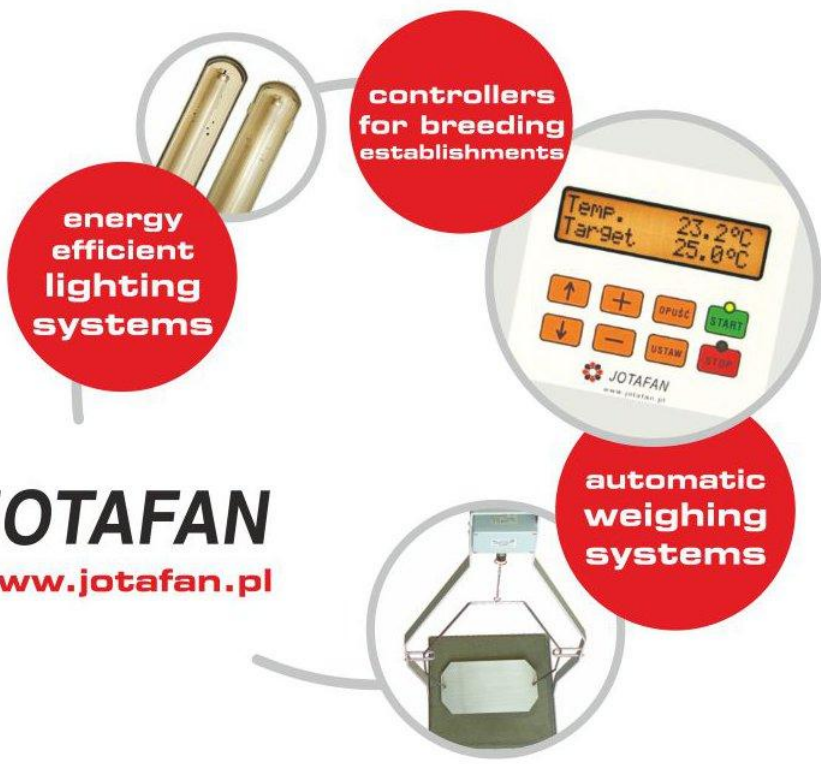


WGJ-8 AUTOMATIC POULTRY WEIGHING SYSTEM DURING BREEDING

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Why is it worth to install the automatic poultry weighing system during the breeding process?

Continuous control of the flock breeding process

- ❁ Automatic and continuous weighing of the flock enables to detect almost immediately irregularities connected with e.g. sickness, wrong feed or many others that are manifested with weight increase disorder.
- ❁ The WGJ-8 system can weigh hens, turkeys, geese and other bird species in various kinds of breeding (fattening, parent flocks).

Reduction of stress level connected with weighing

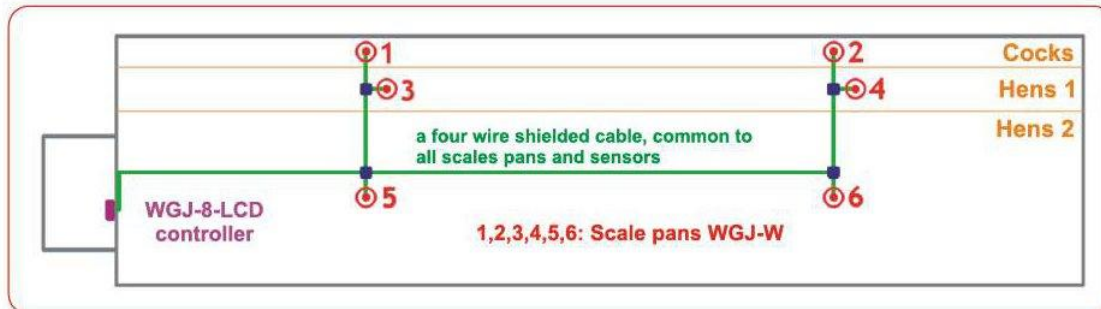
- ❁ In case of automatic weighing such factors as catching, hanging upside down and the like do not exist.
- ❁ Scales pans are part of poultry house 'landscape' and they are willingly 'visited' by birds that have already got used to them and treat them as a toy what increases the number of weighing acts.

Safety

- ❁ There are recorded up to several hundred weighing acts per hour during normal birds activity (during the light day). In the system there is a possibility of setting an alarm threshold: in case of lowering the intensity of weighing acts below a target level or lowering the flock's uniformity an alarm is generated (too low liveliness can be caused by the failure of ventilation or lighting system, too fast increase or decrease of temperature or sickness).
- ❁ There is also reduced the possibility of spreading sickness or parasites between flocks by workers during the manual weighing.
- ❁ By using in each flock an integrated sensor of temperature, humidity and carbon dioxide concentration it is possible to control the microclimate and warn in case of exceeded alarm thresholds adjusted by the User (e.g. temperature too high/low, carbon dioxide too high, etc.)

An example of arrangement and grouping of scales pans in a poultry house: parent flock breeding

Cocks, hens 1 (selected light hens), hens 2 (other hens)



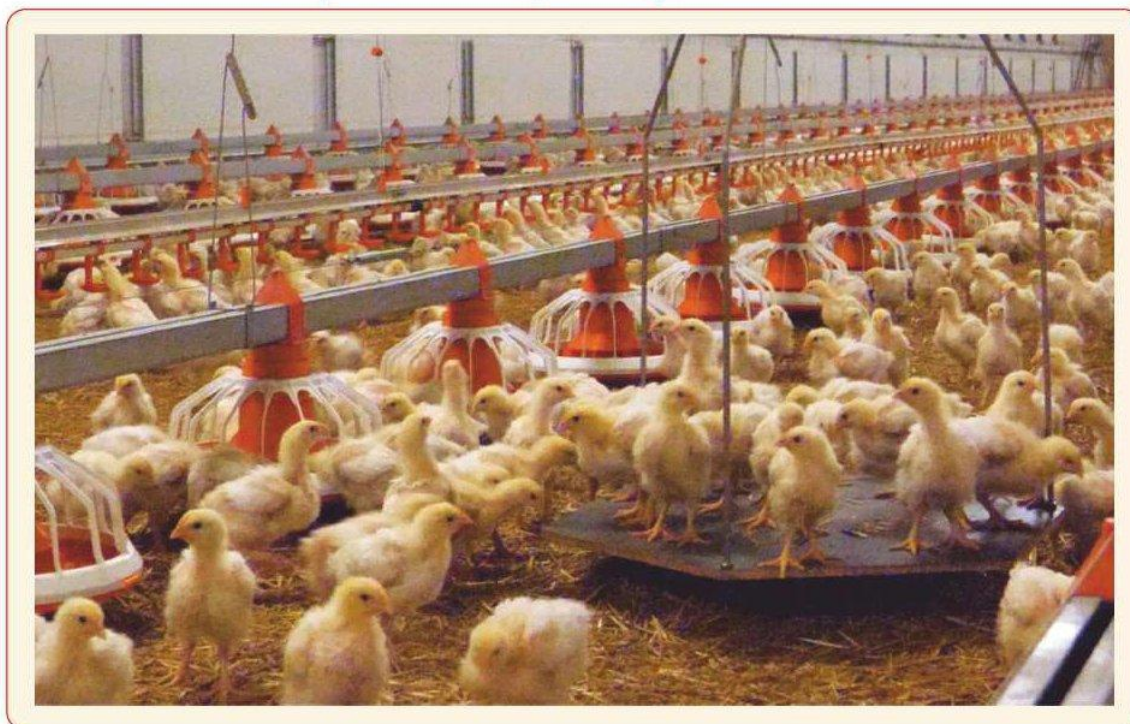
The features of the WGJ-8 automatic poultry weighing system during the breeding proces:

- ❁ One controller can operate up to 16 scales pans. Weighing acts from each of them are recorded independently by the controller that calculates on their basis statistical data and displays them (i.a. an average, uniformity, growth, age difference, etc.).
- ❁ Scales pans can be grouped in 'flocks'. It is possible to define and handle up to 8 flocks or poultry houses with the use of one WGJ-8-LCD controller.
- ❁ It is possible to connect to each of the 'flocks' one sensor of microclimate parameters (up to 8 sensors in the system) that measures up to 6 parameters including temperature, humidity, carbon dioxide concentration.
- ❁ Recording of measurements of up to 1000 days of the breeding period for each scales pan independently; statistics for each 'flock' or scales pan.
- ❁ Maximum acceptable load of the WGJ-W scales pan: 32kg, WGJ-I: 65kg (resolution of measurement for the WGJ-W scales pan: 1g, for the WGJ-I scales pan: 2g).
- ❁ Displaying the weight age of the flock what enables fast detection of irregularities in growth, especially for broiler flocks – an early warning system.
- ❁ The controller's memory contains standard curves for broilers and parent flocks, i.a. ROSS-308, COBB-500, F-15 and FLEX, as well as for turkeys: BIG-6 and BIG-9 and for geese. It is possible to define own standard curves.

The features of the WGJ-8 automatic poultry weighing system

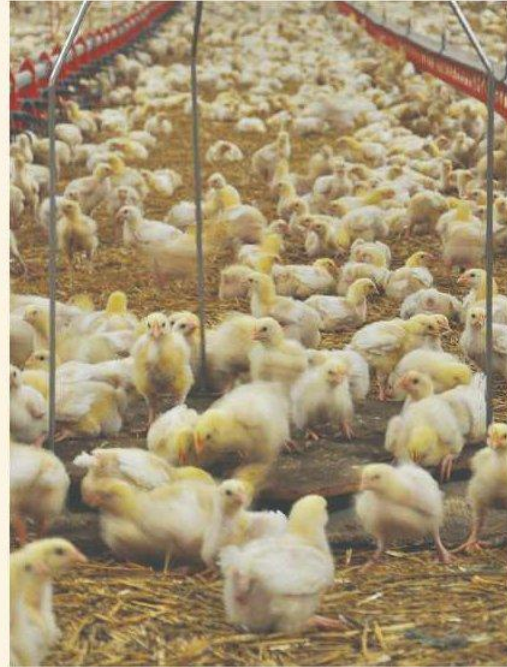
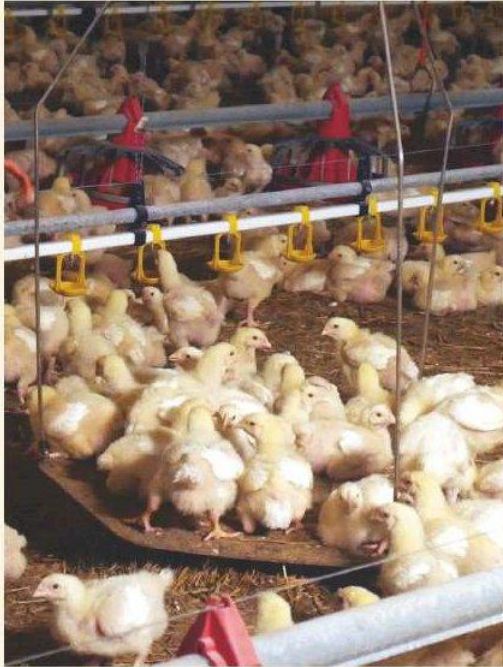
- ❁ Current reading of the average weight, growth and fast and easy access to these parameters from previous days of the breeding period. The possibility of displaying the growth in range from 1 to 7 days (comparison of days without feed in parent flocks breeding).
- ❁ Statistical analysis of recorded weighing acts for each of the scales pans that enables to define i.a.: the average weight in a particular day of growth, growth, flock uniformity, number of weighing acts and others).
- ❁ Sex distinction (on the basis of the body mass of a weighed bird).
- ❁ Continuous automatic control of correctness of the weighing system operation.
- ❁ Alarms in case of irregularities in weight growth, flock's behaviour and exceeded acceptable values of microclimate parameters.
- ❁ Software for a PC computer: to communicate with the WGJ-8 system; the possibility of connection of several controllers to the computer - central, remote control also via the INTERNET (options) as well as analysis and visualisation of measurements (tables, charts).
- ❁ In case of difficulties in placing a cable for scales pans between poultry houses it is possible to make a connection between scales pans and the WGJ-8-LCD controller by RF transmission (WiFi bridge).

The WGJ-W scales pan in the poultry house



The picture shows that birds willingly walk onto the WGJ-W scales pan - this ensures a large number of weighings

The WGJ-W scales pan in the poultry house



The WGJ-W scales pan is the best pan during weighing broilers and parent flocks.

The layout of display screens of the WGJ-8-LCD controller



The **'basic screen'** enables a fast preview of selected by the User parameters of weighing for each of the flocks and the status of system operation. By pressing the field of the flock it is possible to move to its detailed view.



The **'Access'** screen is used to unlock the following access levels for flock's settings as well as controller's settings.



The **'flock view'** screen presents the current parameters and results of weighing



It enables to display indications from scales pans, sensors, charts and settings (by means of a side menu).



The **'Scales pans'** screen shows the current indications gained from weighing acts on particular scales pans that have been assigned to the flock.



The **'Sensors'** screen is used to preview indications from the sensor (single or multi-parameter) assigned to the flock and settings of alarm thresholds for particular parameters (if the sensor's mode is adjusted as 'alarming').

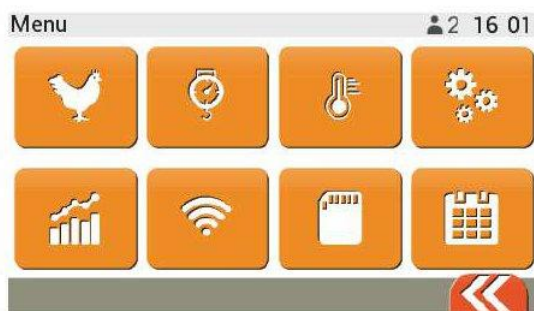
The layout of display screens of the WGJ-8-LCD controller



The **'Statistics'** screen allows for graphic illustration of data from weighing acts by means of charts. There is presented a chart of the average weight (red colour) in comparison to the standard one (grey colour).



It is possible to place the cursor on the chart and read values of a particular day. The second chart shows daily values of carbon dioxide concentration: the average (black colour), the maximum value (red colour), the minimum value (blue colour).



From the basic screen, after unlocking the access of 'Level 1', it is possible to move to the menu of settings. Particular groups of settings are illustrated as 'tiles'.



The **'Select flock'** screen shows the current defined flocks and it enables to edit their settings.



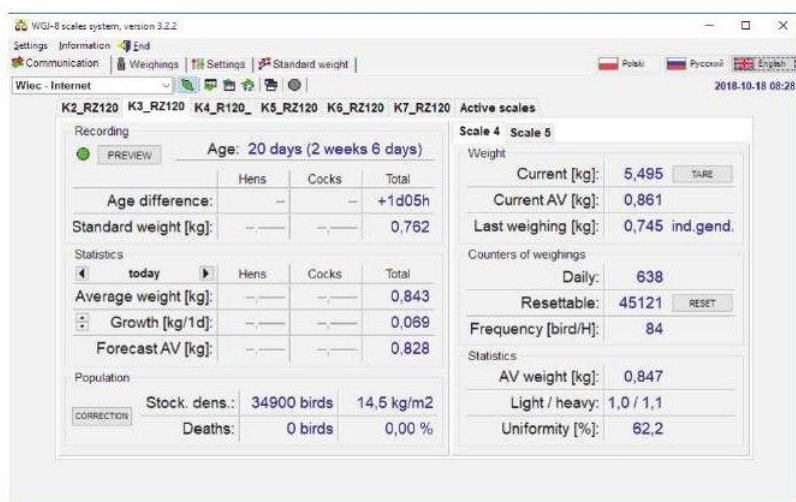
You can freely configure the basic screen of the WGJ-8-LCD controller with selected parameters.



It is possible to assign scales pans and sensors to the flock in an intuitive and clear way: devices already assigned are marked with green colour, unavailable devices (assigned to other flocks) are marked with dark grey colour while available devices with orange colour.

Computer program - a communication panel with the WGJ-8-LCD

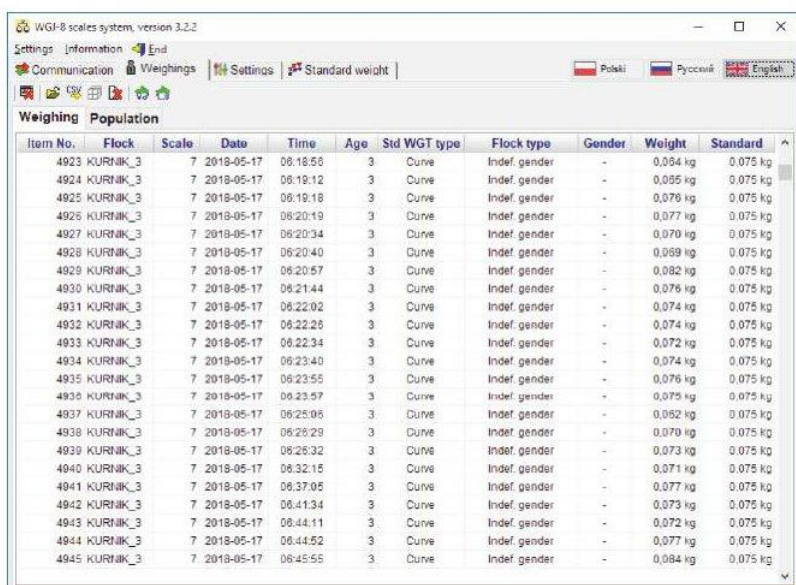
A computer program is used to connect the WGJ-8 automatic poultry weighing system to the controller (directly or via the Internet) and to preview the current status of its operation, change settings and archive the measurement data as well as visualise them in the form of tables and charts. By means of the program it is possible to connect to many WGJ-8-LCD controllers (systems) (in the environment of the JOTAFAN FARM software).



The screenshot shows the 'Communication' panel of the WGJ-8 scales system software. It displays various monitoring and control options for multiple scales (K2_RZ120 to K7_RZ120). The interface includes sections for 'Recording' (with a 'PREVIEW' button and 'Age: 20 days (2 weeks 6 days)'), 'Statistics' (showing 'today' data for Hens, Cocks, and Total), and 'Population' (with 'CORRECTION' and 'Stock dens.: 34900 birds, 14,5 kg/m2'). On the right, there are 'Active scales' and 'Scale 4 Scale 5' sections showing 'Weight' (Current [kg]: 5,495, Current AV [kg]: 0,861, Last weighing [kg]: 0,745 ind.gend.) and 'Counters of weighings' (Daily: 638, Resettable: 45121, Frequency [bird/H]: 84). A 'Statistics' section at the bottom right shows 'AV weight [kg]: 0,847', 'Light / heavy: 1,0 / 1,1', and 'Uniformity [%]: 62,2'.

The **Communication** panel enables continuous monitoring of the system operation, reading of current weighing acts, other data and statistics for particular flocks (poultry houses) and scales pans in the system.

Computer program - a data panel (table of weighings)



The screenshot shows the 'Weighing' panel of the WGJ-8 scales system software, displaying a table of individual weighing records. The table has the following columns: Item No., Flock, Scale, Date, Time, Age, Std WGT type, Flock type, Gender, Weight, and Standard. The data shows 13 individual weighings for flock 'KURNIK_3' on scale 7, all occurring on 2018-05-17. The weights range from 0,054 kg to 0,084 kg, and the standard weights are consistently 0,075 kg.

Item No.	Flock	Scale	Date	Time	Age	Std WGT type	Flock type	Gender	Weight	Standard
4923	KURNIK_3	7	2018-05-17	08:18:58	3	Curve	Indef. gender	-	0,054 kg	0,075 kg
4924	KURNIK_3	7	2018-05-17	08:19:12	3	Curve	Indef. gender	-	0,055 kg	0,075 kg
4925	KURNIK_3	7	2018-05-17	08:19:18	3	Curve	Indef. gender	-	0,076 kg	0,075 kg
4926	KURNIK_3	7	2018-05-17	08:20:19	3	Curve	Indef. gender	-	0,077 kg	0,075 kg
4927	KURNIK_3	7	2018-05-17	08:20:34	3	Curve	Indef. gender	-	0,070 kg	0,075 kg
4928	KURNIK_3	7	2018-05-17	08:20:40	3	Curve	Indef. gender	-	0,069 kg	0,075 kg
4929	KURNIK_3	7	2018-05-17	08:20:57	3	Curve	Indef. gender	-	0,082 kg	0,075 kg
4930	KURNIK_3	7	2018-05-17	08:21:44	3	Curve	Indef. gender	-	0,078 kg	0,075 kg
4931	KURNIK_3	7	2018-05-17	08:22:02	3	Curve	Indef. gender	-	0,074 kg	0,075 kg
4932	KURNIK_3	7	2018-05-17	08:22:26	3	Curve	Indef. gender	-	0,074 kg	0,075 kg
4933	KURNIK_3	7	2018-05-17	08:22:34	3	Curve	Indef. gender	-	0,072 kg	0,075 kg
4934	KURNIK_3	7	2018-05-17	08:23:40	3	Curve	Indef. gender	-	0,074 kg	0,075 kg
4935	KURNIK_3	7	2018-05-17	08:23:55	3	Curve	Indef. gender	-	0,076 kg	0,075 kg
4936	KURNIK_3	7	2018-05-17	08:23:57	3	Curve	Indef. gender	-	0,075 kg	0,075 kg
4937	KURNIK_3	7	2018-05-17	08:25:06	3	Curve	Indef. gender	-	0,062 kg	0,075 kg
4938	KURNIK_3	7	2018-05-17	08:26:29	3	Curve	Indef. gender	-	0,079 kg	0,075 kg
4939	KURNIK_3	7	2018-05-17	08:26:32	3	Curve	Indef. gender	-	0,073 kg	0,075 kg
4940	KURNIK_3	7	2018-05-17	08:32:15	3	Curve	Indef. gender	-	0,071 kg	0,075 kg
4941	KURNIK_3	7	2018-05-17	08:37:05	3	Curve	Indef. gender	-	0,077 kg	0,075 kg
4942	KURNIK_3	7	2018-05-17	08:41:34	3	Curve	Indef. gender	-	0,073 kg	0,075 kg
4943	KURNIK_3	7	2018-05-17	08:44:11	3	Curve	Indef. gender	-	0,072 kg	0,075 kg
4944	KURNIK_3	7	2018-05-17	08:44:52	3	Curve	Indef. gender	-	0,077 kg	0,075 kg
4945	KURNIK_3	7	2018-05-17	08:45:55	3	Curve	Indef. gender	-	0,084 kg	0,075 kg

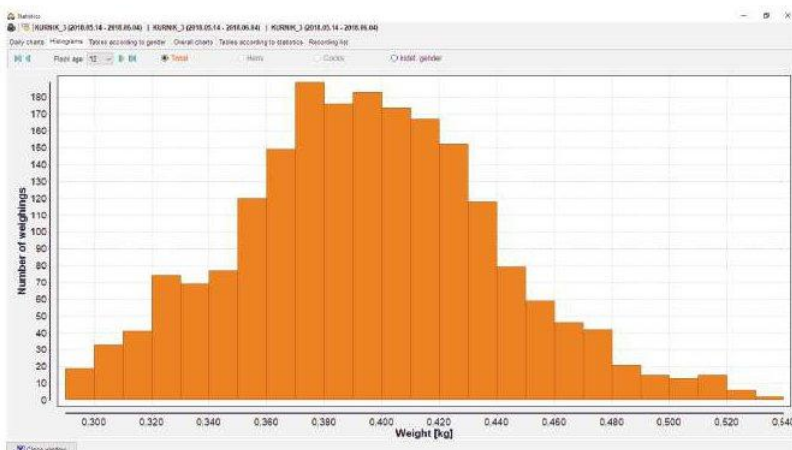
A **data panel** (table of weighings) presents all weighing parameters that happen in the poultry house. Each weighing act is recorded individually together with date, time and the current standard weight.

Computer program - a graphic presentation of weighing acts



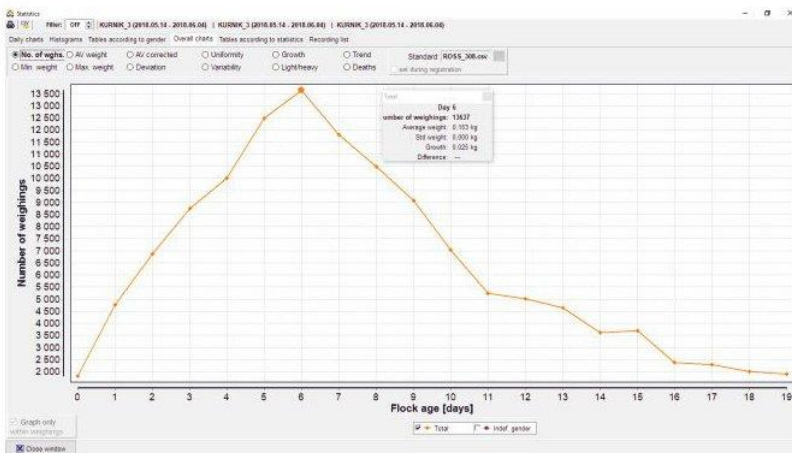
The Daily Charts Tab enables a detailed presentation of weighing acts within a day. It is possible to observe bird weight increase and noticeable break in the light cycle (almost complete lack of weighing acts) from about 9.30 pm to 12 pm.

Computer program - a histogram (number of weighing acts in weight ranges)



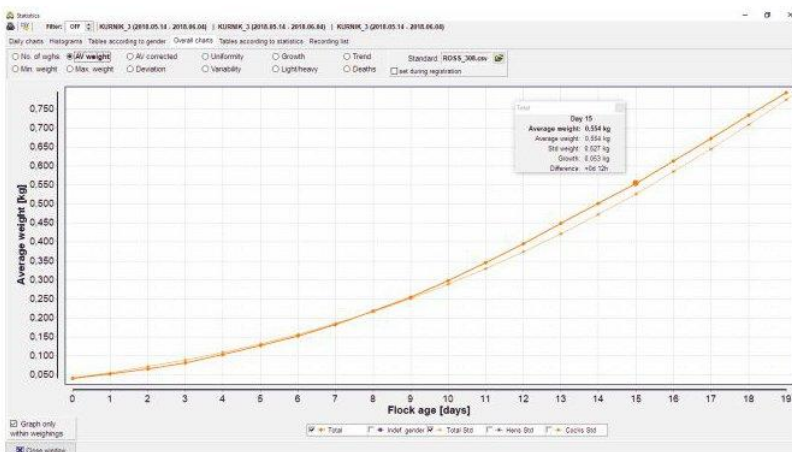
The Histograms Tab presents the number of weighing acts in weight ranges from the lightest to the heaviest birds in a particular day. A 'bell shape' of the curve (Gauss curve) means that the breeding process is correct. We observe the biggest number of weighing acts around the average weight, the smallest number is on the range endings (the lightest and heaviest birds).

Computer program - number of weighing acts during the breeding process



In the **Summary Charts Tab** it is possible to display the Number of weighings in particular days of the breeding period. This chart tends to diminish because of weight increase and reduced liveliness of birds at the end of the breeding period. The maximum number of weighing acts for broilers happen at the turn of the first and second week of the breeding period.

Computer program - average weight (and standard curve)



The curve of average weight in comparison with the standard curve illustrates actual average birds weight with relation to the standard weight (according to the flock's body weight standards). In the smaller window it is possible to display detailed parameters for a selected chart point. The average weight is calculated in a given range of time, e.g. for the last 8 hours of a 'light day'.



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