Orientation Aid for the Start of the Season

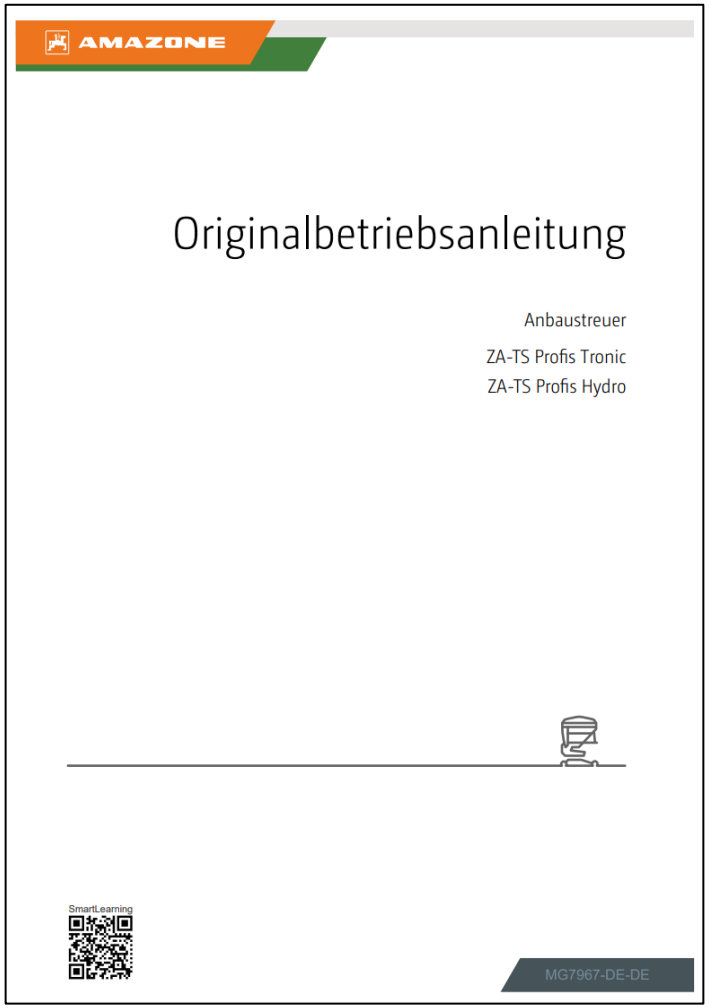
MG7997-EN-GB

ZA-TS 01

TABLE OF CONTENTS

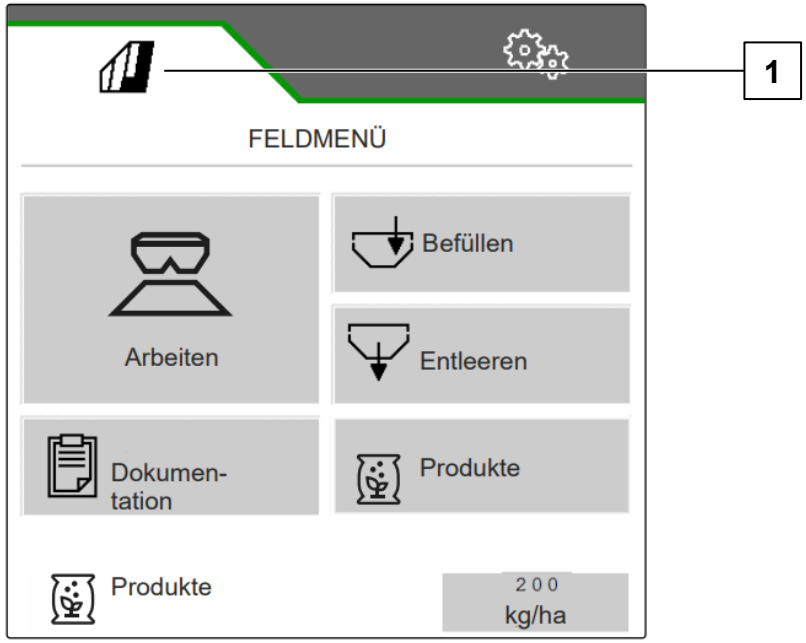
1. General instructions

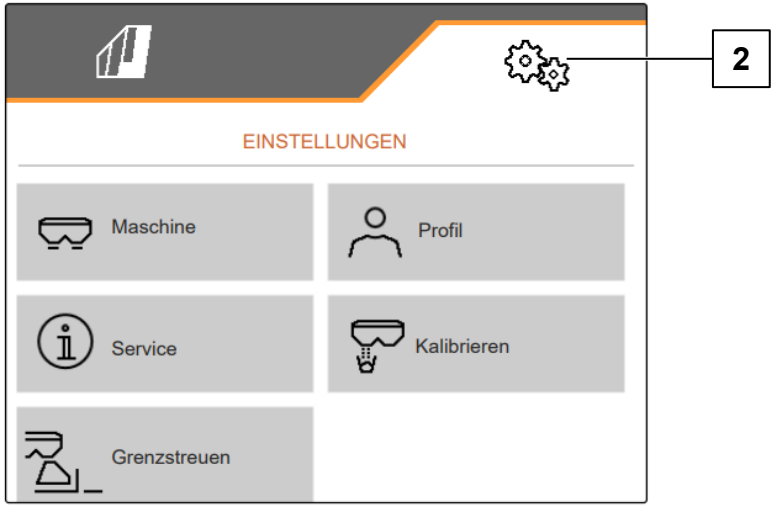
- Use of this document requires that the operating manual for the machine has been read and understood. The corresponding document is shown on the right side.
- For this reason, it is necessary to refer to the operating manual for additional information. The operating manual must always be kept at hand.
- The Orientation Aid for the Start of the Season - ZG-TS 01 Ultra document serves as a guideline for the user to check the machine for the new season and to put it back into operation. This document is based on software version NW371-I and is also only valid for this version.



2. Homepage of the machine software

- The Main menu is divided into the Field menu (**1**) and the settings (**2**).
- The menus can be switched by clicking on one of the marked buttons.
- From the Field menu, you can switch to the Work, Documentation, Filling, Emptying and Products submenus. Moreover, under Target rates, it is also possible to enter the desired area and application rate.
- From the settings, you can switch to the Machine, Profile, Service, Calibration and Boundary spreading submenus.



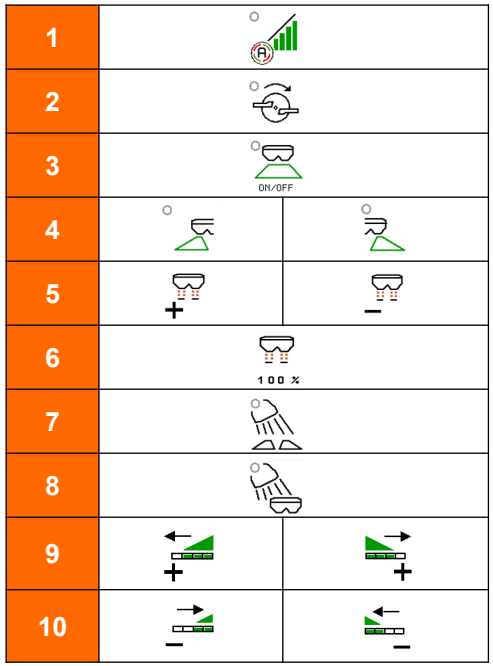


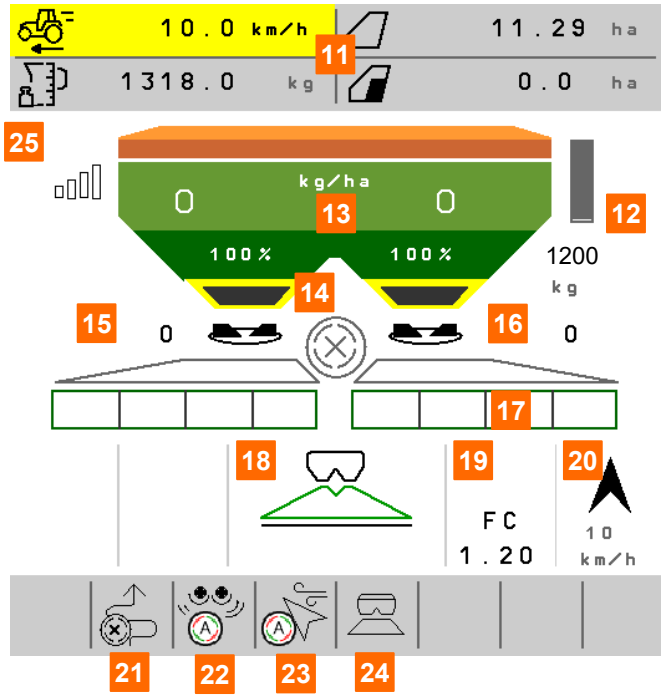
Instructions

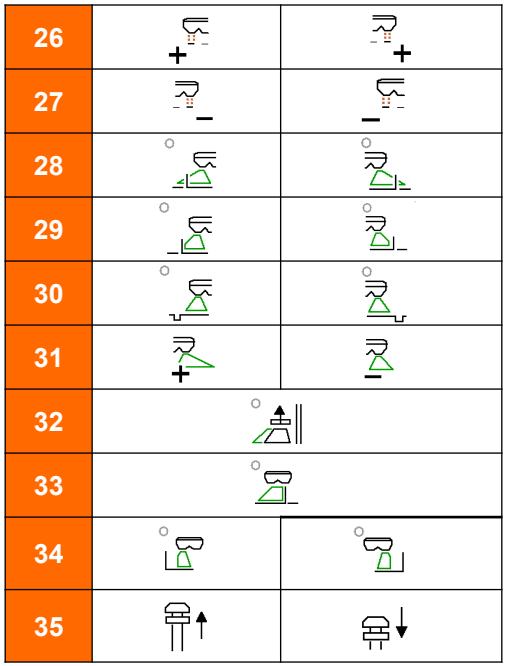
In the Service menu, machine-specific settings as well as calibrations can be made. This work may only be performed by trained service personnel.

3. Work menu of the machine software

3.1 Work menu overview







(1) Switch Section Control on/off
(2) Switch on the spreading discs (double-click)
(3) Main section shut-off switch open / closed on both sides
(4) Main section shut-off switch open / closed on the left / right
(5) Increase / reduce spread rate on both sides
(6) Set the spread rate to the target rate (100 %) on both sides
(7) Switch the work lights on / off
(8) Switch the hopper interior lighting on / off
(9) Switch on part-width sections on the left / right
(10) Switch off part-width sections on the left / right

(11) Multi-function display
(12) Weighed hopper volume
(13) Current spread rate, absolute and in percent
(14) Opening of the metering shutter
(15) Spreading disc speed, highlighted in yellow if the deviation is > 50 rpm from the nominal speed
(16) Main section status
(17) Boom part width section status
(18) Current spreading method (e.g. normal spreading)
(19) Calibration factor display (scale, FlowControl)
(20) WindControl display
(21) CurveControl automatic function
(22) ArgusTwin automatic function
(23) WindControl automatic function
(24) AutoSpread automatic function

(25) AmaConnect connection status
(26) Increase the spread rate on the left / right
(27) Reduce the spread rate on the left / right
(28) Switch border spreading on/off on the left / right
(29) Switch boundary spreading on/off on the left / right
(30) Switch ditch spreading on / off on the left / right
(31) Override throw distance for border, boundary, ditch spreading (0.5 m increments)
(32) Switch HeadlandControl on / off
(33) Switch BorderTS spreading on / off
(34) Switch boundary spreading on/off on the left / right after BorderTS spreading
(35) Retract / extend weather station manually

4. Preparation for operation

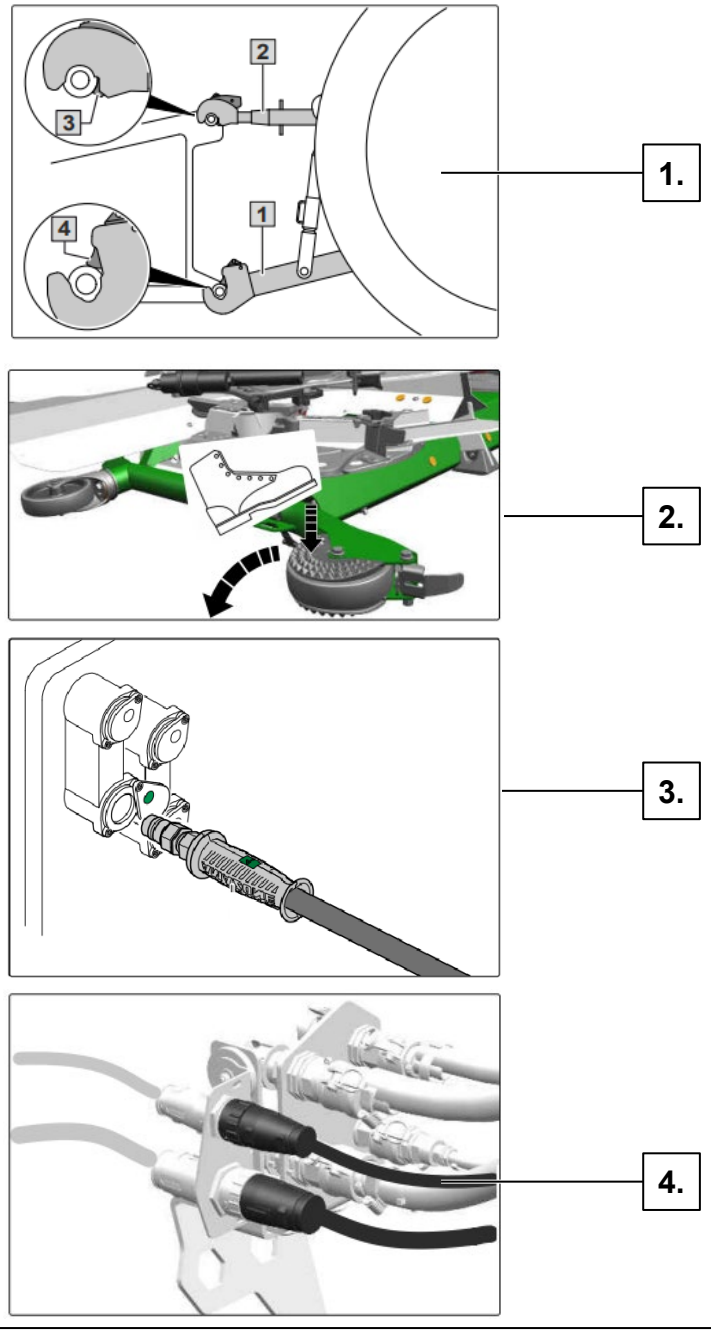
4.1 Prerequisites

- **Tractor engine power:** above 65 kW (90 HP)
- **Tractor pump capacity:** max. Min. 70 l/min at 160 bar
  Drive with load sensing system or constant flow system is possible
- **Optimal working speed:** 12-18 km/h
- **Permissible transport speed:** 60 km/h
- **Terminal:** AmaTron 4 (NW216-K.0XX)

Coupling the machine:

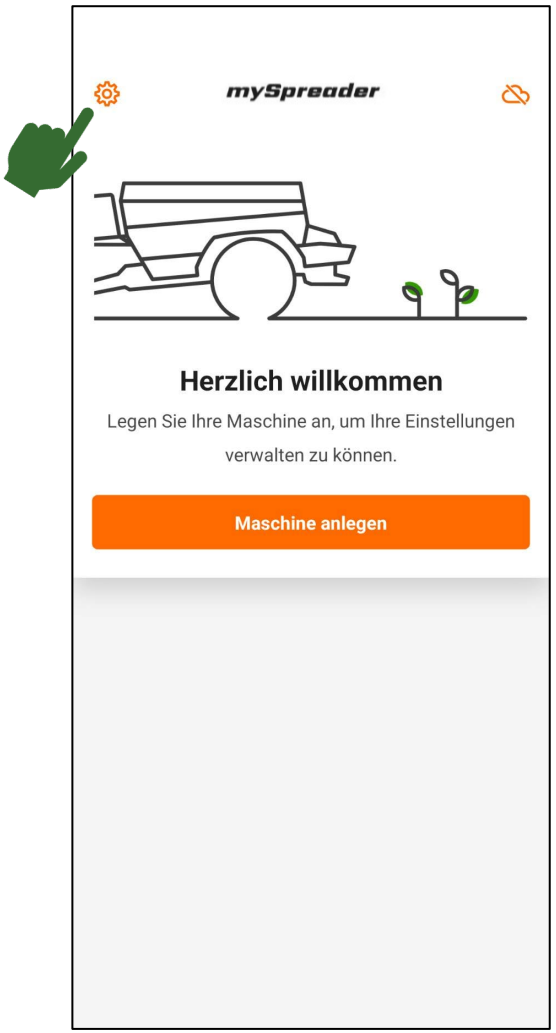
Drive the tractor towards the machine, leaving a sufficient distance.

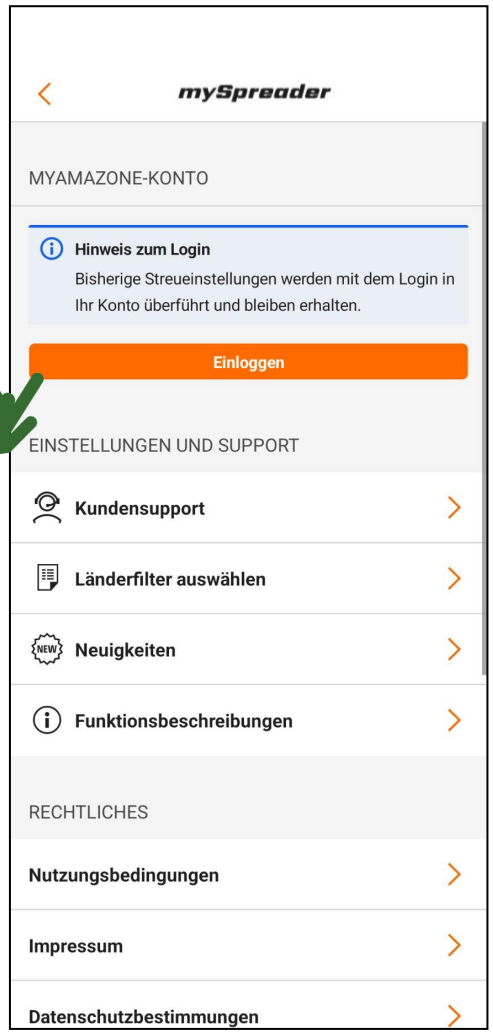
1. Couple the three-point mounting frame onto the tractor.
2. Put the parking device out of operation.
3. Couple the hydraulic line onto the tractor.
4. Couple the electronic cables onto the tractor.

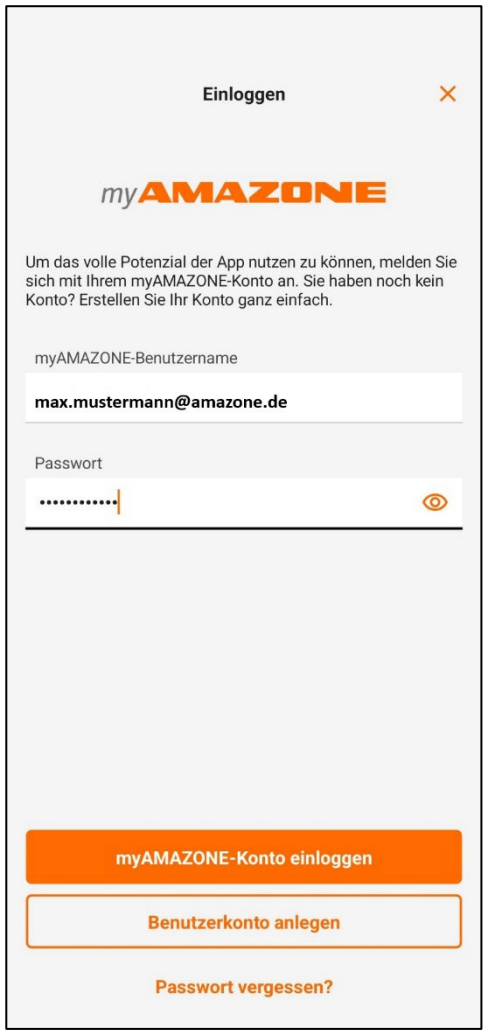


4. Preparation for operation

4.2 Configuring the MySpreader app / purchasing a licence / coupling the machine



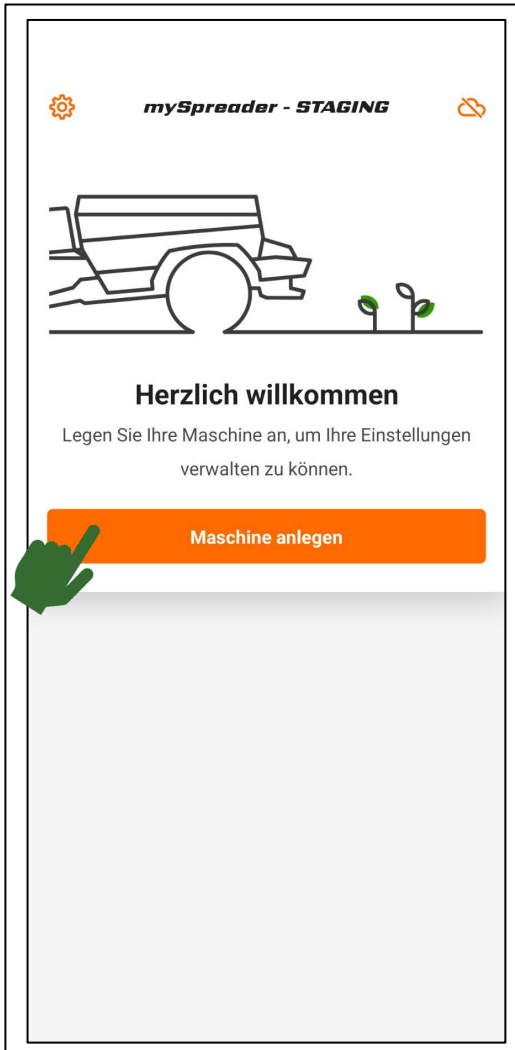


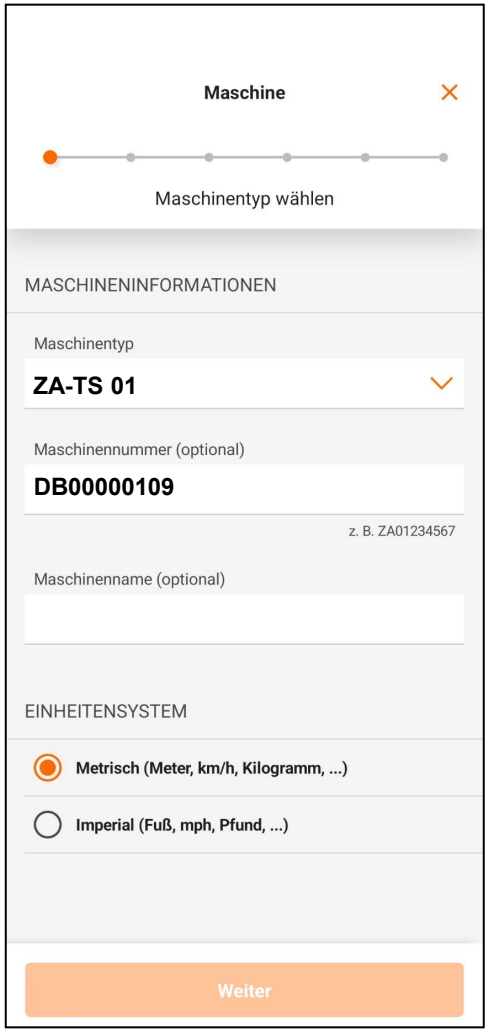


To use the AutoSpread and AmaConnect functions, the user must login to the mySpreader app with their myAMAZONE account.

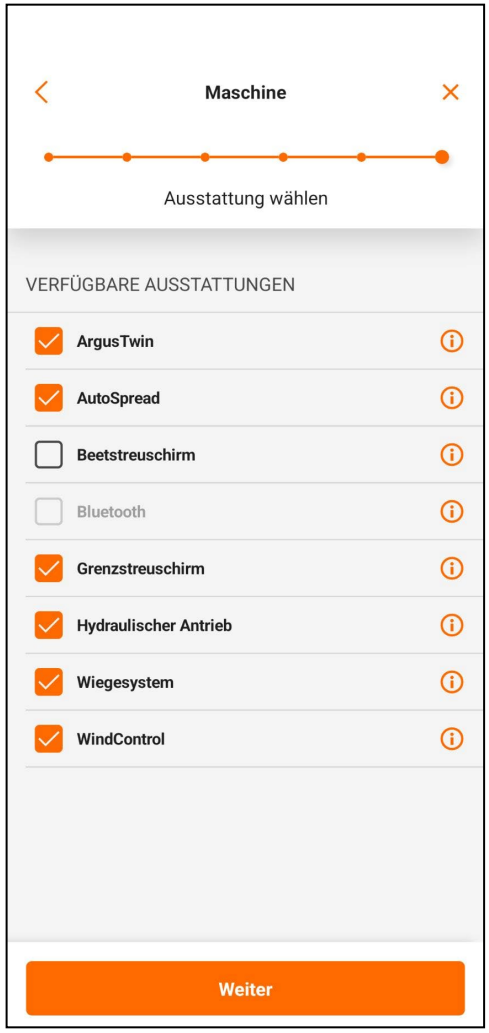
4. Preparation for operation

4.2.1 Creating a new machine

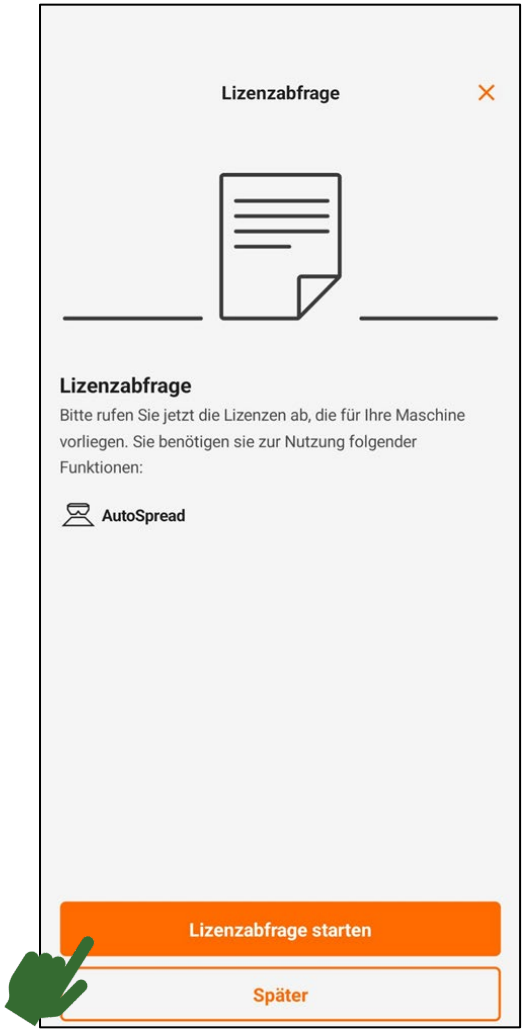




For the connection between the mySpreader app and the machine, the machine type must be selected and the machine number must be entered.



Selection of the AutoSpread function automatically deactivates the Bluetooth function.

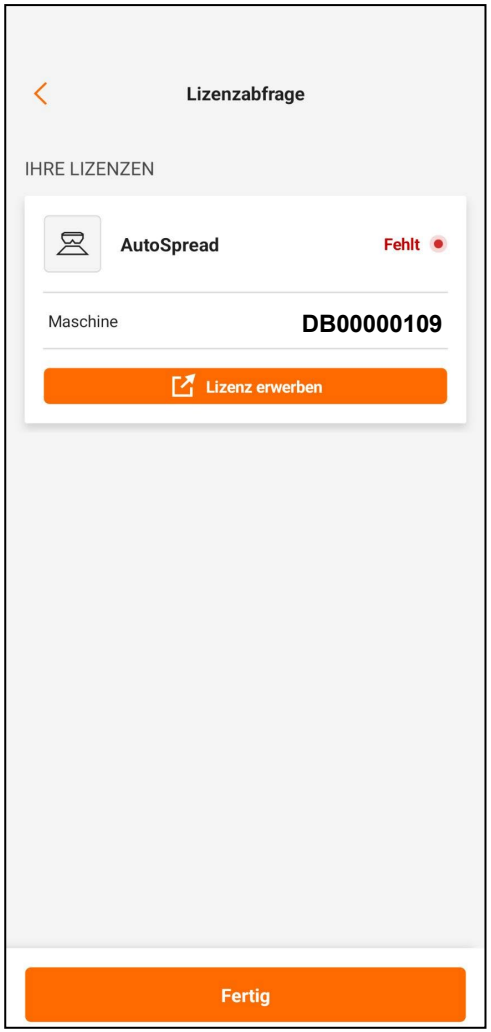


4. Preparation for operation

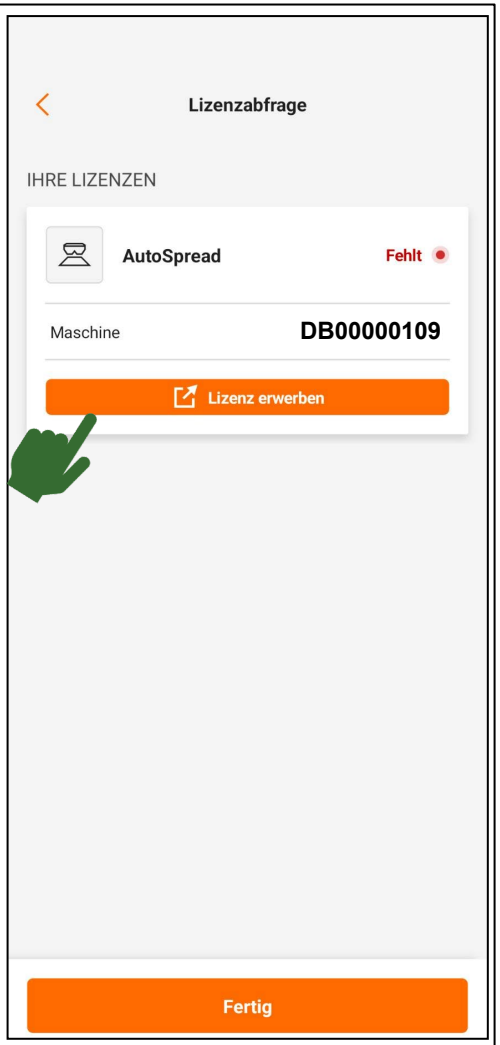
4.2.1 Creating a new machine

To use the AutoSpread function, a licence is required to activate this function and the connectivity.

The machine number is automatically adopted from the previous entry.



After the licence query, the status for the licence of the machine is shown. A distinction is made between the status **Missing** and **Valid**.

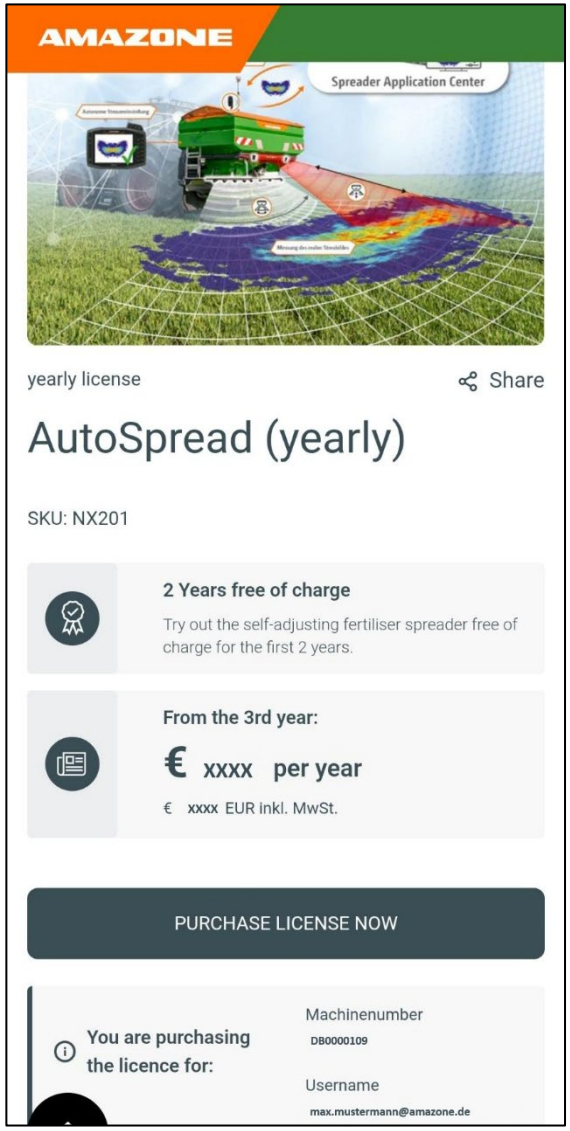


By clicking on the "Purchase licence button", you are automatically forwarded to the AMAZONE online shop.

4. Preparation for operation

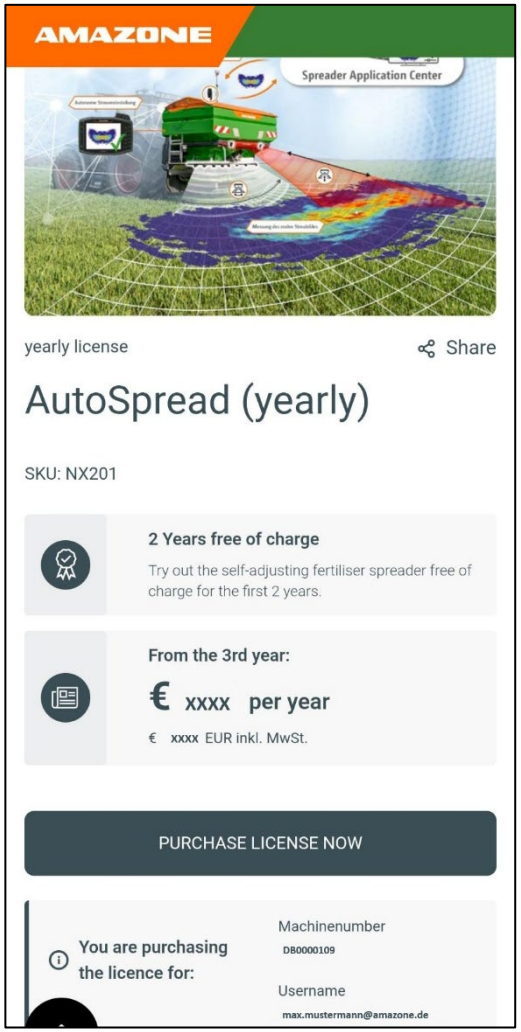
4.2.2 Purchasing a licence

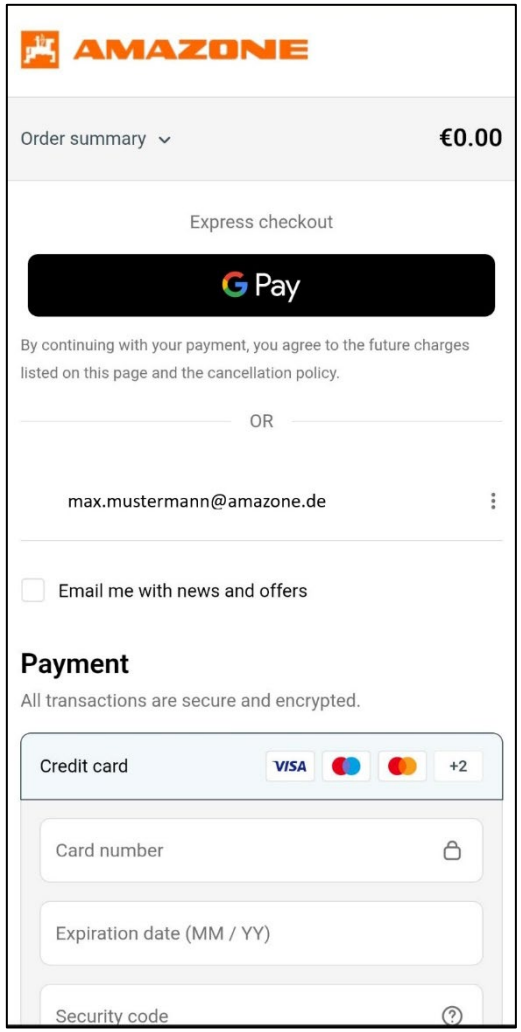
To use the AutoSpread function, the licence must be purchased. The licence is invoiced on an annual basis between the end customer and AMAZONE.
The first two years are free of charge for a new machine.
To activate the free trial period, the licence must be actively purchased and a payment method must be stored.
The amount for the licence will only be charged to the stored payment method starting from the 3rd year.



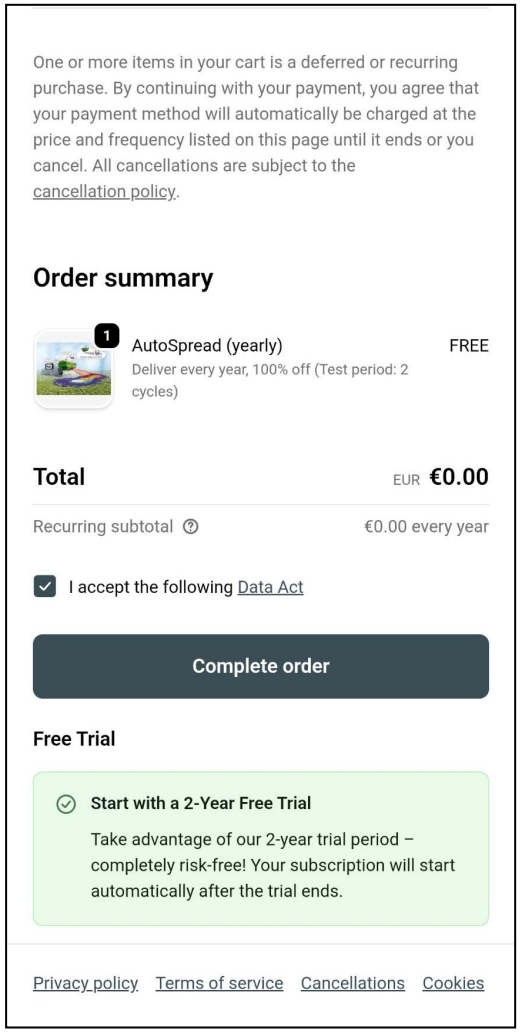
4. Preparation for operation

4.2.2 Purchasing a licence

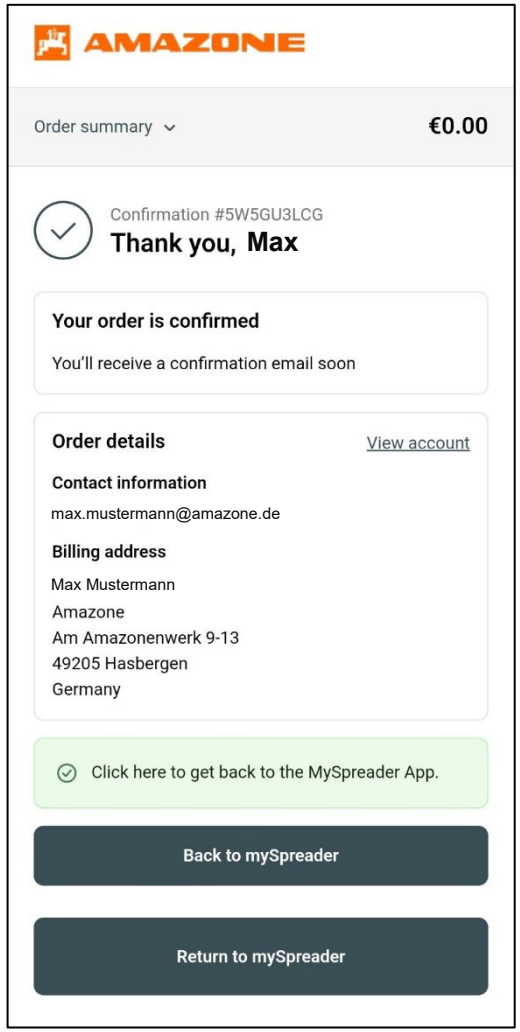




The current possible payment methods are credit card, Google Pay and Apple Pay.



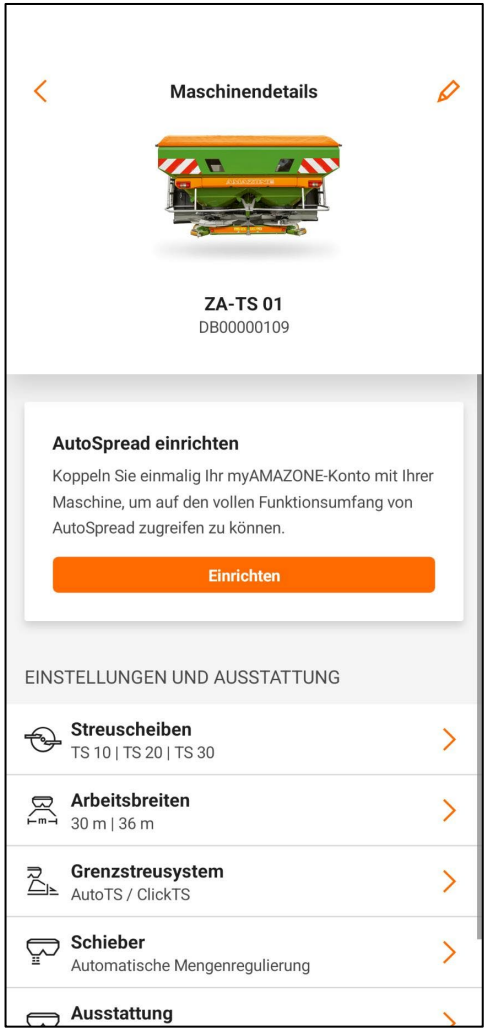
To complete the purchase, both the Data Act and the General Terms and Conditions must be accepted.



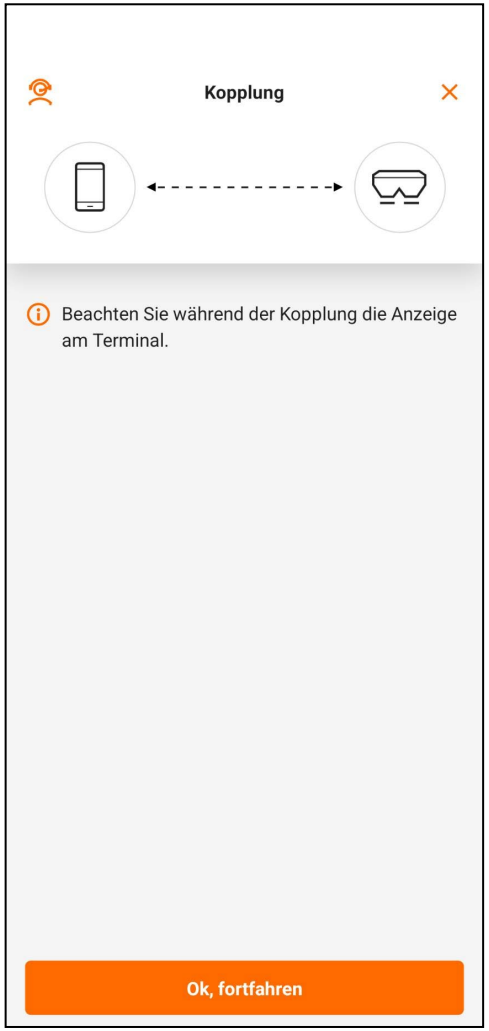
After completing the purchase, you are taken back to the mySpreader app

4. Preparation for operation

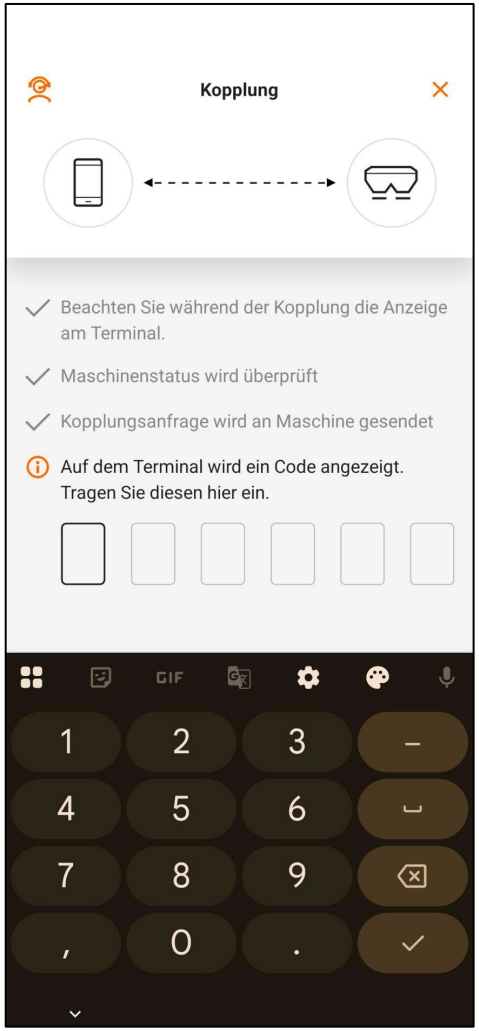
4.2.3 Pairing with the machine



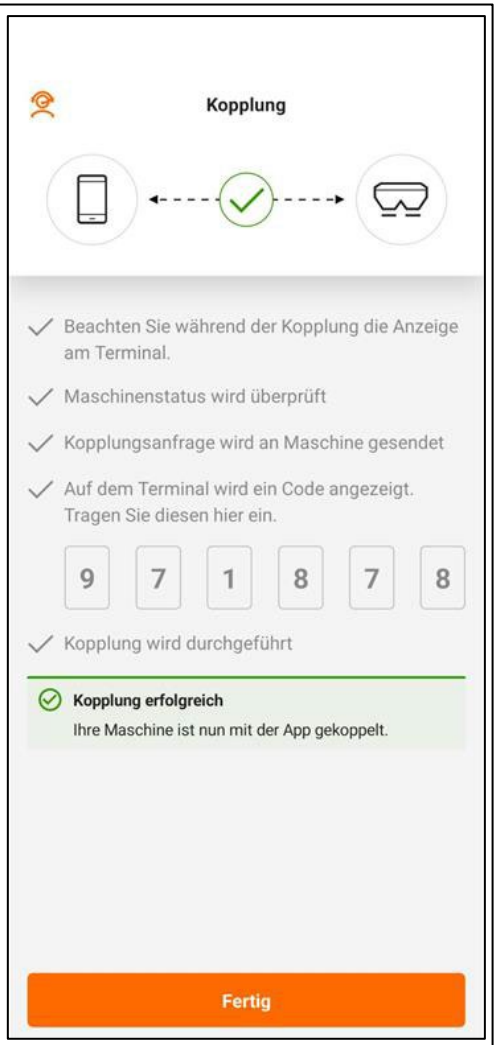
To use the full scope of functions of AutoSpread, the myAMAZONE account must be paired with the machine.



Before the pairing process is started, the machine must be switched on and have an active Internet connection.



After the pairing process was started, a code is shown on the ISOBUS terminal that must be entered in the mySpreader app.



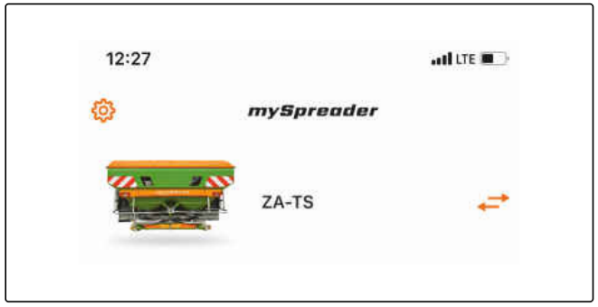
After entering the code, the machine is coupled with the myAMAZONE account and ready for operation.

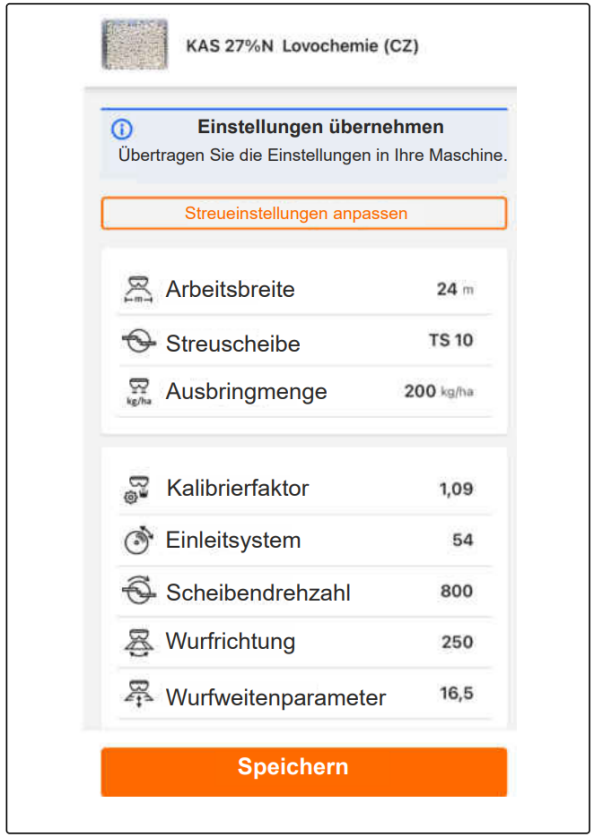
4. Preparation for operation

4.3 Creating a fertiliser

To be able to create a fertiliser, it **must** be sent to the spreader via the mySpreader app.

1. Open the MySpreader app on the end device.
2. To be able to manage the settings and send fertilisers, the machine must be configured.
3. Search for and select the fertiliser.
4. Retrieve the setting recommendations.
5. Enter the spread rate in kg/ha.
   - The spreader settings will be displayed.
6. Save the spreader settings.
   - The product-specific data will be transmitted to the machine.





4. Preparation for operation

4.3 Creating a fertiliser

In the Products menu, 20 different fertilisers can be stored and retrieved. Even when AutoSpread, ArgusTwin or WindControl is not activated, the following values must always be entered:

1. Working width
2. Spreading disc
   - Spreading disc
   - Telescope type
   - Telescope setting
3. Calibration factor
4. Delivery system position
5. Spreading disc speed
6. Throwing direction
7. Throw distance parameter
8. Switch-on point
9. Switch-off point
10. Spreading material

If AutoSpread is activated, the spread pattern can be optimised using the correction factors (throw direction / speed).
The correction factors are determined with EasyCheck and must be sent to the machine from the mySpreader app.

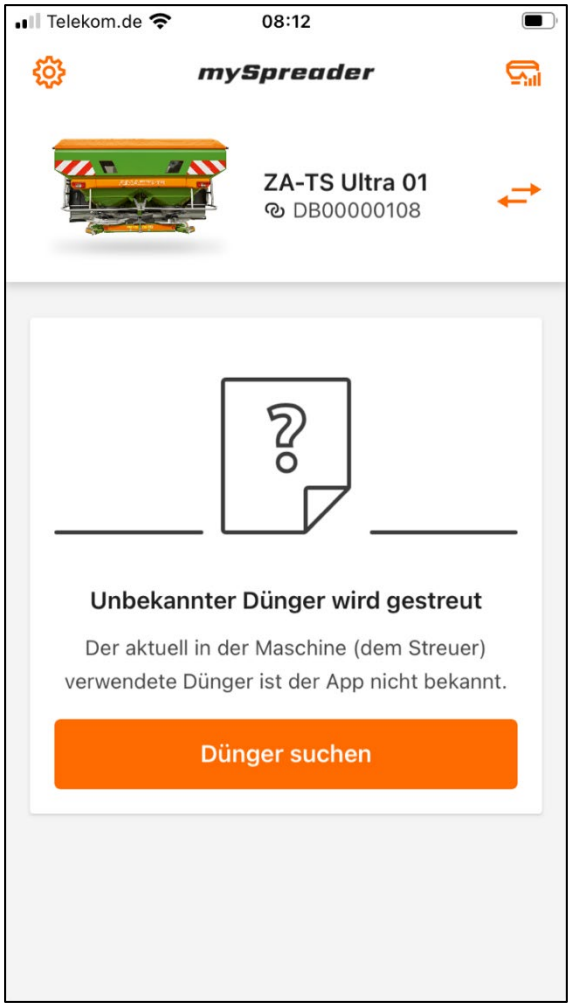
4. Preparation for operation

4.3 Creating a fertiliser

If a fertiliser is created manually on the machine under Products, a warning appears in the mySpreader app under the spreader settings:

- **Unknown fertiliser is being spread**

Now there is no data synchronisation between the spreading procedure on the machine and the mySpreader app, so that the functions are limited when the spread pattern is checked by AutoSpread.



Instructions

When AutoSpread is activated, the fertiliser may only be sent to the machine in conjunction with the mySpreader app.

4. Preparation for operation

4.4 Selecting the spreading disc

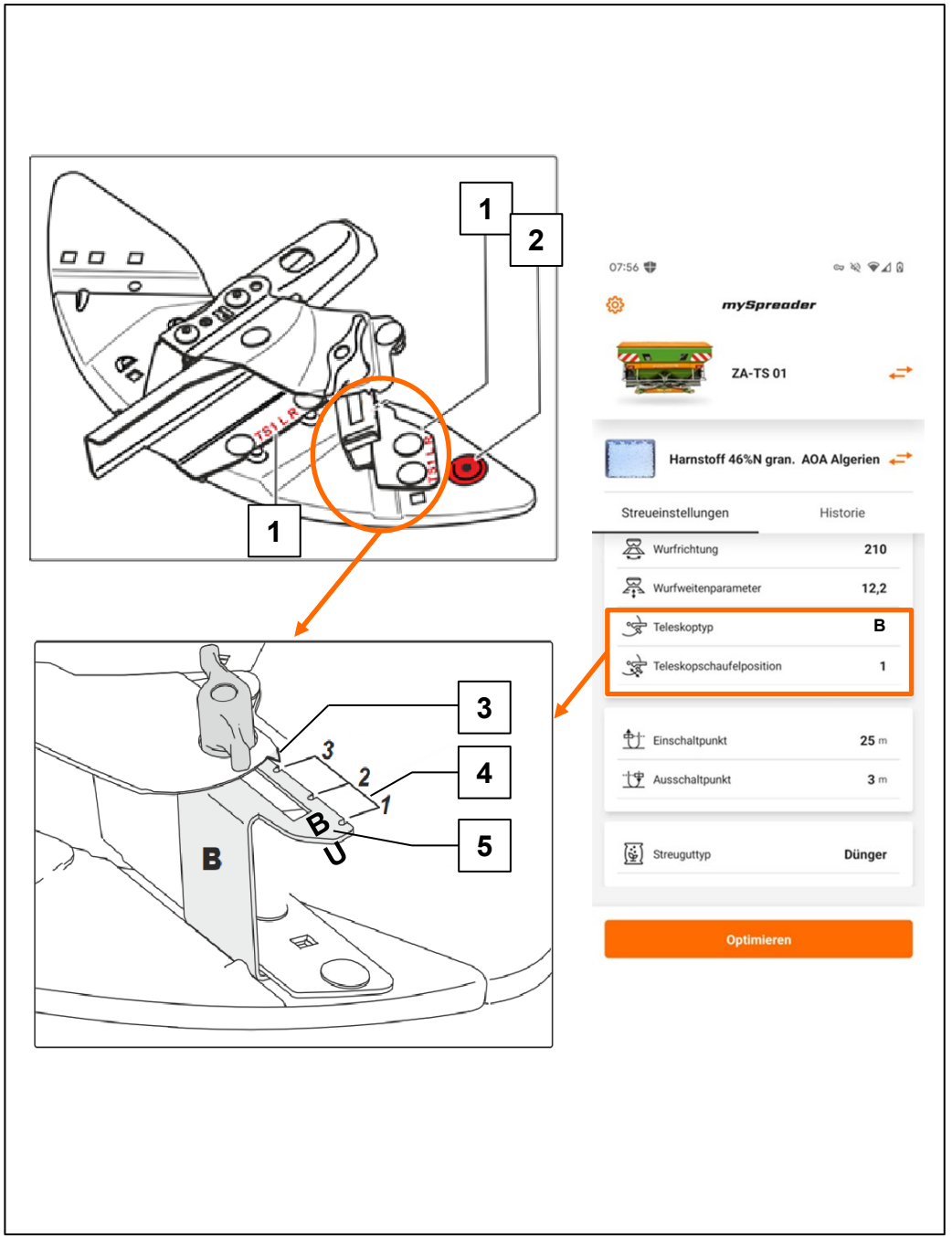
Three spreading vane units are available for the different working widths:

- TS 10 for small working widths
- TS20 for medium working widths
- TS30 for large working widths

The selection of the spreading vane unit is based on the working width.

The exact combinations of spreading vane unit, telescope type and telescopic vane position can be found in the mySpreader app and be set on the spreader unit.

(1) Markings on the spreading vane for normal spreading.
(2) Coloured marking of the spreading vane unit.
(3) Pointer for the telescopic vane position.
(4) Notches for the telescopic vane position.
(5) Marking for the telescope type and the installation side.



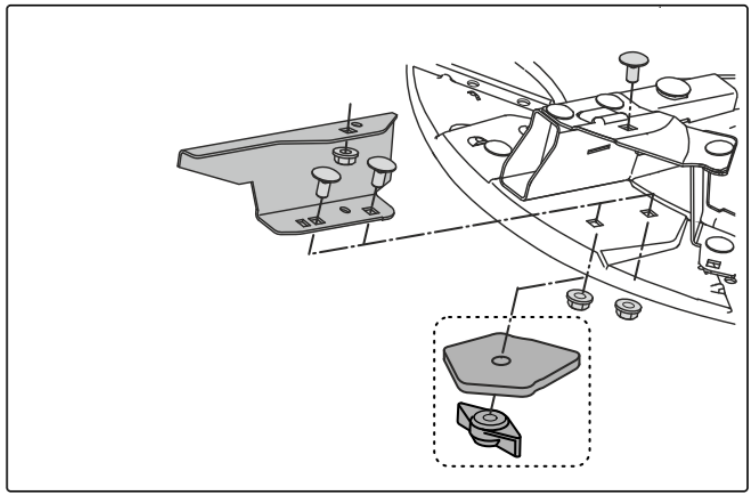
Instructions

The settings on the spreader unit must match the settings in the machine software under Product / Spreading disc.

4. Preparation for operation

4.4 Selecting the spreading disc

When using the Type D telescope (TS20 and TS30), the additional balancing weight (100649) must be installed under the short spreading vane.



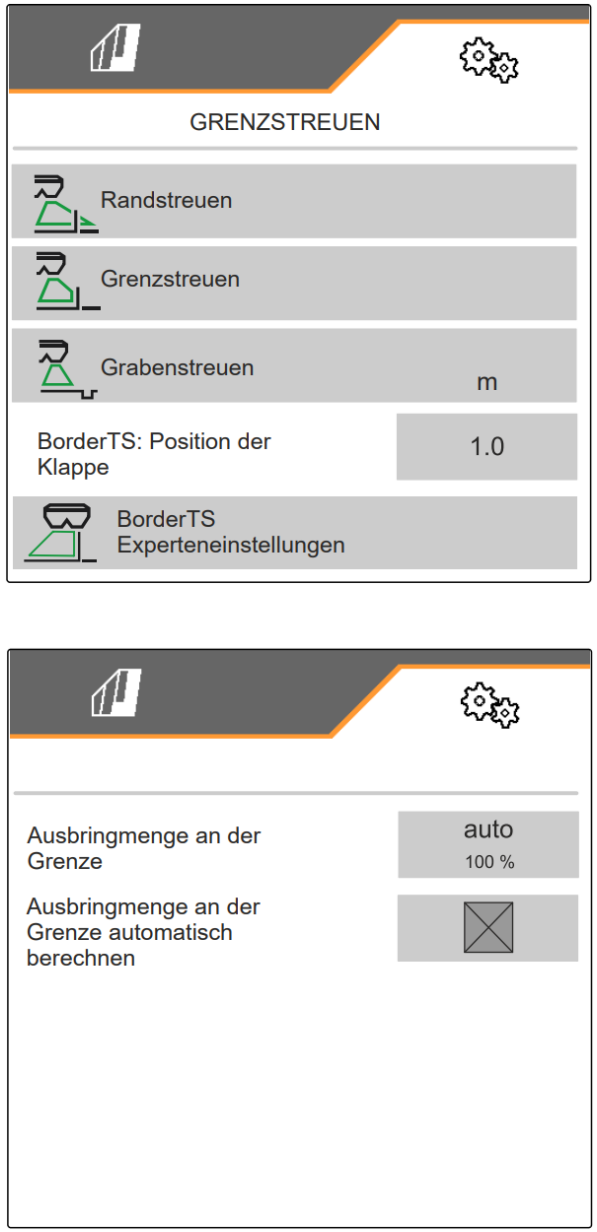
4. Preparation for operation

4.5 Configuring border and boundary spreading

With the ZA-TS 01, the mySpreader app only suggests the position of the telescope and the telescopic vane. The customer can adjust the spread rate at the boundary independently or it can be set automatically by the spreader.

Proceed as follows to set the border and boundary spreading:

1. Call up the Settings / Boundary spreading menu.
2. Select boundary spreading method for additional settings.
3. For border spreading or boundary spreading, enter the **spread rate at the boundary** or activate **Automatic calculation of spread rate at the boundary**.

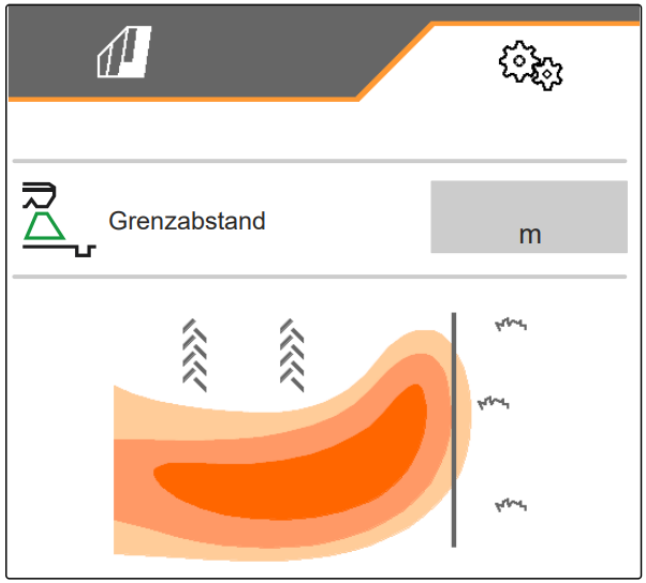


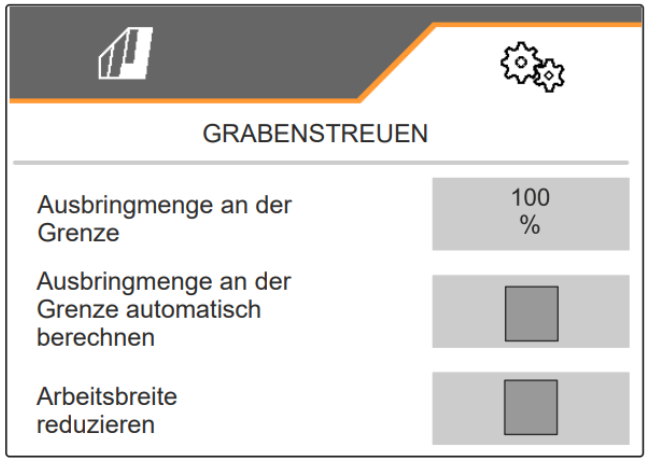
4. Preparation for operation

4.6 Configuring ditch spreading

Proceed as follows to set the ditch spreading:

1. Call up the Settings / Boundary spreading menu.
2. For ditch spreading, enter the **boundary distance** from the ditch.
3. For ditch spreading, enter the **spread rate at the boundary** or activate **Automatic calculation of spread rate at the boundary**.
4. To deduct the distance from the ditch in the documentation of the working width and area, **Reduce working width** must be activated.





4. Preparation for operation

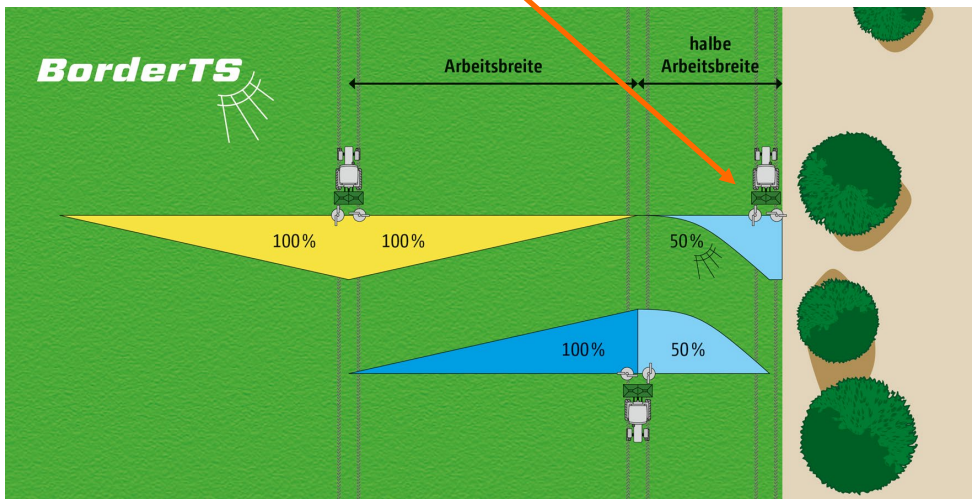
4.7 BorderTS

BorderTS is a combination of the AutoTS boundary spreading system and a boundary spread deflector.
With this system, it is possible to spread the full fertiliser quantity all the way to the field boundary, without spreading beyond the boundary.

→ **Sharp-edged boundary spreading**

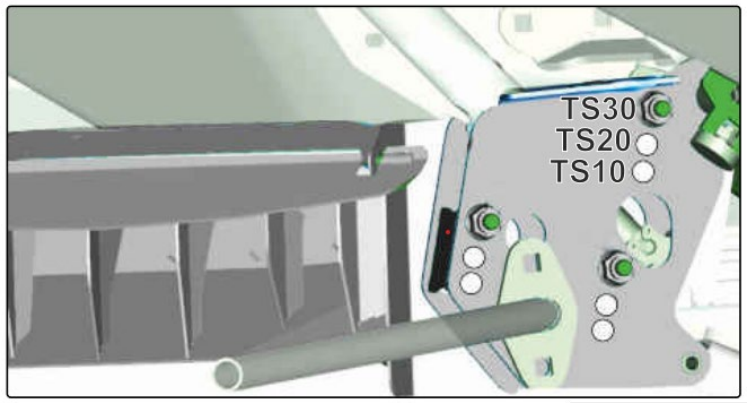
- The BorderTS boundary spreading method consists of a two-stage fertiliser addition at the field boundary.
- From the field boundary, the system first spreads towards the inside of the field with the BorderTS spread deflector with a modified position for the delivery system and a 50 % rate reduction.
- To complete the spread pattern, the system then spreads from the regular tramline with activated AutoTS and a 50 % rate reduction.

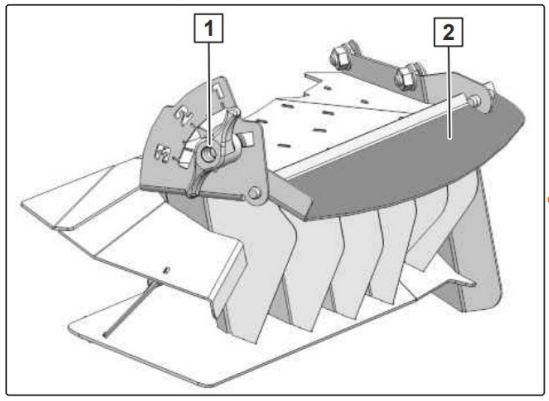
Activated BorderTS deflector while driving along the field boundary

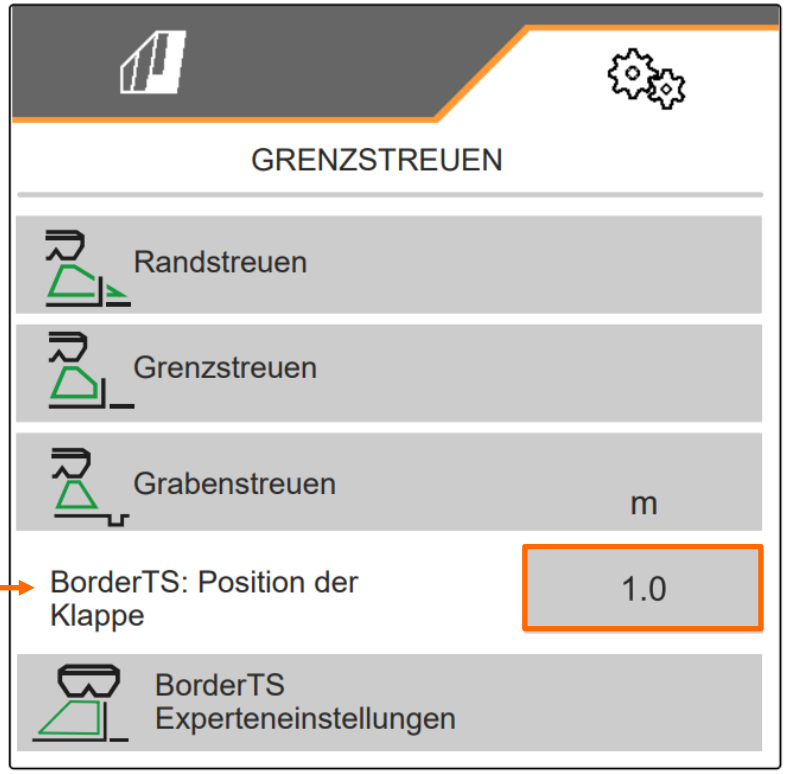


4. Preparation for operation

4.7 BorderTS







- The basic height of the deflection is set once on the utilised spreading vane unit (TS10 / TS20 / TS30).
- The set flap position (**1**) must be entered in the boundary spreading under the point **BorderTS position of the flap**. The machine control uses this value to calculate the delivery system correction and the rate application.

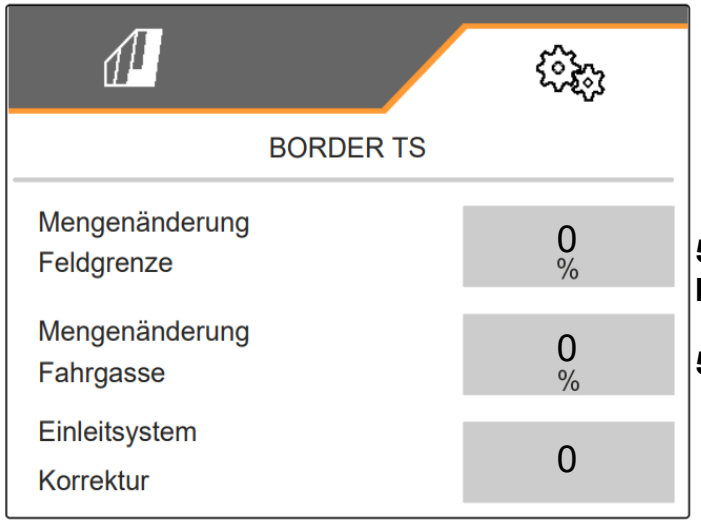
4. Preparation for operation

4.7 BorderTS

In the Expert settings for BorderTS, the default values for the rate changes at the field boundary and in the tramline are set to **0 %**. This means that the spread rate is distributed half-half (50 % / 50 %) on the two spreading methods.
If the spread rate should be increased or reduced individually on one side for special application cases, this can be adjusted by entering the corresponding percent values.

The menu also offers the option of correcting the delivery system, thereby optimising the lateral distribution of the fertiliser.

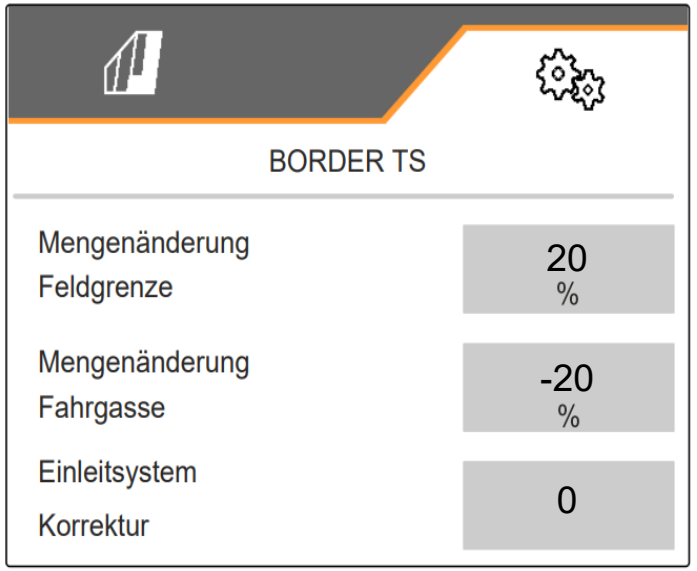
Default setting



50% field boundary

50% tramline

User-defined



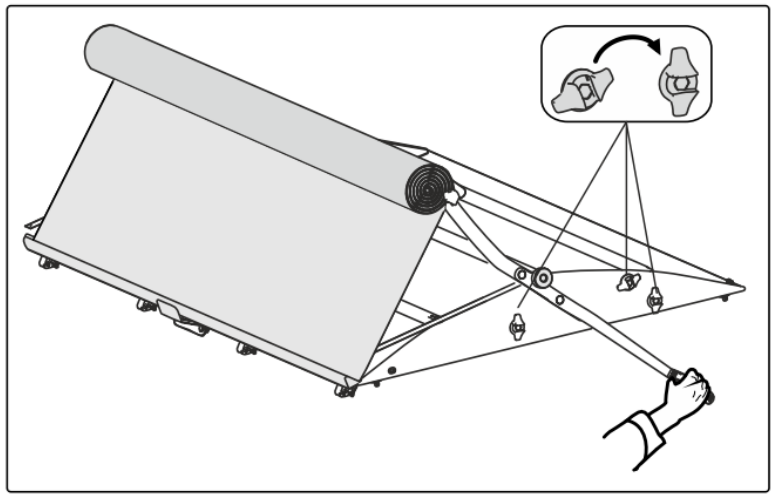
70% field boundary

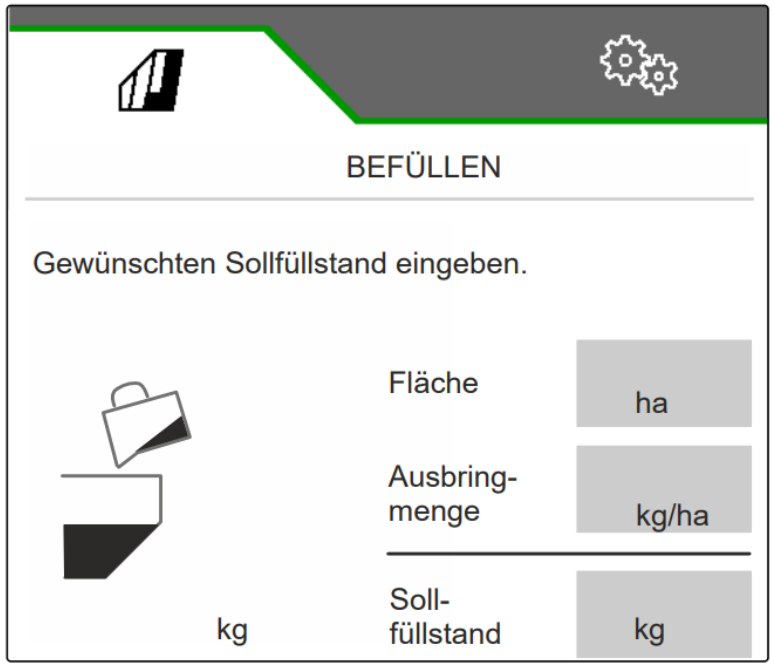
30% tramline

4. Preparation for operation

4.8 Filling

1. Observe the safety instructions provided by the spreading material manufacturer. Wear personal protective clothing as needed.
2. Lift the machine.
3. Open the roll-up cover tarpaulin: actuate the "beige" tractor control unit, or release the lock and open with the hand lever.
4. Check the spreading material hopper for residues or foreign objects.
5. Call up the Filling menu. The target fill level will be calculated.
6. Pay attention to the target fill level on the terminal during the filling procedure. The target fill level can be shown from the outside via the work lights.
   - Level 1 *flashing*: current fill level < 1,000 kg target fill level
   - Level 2 *rapid flashing*: current fill level < 200 kg target fill level
   - Level 3 *constantly lit*: current fill level ≥ target fill level
7. Close the roll-up cover tarpaulin: actuate the "beige" tractor control unit or close and lock the hand lever.





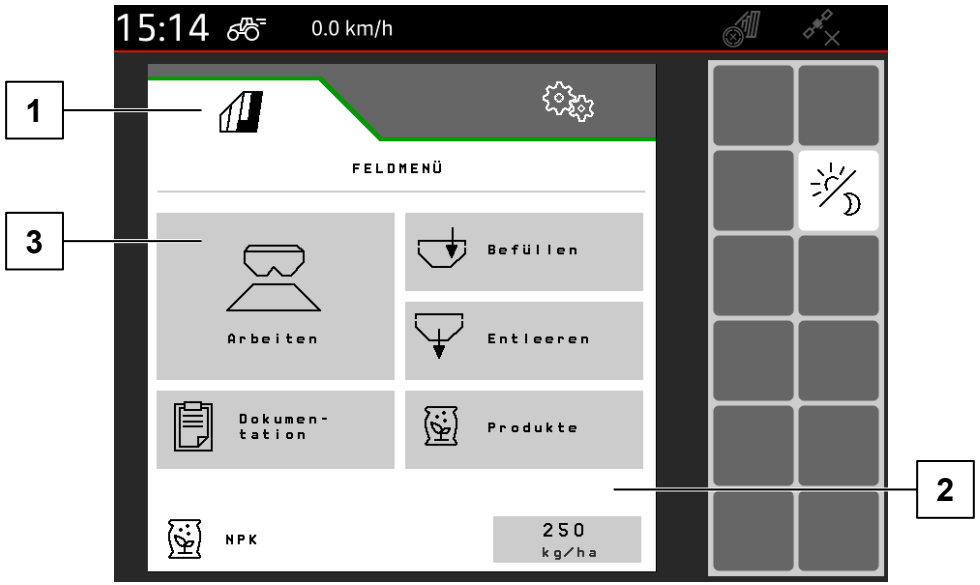
5. Procedure during operation

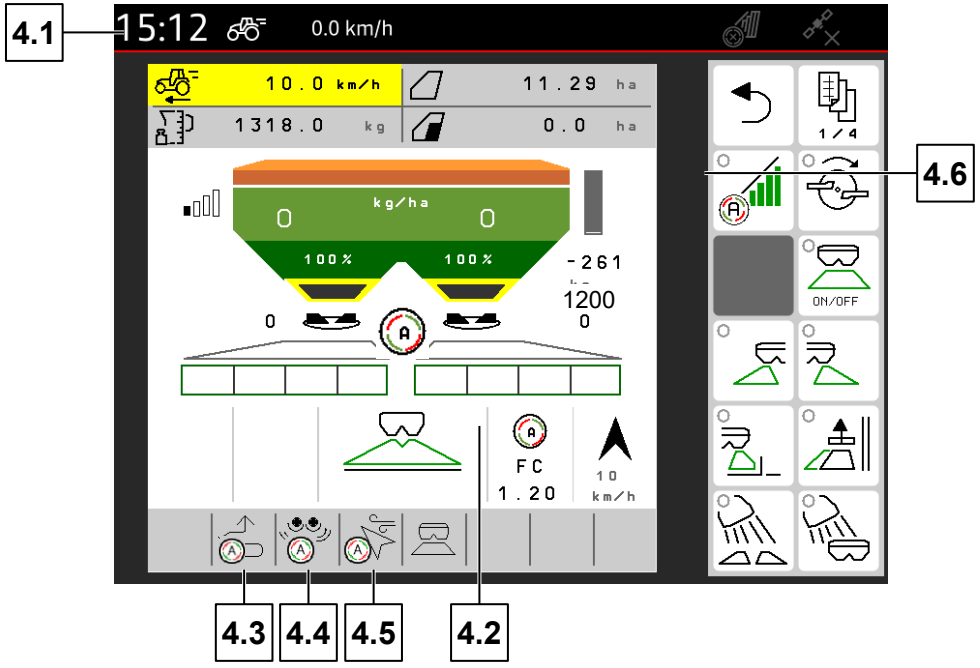
5.1 Beginning of work

Switch on the tractor and terminal.

1. Switch to the Field menu (**1**).
2. Create the fertiliser in the mySpreader app (**2**), see section 4.3. If a fertiliser already exists, skip this point.
3. Switch to the Work menu (**3**).
4. Check whether all of the desired automatic functions are activated (**4**):
   - (4.1) Source of the speed signal is stored
   - (4.2) Check and adjust the calibration factor
   - (4.3) CurveControl is activated
   - (4.4) ArgusTwin is activated
   - (4.5) WindControl is activated
   - (4.6) Automatic part-width section control is activated

     It is possible that prerequisites, such as starting a job, still need to be met in Section Control on the terminal.





Legend for automatic function symbols:

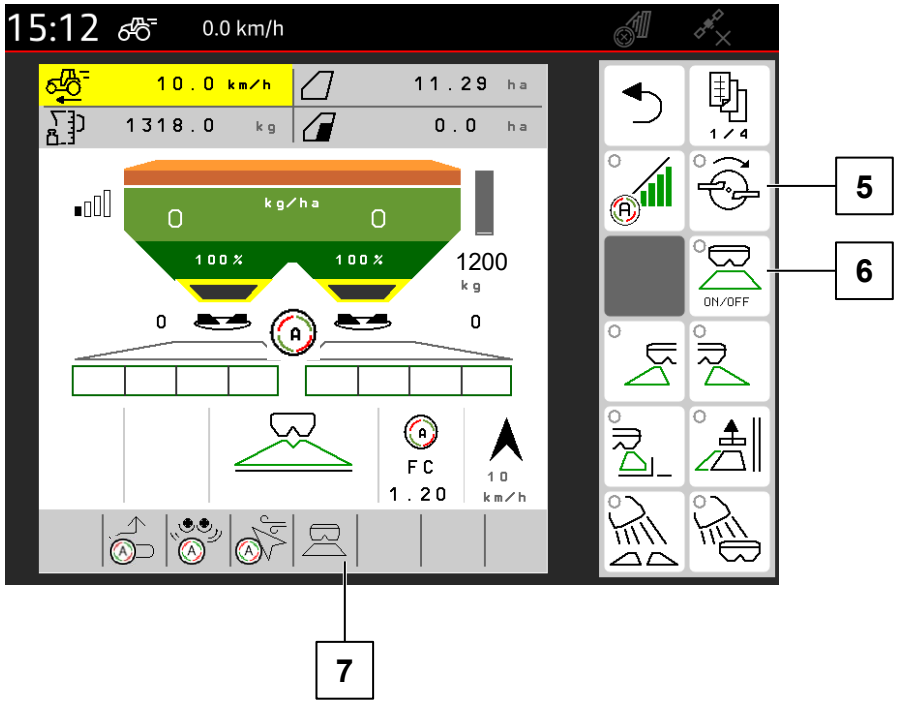
Symbol	Status	Explanation
	Lit	Function is activated and currently active
	Flashing	Function is activated but currently inactive
	Lit	Function is deactivated

Machine functions can be activated under Settings/Machine.

5. Procedure during operation

5.1 Beginning of work

5. Switch on the spreading discs, double-click (**5**).
6. Activate the main section shut-off (**6**).
7. Switch on the BorderTS deflector, boundary spreading, ditch spreading or border spreading as required.
8. HeadlandControl can be activated in combination with any boundary spreading method.
9. If AutoSpread (**7**) prescribes a lateral distribution check, it must be performed immediately, see section 5.5 / 5.6.
10. To terminate operation, deactivate the main section shut-off switch (**6**) and switch off the spreading discs (**7**).



5. Procedure during operation

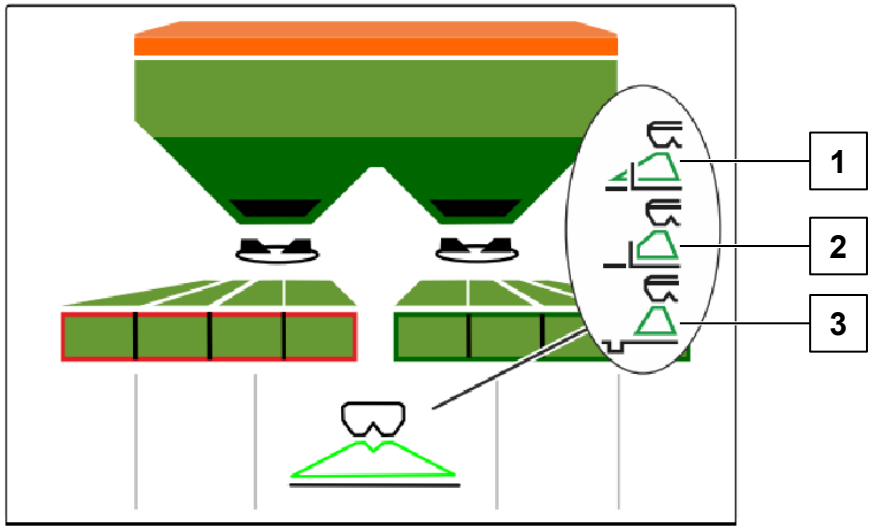
5.2 Boundary spreading

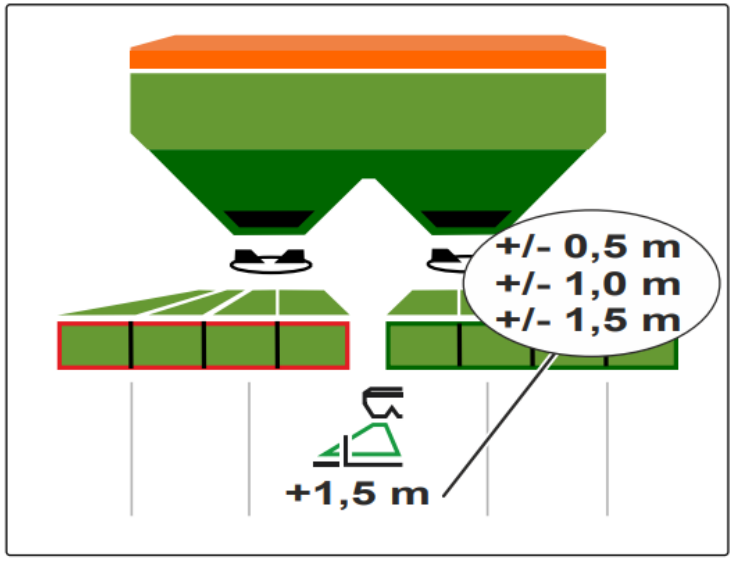
Boundary spreading with AutoTS can be switched on while driving or it can be preselected at standstill.

When the first tramline is at half the working width, a boundary spreading method can be selected:

(1) Boundary spreading
(2) Border spreading
(3) Ditch spreading

Depending on the equipment version, a boundary spreading method can be selected on the right or left side.





Adjusting the throw distance on the boundary side

- In the Work menu, the distance from the boundary can be manually overridden in 0.5 m increments if necessary.
- These adjustments only apply to the selected fertiliser and are saved in the product data.
- When you select the product again, the offsets are retained.

Instructions

AutoTS overrides the switching of part-width sections in Section Control

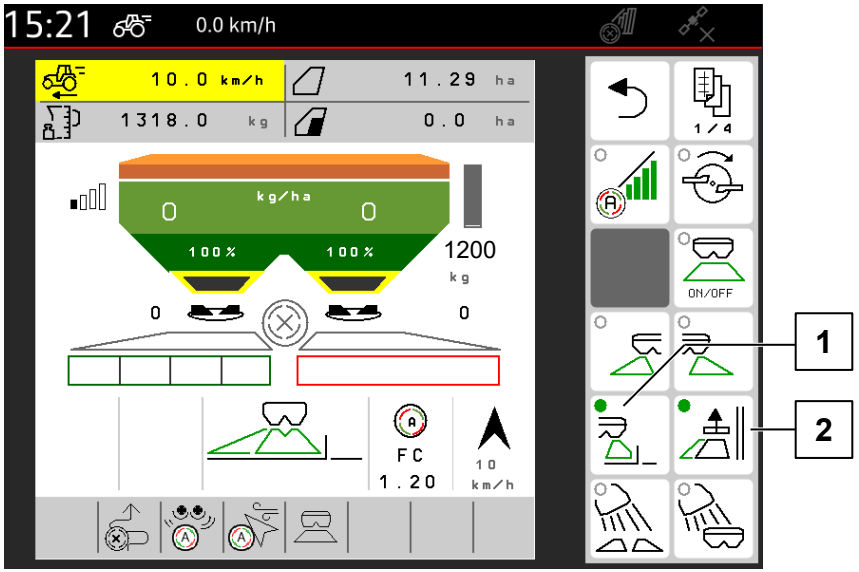
5. Procedure during operation

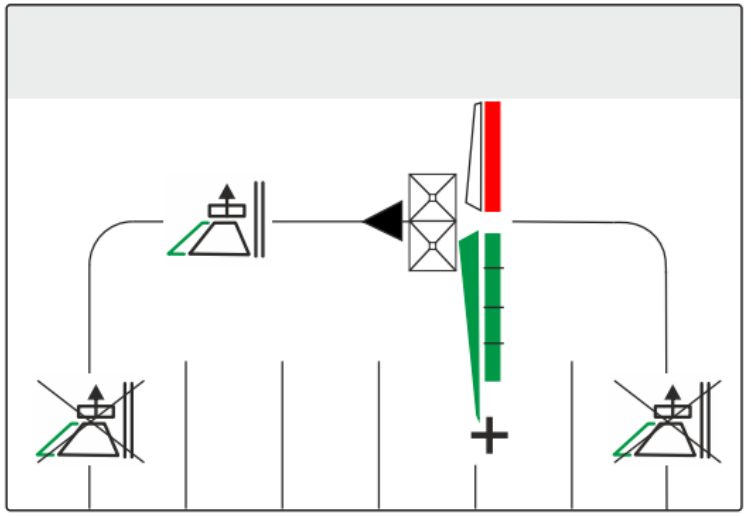
5.3 HeadlandControl

To activate HeadlandControl, a boundary spreading method must be selected beforehand.

(1) Activate boundary spreading method.

(2) Activate HeadlandControl.





Instructions

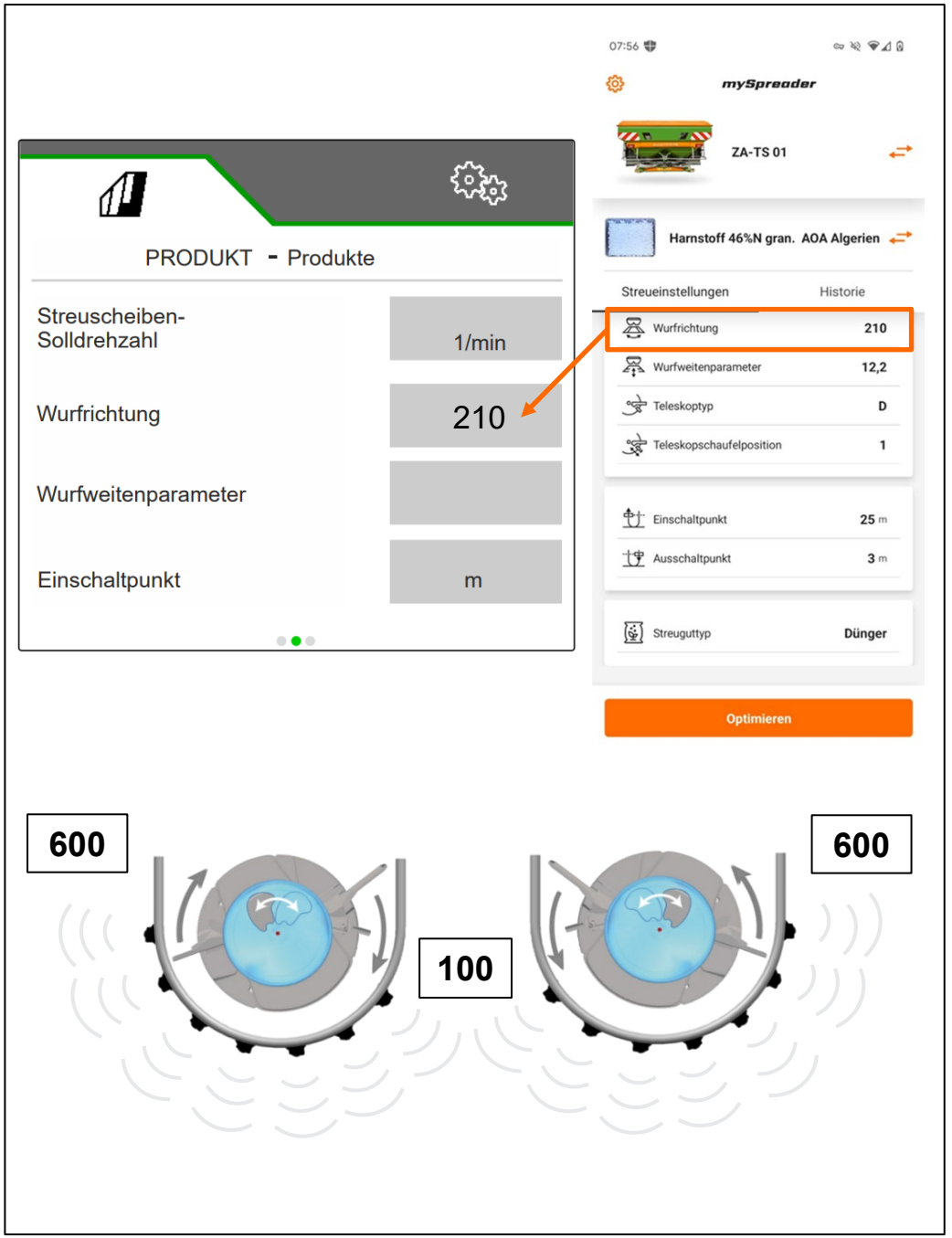
Activate HeadlandControl only on the headlands.

5. Procedure during operation

5.4 ArgusTwin

To optimise the lateral distribution, ArgusTwin constantly measures and regulates the throw direction of the fertiliser with radar sensors. In doing so, the actual throw direction is compared to the target throw direction. If there are deviations, the position of the delivery system will be changed.
The target throw direction must be sent to the machine from the mySpreader app.
With EasyCheck, the throw direction can be checked and optimised on the field.

The throw direction is without units and lies between 100 and 600. It depends on the fertiliser properties, working width, spreading vane unit and spreading disc speed.



Instructions

When AutoSpread is deactivated, the machine control does not issue a prompt to check the lateral distribution with EasyCheck.

5. Procedure during operation

5.5 AutoSpread

With AutoSpread, the spreading parameters such as the throw distance and throw direction are constantly checked and adjusted via the delivery system position and the spreading disc speed.

Information on the status display in the Work menu:

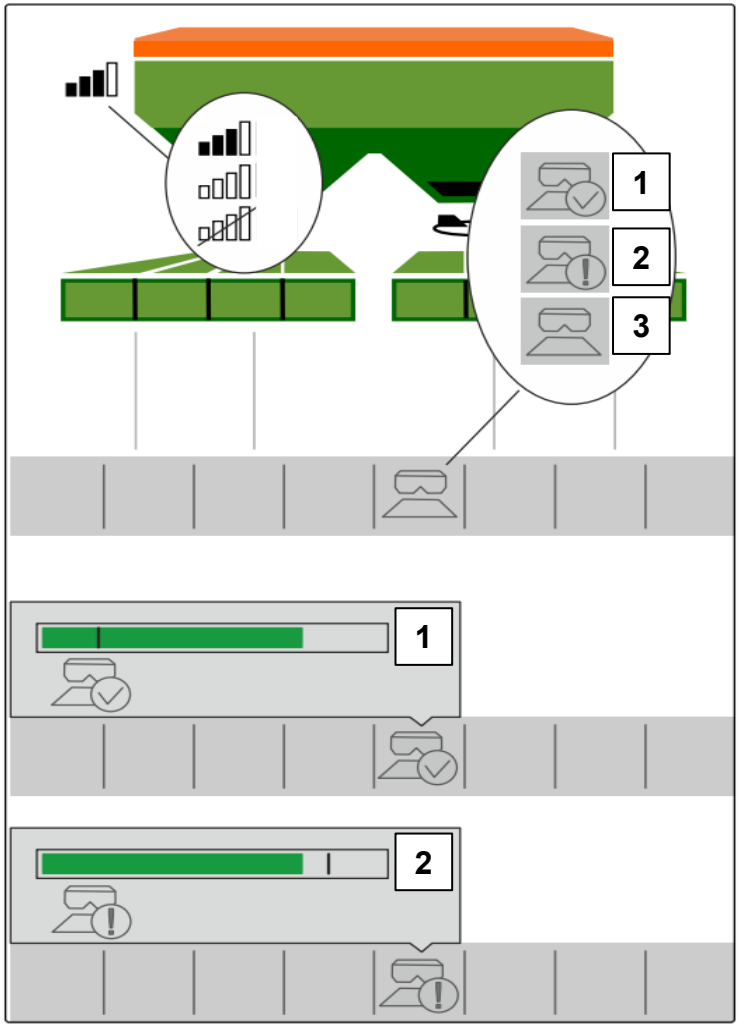
(1) Good spread pattern: the spreading parameters set by AutoSpread do not deviate or only slightly deviate from the basic settings in the **product**.

The black pointer is inside the green area. The further the pointer is to the left, the lower the deviation of the current spreading parameters from the reference data in the **product**.

(2) Abnormal spread pattern: the spreading parameters set by AutoSpread strongly deviate from the basic settings in the **product**.

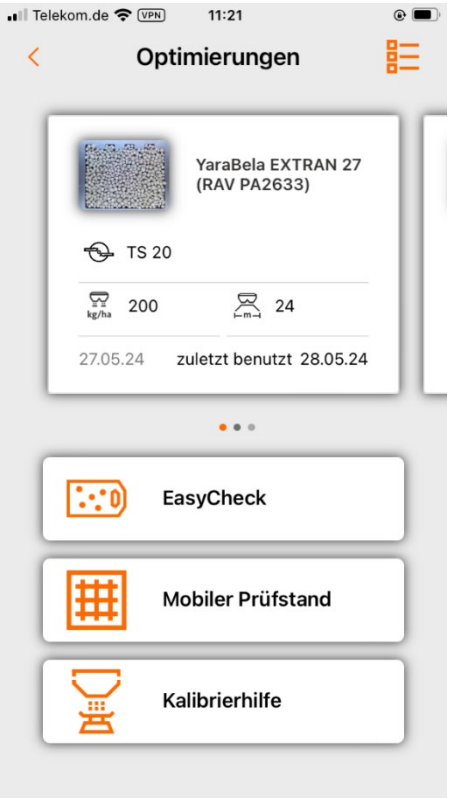
The black pointer is outside of the green area. Moreover, a warning message appears with a prompt to check the lateral distribution with EasyCheck.

(3) No information on the spread pattern: AutoSpread immediately begins regulating the delivery system position and the spreading disc speed. The set spreading parameters are only compared to the basic settings after a certain period of time.

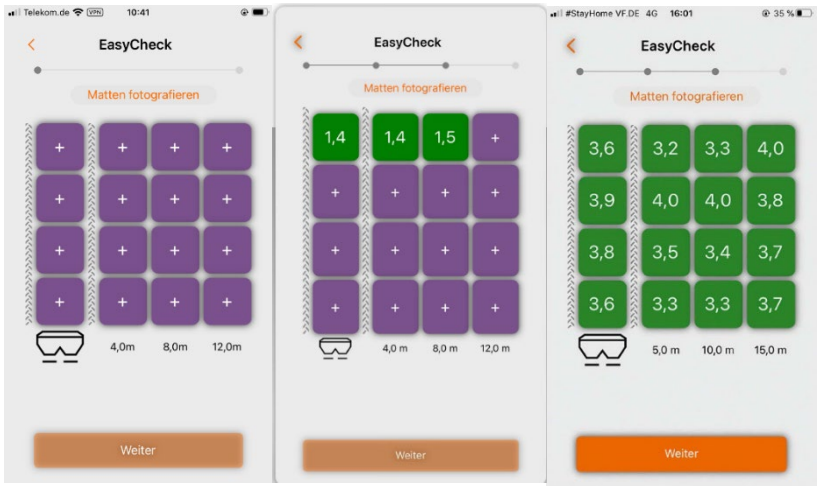


5. Procedure during operation

5.6 Checking the lateral distribution

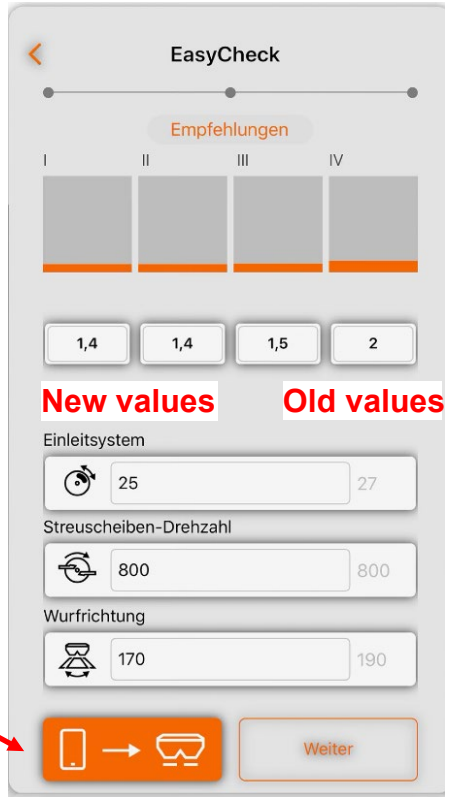


In the app, select the point Optimisations. Then open EasyCheck.



After the spreader settings query, the overview of the test mats is opened. Here, the 16 fields must be selected consecutively and a picture must be taken for each field. When all of the fields have been processed (marked green), you can skip to the next step.

Transmit new values



In the last step, the old and new settings are shown. They must be sent to the spreader.

For a more detailed description, refer to the document MG6126 EasyCheck. The use of EasyCheck is also mandatory for machines with ArgusTwin and AutoSpread!

6. ISOBUS software

6.1 Settings / machine

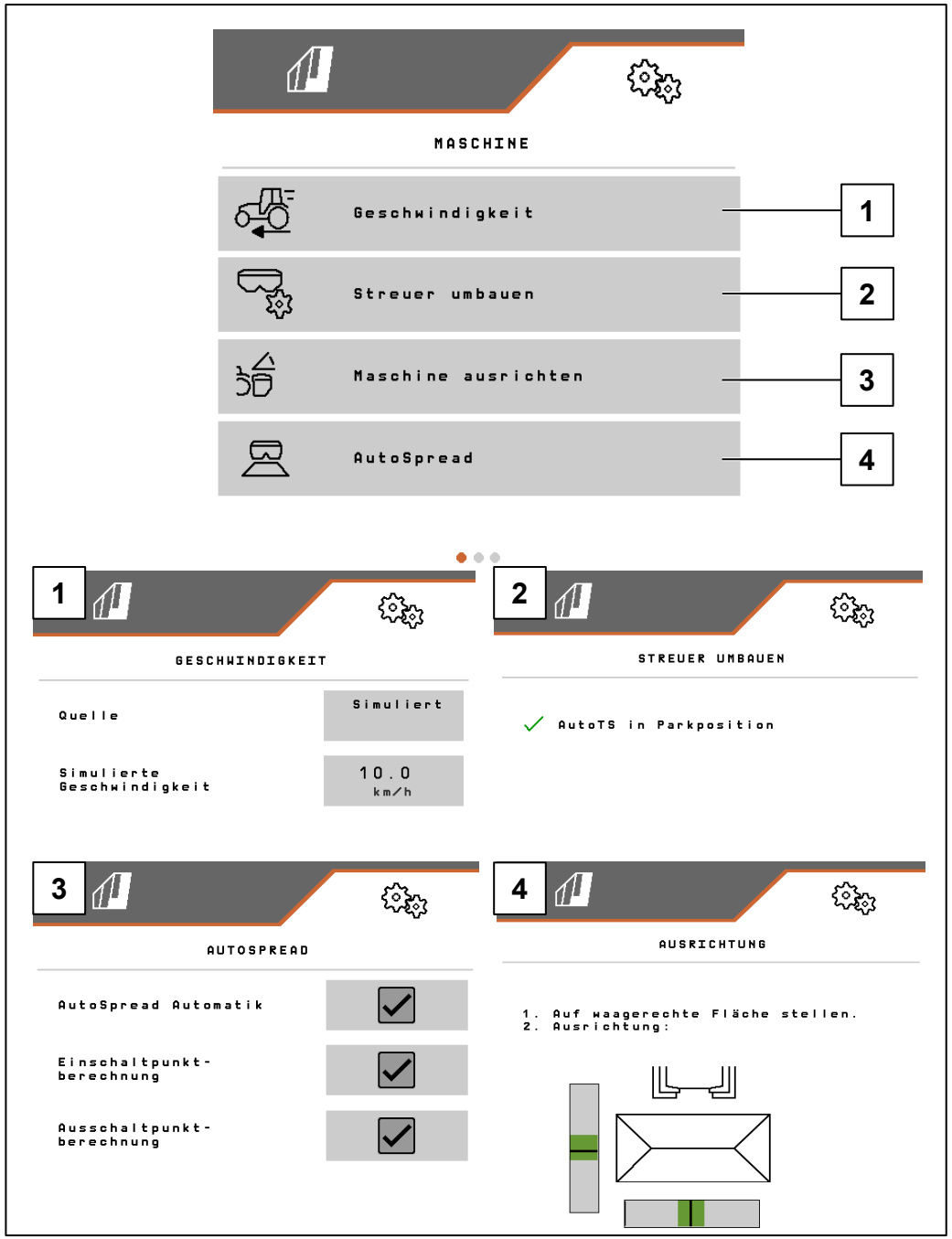
The machine functions can be set in the Settings/Machine menu.

(1) Speed: the machine needs a source for the speed signal for precise rate application.

(2) Convert the spreader: to remove the spreading vane units, the delivery vanes can be moved to a tension-free position.

(3) Align the machine: the machine can be aligned horizontally via the display.

(4) AutoSpread: spreading data can be compared and optimised with the Spreader Application Center via the online connection. Measured data such as the throw distance and throw direction constantly improve the spread pattern during normal spreading and boundary spreading.



6. ISOBUS software

6.1 Settings / machine

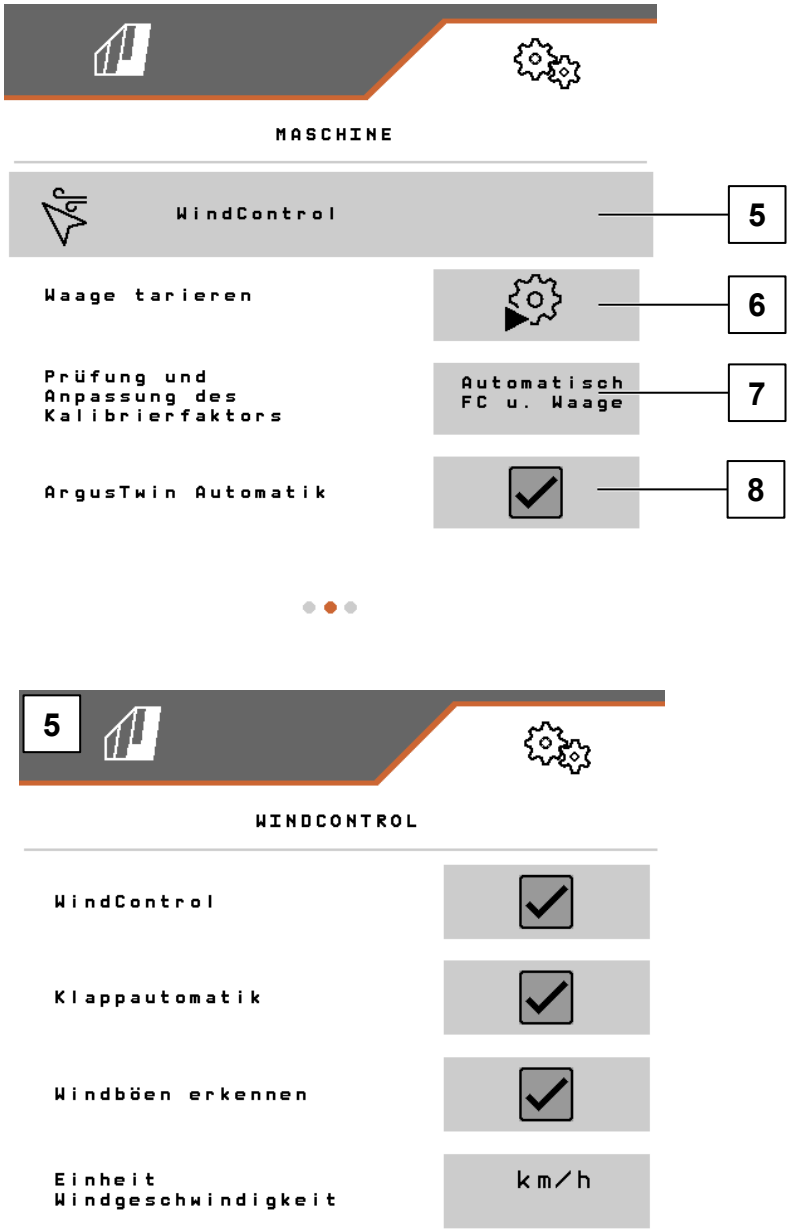
(5) WindControl: WindControl compensates for wind effects on the spread pattern by adjusting the delivery system and the spreading disc speed.

(6) Tare scale: taring the fertiliser spreader serves to determine the weight of the spreader with 0 kg hopper volume, e.g. after installing special equipment.

(7) Calibration factor adjustment: for a correct spread rate, constant optimisation of the calibration factor is required during operation. The following calibration methods can be selected:

- **Manual:** for a calibration run where at least 250 kg are spread.
- **Automatic with scale:** for constant calibration with weighing system.
- **FlowControl:** for machines with torque detection on the spreading disc.
- **FlowControl and scale:** for machines with torque detection on the spreading disc and weighing system.

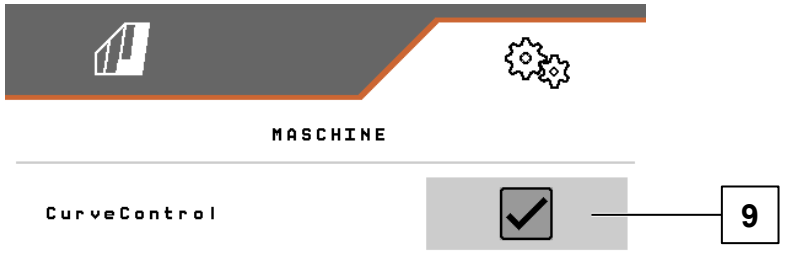
(8) ArgusTwin: constant monitoring of the throw direction of the fertiliser over the entire throwing range of the fertiliser. The target throw direction is taken from the setting chart and checked with EasyCheck.



6. ISOBUS software

6.1 Settings / machine

(9) CurveControl: CurveControl guides the spread fan along the curve. It prevents the spread fan from swivelling beyond the field boundary. Moreover, it prevents over- and under-fertilised zones when driving in curves.



6. ISOBUS software

6.2 Settings / profile

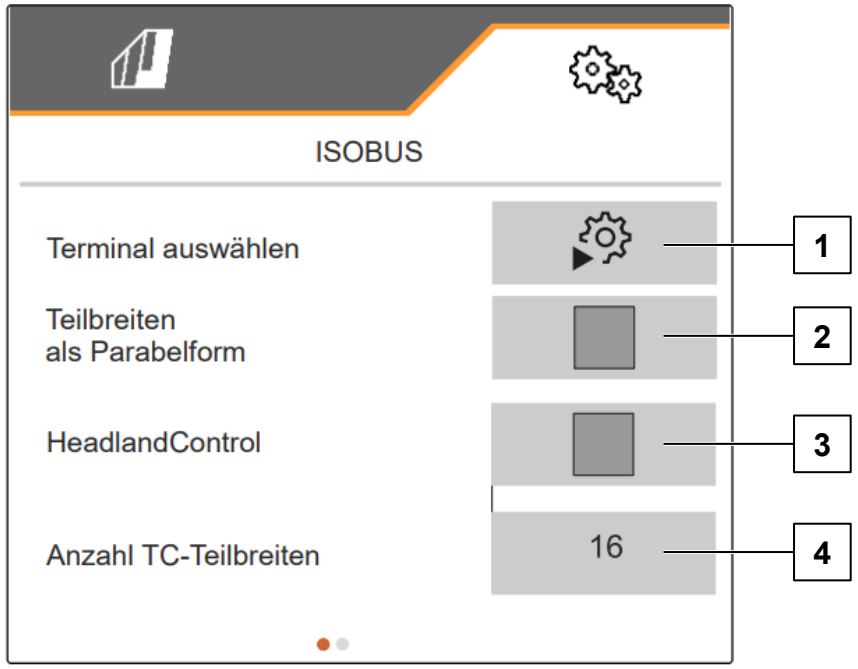
In the Settings/Profile/ISOBUS menu, the machine operation and the Task Controller can be adjusted.

(1) **Select terminal:** the functions of the Task Controller are controlled via the terminal. The terminal must be prepared accordingly. You can find more information in the operating manual for the respective terminal.

(2) **Part-width sections as parabolic shape:** due to the kidney shape of the spread pattern, the part-width sections are shown in Section Control in a similar shape of a parable and are switched accordingly.
Prerequisite: the terminal must support this function.

(3) **HeadlandControl:** HeadlandControl enlarges the working width on the field side and prevents under-fertilising on the field side.
Prerequisite: the terminal must support this function.

(4) **Part-width sections:** with part-width section control, optimal spreading is ensured in wedges on the field.



7. Cleaning / lubricating

Cleaning

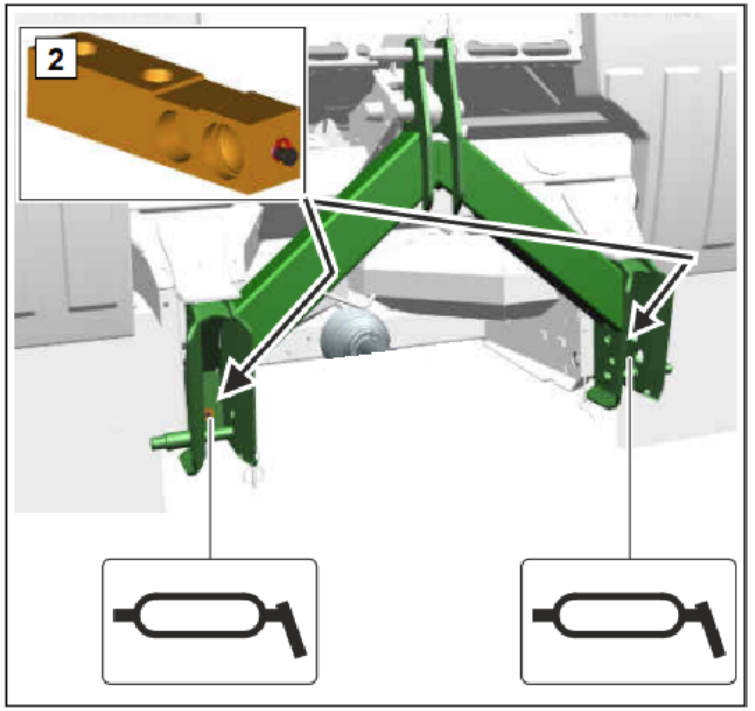
Caring for a machine is essential to enable the following points:

- Ensuring that the functions work
- Prevention of rust and corrosion
- Prolongation of the service life
- Increasing the resale value of the machine

Clean the machine with a high-pressure cleaner or a hot water high-pressure cleaner and observe the instructions in the operating manual.

Lubrication

To ensure uniform measurement and to prevent the penetration of water, the weigh cells should be lubricated at regular intervals.



Instructions

AMAZONE recommends that the weigh cells be lubricated at least once a year!
Ideally after cleaning, so that water ingress can be pressed back out.

SmartLearning app

The AMAZONE SmartLearning app offers video training courses for the operation of Amazone machines. The video training courses can be downloaded onto your smartphone if necessary, and are therefore available offline. Simply select the desired machine for which you want to watch a video training course.

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