



## INTERNATIONAL SEED TESTING ASSOCIATION (ISTA)

Secretariat, Zürichstrasse 50, 8303 Bassersdorf, CH-Switzerland

Phone: +41-44-838 60 00, Fax: +41-44-838 60 01, Email: [ista.office@ista.ch](mailto:ista.office@ista.ch), <http://www.seedtest.org>

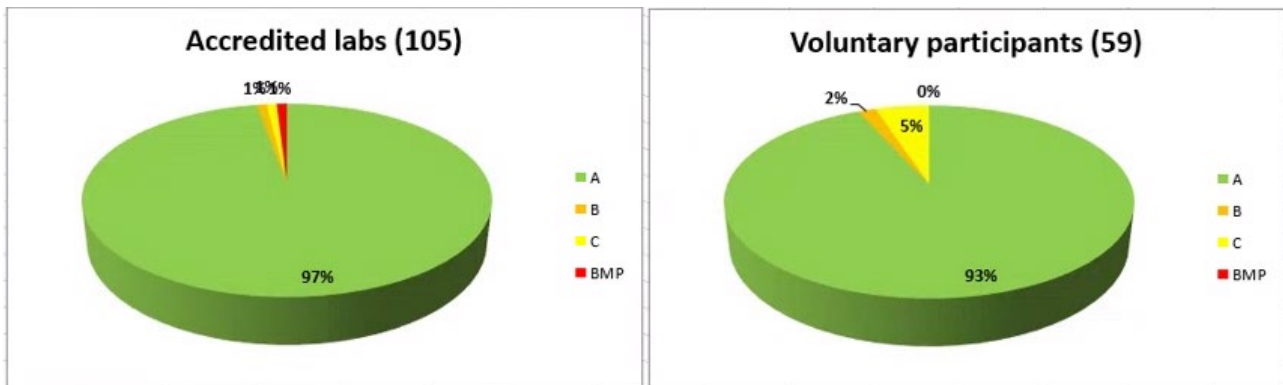
### Summary results: PT 20-2 A.por

Species: *Allium porrum*

Scope: PUR, OSD, GER, TZ

### PURITY Ratings

Total number of participants = 164



### 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	99.4	99.2	99.4	0.16	0.17	0.16
Other seed	0.1	0.2	0.3	-	-	-
Inert matter	0.5	0.6	0.3	-	-	-



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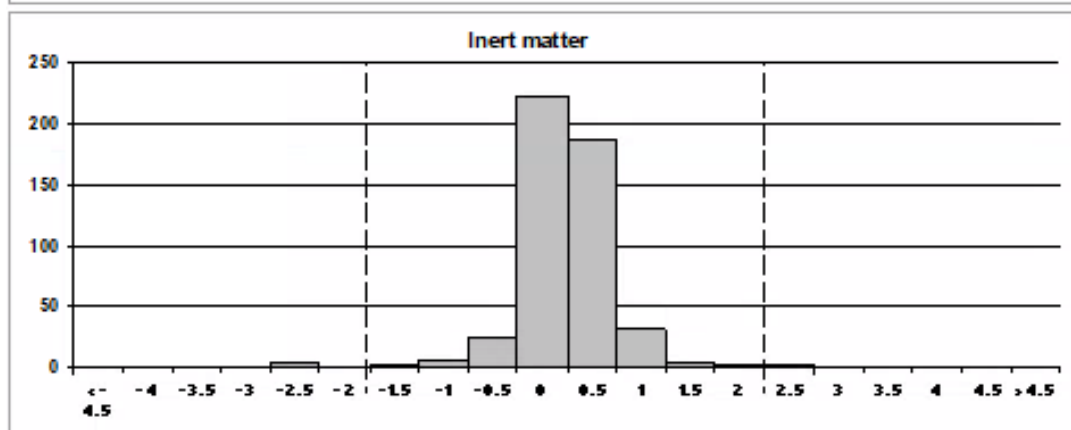
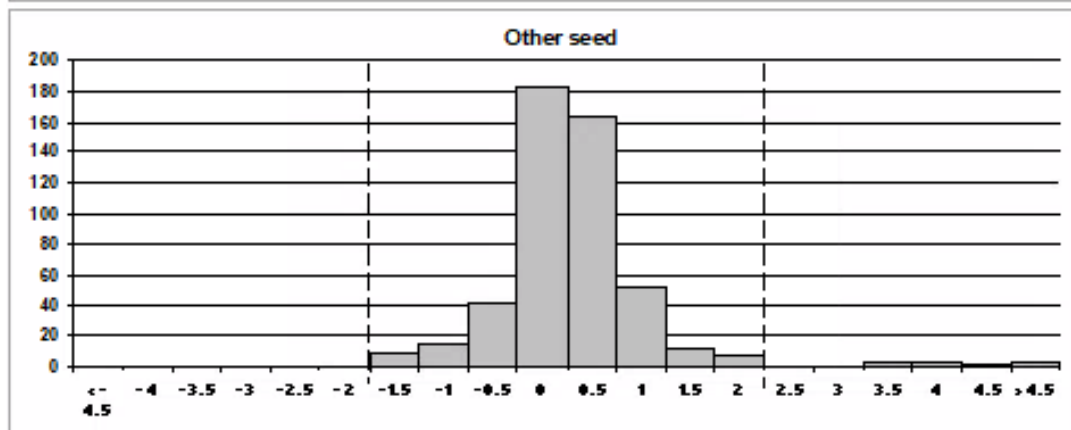
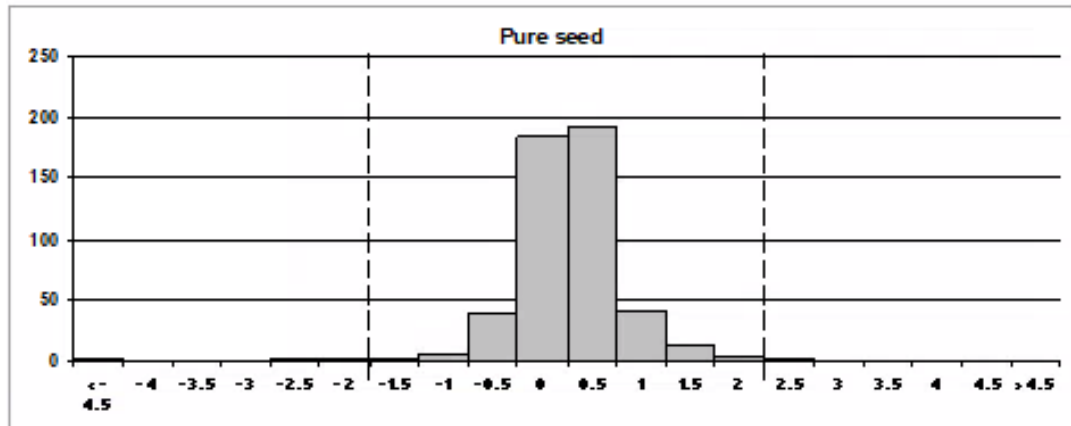
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### Z-score Distribution

Species : *Allium porrum*

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'





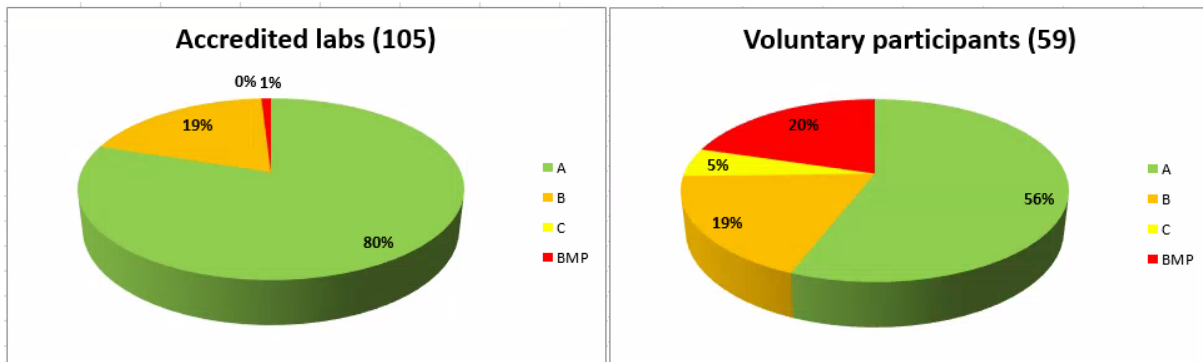
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### OSD Ratings

Total number of participants = 164



### Retrieval rates

Proficiency Test Report - Test round 20-2 A.por

Species: *Allium porrum*

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:

$\geq 90\%$  -> 3

$\geq 85\%$  -> 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:

$\geq 90\%$  -> A

$\geq 80\%$  -> B

$\geq 70\%$  -> 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 value
Lot 1	1 <i>Cirsium arvense</i>	2	1.8	88.3	2
	2 <i>Consolida regalis</i>	2	1.6	80.6	1
	3 <i>Lactuca sativa</i>	2	1.8	92.0	3
	4 <i>Lapsana communitis</i>	2	1.8	90.0	3
	5 <i>Speigula arvensis</i>	2	1.7	86.9	2
Lot 2	1 <i>Nigella arvensis</i>	2	1.0	51.7	1
	2 <i>Petroselinum crispum</i>	3	2.1	69.5	1
	3 <i>Stellaria spp.</i>	3	2.6	88.0	2
	4 <i>Vaccaria hispanica</i>	2	1.4	71.7	1
Lot 3	1 <i>Apium graveolens</i>	2	1.8	88.6	2
	2 <i>Fallopia convolvulus</i>	3	2.3	78.3	1
	3 <i>Galeopsis tetrahit</i>	3	2.7	88.6	2
	4 <i>Rumex acetosa</i>	3	2.7	90.9	3



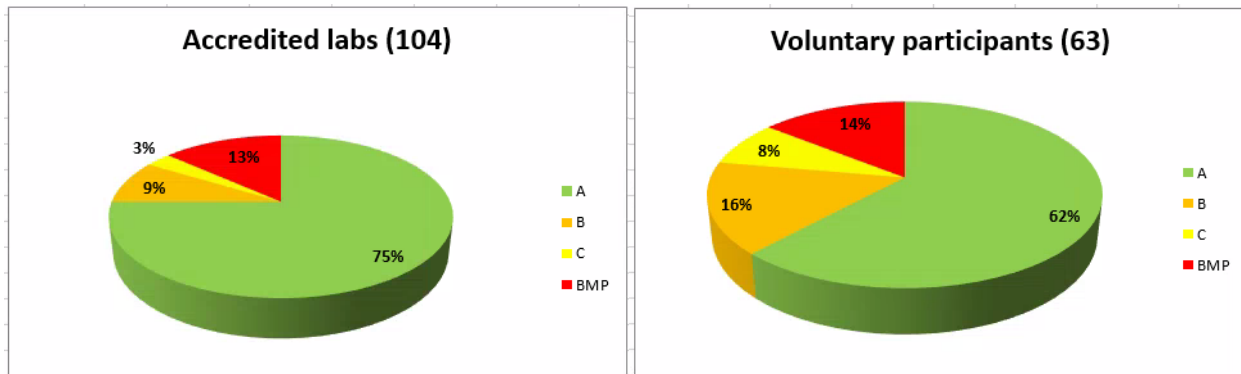
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### GERMINATION Ratings

Total number of participants = 167



### 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	89	80	89	2.36	4.11	2.34
Abnormal seedlings	6	6	5	-	-	-
Non-germinated seed	5	14	6	-	-	-

### Method used

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

Temperature °C	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
20	92	59	151
15	11	3	14
15-25*		1	1
6*	1		1

\* not in accordance with the ISTA Rules



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Substrate	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
TP	39	28	67
BP	35	22	57
Sand	3	2	5
PP	27	8	35
TPS and Soil*		2	2
Not reported		1	1

\* not in accordance with the ISTA Rules

Pretreatment	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
No Treatment	61	37	98
Prechill	40	21	61
Light	3	2	5
No Light		1	1
No ISTA		1	1



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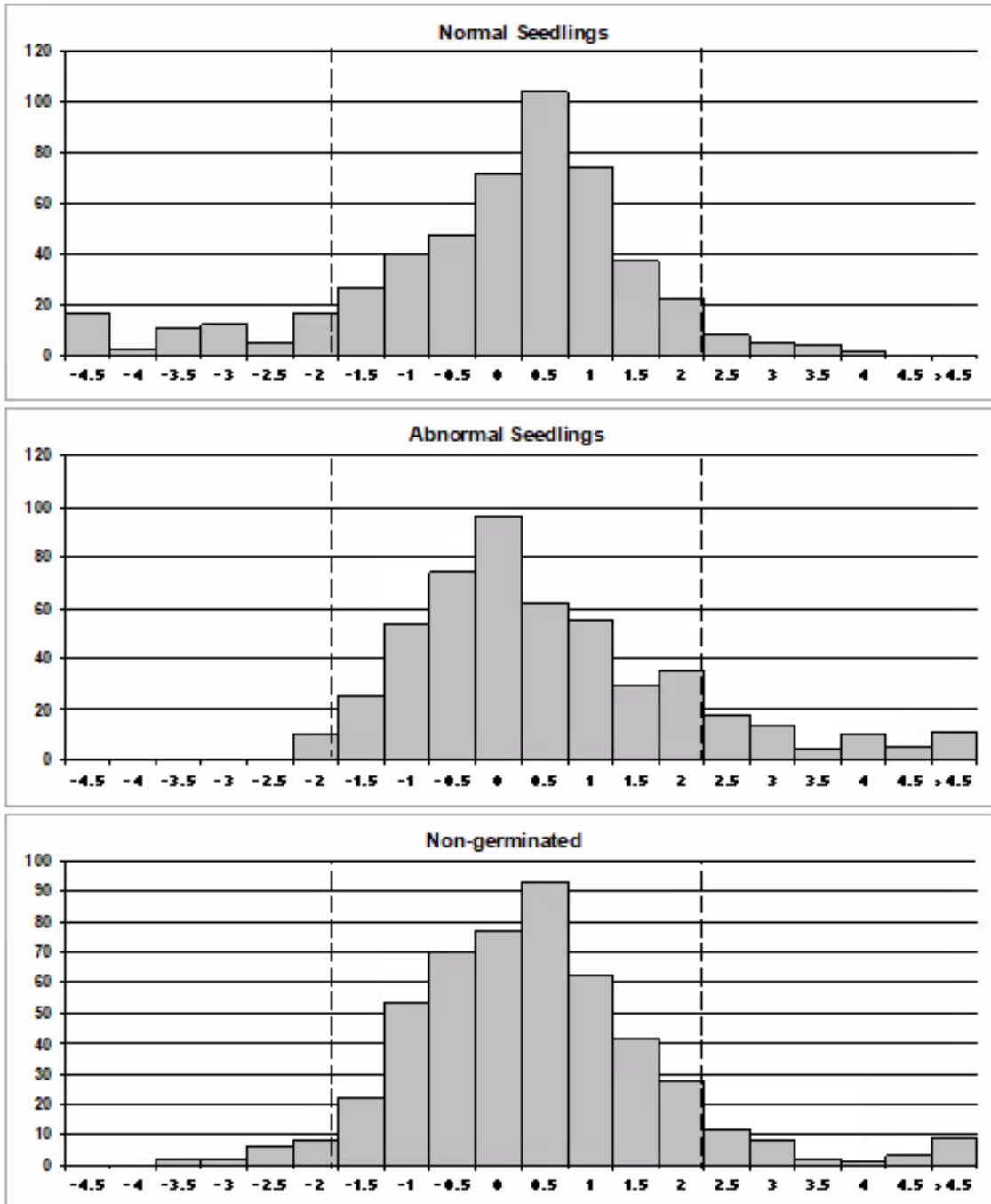
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### Z-score Distribution

Species : *Allium porrum*

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'





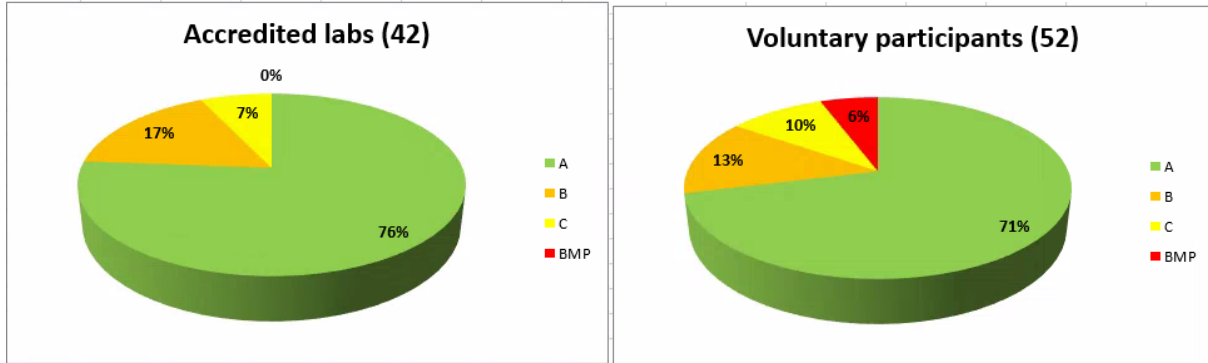
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### TETRAZOLIUM TEST Ratings

Total number of participants = 94



### 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	91	86	92	2.73	3.82	3.11

### Method used

overview for all participants

presented for the preparatory method, solution concentration, temperature and staining time duration

Method	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
Longitudinal cut	41	47	88
Transversal cut	1	1	2
Excision of embryo		1	1
Piercing of the seed		1	1
No preparation*		2	1

\* not in accordance with the ISTA Rules



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Solution %	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
1.0	42	47	89
0.5		3	3
Not reported		2	2

Temperature °C	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
20 and 25		3	3
30 and 35	41	48	89
40	1		1
Not reported		1	1

Staining time (hours)	# Users		# Users TOTAL
	Accredited labs	Voluntary participants	
5		1	1
12	1		1
18	41	50	91
24		1	1





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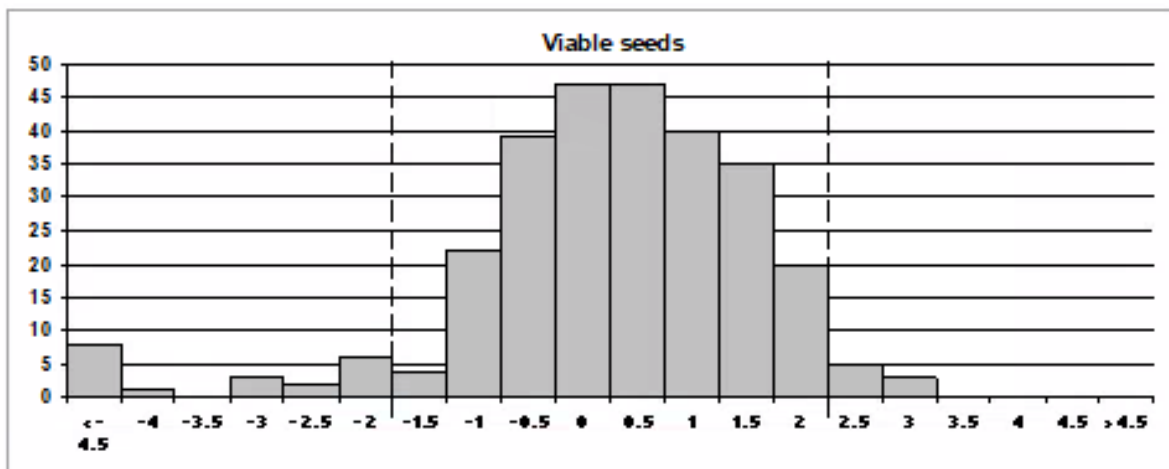
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### Z-score Distribution

Species : *Allium porrum*

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'.



### THOUSAND SEED WEIGHT test

Total number of participants = 135

This test was organised for the very first time and therefore all participants are considered as voluntary but the mean and standard variation results were calculated based on the results of accredited laboratories.

### Means and Standard Deviation

of 75 accredited participants

Categories	Mean Values g			Standard Deviation		
	Lot 1	Lot 2	Lot3	Lot 1	Lot 2	Lot 3
Seed weight	2.69	3.02	2.87	0.02	0.03	0.03

### Method used

106 participants used the **replicates method**

29 participants used **counted all the seeds**