

Characterization & Evaluation data in SESTO

Structure maps well to Theos suggestion:

- Project - Experiment
- Descriptor - Trait
- Accession - Genotype
- Observation - Score




Characterization & Evaluation data in SESTO

Project - *Experiment*


- 36 evaluation projects
- Location on project - can be several locations

EAPGREN SINGER Bioersity SADC GBF CBD ECPGR FAO



NordGen
Nordic Genetic Resource Centre

SESTO References Utilities User Manual Links [NordGen Home]
Projects Evaluation Pictures Library



Evaluation Data Analyzer

Evaluation projects					
Acronym	Project Name	Accessions	Descriptors	Locations	Records
AG1 14	Rynchosporium resistance in spring barley, Norway	864	1	1	1591
AG1 15	Evaluation of suseptibility to DDT in winter barley, Denmark	73	1	1	84
AG1 19	Evaluation of spring wheat in Denmark	185	12	4	4822
AG1 25	Evaluation of spring rye in Denmark	29	5	1	160
AG1 26	Evaluation of spring rye in Finland	29	8	1	256
AG1 27	Evaluation of spring rye in Norway	28	5	1	155
AG1 28	Evaluation of spring rye in Sweden	30	5	1	165
AG1 36	Malting quality in spring barley	349	7	0	2443
AG1 41	Cold resistance in winter wheat	80	1	2	320
AG1 46	Evaluation of NGBs and VIRs oat material for β -glucan content	43	1	2	139
AG3 02	Characterisation of potato for morphological and agronomic traits	69	56	2	10586
AG3 06	Evaluation of Potato	65	14	4	1968
AG4 19	Evaluation of <i>Festuca pratensis</i>	13	18	0	9264
AG5 09	Evaluation Rhubarb, Denmark	71	35	1	2467
AG5 12	Jerusalem Artichoke collection in Norway	40	20	1	800
AG5 15	Evaluation of the Jerusalem Artichoke <i>Helianthus tuberosus</i> in Denmark	15	31	0	465
AG5 28	Characterization of Danish vegetable accessions received at NGB in 1997	14	15	1	393
AG5 29	Characterisation, evaluation and conservation of Danish Horse Radish (<i>Ammoracia rusticana</i>)	27	33	1	941
AG5 43	Characterisation of Rhubarb collections in Norway	43	18	1	754
AG5 47	Characterisation of white cabbage, <i>Brassica oleracea</i> var. <i>capitata</i> f. <i>alba</i>	44	22	2	3696
AG5 48	Characterization of red cabbage <i>Brassica oleracea</i> var. <i>Capitata</i> f. <i>Rubra</i>	6	24	2	576
AG5 50	Characterisation and digital photo documentation of chives <i>Allium schoenoprasum</i> L.	58	15	0	870
AG5 52	Characterisation of <i>Allium ascalonium</i>	26	20	1	540
AG5 53	Evaluation of chemical content in white and red cabbage	50	14	2	1399
AG5 54	Morphological description of <i>Brassica napus</i> var. <i>napobrassica</i>	70	17	2	4501
AG5 55	Evaluation of chemical content in Swedes <i>Brassica napus</i> var. <i>napobrassica</i>	70	16	2	2163
AG5 IS-2	Characterisation of rhubarb in Iceland	16	18	0	288
AG6 08	Evaluation of fatty acid content in flax <i>Linum usitatissimum</i>	218	8	0	1744
EU5 98-105	The Future of European Carrot: a programme to conserve, characterise, evaluate and collect carrot and wild relatives RESGEN PL98 105	71	39	0	3937
EU5 EU-1	Protecting future European Community Crops: a programme to conserve, characterise, evaluate and collect ALLIUM Crops and wild species. RESGEN CT 95-020	20	12	0	240

Characterization & Evaluation data in SESTO

Descriptor - Trait

Chives: Flowers: Number per inflorescence (3=Few, 5=Medium, 7=Many)	975	UPOV TG/198/1-16		BOT	ORD
Chives: form of crosssection	961	UPOV TG/198/1-2(11)		BOT	ORD
Chives: leafattitude (1:opret 3:halvopret 5:plan)	968	UPOV TG/198/1-7(3)		BOT	ORD
Chives: leafcolour (3:light 5:medium 7:dark)	966	UPOV TG/198/1-5(7)		BOT	ORD
Chives: leafcolour (charnr.)	965	UPOV TG/198/1-5(6)		BOT	ORD
Chives: leafdiameter (3:small 5:medium 7:large)	964	UPOV TG/198/1-4(10)		BOT	ORD
Chives: leaflength (3:short 5:medium 7:long)	962	UPOV TG/198/1-3(1)		BOT	ORD
Chives: leaflength (scale: cm)	963	UPOV TG/198/1-3(9)		BOT	ABS
Chives: leafvasiness (3:weak 5:medium 7:strong)	967	UPOV TG/198/1-6(5)		BOT	ORD
Chives: Seed coat colour (1=Brown, 2=Black, 96: other (specify))	976	UPOV TG/198/1-18		BOT	ORD
Chives: Susceptibility to downy mildew (Peronospora destructor) (3=Low, 5=Medium, 7=High)	971	UPOV TG/198/1-11		BOT	ORD
Chives: Susceptibility to rust (Puccinia allii) (scale 3-7)	970	UPOV TG/198/1-10		BOT	ORD
Chives: susceptibility to yellow leaf tips (3=Low, 5=Medium, 7=High)	969	UPOV TG/198/1-9		BOT	ORD
Chives: tendency to branching (scale 3-7)	960	UPOV TG/198/1-1	Chives	BOT	ORD
Chlorogenic acid content (scale 1-9 from very high to very low)	251	CGA_CONTENT	Potato	BOT	ORD

- Overlap
- Divided into classes: BOT, AGR, CHE, CLT, GEN, PAS, RES, TOL, UTI, ADM
- Scale type: ABS, ITV, NOM, ORD, RAT, REL
- Units
- Source reference, e.g. UPOV

Chives: Susceptibility to downy mildew (Peronospora destructor) (3=Low, 5=Medium, 7=High)

Descriptor data							
Descriptor name	Chives: Susceptibility to downy mildew (Peronospora destructor) (3=Low, 5=Medium, 7=High)						
Descriptor acronym	UPOV TG/198/1-11 (971)						
Descriptor source	UPOV guideline TG/198/1, april 2003						
Descriptor class	BOT						
Scale type	ORD						
Decoding of values	3=Low, 5=Medium, 7=High						
Total variation							
	x	SD	CV	n	Min	Max	Distribution
Chives: Susceptibility to downy mildew (Peronospora destructor) (3=Low, 5=Medium, 7=High)	4.91	1.29	0.26	57	3	7	
Variation by country of origin							
	x	SD	CV	n	Min	Max	Distribution
Denmark	4.50	1.29	0.29	4	3	6	
Sweden	4.87	1.15	0.24	39	3	7	
Finland	5.14	1.66	0.32	14	3	7	

[Show accessions](#)

Characterization & Evaluation data in SESTO

Accession - *Genotype*

- Not all observed entities are accessions
- Flag on genotype for "This is reference genotype"

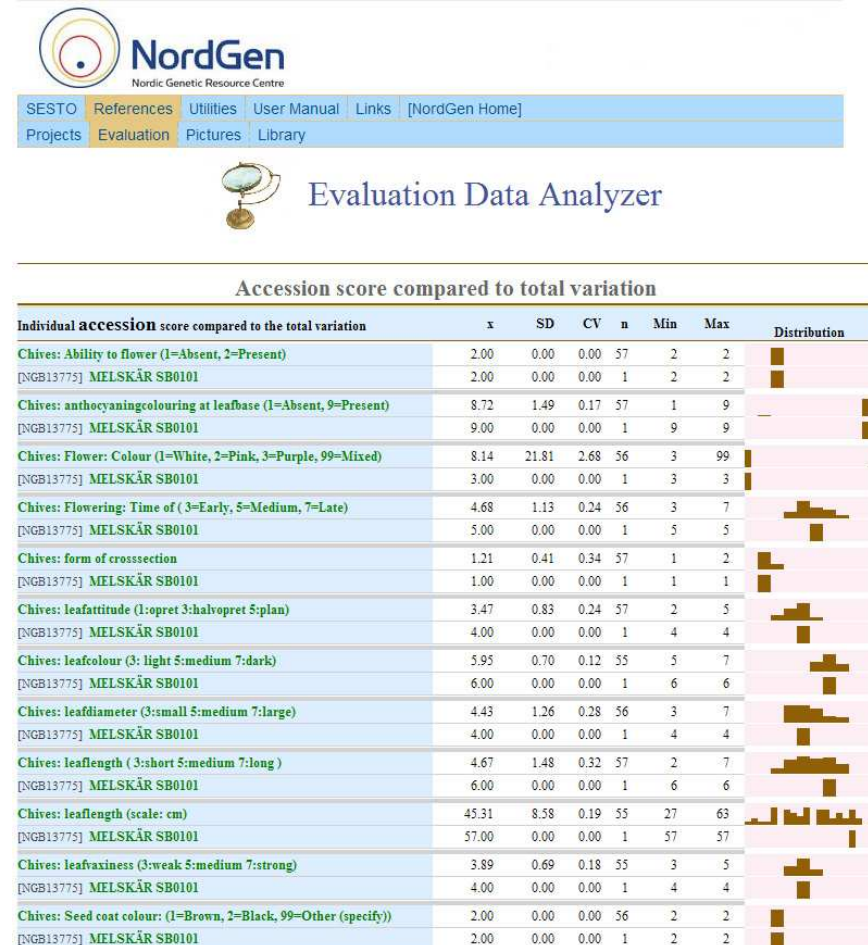
Accessions	x	SD	CV	n	Min	Max	Distribution
[NGB13726] RUSSVÅTAR ET0602	5.00	0.00	0.00	1	5	5	
[NGB14569] VICKLEBY BJ0101	5.00	0.00	0.00	1	5	5	
[NGB13775] MELSKÅR SB0101	4.00	0.00	0.00	1	4	4	
[NGB13735] BUTLEKS ET0503	3.00	0.00	0.00	1	3	3	
[NGB14575] GRYS SKÅRGÅRD PH0401	6.00	0.00	0.00	1	6	6	
[NGB14573] HÅRSTENA NORR PH0101	7.00	0.00	0.00	1	7	7	
[NGB14619] ASPÖ KO0101	5.00	0.00	0.00	1	5	5	
[NGB13723] ÖSTERGÅRN ET0501	6.00	0.00	0.00	1	6	6	
[NGB14621] ÖL	5.00	0.00	0.00	1	5	5	
[NGB14620] VÅDDÖ BJ0101	5.00	0.00	0.00	1	5	5	
[NGB14572] STORA ALVARET KO0101	4.00	0.00	0.00	1	4	4	
[NGB13731] HAMMARS ET0301	5.00	0.00	0.00	1	5	5	
[NGB13716] SUDERBYS ET0101	4.00	0.00	0.00	1	4	4	
[NGB13720] KLINTE ET0202	5.00	0.00	0.00	1	5	5	
[NGB16068] BOMARSUND RS0201	3.00	0.00	0.00	1	3	3	
[NGB13719] KLINTE ET0201	5.00	0.00	0.00	1	5	5	
[NGB16067] GODBY RS0101	7.00	0.00	0.00	1	7	7	
[NGB14536] LAUTER	5.00	0.00	0.00	1	5	5	
[NGB16066] LÖVÖ RS0101	3.00	0.00	0.00	1	3	3	
[NGB13727] BRÖ ET0101	6.00	0.00	0.00	1	6	6	
[NGB16065] DÄNÖ SS0101	3.00	0.00	0.00	1	3	3	
[NGB13728] HEJNUM HÅLLAR ET0201	7.00	0.00	0.00	1	7	7	
[NGB16064] VÄLÖ RS0101	4.00	0.00	0.00	1	4	4	
[NGB13725] RUSSVÅTAR ET0601	5.00	0.00	0.00	1	5	5	
[NGB15098] VISKÅR AH0101	6.00	0.00	0.00	1	6	6	
[NGB14571] SKÅNHOLMEN PH0501	4.00	0.00	0.00	1	4	4	
[NGB13736] LAUTER ET0601	4.00	0.00	0.00	1	4	4	
[NGB13718] BÅLSALVRET ET0101	3.00	0.00	0.00	1	3	3	
[NGB13733] BUTLEKS ET0501	3.00	0.00	0.00	1	3	3	
[NGB14561] STENÅSA BJ0101	4.00	0.00	0.00	1	4	4	
[NGB13732] FÄRÖ KYRKA ET0401	3.00	0.00	0.00	1	3	3	
[NGB13729] HEJNUM HÅLLAR ET0202	7.00	0.00	0.00	1	7	7	
[NGB13772] RUNMARÖ JTJ0201	5.00	0.00	0.00	1	5	5	
[NGB13773] BJÖRKVIK VS0101	6.00	0.00	0.00	1	6	6	
[NGB13771] RUNMARÖ JTJ0101	5.00	0.00	0.00	1	5	5	
[NGB13774] HÅNDELÖP MW0101	3.00	0.00	0.00	1	3	3	
[NGB13777] SPILLERSBODA ML0101	5.00	0.00	0.00	1	5	5	
[NGB13776] FINNHAMN IN0101	4.00	0.00	0.00	1	4	4	
[NGB15097] ÖSTRA EKNÖ PH0101	6.00	0.00	0.00	1	6	6	
[NGB14576] YTTRE BADEN PH0301	5.00	0.00	0.00	1	5	5	

Characterization & Evaluation data in SESTO

Observation - Score

Possibly for each score:

- Location
- Date
- Reference to responsible person
- Growth stage
- Where on plant



Accession score compared to total variation

Individual accession score compared to the total variation	x	SD	CV	n	Min	Max	Distribution
Chives: Ability to flower (1=Absent, 2=Present)	2.00	0.00	0.00	57	2	2	
[NGB13775] MELSKÅR SB0101	2.00	0.00	0.00	1	2	2	
Chives: anthocyanincolouring at leafbase (1=Absent, 9=Present)	8.72	1.49	0.17	57	1	9	
[NGB13775] MELSKÅR SB0101	9.00	0.00	0.00	1	9	9	
Chives: Flower: Colour (1=White, 2=Pink, 3=Purple, 99=Mixed)	8.14	21.81	2.68	56	3	99	
[NGB13775] MELSKÅR SB0101	3.00	0.00	0.00	1	3	3	
Chives: Flowering: Time of (3=Early, 5=Medium, 7=Late)	4.68	1.13	0.24	56	3	7	
[NGB13775] MELSKÅR SB0101	5.00	0.00	0.00	1	5	5	
Chives: form of crosssection	1.21	0.41	0.34	57	1	2	
[NGB13775] MELSKÅR SB0101	1.00	0.00	0.00	1	1	1	
Chives: leafattitude (1:opret 3:halvopret 5:plan)	3.47	0.83	0.24	57	2	5	
[NGB13775] MELSKÅR SB0101	4.00	0.00	0.00	1	4	4	
Chives: leafcolour (3: light 5:medium 7:dark)	5.95	0.70	0.12	55	5	7	
[NGB13775] MELSKÅR SB0101	6.00	0.00	0.00	1	6	6	
Chives: leafdiameter (3:small 5:medium 7:large)	4.43	1.26	0.28	56	3	7	
[NGB13775] MELSKÅR SB0101	4.00	0.00	0.00	1	4	4	
Chives: leaflength (3:short 5:medium 7:long)	4.67	1.48	0.32	57	2	7	
[NGB13775] MELSKÅR SB0101	6.00	0.00	0.00	1	6	6	
Chives: leaflength (scale: cm)	45.31	8.58	0.19	55	27	63	
[NGB13775] MELSKÅR SB0101	57.00	0.00	0.00	1	57	57	
Chives: leafvaxiness (3:weak 5:medium 7:strong)	3.89	0.69	0.18	55	3	5	
[NGB13775] MELSKÅR SB0101	4.00	0.00	0.00	1	4	4	
Chives: Seed coat colour: (1=Brown, 2=Black, 99=Other (specify))	2.00	0.00	0.00	56	2	2	
[NGB13775] MELSKÅR SB0101	2.00	0.00	0.00	1	2	2	



SESTO - EPGRIS3

mapping overview

[online search example](#)

EPGRIS3.class	EPGRIS3.descriptor	SESTO.table	SESTO.column	my_remarks
DATASET	NICODE	*	"NORDGEN", "NGB"	Trait dataset only as a container, not separate SESTO table...?
DATASET	DATASET_REMARK		NA	SESTO: we should add a table for trait dataset...?
EXPERIMENT	EXPERIMENT_NUMBER	protab_ngb	proide	PK
EXPERIMENT	EXPERIMENT_DESCRIPTION	protab_ngb	engdestxt	
EXPERIMENT	EXPERIMENT_YEAR	protab_ngb	year_first	Project start-up year
EXPERIMENT	EXPERIMENT_REPORT	protab_ngb	rsutxt	Project results (not limited to project report)
* EXPERIMENT	(EXPERIMENT_NAME)	protab_ngb	engpronam	Project name
* EXPERIMENT	(EXPERIMENT_ACRONYM)	protab_ngb	procodnum	Project number
* EXPERIMENT	(EXPERIMENT_YEAR_LAST)	protab_ngb	year_last	Last year of project activity
* EXPERIMENT	(EXPERIMENT_COORDINATOR)	protab_ngb	propernum	Person role as project leader (experiment coordination)
* EXPERIMENT	(EXPERIMENT_INSTITUTE)	protab_ngb	proinsnum	Institute role as project leader
* EXPERIMENT	(EXPERIMENT_LOCATION)	protab_ngb	locnum -> loctab.locnum	"Default" experiment location, eg. same location for all scores
* EXPERIMENT	(MODIFIER_ID) *	(modifier)	(modifier_id)	
TRAIT	TRAIT_NUMBER	obsdsc	dscnum	PK
TRAIT	TRAIT_NAME	obsdsc	dscnam	
TRAIT	TRAIT_REMARK	obsdsc	remtxt	
TRAIT	TRAIT_METHOD	obsdsc	* split as below in SESTO *	
* TRAIT	(TRAIT_CLASS)	obsdsc	dsccls	Class: AGR BOT CHE CLT GEN PAS RES TOL UTI ADM NAK
* TRAIT	(TRAIT_SCALE)	obsdsc	dscsca	Scale: ABS ITV NOM ORD RAT REL
* TRAIT	(TRAIT_ACRONYM)	obsdsc	dscacr	Trait, descriptor acronym
* TRAIT	(TRAIT_SOURCE)	obsdsc	dscsrc	Source: UPOV, Bioversity/IPGRI, etc...
* TRAIT	(TRAIT_DECODING)	obsdsc	dscdco	Decoding remarks (planned ---> decoding table)
* TRAIT	(TRAIT_DATA_TYPE)	obsdsc	fietyt	Data type: Character, Float, Integer, Numeric (C F I N)
GENOTYPE	GENOTYPE_NUMBER	acctab_ngb	accide	Perhaps a trait genotype object could be useful
GENOTYPE	GENOTYPE_INSTCODE	acctab_ngb	gbkinsnum -> instab.inscod	gbkinsnum is FK key to instab.inscod
GENOTYPE	GENOTYPE_ACCENUMB	acctab_ngb	acnumtxt	
GENOTYPE	GENOTYPE_GENUS	acctab_ngb	taxnum -> tax.gennam	taxnum is FK to tax.gennam
* GENOTYPE	GENOTYPE_STANDARD_FLAG			Flag to indicate the reference cultivars for an experiment
* GENOTYPE	GENOTYPE_TYPE			Controlled vocabulary (accession, cultivar, clone)
* GENOTYPE	GENOTYPE_KEY	acctab_ngb	culide -> cultab_ngb.culnam	culide is FK key to cultab_ngb.culnam
SCORE	GENOTYPE_NUMBER	obs	accide	FK key to accession
SCORE	EXPERIMENT_NUMBER	obs	proide	
SCORE	TRAIT_NUMBER	obs	dscnum	
SCORE	SCORE	obs	obsval	
* SCORE	(SCORE_ID)	obs	obside	PK
* SCORE	(SCORE_LOCATION_ID)	obs	locnum -> loctab.locnum	FK key to location table (long,lat, ... climate data)
* SCORE	(SCORE_DATE)	obs	obsdat	Observation date, year (YYYYMMDD)
* SCORE	(SCORE_BY_PERSON)	obs	pernum -> pertab.pernum	Person performing the individual measurement
* SCORE	(SCORE_BY_INSTITUTE)	obs	insnum -> instab.insnum	Institute in charge of the individual measurement
* SCORE	(GROWTH_STAGE)	(obs)	(growth_stage)	(before / after flowering, ripening, ...) ---> modifier
* SCORE	(MODIFIER_ID) *	(modifier)	(modifier_id)	FK key to modifier object
* SCORE	(--- GENOTYPE ---?)	obs	batnum	Seed sample, clone id
* SCORE	(--- GENOTYPE ---?)	obs	culide	Cultivar (culide is FK to cultab_ngb)
* LOCATION	(LOCATION_NUMBER)	loctab	locide	PK
* LOCATION	(LOCATION_NAME)	loctab	locnam	
* LOCATION	(LOCATION_LATITUDE)	loctab	latflt	"Key" to climate data
* LOCATION	(LOCATION_LONGITUDE)	loctab	lonflt	"Key" to climate data
* LOCATION	(LOCATION_ELEVATION)	loctab	alttud	
* LOCATION	(LOCATION_COUNTRY)	loctab	couacr	
* MODIFIER	(MODIFIER_ID)	* modifier	modifier_id	http://wiki.tdwg.org/SDD/
* MODIFIER	(MODIFIER_CONCEPT_ID)	* modifier	modifier_concept_id	FK key to controlled vocabulary, defined modifiers
* MODIFIER	(MODIFIER_CONCEPT)	* modifier	modifier_concept	Eg. measurement made where on plant
* MODIFIER	(MODIFIER_STATE)	* modifier	modifier_state	Eg. measurement made on leaves from the top
* MODIFIER	(MODIFIER_CLASS)	* modifier	modifier_class	Eg. biotic, abiotic, phenology, ...
* CLIMATE	PRECIPITATION_ANNUAL_MEAN	* climate	prec_annal	Climate data is attached by longitude, latitude
* CLIMATE	PRECIPITATION_JANUARY	* climate	prec_jan	
* CLIMATE	PRECIPITATION_FEBRUARY	* climate	prec_feb	
* CLIMATE	...			