Usermanual

AMACS Feeding - Breeder

Code No. 99-97-2169 GB

Edition: 08/2007 (version: 1.4.02)

CE

EC declaration of conformity

as defined by the following EC directives

- **machinery 2006/42/EC**
- electromagnetic compatibility 2004/108/EC
- low voltage 2006/95/EC

The equipment

Make:	"Control system for poultry houses"
Type:	"AMACS"
System no. and year of construction:	see customer order no.

has been designed, constructed and manufactured in compliance with the above-mentioned EC directives; under the sole responsibility of

Big Dutchman

Big Dutchman International GmbH
P.O. Box 1163; D-49360 Vechta, Germany
Tel. +49 (0) 4447 / 801-0
Fax +49 (0) 4447 / 801-237
E-Mail: big@bigdutchman.de

The following harmonised standards apply:

- DIN EN ISO 12100-1 and 12100-2 (2004-04): safety of machinery - basic concepts, general principles for design
- DIN EN 60204-1 (2007-06): safety of machinery - electrical equipment of machines, part 1: general requirements

Authorised person for technical documents: Productmanager "Control & Sensor Technology"
Auf der Lage 2; 49377 Vechta

Vechta	04.01.2010	Managing Director	.....
Place	Date	Signer and information regarding signer	Signature

Program version

The product described in this manual is computer-based, and most functions are realised by software. This manual corresponds to:

Software Version: V1.4.02

Product- and Documentation changes:

BIG DUTCHMAN reserve our rights to change this document and the product herein described without further notice. **BIG DUTCHMAN** cannot guarantee that you will receive information about changes of the product or the manual. In case of doubt, please contact **BIG DUTCHMAN.**

Latest date of change appears on the front page.

Note

- All rights reserved. No part of this manual may be reproduced in any manner whatsoever without the expressed written permission of **BIG DUTCHMAN** in each case.
- **BIG DUTCHMAN** has made reasonable efforts to ensure the accuracy of the information contained herein. Should any mistakes or unprecise information occur, **BIG DUTCHMAN** would appreciate being notified hereof.
- The contents of this manual are subject to change without notice.
- Irrespective of the above, **BIG DUTCHMAN** shall not have any liability with respect to loss or damage caused or alleged to be caused by reliance on any information contained herein.

IMPORTANT

Notes concerning the alarm system

Where climatic control is used in livestock buildings, break-downs, malfunctions or faulty settings may cause substantial damage and financial losses. It is therefore **most important to install a separate, independent alarm system**, which monitors the house concurrently with climatic control. Please note that the product liability clause of **BIG DUTCHMAN**'s general terms and conditions of sale and delivery specifies that an alarm system **must be installed**.

We want to draw your attention to EU-directive No. 998 of 14/12-1993 concerning minimum requirements for domestic animals, which specifies that an alarm system must be installed in any house, which is mechanically ventilated. In addition to this, there must be a suitable emergency system.

1 Main menu

1.1 Log-on and passwords

1.1.1 Log-on

Figure 1-1: Log-on

After booting of the farm PC the **AMACS** main menu comes up automaticlly. After a click on the button **(R)**, the keyboard for the entry of the password comes up.

By means of the keyboard showed, it is now possible, depending on the given password to activate the menu to change the computer settings. This could be data in the climate module but also all other modules that have been set-up which can then be accessed.

1.1.2 Password

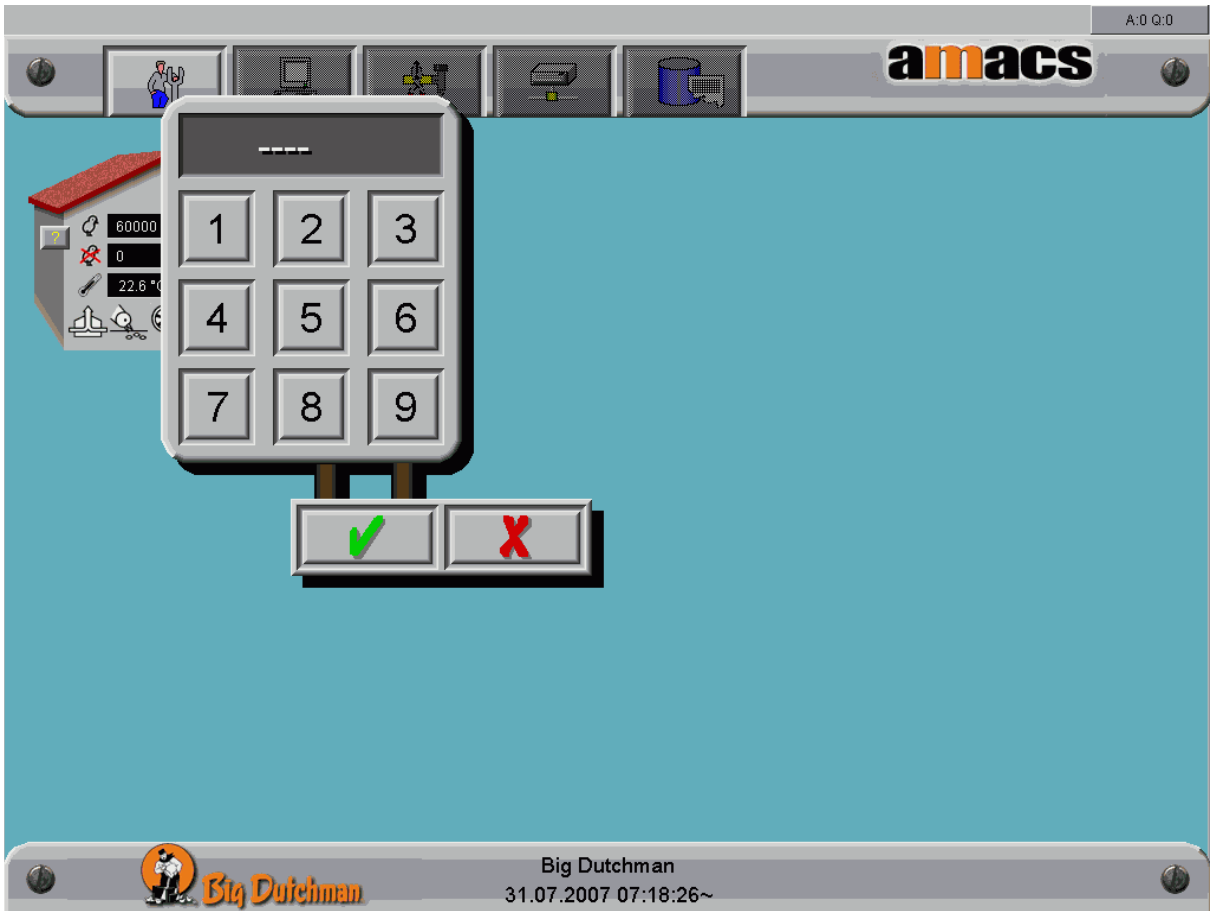


Figure 1-2: Password

1.1.3 Password-protected levels

There are different user levels. The rights for each level can be accessed via different passwords.

Presently there are three levels

The **„monitoring“** level is not password-protected. An authorization for this level does not allow you to change any settings of the computer. In this mode, staff can monitor the houses but is not able to change climate, feeding or other settings.

The **„user“** level is password protected. An authorization for this level allows you to change the settings of the computer. In this mode, staff can monitor the houses and is also allowed to change climate, feeding or other settings.

The **„administrator“** level is password-protected by a super-password. An authorization for this level allows you to change any settings of the computer. This mode also allows service technicians to carry out basic system configurations.

Important:

The **"administrator level"** should **never be used as a platform for day-to-day work,** wrong entries may very well disturb the whole system.

1.1.4 Layout of the different levels

1.1.4.1 Monitoring

Figure 1-3: Monitoring level

Here the invididual menus can be monitored but entries are not allowed. This level is meant for the farm staff that needs to monitor and analyse Amacs data but is otherwise not allowed to carry out changes.

1.1.4.2 User

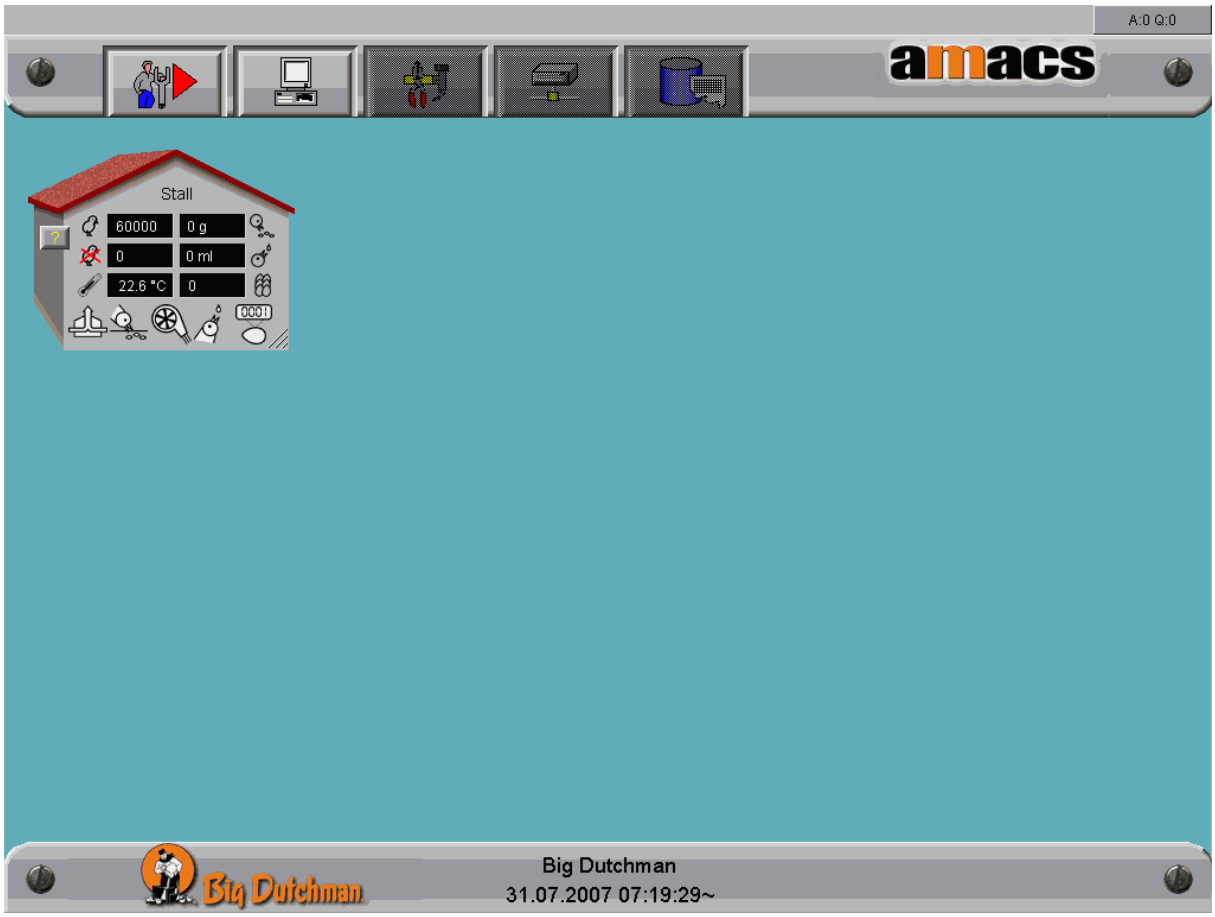


Figure 1-4: User level

Access rights for this level permit the user to change climate, feeding, production and other data. However, a configuration of the **AMACS** system is not possible.

This is the **standard user-mode for the operation of AMACS**. All necessary configurations for the settings of climate, feeding, etc. are possible.

1.1.4.3 Administrator

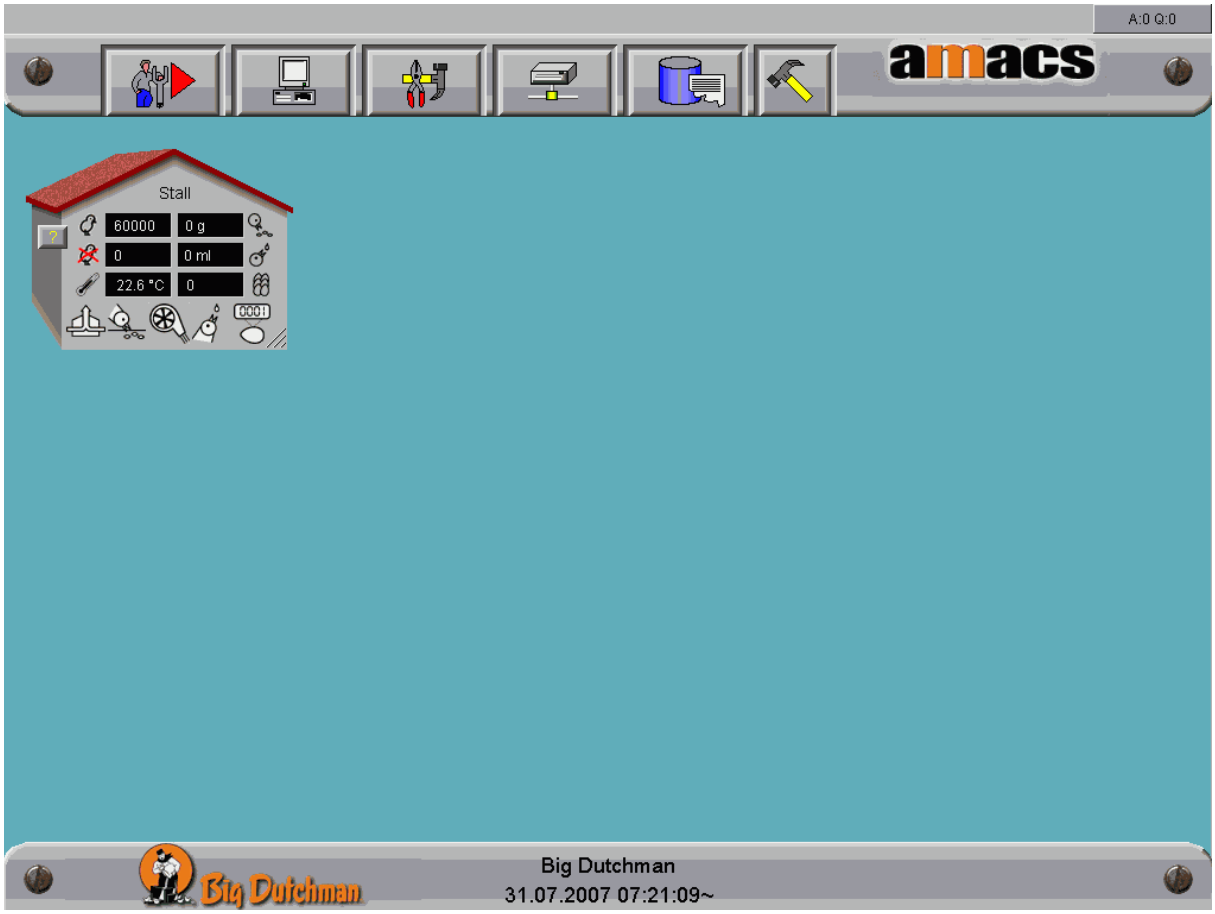


Figure 1-5: Administrator level

The master access rights allow for direct access to all modules. In addition, the AMACS system settings can be changed. This mode allows one to add or delete modules to/ from the configuration.

1.2 Language set-up

The user language of **AMACS** can be changed online. Presently available languages are:

Language Software	**User manual**	**Technical manual**
Chinese	n.n.	n.n.
English metric	ja	ja
German	ja	n.n.
Polish	n.n.	n.n.
Swedish	n.n.	n.n.
French	n.n.	n.n.
English royal	n.n.	n.n.
Spanish	n.n.	n.n.
Japanese	n.n.	n.n.
Romanian	n.n.	n.n.
Russian	n.n.	n.n.
Serbian	n.n.	n.n.

Figure 1-6: Available languages

1.2.1 Change of languages

Figure 1-7: A click on button 2 shows the following display

A change of the language settings has to be carried out by someone who holds at least access rights for the "User" level.

By clicking on the button 2 a menu opens that shows all available languages. By double-clicking the mouse on the respective array, the user-language for the **AMACS** operating surface and configuration of the house respectively the house is chosen.

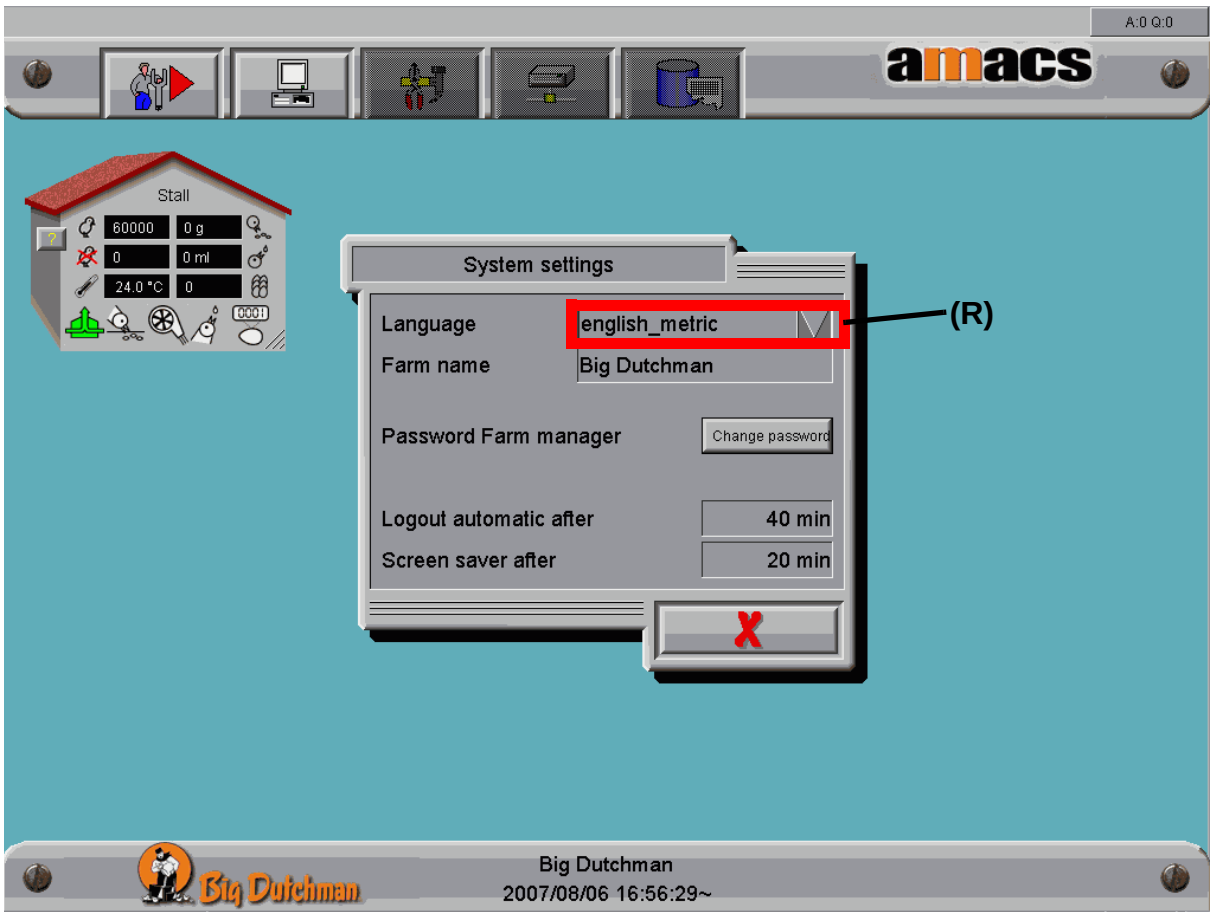


Figure 1-8: Change of languages

A click on the respective selection window activates the requested language **(R)**. A further confirmation is not necessary. If you then switch to the user menus, the language has already been changed.

1.3 Change password

!	**Attention:** Due inexpert handling of **AMACS** by **non-authorized persons**, your animals' life is **danger**. **These passwords may only be made accessible for authorized persons.**

Figure 1-9: Change password

AMACS is provided with two passwords that are freely adjustable.

A click on button 2 opens up the following menu:

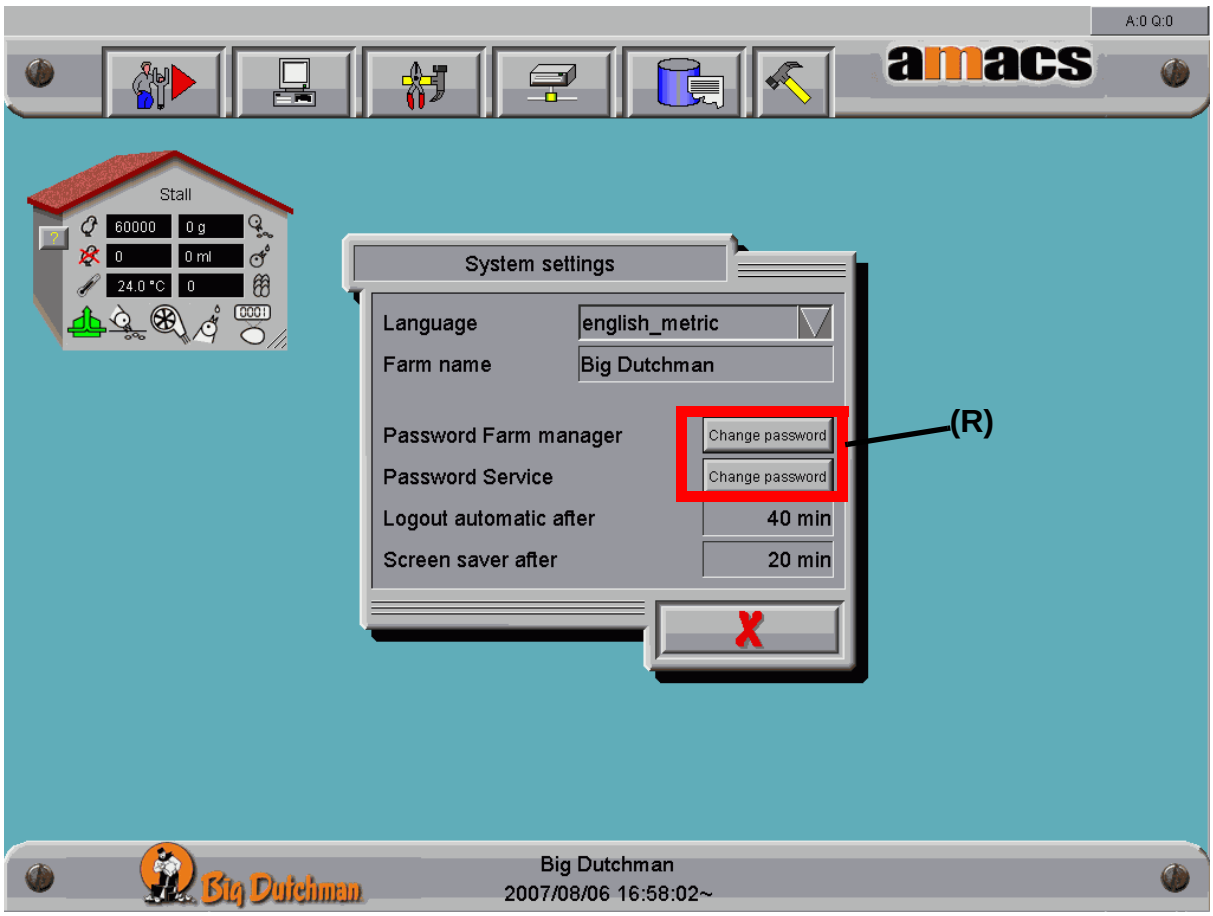


Figure 1-10: Enter password

In the two red **(R)** marked fields the password for the "User" and "Administrator" level can be changed.

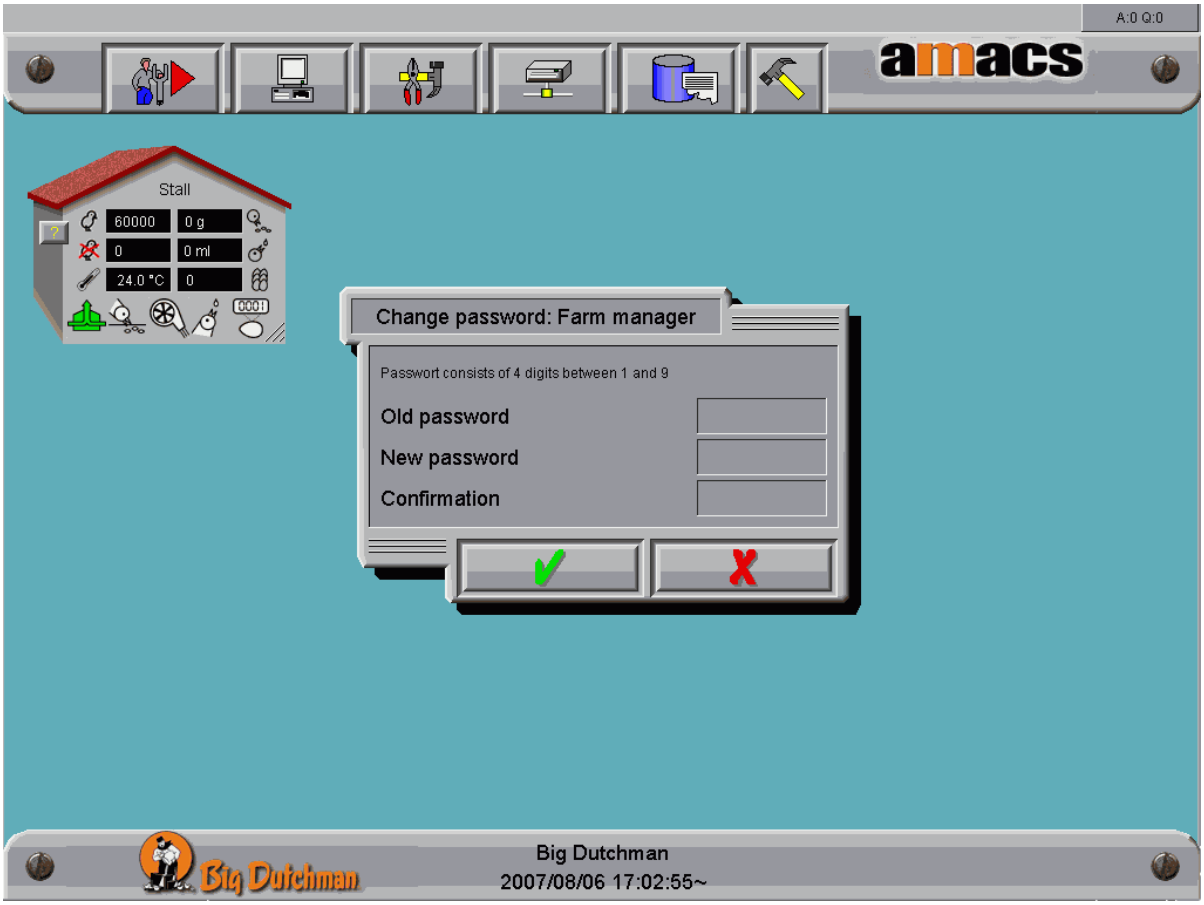


Figure 1-11: Confirm password

In the password-user field the old password has to be entered and confirmed with the **return button (not enter !)**.

The new password is to be entered twice (field: new password and field: confirmation) and is to be confirmed with the return key. The same goes for the "Administrator" level password. Please keep in mind that the entry is very sensitive. It is very difficult to retrieve lost or forgotten passwords.

1.4 Log-off as user

1.4.1 Manual log-off

To guarantee that no outside person carries out any adjustments under your user rights, you have to log off after having finshed working with **AMACS**. By clicking button 3, **AMACS** switches back to the monitoring level, i.e. no further entries can be made.

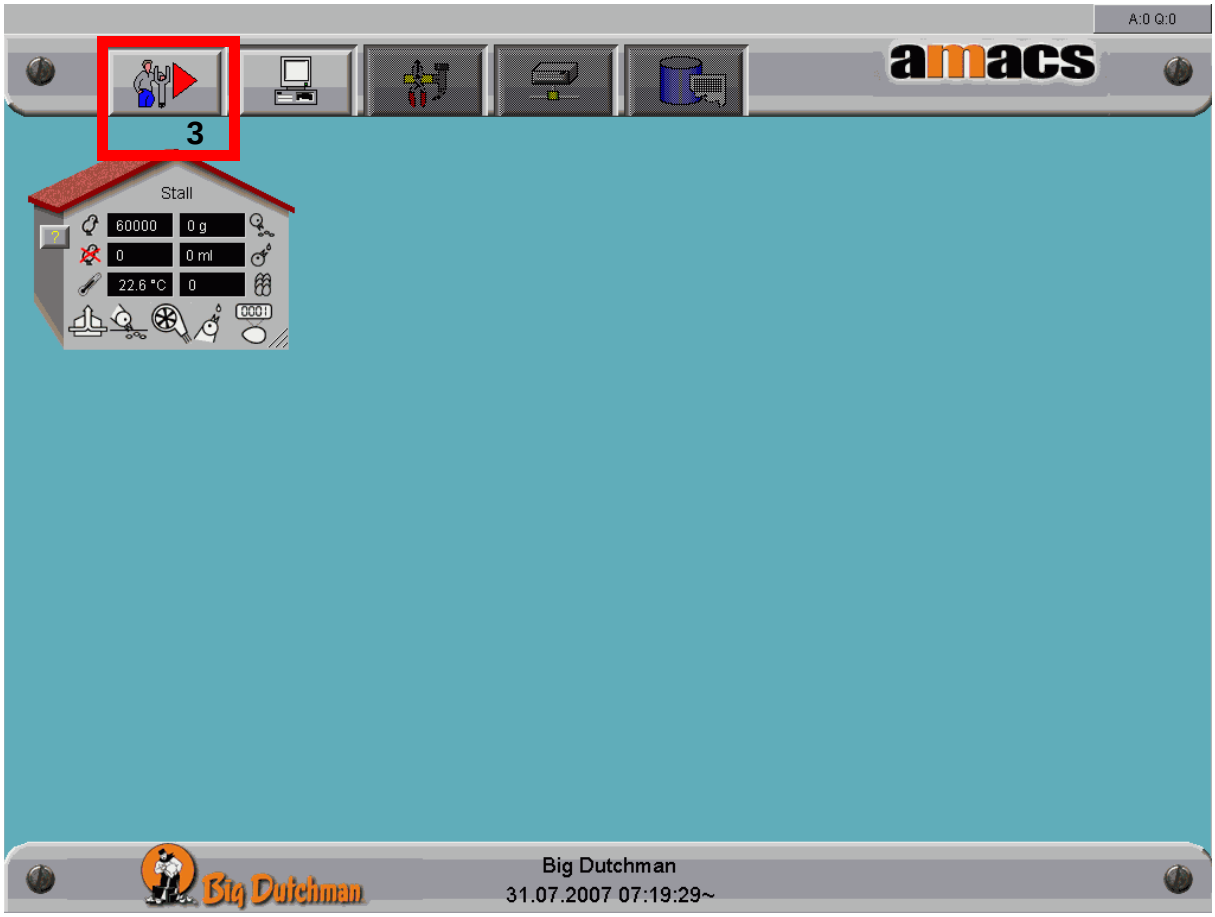


Figure 1-12: Log-off

1.4.2 Automatic log-off

To make sure that a log-off always takes place, it is possible, to enter a certain time in minutes after which the current user is automaticlly logged-off. If no action is registered on the screen for a period of 40 minutes, the computer automatically switches into the "monitoring" mode. For new entries the password has to be entered once again. Picture 1-13 shows where the setting of the automatic log-off time **(R)** has to take place.

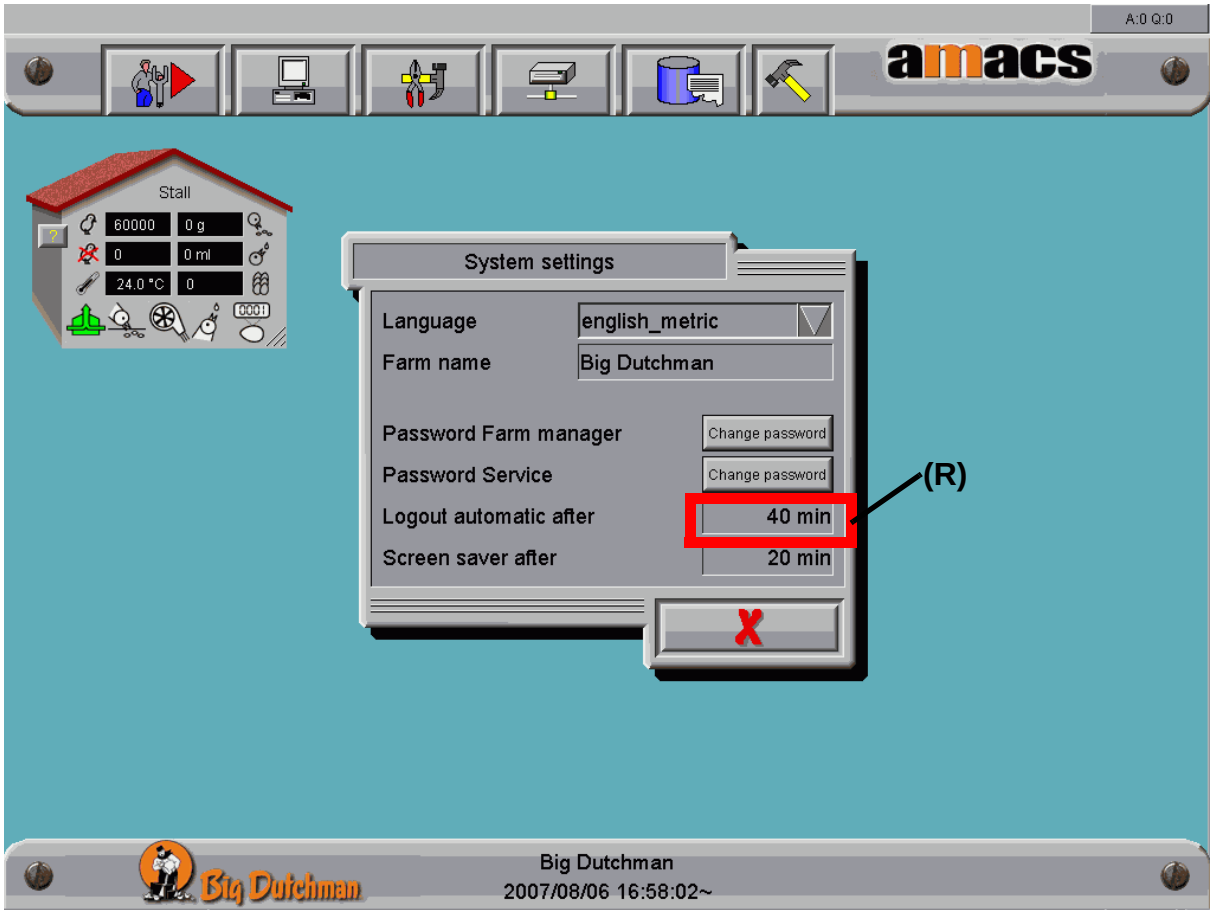


Figure 1-13: Automatic log-off

1.5 Screen Saver

To avoid a "burn-in" of unintentional contours, the screen saver **(R)** starts up automatically after an adjustable time period (here: 20 min). If the mouse is moved or a key is pressed, the display will show the original screen once again.

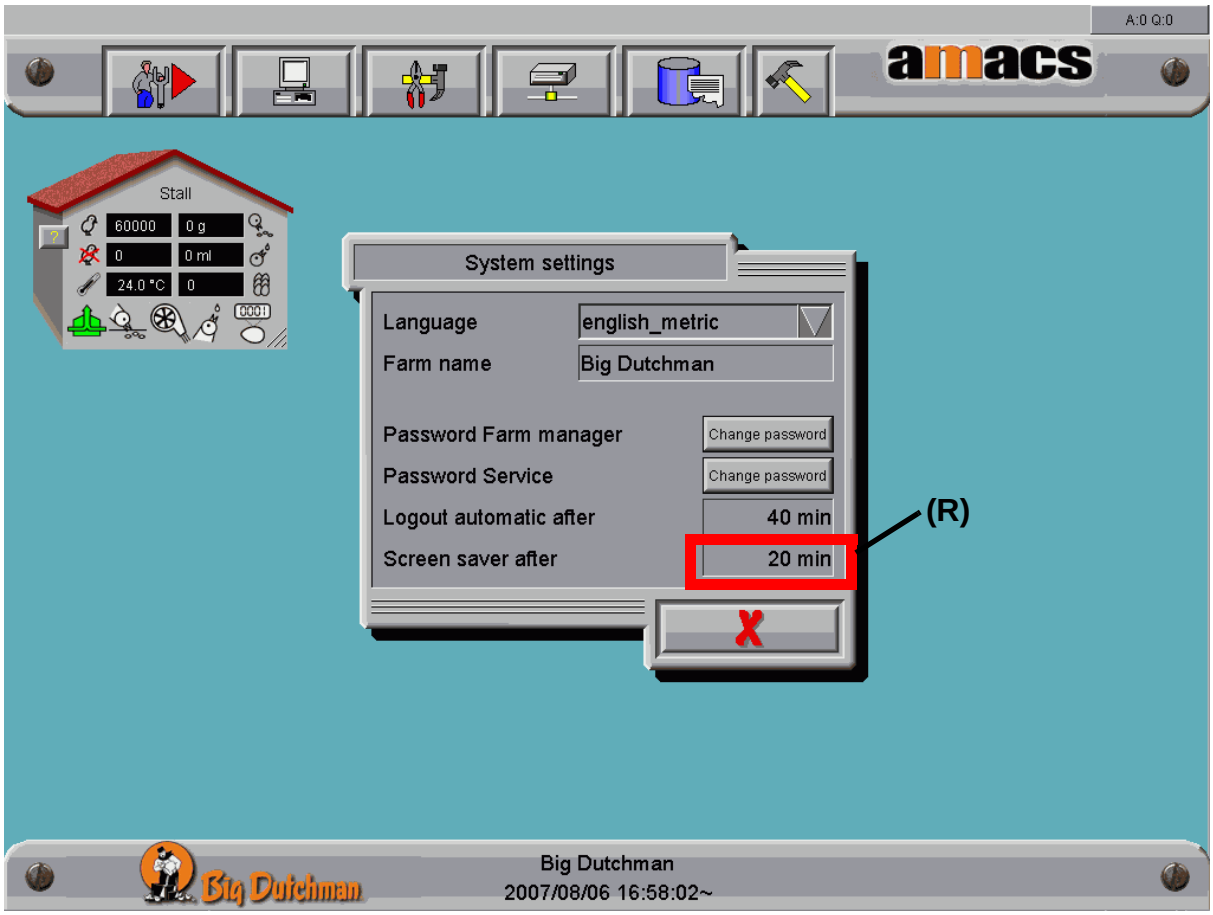


Figure 1-14: Activation of the screen saver

The red-marked **(R)** field in picture 1-14 shows where the time has to be entered after which the screen saver is to be activated.

1.6 Notes

2 How to navigate in the program

2.1 Selection of the house via the main display

The setting-up of the **AMACS** program allows for intuitive control.

After the log-on, the display shows all currently houses **(R)** connected to **AMACS** (here: 1 house).

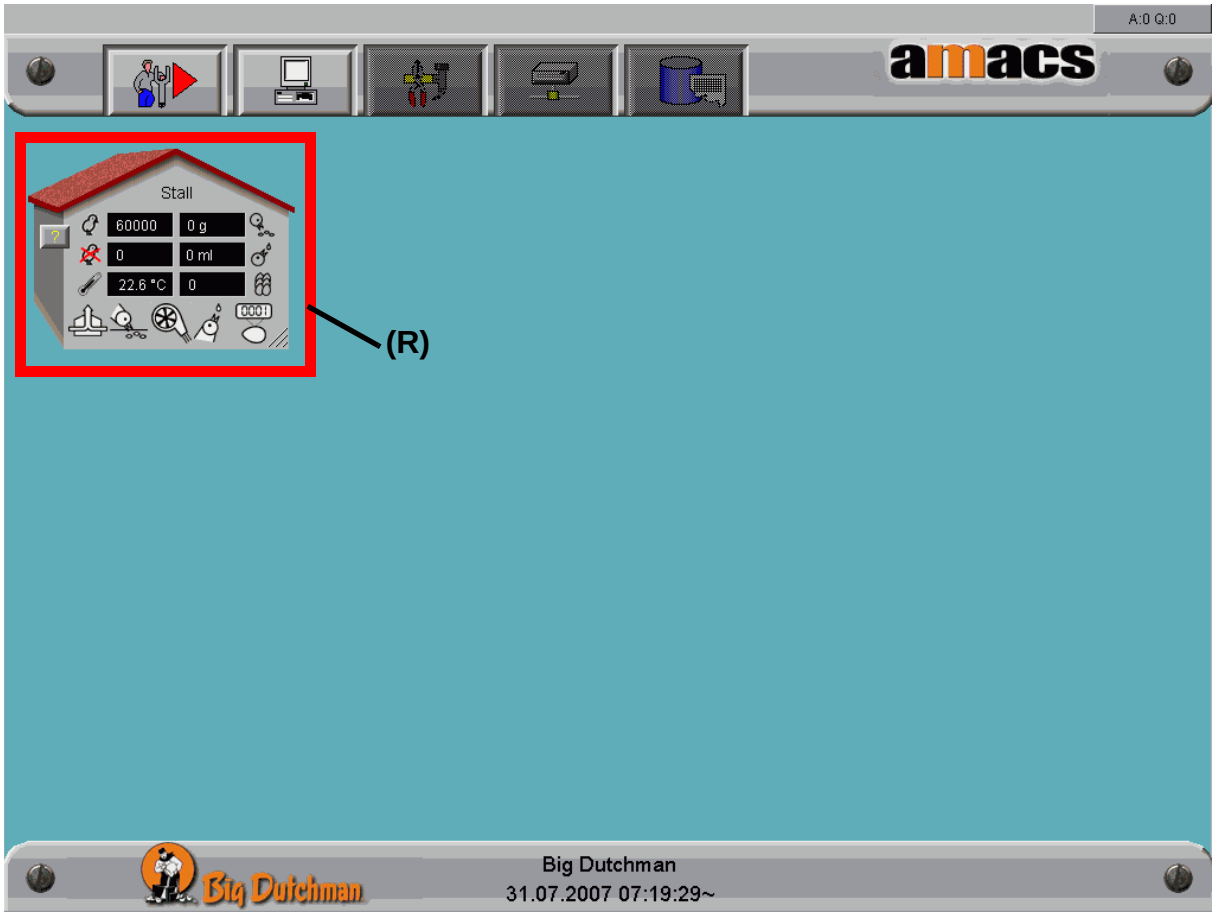


Figure 2-1: Selection via the "house" icon

2.1.1 Selection via the house in the main display

By clicking the red-marked house **(R)** (shown in the picture above) one reaches the house display of the module that has been used for this house last.

I.e. if the climate module was the last module whose settings were changed, a click on the house automatically leads to the climate display. For every individual house the last used module is registered so that any adjustments can easily be checked or changed.

2.1.2 Selection of modules via symbols

By means of symbols experienced users may also choose a specific module to make entries.

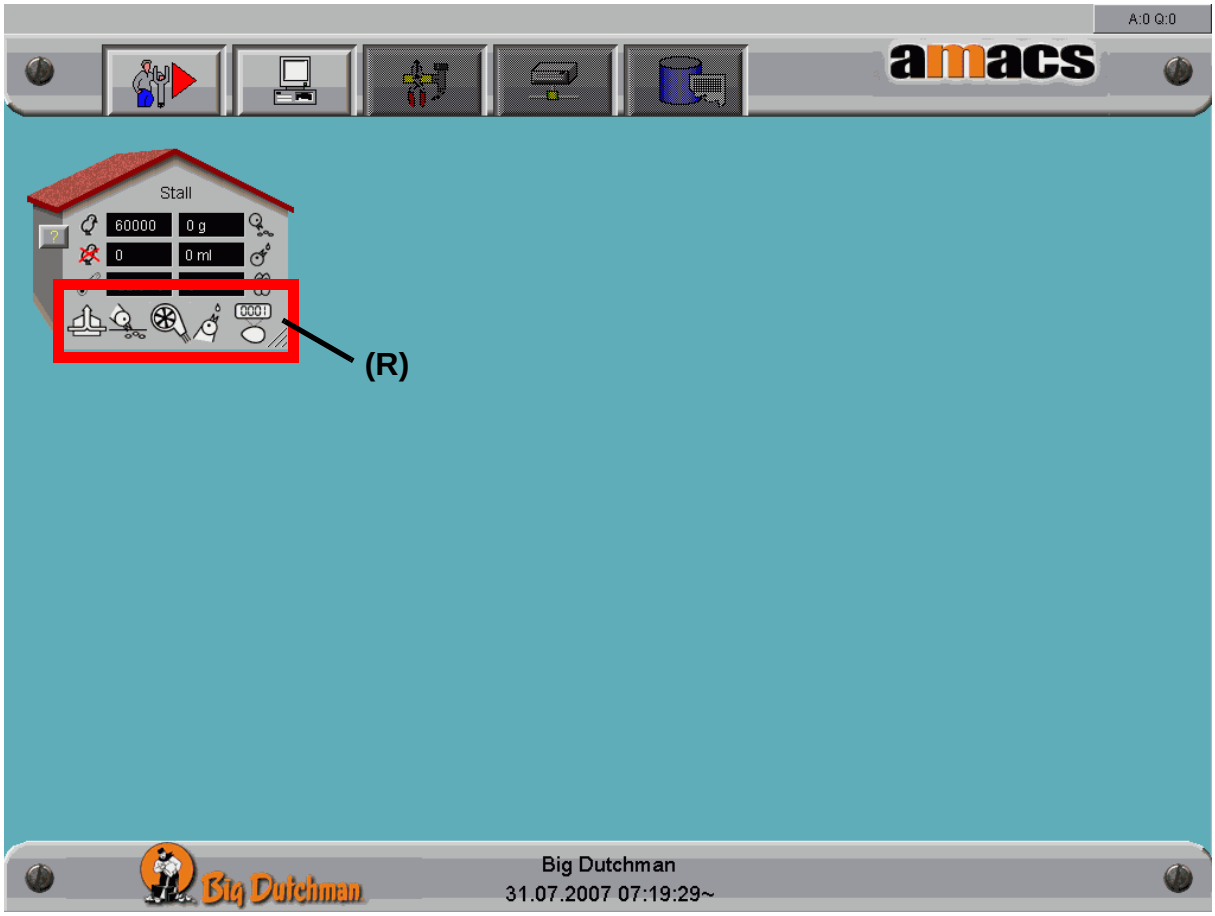


Figure 2-2: Selection via symbols

This user may directly click on the symbols in the respective house. Marked red **(R)** in the picture are the symbols that may be used to directly enter the respective module. . Which icons may be used can also be seen by the mouse pointer that changes its appearance **on action-symbols**.

If the user in this example clicked on the drinking hen, the supply menu would come up, allowing for entries at the light control and water supply. This allows for direct access to frequently used modules such as climate, feed, water, etc.

2.1.3 Selection via extended symbols

There is still a third way to control **AMACS**. Having worked with **AMACS** for a longer time, one will make an individual decision which of the possibilities is the best for oneself.

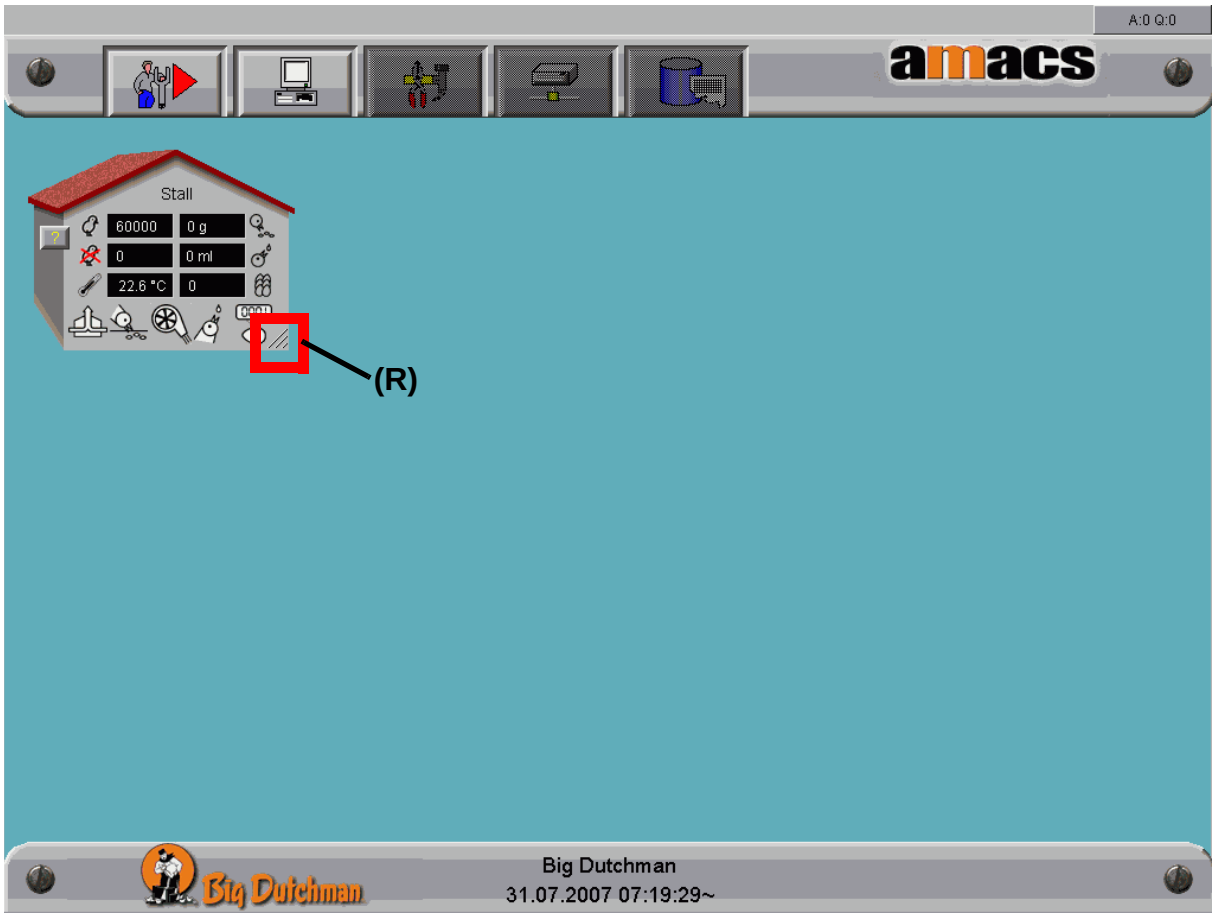


Figure 2-3: Selection via extended symbols

To use this third possibility click on the grey-hatched corner in the house.

In the picture the corner is marked red **(R)**.

The following picture shows which menu is opened by clicking on the corner. Once the mouse points onto the small hatched corner, the pointer changes its appearance indicating that there is a possibility for an entry.

2.1.4 Selection of feeding over extended symbols

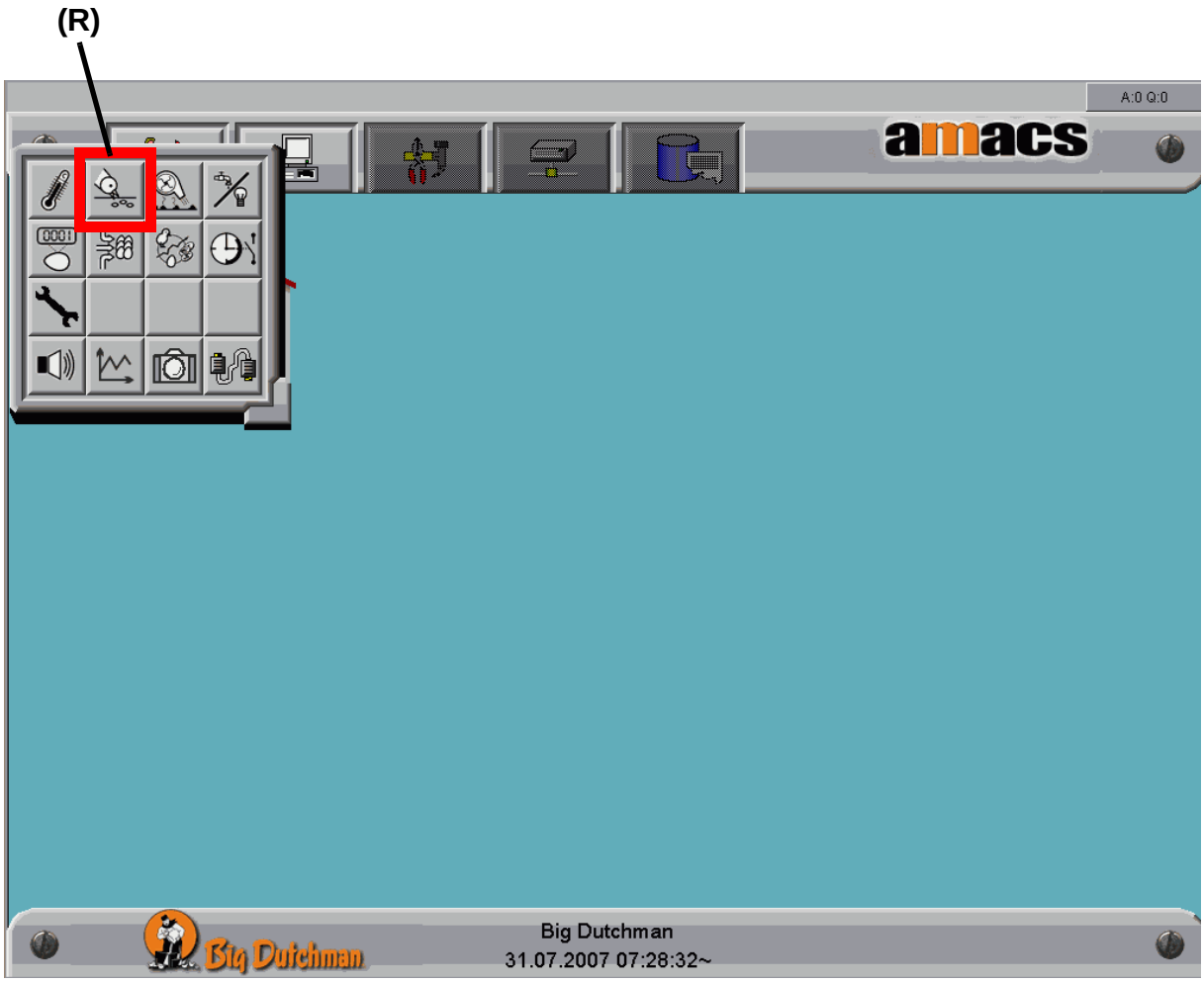


Figure 2-4: Extended symbols

Highlighted red **(R)** in this picture is the symbol that you have to click on in order to be able to enter data in the feeding module.

Which symbols can be seen depends on the **AMACS** configuration, i.e. only the menus of the modules that were selected during the start-up of the system are displayed.

This guarantees a better overview making it impossible to get lost in menus that do not play a role.

For this reason it is not possible to view the areas of feeding, water, lighting, egg-counting, and time clocks in a system where only climate has been chosen.

2.1.5 Selection of the layout displays of the individual modules

Every module disposes of a layout picture that gives an online and visual view of the processes running in the house. Furthermore, devices can be stopped or started in these displays as well. The way this is done is described invidually for every area, such as climate, feeding, etc. The way something is switched on or off however, is always the same.

Figure 2-5: selection feed

One of **AMACS**'s advantages is that the layout pictures of the individual modules look exactly like your house on the farm. For this reason, the feeding layout picture shown here can only be an example.

All pictures shown in the following are also examples.

The look of the screens is in principle determined by the number of cage rows, the number of tiers, etc. in a house. This principle WYSIWYG („what you see is what you get") allows for easy and intuitive handling of the system. I.e. if you click - as shown in picture 2-5 - on the symbol with the "pecking hen" - marked red **(R)**, the screen with the feed layout picture appears.

Figure 2-6: house overview feed

Here it is also possible to directly select other modules. If you click on one of the symbols marked **(R)** in the picture, the corresponding layout displays appears (e.g. feeding, manure drying, light/water, egg counting, egg optimisation, production, time clock, alarms or curve analysis). As mentioned earlier, only those modules that were selected during the setup are displayed. Thus it is possible that you may only see layout displays for climate, production and alarms, as you do not need the other modules.

2.1.6 Change directly from the layout display to a different house

If there are several houses on the farm, you can easily switch from one house to another without making too many entries, for example to change the minimum ventilation as you have done beforehand in another house as well. This is possible as described in the following:

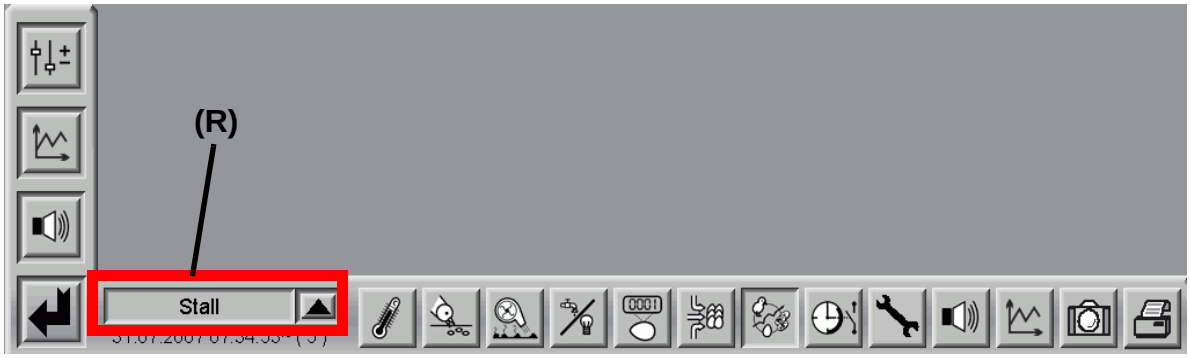


Figure 2-7: selection of house from the overview layout of the modules

If you click on the red-marked **(R)** field - as shown in the above picture - a window opens that shows all available houses. Thus you can remain in the chosen module and can access also a different house.

Remaining in the same place of the program, you can now carry out the same entries one after the other in the shortest time for all other houses.

2.1.7 Back to the main menu

To return to the **AMACS** main menu click the "return pointer". Do not forget to switch manually cut-off **components back to automatic (e.g. fans motors)** before leaving the menu.

This avoids an activation of alarms because a motor could not be turned on. If a device has been switched to manual operation can be recognized by a **little yellow dot** appearing in the icon of the respective module climate, feed etc. (bar marked blue **(B)** in the below picture.

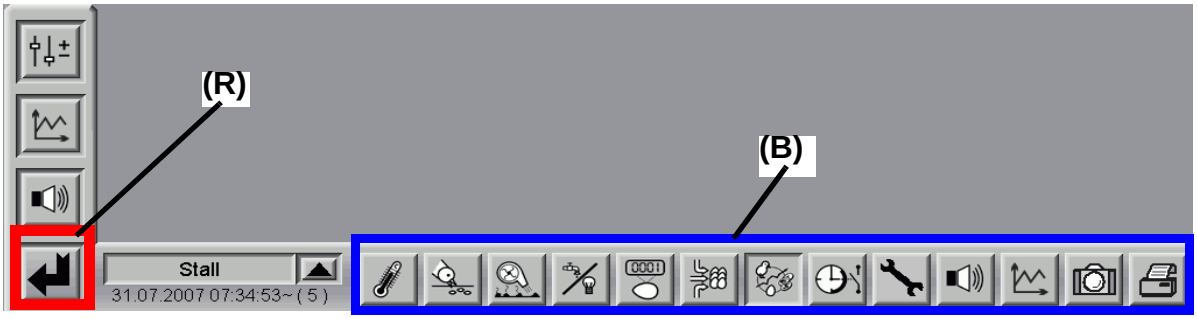


Figure 2-8: Return to the main menu

Click the red-marked "return pointer" **(R)** in the program to return to the **AMACS** main menu.

2.1.8 Change the settings of the different modules

Last but not least: Some information on how to enter data. On the left side of the layout display, every module has several icons that lead to the settings and data of the selected module. We are going to give you a short description of what hides behind the three icons that appear in every module.

Some modules feature additional setting possibilities which are explained in the following chapters.

2.1.8.1 Alarm symbol

The alarm icon (at the bottom of the red **(R)** marked box in the next picture): Here the settings that lead to the activation of an alarm are entered for every module. These could be safety margins for feed chains, or min./max. values for temperatures in the climate module. Every value and its function are going to be described individually in the following chapters.

2.1.8.2 Curve symbol

This symbol (in the center of the **(R)** marked box in the next picture) indicates an important tool that allows for a curve display of temperatures and feed amounts. As can be seen later on, all data of **AMACS** can be connected through this graphical display.

2.1.8.3 Control symbols + -

Using this symbol (at the top of the red **(R)** marked box in the next picture) you can always access the setting menus that are available in every module. They allow for the adjustment of feed amounts, temperatures etc. or enable you to view production or enter data e.g. numbers of eggs.

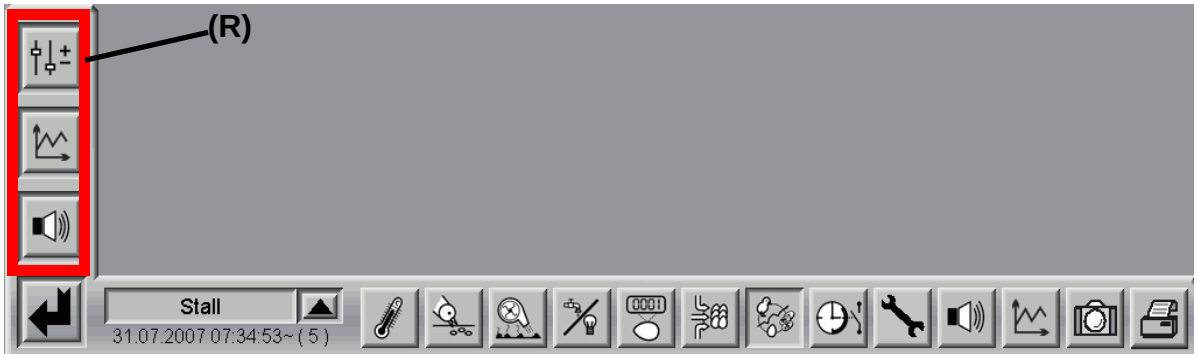


Figure 2-9: The three icons for data entry

2.2 Notes

3 Feeding with load containers

Load containers are weighed containers. They will be filled with the quantity for a feed hopper out of unweighed storage silos when dosing out. Then the quantity will be conveyed by means of feed lines into the feed hoppers. As soon as the load container is empty the dosing out for the next feed hopper can start. Up to four load containers with max.12 feed hoppers each can be available. The number of storage silos is limited to 2.

3.1 Construction of feeding system

The filling of the load containers is made by means of silo augers and valves from the storage silos into the weighed load containers. The feed hoppers above the feed lines will be filled by means of a cross auger and valves of the load containers.

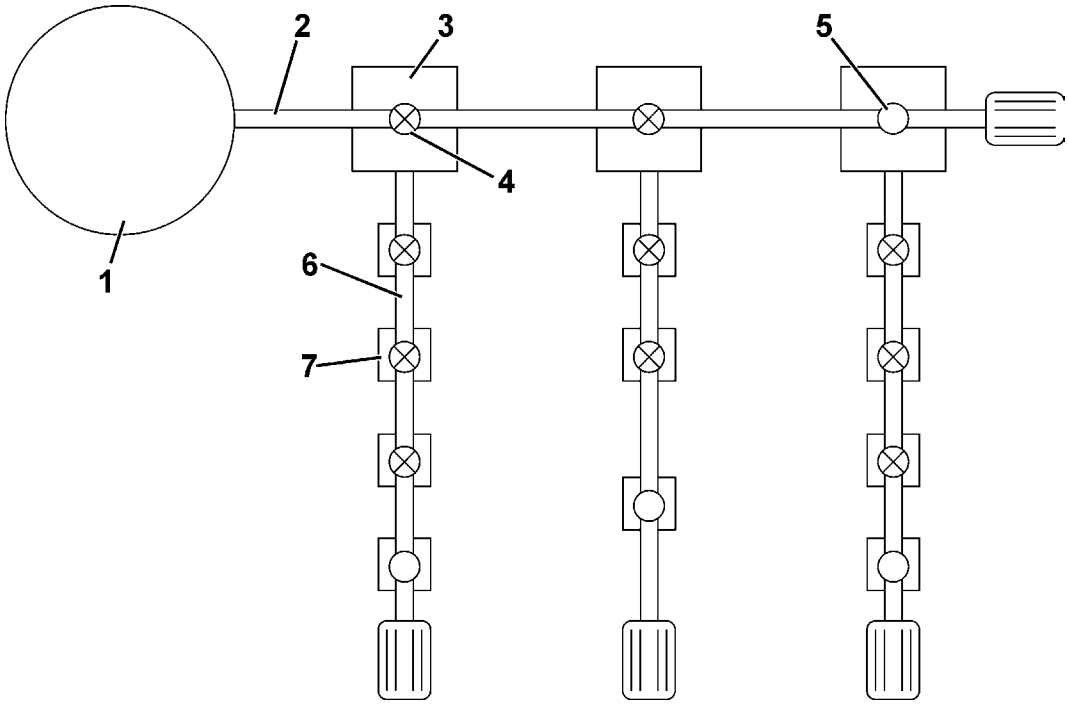


Figure 3-1: Construction feeding system with load containers

1= storage silo
2= silo auger
3= load container
4= outlet with valve
5= outlet without valve
6= cross auger
7= feed hopper

3.2 Process of filling

3.2.1 Load containers

Filling is made in stages, i.e. the feed hoppers of the cross augers connected to the load containers are filled one after the other.

1. Stage:

Filling of the **first feed hopper each** of the cross auger connected to the load container.

- All valves required are opened over the load containers. If no quantity is registered for the first feed hopper of a cross auger, the valve remains closed.
    - The silo auger of the chosen storage silo is switched on for the first load container and the feed quantitiy pre-set for the first feed hopper of the first load container is weighed.
    - As soon as the quantity set has been reached (in consideration of the after flow time) the silo auger stops and the valve over the first load container is closed. As soon as the after run time has been expired the feed quantity for the feed hopper will be registered and the after runw quantity will be updated.
- Then the system is released to convey the feed from the first load container into the first feed hopper of the first cross auger. (see chapter 3.2.2 Feed hopper).
- When the valve over the first load container is closed the silo auger of the pre-set storage silo for the second load container is switched on and the feed quantity for the first feed hopper of the second load container is weighed.
    - As soon as the quantity will be reached, the silo auger stops and the valve (if existing) over the second load container is closed. Upon the after run time the feed quantity for the feed hopper is registered and the after-run quantity is updated.
    - The system is released to convey the feed from the second load container into the first feed hopper of the scecond cross auger.
- The procedure is continued until all load containers have been filled. The last load container each of a silo auger has no valve.
- After filling of the last load container has been finished, the system waits until the feed out of all load containers is conveyed into the respective feed hoppers, in order to start the next stage thus ensuring that the conveyed feed can be registered.

2. Stage:

Filling of the **next feed hopper** of the silo auger connected to the load container.

- The valves over all load containers required will be opened. If there is no further feed hopper at the corresponding cross auger or there is no quantity registered for it, the valve remains closed. The feed conveyed during the last stage will be registered.
- The silo auger of the chosen storage silo is switched on for the first load container and the pre-set feed quantitiy for the next feed hopper of the first load container is weighed in.
- As soon as the quantity has been reached, the silo auger stops and the valve over the first load container is closed. As soon as the after-run time has been expired, the feed quantity for the feed hopper will be registered and and after-run quantity will be registered.
- Then the system is released to convey the feed from the first load container into the respective feed hopper of the first cross auger.
- When the valve over the first load container is closed (no feedback signal concerning the state of the valve), the silo auger of the chosen storage silo for the second load container is switched on and the feed quantity for the next feed hopper will be weighed out.
- As soon as the quantity will be reached, the silo auger stops and the valve (if existing) over the second load container will be closed. When the after-run time has been expired the feed quantitiy for the feed hopper will be registered and updated.
- The system is released to convey the feed from the second load container into the respective feed hopper of the second cross auger.
- This procedure is continued until all load containers have been filled. The respective last load container of a silo auger has no valve.
- After filling of the last load container has been finished, the system waits, until the feed has been conveyed from all load containers into the respective feed hoppers. The second stage will be repeated until all quantities have been dispensed. Then filling of the system is finished and the feeding process can be started.

3.2.2 Feed hopper

Filling of the feed hoppers is made through the cross augers of the load containers by means of valves. After having dispensed the quantitiy of the load containers, the transport of feed into the feed hopper can be started.

- The respective valve over the feed hopper will be opened and the cross auger will be switched on after the time for opening the valve.

- If the load container is empty (sensor) the cross auger continues to run for the pre-set after-run time. Then it will be switched off and the valve over the feed hopper will be closed. The load container is now ready for the next load.
- If it is necessary to also fill the feed lines so that the whole feed can be taken up, the lines are switched on together with the cross auger. There is, however, a difference between a feed line for a circuit (RPM or chain) or a line (Augermatic).

  In the case of one line it will be started directly with the cross auger. The line will then be filled by means of a minimum sensor in the feed hopper and a sensor in the control pan.

  For a circuit further times can be adjusted (separate for each circuit), to avoid a running empty as well as an unnecessary long running. The circuit will only be started after a delay time to secure that the feed is available in the feed hopper. In addition a running time can be adjusted which is necessary to fill an empty circuit (interruptions will be taken into account) thus avoiding a running time which is too long.

3.3 Overview of information on the main screen feeding

AMACS offers the possibilitiy to install the feeding system individually adapted to the house. Here a house with a storage silo and three load containers is illustrated as an example. One cross auger each leads from the load containers to the feed hoppers. Hens' lines with Repromatic are connected to the first and third cross auger. The males are fed with Augermatic filled by means of the second cross auger. The numbering of the load containers starts from the storage stilo. The numbering of the feed lines is made from the respective load container onwards.

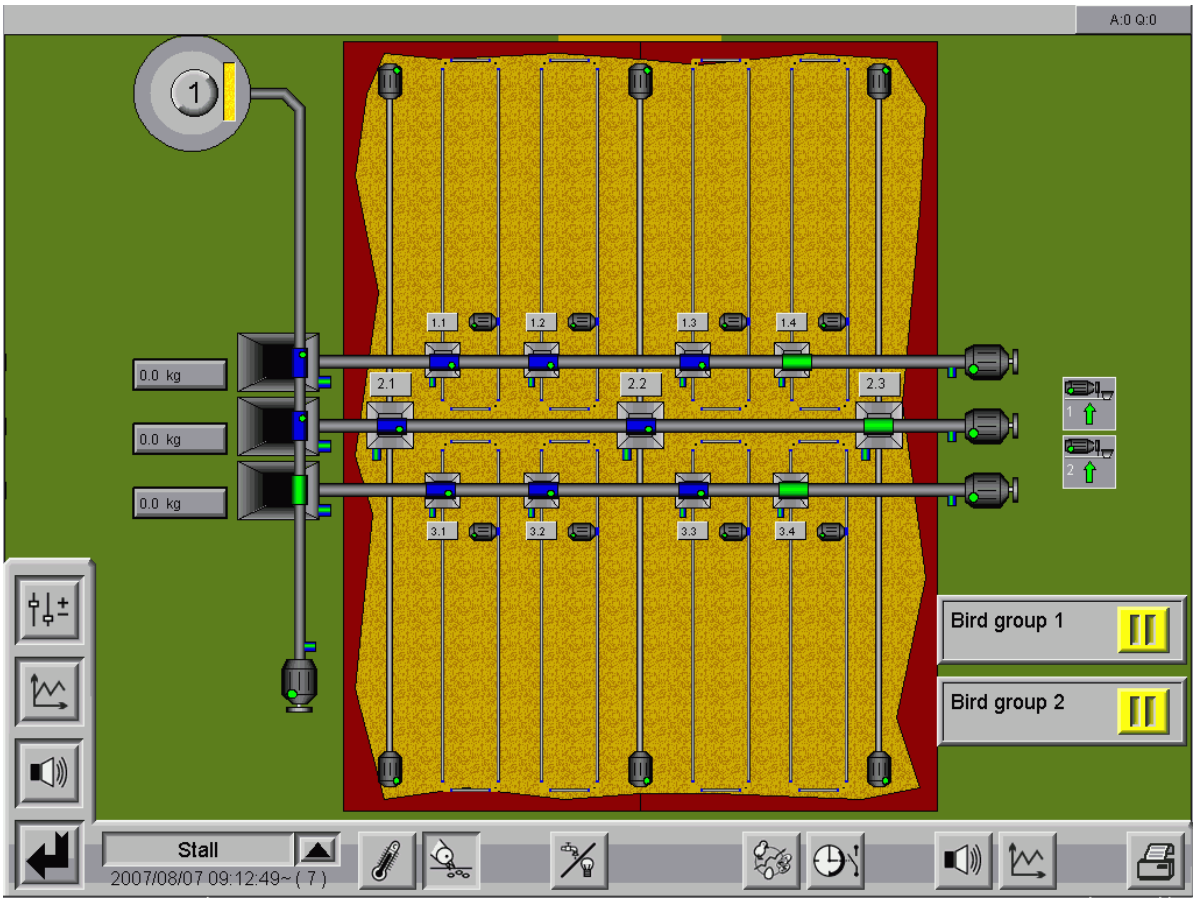


Figure 3-2: Main screen feeding

3.3.1 Information on main screen during filling

During the filling process a field with information on the filling is displayed (highlighted blue **(B)**). The load container as well as the aim and the quanitity to be dosing out is shown.

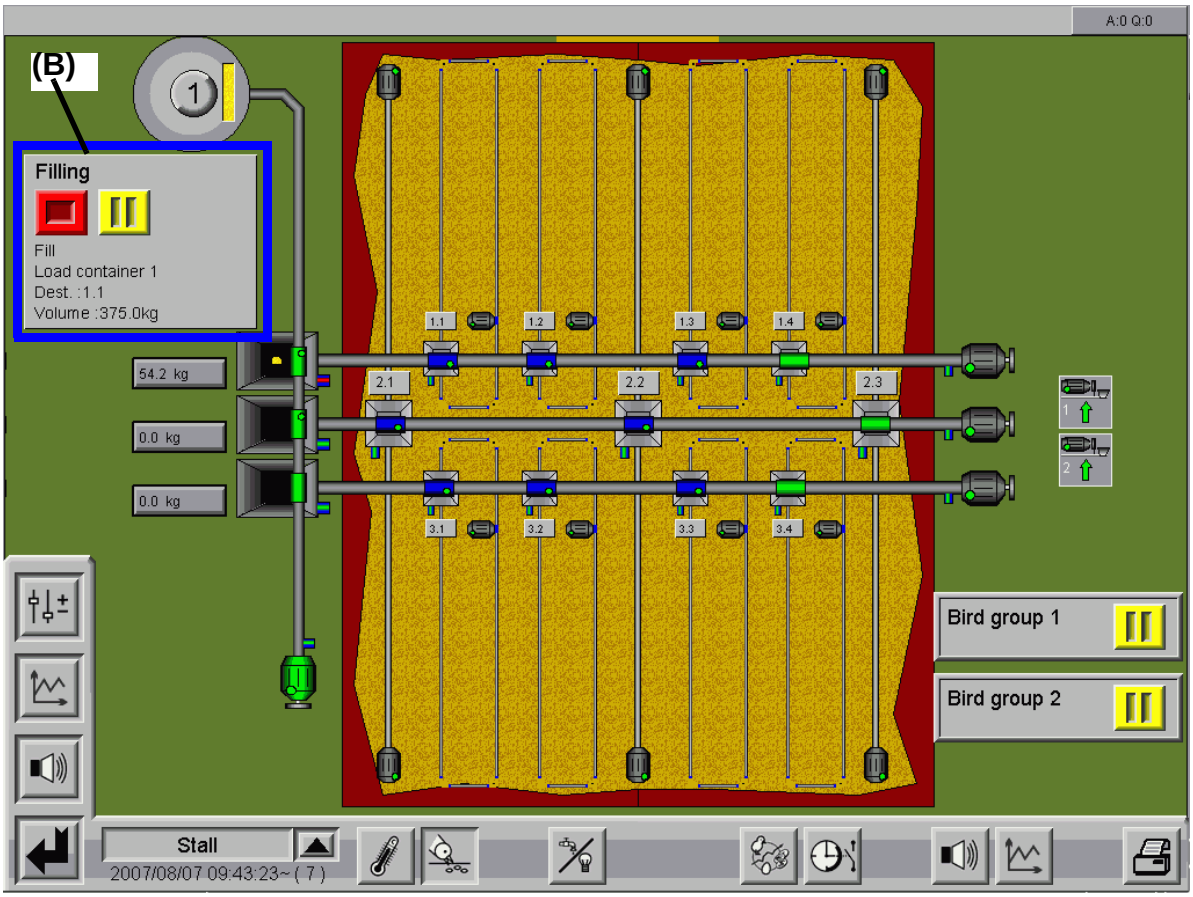


Figure 3-3: Display during filling

3.3.2 Stop filling process

It may become necessary - due to different reasons - to interrupt the filling process. By clicking the button "pause" (yellow **(Y)**) the process can be put on hold. Only the valves remain piloted.

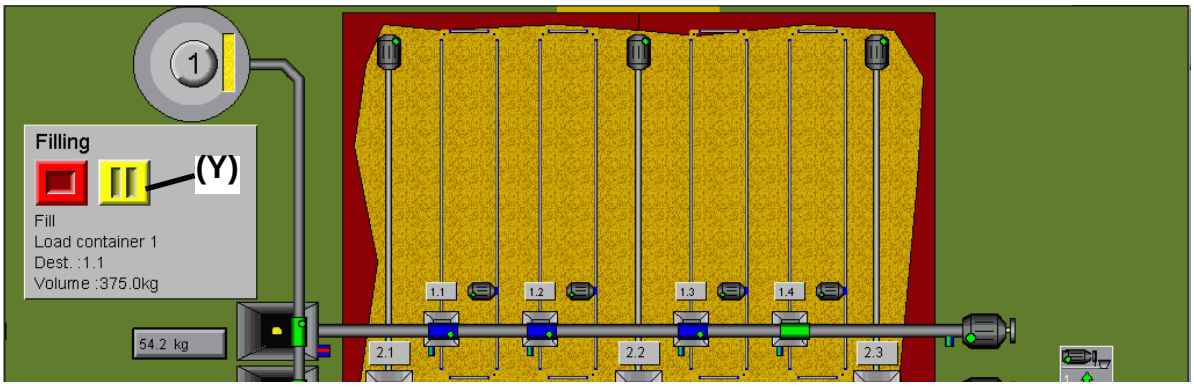


Figure 3-4: Switching filling process to pause

With the filling process in pause, a start button (green **(G)** in picture below) appears instead of the button "pause, in order to continue filling. Furthermore a signal appears not to forget to finish the "pause".

There is also the possibility to completely interrupt the filling process. This will be done by means of the button "Stop" (red **(R)**). In order to avoid that this button is pressed by mistake, a confirmation check again appears after having pressed it.

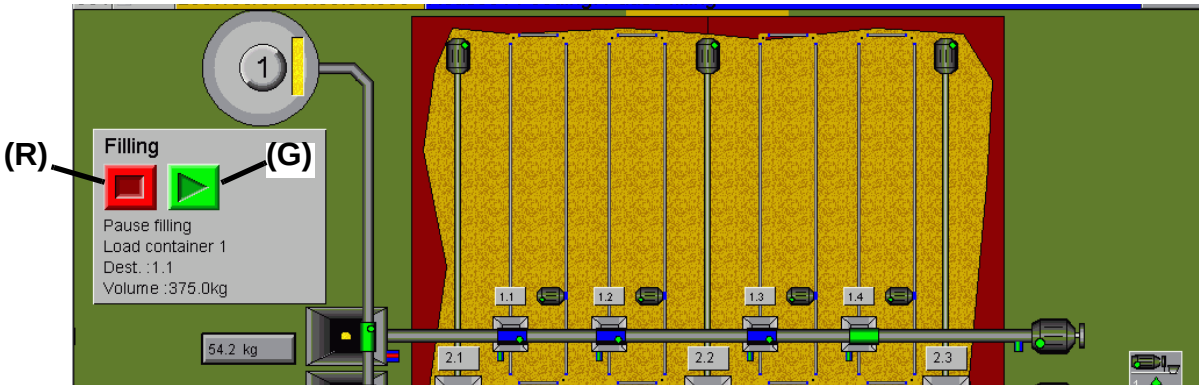


Figure 3-5: Filling in pause

If a **filling procress has been stopped** the remaining feed has then manually to be removed from the load containers and cross augers. This can be done by opening the corresponding valves by hand and by starting the cross augers. For a possible after-start of the filling the start-up has to be adapted and the quantities for feed hoppers which have already been filled has to be set to 0 kg. After having finished the filling the original values have to be entered again.

3.3.3 Stop feeding

The filling as well as the feeding process for one or more groups can be interrupted. By clicking the button pause (yellow **(Y)**) the feeding process for the respective group can be interrupted.

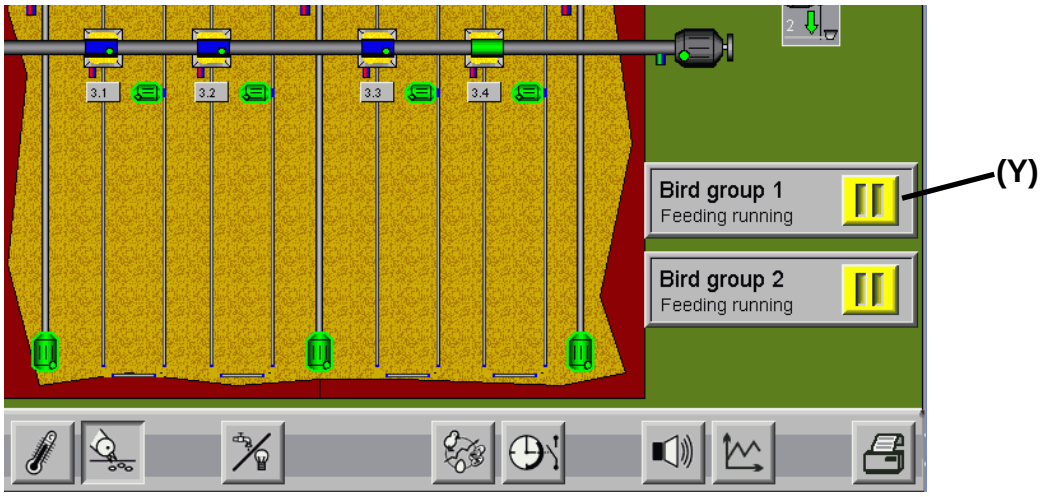


Figure 3-6: Pause of a feeding in process

If a feeding process is in pause, a start button (green **(G)**) appears instead of the button pause, in order to continue the feeding process.

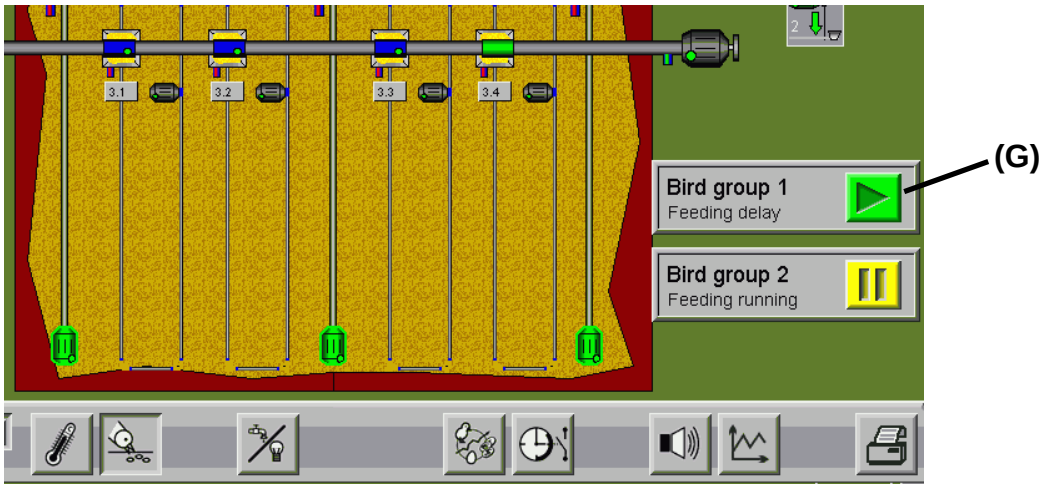


Figure 3-7: Feeding process in pause

3.3.4 Display sensors

For controlling the filling and the feeding process minimum sensors are installed at the load containers **(R)** and the feed hoppers **(G)**. They are green if they do not recognize feed and they are red if feed is available. The same change of colour is made directly at the sensors.

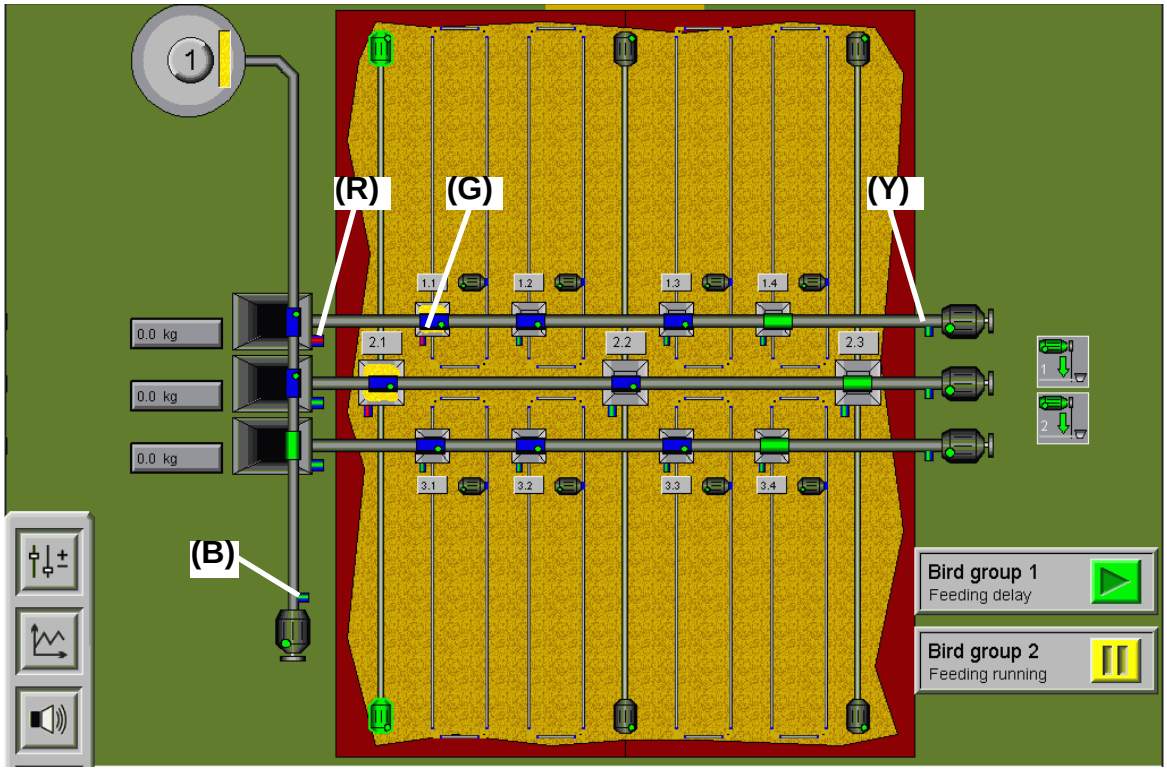


Figure 3-8: Minimun sensors at the containers

Furthermore maximum sensors are installed at the silo auger **(B)** and the cross augers **(Y)** in order to avoid an overcharging of the system and to protect the motors of the augers.

3.3.5 Display valves

The valves for filling the load containers and feed hoppers are illustrated blue **(B)** if they are closed and they appear in green colour **(G)** if they are open. The last container each of an auger has no valve **(R)**. The opening over the last container is always highlighted green - as an open valve.

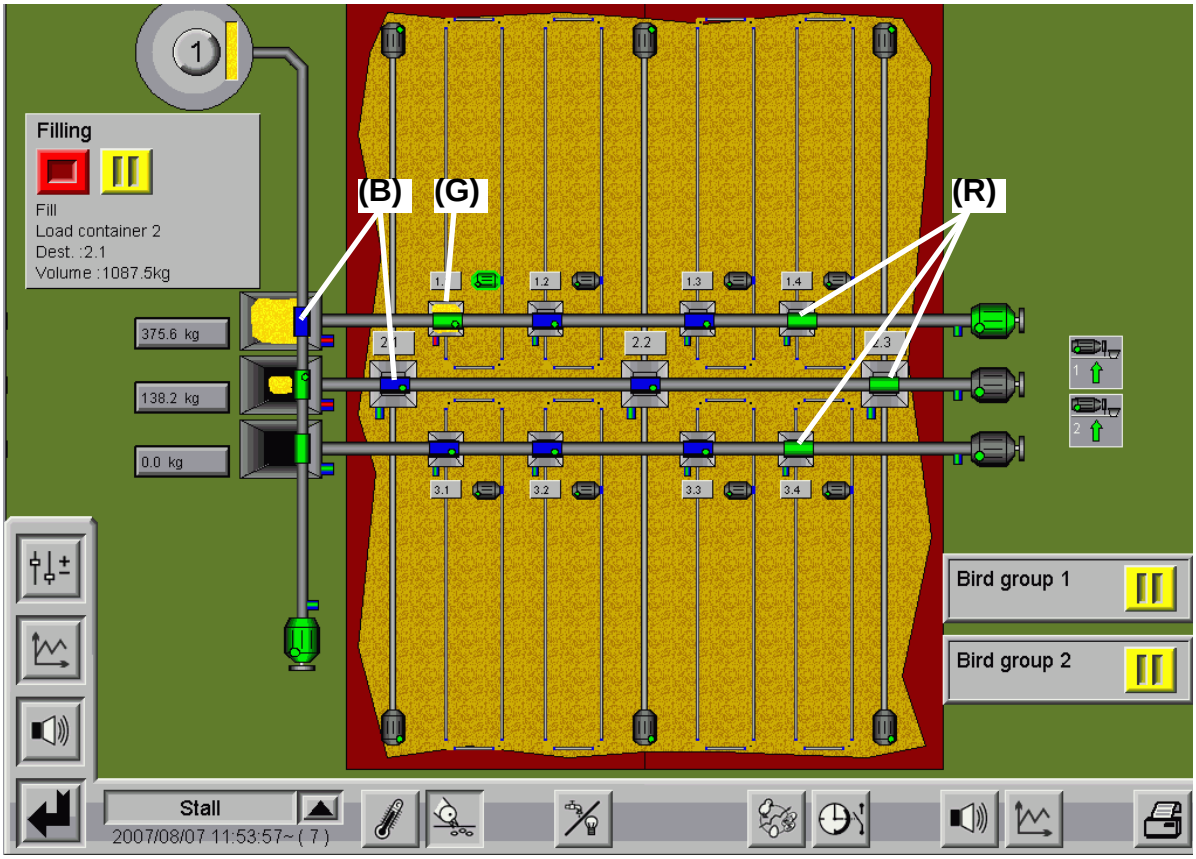


Figure 3-9: Display valves

3.3.6 Display drives

The drives of the augers and the feed circuits will be highlighted grey **(B)** if they are switched off and green **(G)** if they are switched on.

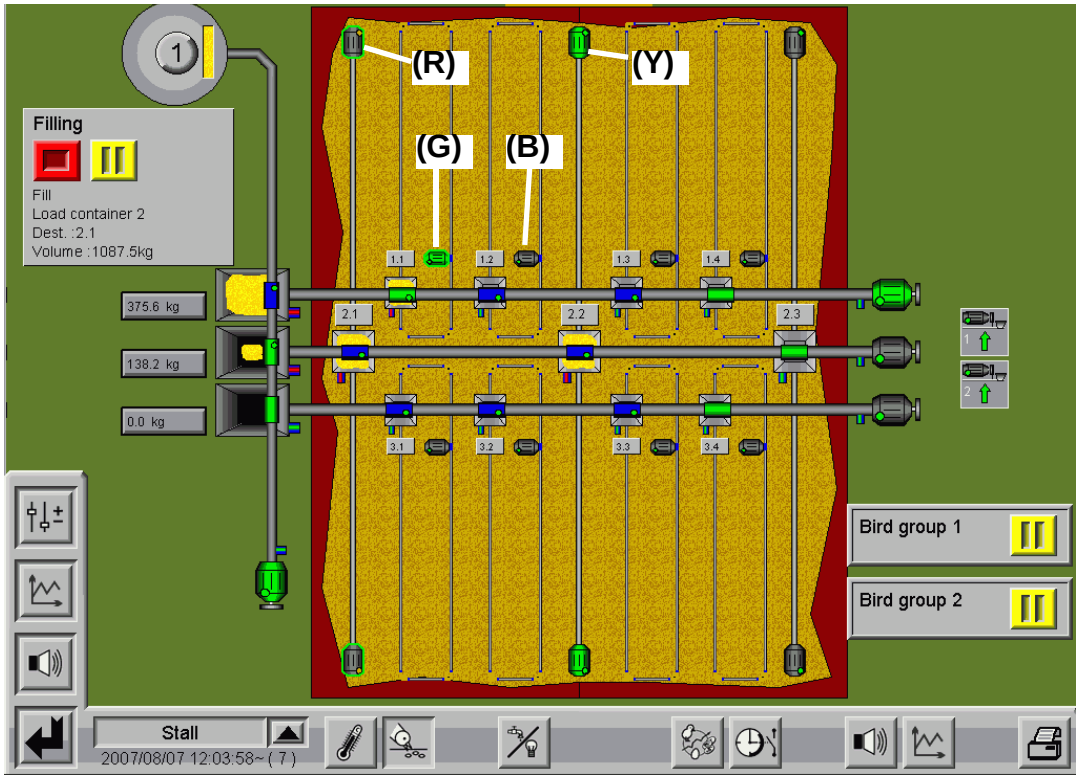


Figure 3-10: Display drives

The Augermatic-lines have something special. They will be released by the control only and they are controlled by means of a feed sensor in the last but not one feed pan. As soon as these drives have the release, they appear with a green border **(R)**. If there is no feed in the control pan, they will then be switched on by means of a sensor and appear green **(Y)** in the visualization.

If motor winches for lifting and lowering the feed lines are installed in the house, their status will also be shown. There is one ouptut for each group of birds for piloting the winch. Lifted state **(O)** and lowered state **(P)**.

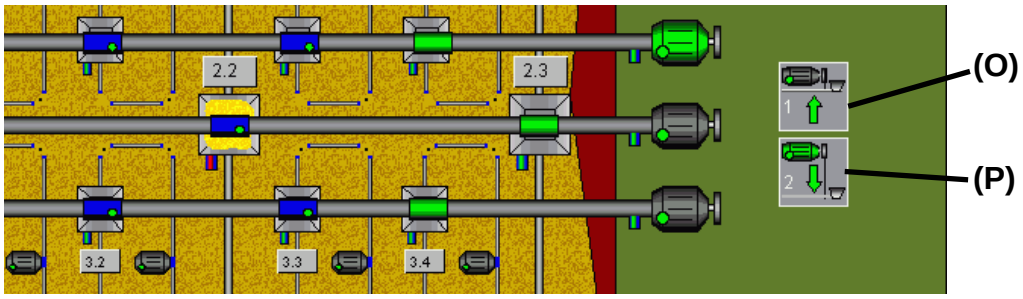


Figure 3-11: Display winches

3.3.7 Display weight value

In the load containers the feed quantity will visualized **(Y)** in ratio to the capacity of the container independent of the weight value.

Furthermore the actual weight value **(R)** is shown besides the load container.

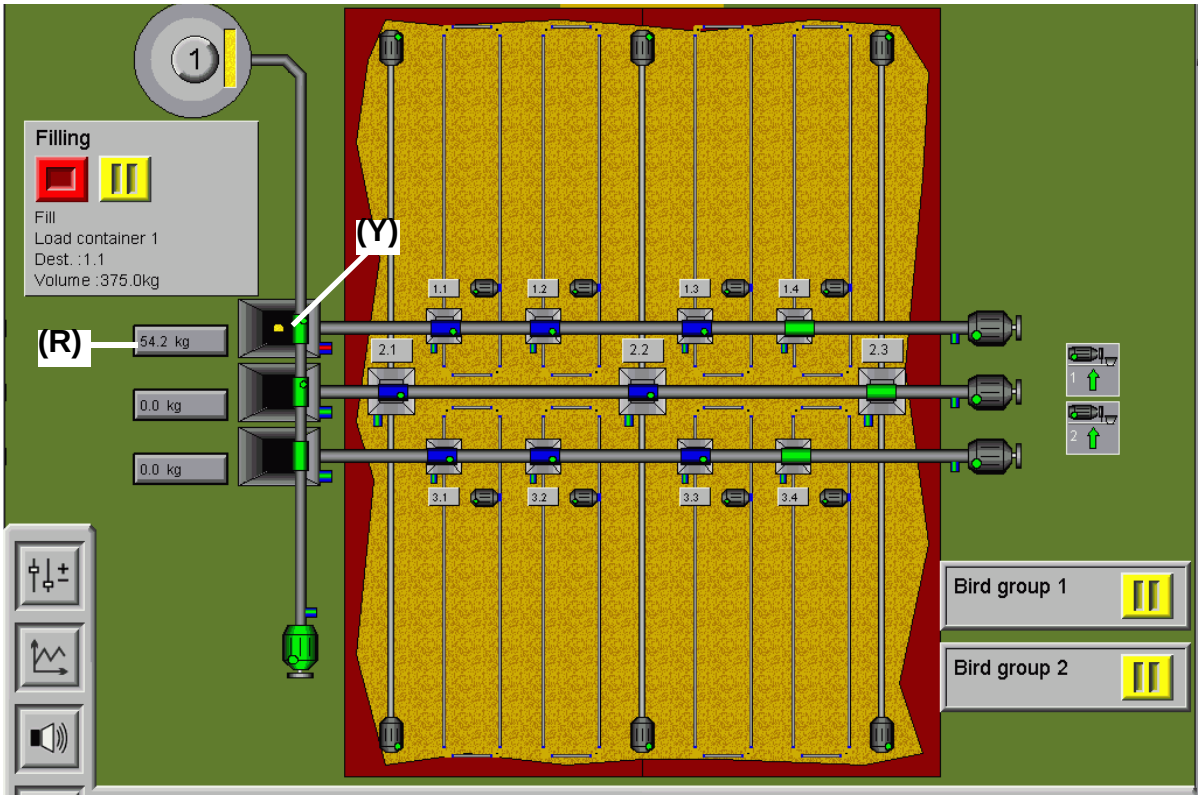


Figure 3-12: Display weight value

In order to follow up the chronological sequence of the change in value, a curve is shown by clicking on the button weight value **(R)**.

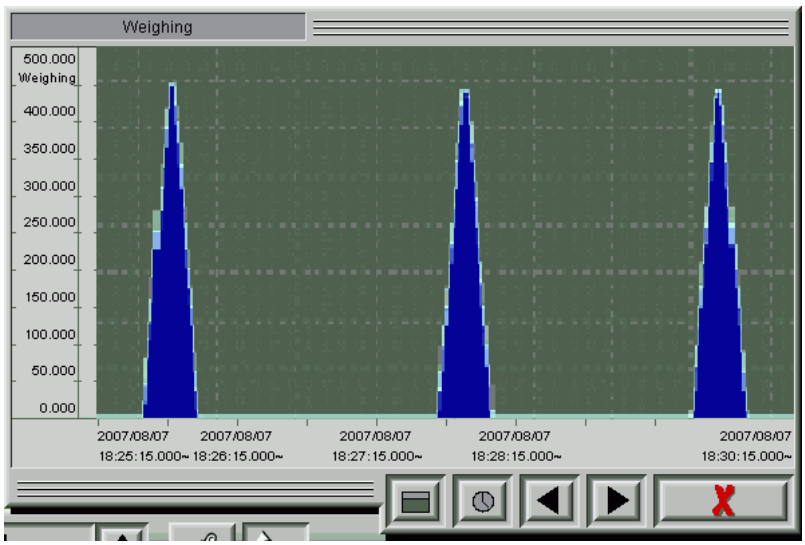


Figure 3-13: Display curve of weight value

3.3.8 Display storage silos

The main screen shows the storage silo **(R)**. The feed sensor and the vibrator (if exisiting) is also visualized with the silo. Furthermore the level according to the calculated silo contents is illustrated as bar.

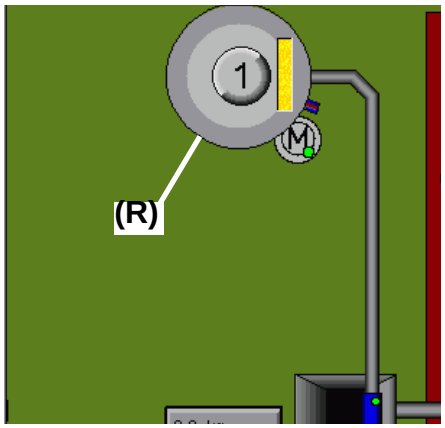


Figure 3-14: Illustration storage silo

By clicking on the silo, a menu opens showing the calculated silo contents as well as the last feed delivery which has been entered. Removal of feed by means of the silo auger will be registered automatically.

By clicking the supplier button **(B)** a feed delivery can be entered.

By pressing button **(G)** a protocol of the last deliveries entered appears and by pressing button **(Y)** the menu will be closed.

Figure 3-15: Entry delivery

3.3.9 Manual operation

All drives, valves, winches, etc. can be manually operated from the main screen. By pressing the correspnding element a menu for switching from manual to automatic mode **(R)** opens. In the manual mode the drive can be switched on and off manually **(B)**.

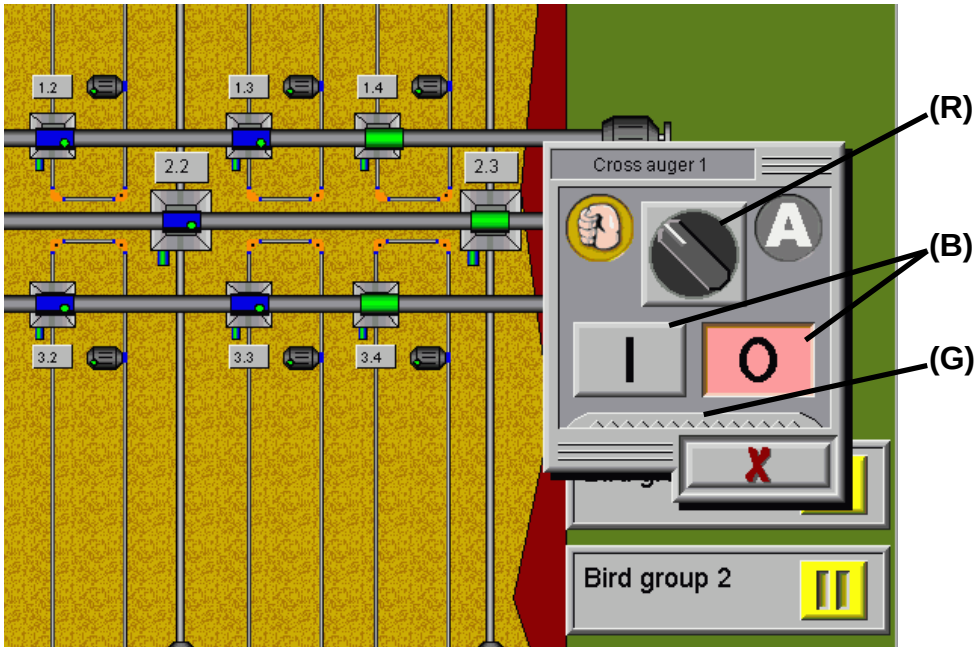


Figure 3-16: Manual operation

In case of drives with registration of working hours these will be shown or closed by clicking the element **(G)**.

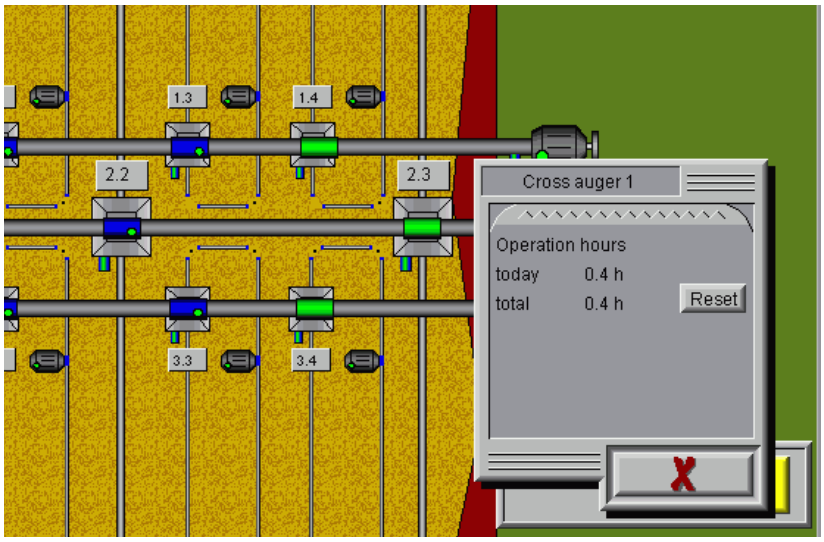


Figure 3-17: Display working hours

3.4 Parameter settings

By clicking the key button **(R)** the overview for the settings of parameters appears.

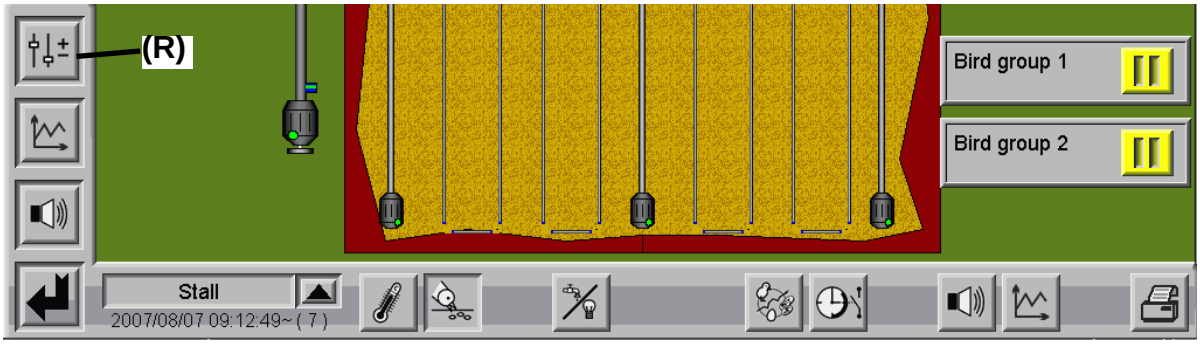


Figure 3-18: Invocation settings of parameters

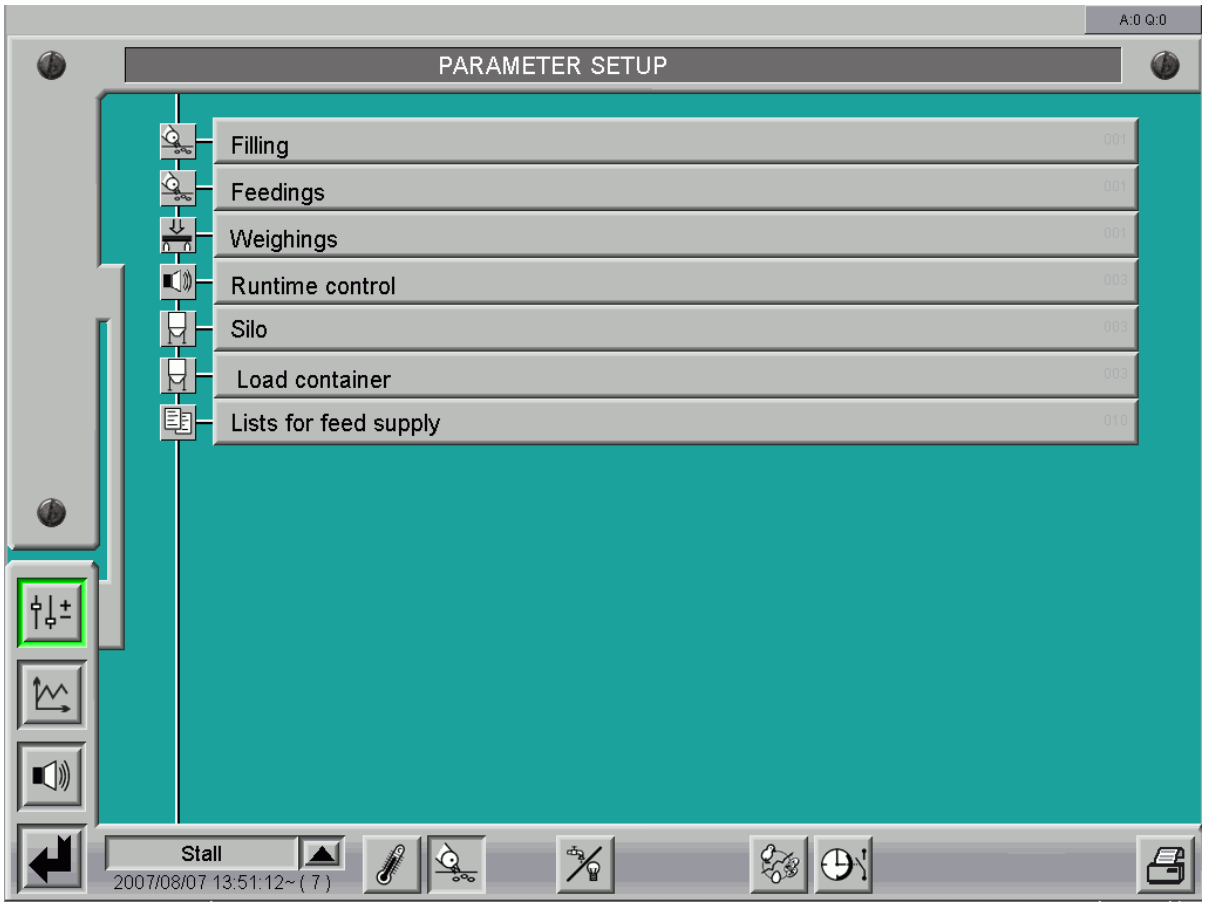


Figure 3-19: Overview settings of parameters

Starting from the overview, the settings for the different functions can be accessed.

3.4.1 Filling

3.4.1.1 Start time

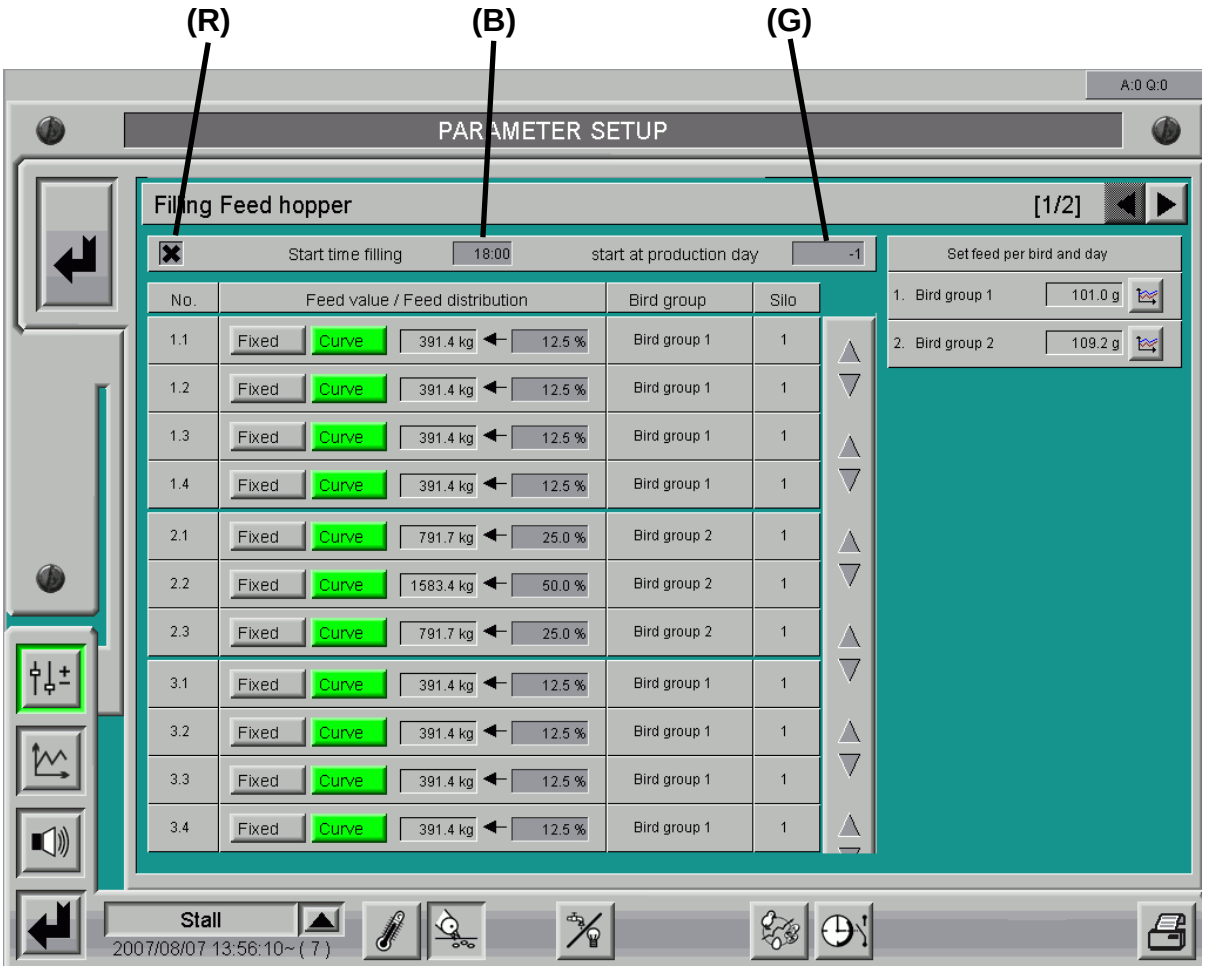


Figure 3-20: Start time filling

Filling is made once a day. By activating field **(R)** the filling process is released. If the cross is not existing a filling will not be made.

The time of filling the feed hoppers is entered in field **(B)**. **This filling should be made on the previous day immediately after a feeding process.** This has the advantage, that the birds have already been fed and that they will not be worried too much by the noise of the feed system.

Furthermore filling is dependent on the day of production. In field **(G)** you can enter the production day, when filling shall be made. Here you can enter also negative values (up to -2), meaning that the system can already be filled before the first production day.

3.4.1.2 Feed quantities

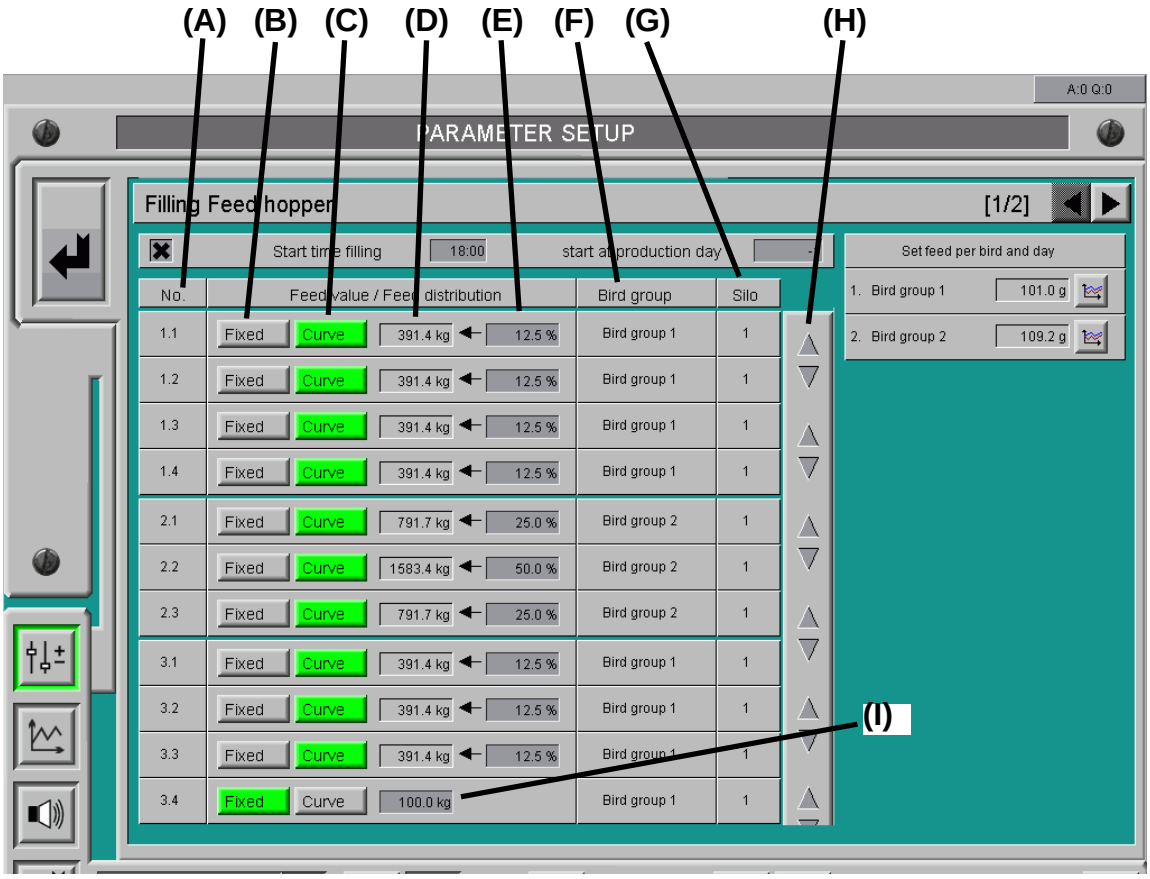


Figure 3-21: Feed quantities

In the settings for the feeding it is set for each feed hopper **(A)** whether the feed quantity is pre-set (B) or whether it is to be calculated by means of a curve **(C)**.

In case of a filling by means of a feed curve the part of the total feed amount for the corresponding group of birds is entered in per cent for each feed hopper.

Here usually 100 % are divided by the number of feed hoppers of this group of birds, but feed lines of different size can also be compensated. The corresponding quantity will then be shown in kg (D).

If the quantity shall not be set by means of a curve, but shall be pre-set fixed, entering is made directly in kg per feed hopper **(I)**.

If filling of the load container can be made out of different storage silos, even the kind of feed (storage silo) (G) can be entered for the feed hopper.

The group of birds will be showed with name (F) for each feed hopper. 12 groups of birds are possible the names of which are freely editable.

There is a scroll bar **(H)** for the feed lines. Thus 48 possible feed hoppers can be clearly illustrated.

3.4.1.3 Curves of feed quantities

For the calculation by means of feed curves, there is one curve for each group of birds where the quantitiy per bird in gram is set after production day.

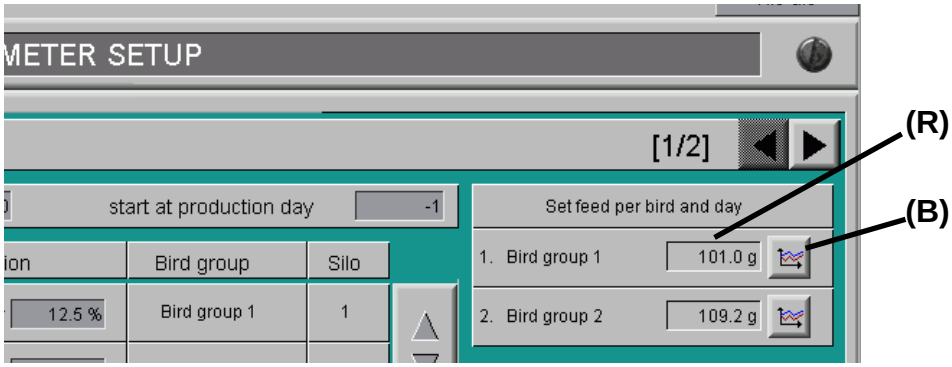


Figure 3-22: Invocation feed curve

Here the feed quantity per bird for the actual day, resulting from the setting of the curve is illustrated **(R)**. By activating the key button with the curve symbol **(B)** the curve view is called up.

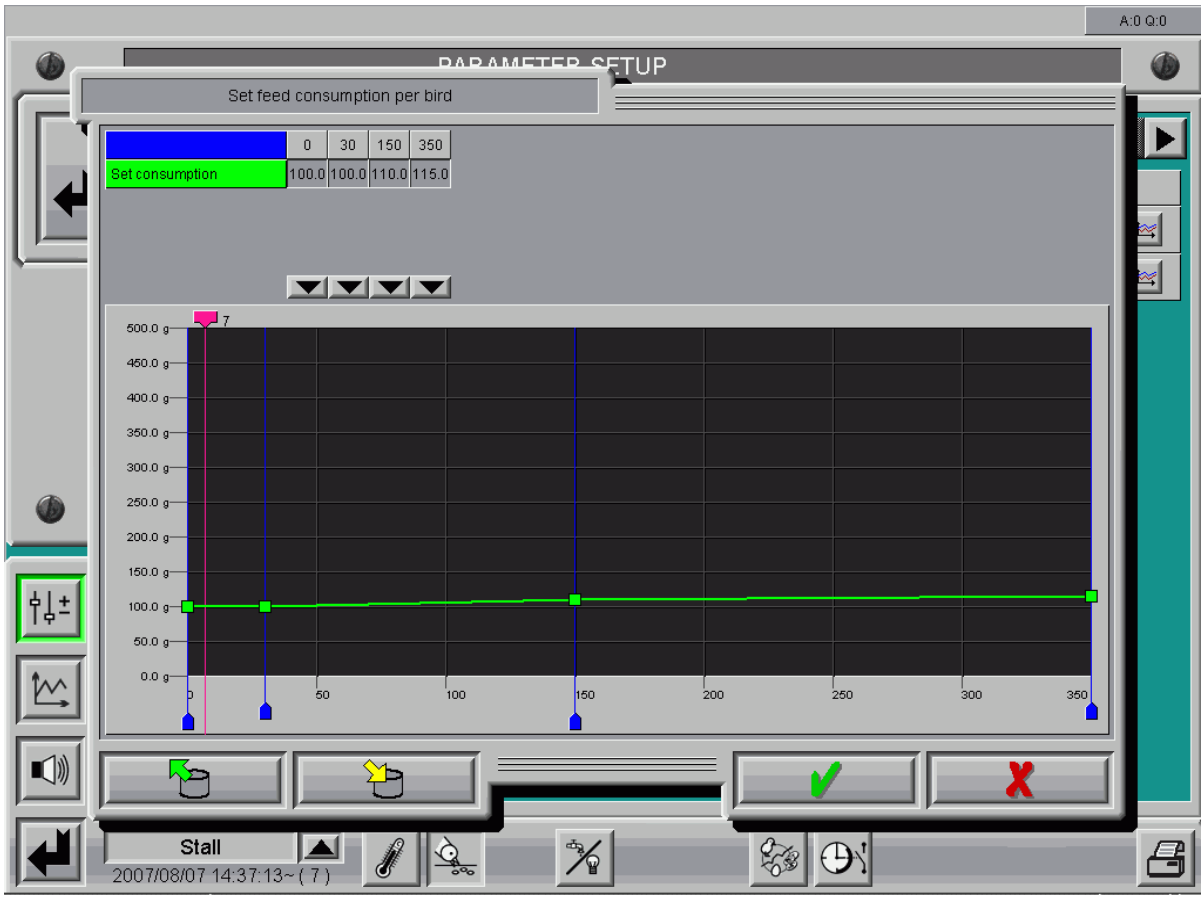


Figure 3-23: View of curve

3.4.1.4 Change feed curve

How to change the valuves in the curve can be learnt in chapter 5 "Change of set curves"

3.4.1.5 Running time

On the second page of the settings for filling, the running times for each feed hopper are entered.

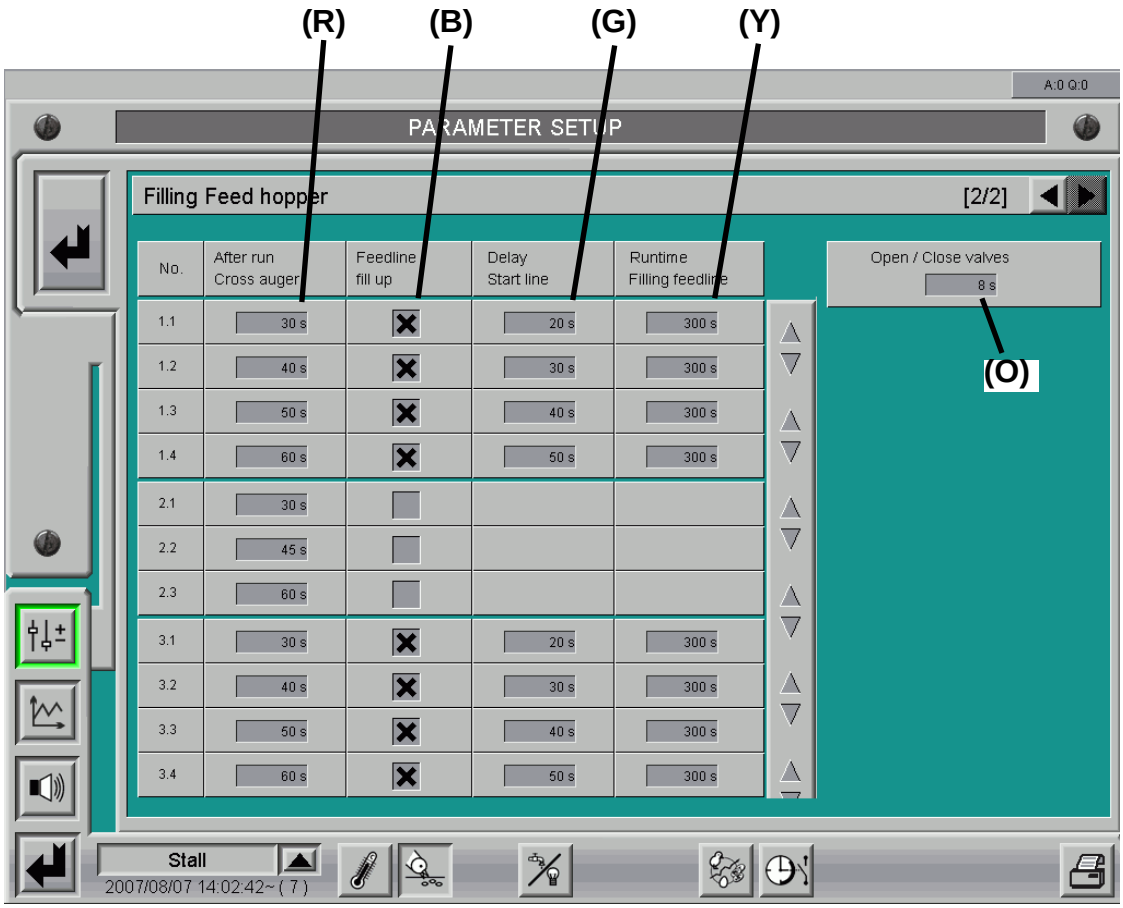


Figure 3-24: Setting running time

The most important settings are the after-run times for the cross augers **(R)**.

These must be found out for each feed hopper when initiating the house. The after-run time starts, when the feed sensor in the load container signals "empty" and finishes when there is no more feed in the cross auger. In case of a destination feeding it is necessary to empty the cross auger, in order to achieve an exact feed dosing.

It may become necessary to fill also the feed lines during filling so that the feed hopper can receive the daily quantity. In this case the feed lines have to be lifted to a height which cannot be reached by the birds.

You can select for each feed hopper **(B)** if it shall also be filled in case of a filling process. If this is activated additional settings will be necessary, as there are the delay time for starting the circuit **(G)** and the running time for the filling **(Y)**. The delay time avoids a running empty of the feed lines when it does not start with the cross auger when filling is started. The running time is necessary to avoid that the feed line runs too long during filling. The running time for filling the line stops together with the after-run time of the cross auger even if it has not yet expired.

The time for the opening and closing of the valves **(O)** over the feed hoppers will be entered one time and is identical for all valves.

3.4.2 Feedings

The name of the bird group is editable **(A)** in the settings for the feeding. The times can be set separately for each group. By clicking the arrow keys **(D)** the group can be changed. 12 groups of birds are possible.

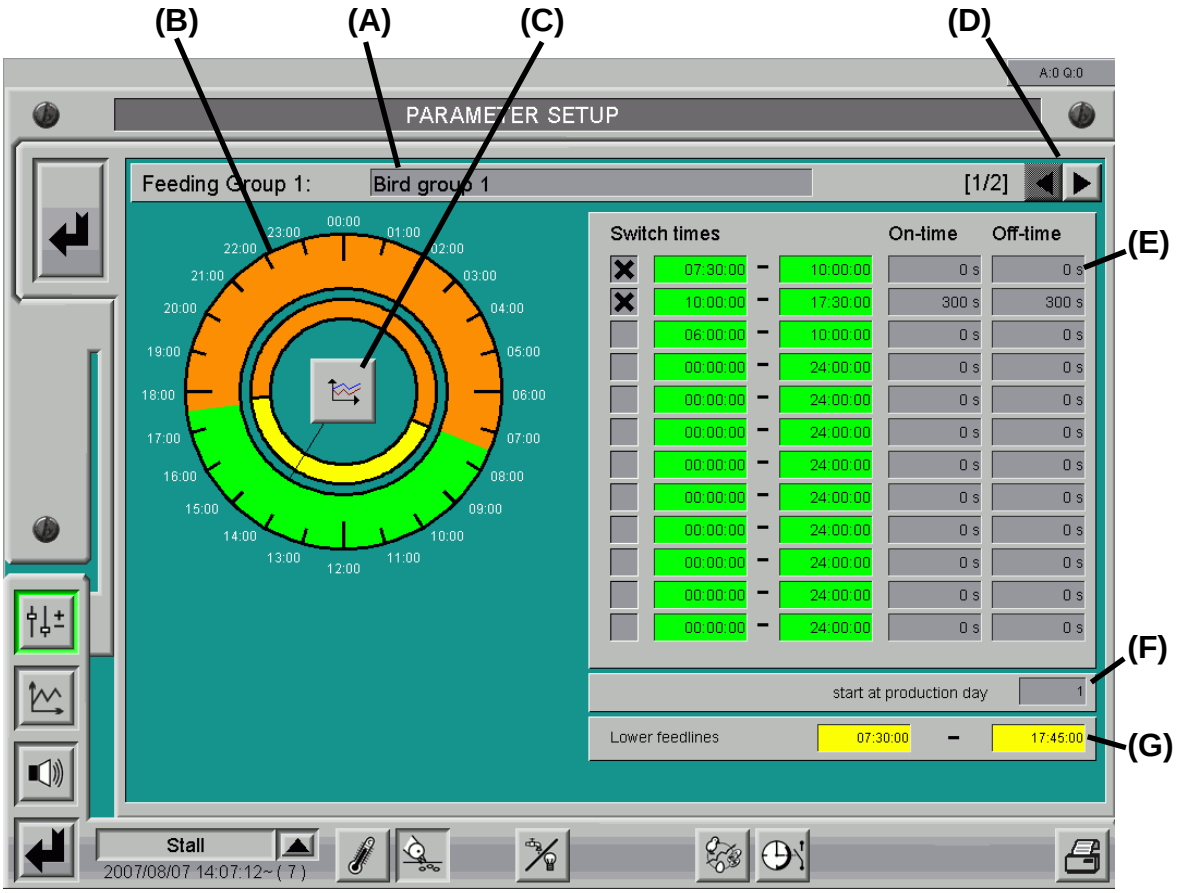


Figure 3-25: Setting feeding

12 switching points **(E)** with starting and ending time are adjustable. They can be activated by the cross. Furthermore it is possible to enter an ON-time and an OFF-time for each switching time, so that the control of the feed lines for this group of birds can be effected in pulse-pause. This is reasonable for rotating feed lines to prevent that they do not continuously try to refill the feed lines if the feed consumption of the birds becomes slower. If no value (0s) for the ON- or Off-time is entered the feed line runs continuously.

If times overlap the top setting is active.

The input field **(F)** shows the production day when feeding is to be started. If the production is not started or the production day set is not reached, no feeding will start and the feed lines will not be lowered.

The time for lowering the feed lines is entered in field **(G)**. This time has to be coordinated with the feeding times and the starting time of the filling. When filling the feed system the feed lines have to be lifted to prevent that the birds can reach the feed.

The times set are illustrated graphically **(B)**. For feeding the outer ring (green) is illustrated and for the lowering of the feed lines the inner ring (yellow). Furthermore it is possible to illustrate the current state as curve diagram by clicklng on the key with the curve symbol **(C)**.

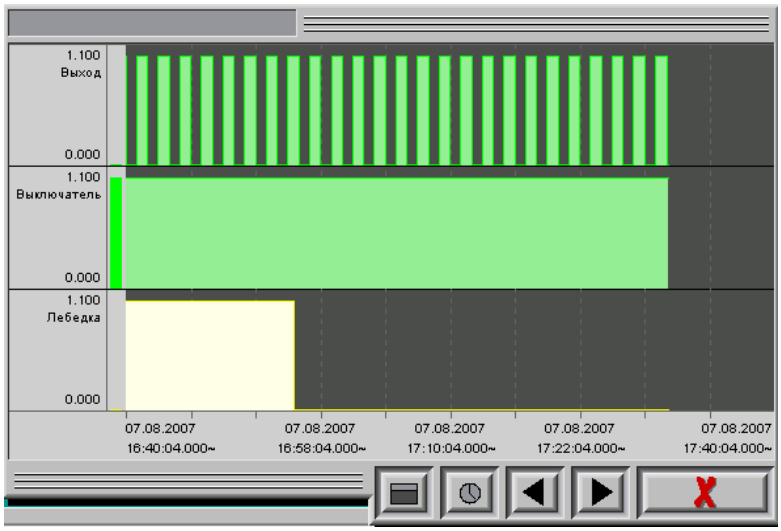


Figure 3-26: View of curve switching points feeding

The first curve describes the actual piloting of the feed line, here in this case as pulse-pause. The second curve shows the switching point where a feeding time is active. The outpunkt for lowering the feed lines by means of a winch is showed in the third line.

3.4.3 Weighings

The settings for weighing contains the calibration of the load containers and should only be handled by service technicians.

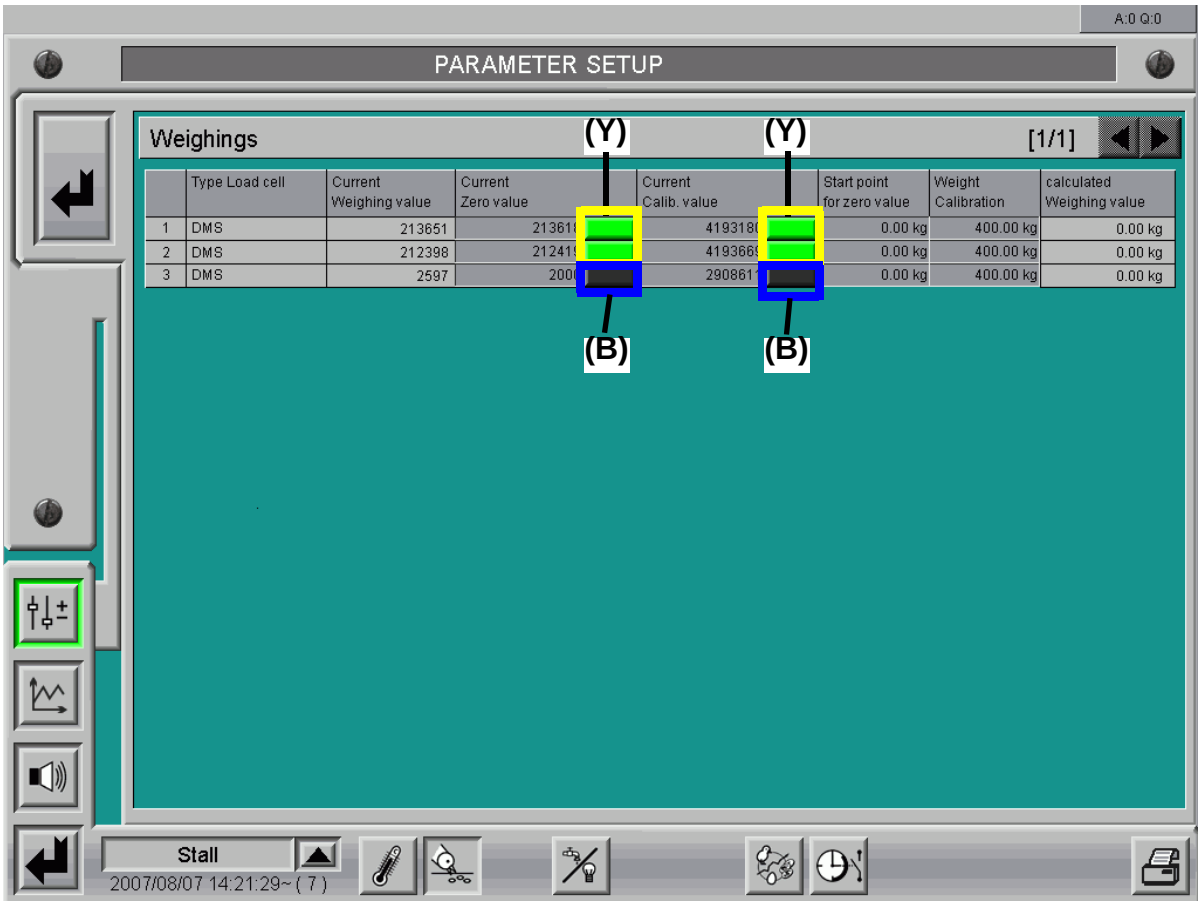


Figure 3-27: Control parameters for weighing

3.4.4 Type load cell

This field is for information only, as the silo scale type is determined by a service technician already during the configuration procedure **AMACS**. The following signals can be sent if a different configuration is used.

3.4.4.1 WSG

Load cells with wire strain gauge that transmit the weight to **AMACS**.

3.4.4.2 0-10 Volt

Load cells or scales that transmit the signal of a weight as a Volt number.

3.4.4.3 0(4)-20mA

Load cells or scales that transmit the signal of a weight as a current signal in mA.

3.4.5 Current weight value

This is a display of the signal that is measured by the entry card, which is sometimes also called gross value, because all by itself, this value is only important for service technicians.

3.4.6 Active read-out of current zero value and current calibration value from entry card W2

The entry card for DMS weigh bars (W2 Code Nr- 91-04-0009) used by **Big Dutchman** is gauged following the procedure described in the service manual. This means that the currently measured weight value is saved on the card as current zero value, or so-called tare weight.

The silo is then filled. Once the whole feed is filled in, the currently measured weight value is saved on the card as current calibration value. Do not forget to write down the filling weight as you will need this value later on. If you push the buttons on the right hand side next to the current zero value and current calibration value (highlighted yellow **(Y)** in the above picture), these buttons turn green. This means that **AMACS** is now requesting the zero and calibration values from the entry card.

3.4.7 Read and enter current zero value as gross value of W2

If you do not wish to run through the entire calibration process for the entry card, you can simply jot down the current weight value (gross value) at empty silo.

The silo is then filled with a known weight and finally the current weight (gross value) at full silo is jotted down. These values can then be entered in the fields for current zero value and current calibration value. The above picture is an example for this method carried out for silo 3. For this reason, the buttons in the example for silo 3 are grey, that means inactive (marked blue **(B)** in above picture).

3.4.8 Start point for zero value

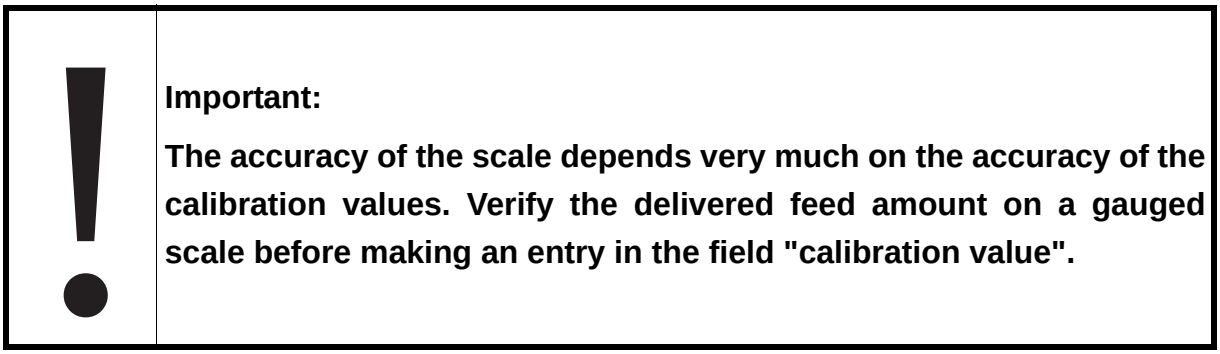
If you wish to move the zero value or if there was feed in the silo when the calibration was carried out, you can enter the respective value to make sure that the silo content is calculated correctly.

3.4.9 Calibration value

This is where you enter the feed amount that was used during calibration; this value has to be entered as one of the most important parameters for the calculation of the current weighing value. If you have carried out the procedure described under chapter 3.4.6 or 3.4.7 , and if if have for example. 8t of feed, your "calibration value" corresponds to 8000 kg.

3.4.10 Calculated weighing value

Based on the supporting values that were entered or transmitted from previous menus, the resulting “real silo weight” is calculated and displayed.



Important:

The accuracy of the scale depends very much on the accuracy of the calibration values. Verify the delivered feed amount on a gauged scale before making an entry in the field "calibration value".

3.4.11 Running time control

By means of the running time control mistakes in the system such as defective sensors or drives can be recognized.

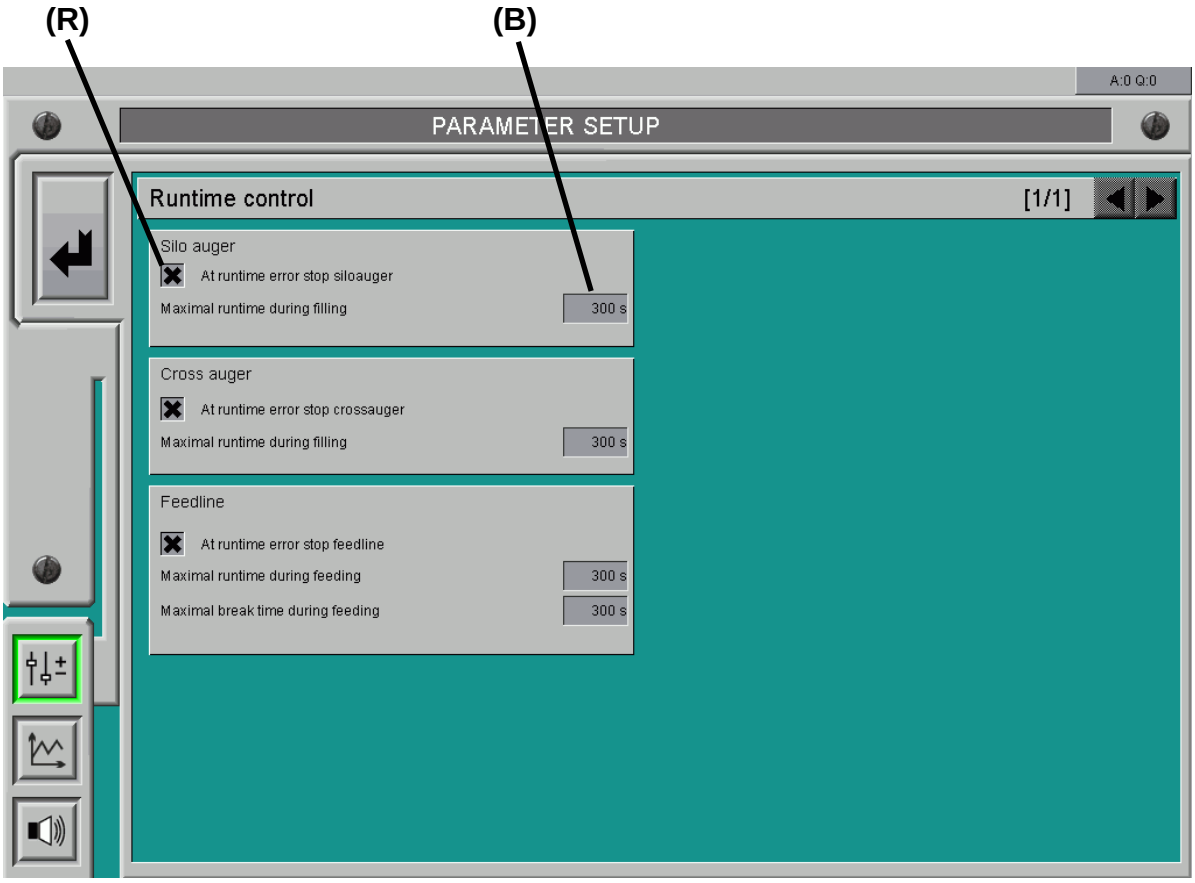


Figure 3-28: Adjustment running time control

Silo auger:

If the silo auger runs for a too long time during the dosing out into a load container (example: feed bridge in the storage silo, drive not in automatic operation, etc.) an alarm is generated after the maximum running time which has been set. Furthermore the silo auger is stopped, when the cross **(R)** is set.

Cross auger:

Here it is also possible - as in the case of the silo auger - to set a maximum running time generating an alarm and stopping the cross auger if it is activated.

Feed line:

The settings for the feed lines do not apply for rotating lines but only for Augermatic, indepently switching with the sensor in the control pan. Here a maximum running time and a maximum pause time can be set.

3.4.12 Storage silos

Regarding the settings for the storage silos here you can make entries concerning the capacity of the silo **(R)**. This value will be used to visualize the calculated contents of the silo in the main picture of feeding.

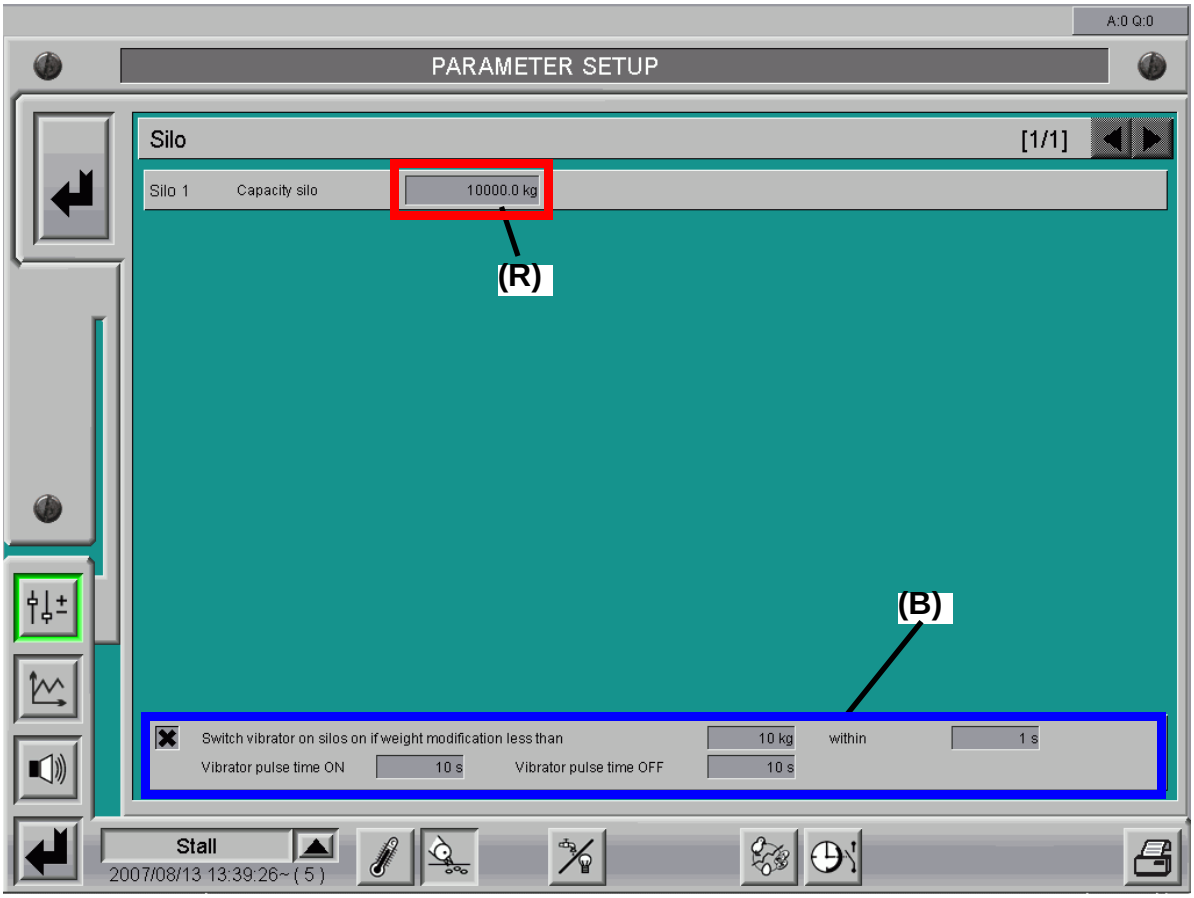


Figure 3-29: Settings storage silo

If the storage silo has a vibrator, you can made its settings **(B)** here. By removing the cross the vibrator can be deactivated. Regarding the pulse of the vibrator there is an On- and Off-time.

The settings for the alterations of weight within a certain time will only be used with weighed storage silos and they will be disregarded in the case of load containers. In case of unweighed storage silos the vibrator is operated together with the silo auger in case of automatic operation.

3.4.13 Load containers

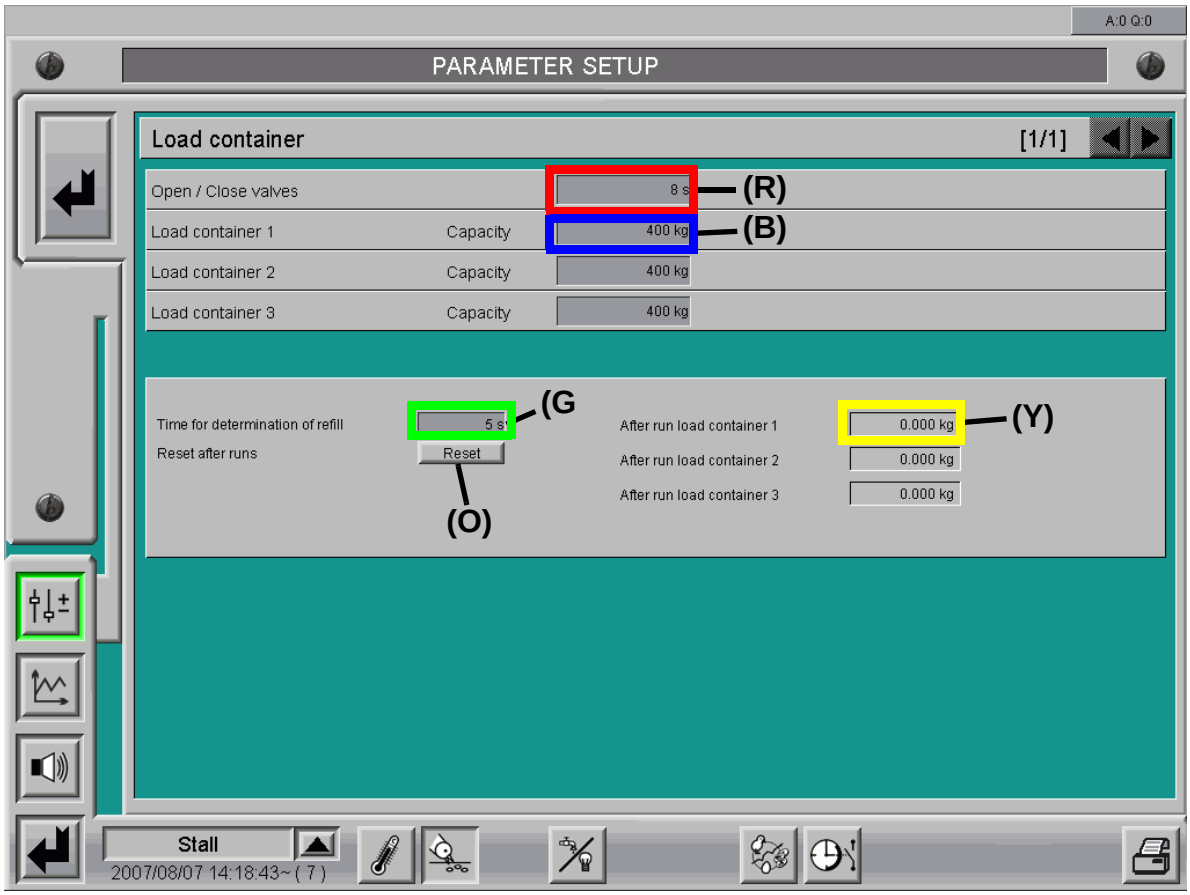


Figure 3-30: Setting load containers

In the settings of the load containers the time for openening and closing the valves **(R)** at the silo auger is entered. Furthermore the capacity of the load containers **(B)** is necessary for visualising the fill level of the container in main screen of feeding.

The time for calculating the after-run time **(G)** is used to register the feed quantity still falling into the load container after the silo auger is cut off. To order to achieve the exact feed quantity the system can - during the dosing out process - cut-off the silo auger before the target weight has been reached.

The after-run quantity for each load container will be calculated and illustrated **(Y)** separately according to the last eight after-run quantities measured.

By means of the reset button **(O)** all after-runs can be reset.

3.4.14 Feed delivery list

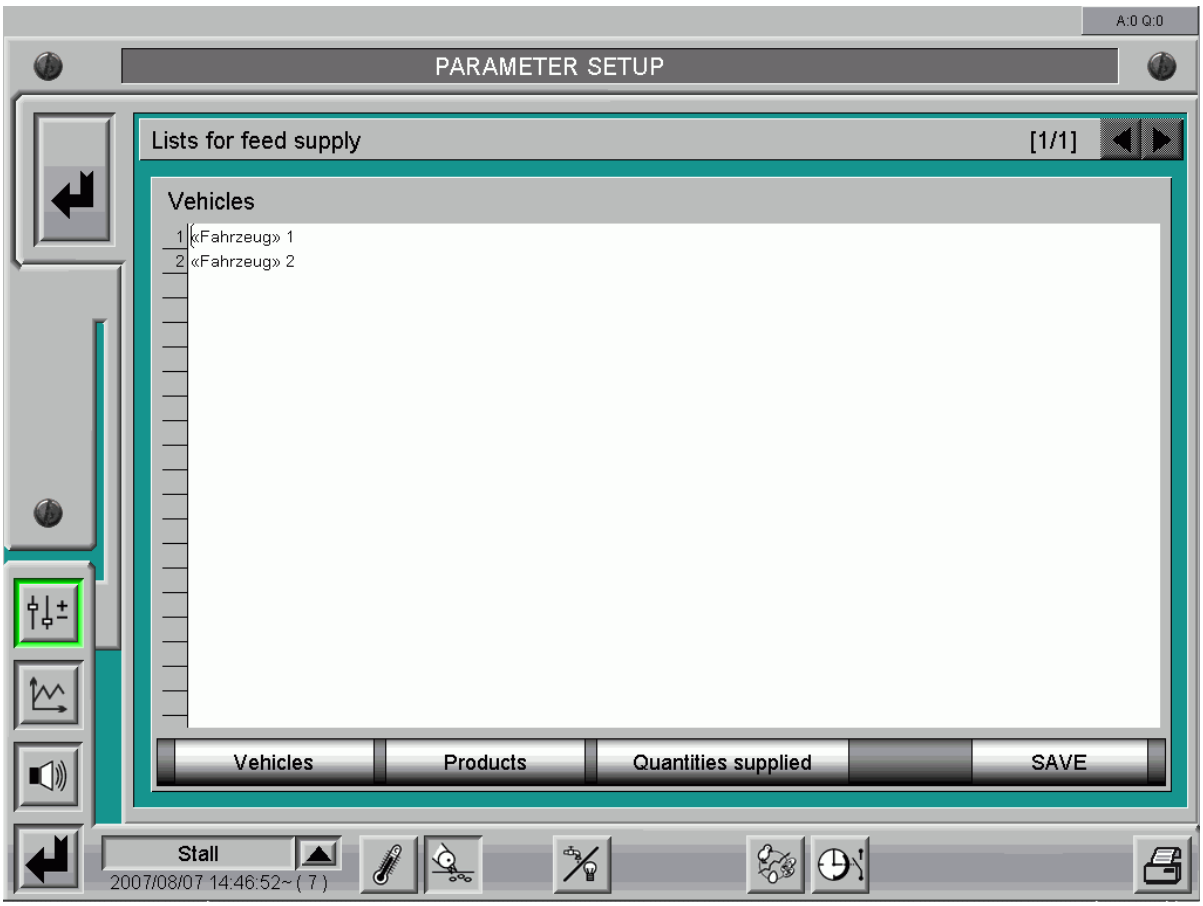


Figure 3-31: Feed delivery list

It is possible to deposit in advance the description of e.g. type and the number plate of a silo vehicle or type and quantitiy of a delivery. Thus you have additional information when entering the feed delivery and deliveries can quickly be supplied and confirmed with additinal information.

3.5 Alarm

3.5.1 Alarm menu

Starting from the main menu feeding you click the alarm button **(R)** and a menu for setting the alarms of the feeding system opens.

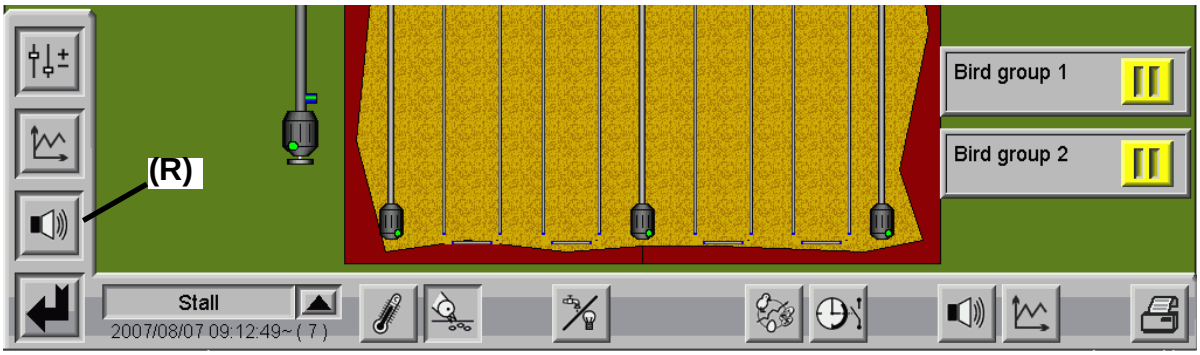


Figure 3-32: Calling alarm settings

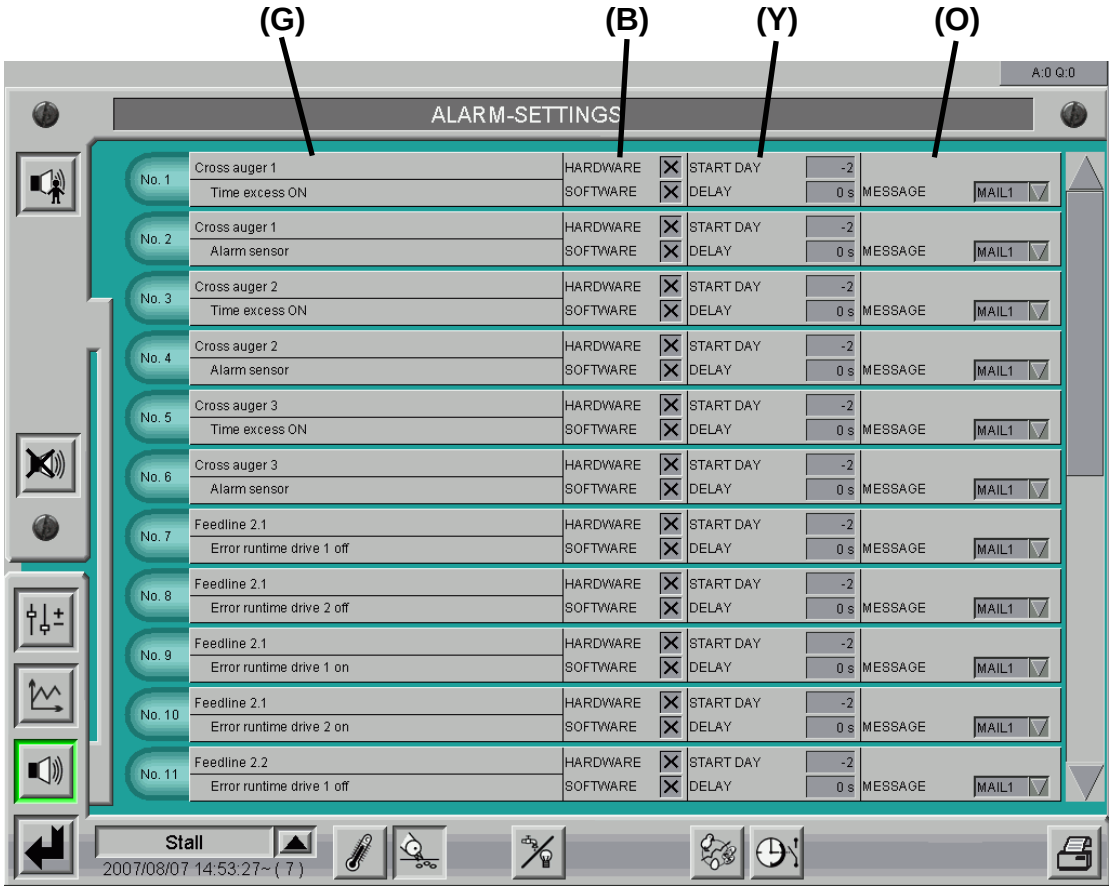


Figure 3-33: Alarm settings

In the alarm settings the function of the system for each alarm can be parameterized. The alarms are listed in table form. The first column **(G)** shows the name of the unit releasing the alarm together with a short description of the alarm.

In the second column **(B)** you can select whether this alarm shall only be shown by means of a message in the software (SOFTWARE) or whether the alarm relay (HARDWARE) shall also be activated.

The starting day and the delay time is pre-set in the third column **(Y)**. Thus the alarm can be activated dependent on the production day. Furthermore there is a delay per alarm, causing that the alarm is only activated after a delay of e.g. 60 sec.

In the last column **(O)** you can select whether an alarm message is to be sent to an e-mail address. This option is only available if an ISDN modem is connected to the farm PC.

3.5.2 Alarm cross auger

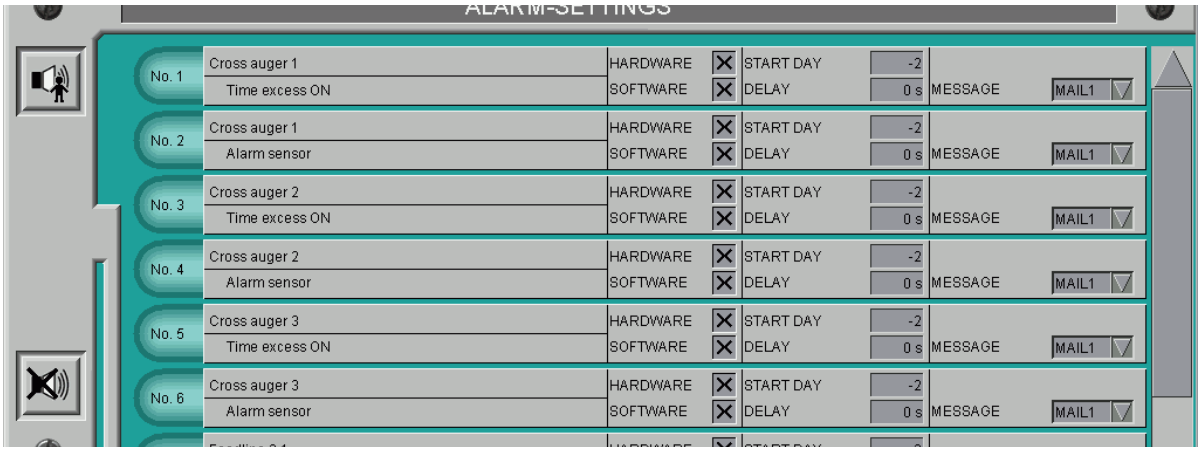


Figure 3-34: Alarms cross augers

Timeout ON:

This alarm is released as soon as the maximum running time of the cross auger has been reached (setting control of running time).

Possible cause:

- Sensor in the load container does not signal "empty", because of a defective sensor or a feed bridge in the load container.
- Shutter of load container closed
- Drive of the cross auger does not run because of a defect or because it is not in automatic operation.
- Control of running time of cross auger is not long enough.

Alarm sensor:

For safety reasons maximum sensors are installed at the end of each cross auger. If this sensor is covered with feed, the filling process is interrupted and an alarm is released.

Possible cause:

- Feed hoppers cannot take the quantities because the quantity set is too large.
- Feed hoppers cannot take the quantities, because the valves are defective or are not in automatic operation and have not opened.
- Feed hoppers cannot take the quantities, because feed accumulates in the telescopic tube of the cross auger.
- The feed line responsible for the transport of a part of the feed into the pans, did not work (not in automatic operation or sensors or drives are defective).

In case of these two arlarms an acknowledgement key is shown on the main screen. When the sensor has released the alarm the acknowledgement is mandatory. In case of a run-time alarm an acknowledgement is only necessary if the auger has to stop (setting control of running time). Otherwise it will only be shown and is self-acknowledging.

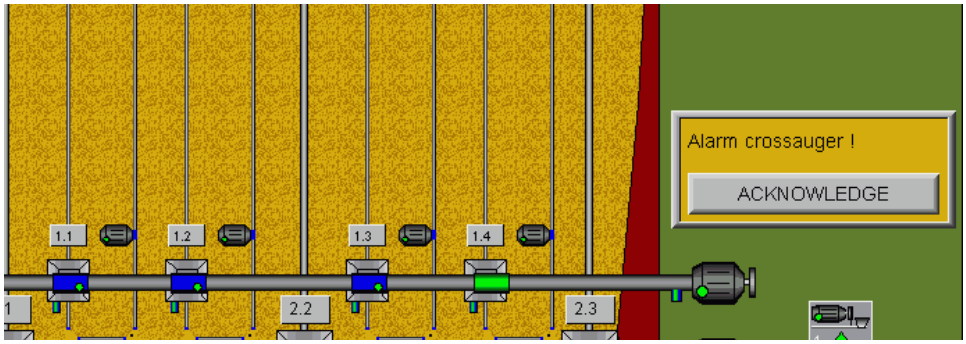


Figure 3-35: Acknowledgement cross augers

3.5.3 Alarm silo

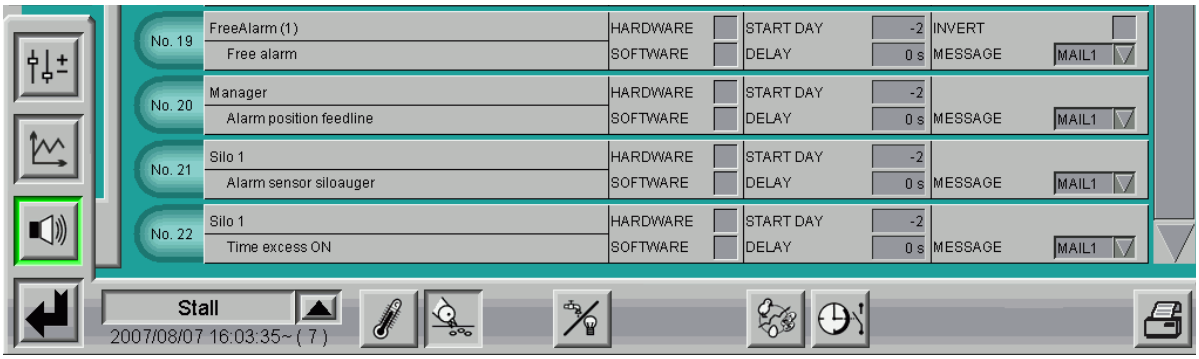


Figure 3-36: Alarms silo

Feed sensor free:

If the storage silo has a minimum sensor, alarm will be released as soon as the sensor signals "empty".

Possible cause:

- no feed in the silo
- sensor defective or parting of a cable
- feed bridge in the silo

Alarm sensor silo auger:

For safety reasons a maximum sensor is installed at the end the silo auger. If this sensor is covered with feed, the filling process is interrupted and an alarm is released.

Possible cause:

- The load containers cannot take the quantities because the quantity pre-set is too large.
- The load containers cannot take the quantities because the valves are defective or are not automatic operation and have not opened.

Timeout ON:

This alarm is released as soon as the maximum running time of the silo auger has been reached (setting control of running time).

Possible cause:

- Feed cannot be taken out of the storage silo because there is no feed available or because of a feed bridge in the storage silo.
- Shutter under silo is closed
- The weight value will not be reached in the load container, because the weighing is defective or jamming.

- Drive of silo auger does not run, because it is defective or not in automatic operation.
- Control of running time of silo auger is not long enough.

When the sensor has released the alarm the **the acknowledgement is mandatory.** In case of a run-time alarm an acknowledgement is only necessary if the auger has to stop (setting control of running time). Otherwise it will only be shown and is self-acknowledging.

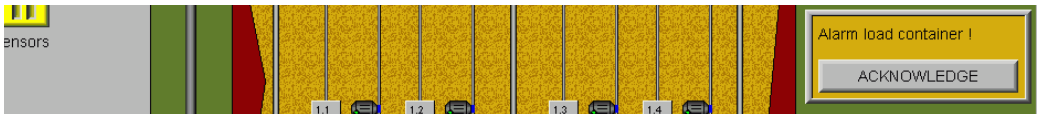


Figure 3-37: Acknowledgement alarm silo auger/load container

3.5.4 Alarm feed line

For not-rotating lines (Augermatic), switching independently with the sensor in the control pan, there are further alarms. This example shows an Augermatic with a middle feed hopper and two drives. Each drive is controlled separately.

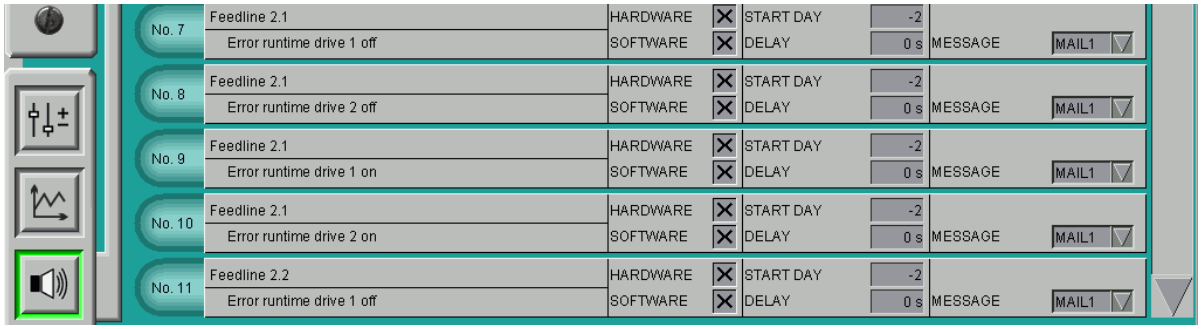


Figure 3-38: Alarms feed line

Timeout OUT:

This alarm will be released if the maximum pause time of the feed line has been reached (setting control of run-time).

Timeout ON:

This alarm will be released if the maximum running time of the feed line has been reached (setting control of run-time).

Possible cause:

- Times for control not suffiecient
- Sensor defective or parting of cable
- Drive not in automatic operation

In case of a run-time alarm an acknowledgement is only necessary if the feed line shall stop in case of a failure (setting control of run-time). Otherwise it will only be shown and self-acknowledged.

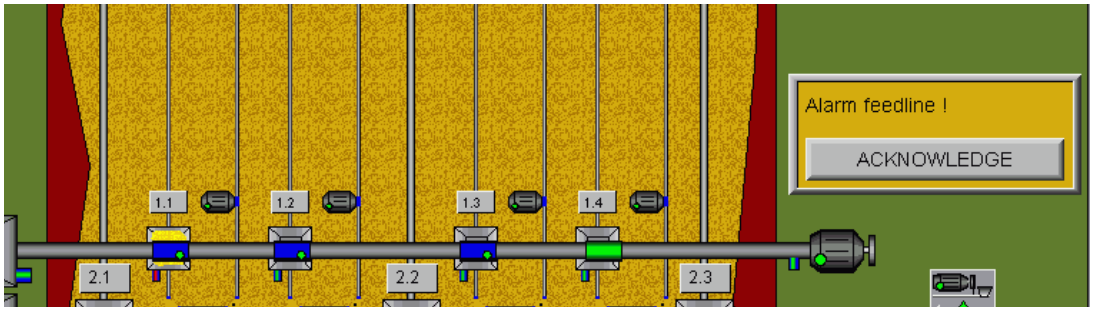


Figure 3-39: Acknowledgement alarm feed line

3.5.5 Alarm Manager

Figure 3-40: Alarm Manager

Alarm feed line not lifted:

This alarm signal is only existing, if winches for lifting and lowering the feed lines are available and controlled from the feed program.

For filling the feed lines the lines have to be lifted thus preventing that birds can reach the feed. This is especially necessary if time for filling the feed pans coincides with the filling of the system.

Possible cause:

- Time setting for lowering the lines coincides with the filling of the system
- winch not in automatic operation
- winch defective

3.5.6 Other Alarms

3.5.6.1 Load container not empty

At the beginning of filling a load container this one has to be empty. If the sensor in the load container still recognizes feed, filling is interrupted and an alarm is generated.

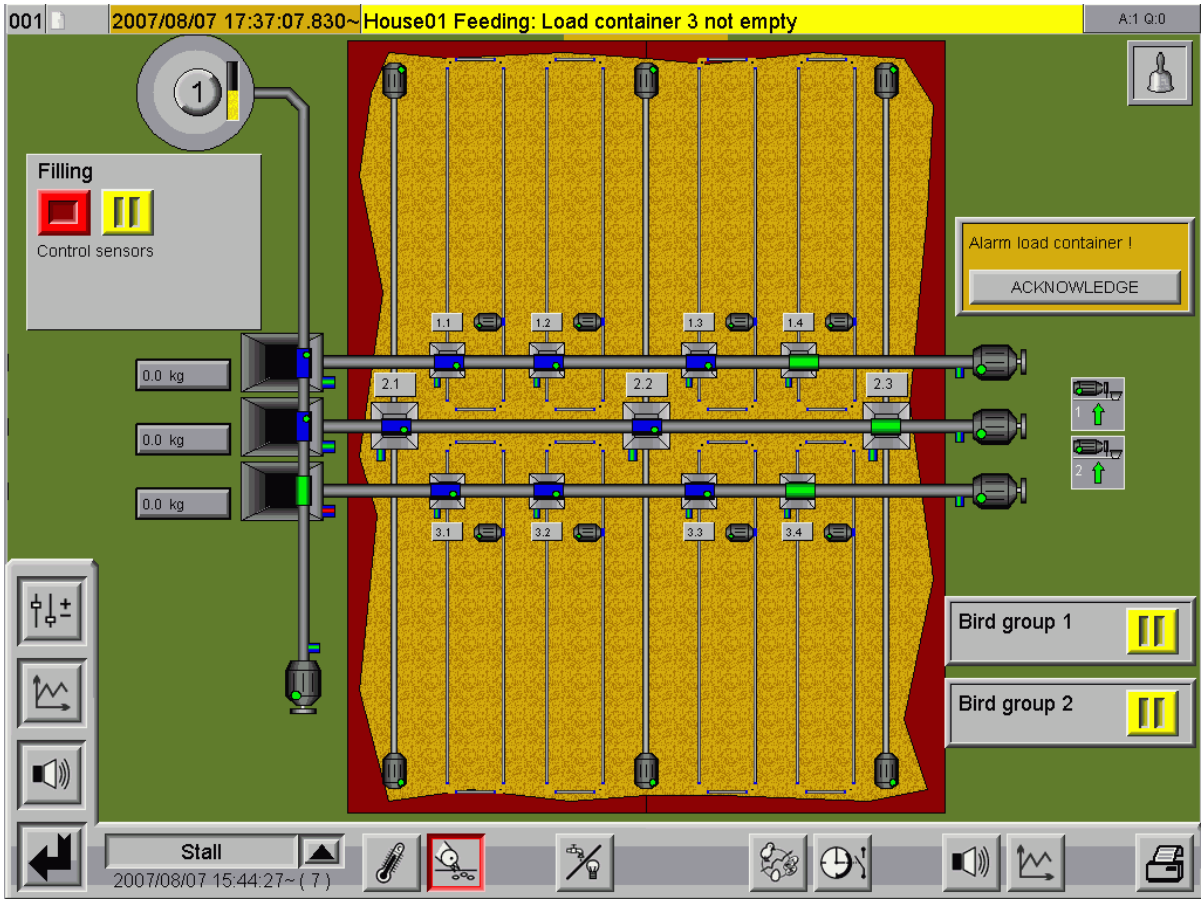


Figure 3-41: Alarm load container not empty

Possible cause:

- Sensor under the load container not correctly positioned or defective.
- It was filled manually or a precedent filling was interrupted without removing the feed from the load container (see chapterl 3.3.2)

3.5.6.2 Feed hopper not empty

At the beginning of filling a feed hopper this one has to be empty. If the sensor in the feed hopper still recognizes feed, filling is interrupted and an alarm is generated.

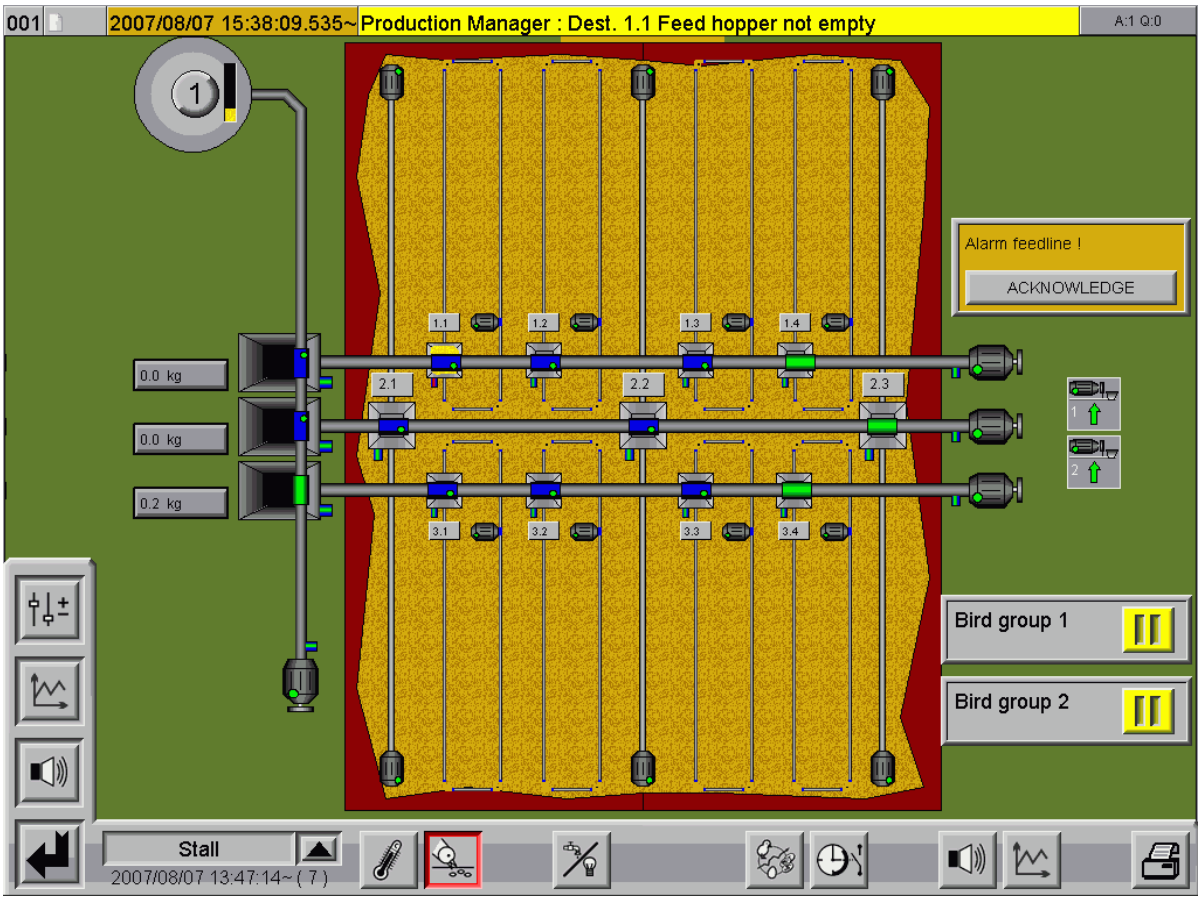


Figure 3-42: Alarm feed hopper not empty

Possible cause:

- Sensor in the feed hopper not correctly positioned or defective.
- Feed hopper is not empty because there was no dosing out during the last feeding (drive feed line defective or not in automatic).
- It was filled manually or a precedent filling was interrupted without adapting the feed quantities for the feed hoppers. (see chapter 3.3.2)

4 Alarm menu

4.1 Parameter settings alarm

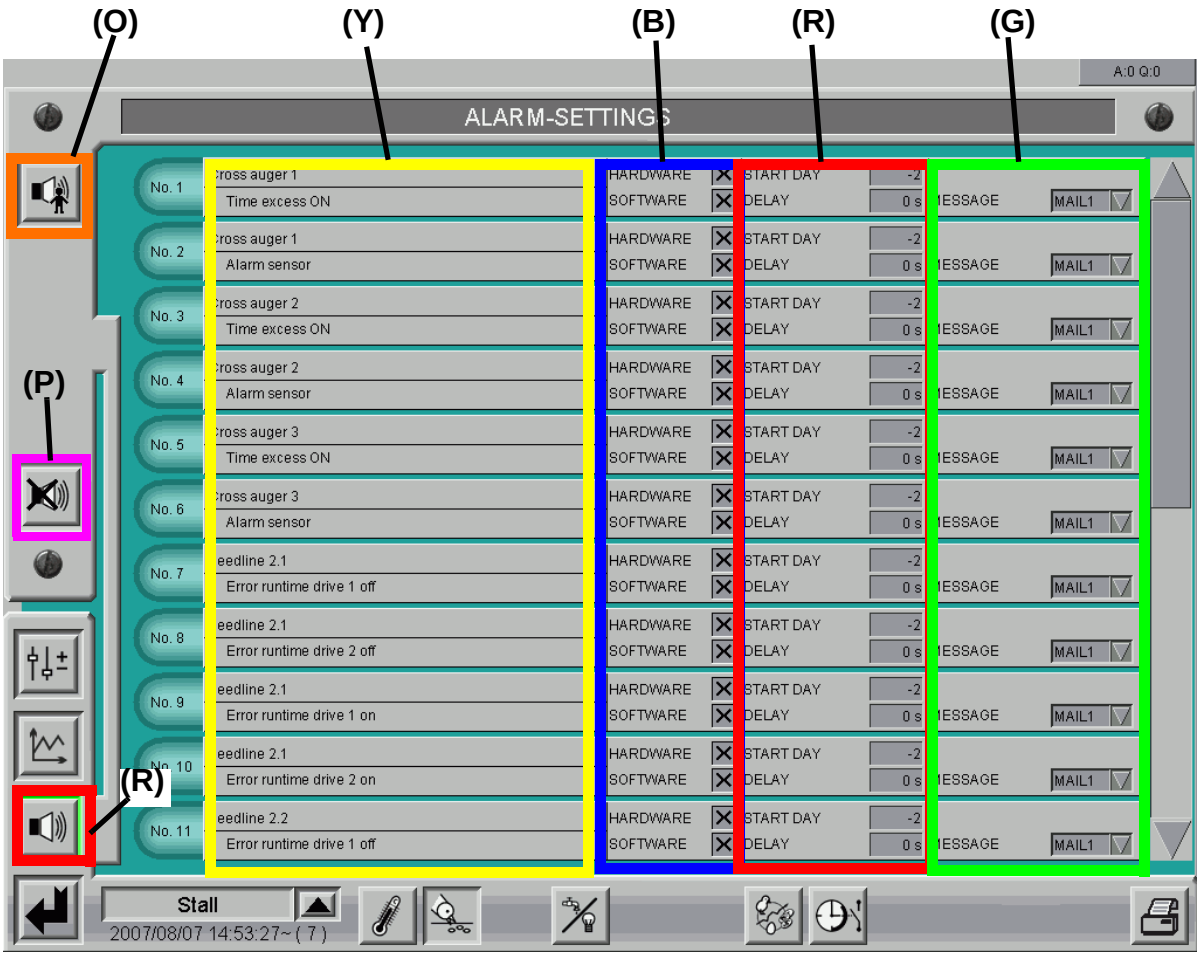


Figure 4-1: Alarms 1-11

By clicking on the pink-marked **(P)** alarm button (bottom left) a menu opens that allows for all necessary entries regarding alarms.

4.1.1 Description of the alarm situation or limiting value of sensor

The yellow-marked **(Y)** column shows which devices resp. which feed groups will activate an alarm if their respecitive values remain under or exceed the limiting values.

4.1.2 Software alarm or hardware alarm

In blue-marked **(B)** column you can make a selection if the alarm is to be displayed by a software message or if an alarm relay (Hardware) is additionally activated.

4.1.3 Starting day and delay

The starting day for the alarm can be pre-set in the red-marked **(R)** column (starting time). In addition, a delay time can be pre-set per alarm, e.g. 60 sec. after which the alarm in **AMACS** is activated (delay).

4.1.4 Minimum alarm values, maximum alarm values, forwarding of alarms to an external recipient

The values that trigger an alarm can be seen for every alarm point in the green column **(G)**.

The visibility of these entries is dependent on the parameters to be surveyed.

It is important to work with **realistic values,** otherwise you might have values that never trigger an alarm. Check the values once in a while to make sure they are still **reasonable**. It is also possible to use the field "message - mail x" to select whether an alarm message is to be sent to an e-mail address.

In order to do this you have to click on the orange-marked button **(O)**, then you can enter a telephone number and an e-mail address. This option is only available if an ISDN modem is connected to the farm PC and if the e-mails can be forwarded to an Internet Provider. The whole registration procedure is explained in detail in the **AMACS Manual Basic**.

4.1.5 Release alarm relay

If an alarm cannot be eliminated immediately and if the alarm relay shall be released for further alarms again, it can be again released by clicking the pink-marked button **(P)**.

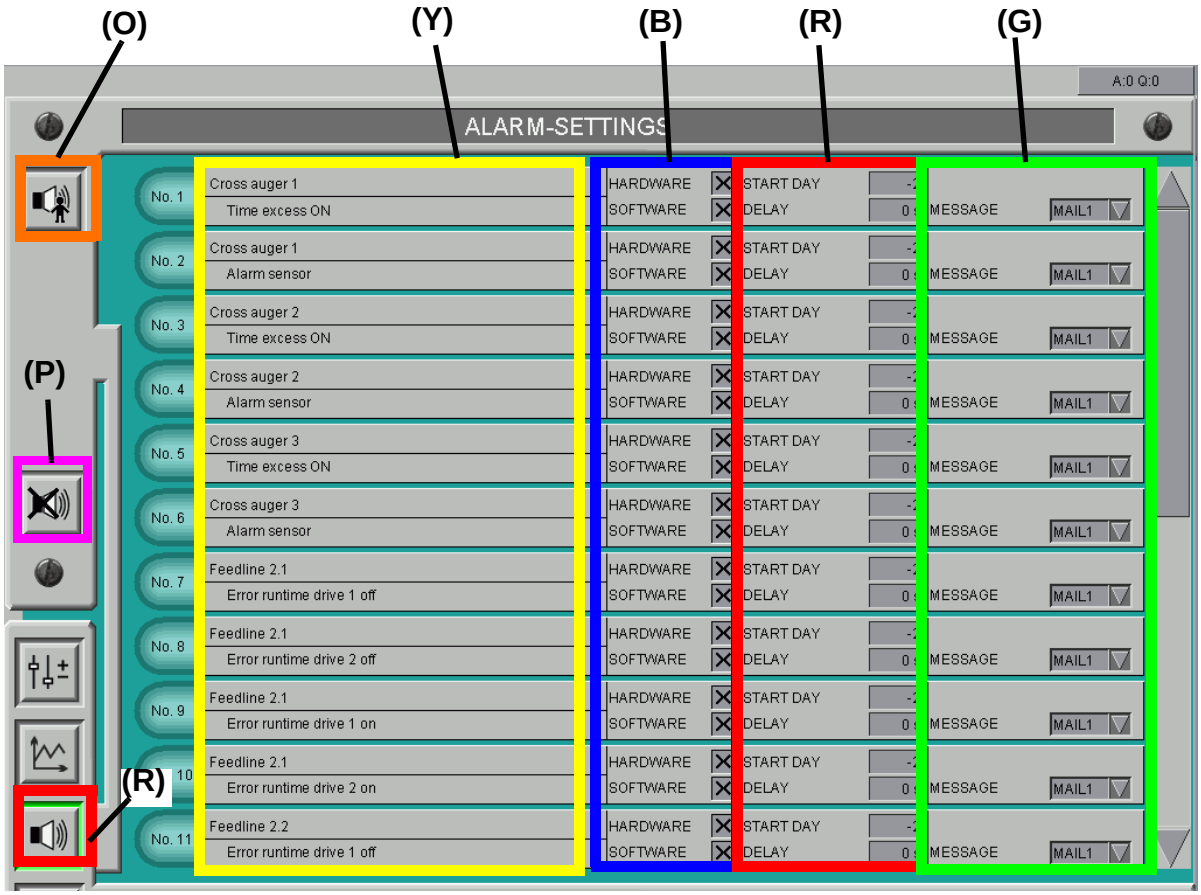


Figure 4-2: Alarms 12-22

4.1.6 Free alarms

During the set-up of **AMACS** free alarms can be planned. These will additionally appear in the dynamic alarm list.

These can be alarms for safety switches of feed chains or other elements that are important for feeding. These alarms are programmed in the same way as "standard" alarms.

4.1.7 Internet provider to forward alarms per SMS

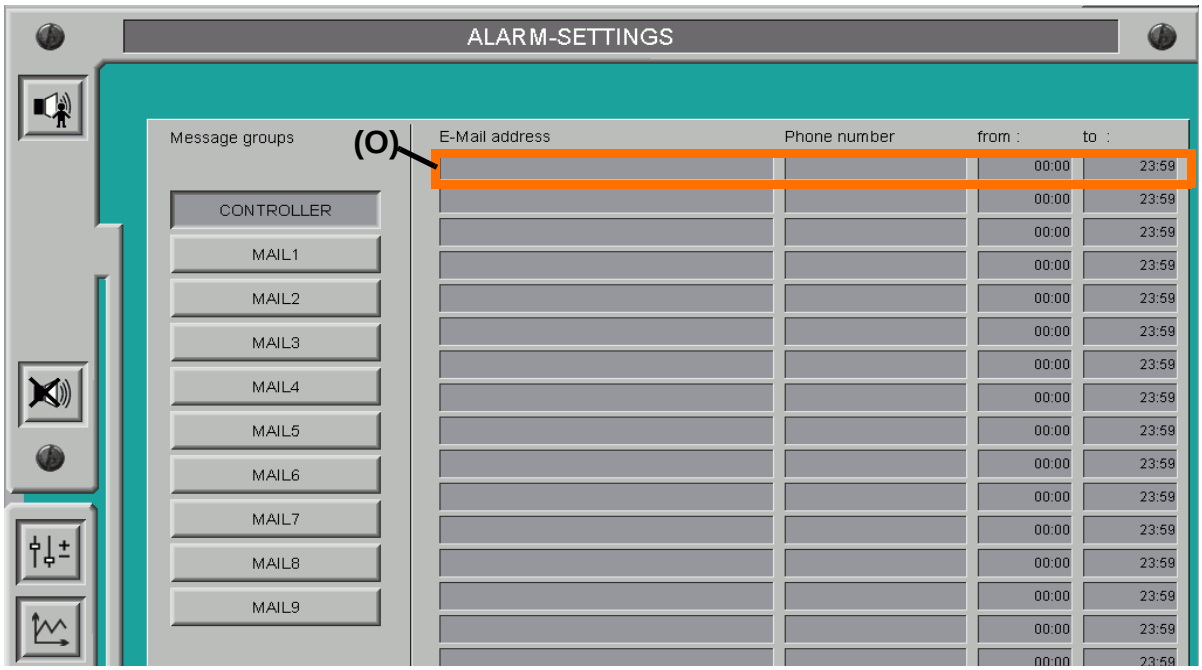


Figure 4-3: Phone number and address used to forward a SMS

Highlighted orange **(O)** in the above screenshot is the area where you may enter (a) phone number(s) and (an) address(es) to send alarms via SMS. A detailed description for this procedure can be found in the chapter on Alarm-Management.

Caution:

Never switch off the alarms of the cross augers without important reason and never set the values for the safety times too high!

Verify all alarms and set plausible values. Otherwise the production performance of your animals cannot be guaranteed.

4.1.8 Confirm alarms

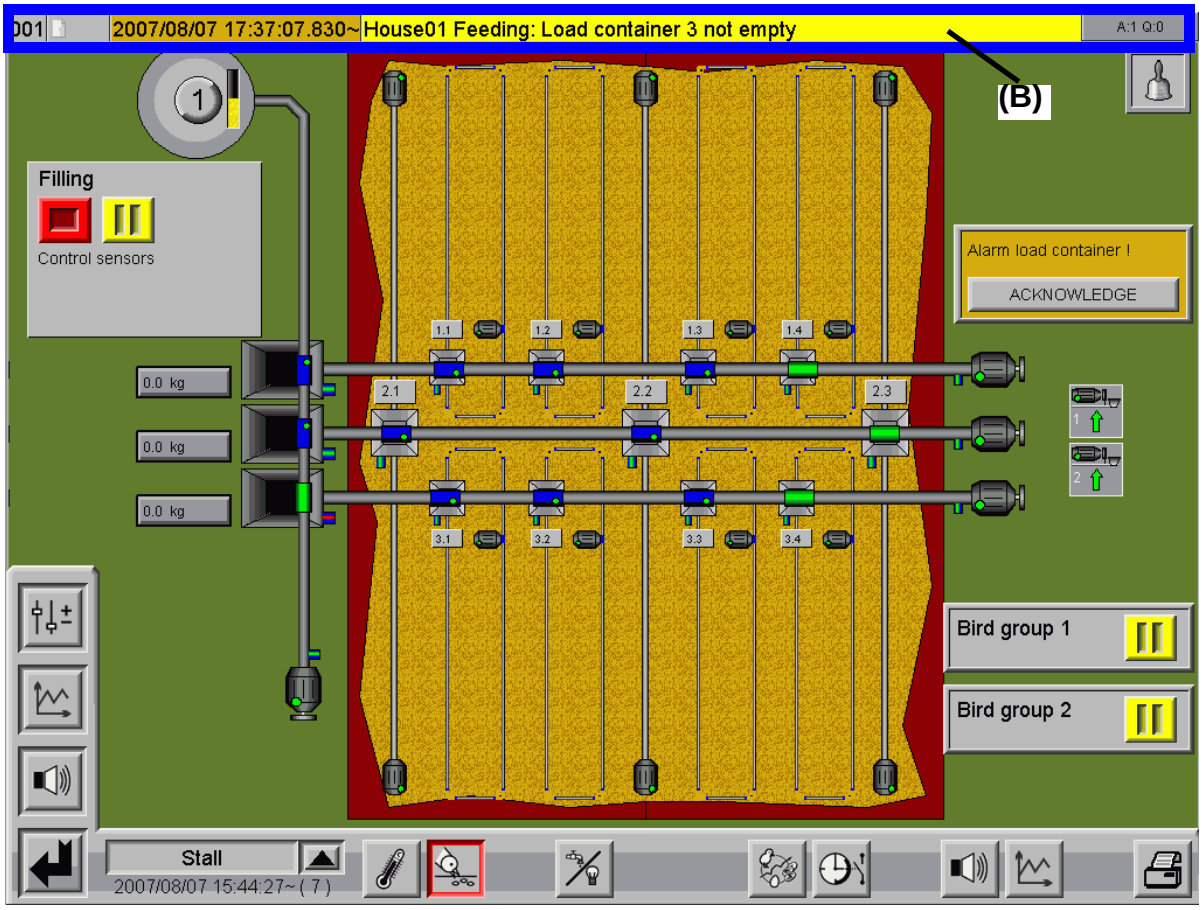


Figure 4-4: Alarm line

By clicking on the blue **(B)** marked alarm line (see previous figure), a window opens where the alarm can be confirmed by clicking on the blue marked confirmation field. The following figure shows the field confirmation which is highlighted red **(R)**. If you confirm an alarm, you only confirm the alarm message, **the alarm will stay active as long as** the error exists. Should the alarm situation still remain, you have to see that the reason for the alarm is eliminated. Otherwise the alarm relay is going to stay active.

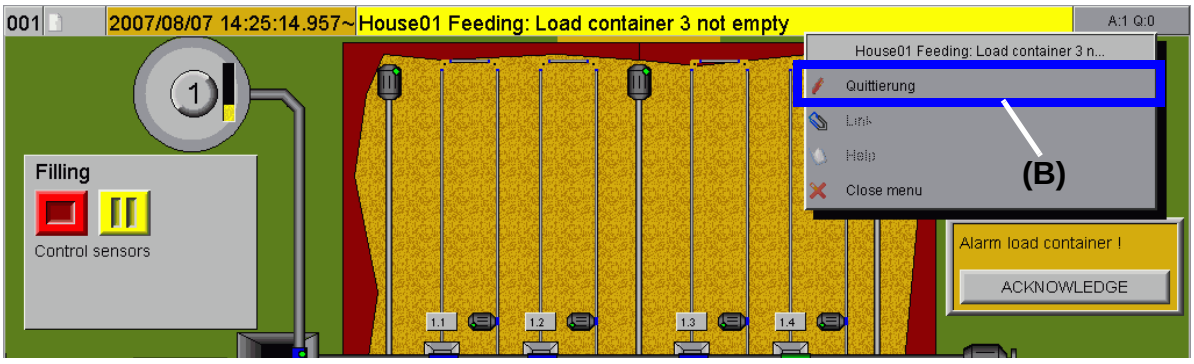


Figure 4-5: Acknowledge an alarm

4.1.9 Abortion of acknowledgement

If you want to leave the menu click on the red X ("close menu" in the previous picture) and the window will close again.

4.1.10 Acknowledge several alarms simultaneously

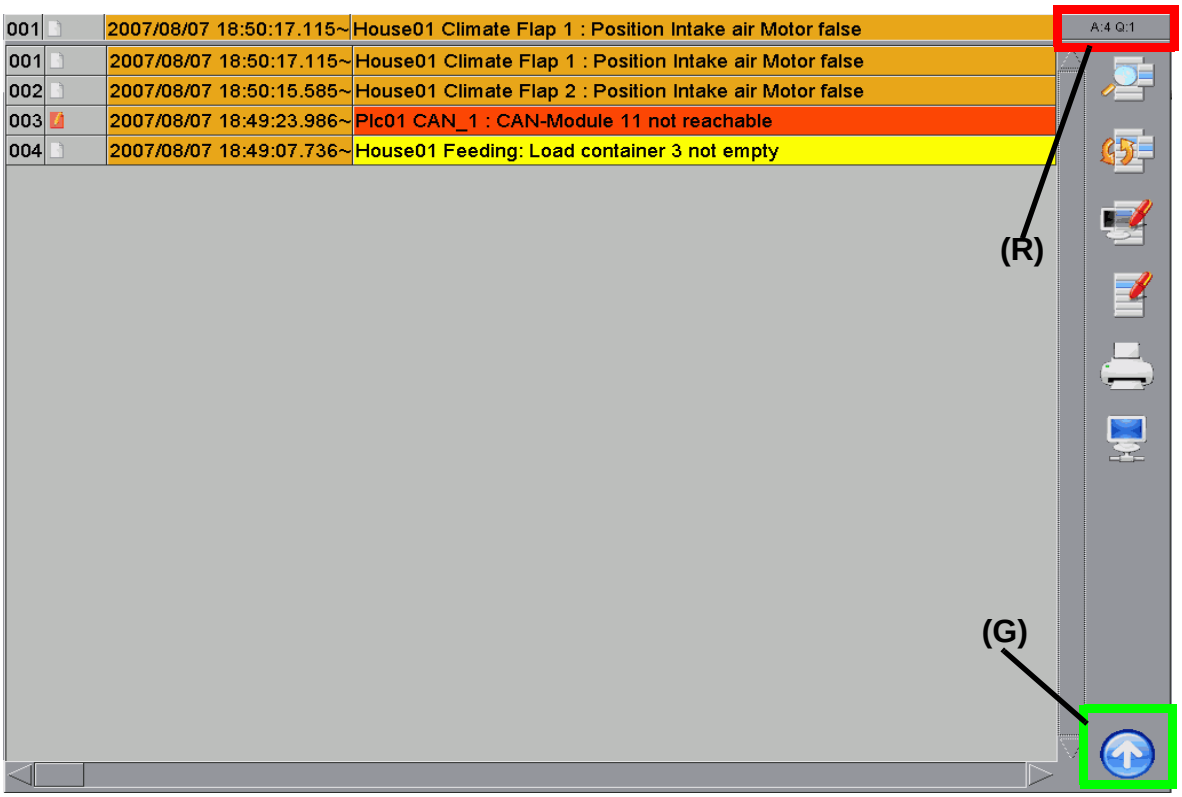


Figure 4-6: Extended settings for acknowledgement

By clicking on the grey button in the right upper corner - marked red **(R)** in the figure above - you open the extended settings in the alarm management menu. Here, you can sort, acknowledge or print alarms or determine individual settings for the alarms. The function that lies behind each button can be seen by placing the mouse on the respective button.

4.1.11 Leave the extended alarm menu

Click on the button with the big arrow - marked green **(G)** in the above picture - to leave the menu.

4.1.12 Alarm history

Of course the **AMACS** menu offers the possibility to check which alarm was active when and for how long.

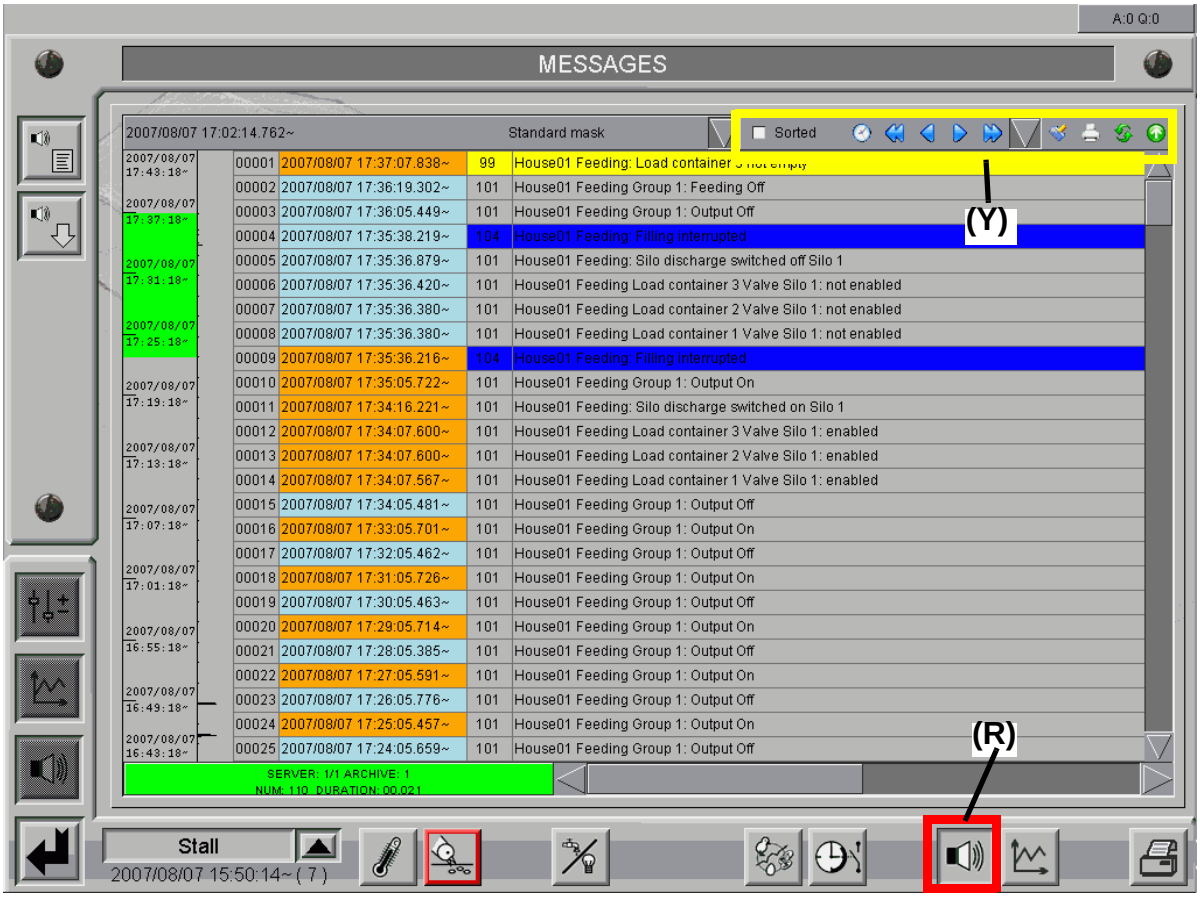


Figure 4-7: Alarm list

If you click on the red marked **(R)** menu, all alarms and messages will be displayed with their respective times and additional infos. Here you can also scroll through the messages or view past alarms by clicking on the double arrows in the yellow **(Y)** marked area in the previous figure. Even better is the selection option via the little clock in the yellow **(Y)** marked area. In a calendar you can choose the exact month, day and hour you want to check.

4.1.13 Sort alarm list according to priorities

The alarm list can also be filtered, so that. e.g. only alarms that were caused by the feeding system are displayed in the list. You only have to click on the arrow, marked red **(R)** in the figure to follow. In the following window you can then select e.g. only those alarms that refer to feeding.

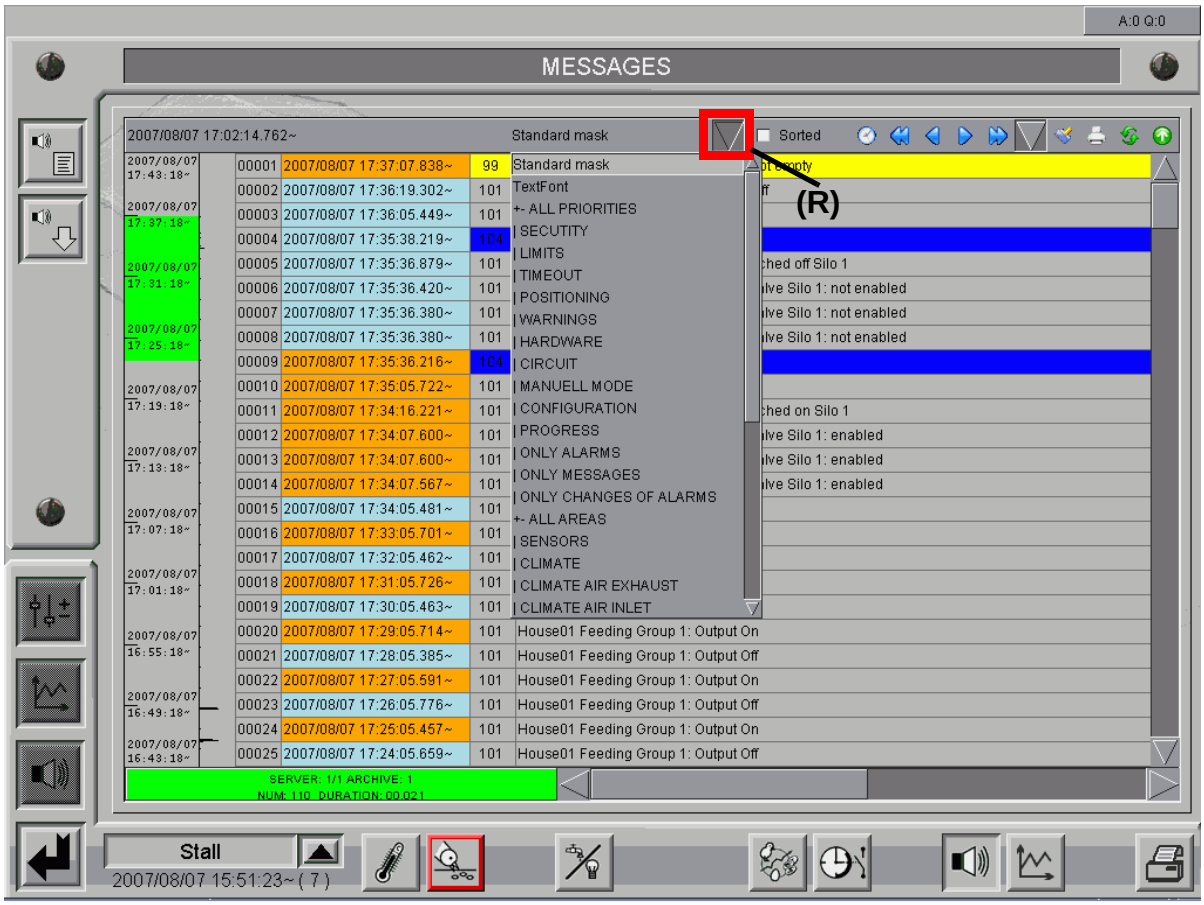


Figure 4-8: Selectively display alarm list

4.2 Notes

5 Change of set curves

By means of the minimum/maximum ventilation this chapter explains how to change resp. handle set curves. I

	The operation of the menu shown in the following is identical for each set curve (set temperature, set feed, etc.).

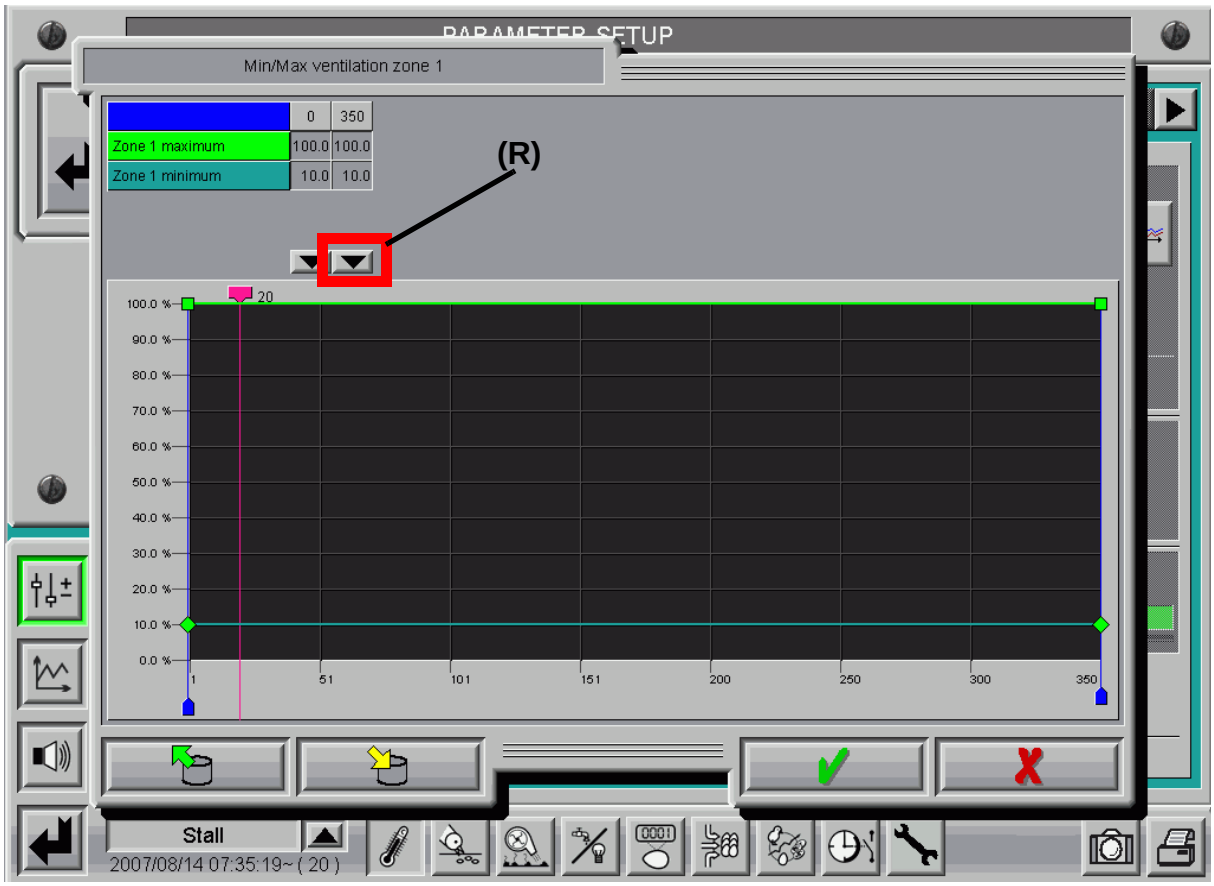


Figure 5-1: Set curve for min. and max. ventilation

By clicking the button marked red **(R)** in the figure above the following display menu opens.

5.1 Change of data for minimum-maximum ventilation

By clicking on the green icons (on the right or left of the red x) you can set a new supporting point for the curve (both marked **(R)** red in the following picture).

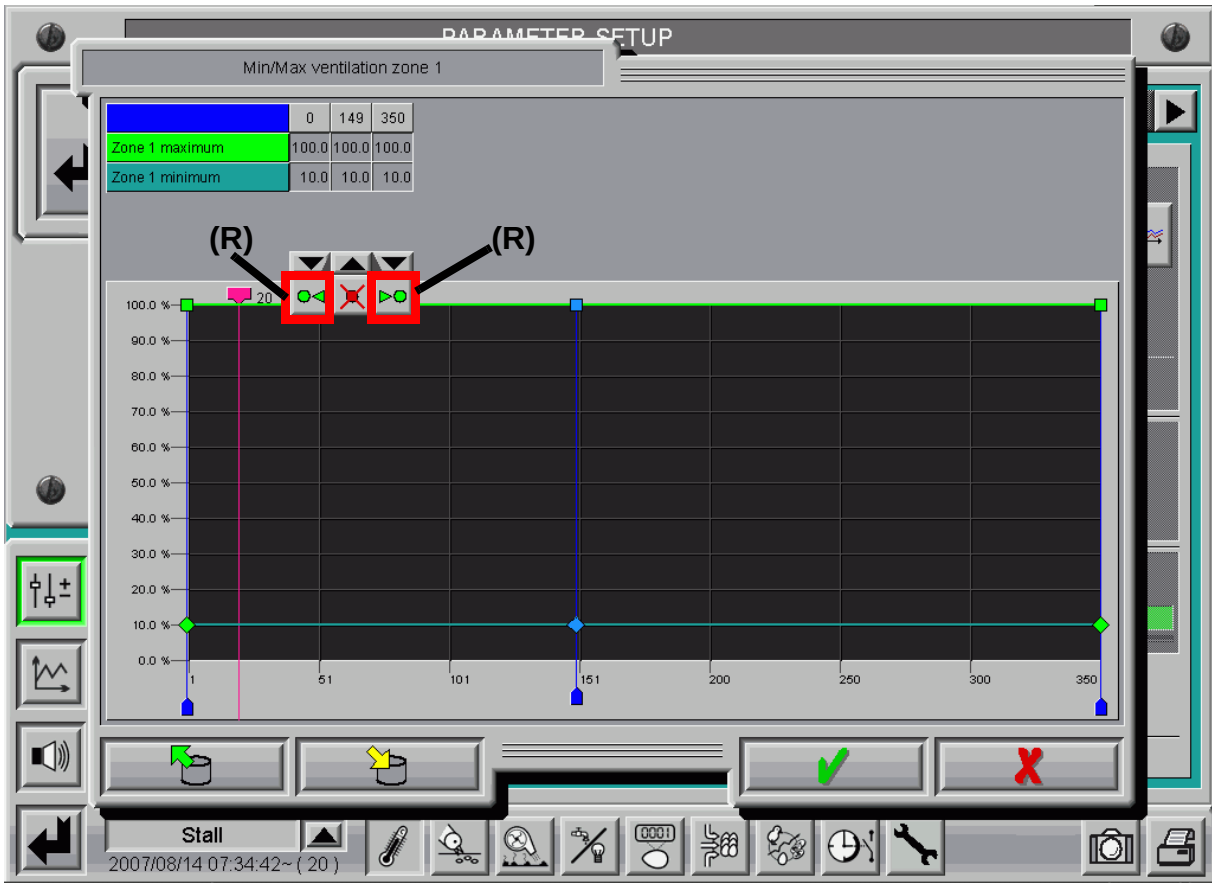


Figure 5-2: Extend curve by a numerical supporting point

5.2 Amplification of the curve by numerical points

The following information have to be pre-set. In the upper line the day for the supporting point to be set first, in the middle line the maximum desired and in the lower line the minimum desired ventilation (marked **(R)** in the following figure).

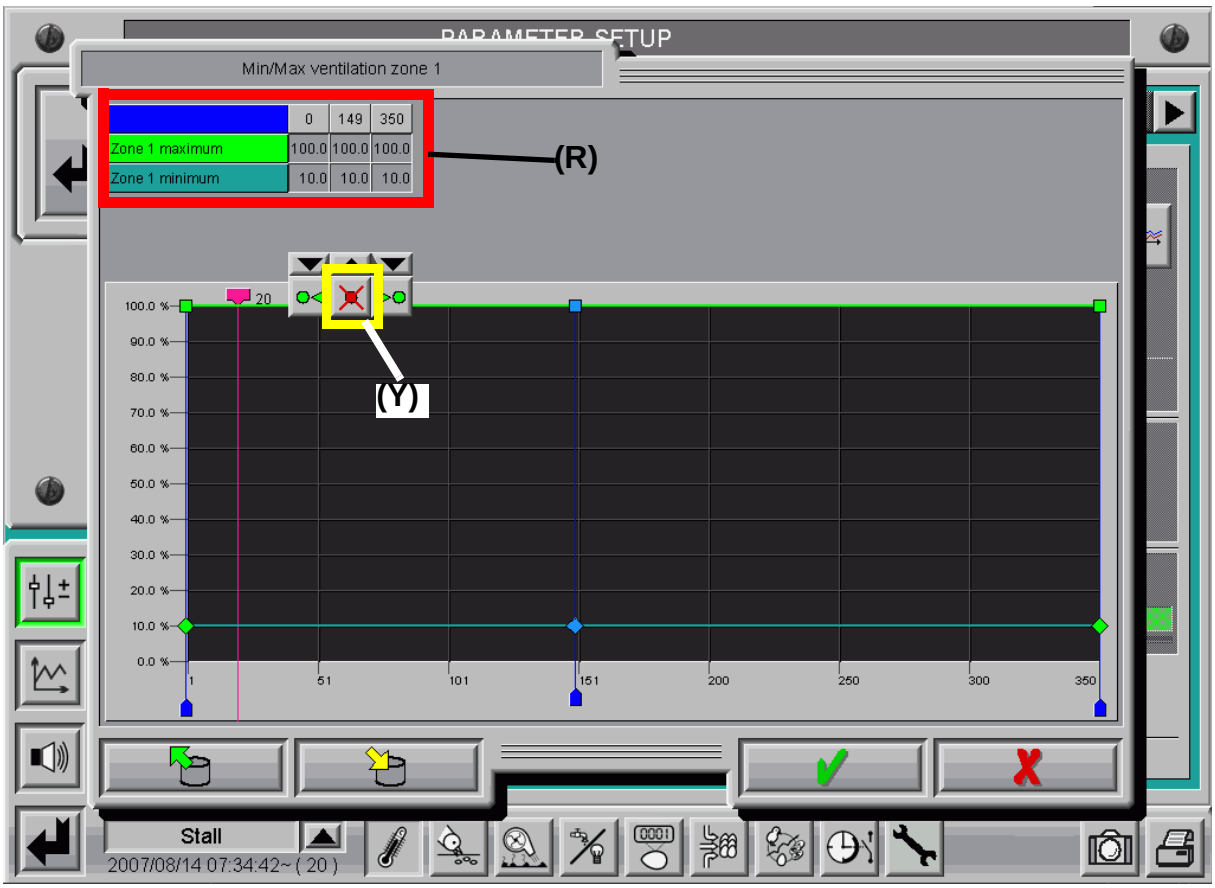


Figure 5-3: Extend curve by a numerical supporting point

If different values are requested, e.g. in case of a rearing house, up to 20 points can thus be set.

In case of a **laying house**, two points will in most of the cases be sufficient. A fixed set value is entered for the whole time of laying.

5.2.1 Erase curve points

In order to erase a point, you click on the red point with the red cross (marked yellow **(Y)** in the previous figure) and erase supporting points which are no longer required.

5.2.2 Graphical modification of min. / max. ventilation

In addition to the numerical input there is also the graphical possibility to change data. I. e. you set a supporting point and push it to the position in the curve the value of which corresponds your ideas.

5.2.2.1 Create new supporting points

To create a new supporting point you have to click on one of the black arrows, (marked red **(R)** in figure 6-6).

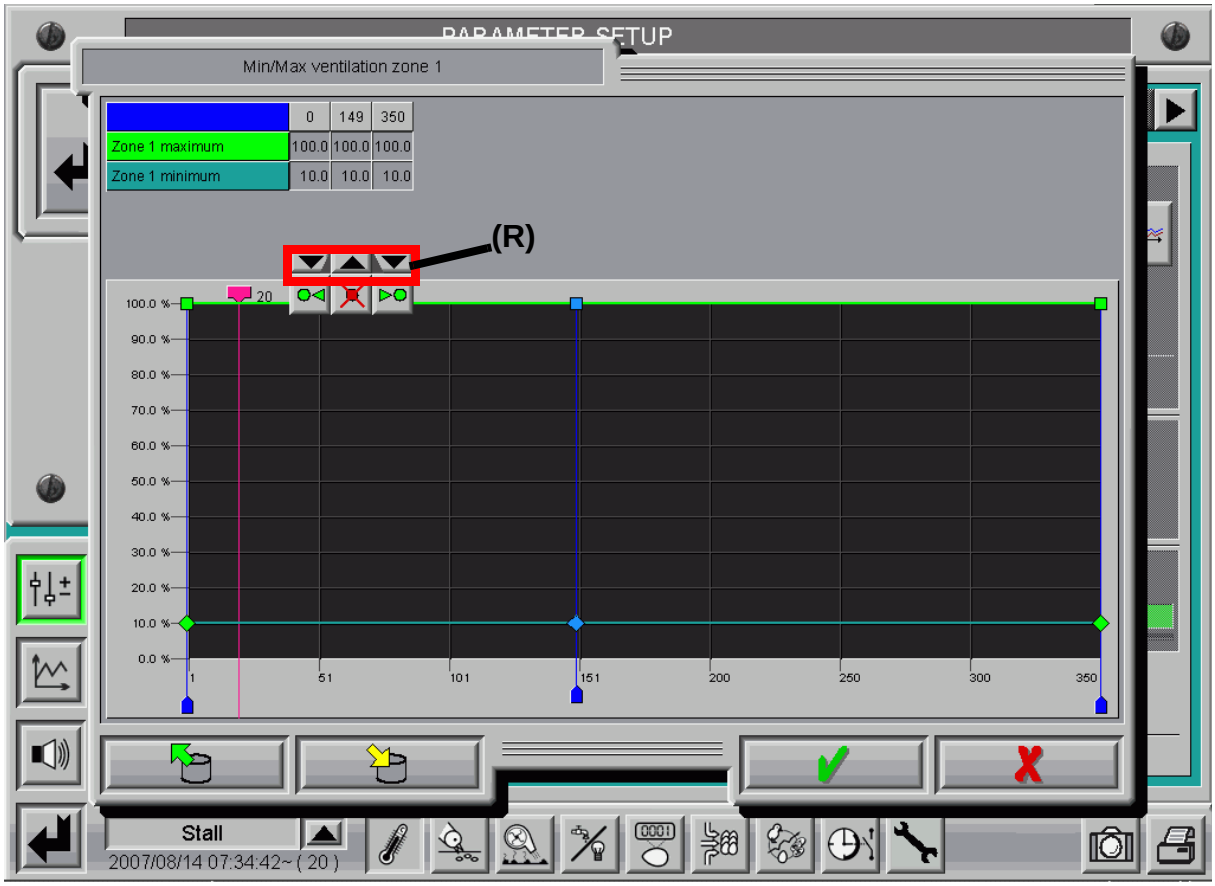


Figure 5-4: Create new supporting points 1

By clicking on the green icons (on the right or left of the red x) you can set a new supporting point for the curve (both marked **(R)** red in the following picture).

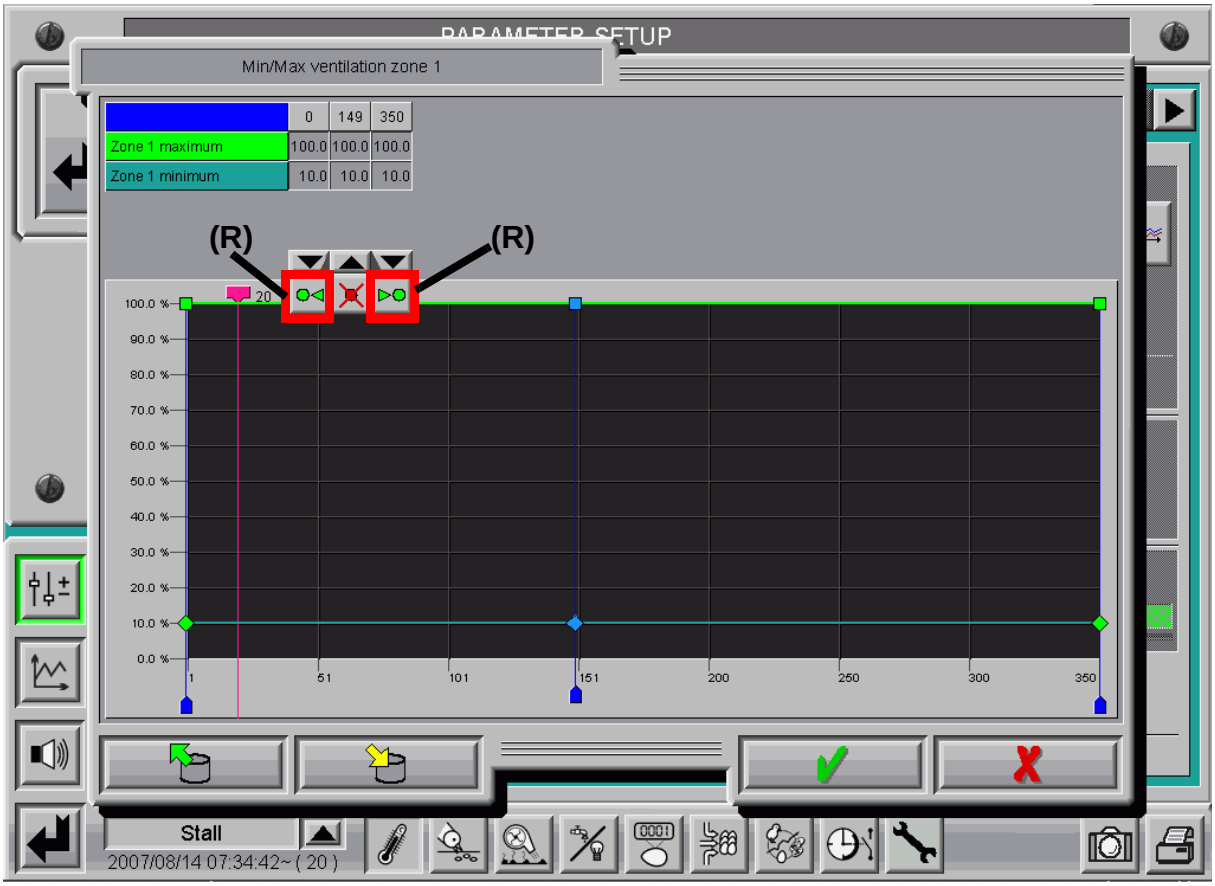


Figure 5-5: Enter new supporting points 2

5.2.2.2 Vertical dislocation of supporting points

By clicking with the mouse on the blue flag (marked red **(R)** in the following figure) you can vertically drag this point in the display to that day where you wish to set this supporting point. The mouse key has to be kept pushed. It is also possible to set several points all at once and to distribute them one after the other over the display afterwards.

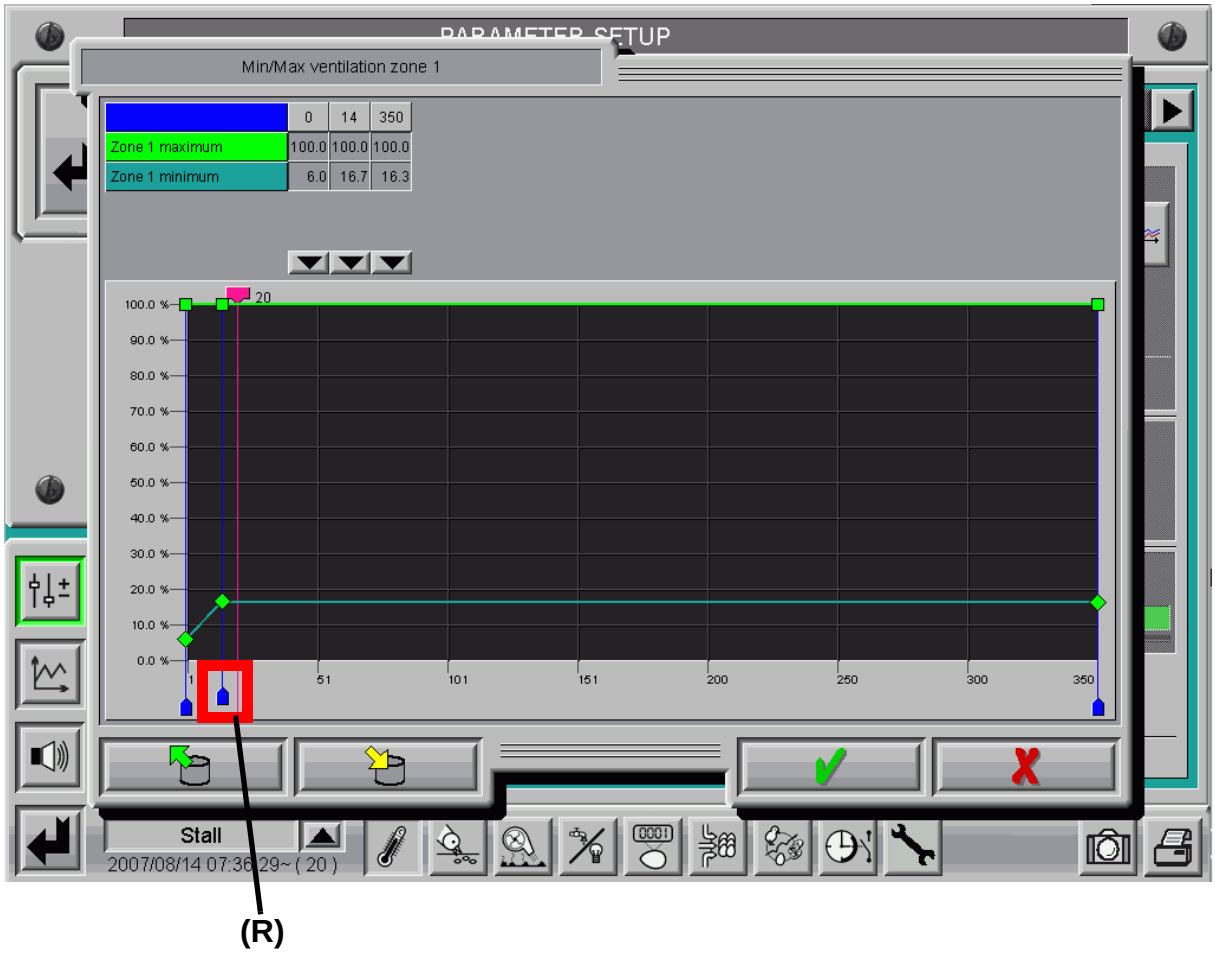


Figure 5-6: Vertical dislocation of supporting points

5.2.2.3 Horizontal dislocation of supporting points

In order to change e.g. the value of minimum ventilation, click on the green square (marked red **(R)** in the following figure) and drag it to the top or to the bottom to that value to be set for this point.

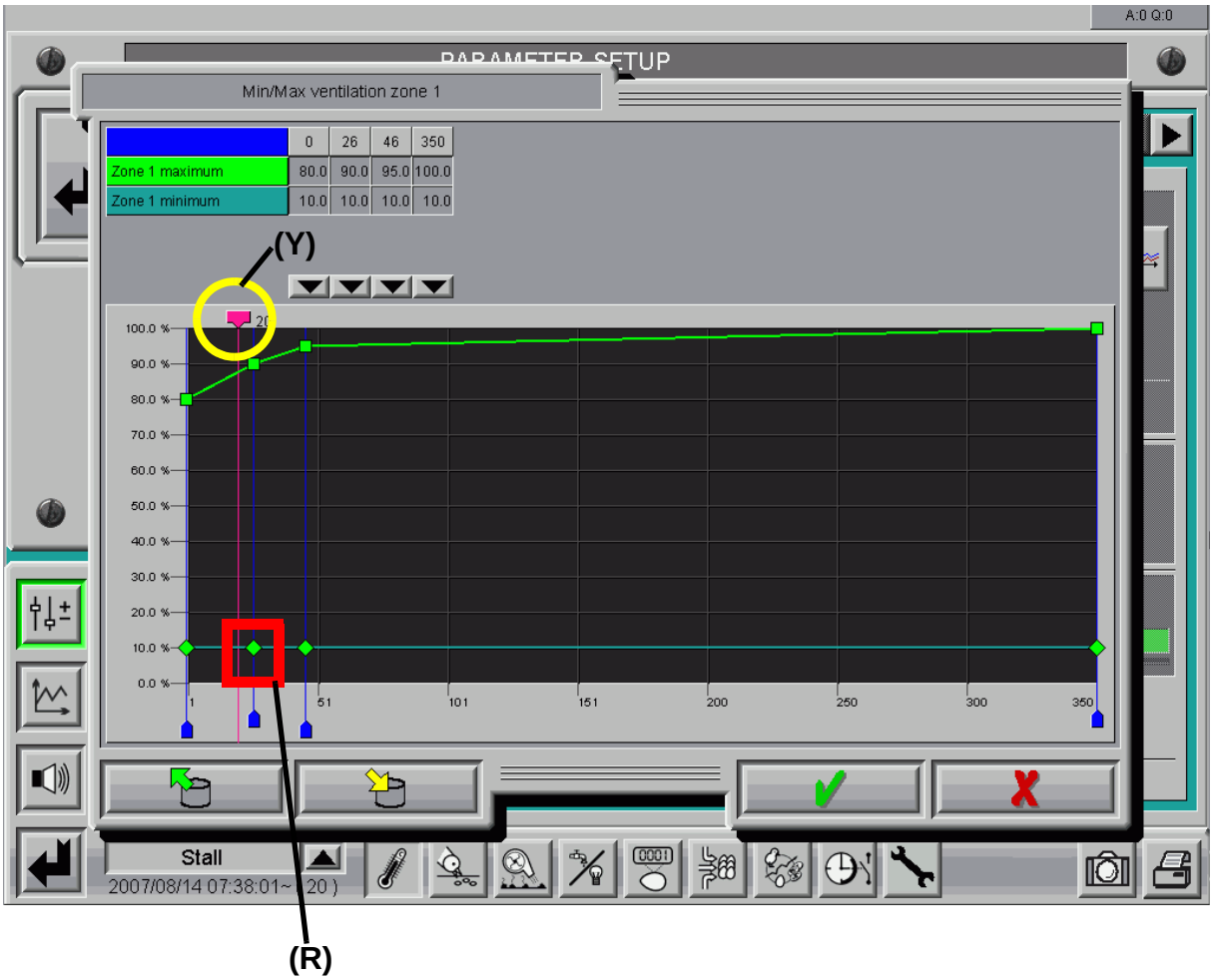


Figure 5-7: Change values in the curve graphically

5.2.3 Display of the current day in the curve

To see what values the computer currently uses, there is an icon in all curves that always shows the active management day. In the previous figure this icon is marked yellow **(Y)**, it may only be used for information, no entries may be made.

5.3 How to save a curve

You can also save a curve, if there is e.g. a well proven curve which shall be used as original for other houses on the farm. It is also possible to set other set values dependent on the season. Corresponding curves can be prepared, saved with a name e.g. "winter".

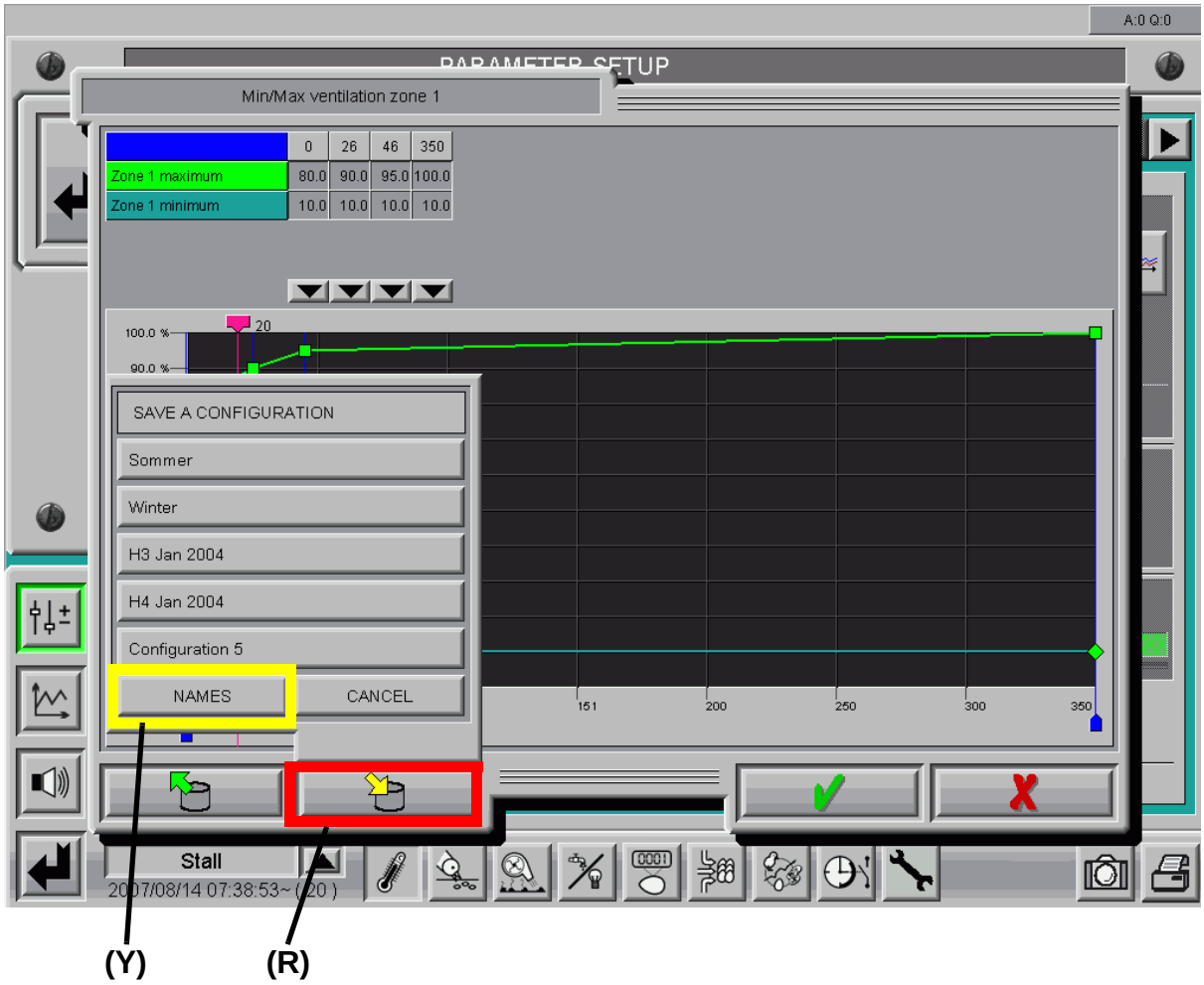


Figure 5-8: How to save a curve

5.3.1 How to save a curve as sample curve

The previous figure shows that there is the possibility to save up to five different curves as pattern. By clicking on the symbol with the yellow arrow (red marked **(R)** in the figure) an additional window opens where you can now save the new curve under the button "configuration X.

5.3.2 How to change the name of the sample

In order to give a clear description to this new curve - saved under "configuration X" , you can press the key "name" (marked yellow **(Y)** in the previous figure) and change the text in the button. This example shows the change of the text into "summer".

5.4 Selection of a curve from the sample curves

Besides the saving of a curve as pattern, it is also possible to select a curve out of a pattern and to activate it as updated set curve.

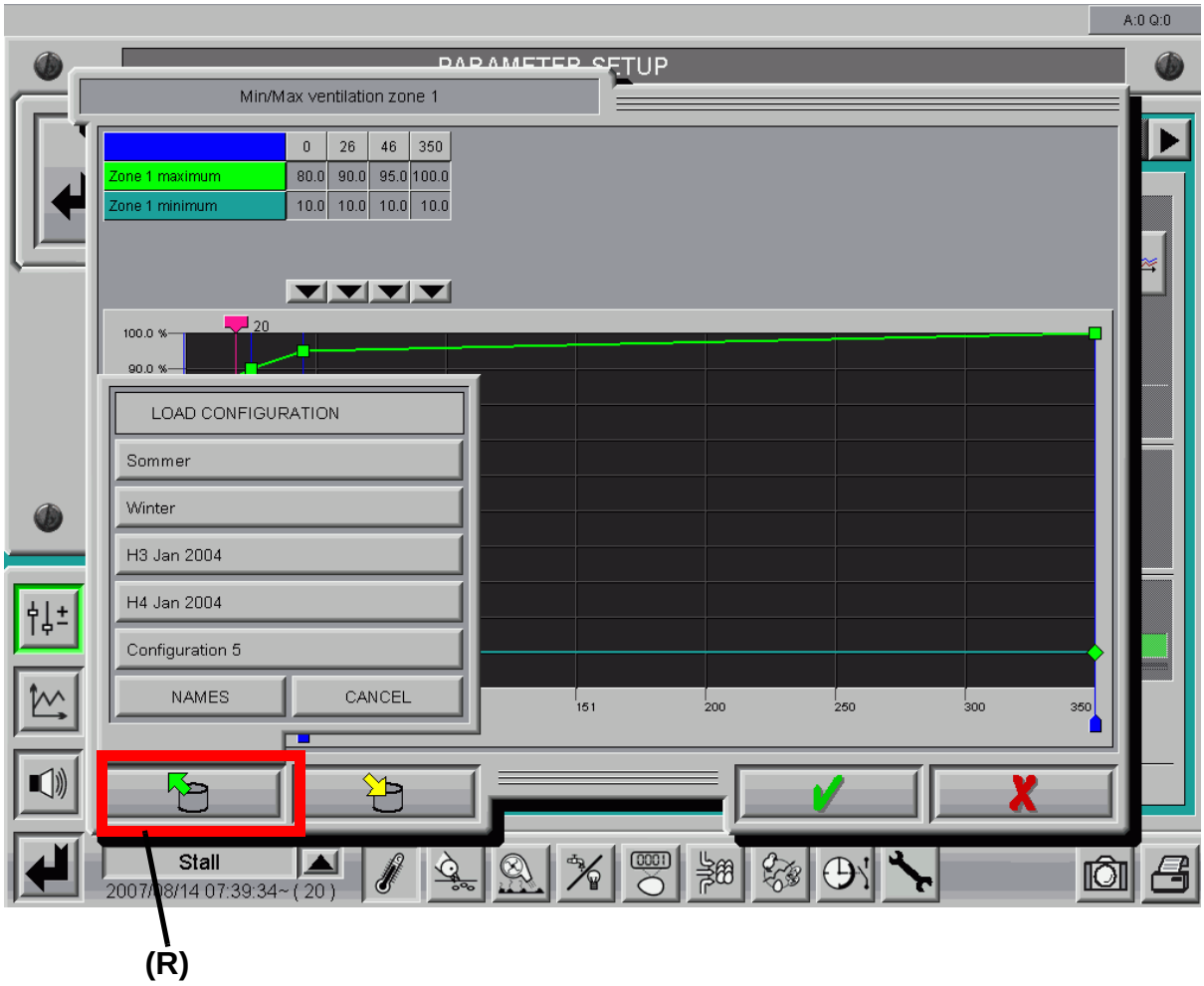


Figure 5-9: Loading of a configuration

5.4.1 Select a curve out of samples

For this you have to click on the icon with the green arrow (marked red **(R)** in the previous figure). and select e.g. "summer" out of the samples. The selected curve will immediately be displayed but not activated.

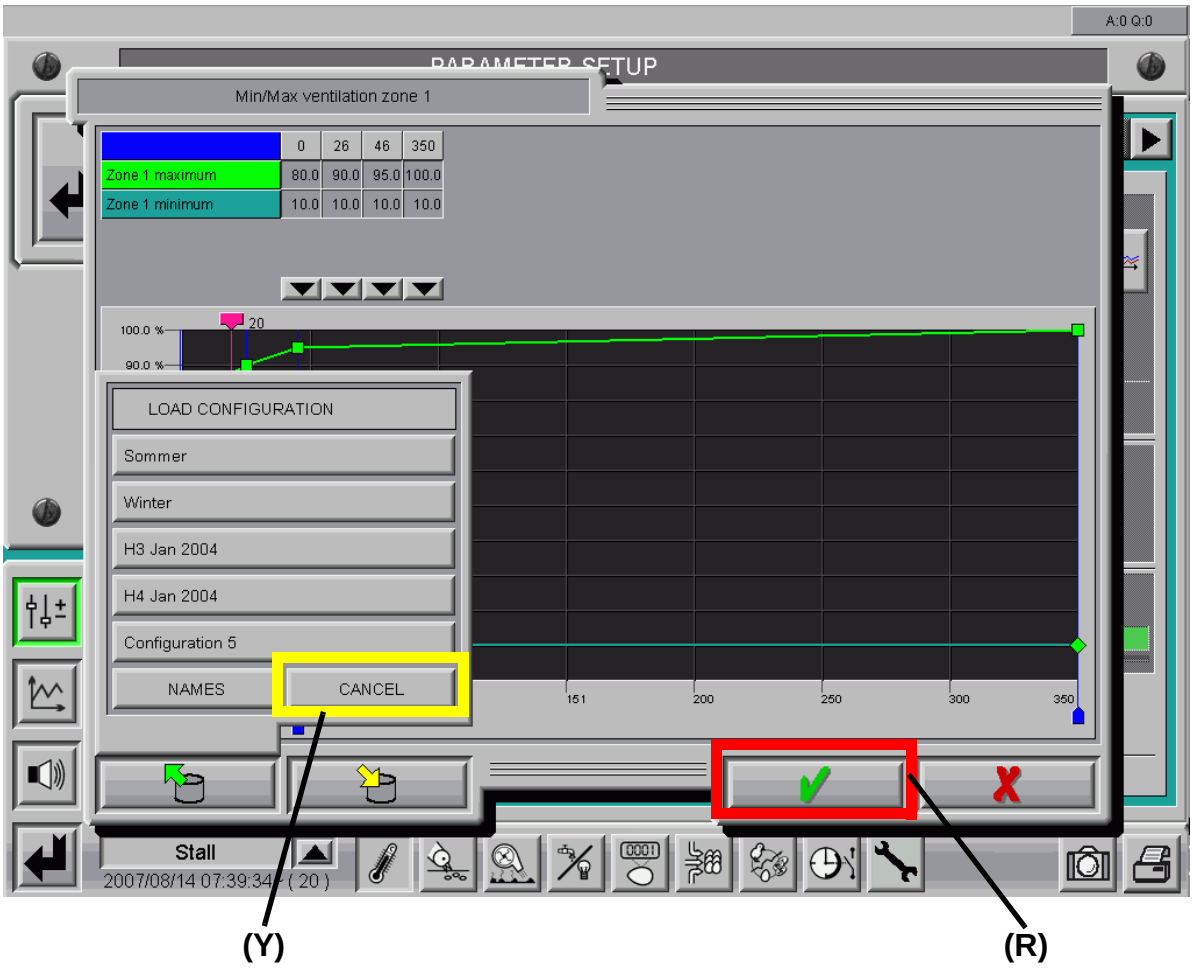


Figure 5-10: How to activate the selected sample

In order to confirm the new curve as new active one, click on the button with the green symbol (marked red **(R)** in the previous figure). Upon confirmation the computer will immediately work with the new values and the data is sent to the house as updated values.

5.5 Abortion

If you are not sure if you want to activate the selected curve, you can press the key abortion - marked yellow **(Y)** in the previous figure - and the window for the selection of the patterns will be closed. This is only possible if you have not yet given a confirmation by pressing the red **(R)** marked button in the previous picture.

6 Curve menu

6.1 Settings of the curves menu

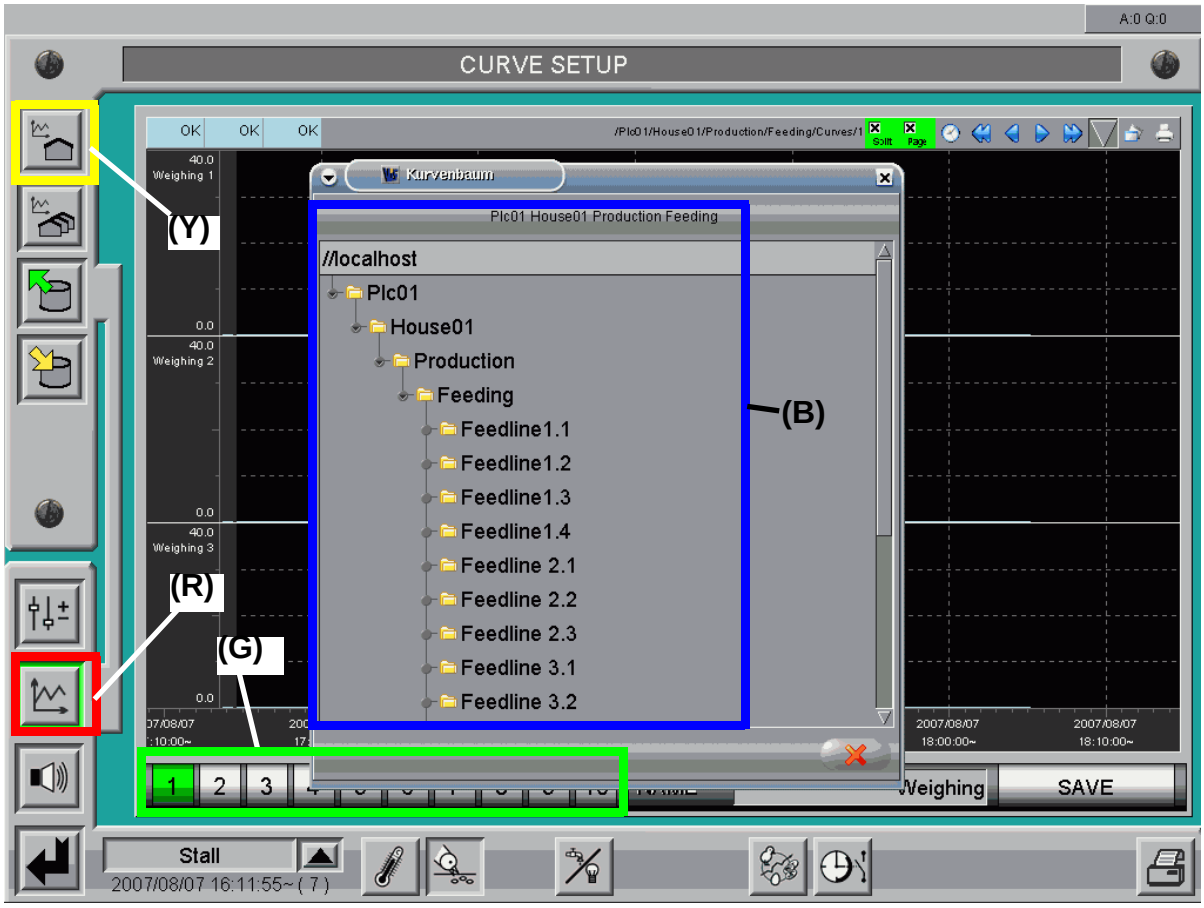


Figure 6-1: Selection of data points for the monitoring display

A good way to detect possible errors and problems in the house, is the option to create individual displays with trend graphs of temperatures, counters or weights.

6.1.1 Select curve display

By clicking the button, marked red **(R)** in the figure above, the menu for the creation and saving of the different displays opens up.

6.1.2 Select saving location

Click on one of the number 1-10 (marked green **(G)** in the previous figure) to choose one of ten displays to enter data points.

6.1.3 Data points for feeding

To display all available data points of **AMACS**' feed module you have to click on the yellow-marked **(Y)** (see previous screenshot) button and the menu - marked blue **(B)** in the previous screenshot - appears.

6.1.4 Placement of data points per drag & drop

You may now for example click on the curve for feed line 1.1, keep the left mouse button pushed, drag the point over the screen and let the button go. This point is now stored in the display and the next one may follow.

6.1.5 Data points from other modules or house-spanning

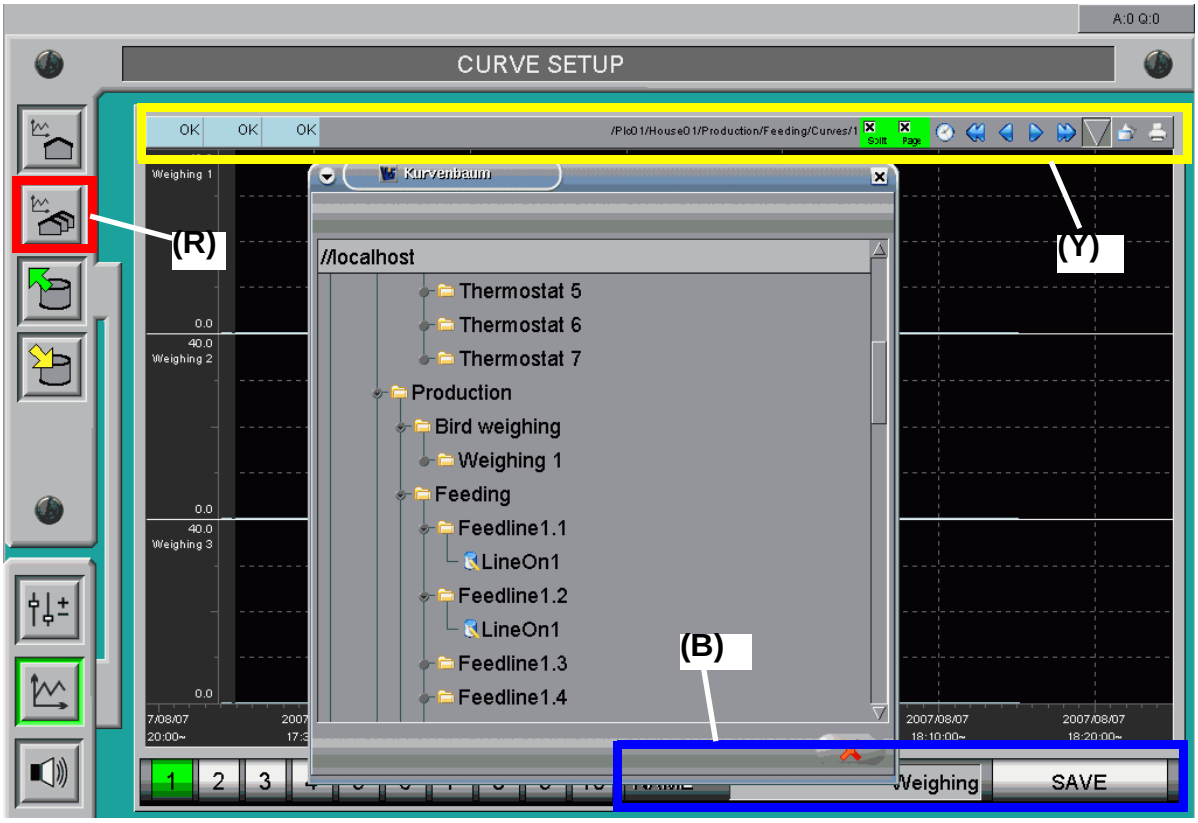


Figure 6-2: Selection of data points from other modules or houses

As all data of **AMACS** can be called up at any time, you can make all kinds of overlapping comparisons. A click on the red **(R)** button in the figure above opens the selection menu that allows for comparisons between the different modules or houses. Thus it is, for example, possible to compare room temperature values with values from the egg counters or link the consumption of water to outside temperature values.

6.1.6 Save selection permanently

If you want to continuously monitor data points you can save your selection. Enter a name, e.g. "test-set", in the blue **(B)** field in the previous figure, press enter and click on the save button. The next time you choose the selection display 1, you will see these data points.

6.1.7 Adjust display of curves

In the upper yellow **(Y)** area in the previous figure, you can fill curves, choose different colours or, via the arrows or by clicking on the little clock symbol, view the individual history for each curve. You can efficiently scroll the data by moving the timeline with the mouse.

6.1.8 User-defined selection of displays

To meet the different requirements of different users, up to five users can individually save the displays they create.

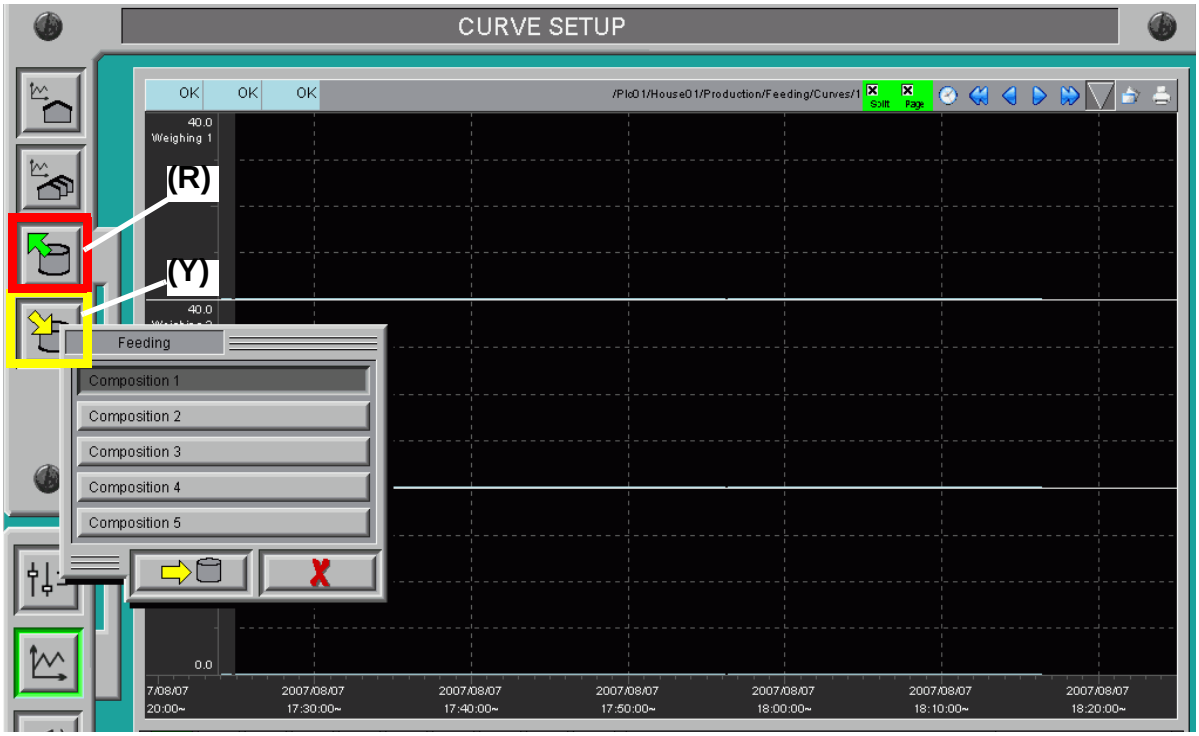


Figure 6-3: Save or load configurations

6.1.9 Save a selection display per user

By clicking on the yellow **(Y)** button in the figure shown above you can save all displays at the same time, giving them individual names.

6.1.10 Load a selection display per user

Click on the red **(R)** button to re-load a configuration. You can then select and load one configuration out of five.

6.2 Notes