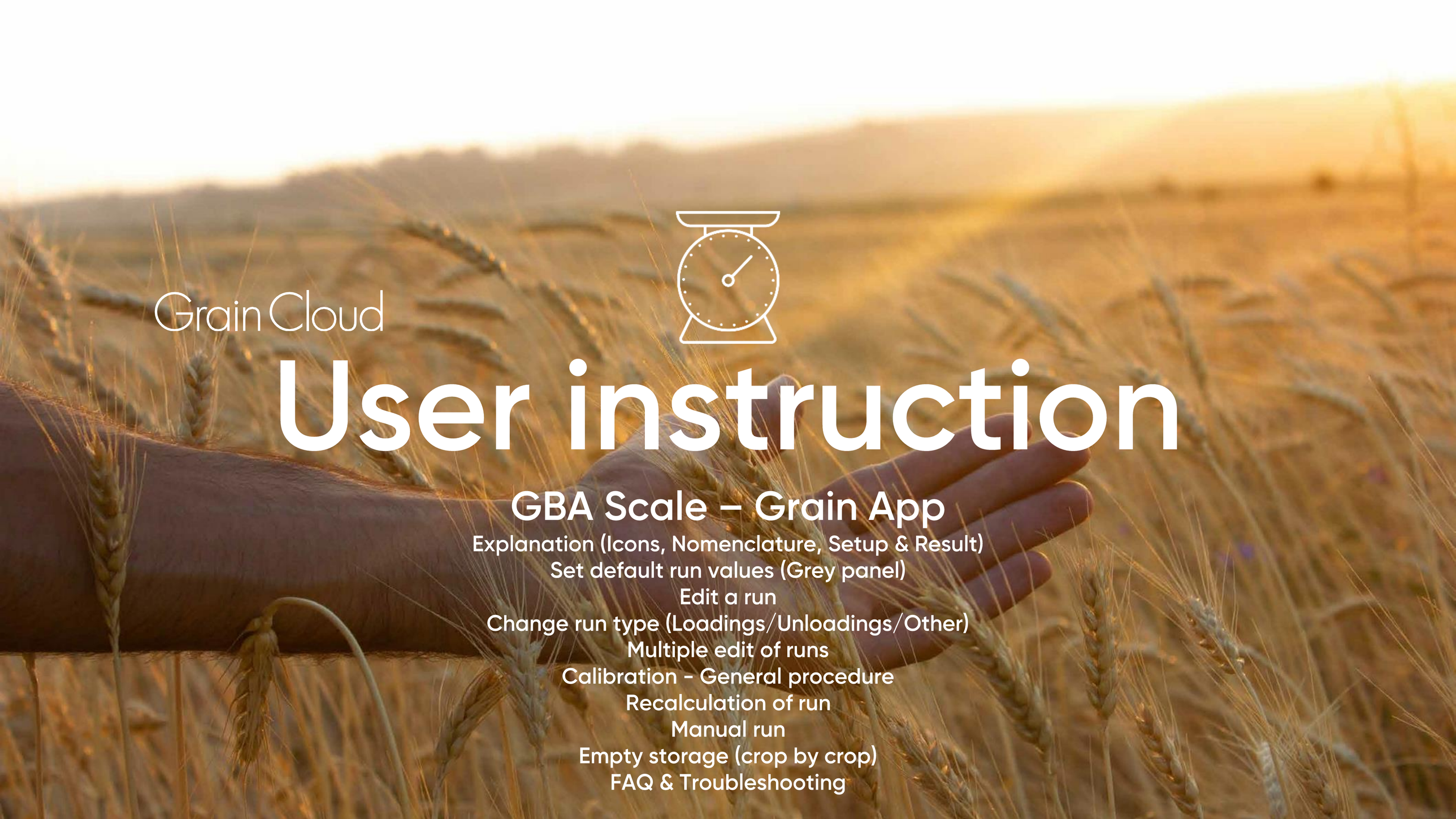


Grain Cloud

User instruction

GBA Scale – Grain App

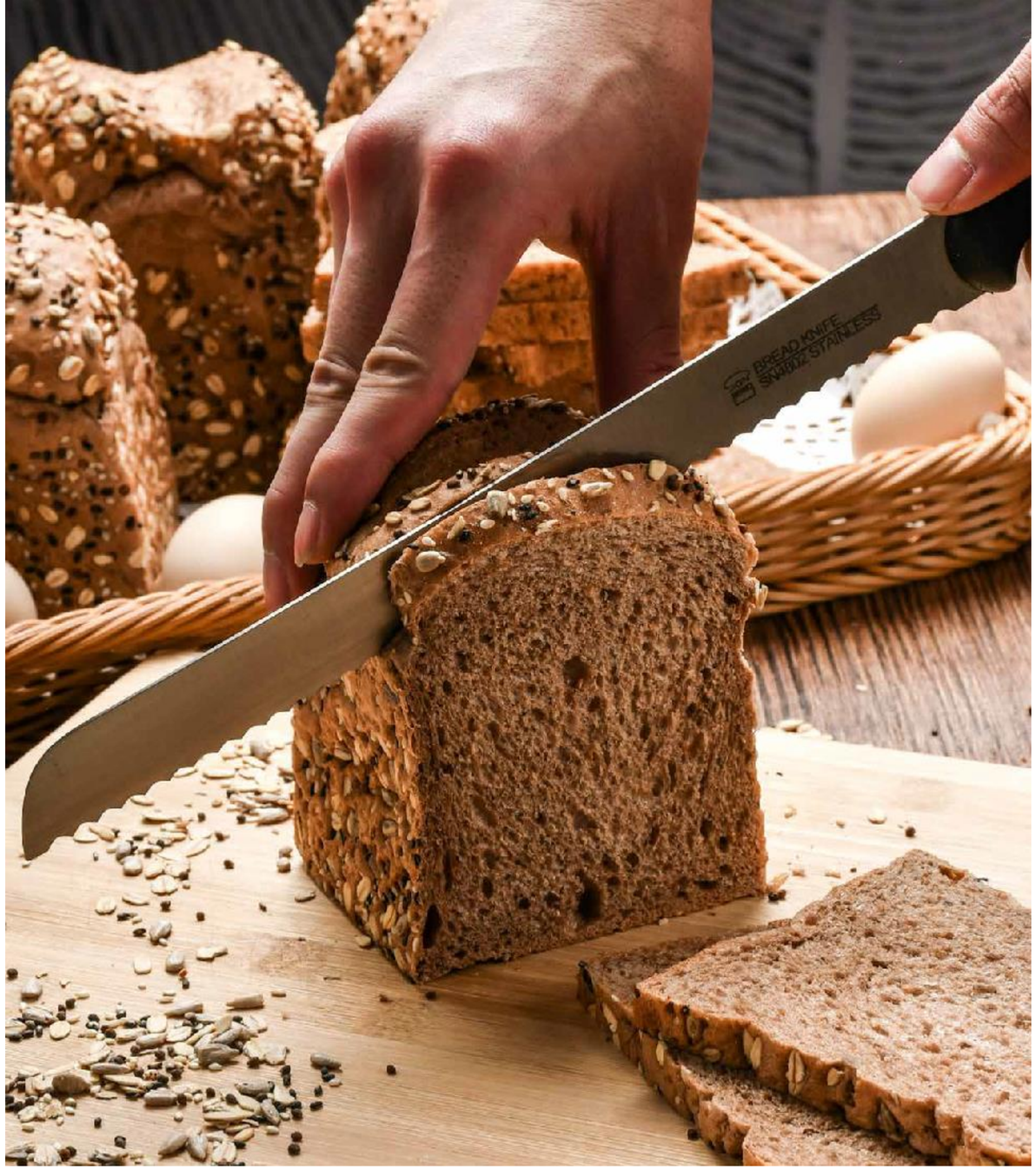
Explanation (Icons, Nomenclature, Setup & Result)
Set default run values (Grey panel)
Edit a run
Change run type (Loadings/Unloadings/Other)
Multiple edit of runs
Calibration - General procedure
Recalculation of run
Manual run
Empty storage (crop by crop)
FAQ & Troubleshooting

Grain Balance Scale

Grain Balance Scale is an elevator scale that automatically weighs your loads of grain from the field, in real-time. The balance per crop, variety and field is graphically shown in Grain App. By simply defining the crop and variety per field in advance* you then just select which field you are harvesting from and Grain Balance Scale automatically calculates your loaded batches as well as yield per hectare. The product is compatible with all elevators with gear box motors manufactured by Skandia Elevator.

- Quick and easy installation.
- Easy to define crops and variety per field.
- Automatic calculation of the loaded batches and yield per hectare.
- Complete summary of your balance shown as wet or dry weight per crop, variety and field.
- Annual harvest management gives the possibility to evaluate and compare years.
- Integrated internet connection.

**or import your data from the field processing software Nya Dataväxt.*

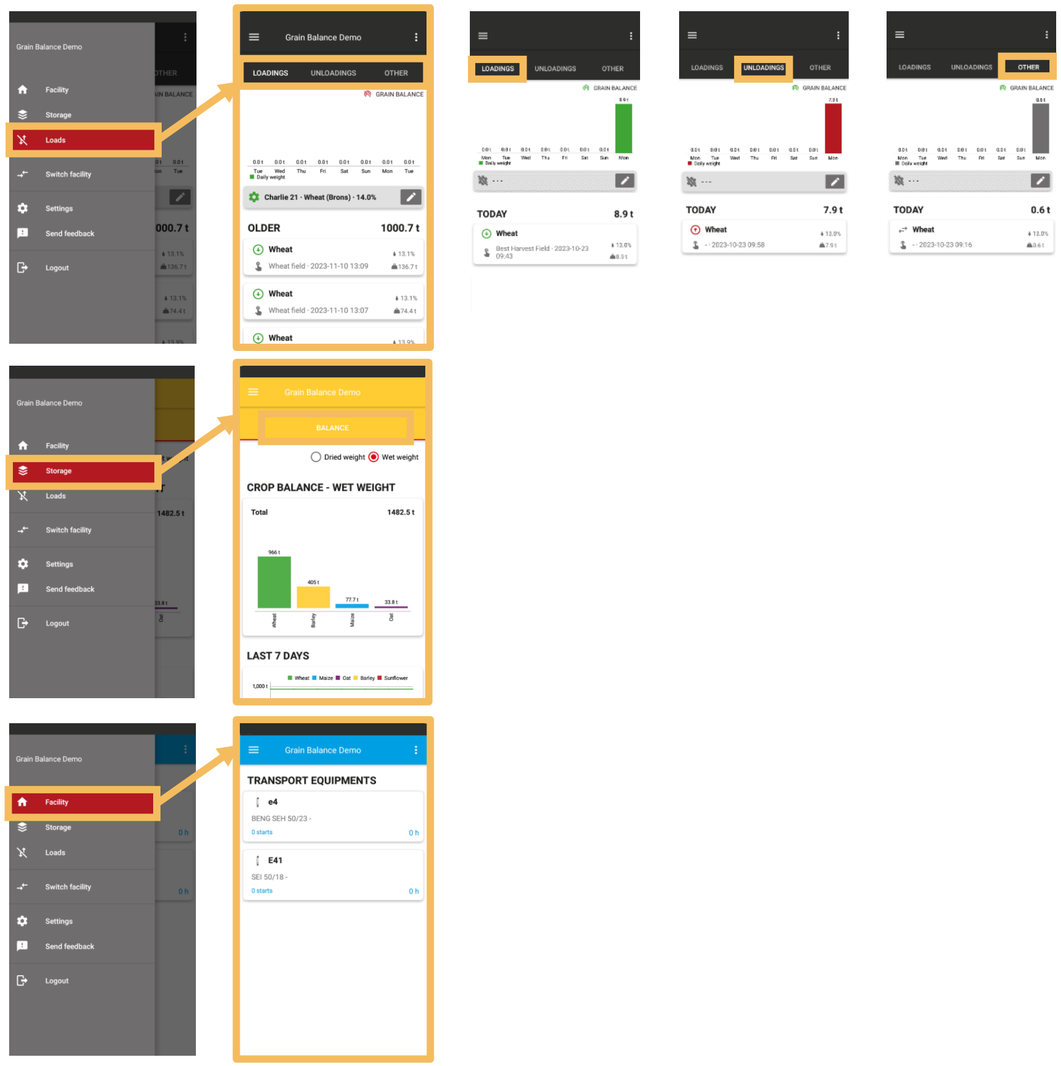


Explanation - Icons

	Online	Contact with the cloud, calculations can be performed.
	Offline	No contact with the cloud, calculations cannot be performed.
	Autodetect off	Autodetect is not on. Normal for setup without rotation sensor.
	Autodetect on	Autodetect is on. Setup used with rotation sensor.
	Loading	A loading run that increases the balance.
	Unloading	An unloading run that reduces the balance.
	Other	An internal run.
	Auto	An automatic calculated run.
	Manual	A manually added run.
	Edit	Access to editable value.

Explanation - Nomenclature

Loads	A view in Grain App showing an overview of runs.
Loadings	A tab under the Loads view in Grain App that shows loading runs that increases the balance.
Unloadings	A tab under the Loads view in Grain App that shows unloading runs that reduces the balance.
Other	A tab under the Loads view in Grain App that shows internal runs.
Storage	A view in Grain App showing an overview of the storage.
Balance	A tab under the Storage view in Grain App that shows calculated inventory.
Facility	A view in the Grain App with a list of equipment on the facility.
Run	An automatically calculated or manually registered transport of grain.
Run type	Defines the movement direction of the transported grain.



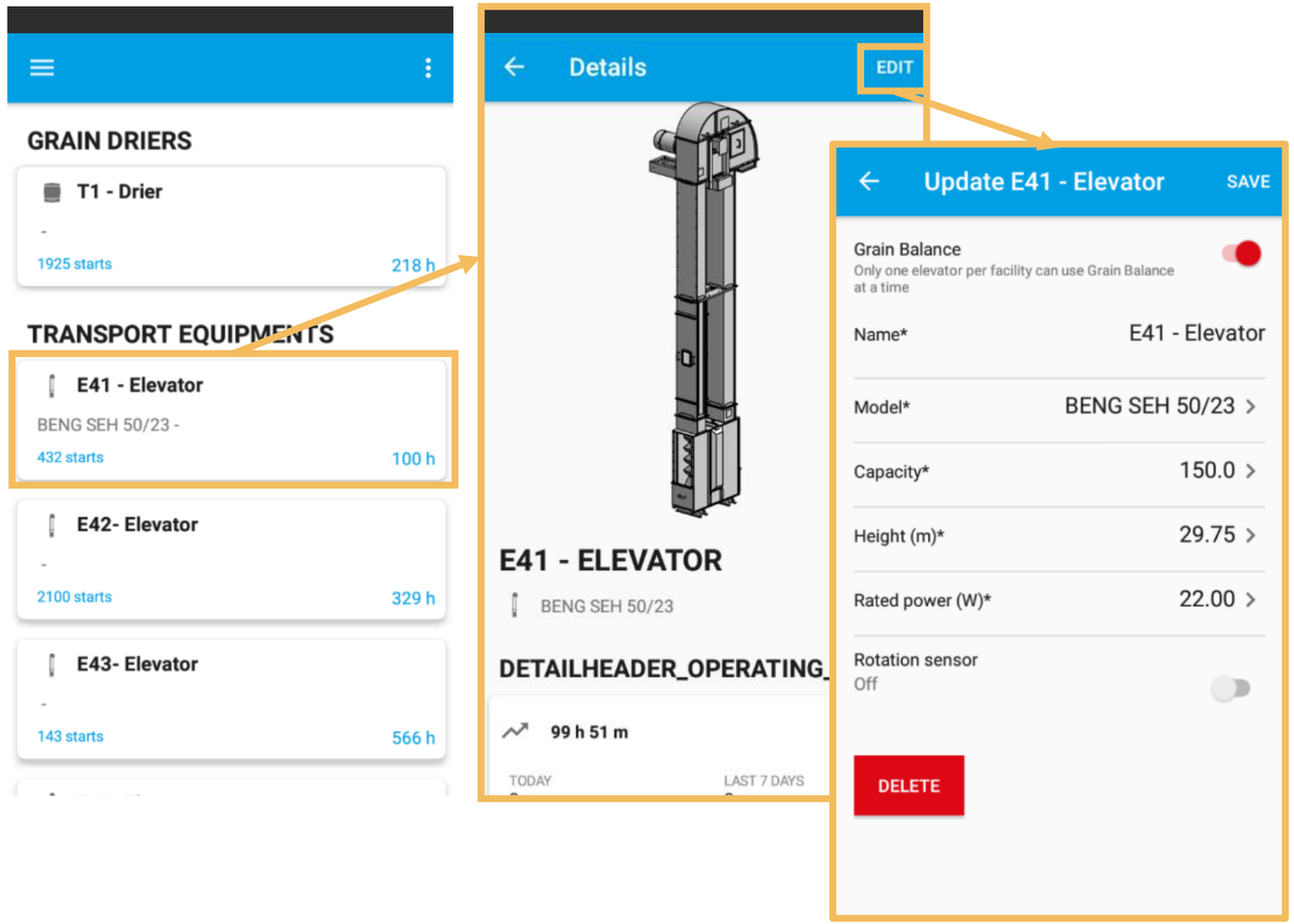
Explanation - Setup

During setup of Grain Balance Scale, the parameters for the elevator are entered in Grain App under the Facility view.

It is also stated here whether rotation sensor on the associated trench intake conveyor are used for Grain Balance Scale to distinguish between loading runs and other runs.

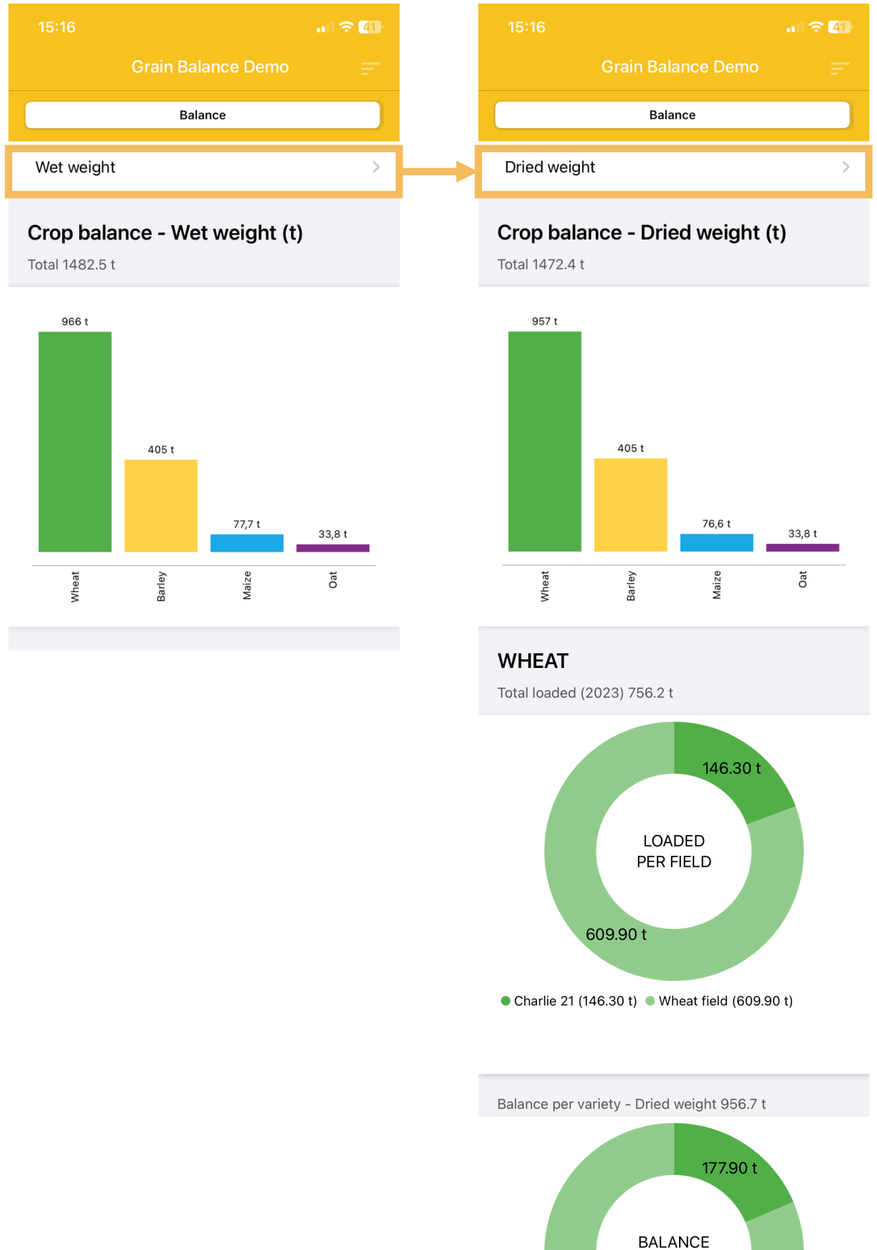
Note!

These values must not be changed after setup of Grain Balance Scale.



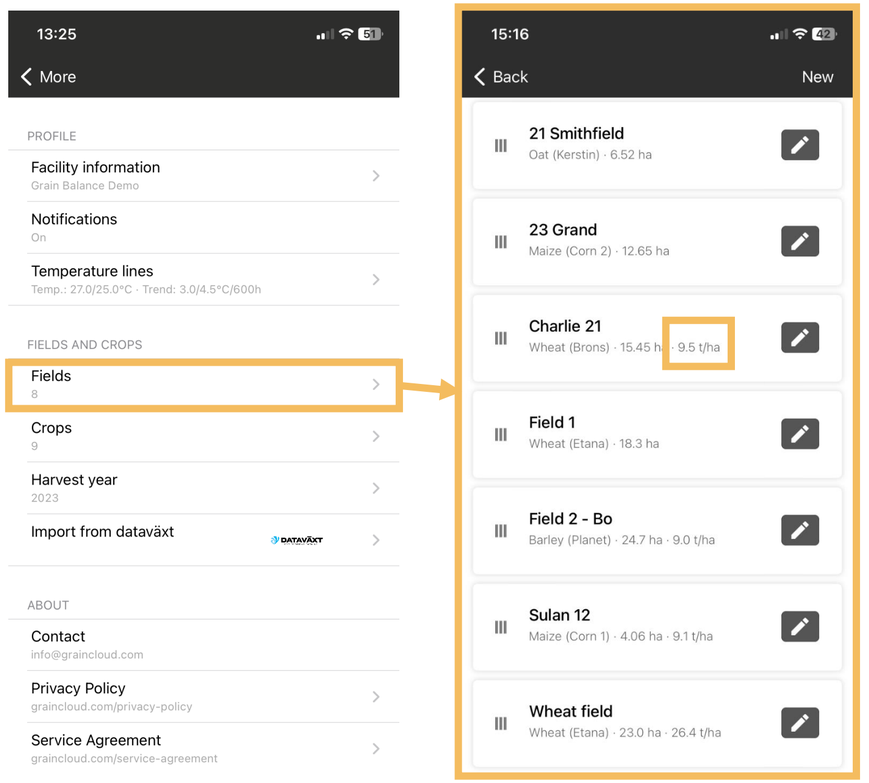
Explanation - Result

By using Grain Balance Scale you get a complete calculated summary of your balance shown as wet or dry weight per crop, variety and field in the tab BALANCE under the Storage view in Grain App.



Explanation - Result

By using Grain Balance Scale you also get a calculated t/ha per field which appears in the list of your fields under the Settings view in Grain App.



Grain Cloud

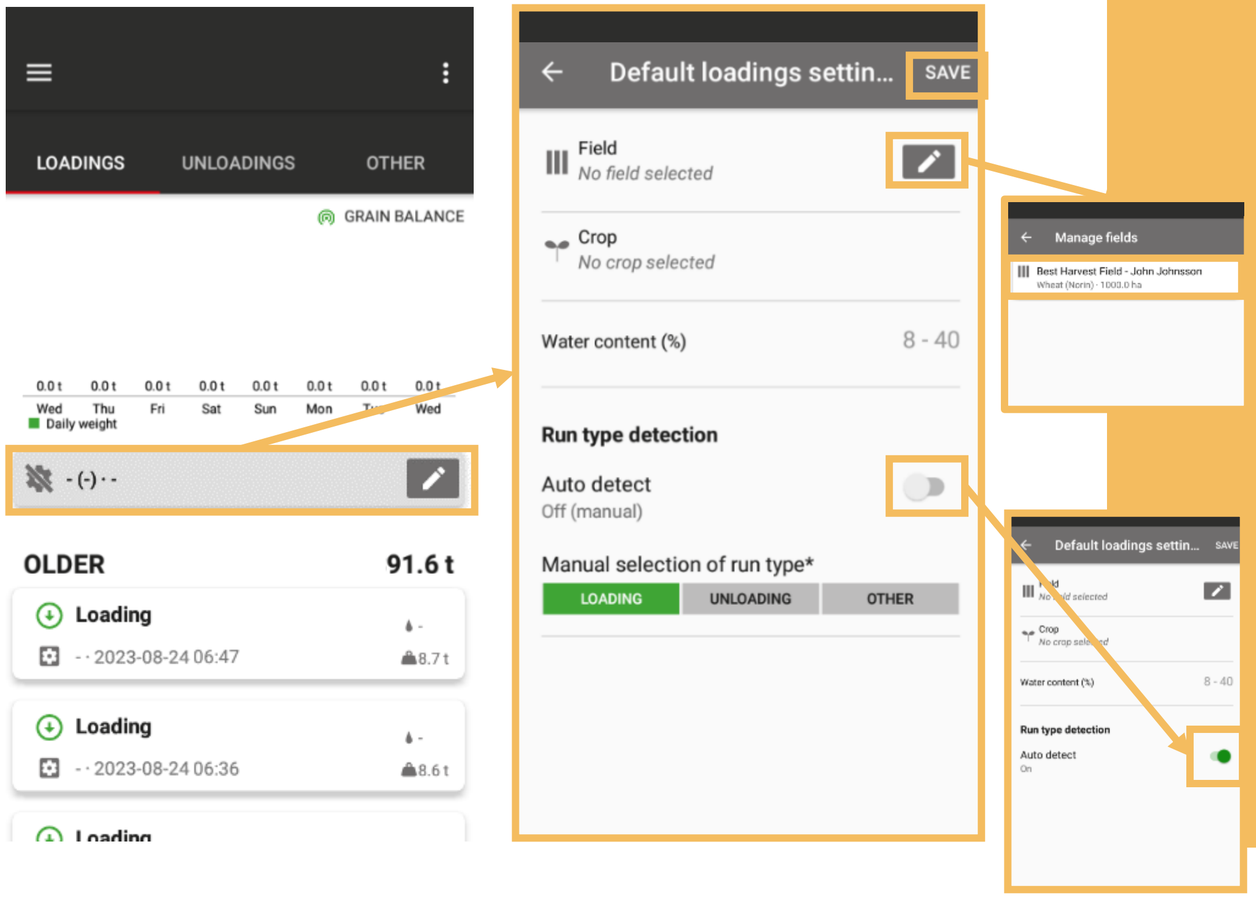
Set default run values (Grey panel)

How to use set default values for runs.

Used for subsequent runs to have pre-filled values to avoid the need to edit runs afterwards and for the correct balance to be calculated and displayed immediately.

The feature simplifies the registration of loadings during the harvest when several batches of grain have the same origin values, such as field, crop and water content, over a period.

Set default run values



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on Grey panel to set Default run value for the next runs.
3. Click on Field.
4. Select Field from list. When a field is selected the crop is filled in automatically.
5. Fill in expected Water content (%) of the grain in the next runs.
6. If rotation sensor is installed, do the following:

- Turn on Auto detect, if you want the rotation sensor to determine the run type.

- Turn off Auto detect if you want to control run type selection manually. Select which manual run type. (loading/unloading/other driving).

7. If rotation sensor is not installed, do the following:

- Make sure Auto detect is off.

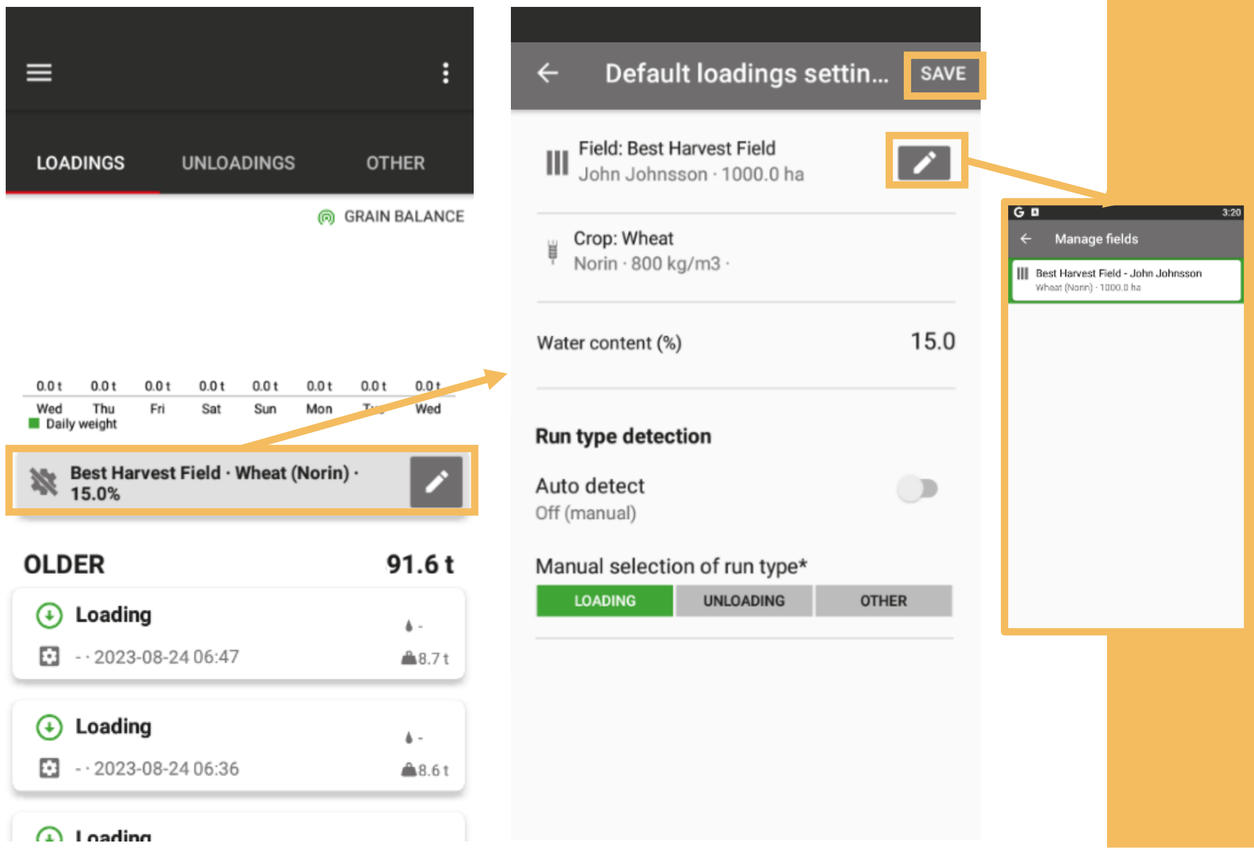
8. Press Save.

Note!

To select a field in the field list, it must be specified for the facility. Fields and crops are managed in Settings.

If Default run value (Grey panel) is undefined, the run type will be set to Loading.

Set default run values



INSTRUCTION

9. Your saved default value is now displayed in the grey panel and subsequent runs will now automatically be registered with these default value.

10. Click on Grey panel again to edit default value for next runs.

Note!

Runs can be easily edited, one and one or several at a time, afterwards. This is described under Edit run and Multiple edit of runs.

Grain Cloud

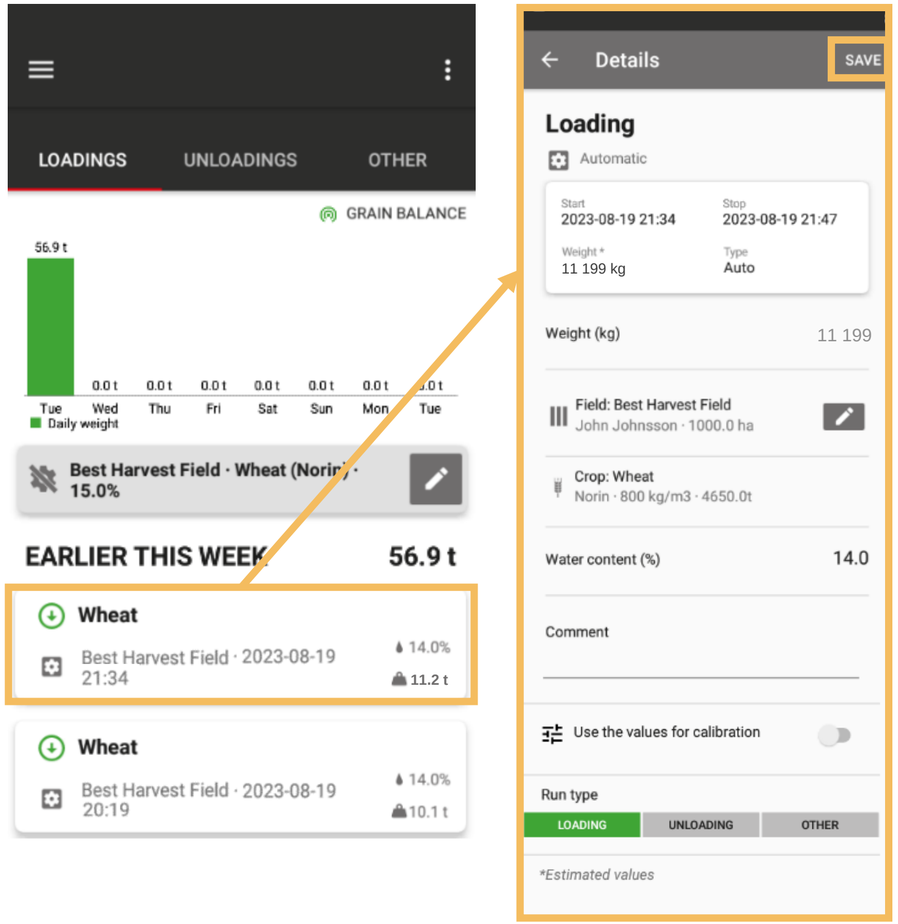
Edit a run

How to edit a loading/unloading/internal run.

Used to edit different kinds of values on a run afterwards.

The feature makes it possible to adjust values on runs afterwards if the default has not been used or has been incorrectly set, to obtain the correct balance (i.e. increase or decrease the balance).

Edit run



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on a run.
3. Edit one or several values of the run.
4. Press Save.
5. The run disappears and can now be found under the corresponding tab (Loadings/Unloadings/Other).

Note!

It is possible to edit several runs at the same time. Then follow the steps in section Multiple edit of runs.

When editing the run type, the connection to the correct field is released. Read more about editing run type in the special section Change run type.

Grain Cloud

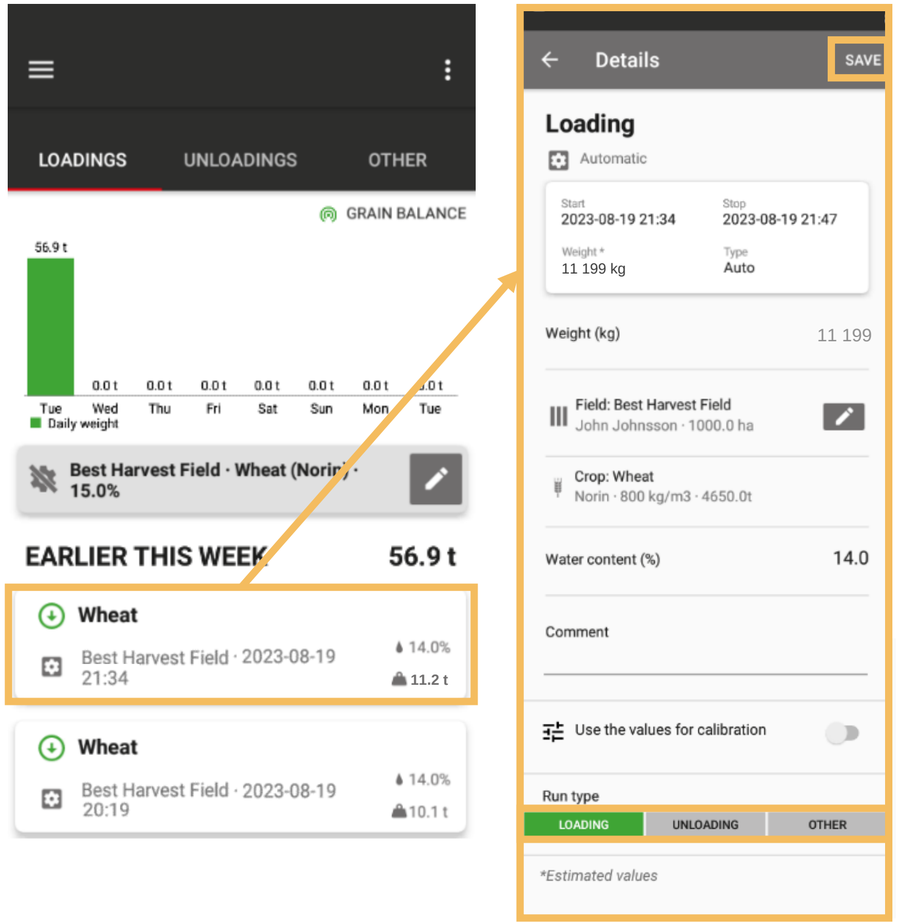
Change run type

How to change run type on one or several loadings/unloadings/internal runs.

Used to change the movement direction of run/runs afterwards.

The feature makes it possible to adjust the run type afterwards if the default has not been used or has been incorrectly set, to obtain the correct balance. Adjusting the run type means increasing and decreasing the balance.

Change run type



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on a run.
3. Select one of the other run types to change.
4. Press Save.

Note!

When editing the run type, the connection to the correct field is released.

It is possible to change run typ on several runs at the same time. Then follow the steps in section Multiple edit of runs.

Grain Cloud

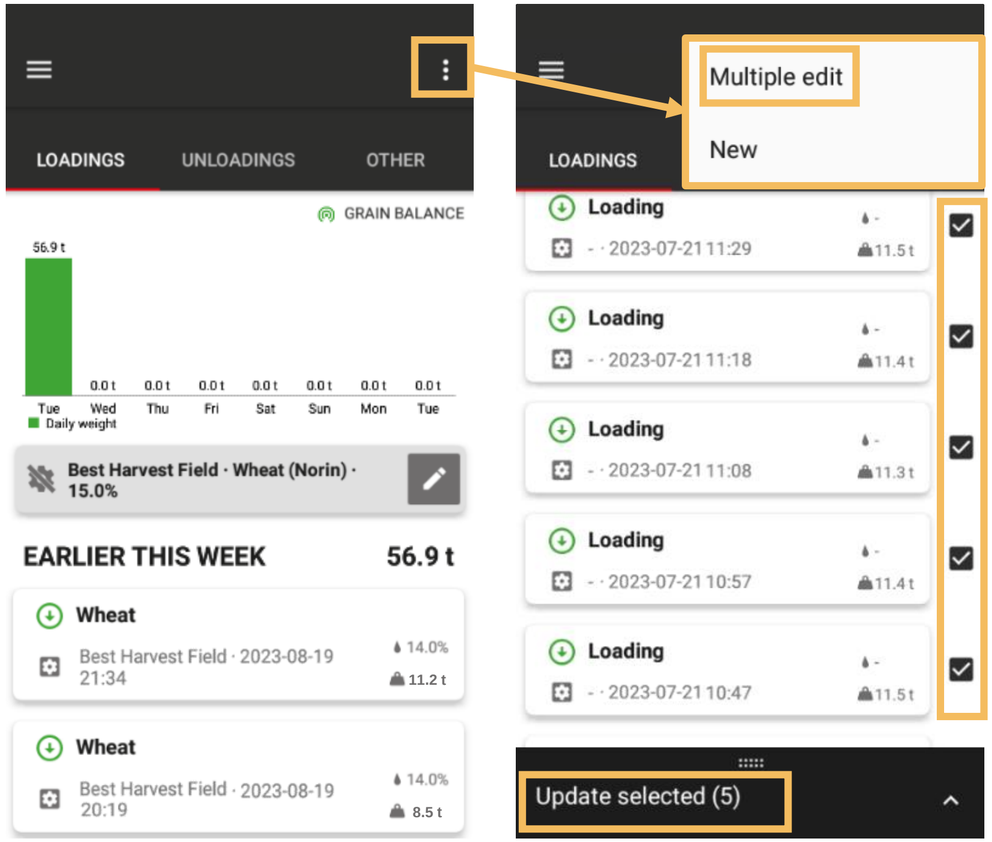
Multiple edit of runs

How to edit several loading/unloading/internal runs.

Used to edit different kinds of values on several runs afterwards.

The feature makes it possible to adjust values on several runs afterwards if the default has not been used or has been incorrectly set, to obtain the correct balance.

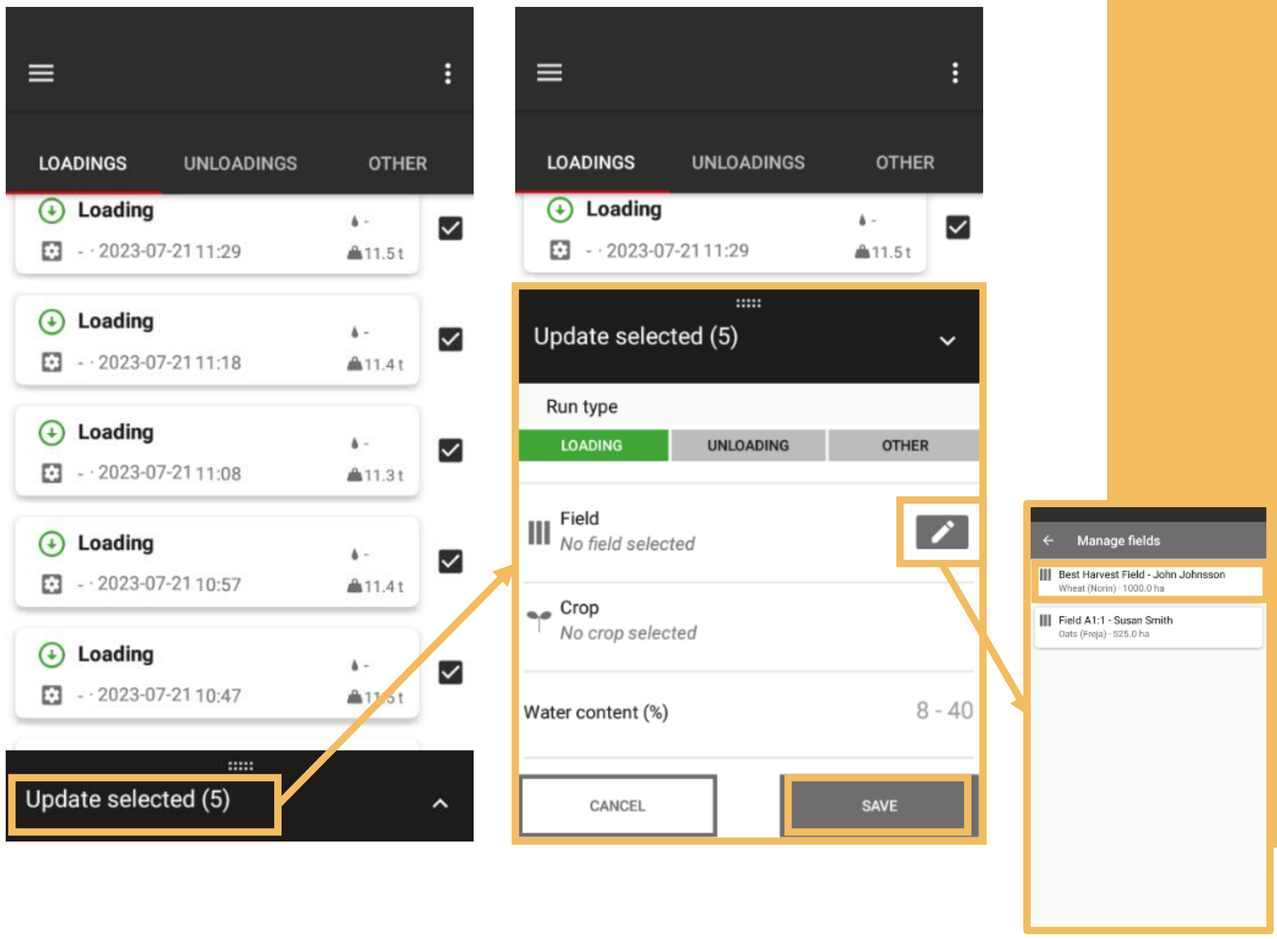
Multiple edit of runs



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on Multiple edit. In Android App: Three dots (in the top right) > Multiple edit. In iOS App: Multiple edit (in the bottom).
3. Tick the runs that you want to edit. You may scroll down in the list of runs.
4. Click on Update selected.

Multiple edit of runs



INSTRUCTION

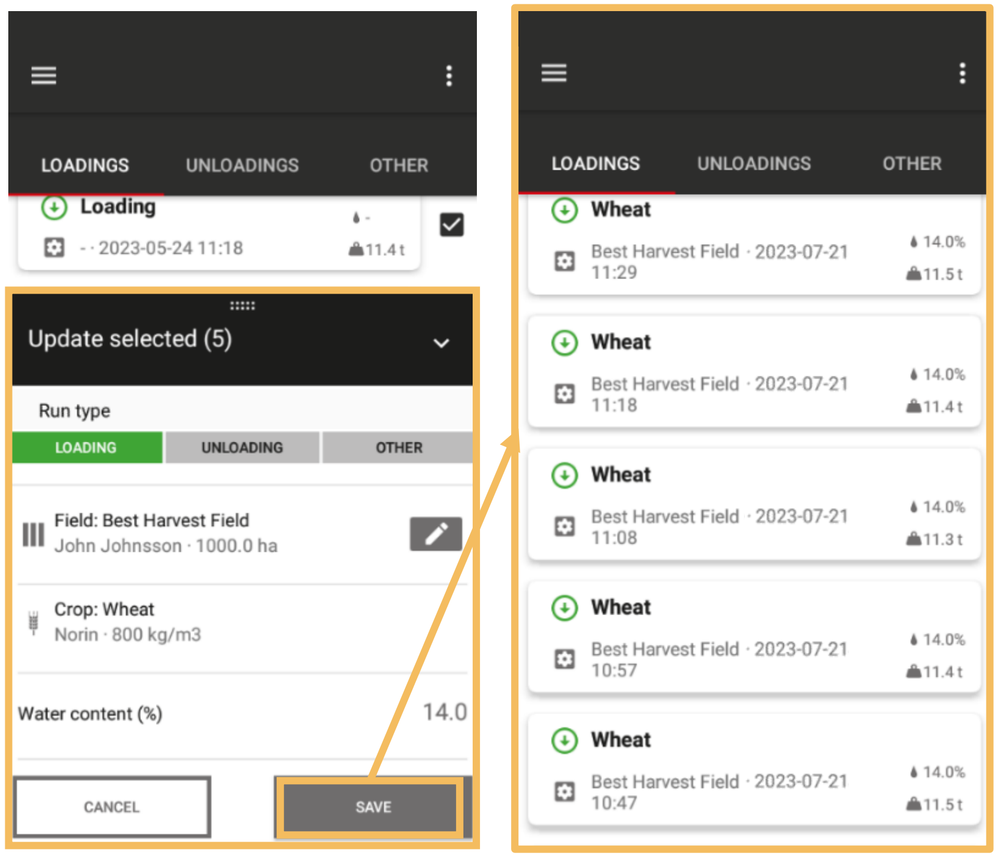
5. Edit one or several values of the runs. For example, edit field.
6. Press Save.

Note!

To select a field in the field list, it must be specified for the facility. Fields and crops are managed in Settings.

When editing the run type, the connection to the correct field is released.

Multiple edit of runs



INSTRUCTION

7. The new values are now displayed on the edited cards.

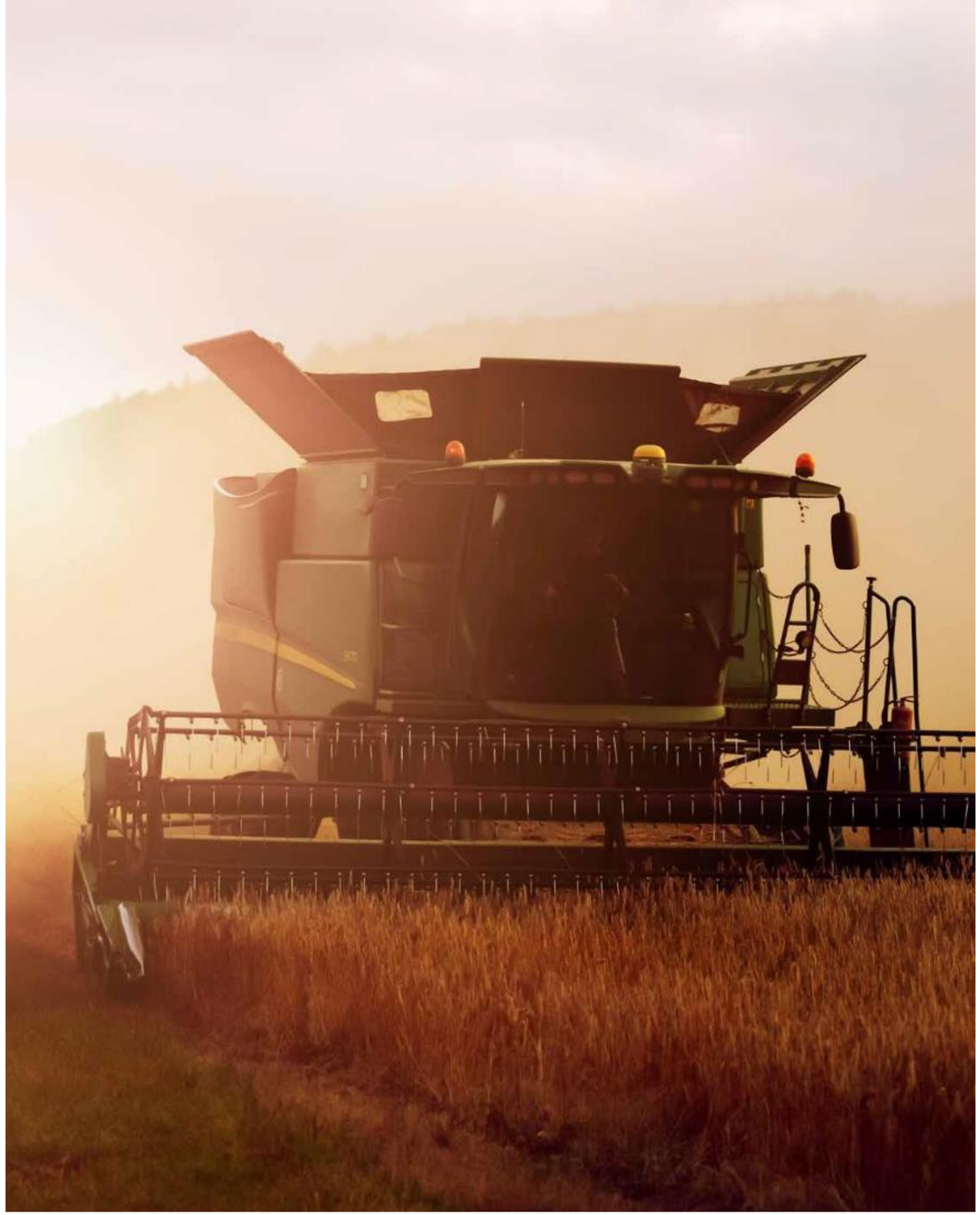
Grain Cloud

Calibration - General procedure

How to calibrate the elevator scale.

Used to set correct calculation factors.

The feature is fundamental and makes it possible to achieve accurate calculations for a relevant balance.



How to achieve the best possible accuracy?

To achieve the best possible accuracy on the weight calculation of your grain via Grain Balance Scale, do the following:

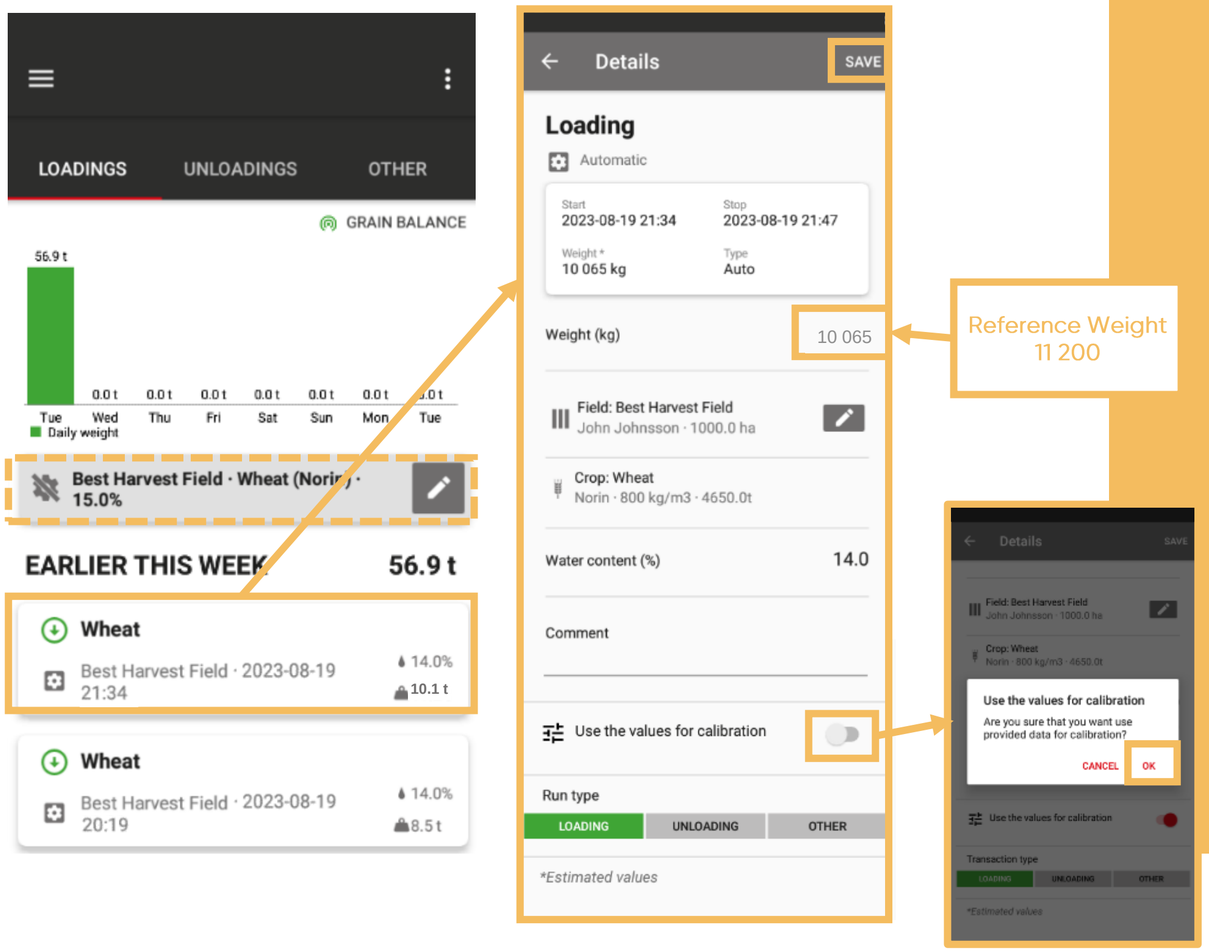
1. Calibrate each crop.
2. Calibrate each crop by 2-3 calibration runs with known reference weight.
3. Known reference weight should be at least approx. 10% of the elevator's capacity/hour.
4. Ideally calibrate every harvest year.

Calibration is preferably made well before harvest but can be done at any time.

There are different ways to handle calibration depending on the availability of a reference weight for the facility.

If you need any assessment or have any questions regarding calibration, do not hesitate to contact Grain Cloud technical support.

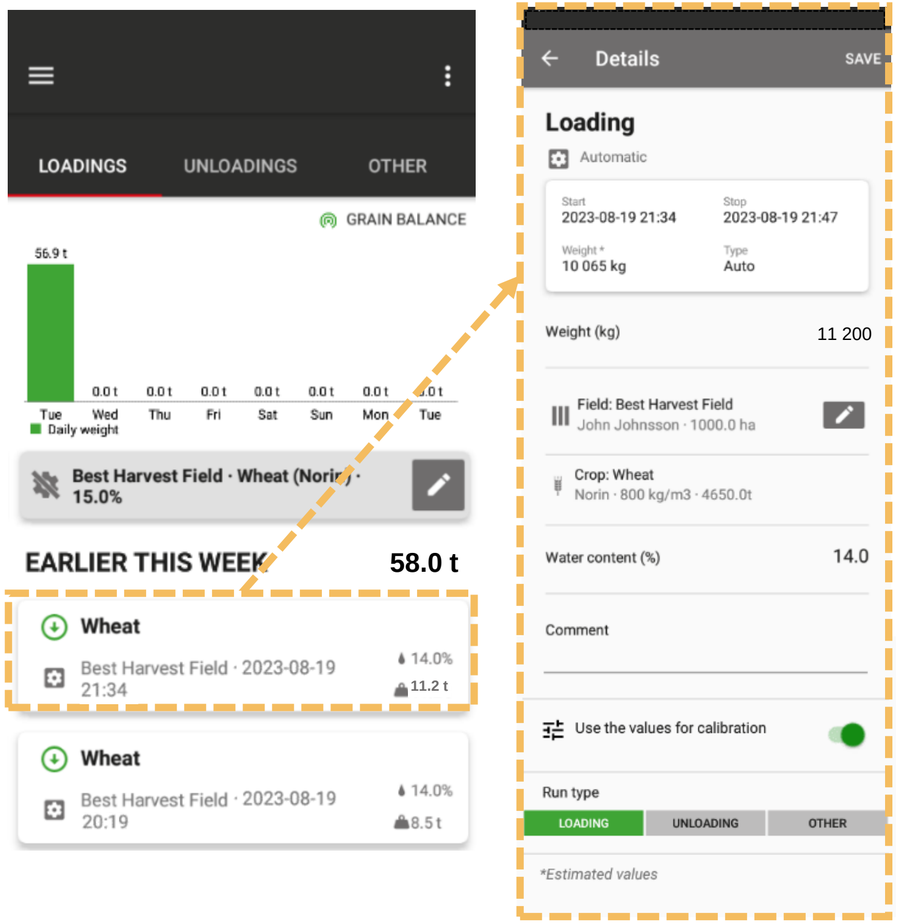
Calibration – General procedure



INSTRUCTION

1. Weigh a load of grain and record its weight. This is now the reference weight. The accuracy of the reference weight correlates linearly to the accuracy of Grain Balance Scale.
2. Click on Loads in Grain App.
3. Set the correct default run value (grey panel) for the upcoming calibration run.
4. Load the grain with a known reference weight. A new card in the run list will now appear. Wait until the run is completed, fully calculated and a weight is displayed in the card.
5. Click on the card and adjust the calculated weight to the known reference weight.
6. Tick to Use the values for calibration.
7. Confirm with OK.
8. Press Save.

Calibration – General procedure



INSTRUCTION

9. This calibration is now completed. Your calibration values are now registered.

10. Repeat from step 1. Calibrate each crop by 2-3 calibration runs with known reference weight.

Note!

If you have used the same batch of grain several times to calibrate, you may want to correct the balance (i.e., omit these runs in your balance). Change the run type of the calibration run from Loading to Other. See instruction section Change run type.

If you calibrate a crop that already has a balance, associated runs needs to be recalculated to obtain a correct balance. See instruction section Recalculating of runs.

It is possible to change the reference weight. Useful, for example, if you realized that you entered the wrong reference weight.

If you want to ignore a calibration, you can easily turn off the calibration by untick the toggle bar and save again. Useful, for example, if you realized that it was the wrong run you were calibrating on or if you for some other reason want to disregard a calibration run.

Grain Cloud

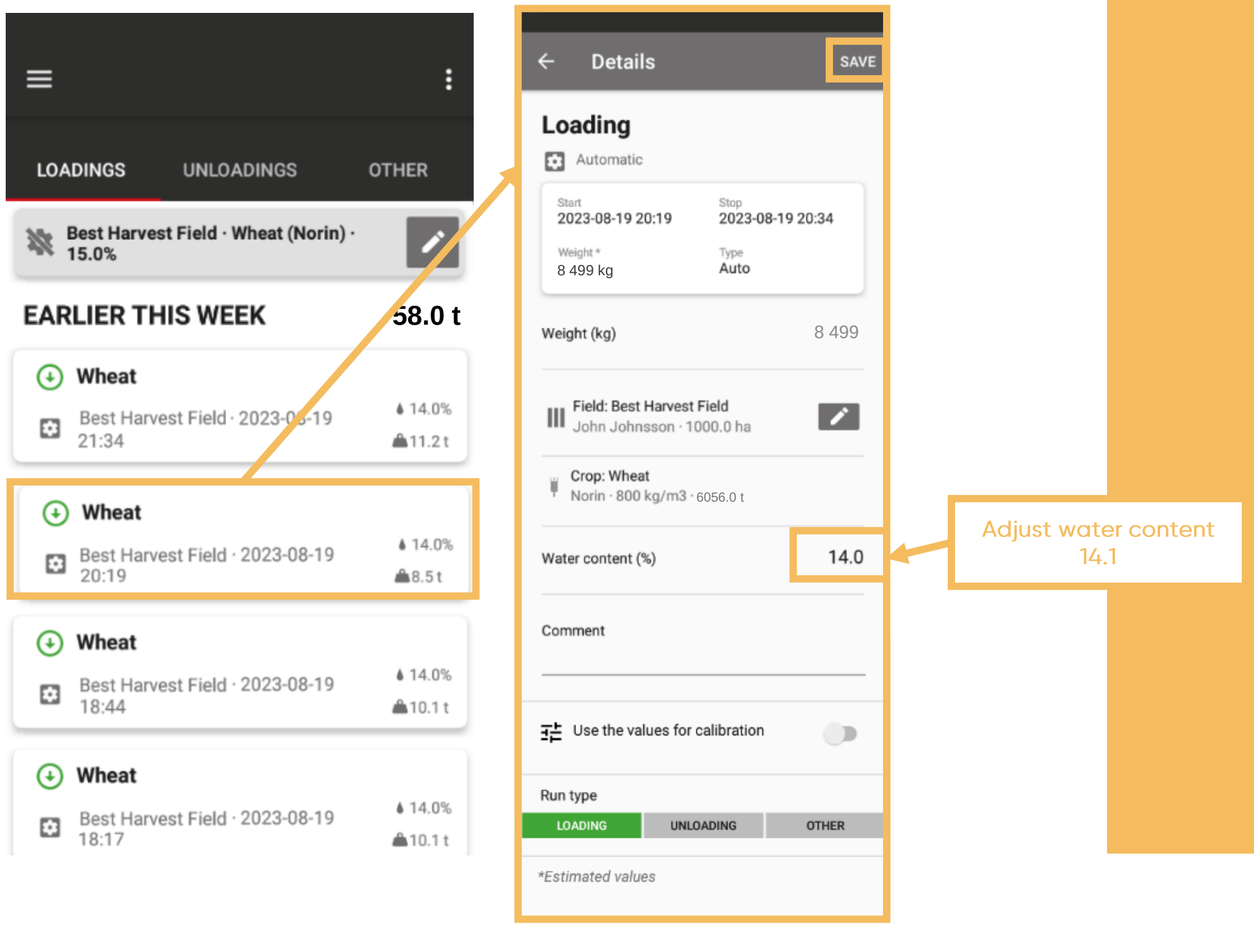
Recalculation of run

How to use latest calibration value.

Used to recalculate previous run/runs with a later created calibration value.

The feature makes it possible to achieve accurate calculations for a relevant balance.

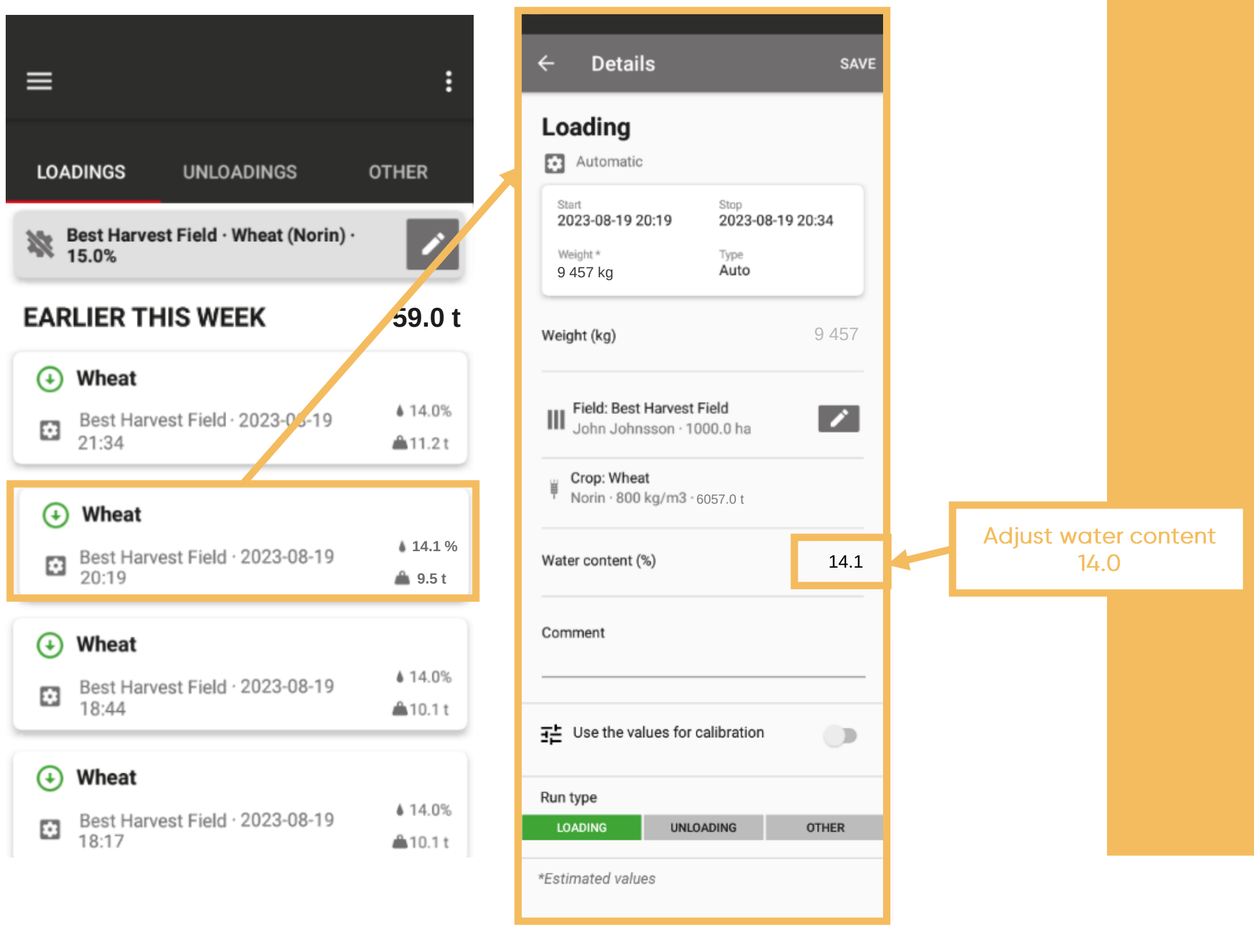
Recalculation of run



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on a run.
3. Adjust water content by 0.1%.
4. Press Save.

Recalculation of run



INSTRUCTION

5. Now the run has been recalculated with the latest calibration value for the crop.
6. Redo Steps 1-4 and adjust back to original water content if desired.

Note!

Adjustment of water content is the way to trigger a recalculation. Small adjustment of water content will not affect the weight calculation significantly.

It is possible to recalculate several runs at the same time. Then follow the steps in section Multiple edit of runs. And then select several runs entered with the same water content.

Grain Cloud

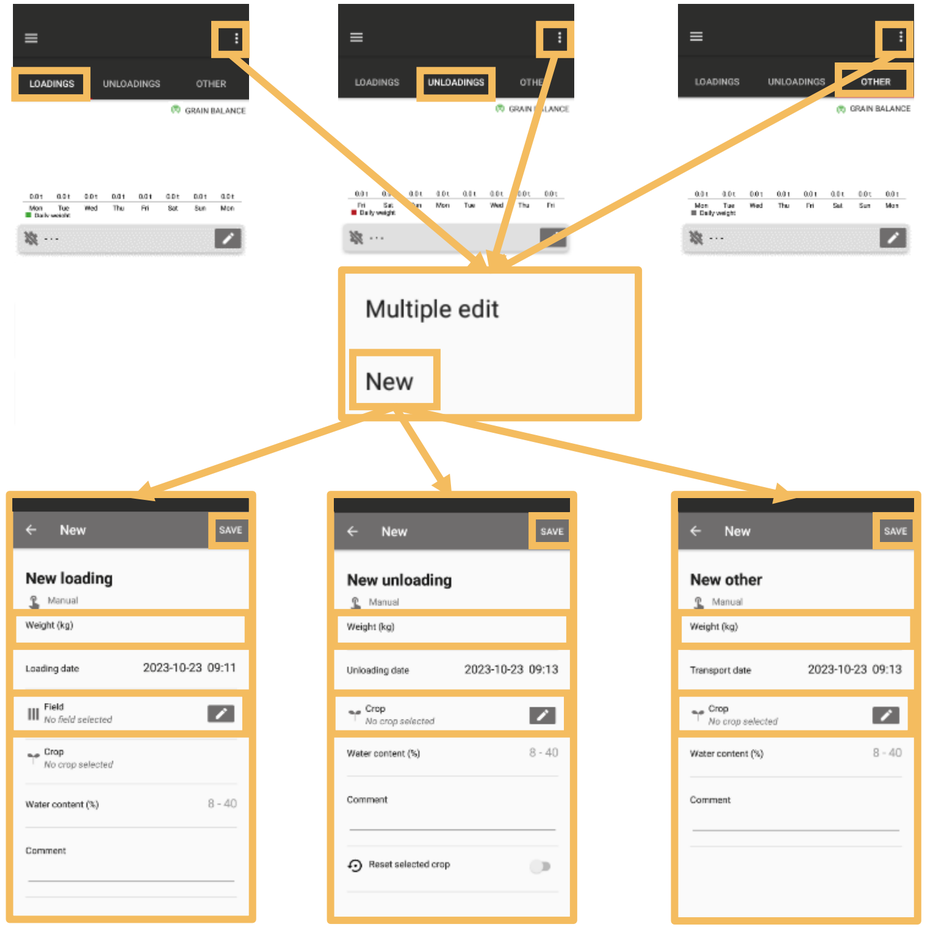
Manual run

How to create a manual loading/unloading/internal run.

Used to add manual run that cannot be calculated automatically.

The feature makes it possible to correct the storage to obtain relevant balance.

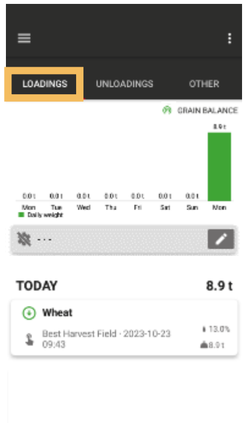
Manual run

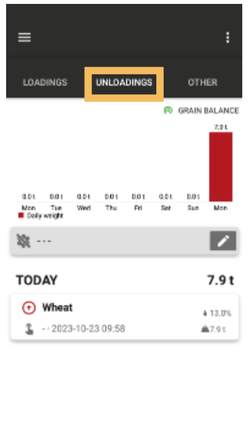


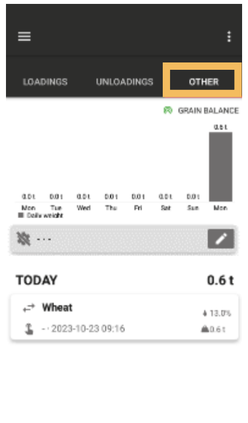
INSTRUCTION

1. Click on Loads in Grain App.
2. Click on one of the tabs where you want to add a manual run.
3. Click on New. In Android App: Three dots (in the top right) > New. In iOS App: New (in the top right).
4. Click on Field or Crop.
5. Select Field or Crop from list.
6. Fill in amount in kg.
7. Adjust Water content. Not mandatory.
8. Fill in a comment. Not mandatory.
9. Press Save.

Manual run







INSTRUCTION

10. Now the balance is added with a manual run which is displayed in the diagram and by a new card that appears in the list.

Note!

It is easy to distinguish between a manual and an automatic run by the different icons (hand/gear) on the cards.

Grain Cloud

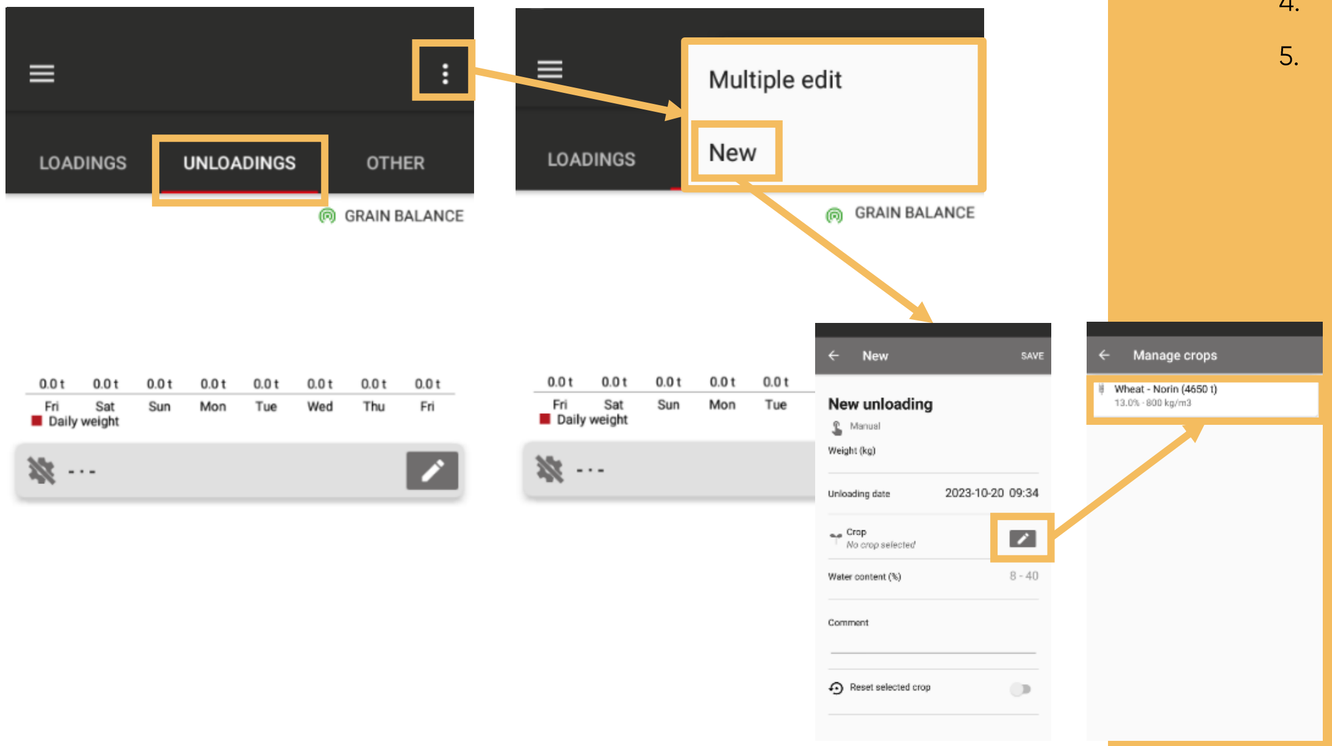
Empty storage

How to empty the storage crop by crop.

Used to manually unload all storage of a particular crop.

The feature makes it easy to clear the storage and make it ready for the next harvest.

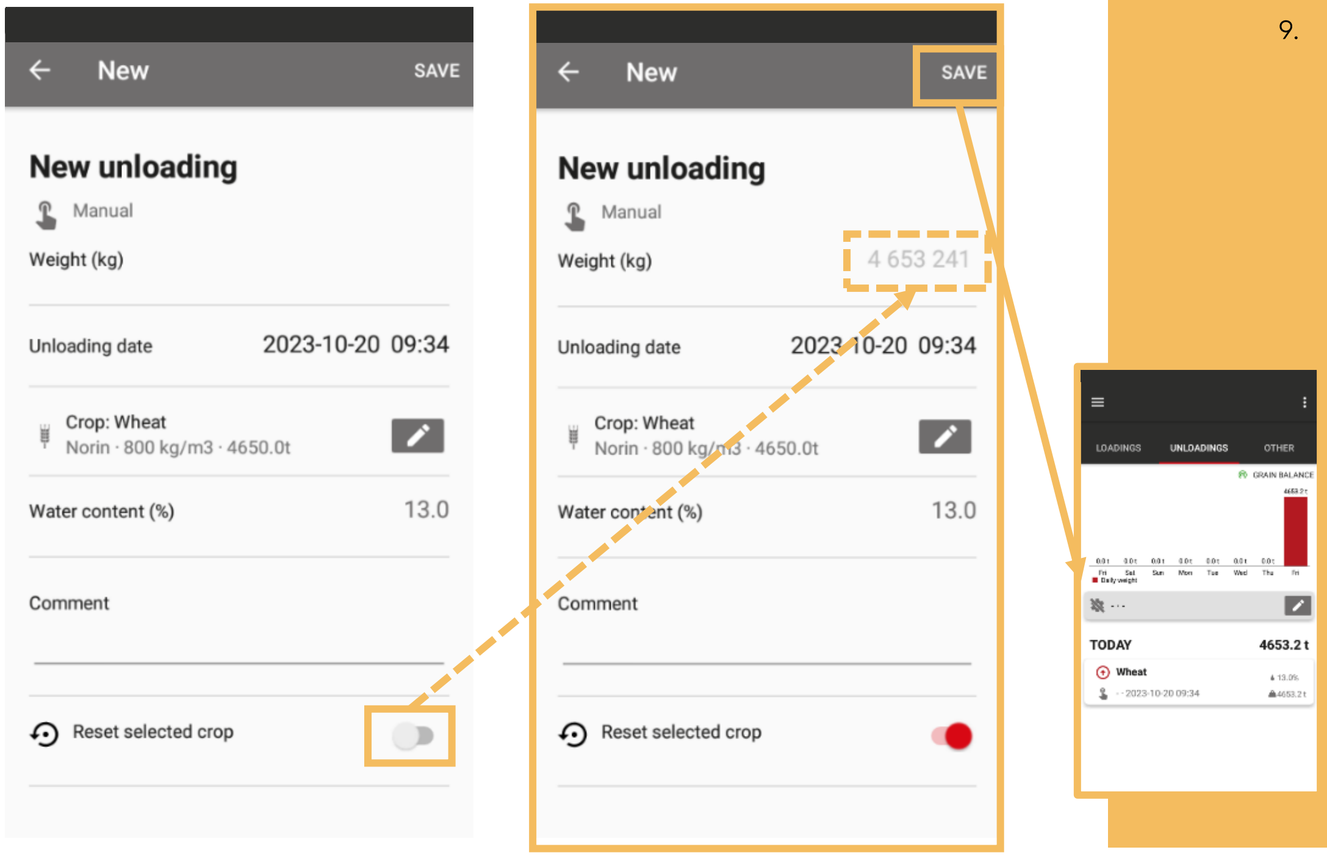
Empty storage



INSTRUCTION

1. Click on Loads in Grain App.
2. Click on the tab Unloadings.
3. Click on New. In Android App: Three dots (in the top right) > New. In iOS App: New (in the top right).
4. Click on Crop.
5. Select Crop from list.

Empty storage



INSTRUCTION

6. Tick to Reset selected crop. The total amount (in kg) of the selected crop is now displayed.
7. Press Save.
8. Now the balance is cleared for the crop. The unloading is displayed in the diagram and by a new card that appears in the list.
9. Repeat steps 1-7 to empty the balance of more crops.

Grain Cloud

Troubleshooting

Solution for troubleshooting.

Troubleshooting

Actual run is not registered

If the power is not on, the connection unit is offline or a run is shorter then 4 minutes long the system will not detect a run.

Actual run not calculated as expected

If you notice consistent deviations, it might be that you need to update the calibration values for the new circumstances (e.g. changes in crop conditions, harvest year, maintenance on the elevator, high level of grain in elevator foot or any other systematic changes).

One actual run is divided to several runs

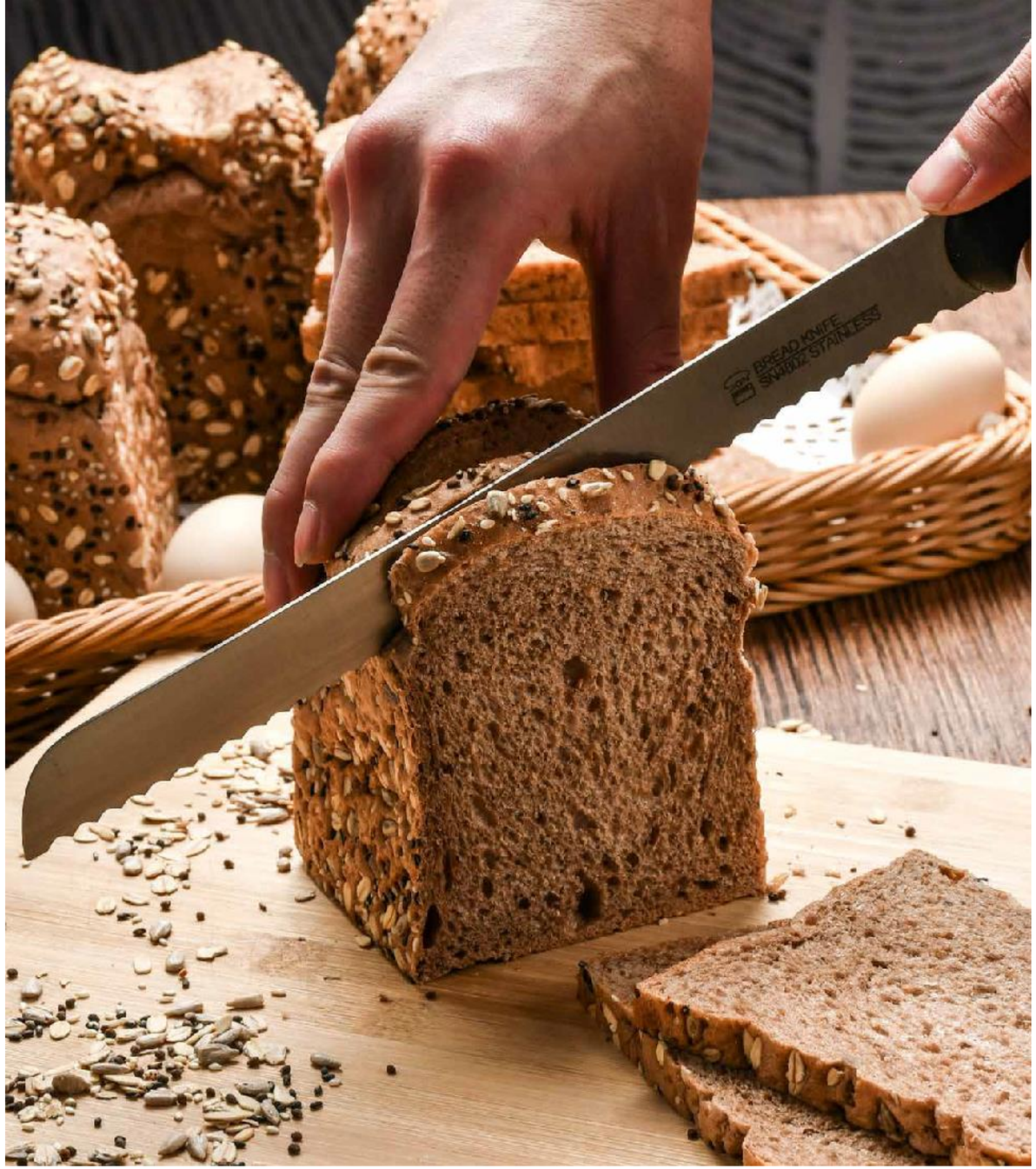
If the run consists of highly variating load, it may be detected as several runs.
To avoid this effect, please ensure that the feed to the elevator is sufficient and relevant for the elevator capacity.

BEST OF LUCK!

For further questions regarding the instructions or about Grain Cloud please contact us

info@graincloud.com

+46 512 79 70 00



Grain Cloud