Mobile collection of all your harvest data.

WINTERSTEIGER also places an emphasis on future-oriented solutions in the field of mobile data collection. Only state of the art systems specially developed for agricultural research are used in our harvesting machines.

Automatic harvest data logging takes the following parameters into consideration (depending on the harvesting data system):

- Plot weight with maximum precision up to a slope of 10 %
- Moisture content of harvested material
- Volumetric weight
- Material content by means of near field infrared spectroscopy (NIRS)

Easy Harvest Harvesting Software.

Collecting, managing and protecting data have become the focus of the processes of agricultural field trials. Easy Harvest is used on the harvester in connection with a mobile harvesting data system and enables highest precision weighing and moisture measuring. Above all, Easy Harvest offers the advantages of high operational reliability and allows you to harvest several trials in a field in a single operation.

Your benefits summed up:

Easy and convenient operation

- Clear and user-friendly menu-driven operation in different languages
- Simple creation of field maps and trial arrangements
- Harvesting of several trials in a field in a single operation
- Additional information can be added to the plots as notes
- Precalibrated moisture curves
- Simple import and export of data

High precision, reliability, traceability

- Precise weighing result and moisture measurement
- Integrated sampling control
- Integrated label designer and label printer
- Data protection through backup file (e.g. USB stick)
- Ability to manually control the processes
- Error diagnosis system
- Allows for several users with different rights

Preparation.
Trials can be either imported or created in the software.

Data can also be synchronized. Fields can be freely arranged and then positioned.

Trial is set up

Trials and field maps can also be imported

Several trials can be arranged in a field and then positioned

Harvest.

In harvest mode, you can at all times see your position, which plots have already been harvested and the corresponding results. The samples can also be labeled.

Simple navigation in the field

Convenient creation of notes

Data export.

The data can be either synchronized or exported as a CSV file for further processing.

Label designer

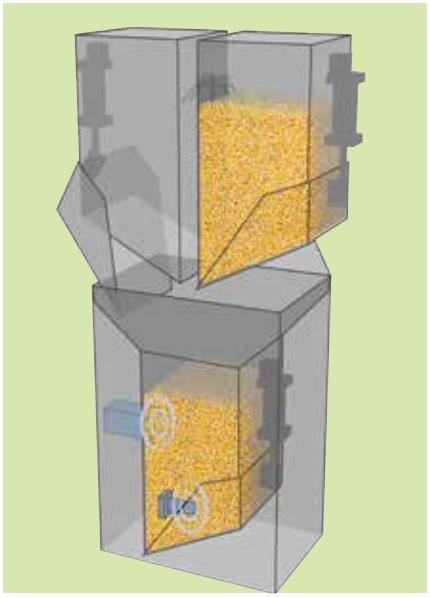
	A	B	C	D	E	F	G	H
1	Reihen	Spalten	Gewicht	Feuchtigkeit	Datum	Time	Lfd. Nr	CustomId
2	1	1	6,165	10,6	03.09.2011	10:27:18	1	195101
3	1	2	6,251	12,2	03.09.2011	10:42:44	2	195102
4	1	1	5,472	10,7	03.09.2011	10:53:08	1	195101
5	1	1	7,823	12,8	03.09.2011	11:28:35	1	195101
6	1	2	7,413	14,1	03.09.2011	11:29:46	2	195102
7	1	1	6,057	15,7	03.09.2011	11:33:24	1	195101
8	1	2	5,318	16,1	03.09.2011	11:36:14	2	195102
9	1	3	4,328	15,1	03.09.2011	11:44:14	3	195103
10	2	1	5,328	14,3	03.09.2011	11:53:45	4	192001
11	2	2	7,072	11,1	03.09.2011	11:57:53	5	192026
12	2	3	6,284	12,5	03.09.2011	11:58:59	6	192051
13	3	1	5,671	12,7	03.09.2011	12:01:53	7	192002
14	3	2	6,165	11,7	03.09.2011	12:02:56	8	192027
15	3	3	6,251	12,1	03.09.2011	12:04:13	9	192052
16	4	1	5,472	10,6	03.09.2011	12:05:14	10	192003
17	4	2	7,823	12,3	03.09.2011	12:07:01	11	192028
18	4	3	6,585	11,3	03.09.2011	12:10:04	12	192053
19	5	1	6,211	12,1	03.09.2011	12:11:10	13	192004
20	5	2	3,679	11,3	03.09.2011	12:12:01	14	192029
21	5	3	6,994	13	03.09.2011	12:13:34	15	192054
22	6	1	5,315	12,7	03.09.2011	12:14:16	16	192005
23	6	2	6,917	13,4	03.09.2011	12:15:01	17	192030
24	6	3	7,418	12,1	03.09.2011	12:15:58	18	192055
25	7	1	6,391	10,7	03.09.2011	12:16:59	19	192006
26	7	2	5,21	11,5	03.09.2011	12:17:39	20	192031
27	7	3	8,316	11,3	03.09.2011	12:18:42	21	192056

Mobile Harvesting Data System Twin High Capacity GrainGage™.

This harvesting data system is perfect if you need to achieve fast weighing cycles and use the Easy Harvest Harvesting Software for field plan implementation. Stores the measured data and exports the resulting data.

The sequence is as follows during harvesting:

- The weighing system comprises 2 pre-containers (for the left and right plots respectively) and a weigh bucket with the sensors required for weight and moisture measurement
- The weighing cycle is actuated manually at the end of the plot by pressing a button
- The harvested material is fed from the pre-container into the weigh bucket where the measurement occurs
- The left plot is measured first, followed by the right plot
- The data is stored on the PC, e.g. the Panasonic Toughbook
- Additionally, the data can be printed out on a mobile field printer or stored on an additional memory card
- Additionally, the weighing system has a countdown timer for determining the optimum time for the measurement



The 2 pre-containers are opened and the harvested material falls into the weigh bucket

Your benefits summed up:

- The **single-chamber system** is easy to calibrate, easy to operate and delivers precise results at fast cycle times
- **Precision electronics:** The new HM800 electronics link the weight and moisture sensors by means of a CAN bus data line. The core of the new data collection system is the „HM800 Analog and Actuator Module". This avoids long/bulky cables
- **Slope and motion sensor:** Improves weighing precision and reduces errors caused by vibrations/ the harvester moving. This enables weighing while the harvester is moving through the plot and measurements on slopes of up to 10 %
- **Moisture sensor:** Highly precise measurements are possible despite high levels of moisture
- **Continuous harvesting** of long plots is supported
- Use of **Easy Harvest Harvesting Software**

Technical data

Weighing system	
Dimensions (W x D x H)	787 x 483 x 1,118 mm
Weight	72 kg
Capacity	Approx 20 kg maize
Grain discharge opening	457 mm
Actuator	Precision pneumatics

Measuring accuracy / speed	
Weight	+/- 80 g absolute
Hectoliter weight (option)	+/- 1.2 kg/100 l for over 95 % of all samples
Moisture	+/- 0.5 % to 25 % (wet weight basis - wwb), +/- 0.9 % to 35 %
Minimum quantity for moisture content measurement	Approx. 7 liters Approx. 2 liters when using volume reduction device
Speed cycle time	Approx. 16 sec. – system ready / data recorded

HM 800 Electronic	
Protection class	Water- and dustproof to IP67
Operating temperature	-20°C to +50°C
Power supply	9 - 17 V DC
Interface	CAN Bus – 4 wires
Connection	Con X all connectors

We reserve the right to make technical alterations.

NIRS analysis.

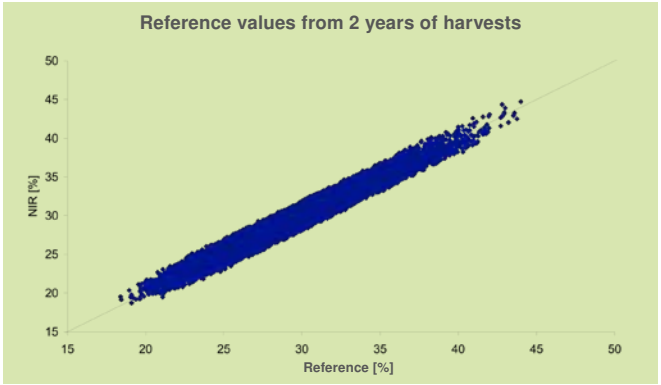
Near infrared spectroscopy (NIRS) has established itself in agricultural analysis over decades and has been the focus of both theoretical and practical ongoing development work. It is evident that the transition from the laboratory to field measurements and thence to online measurements performed directly on the harvester will continue to gain significance. The Split can be equipped with a NIRS analysis device for mobile moisture content and quality testing.

The harvesting sequence is as follows:

- After the weigh bucket, the harvested material flows over the NIRS sensor
- The layout is designed to allow the harvested material to clean the glass during every measuring cycle
- The signal to open the weigh bucket flap starts the NIRS measurement software side
- The duration of the measurement can be set in the software
- The software runs on a laptop in the cabin

The figure shows a cross-validation of the water content in maize with reference values from 2 years' harvests. The reference values from samples in stationary measurements are shown on the x axis. The y axis shows the values measured using a mobile, harvester-mounted system.

NIRS measuring installed on the weighing system



Cross-validation of the water content in maize with reference values from two years' harvests