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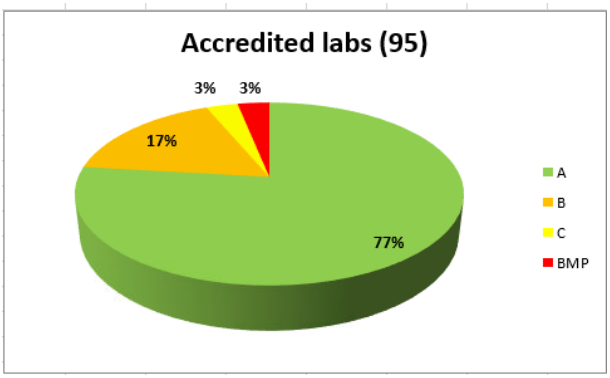
Summary report: PT 25-1 F.rub

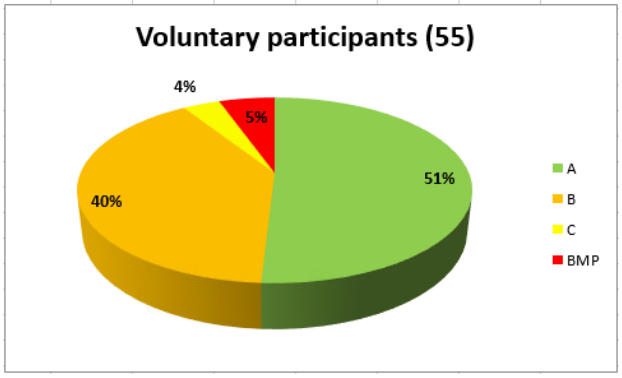
Species: *Festuca rubra*

Scope: PUR, OSD, GER, VIA (TZ test)

PURITY Ratings

Total number of participants = 150





Means and Standard Deviation
of the obligatory accredited participants
calculated for the category of pure seed

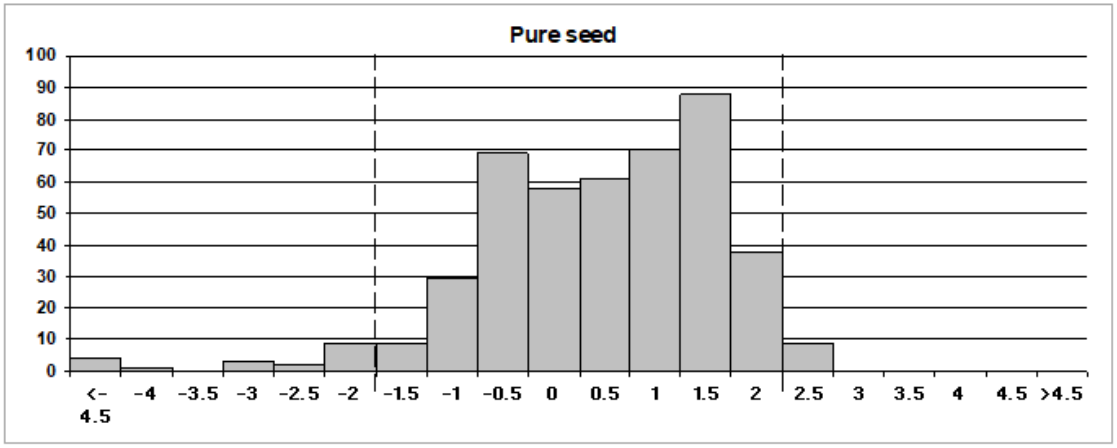
Categories	Mean Values %			Standard Deviation		
	Lot 1	Lot 2	Lot3	Lot 1	Lot 2	Lot 3
Pure seed	**98.3**	**98.0**	**97.2**	**0.65**	**0.87**	**1.19**
Other seed	0.3	0.2	0.7	-	-	-
Inert matter	1.4	1.8	2.1	-	-	-

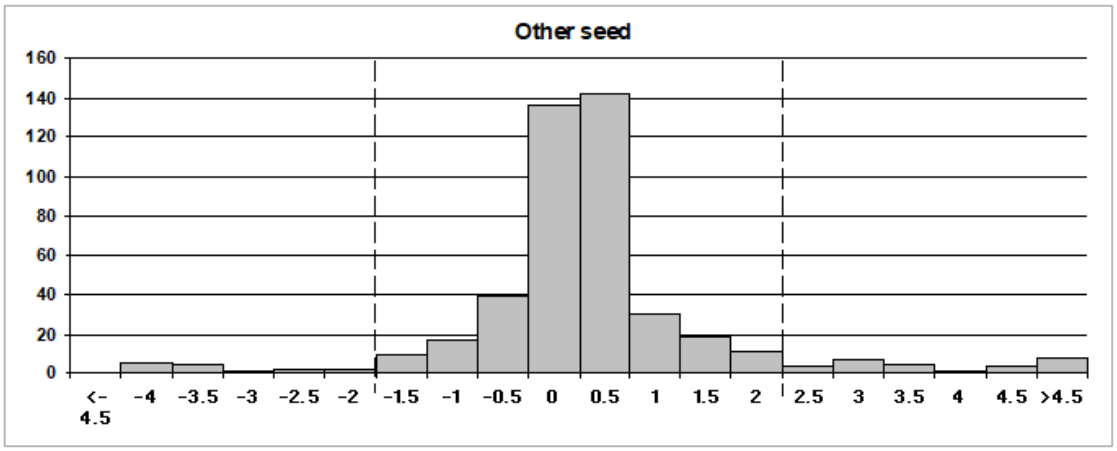
Z-score Distribution

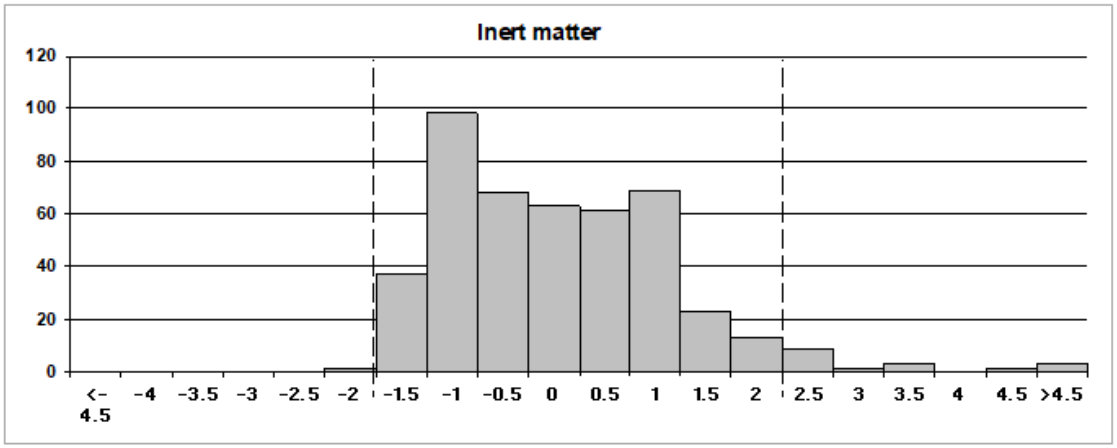
Proficiency Test Report – Test Round 25-1 F.rub

Species : Festuca rubra **Scope:** Purity

The following histograms show the frequency distributions of all participants Z-Scores for the relevant components, i.e. **Pure seed** and **Inert matter** and **Other seed**. The Z-Scores from all three samples are included in each histogram. For further explanations, please refer to the document 'The ISTA Proficiency Test Programme'

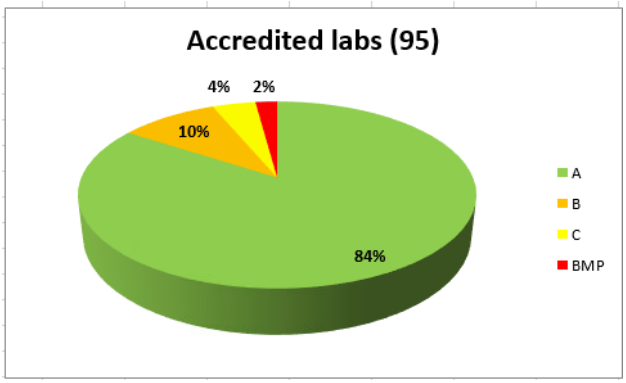


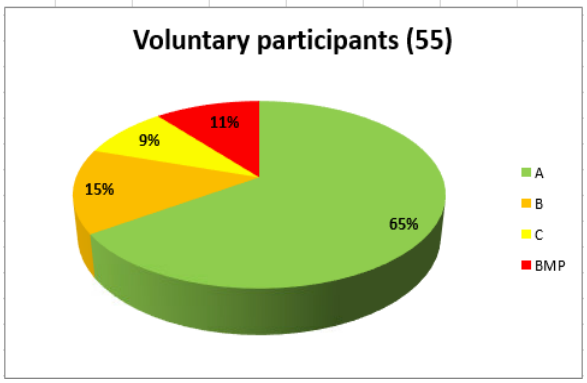




OSD Ratings

Total number of participants = 150





Retrieval rates

Proficiency Test Report - Test round 25-1 F.rub

Species: *Festuca rubra* **Scope:** Other Seed Determination

Average of seeds retrieved and identified correctly

The following table shows the retrieval rates of each species added by the test leader prior to sample dispatch. Every species that was added is assigned a value based on the actual retrieval rate of all seeds added. Thresholds are as follows:

>=90 % -> 3
>=85 % -> 2
<85 % -> 1

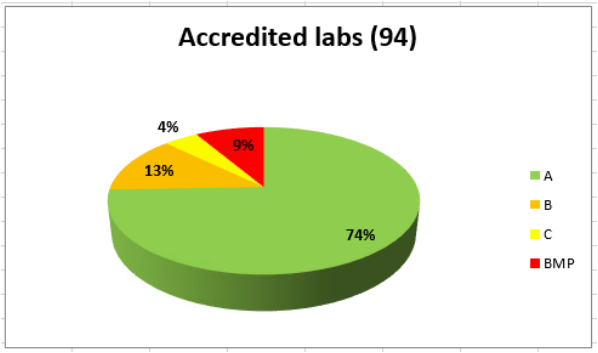
This score is multiplied with the number of seeds your laboratory reported and identified correctly. The percentage of retrieved and identified seeds is then determined and does define the in-round rating. The thresholds are as follows:

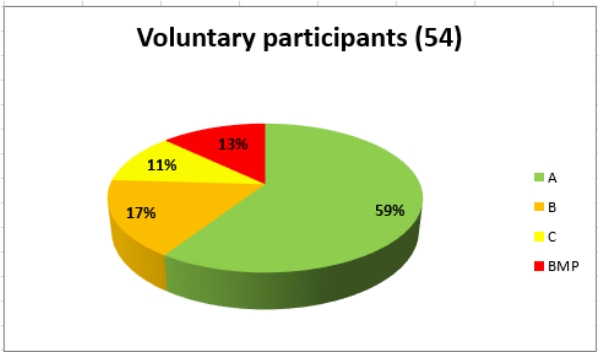
>=90 % -> A
>=80 % -> B
>=70 % -> C
<70 % -> BMP

For further details please refer to the document: "The ISTA Proficiency Test Programme".

Lot #		Species name	# of seeds added	Average # of seeds found	Retrieval rate [%]	Assigned factor
Lot 1						
	1	*Agrostis sp.*	4	3.4	84.1	1
	2	*Phalaris arundinacea*	4	3.9	96.7	3
	3	*Phleum pratense*	3	2.9	97.8	3
Lot 2						
	1	*Cynodon dactylon*	2	1.8	91.7	3
	2	*Dactylis glomerata*	2	1.4	67.9	1
	3	*Leucanthemum vulgare*	2	1.9	95.4	3
	4	*Sonchus asper*	3	2.8	93.6	3
Lot 3						
	1	*Lolium spp.*	3	2.4	80.8	1
	2	*Panicum capillare*	3	2.9	96.5	3
	3	*Psathyrostachys juncea*	4	2.2	54.8	1

GERMINATION Ratings **Total number of participants = 148**





Means and Standard Deviation
of the obligatory accredited participants
calculated for the category of normal seedlings

Categories	Mean Values %			Standard Deviation		
	Lot 1	Lot 2	Lot3	Lot 1	Lot 2	Lot 3
Normal seedlings	**84**	**89**	**56**	**3.12**	**2.26**	**5.63**
Abnormal seedlings	3	2	6	-	-	-
Non-germinated seed	14	10	38	-	-	-

Method used
overview for all participants
presented for the temperature, substrate and pretreatment

Temperature °C	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
20⇔30	73	44	117
15⇔25	21	6	27
20*		1	1
20⇔25*		1	1
Not reported		2	1

* these temperatures are not prescribed in the ISTA Rules

Substrate	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
TP	89	50	139
BP	1		1
PP	4	2	6
Not reported		2	2

Pretreatment	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
No treatment	28	30	**58**
Prechill	38	12	**50**
KNO_3	18	7	**25**
prechill + KNO_3	5	3	**8**
Light	3		**3**
Not reported	2	2	**4**

Specific note on fresh seed

The heterogeneity test did not show presence of fresh seed in the selected seed lots, however, some participants reported this category of seed, as follows:

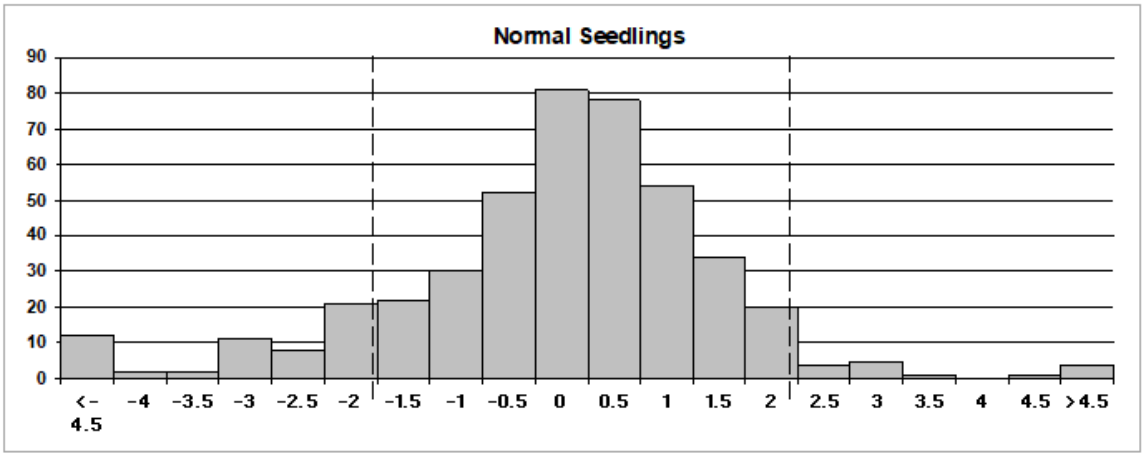
Fresh seed reported	> 5% found	Comment given by the lab about check when >5% fresh seed with TZ test (ISTA Rule 5.6.5.3)
8 accredited	6 labs out of 8 accredited	2 labs out of 6 with >5%
11 non-accredited	4 labs out of 11 non-accredited	none

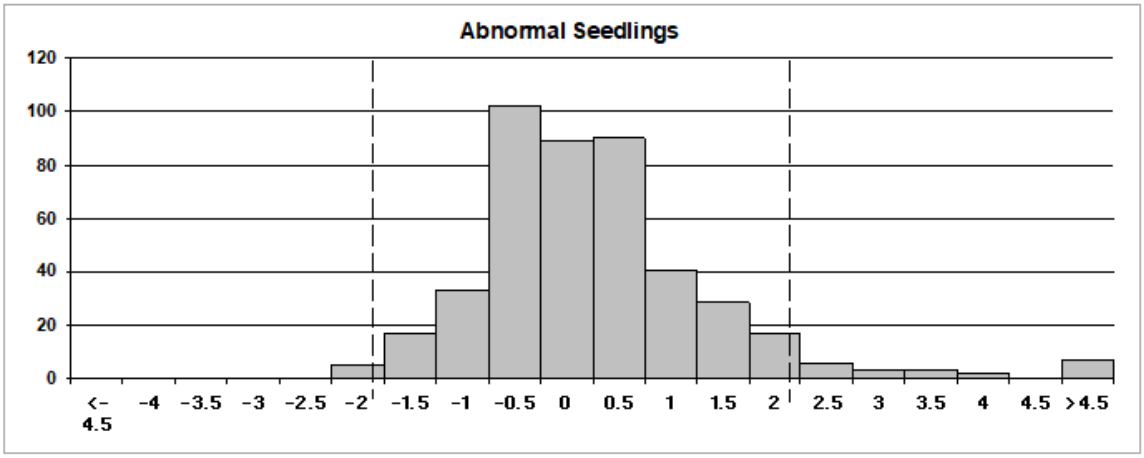
Z-score Distribution

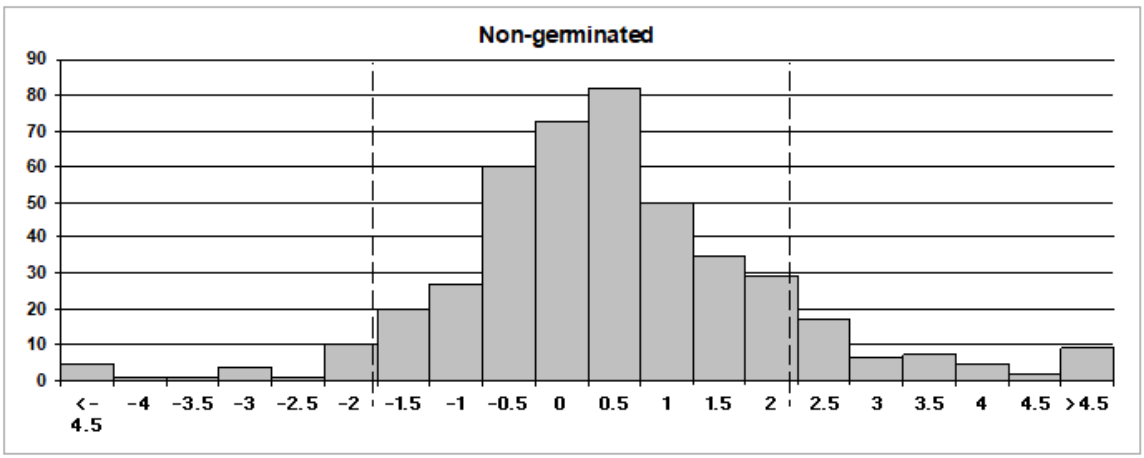
Proficiency Test Report – Test Round 25-1 F.rub

Species : Festuca rubra **Scope:** Germination

The following histograms show the frequency distributions of all participants Z-Scores for the relevant components, i.e. **Normal** and **Abnormal Seedlings** and **Non-germinated Seeds**. The Z-Scores from all three samples are included in each histogram. For further explanations, please refer to the document 'The ISTA Proficiency Test Programme'

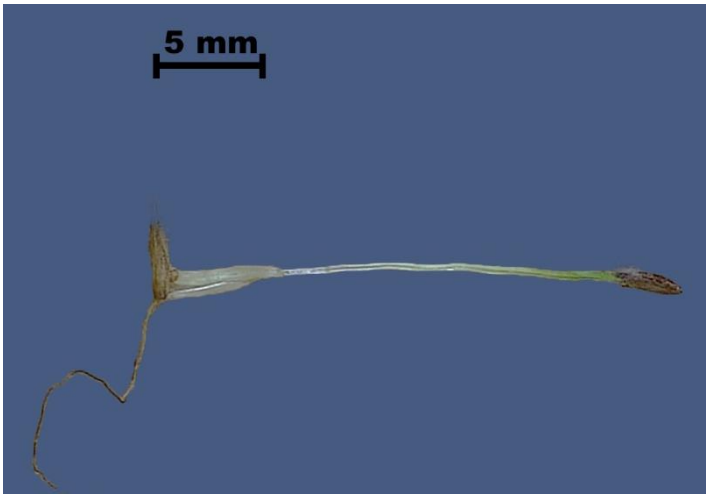


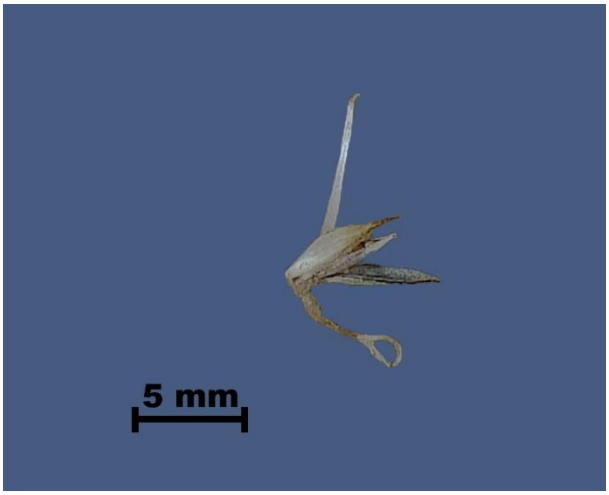




Lot 1 - normal seedlings

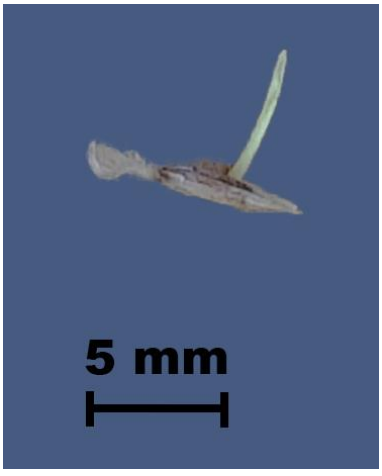
Lot 1 - abnormal seedlings

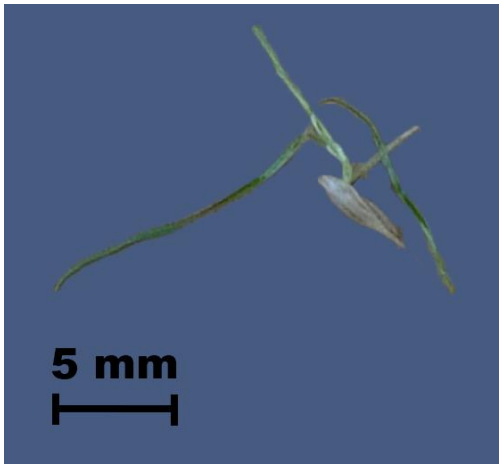




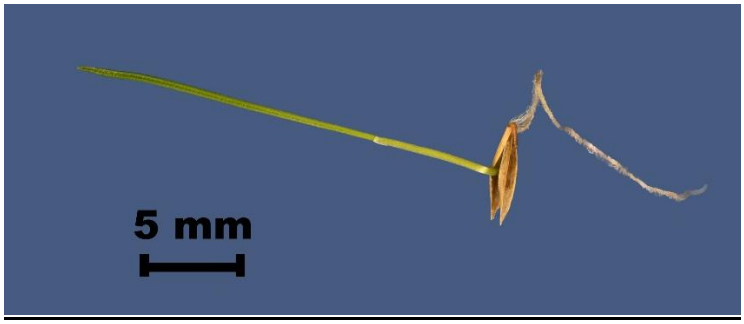
Lot 2 - normal seedlings

Lot 2 - abnormal seedlings

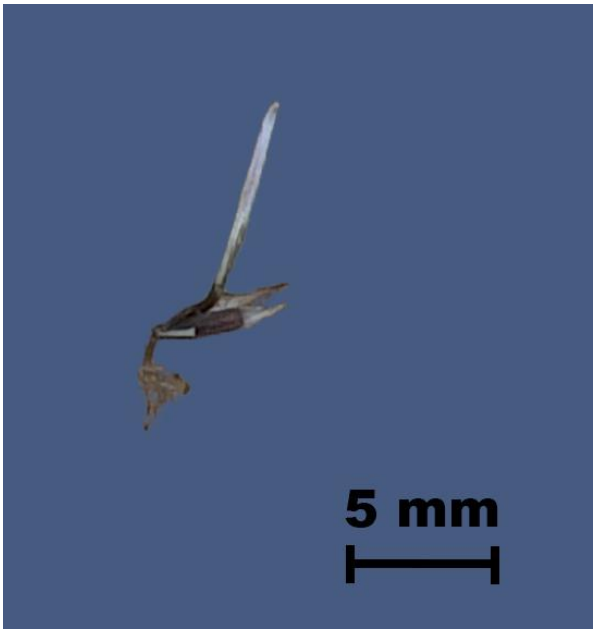


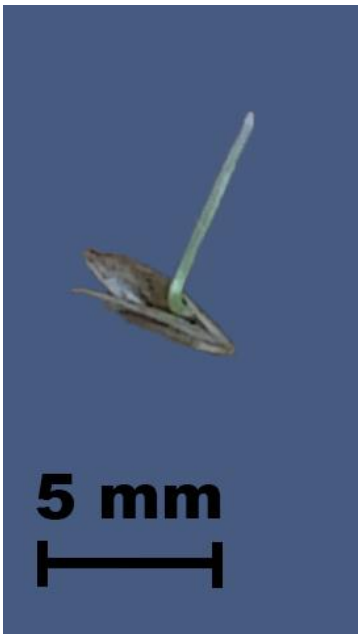


Lot 3 - normal seedlings

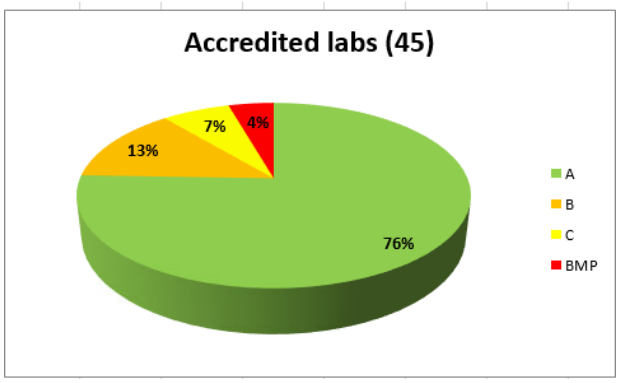


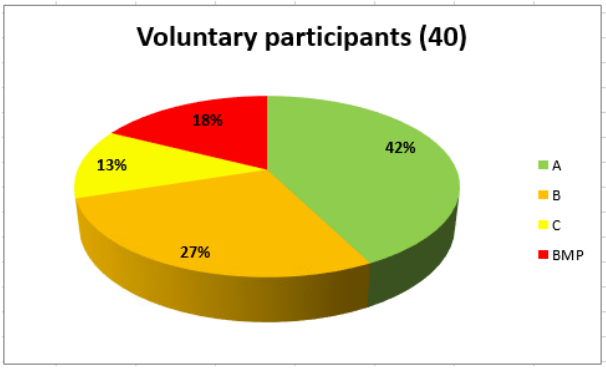
Lot 3 - abnormal seedlings





VIABILITY TEST (TZ test) Ratings **Total number of participants = 85**





Means and Standard Deviation
of the obligatory accredited participants

Categories	Mean Values %			Standard Deviation		
	Lot 1	Lot 2	Lot3	Lot 1	Lot 2	Lot 3
Viable seed	**84**	**89**	**56**	**2.67**	**2.76**	**6.44**

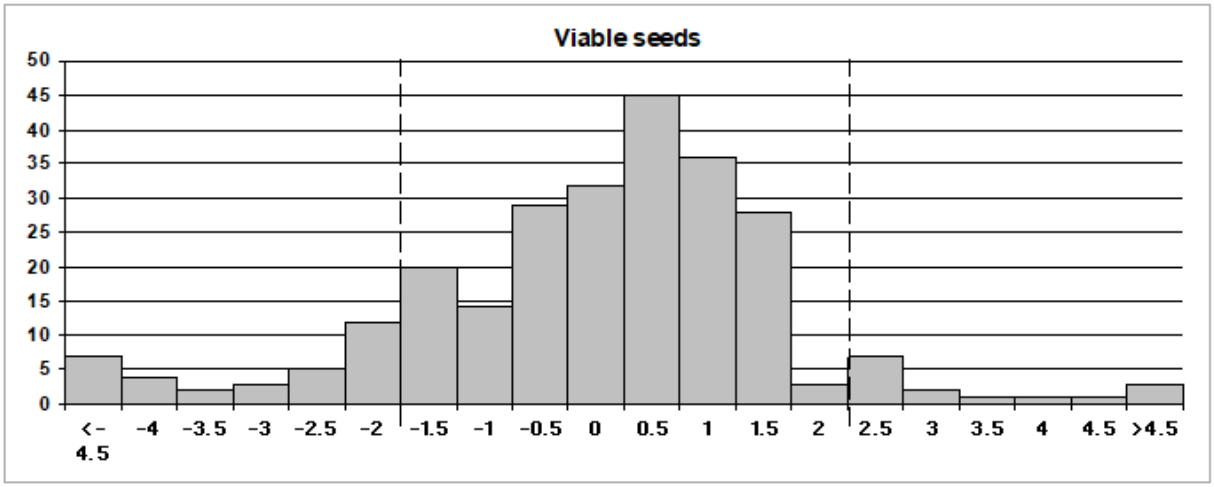
Method used
overview for all participants

Method	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
Longitudinal cut 1% solution, 30°C; 2h staining	32	20	52
Longitudinal cut Different parameters	8	5	13
Transversal cut 1% solution, 30°C; 18h staining	5	11	16
Transversal cut Different parameters		1	1
Excised embryo* 1% solution, 30°C; 18h staining		1	1
Method not stated		2	2

* this pre-treatment method is prescribed in the ISTA Rules

Z-score Distribution

Proficiency Test Report – Test Round 25-1 F.rub

Species : Festuca rubra **Scope:** Tetrazolium

The following histogram shows the frequency distributions of all participants Z-Scores for the viability test. The Z-Scores from all three samples are included in each histogram. For further explanations, please refer to the document 'The ISTA Proficiency Test Programme'.