step 3: Analyse your fields
B. MyFields



Show table

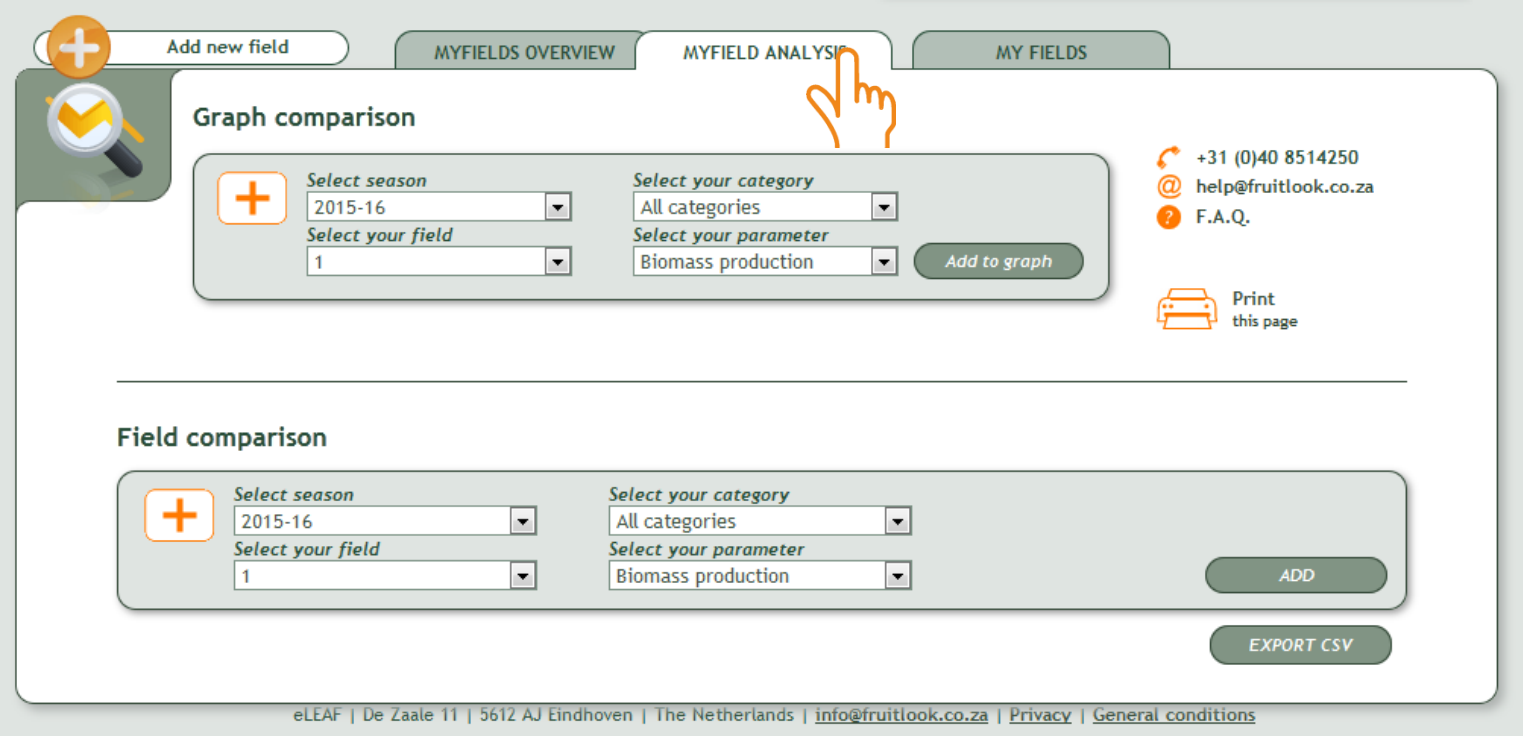
Temporal variation:
Each dot represents the average value of your field.
You can select each dot to see the spatial variation on that moment in time.



Spatial variation:
Shows an overview of your field.
Can be used to detect heterogeniety in your field.

Step 3: Analyse your fields
C. MyField Analysis

- "MyField Analysis" allows you to compare parameters and fields over time
- In "MyField Analysis" you can use:
  a) "Graph Comparison"
  b) "Field Comparison"
- In the next slides both functionalities are explained



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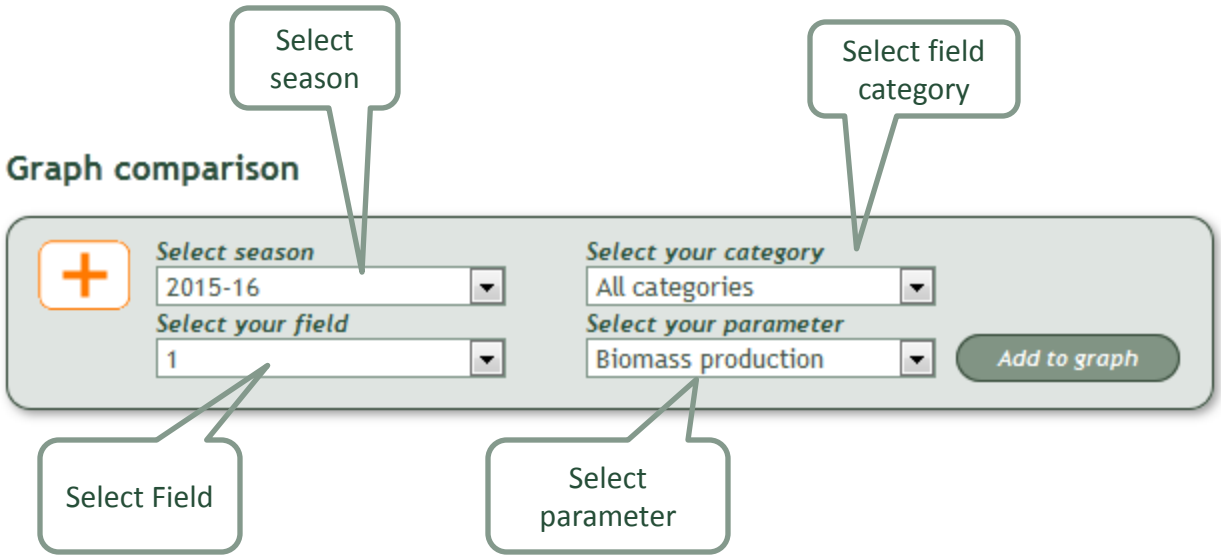
Step 3: Analyse your fields
C. MyField Analysis – Graph Comparison

Use the “Graph comparison” tool in “MyFields Analysis” to view and compare temporal development of various fields in one graph.

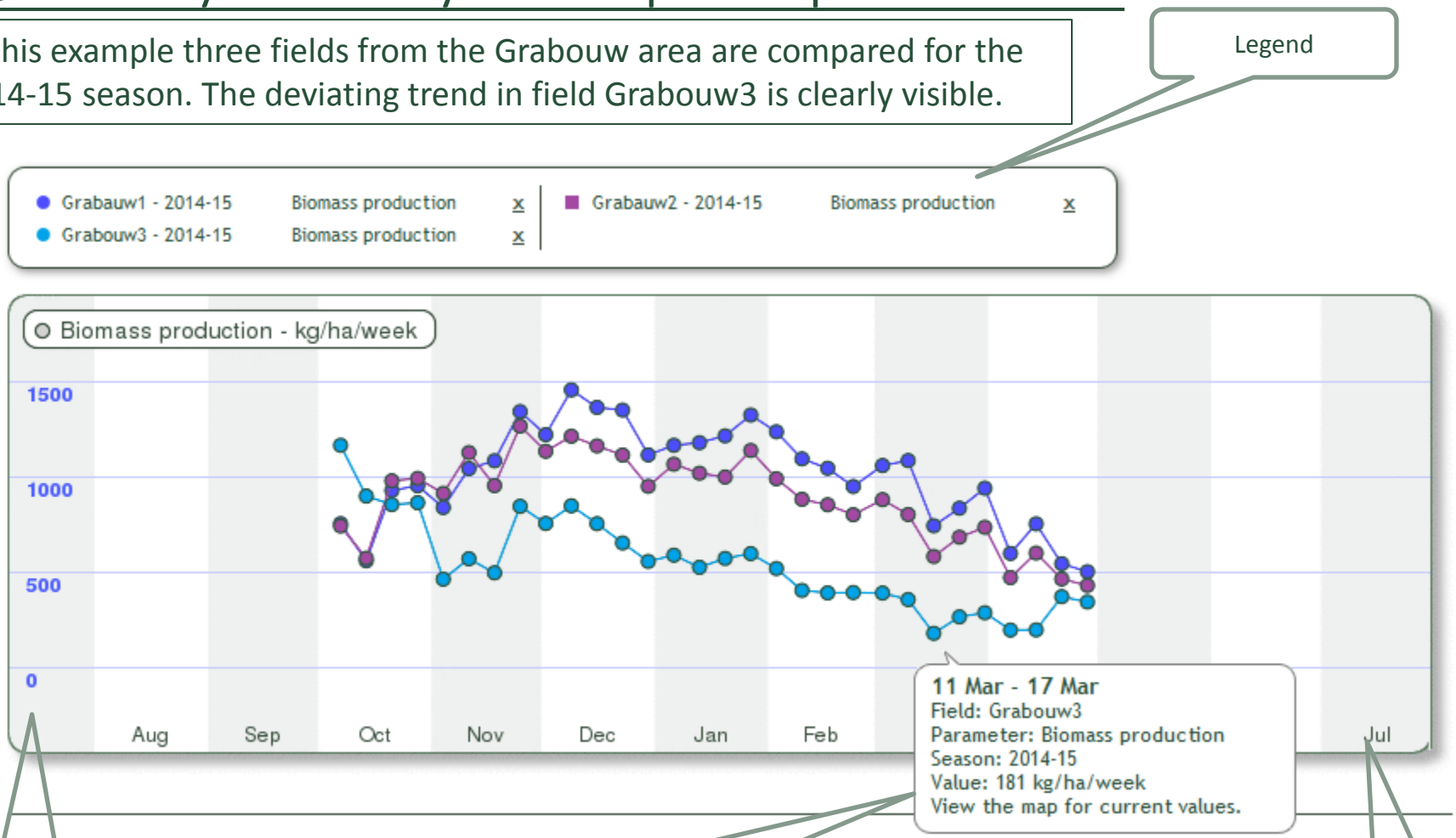


By pressing “Add to graph”, the temporal development of the selected parameter of the selected field is depicted in a graph. Within the graph you can view simultaneously:

- Multiple fields
- Multiple seasons
- A maximum of two parameters

Step 3: Analyse your fields
C. MyField Analysis – Graph comparison

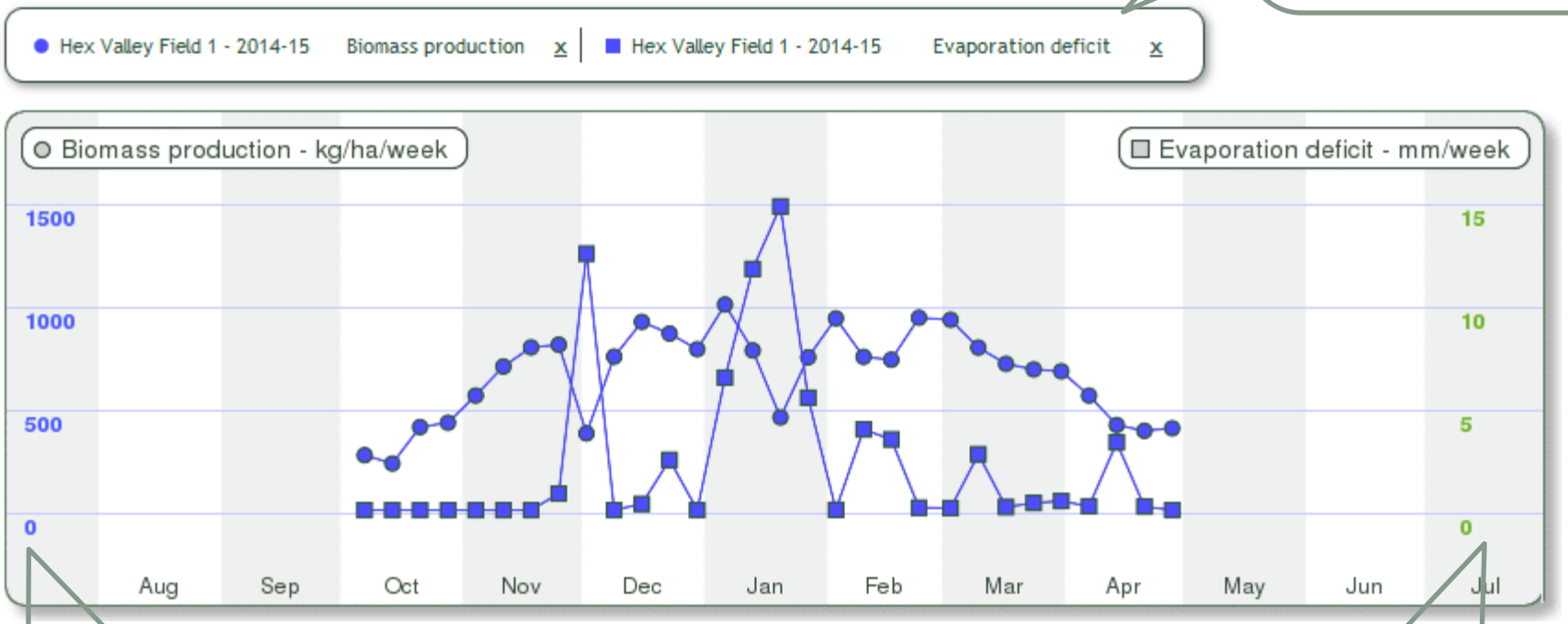
In this example three fields from the Grabouw area are compared for the 2014-15 season. The deviating trend in field Grabouw3 is clearly visible.



Step 3: Analyse your fields
C. MyField Analysis – Graph comparison

In this example Biomass Production and Evapotranspiration Deficit of a field in Hexriver Valley are compared for the 2014-15 season. The decreases in Biomass Production corresponds clearly with the increases in Evapotranspiration Deficit.

Legend; different parameters of the same field always have the same color. The Biomass Production is displayed with circular icons, the Evapotranspiration Deficit with square icons.

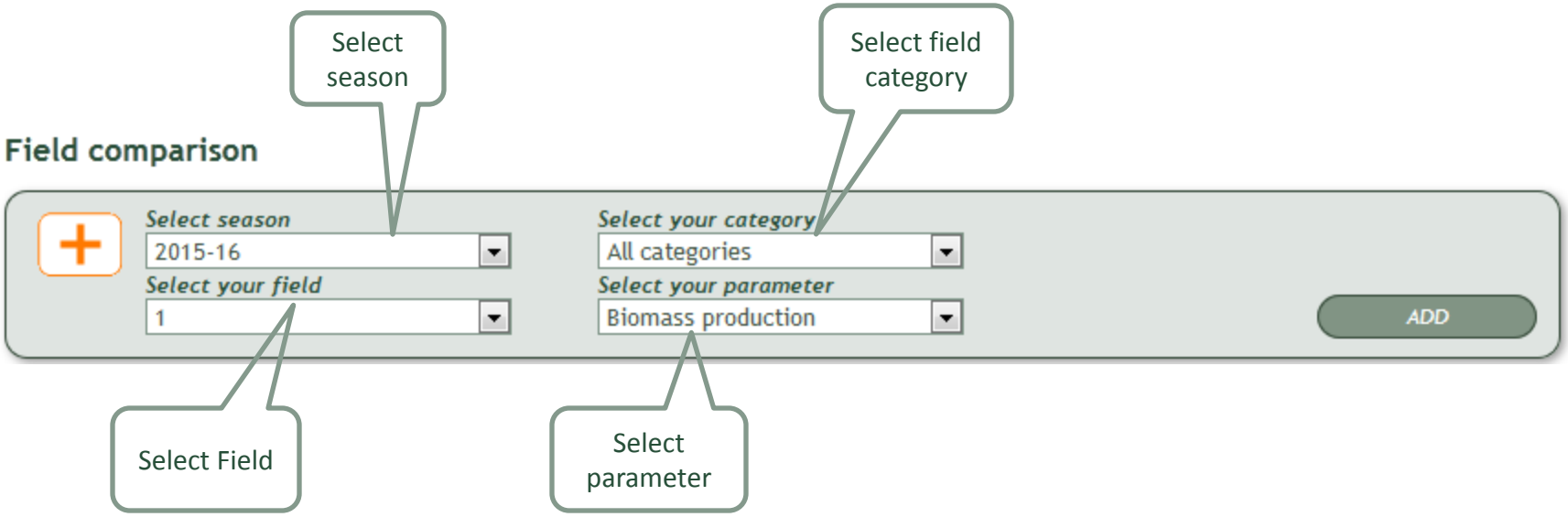


Vertical axis of first parameter; in this case Biomass Production in kg/ha/week

Vertical axis of second parameter; in this case Evapotranspiration Deficit in mm/week

Step 3: Analyse your fields
C. MyField Analysis – Field Comparison

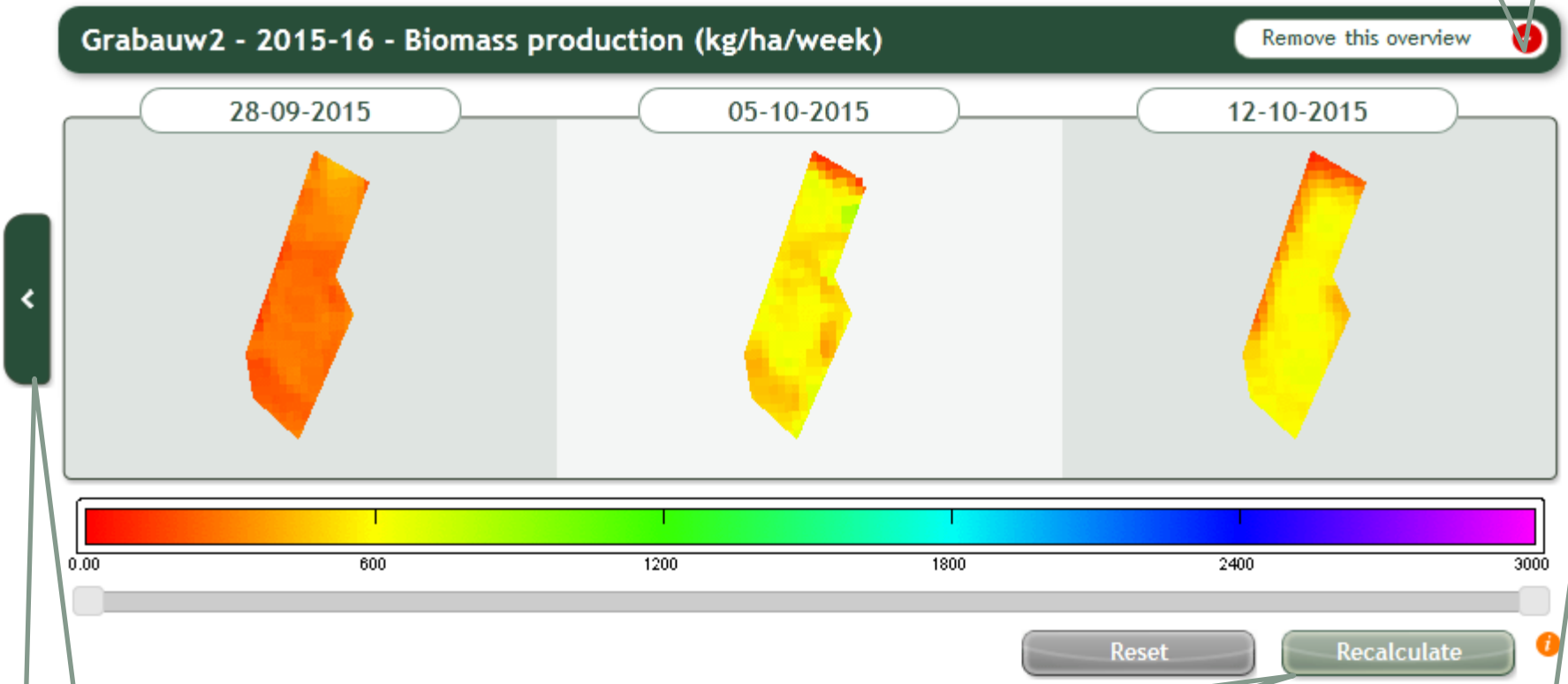
Use the “Field comparison” tool in “MyFields Analysis” to view and compare spatial temporal development of various fields in pictures.



By pressing “Add”, the spatial development of a specific parameter is depicted through time in the “MyField Analysis”-page (next slides).

Step 3: Analyse your fields
C. MyField Analysis – Field Comparison

Remove the parameter overview of this field

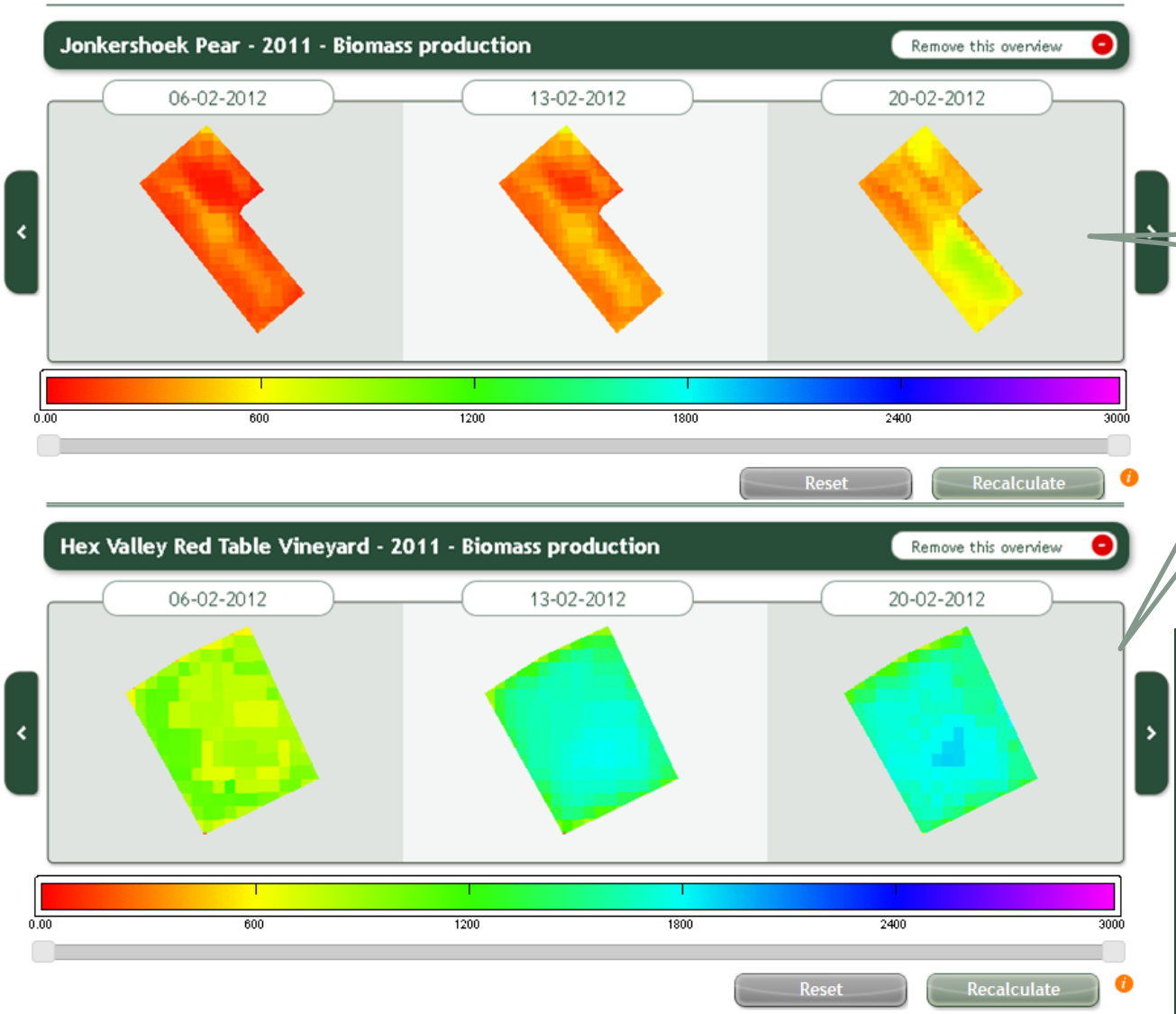


Move to the previous week

Would like to see variation in your fields more clearly? You can adjust the legend by moving the sliders below the histogram. Press "Recalculate" to alter the legend, press "Reset" to go back to the original one."

Move to the next week

Step 3: Analyse your fields
C. MyField Analysis – Field Comparison



Compare two fields

Week 06-02-2012:
Low biomass production in both fields
Week 13-02-2012:
Low biomass production in Jonkershoek only
Week 20-02-2012:
Biomass production back to normal in both fields

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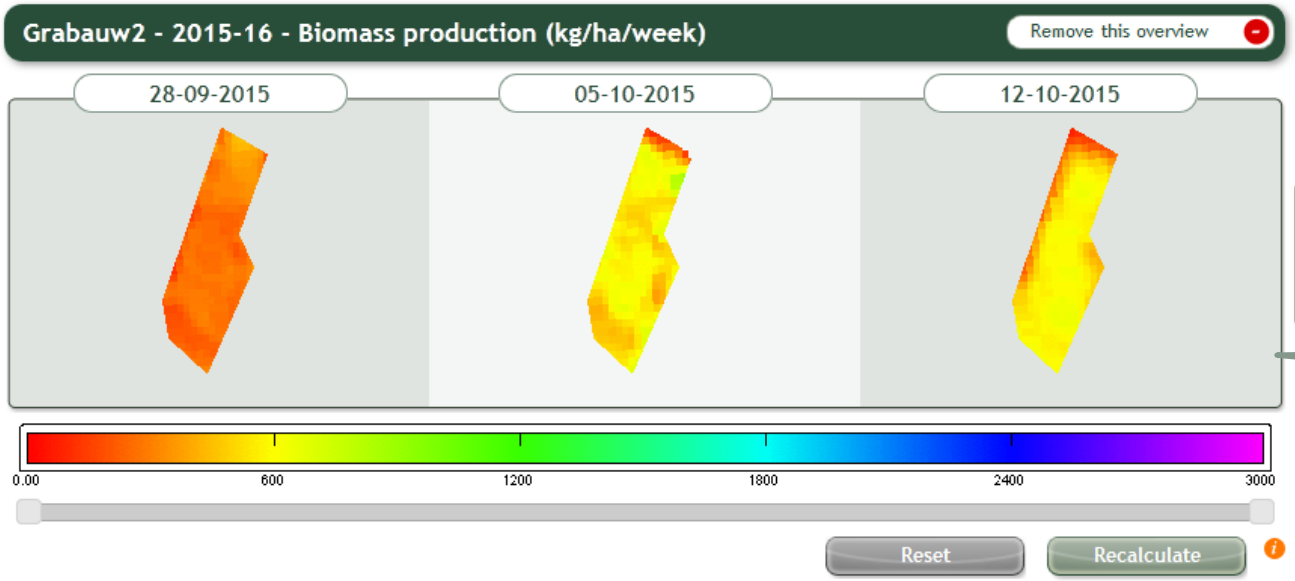
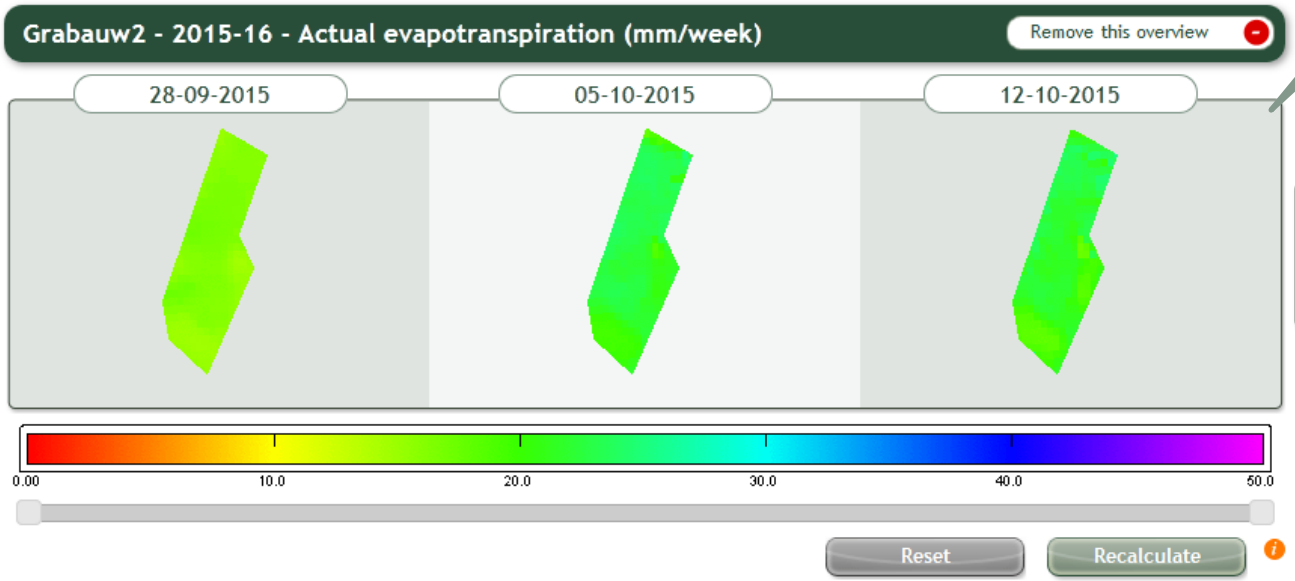
Step 3: Analyse your fields
C. MyField Analysis – Field Comparison





Compare two parameters

A strong relationship exists between biomass production and actual evapotranspiration

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STEP 4

Export data to Excel or other software

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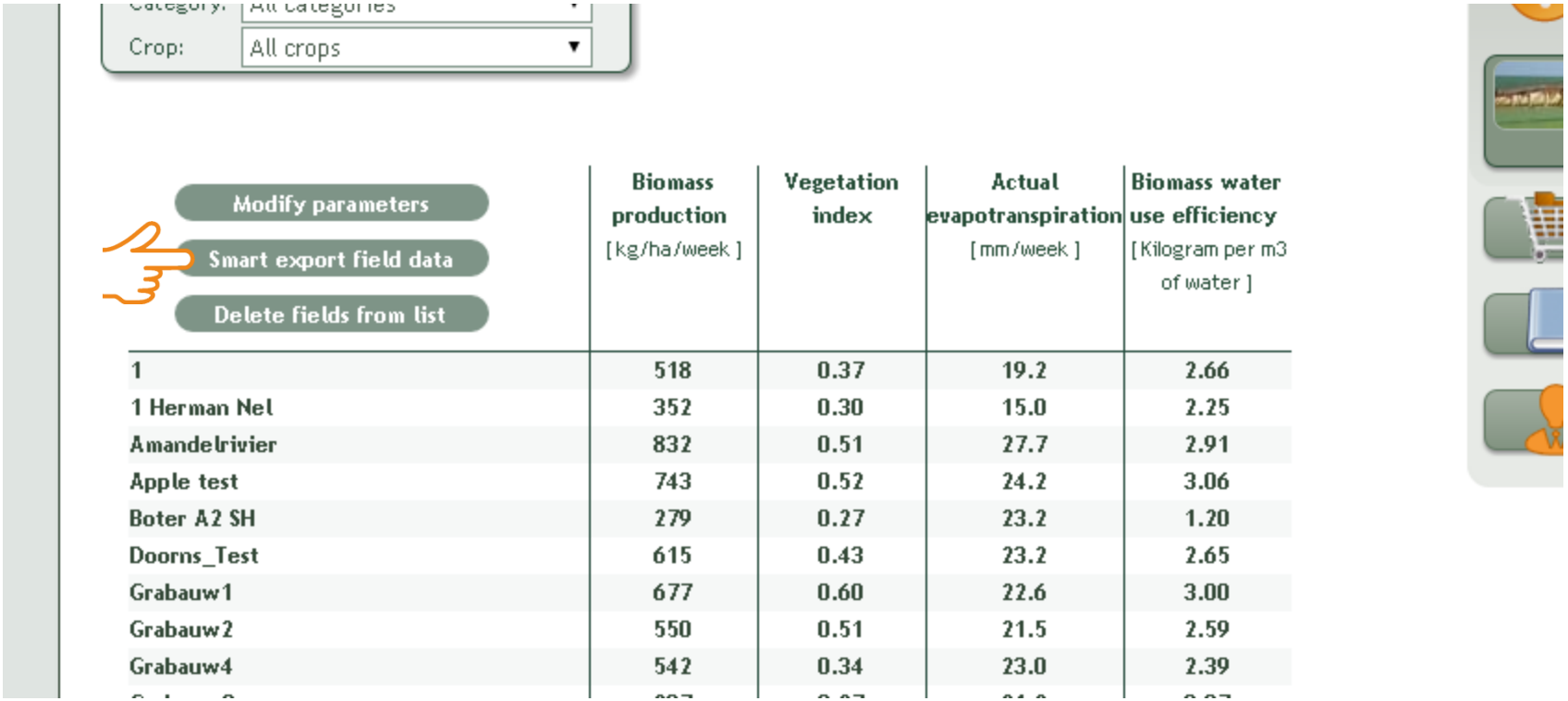
Step 4: Export data to Excel or other software

You export your field data to Excel in the “MyFields”-overview page. To do so :

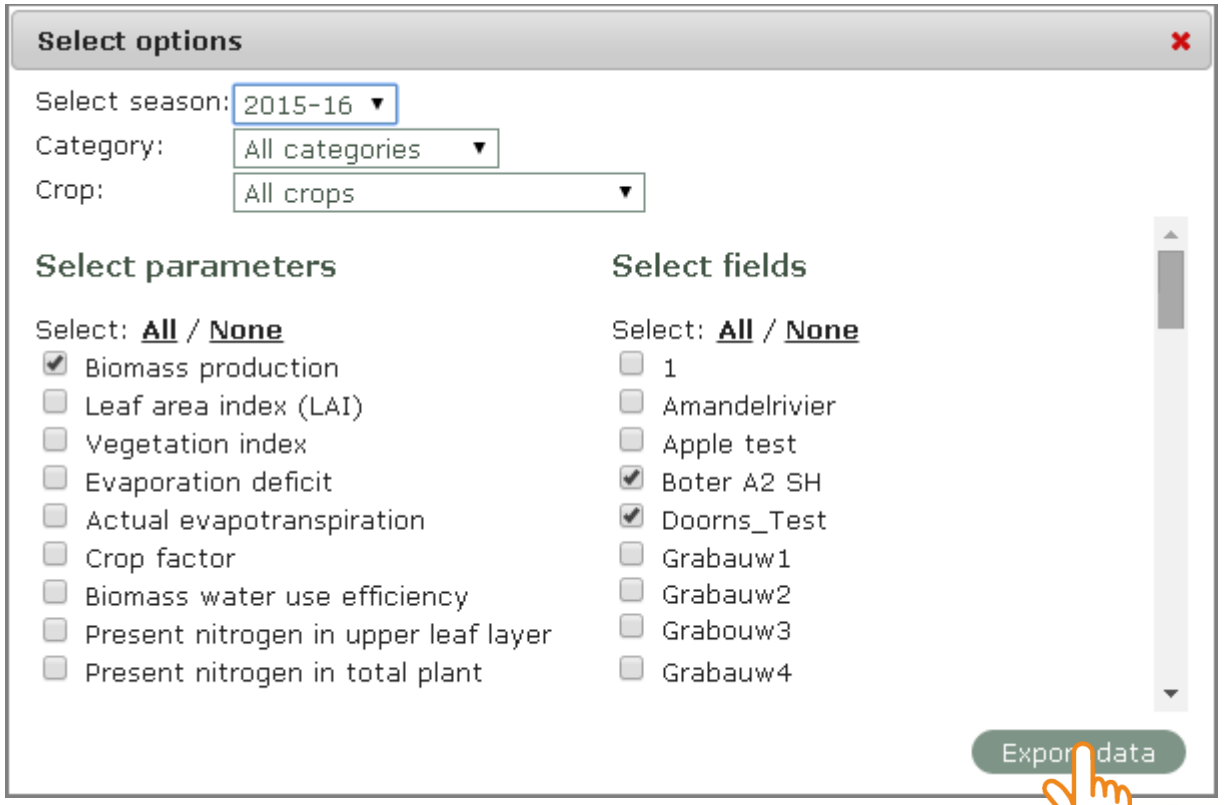
1. Go to “MyFields Overview”.
2. Select “Smart export field data”.
3. A pop-up will appear allowing you to select the appropriate season, field(s) and parameters.



	Biomass production [kg/ha/week]	Vegetation index	Actual evapotranspiration [mm/week]	Biomass water use efficiency [Kilogram per m3 of water]
1	518	0.37	19.2	2.66
1 Herman Nel	352	0.30	15.0	2.25
Amandelrivier	832	0.51	27.7	2.91
Apple test	743	0.52	24.2	3.06
Boter A2 SH	279	0.27	23.2	1.20
Doorns_Test	615	0.43	23.2	2.65
Grabauw1	677	0.60	22.6	3.00
Grabauw2	550	0.51	21.5	2.59
Grabauw4	542	0.34	23.0	2.39

Step 4: Export data to Excel or other software

1. After selecting “Smart Export field data” a pop-up will appear allowing you to select the appropriate season, field(s) and parameters. You can only export data for one season.
2. After making your selection press “Export data” to export a .csv file of your selected field data. This .csv file provides the average value per timestep for each parameter and field selected.

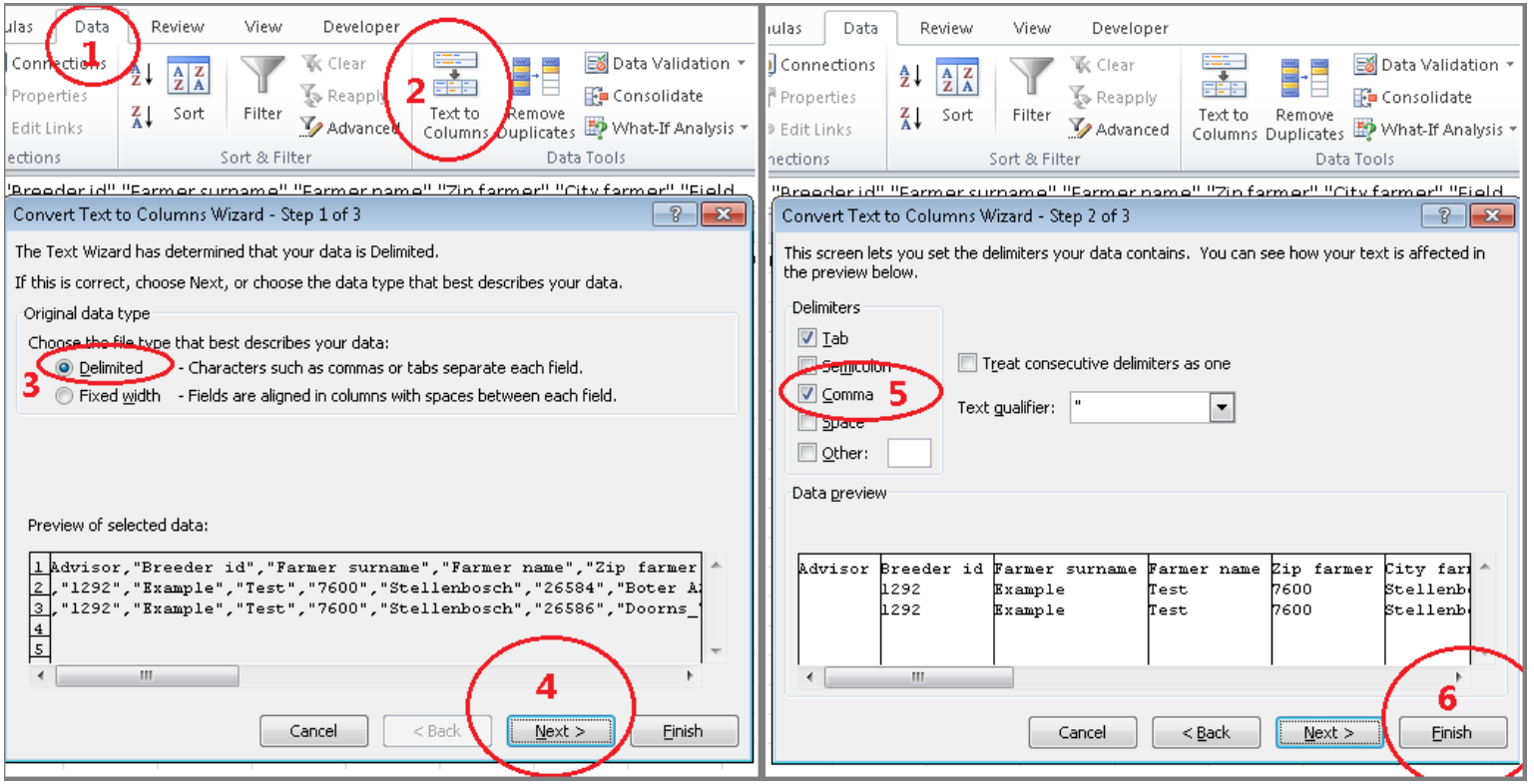


Step 4: Export data to Excel or other software

This describes the use of the .csv file in Microsoft Excel 2010. After opening the .csv in Excel:

1. Select the “Data” tab
2. Press “Text to Columns”
3. Select “Delimited” in the pop-up
4. Press “Next”
5. Select “Comma” as delimiter
6. Press “Finish”

The data is now presented in columns. Subsequently save your data in .xlsx format.



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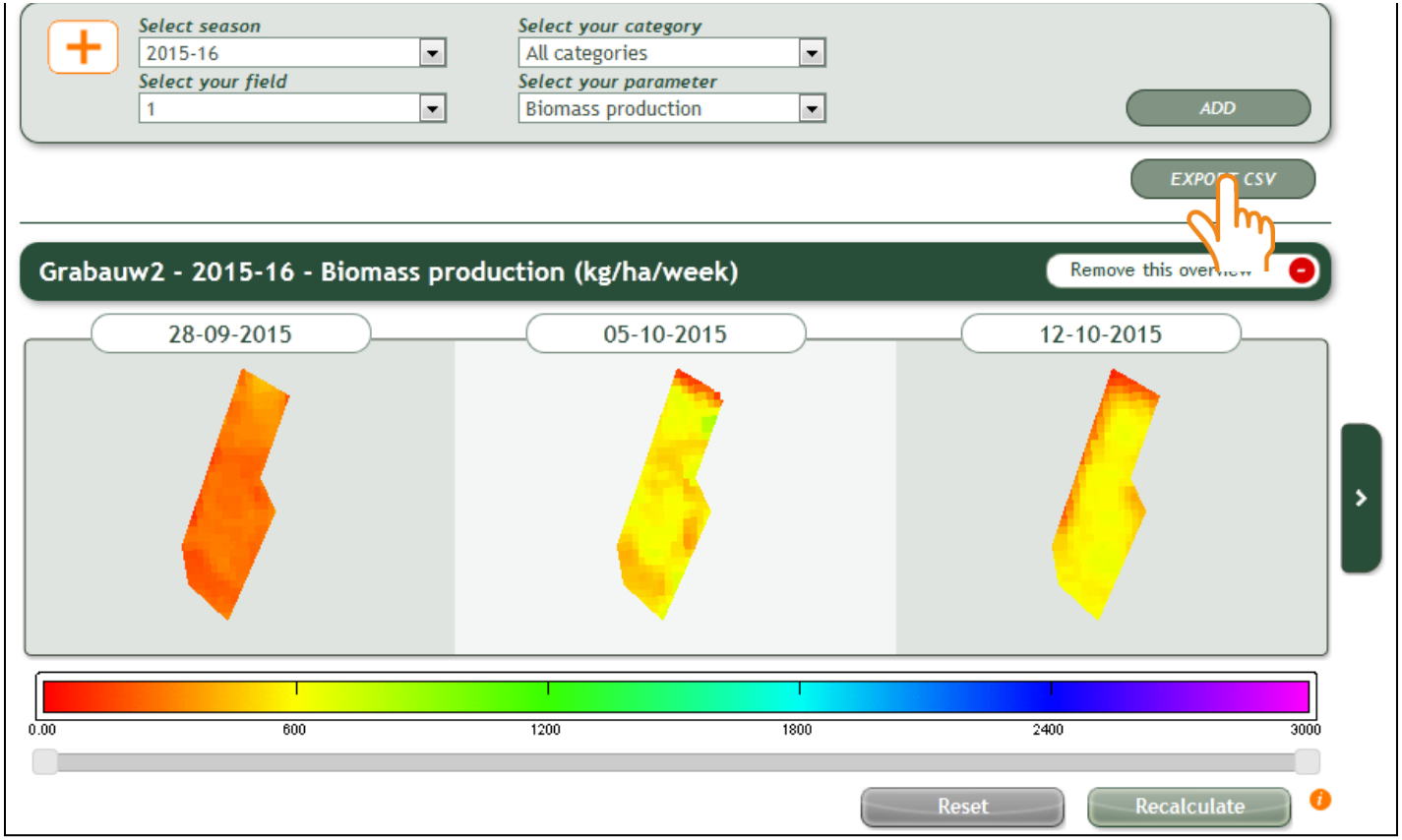
Step 4: Export data to Excel or other software

FruitLook data can be exported to Excel in “MyField Analysis” as well. To do so :

1. Go to “MyField Analysis”.
2. Add your field and parameters
3. Press “Export CSV” to export the displayed fields and parameters.
4. Open the produced .csv in Excel.



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STEP 5

Get more information from FruitLook

A. FruitSupport

B. View demonstration fields

C. Parameter explanations

D. Consultants

E. Newsletter + Website news section

F. Contact us!

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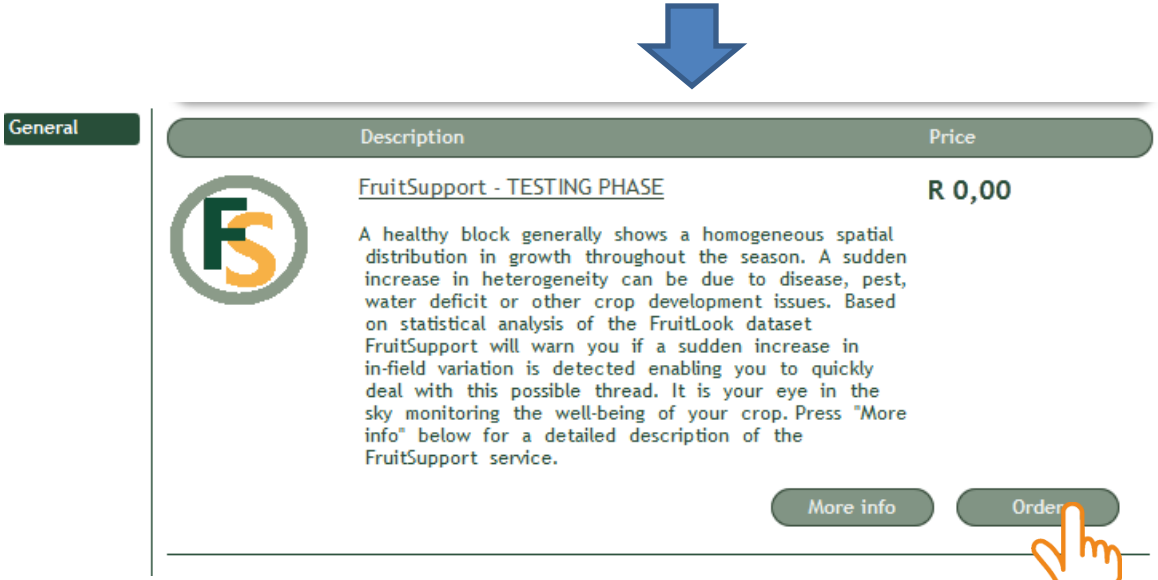
Step 5: Get more information about FruitLook
A. FruitSupport

- FruitSupport is a complementary service to FruitLook, tracking growth variation in your block.
- A strong increase in variation might indicate growth issues, possible affecting your yield. FruitSupport sends out a warning email at the start of the week if anomalies are detected.
- You can order FruitSupport per field via the FruitSupport service listed under the Complementary Services-tab on the homepage.
- FruitSupport is offered as freely usable test product during the 2015-16 season
- When using FruitSupport we invite you to provide us feedback via info@fruitlook.co.za.

PLEASE NOTE: FruitSupport is a support tool based on satellite information and not a replacement for proper in-field inspections.



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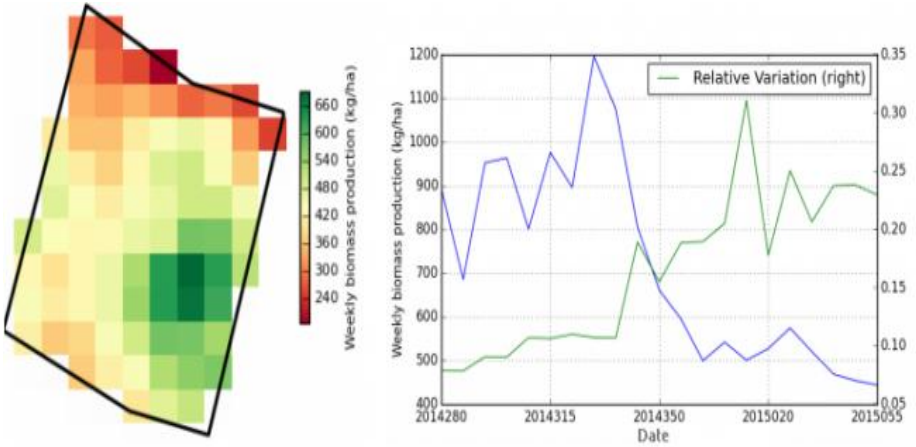
Step 5: Get more information about FruitLook
A. FruitSupport

FruitSupport tracks the variation in growth throughout the growth season, depicted in the graph on the right. The development of variation through time is depicted in green. As can be seen this blocks shows a strong increase in relative variation from the middle of the growth season onwards, which might indicate a growth issue. This is even more likely considering the drop in biomass production, depicted on the left axis, which occurs simultaneously to this increase in variation.



FruitSupport

October 1, 2015 - October 7, 2015

Dear User,

Last week FruitSupport has detected crop development anomalies in the following fields:

- 407JT/21-28020
- 407JT/9-28049
- 221KU/1-13026
- T1
- 407JT/12-28000
- 249JT/13-15923
- T6
- 13IT/ 509

This might indicate sub-optimal growth in (parts of) your field which can d reductions. Detected anomalies can have various reasons:

- Disease
- Plant nutrition
- Extensive pruning
- Clearing
- Water availability
- Soil variation
- Weeding
- Other factors

We advise you to examine these fields further via FruitLook and/or in the field to take appropriate action if necessary.

Thank you for using FruitSupport!

FruitSupport is in the testing phase. We like to hear from you if the information on above fields was useful and correct. Please provide us feedback by replying to this email (via info@fruitlook.co.za).

Unsubscribe
Disclaimer

eLEAF BV | Hesselink van Suchtelenweg 6 | 6703 CT Wageningen | The Netherlands | info@fruitlook.co.za

If such an increase is detected, a warning email is send. An example email is depicted on the left. Within this email you can click on the name of the detected blocks opening the FruitLook website for this specific block.

FruitSupport is run on a weekly basis after the weekly data products have become available on the FruitLook website. This means you will receive one email per week from FruitSupport.

fruitlook.co.za

Step 5: Get more information about FruitLook
B. View demonstration fields

The demonstration fields demonstrate what information is available at FruitLook.

To see the same kind of information for your own fields/farm, you need to register and draw your fields (Step 1 to 3 of this Manual).

Step 5: Get more information about FruitLook
C. Parameter Explanations

On the homepage: Select “Growth”, “Moisture” or “Minerals” for a descriptions of the FruitLook parameters

Growth

The growth of your crop. FruitLook measures four parameters that visualize the growth status of your crop.

Biomass production [kg / ha]

The amount of dry matter that grows each week. Biomass production is the main indicator for you as a farmer to monitor crop performance. Biomass production refers to the growth of total living plant material above and below the ground (such as stems, leaves, roots, fruits and grains). Biomass production on the FruitLook website does not reflect the total biomass of the crop, but the weekly gain in biomass. The parameter layers of biomass production show where and when your crop is growing as expected, and where growth is vigorous (important in vineyards) or below average (e.g. as a result of diseases).

Leaf Area Index (LAI) [-]

The LAI is the total live canopy leaf surface area of vegetation divided by the surface area of the land on which the vegetation grows. LAI is an indicator of the amount of leaf surface as well as how densely a crop grows or how much foliage there is on the plants.

Vegetation Index (NDVI) [-]

The indicator for the vitality of your crop. A high index means a healthy and strong growing vegetation. This index does not say how much biomass there is created. Therefor you use the biomass production parameter.

Crop Factor K_cK_s [-]

The crop factor is used to calculate the actual evapotranspiration from the reference evapotranspiration. It incorporates the effect of a specific crop (K_c) as well as the effect of water stress (K_s) on the water consumption of the specific crop.

Want to read more about the other interesting groups? Choose: MOISTURE - MINERALS

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Step 5: Get more information about FruitLook
D. Consultants

To make use of the FruitLook data with maximum effect we can help you find specialized, local advice.

Select the consultants tab on the website to find local advisors who have proven to get the best from FruitLook and provide advice based on the FruitLook data components within their field of specialism.

NOTE: If you have developed your own use of the FruitLook data and are willing to share it with us and our users, do not hesitate to contact us via info@fruitlook.co.za. We'll be happy to hear your story and spread the word!

Agricultural organisations on FruitLook

FruitLook provides information on various components which can help improve your farm management. If you want specialized, local advice on how to interpret the FruitLook data you can consider approaching one of the consultancy firms listed below. These consultancy firms are proven users of FruitLook and provide advice based on the FruitLook data components within their field of specialism.

At FruitLook we are continuously searching for parties which have new developed applications based on the service. If you are willing to share your progress, please contact us at info@fruitlook.co.za.

prophyta
SOIL SCIENCE | HORTICULTURE | IRRIGATION

Prophyta provides consultancy services on deciduous fruits, with a special focus on apples, pears and stone fruit. Their main area of expertise is crop production. Their services include tree nutrition recommendations, soil classification and preparation advice, horticultural/pruning advice and providing general irrigation scheduling guidelines. By taking in account various disciplines, Prophyta developed several uses of the FruitLook data in order to enhance your crop management techniques. These include evaluation of irrigation scheduling and placement of soil moisture probes.

For more information on their services and what they can do for you contact them at info@prophyta.co.za.

Agrimotion is an agricultural consultancy operating in the fruit industry. Agrimotion's service offering is built on 5 pillars, each specializing on a specific area in fruit production and focused on getting results for their clients. The 5 pillars are: Soil, Horticulture, Irrigation, Remote Sensing and Training. The application of new and relevant technology, like FruitLook, is a key part of their business.

Agrimotion is committed to provide an unbiased and scientific consultancy service to clients through practical and scientific recommendations where their work and their clients' needs become a common goal. For more information please visit www.agrimotion.net.

AGRIMOTION
SCIENTIFIC | INDEPENDENT | PRECISE

Step 5: Get more information about FruitLook
E. Newsletter + Website news section

You can remain up-2-date on FruitLook via the FruitLook newsletter and the FruitLook news section.

This newsletter is send once a month during the growth season and contains information on new developments, upcoming events and examples of FruitLook data use.

The news section also informs you on the ins and outs of FruitLook.

Thanks for reading through this Manual.

For more help, suggestions, feedback, comments, questions, remarks….

contact info@FruitLook.co.za

Have a fruitful season!