

Inspectis
INDEPENDENT SURVEYORS

Story with Eye **FOSS**™

Scope of activity



Cargo space inspection



Supervision of the condition of the commodity, handling, storage and transport



Sampling



Analysis



Supervision of weighing process



Determination of the weight by draught measurements of the vessel



Tally



Quantity measurement

Goods



**Agricultural
products**



**Minerals and
metals**



**Chemical
products**



**Finished
products**

INSPECTIS is...



ISO 9001:2008
certified



GAFTA
superintendent
member



GAFTA analyst
member



FOSFA member
superintendent

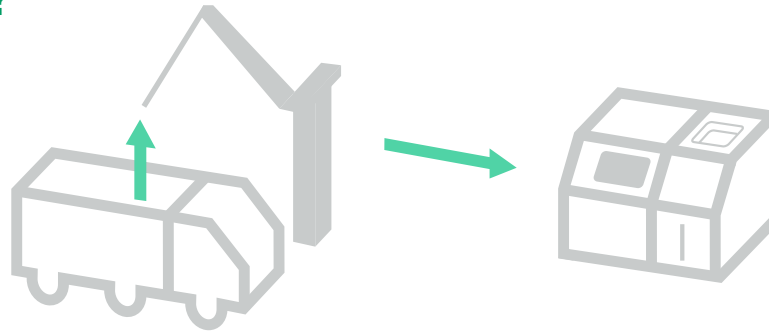


ISO 17025
(accreditation process
to be completed in
June 2016)

Accredited methods

It	Test	Standard
1.	Protein in grain	PN-EN ISO 20483:2014-02E
2.	Protein in feed	PN-EN ISO 5983-2:2009
3.	Moisture in grainss	PN-EN ISO 712:2012
4.	Moisture in feed	Gafta 2:1 wyd.1.03.2014
5.	Fat	PN-EN ISO 11085:2015-10
6.	Protein in grain	PN-EN ISO 12099:2010
	Protein in grain	
7.	Falling number	PN-EN ISO 3093-2010
8.	Bulk density	PN-EN ISO 7971-3:2010
9.	Raw fibre	PN-EN ISO 6865-2002
10.	Impurities in wheat	PN-EN 15587:A1_2013-12E

Why EyeFoss ?



- every year we take between 20000 and 40000 of samples of grains. Every sample is tested for impurities (and other parameters).
 - among all tests we carry out, impurities tests are most time consuming, unreliable and inaccurate.
 - very low repeatability and reproducibility level of manual impurity test,
 - in Poland we have at least four various standards still in use, for impurity testing in grains.
 - various suppliers are applying various standards for testing the impurities. This leads to the differences, which normally should not occur
 - even, when the same standard is applied at two different ends of the contract, the differences often exceeds the acceptable level
-

EyeFoss tests procedure / preparation of samples:



Samples of wheat obtained from three different places inland country in Poland
From total of 60 obtained samples an amount of 30 was selected.
From each selected sample a laboratory sample of about 0,5 ltr / ca 500 g. was extracted.
To some of the samples various amounts of oats, rye and barley was added.
Such prepared samples were:
screened on 1x20 mm grain impurities sieve (foreign material separated)

EyeFoss tests procedure for each of the samples

EyeFoss tests



Manual tests

1. Weighing of sample
2. Manual selecting of the particular classes following the definition of [PN-EN 15587:A1_2013-12E](#)
 - a) Broken kernels
 - b) Foreign cereals
 - Rye
 - Barley
 - Oats
3. Weighing of each of the classes.

Broken kernels results

ID	TW (g)	Broken kernels Manual results [%]	Broken kernels EyeFoss result [%]	Difference
W1__Ins	466,70	6,30	4,99	1,31
W2__Ins	478,03	4,13	3,87	0,26
W3__Ins	439,22	6,08	4,74	1,34
W4__Ins	418,07	4,96	3,91	1,05
W5__Ins	471,66	4,32	4,92	-0,60
W6__Ins	431,39	4,07	2,94	1,13
W7__Ins	454,90	1,49	1,65	-0,16
W8__Ins	445,37	5,78	5,24	0,54
W9__Ins	452,46	3,93	3,74	0,19
W10__Ins	449,00	11,49	10,25	1,24
W11__Ins	447,42	5,27	4,59	0,68
W12__Ins	475,81	2,09	2,54	-0,45
W13__Ins	450,92	3,69	3,46	0,23
W14__Ins	466,18	4,64	4,25	0,39
W15__Ins	472,38	3,43	3,32	0,11

Among broken kernels selected manually, kernels cut lengthwise were distinguished as those possibly interfering the results. For the indicated samples the result for such kernels broken in such way were respectively: 0,29 / 0,55 / 0,29 / 0,18 / 0,13 %.

ID	TW (g)	Broken kernels Manual results [%]	Broken kernels EyeFoss result [%]	Difference
W16__Ins	465,21	4,54	4,38	0,16
W17__Ins	466,89	7,37	6,56	0,81
W18__Ins	474,48	4,83	4,85	-0,02
W19__Ins	470,50	2,68	2,64	0,04
W20__Ins	469,14	4,21	3,54	0,67
W21__Ins	495,30	0,81	0,59	0,22
W22__Ins	482,87	3,21	2,49	0,72
W23__Ins	484,46	14,68	12,61	2,07
W24__Ins	485,73	1,46	1,44	0,02
W25__Ins	491,41	6,99	5,88	1,11
W26__Ins	517,25	6,00	5,29	0,71
W27__Ins	477,42	10,18	9,31	0,87
W28__Ins	483,16	4,18	3,74	0,44
W29__Ins	510,21	4,76	4,08	0,68
W30__Ins	465,12	9,51	8,29	1,22

Canola case



Broken kernels validation set (before)



Broken kernels validation set (after)



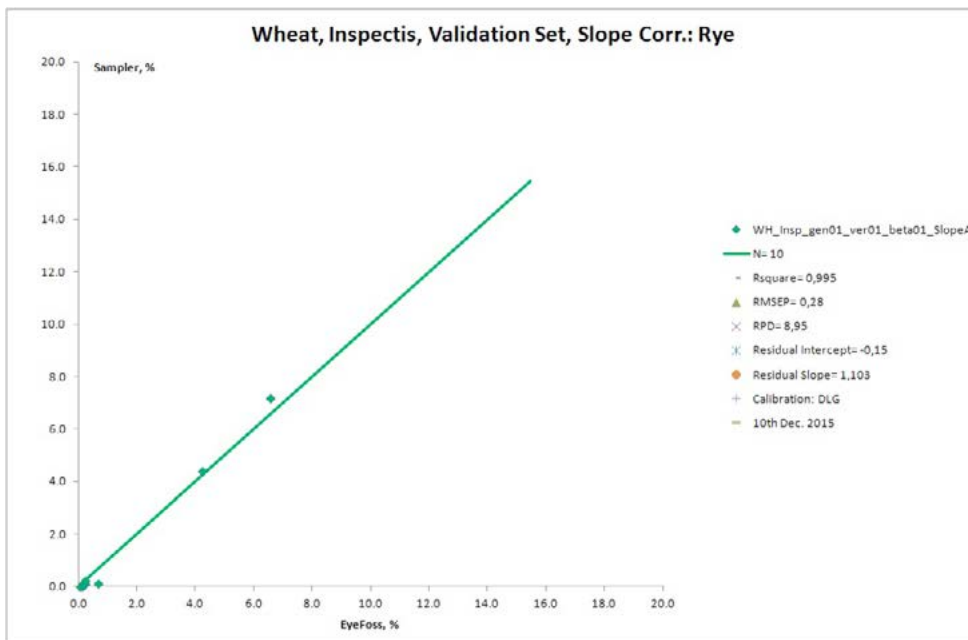
Foreign cereals RYE results

On the selected samples the content of Triticale grains was additionally verified. See the specified results.

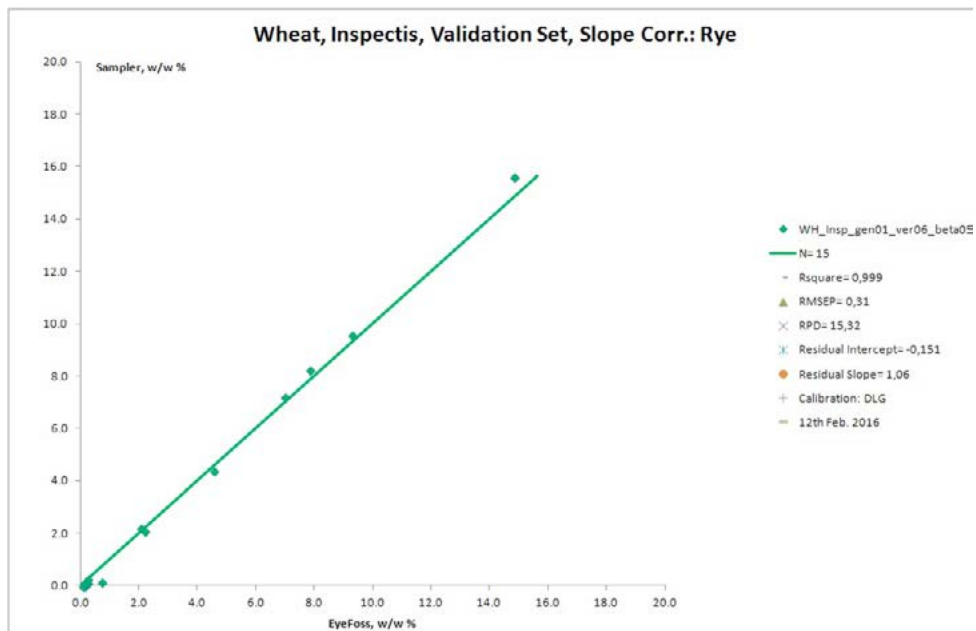
ID	TW (g)	Foreign grains (RYE) Manual results [%]	Foreign grains (RYE) EyeFoss result [%]	Difference	
W1__Ins	466,70	1,96	1,87	0,09	
W2__Ins	478,03	0,07	0,34	-0,27	
W3__Ins	439,22	15,46	14,47	0,99	
W4__Ins	418,07	0,05	0,74	-0,69	
W5__Ins	471,66	0,08	0,38	-0,30	0,30% of triticale
W6__Ins	431,39	0,05	0,36	-0,31	0,07% of triticale
W7__Ins	454,90	0,00	0,66	-0,66	
W8__Ins	445,37	0,36	0,66	-0,30	0,07% of triticale
W9__Ins	452,46	0,13	0,25	-0,12	0,09% of triticale
W10__Ins	449,00	0,00	0,11	-0,11	
W11__Ins	447,42	0,15	0,64	-0,49	0,49% of triticale
W12__Ins	475,81	0,02	0,10	-0,08	
W13__Ins	450,92	0,11	0,19	-0,08	
W14__Ins	466,18	0,02	0,07	-0,05	
W15__Ins	472,38	0,12	0,17	-0,05	0,12% of triticale

ID	TW (g)	Foreign grains (RYE) Manual results [%]	Foreign grains (RYE) EyeFoss result [%]	Difference	
W16__Ins	465,21	0,12	0,21	-0,09	0,12% of triticale
W17__Ins	466,89	0,11	0,15	-0,04	0,06% of triticale
W18__Ins	474,48	7,22	6,16	1,06	
W19__Ins	470,50	0,26	0,20	0,06	
W20__Ins	469,14	4,40	4,00	0,40	
W21__Ins	495,30	0,00	0,44	-0,44	
W22__Ins	482,87	2,23	1,79	0,44	
W23__Ins	484,46	0,20	0,15	0,05	
W24__Ins	485,73	15,64	13,08	2,56	
W25__Ins	491,41	12,91	10,25	2,66	
W26__Ins	517,25	9,57	8,16	1,41	
W27__Ins	477,42	11,79	10,33	1,46	
W28__Ins	483,16	8,25	6,90	1,35	
W29__Ins	510,21	5,44	4,45	0,99	
W30__Ins	465,12	2,11	1,93	0,18	

Foreign cereals RYE validation set (before)



Foreign cereals RYE validation set (before)



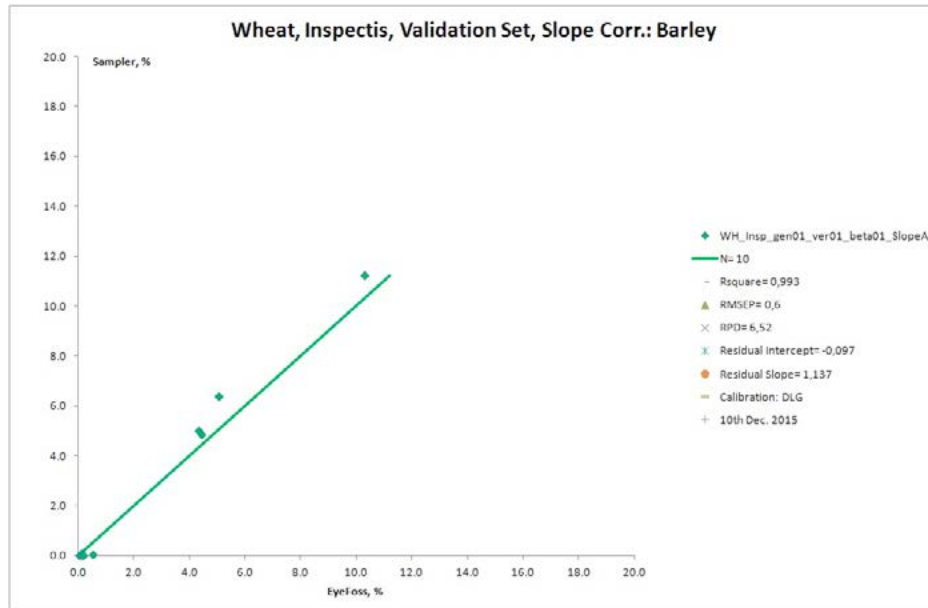
Foreign cereals BARLEY results

ID	TW (g)	Foreign grains (BARLEY) Manual results [%]	Foreign grains (BARLEY) EyeFoss result [%]	Difference	
W1__Ins	466,70	0,00	0,09	-0,09	
W2__Ins	478,03	0,03	0,12	-0,09	
W3__Ins	439,22	0,00	0,17	-0,17	
W4__Ins	418,07	1,82	2,38	-0,56	
W5__Ins	471,66	1,15	1,50	-0,35	
W6__Ins	431,39	3,54	4,34	-0,80	
W7__Ins	454,90	0,00	0,13	-0,13	0,19% of wheat in husk
W8__Ins	445,37	0,00	0,03	-0,03	0,06% of wheat in husk
W9__Ins	452,46	0,05	0,18	-0,13	0,08% of wheat in husk
W10__Ins	449,00	0,00	0,07	-0,07	
W11__Ins	447,42	0,05	0,38	-0,33	0,06% of wheat in husk
W12__Ins	475,81	6,39	6,57	-0,18	
W13__Ins	450,92	0,07	0,02	0,05	
W14__Ins	466,18	0,03	0,09	-0,06	
W15__Ins	472,38	0,08	0,10	-0,02	0,04% of wheat in husk

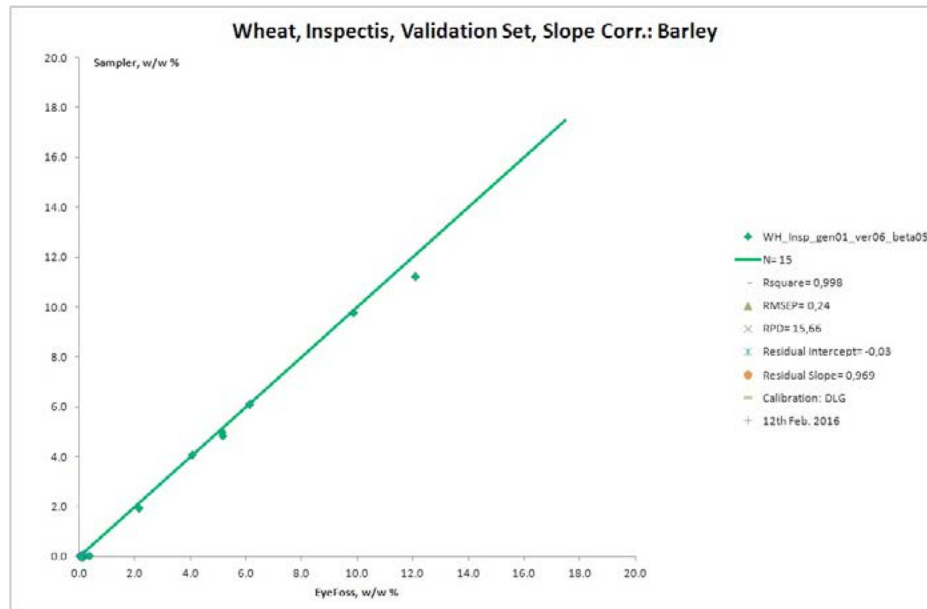
On the selected samples the content of Triticale grains was additionally verified. See the specified results.

ID	TW (g)	Foreign grains (BARLEY) Manual results [%]	Foreign grains (BARLEY) EyeFoss result [%]	Difference	
W16__Ins	465,21	0,03	0,14	-0,11	0,10% of wheat in husk
W17__Ins	466,89	0,02	0,08	-0,06	0,09% of wheat in husk
W18__Ins	474,48	5,02	5,62	-0,60	
W19__Ins	470,50	11,22	13,27	-2,05	
W20__Ins	469,14	4,85	5,64	-0,79	
W21__Ins	495,30	15,86	17,48	-1,62	
W22__Ins	482,87	6,11	6,72	-0,61	
W23__Ins	484,46	11,10	12,14	-1,04	
W24__Ins	485,73	4,11	4,47	-0,36	
W25__Ins	491,41	0,02	0,18	-0,16	
W26__Ins	517,25	1,95	2,34	-0,39	
W27__Ins	477,42	8,40	9,51	-1,11	
W28__Ins	483,16	9,78	10,84	-1,06	
W29__Ins	510,21	13,64	14,96	-1,32	
W30__Ins	465,12	0,00	0,03	-0,03	

Foreign cereals BARLEY validation set (before)



Foreign cereals **BARLEY** validation set (before)



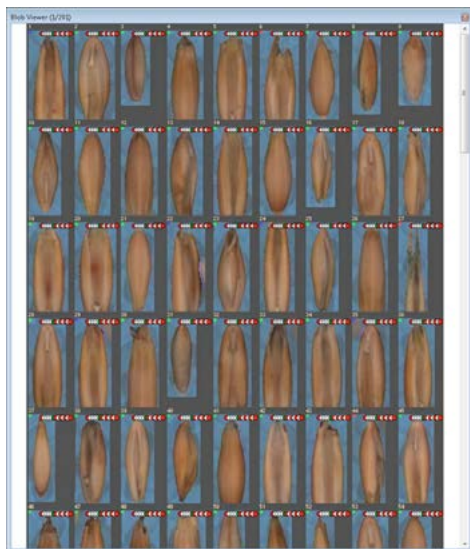
Foreign cereals OATS results

ID	TW (g)	Foreign grains (OATS) Manual results [%]	Foreign grains (OATS) EyeFoss result [%]	Difference
W1__Ins	466,70	0,00	0,00	0,00
W2__Ins	478,03	0,00	0,01	-0,01
W3__Ins	439,22	0,00	0,00	0,00
W4__Ins	418,07	0,01	1,17	-1,16
W5__Ins	471,66	0,00	0,06	-0,06
W6__Ins	431,39	2,21	2,50	-0,29
W7__Ins	454,90	0,00	0,22	-0,22
W8__Ins	445,37	0,00	0,10	-0,10
W9__Ins	452,46	0,00	0,06	-0,06
W10__Ins	449,00	0,00	0,02	-0,02
W11__Ins	447,42	0,07	0,10	-0,03
W12__Ins	475,81	0,00	0,37	-0,37
W13__Ins	450,92	0,00	0,04	-0,04
W14__Ins	466,18	0,00	0,01	-0,01
W15__Ins	472,38	0,00	0,02	-0,02

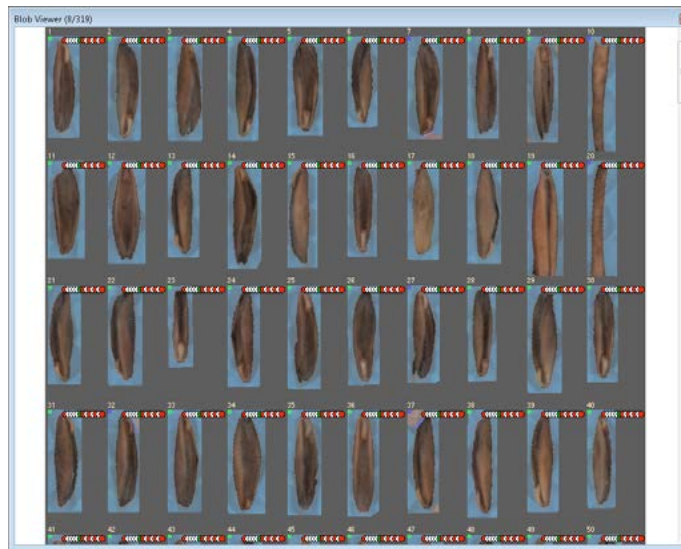
In an indicated sample an amount of 1,17 of resambling oats weed seeds (*Avena fatua* and *Bromus*) were stated.

ID	TW (g)	Foreign grains (OATS) Manual results [%]	Foreign grains (OATS) EyeFoss result [%]	Difference
W16__Ins	465,21	0,05	0,04	0,01
W17__Ins	466,89	0,00	0,01	-0,01
W18__Ins	474,48	0,00	0,10	-0,10
W19__Ins	470,50	0,00	0,00	0,00
W20__Ins	469,14	0,00	0,02	-0,02
W21__Ins	495,30	7,90	7,12	0,78
W22__Ins	482,87	14,00	12,19	1,81
W23__Ins	484,46	3,84	3,31	0,53
W24__Ins	485,73	9,86	8,92	0,94
W25__Ins	491,41	11,16	9,75	1,41
W26__Ins	517,25	5,12	5,38	-0,26
W27__Ins	477,42	0,00	0,01	-0,01
W28__Ins	483,16	2,06	1,86	0,20
W29__Ins	510,21	3,82	3,96	-0,14
W30__Ins	465,12	0,00	0,01	-0,01

Oats and wild oats



OTAS



Common wild oats and Brome grass

Foreign cereals OATS validation set (before and after)

