

C&E data in EURISCO

Discussion about use-cases for visualisation and search of C&E data

EURISCO training workshop, 19th to 21st May 2015, Tirana, Albania

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21 May 2015



AIM OF DISCUSSION

Aim of discussion

- Discuss usage of C&E data in the EURISCO web application
- Get use-cases for
 - Presentation of C&E data
 - Searching/filtering C&E data
 - Analysis of C&E data

RELATED SYSTEMS

GENESYS I

- List of datasets containing C&E data
- For each dataset
 - List of traits/methods
 - List of accessions
- C&E data as part of the accession details page

GENESYS II

Datasets

3,325 entries

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BARLEY.AGRON.ABERDEEN.00	USA
BARLEY.AGRON.ABERDEEN.98	USA
BARLEY.LAB.ABERDEEN.00A	USA
BARLEY.LAB.ABERDEEN.00B	USA
BARLEY.LAB.ABERDEEN.06	USA
BARLEY.LAB.ABERDEEN.84	USA
BARLEY.LAB.ABERDEEN.85	USA
BARLEY.LAB.ABERDEEN.86	USA
BARLEY.LAB.ABERDEEN.87	USA
BARLEY.AGRON.ABERDEEN.84	USA
BARLEY.AGRON.ABERDEEN.85	USA
BARLEY.AGRON.ABERDEEN.86	USA
BARLEY.AGRON.ABERDEEN.87	USA
BARLEY.AGRON.ABERDEEN.92	USA

GENESYS III

BARLEY.LAB.ABERDEEN.00B

2,447 entries

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Trait	Method	Unit of Measure	DB Field
Aleurone Colour	Color of the aleurone or pericarp.		ALEURONCOL
Awn Roughness	Surface roughness characteristic of the awn.		AWNROUGH
Awn Type	Presence or absence of awns or hoods on the spike.		AWNTYPE
Hull Cover	Adherence of the lemma and palea to the caryopsis.		HULL
Kernels Per Spike	Average number of kernels per spike, based on five typical spikes.		KERNELSPIK
Lemma Color	Color of the lemma or hull cover.		LEMMACOLOR
Rachilla Hair Length	Length of rachilla hairs.		RACHHAIR
Spike Density	Visual measure of spike density.		SPIKEDENS
Spike Row Number	Spike row number characteristic.		SPIKEROW

Download ZIP

	Accession number	Scientific name	ALEURONCOL	AWNROUGH	AWNTYPE	HULL	KER
1	<input type="checkbox"/> Clho 1584	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			42
2	<input type="checkbox"/> Clho 1793	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>					48
3	<input type="checkbox"/> PI 584950	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)		COVERED	50
4	<input type="checkbox"/> Clho 3694	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			18
5	<input type="checkbox"/> Clho 4138	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>	BLUE	ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			43
6	<input type="checkbox"/> Clho 6251	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			54

GENESYS IV

Aleurone Colour

filter.crop: [Barley](#)

Trait	Method	Same As	DB Field	Unit of Measure
Aleurone Colour	Color of the aleurone or pericarp.		ALEURONCOL	

Coding table

BLACK count=487				1
BLACK AND WHITE count=19				1A
BLACK AND BROWN count=79				1B
BLUE count=1112				2
BROWN count=52				3
BROWN AND WHITE count=4				3A
GREY count=110				4
PURPLE count=80				5
RED count=				6
TAN count=15				7
WHITE/AMBER count=5528				8
YELLOW count=256				9
GREEN count=				G

GENESYS V

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BARLEY.LAB.ABERDEEN.00B

2,447 entries

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Trait	Method	Unit of Measure	DB Field
Aleurone Colour	Color of the aleurone or pericarp.		ALEURONCOL
Awn Roughness	Surface roughness characteristic of the awn.		AWNROUGH
Awn Type	Presence or absence of awns or hoods on the spike.		AWNTYPE
Hull Cover	Adherence of the lemma and palea to the caryopsis.		HULL
Kernels Per Spike	Average number of kernels per spike, based on five typical spikes.		KERNELSPIK
Lemma Color	Color of the lemma or hull cover.		LEMMACOLOR
Rachilla Hair Length	Length of rachilla hairs.		RACHHAIR
Spike Density	Visual measure of spike density.		SPIKEDENS
Spike Row Number	Spike row number characteristic.		SPIKEROW

[Download ZIP](#)

	Accession number	Scientific name	ALEURONCOL	AWNROUGH	AWNTYPE	HULL	KER
1	<input type="checkbox"/> Clho 1584	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			42
2	<input type="checkbox"/> Clho 1793	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>					48
3	<input type="checkbox"/> PI 584950	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)		COVERED	50
4	<input type="checkbox"/> Clho 3694	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			18
5	<input type="checkbox"/> Clho 4138	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>	BLUE	ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			43
6	<input type="checkbox"/> Clho 6251	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i>		ROUGH (BARBS OVER ENTIRE LENGTH OF AWN)			54

GENESYS VI

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Characterization & Evaluation data

Awn Roughness	ROUGH (BARBS OVER ENTIRE LENGTH OF AWN) ⁴	Surface roughness characteristic of the awn.
Awn Type	AWNED ¹⁷	Presence or absence of awns or hoods on the spike.
Hull Cover	COVERED ¹⁸	Adherence of the lemma and palea to the caryopsis.
Kernels Per Spike	42 ⁴	Average number of kernels per spike, based on five typical spikes.
Lemma Color	TAN ⁷⁶	Color of the lemma or hull cover.
Rachilla Hair Length	LONG ⁴	Length of rachilla hairs.
Spike Density	LAX (RACHIS INTERNODE LENGTH = OR > 4 MM.) ⁴	Visual measure of spike density.
Spike Row Number	SIX ROWED ¹⁷	Spike row number characteristic.
Beta Glucan	4.81 ³⁴	Beta Glucan content of the kernel, expressed as percent dry weight basis.
Lipid	2.00 ³⁴	Lipid content of the kernel, expressed as percent dry weight basis.
Protein	10.42 ³⁴	Protein content of the kernel, expressed as percent dry weight basis.
BSMV Free	YES-ABSENCE OF BSMV ³⁸	Kernels free of Barley Stripe Mosaic Virus, based on visual and ELISA evaluations.
Barley Yellow Dwarf Virus	4 (1 = RESIS - 9 = SUSC) ⁵⁴	Reaction to Barley Yellow Dwarf Virus.
Net Blotch	3 (1 = RESIS - 9 = SUSC) ⁸⁰	Reaction to Net Blotch (incited by <i>Pyrenophora teres</i>) scale 1-9.
Spot Blotch	6 (1 = RESIS - 9 = SUSC) ¹¹⁶	Reaction to Spot Blotch (incited by <i>Cochliobolus sativus</i>).

GBIS I

- Search by passport data
 - Availability of C&E data highlighted in the accessions list
- Stepwise search for accessions with C&E data
 - Crop → trait(s) → score
- C&E data as part of the accession details page

GBIS II

Step-wise search

[Free-text search](#)

[Advanced search](#)


Limit the search to accessions that can be ordered
If you do not mark this option, the result may also contain accessions that cannot be ordered.

Step-wise search

With this search option you search for accessions using passport descriptors. You can define up to 12 criteria which will be combined with „and“. This means that each of the entered criteria has to be met for an accession to be shown in the result list.

crop category for obseravtions = Allium 

Search for:

crop category for obseravtions = Allium 

Please enter all needed criteria by using the „+“ icon before submitting the search.

Below please find a list of descriptors for which there are C&E data available for the crop specified. Next to each descriptor, there is a list of its possible values (codes in parentheses). To assist you in defining your search criteria, the number of accessions having the particular value is shown below the checkbox. For the trait you are interested in you have to de-select the unwanted properties including the checkbox „unknown“.

Deskriptor:

plant height [cm]	= <input type="text"/> . <input type="text"/> cm 15,00 <- 51,47 -> 120,00 (181)						unknown <input checked="" type="checkbox"/> 1293
Foliage colour	medium green (5) <input checked="" type="checkbox"/> 268	(4) <input checked="" type="checkbox"/> 1	light green (3) <input checked="" type="checkbox"/> 3	dark green (7) <input checked="" type="checkbox"/> 112			unknown <input checked="" type="checkbox"/> 1179
flower colour	creamy (2) <input checked="" type="checkbox"/> 11	yellow (3) <input checked="" type="checkbox"/> 3	white (1) <input checked="" type="checkbox"/> 58	green (8) <input checked="" type="checkbox"/> 2	violet (5) <input checked="" type="checkbox"/> 62		unknown <input checked="" type="checkbox"/> 1338
Outer skin colour	white (1) <input checked="" type="checkbox"/> 93	purple (3) <input checked="" type="checkbox"/> 31	white with coloured stripes (2) <input checked="" type="checkbox"/> 95				unknown <input checked="" type="checkbox"/> 1373
Foliage attitude	semi-erect (6) <input checked="" type="checkbox"/> 48	intermediate (5) <input checked="" type="checkbox"/> 199	prostrate (3) <input checked="" type="checkbox"/> 8	erect (7) <input checked="" type="checkbox"/> 6	semi-prostrate (4) <input checked="" type="checkbox"/> 125		unknown <input checked="" type="checkbox"/> 1179
100-bulbil weight <input type="text"/> weight of 100 bulbils	medium (2) <input checked="" type="checkbox"/> 13	high (3) <input checked="" type="checkbox"/> 50	low (1) <input checked="" type="checkbox"/> 32				unknown <input checked="" type="checkbox"/> 1381
Skin colour of the clove	yellow and light brown (2)	red and violet (4)	white (1)	brown (3)			unknown

GBIS III

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Results

Your query: botanical name: genus = Allium
Ordered by:
Results: 2742
Already selected records: 0

Items shown per page: 50

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* If no entry is marked complete list can be exported. The download is limited on 15000 data sets.

Accession number	scientific name	Accession name	Country of origin	Donor/Expedition	Availability	Form of delivery	Characterisation & Evaluation Data	Aegis
<input type="checkbox"/> ALL 2038	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	Ekkehard	Germany	D: Pfl.-Zucht Albert Haubner: Albert Haubner 61/41	not available	Seed collection	N	N
<input type="checkbox"/> ALL 1726	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	KONG RICHARD	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63291	available	Seed collection	N	J
<input type="checkbox"/> ALL 1755	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	CARENTAN	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63292	limited	Seed collection	N	J
<input type="checkbox"/> ALL 1897	Allium x proliferum (Moench) Schrad. ex Willd.		Italy		limited	Field collection	J	N
<input type="checkbox"/> ALL 1875	Allium cepa L. Common Onion Group		Spain	E: Sammelreise Spanien/Galizien Juli 1999: 202	currently not available	Seed collection	N	N
<input type="checkbox"/> ALL 1712	Allium cepa L. Common Onion Group	LISA	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63853	limited	Seed collection	J	N
<input type="checkbox"/> ALL 1771	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	WINTERRIESEN 2	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63231	limited	Seed collection	N	N
<input type="checkbox"/> ALL 2047	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	Janos	Netherlands	D: Firma Peto Europe B.V.: ST. 5/70	not available	Seed collection	N	N
<input type="checkbox"/> ALL 2044	Allium ampeloprasum L. subsp. ampeloprasum L. Leek Group	Kampus	Netherlands	D: Firma Peto Europe B.V.: Ap 1.102/83	not available	Seed collection	N	N
<input type="checkbox"/> ALL 1762	Allium cepa L. Common Onion Group	PRONTO	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63233	limited	Seed collection	N	N
<input type="checkbox"/> ALL 1718	Allium cepa L. Common Onion Group	JUWARUND	Germany	D: BAZ, Braunschweig Genetic Resources Centre: 63852	limited	Seed collection	N	N

GBIS IV

Country of origin: DEU (Germany)

+ Donor

Designation: BAZ, Braunschweig Genetic Resources Centre: 63853

+ Expedition

Name:

- Characterisation and Evaluation Data

In our database there are data on 3 descriptors for this accession.

The following table lists the descriptors and its value(s) for the present accession (codes in parentheses). By clicking the Plus icon, the single values are listed separately with reference to the corresponding experiment. The plus icon in front of the experiment allows to get more details for this experiment.

Descriptor	Observed values
bulb flesh colour	<input type="checkbox"/> creamy (1) All observed values: creamy (1) <input type="checkbox"/> Onion (2013) Experimenter: Karina Krusch Institution: IPK - Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung, Abteilung Genbank Germany Description:
bulb skin colour	<input type="checkbox"/> light brown (1) All observed values: light brown (1) <input type="checkbox"/> Onion (2013) Experimenter: Karina Krusch Institution: IPK - Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung, Abteilung Genbank Germany Description:
homogeneity	<input type="checkbox"/> moderate homogeneous (5) All observed values: moderate homogeneous (5) <input type="checkbox"/> Onion (2013) Experimenter: Karina Krusch Institution: IPK - Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung, Abteilung Genbank Germany Description:

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YOUR REQUIREMENTS

Examples I

- Wizard-based (step-by-step) selection of C&E data?
 - By taxonomy
 - By trait
 - By experiment
 - ...
- Download of selected data (incl. metadata)?
- Descriptive statistics (on experiment level only)?
 - Min, max, avg, stddev, ...
 - Box plots, histograms, scatterplots, ...
- Comparisons?
 - Different countries of origin
 - ...

Examples II

Q Go Actions ▾

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Trait Name	Unit	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Length_primary_root_day_2	cm	.0769	5.0049	1.6267	1.0375	1.0765	.8328	1.3749	2.22075
Length_primary_root_day_3	cm	.145	8.2812	2.9827	1.7086	2.9193	1.63035	2.7457	4.010925
Length_primary_root_day_6	cm	.5243	19.8785	9.9115	3.4562	11.9454	7.6231	9.9545	12.1373
Length_primary_root_day_8	cm	.5973	23.1517	14.9772	4.6948	22.0415	11.8333	15.5338	18.4976
Length_primary_root_day_10	cm	2.7703	24.9071	18.5805	4.4733	20.0107	15.7547	20.2375	21.9946
Length_lateral_roots_day_2	cm	0	.542	.0036	.0379	.0014	0	0	0
Length_lateral_roots_day_3	cm	0	.6299	.0057	.0444	.002	0	0	0
Length_lateral_roots_day_6	cm	0	42.247	4.1527	5.8309	33.999	0	1.8464	6.096825
Length_lateral_roots_day_8	cm	0	130.4067	28.495	24.3938	595.056	10.6366	22.1419	37.7196
Length_lateral_roots_day_10	cm	2.4513	235.7843	66.2073	51.863	2689.7719	27.4616	50.745	88.5509
Total_root_length_day_2	cm	.0769	5.0049	1.6307	1.0403	1.0822	.8328	1.3749	2.22995
Total_root_length_day_3	cm	.145	8.2812	2.9884	1.7113	2.9286	1.636425	2.7457	4.027575
Total_root_length_day_6	cm	.5243	59.3962	14.0647	8.3458	69.652	8.49165	11.8062	17.34515
Total_root_length_day_8	cm	5.0457	151.2535	43.4908	27.7073	767.693	22.3352	37.1098	55.4076
Total_root_length_day_10	cm	10.5623	268.6712	85.2913	55.3723	3066.0905	43.067	69.7821	110.9772

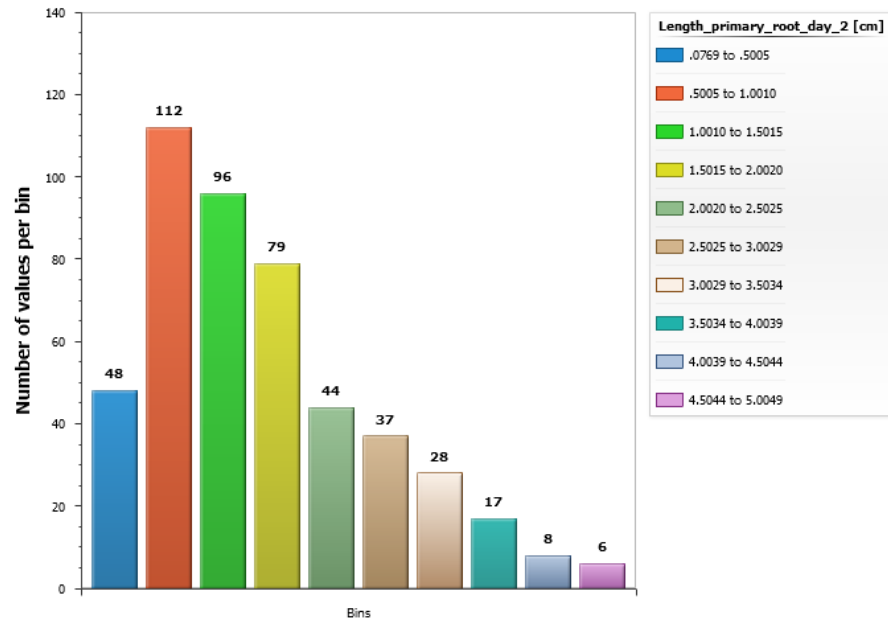
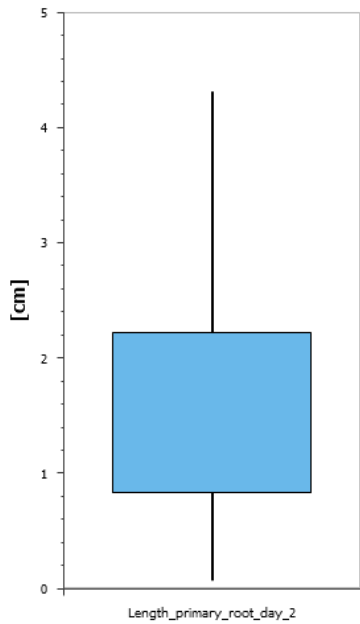
1 - 15 >

0.30 s

Examples III

Select trait:

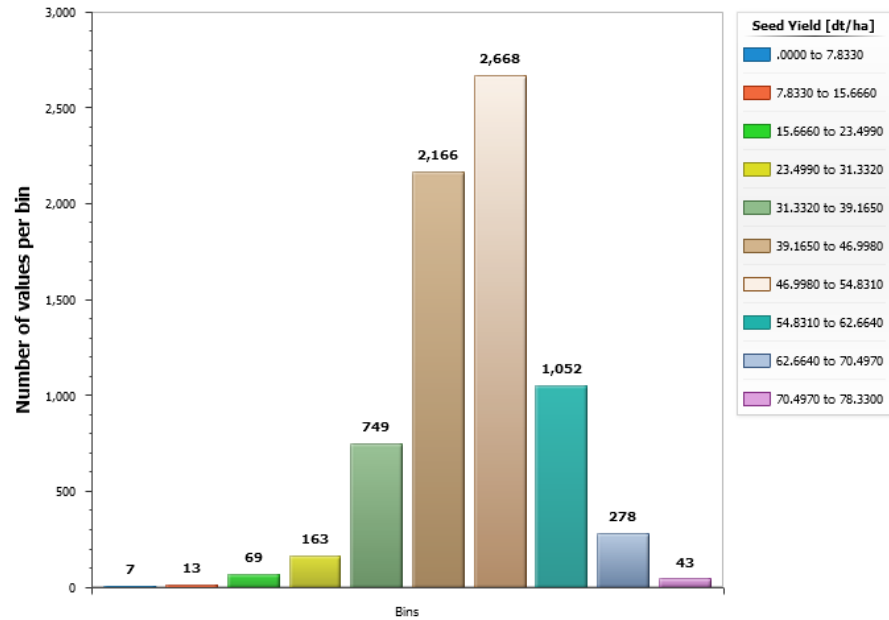
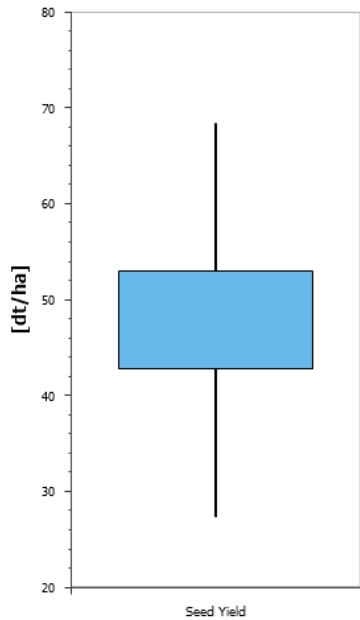
Trait	Unit	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Length_primary_root_day_2	cm	.0769	5.0049	1.6267	1.0375	1.0765	.8328	1.3749	2.22075



Examples IV

Select trait:

Trait	Unit	Minimum	Maximum	Average	Stddev	Variance	First Quartile	Median	Third Quartile
Seed Yield	dt/ha	0	78.33	47.8293	8.854	78.3934	42.76725	48.177	52.983975



Examples V

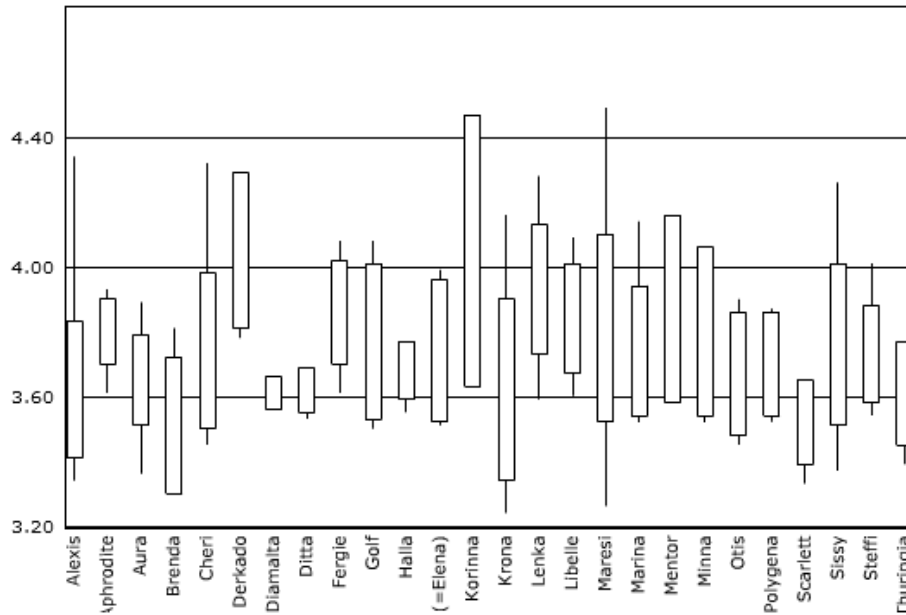
Averages per trait

real extract [%]

2-rowed

spring barley

Plot



Examples VI

Scatterplot

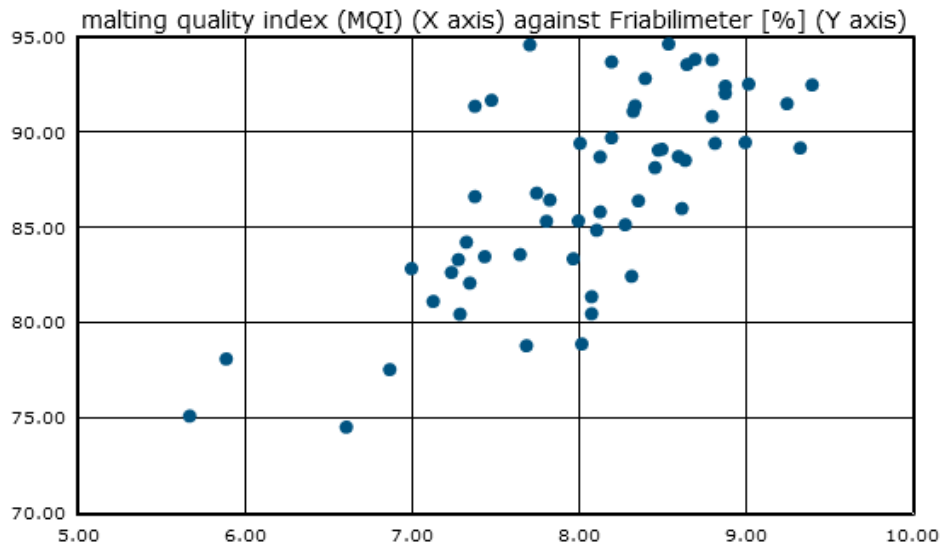
malting quality index (MQI) ▾

Friabilimeter [%] ▾

2-rowed ▾

spring barley ▾

Plot



What are your requirements?

