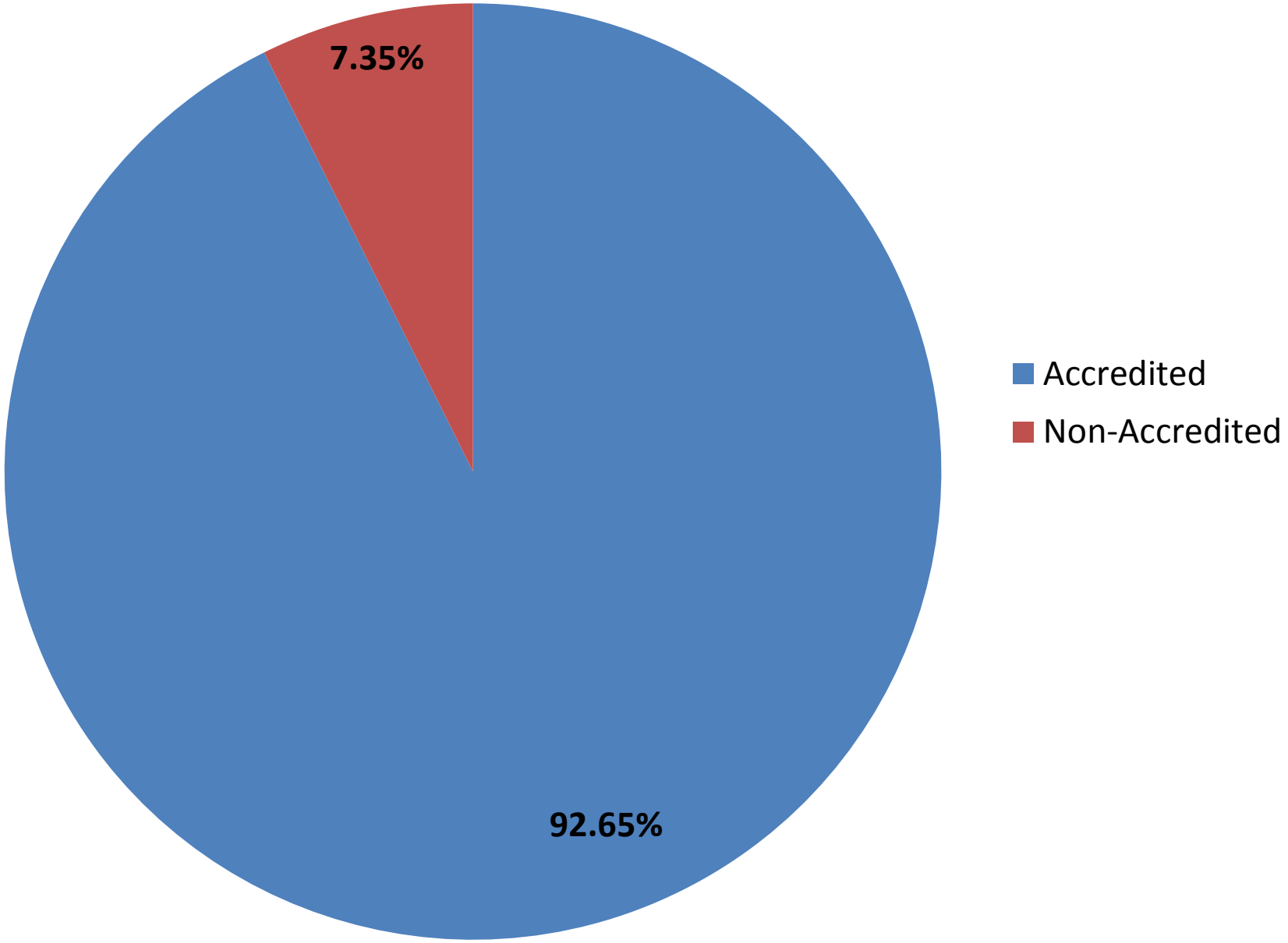
MARIGOLD GERM

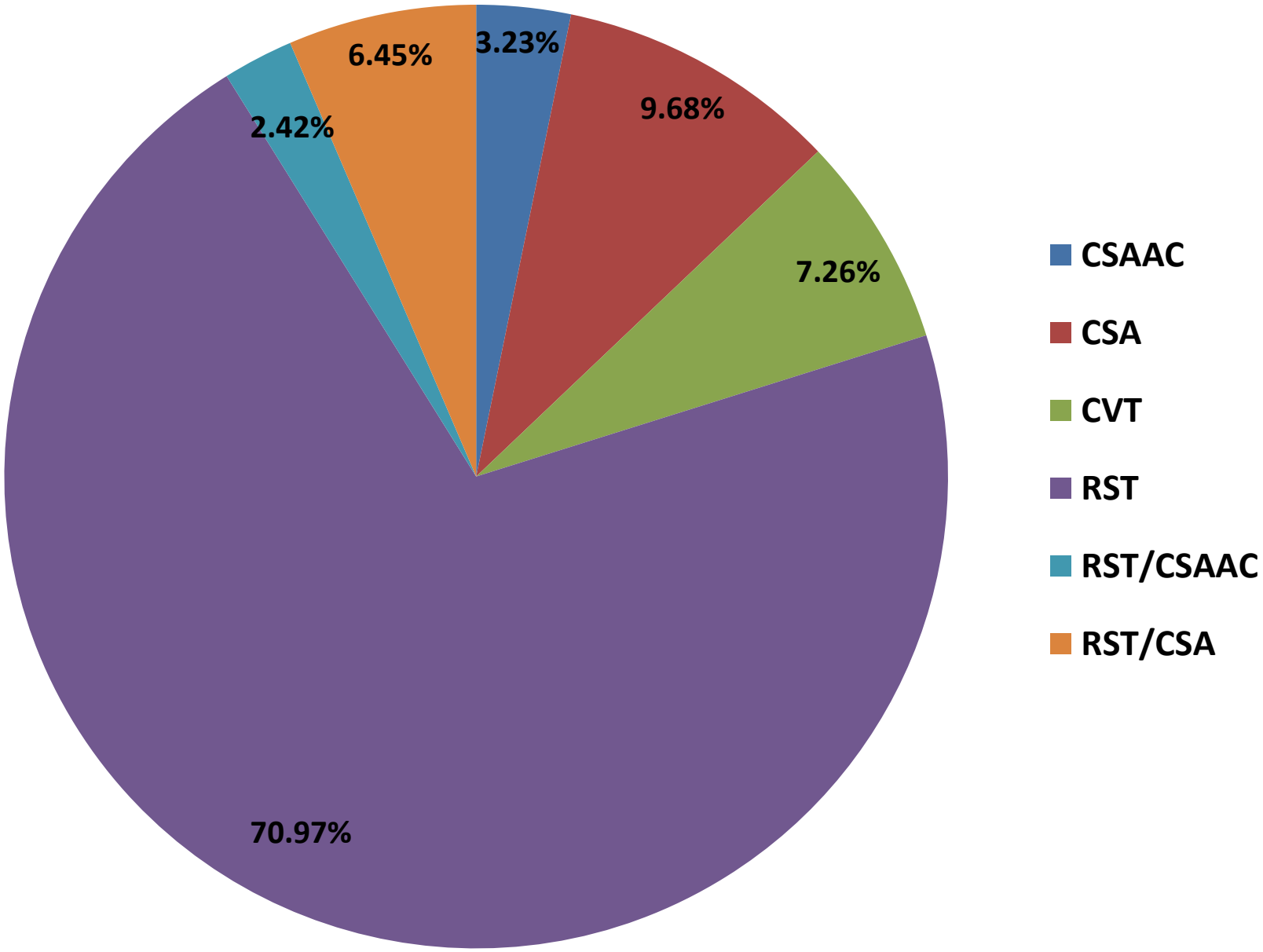
- 191samples sent out
- 138 Responses (72.25% return rate)
- 65% of respondents were RST's
- 23% of respondents were CSA's
- 4% of respondents were CSAAC

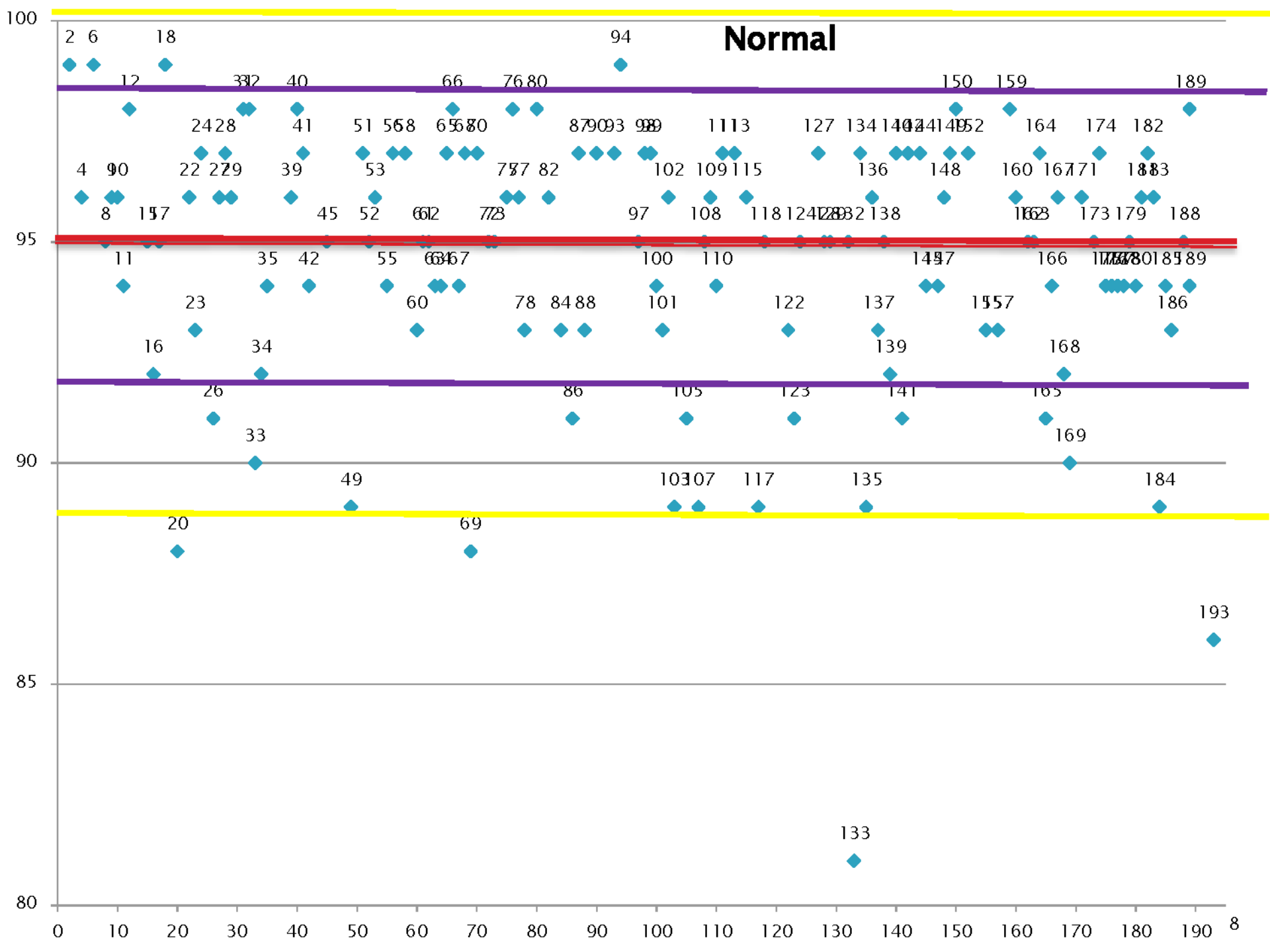
- Average germ 95%
  - 113 are within one standard deviation
  - 18 are within two standard deviation
  - 4 outliers (2 are outliers by 1%)

ACCREDITED VS NON-ACCREDITED INDIVIDUALS



BREAKDOWN OF ACCREDITED INDIVIDUALS




Normal
100
95
90
85
80
0
10
20
30
40
50
60
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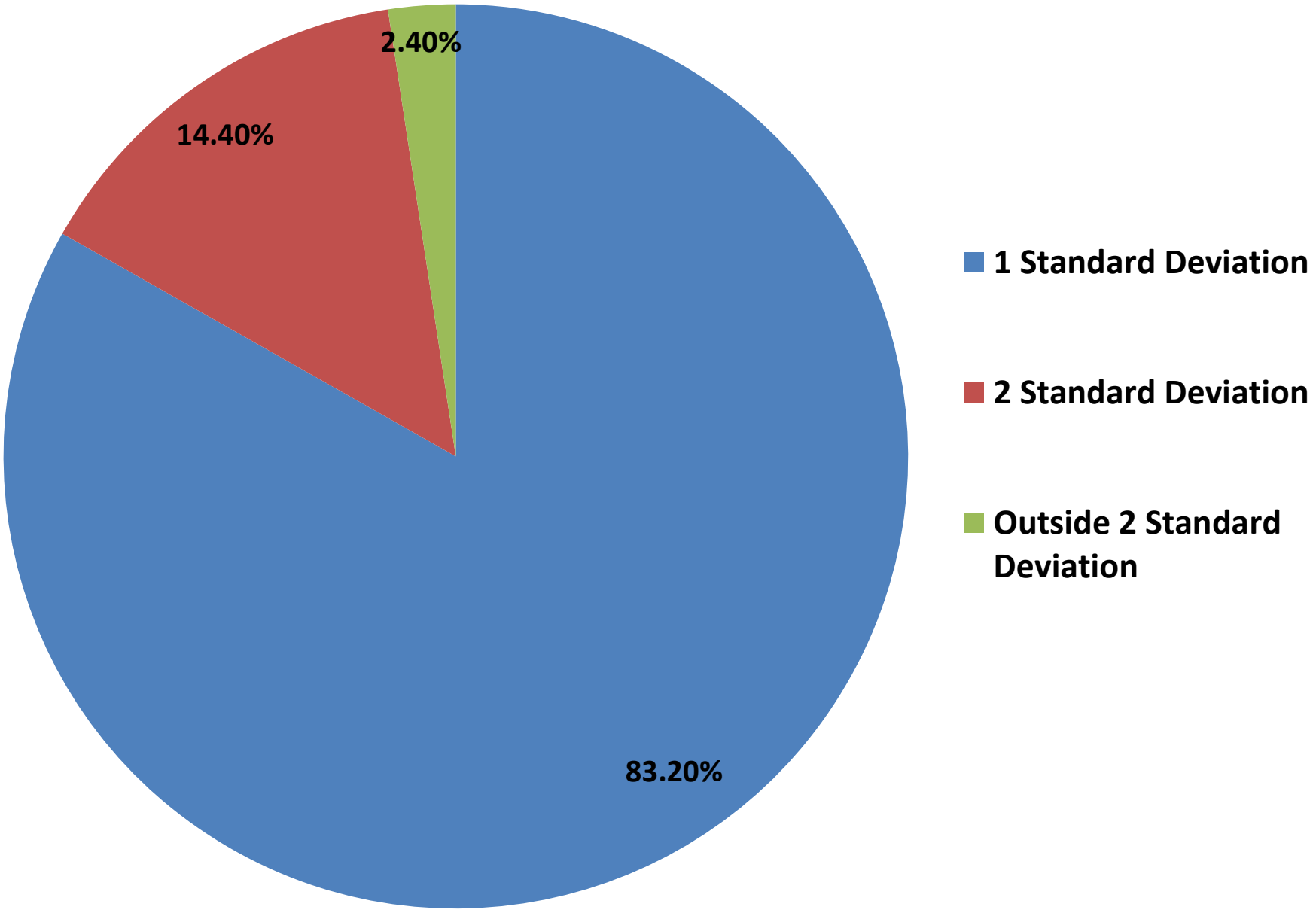
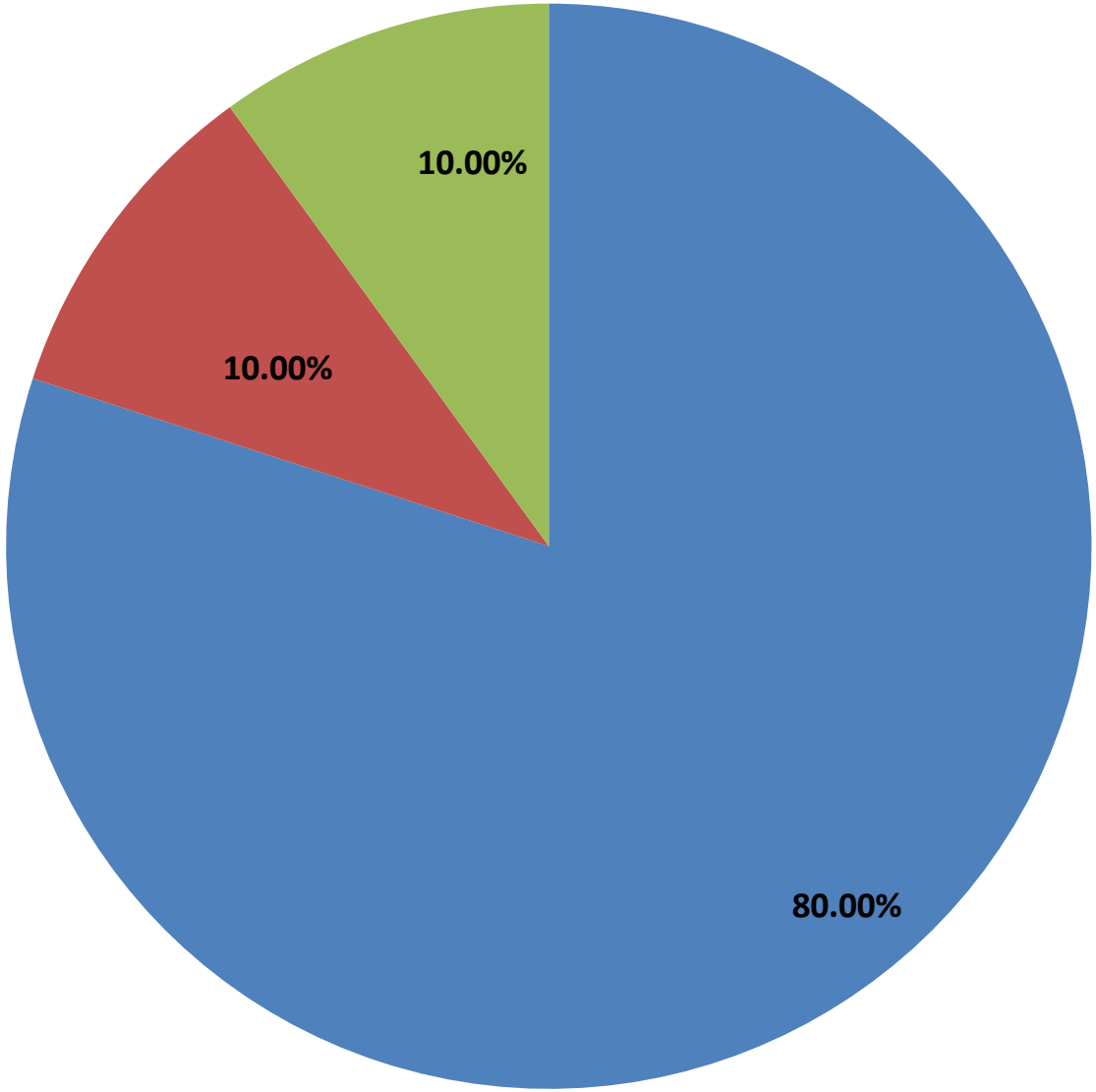
180
190

ACCREDITED INDIVIDUALS



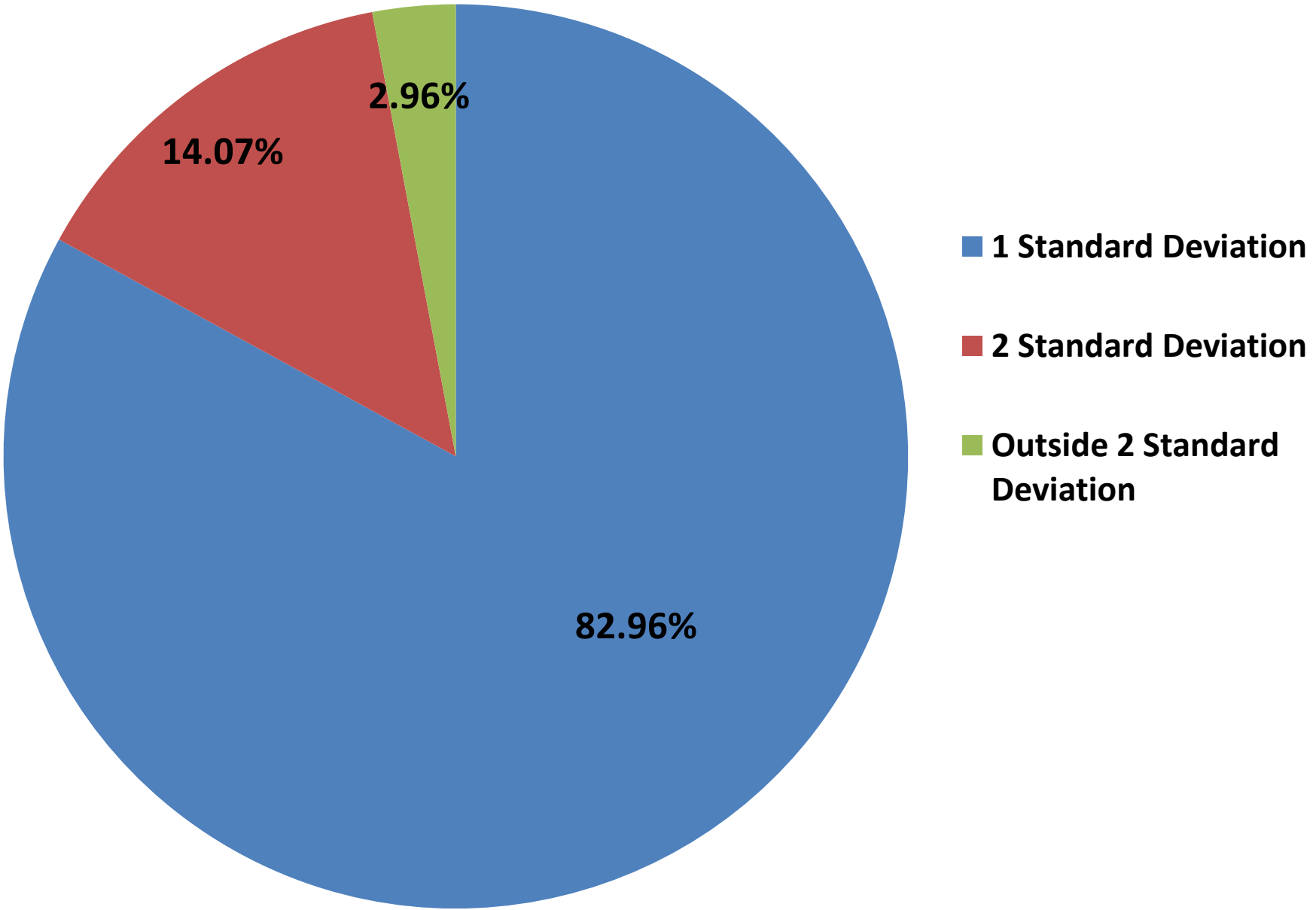
NON-ACCREDITED INDIVIDUALS



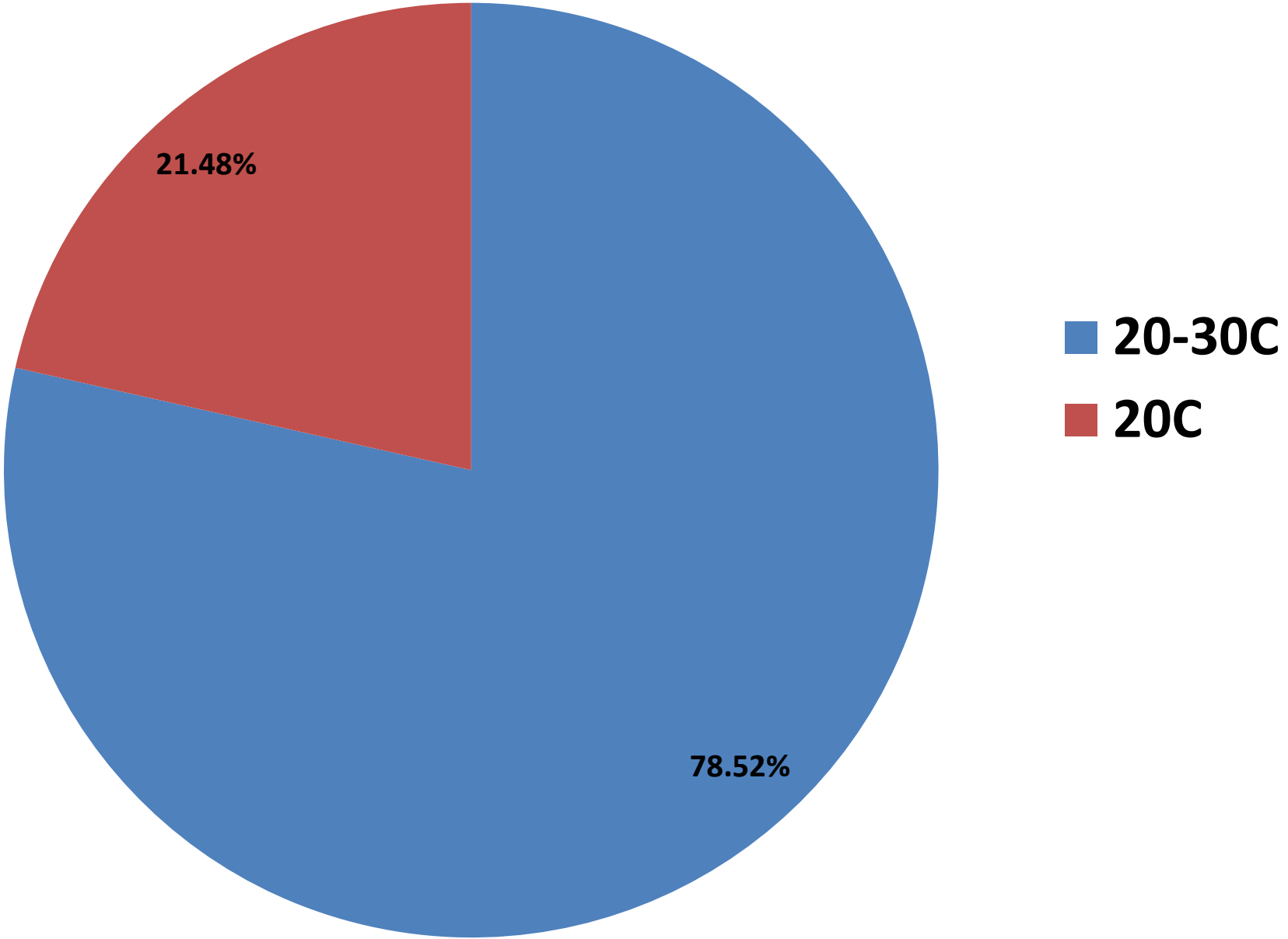
ACCREDITED VS NON-ACCREDITED INDIVIDUALS

ACCREDITED?	AVERAGE GERMINATION	STANDARD DEVIATION
YES (125)	94.84%	2.80
NO (10)	93.10%	3.35

MARIGOLD GERMINATION COMBINED RESULTS

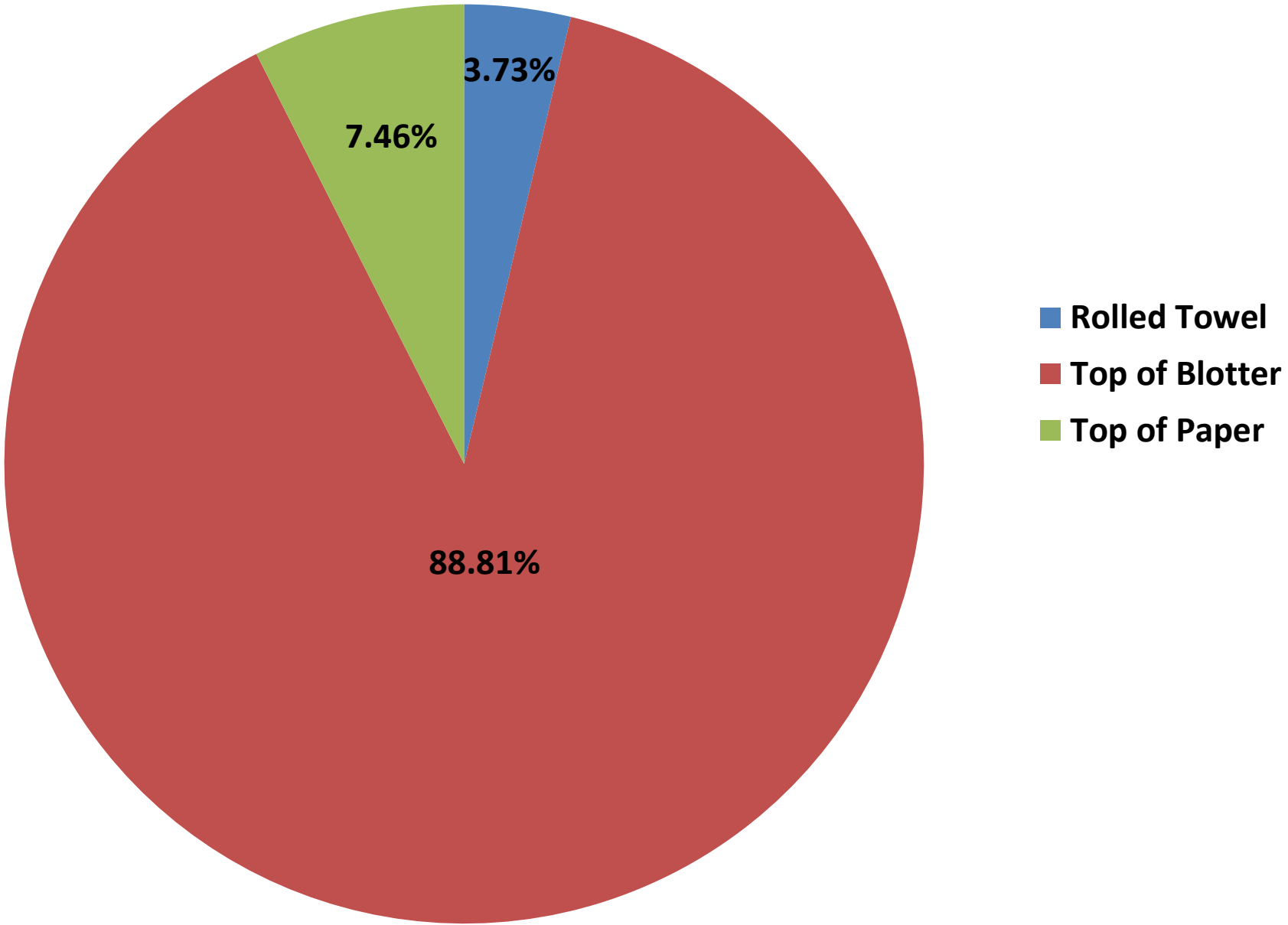


TEMPERATURE COMPARISION



TEMPERATURE	AVERAGE GERMINATION	STANDARD DEVIATION
20-30C (106)	94.62%	3.06
20C (29)	95.03%	2.03

MEDIA COMPARISION



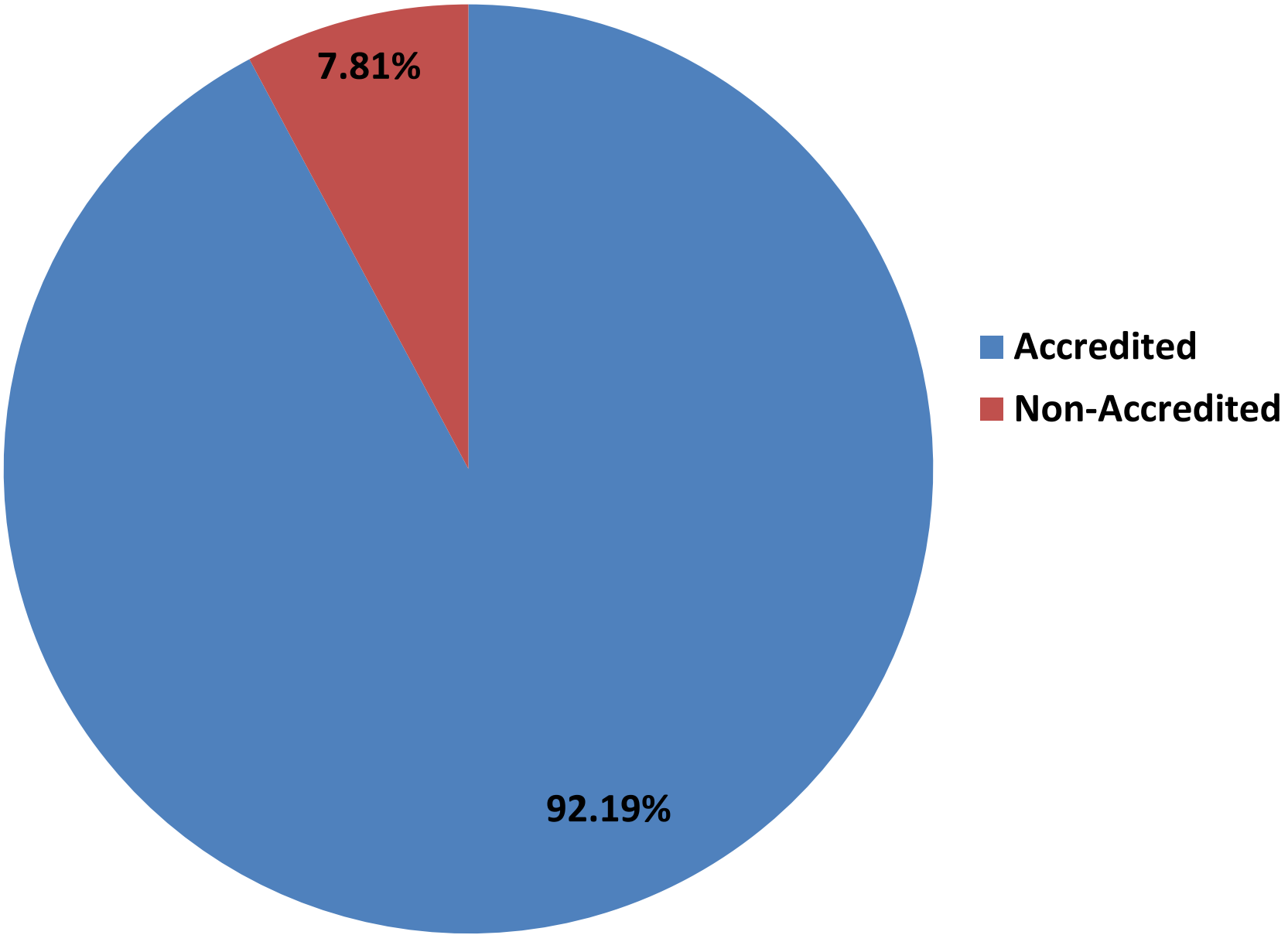
MEDIA COMPARISION

GERMINATION MEDIA	AVERAGE GERMINATION	STANDARD DEVIATION
TOP OF BLOTTER (119)	94.75%	3.02
TOP OF PAPER (10)	93.91%	0.94
ROLLED TOWEL (5)	95.6%	1.14

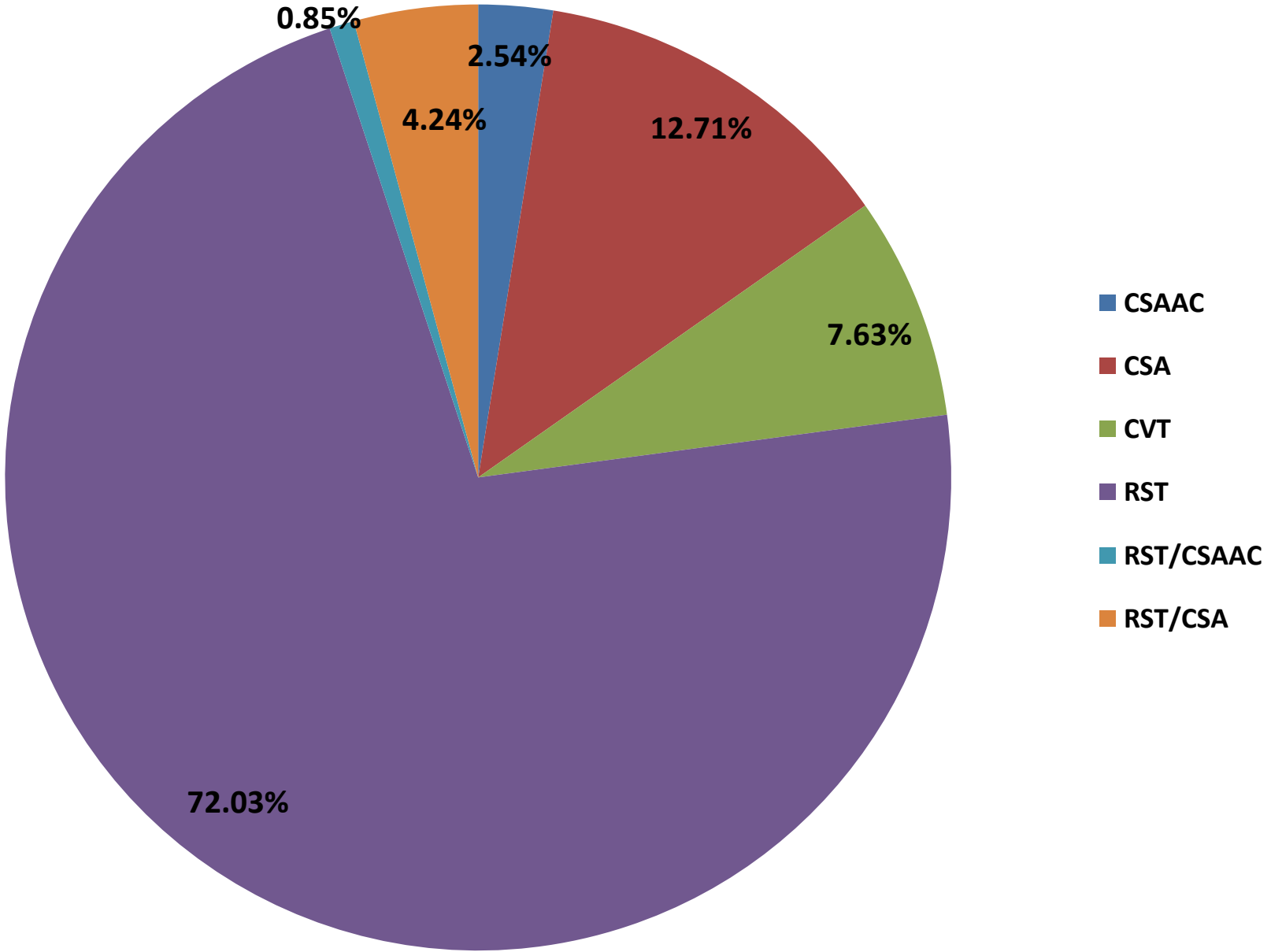
SPECIFIC REQUIREMENTS WRITTEN EXERCISE

- 112 accredited individuals
- 10 non accredited individuals
- Need to have 80% classified correctly to be considered a passing score.

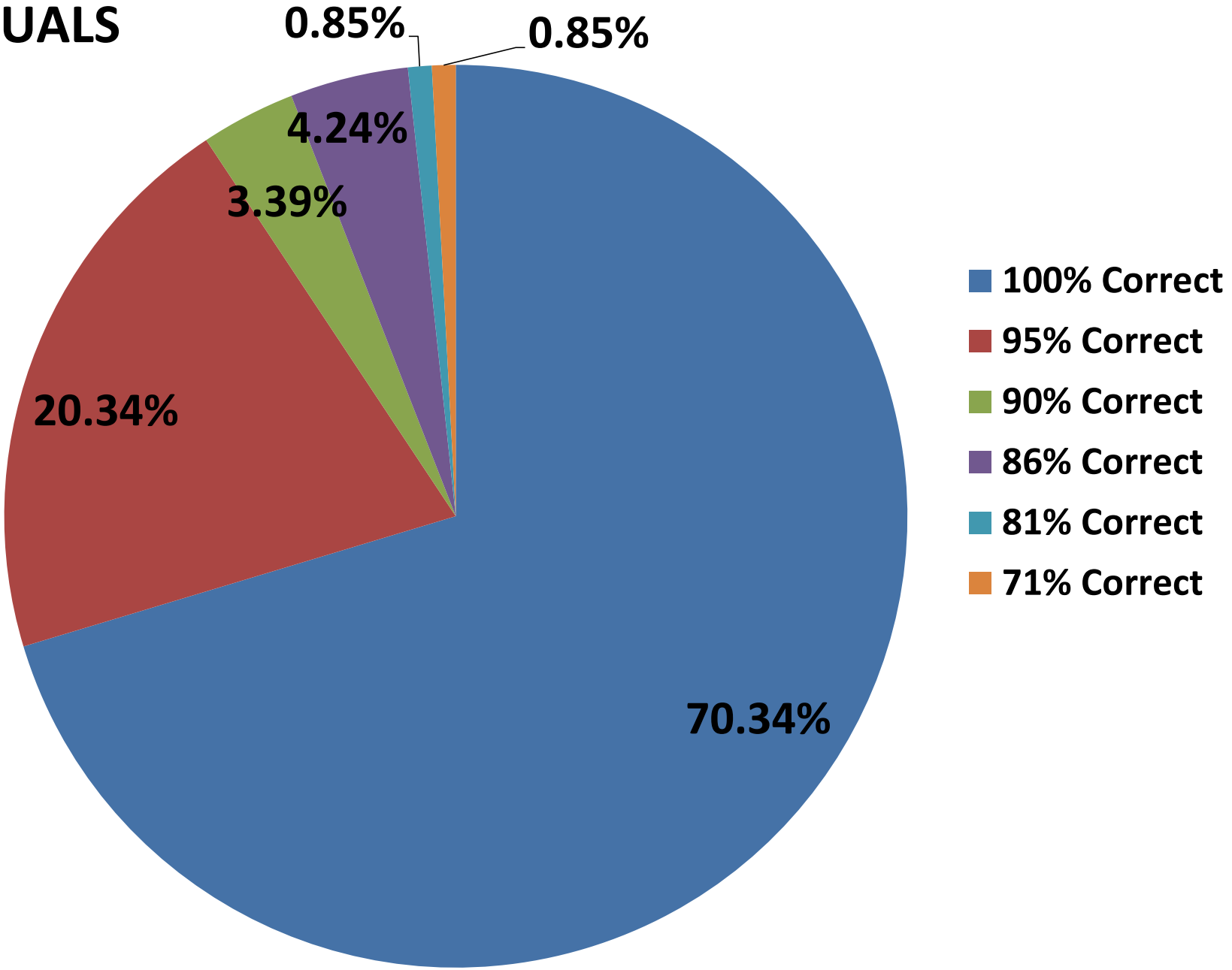
Specific Requirements Accredited vs Non-accredited



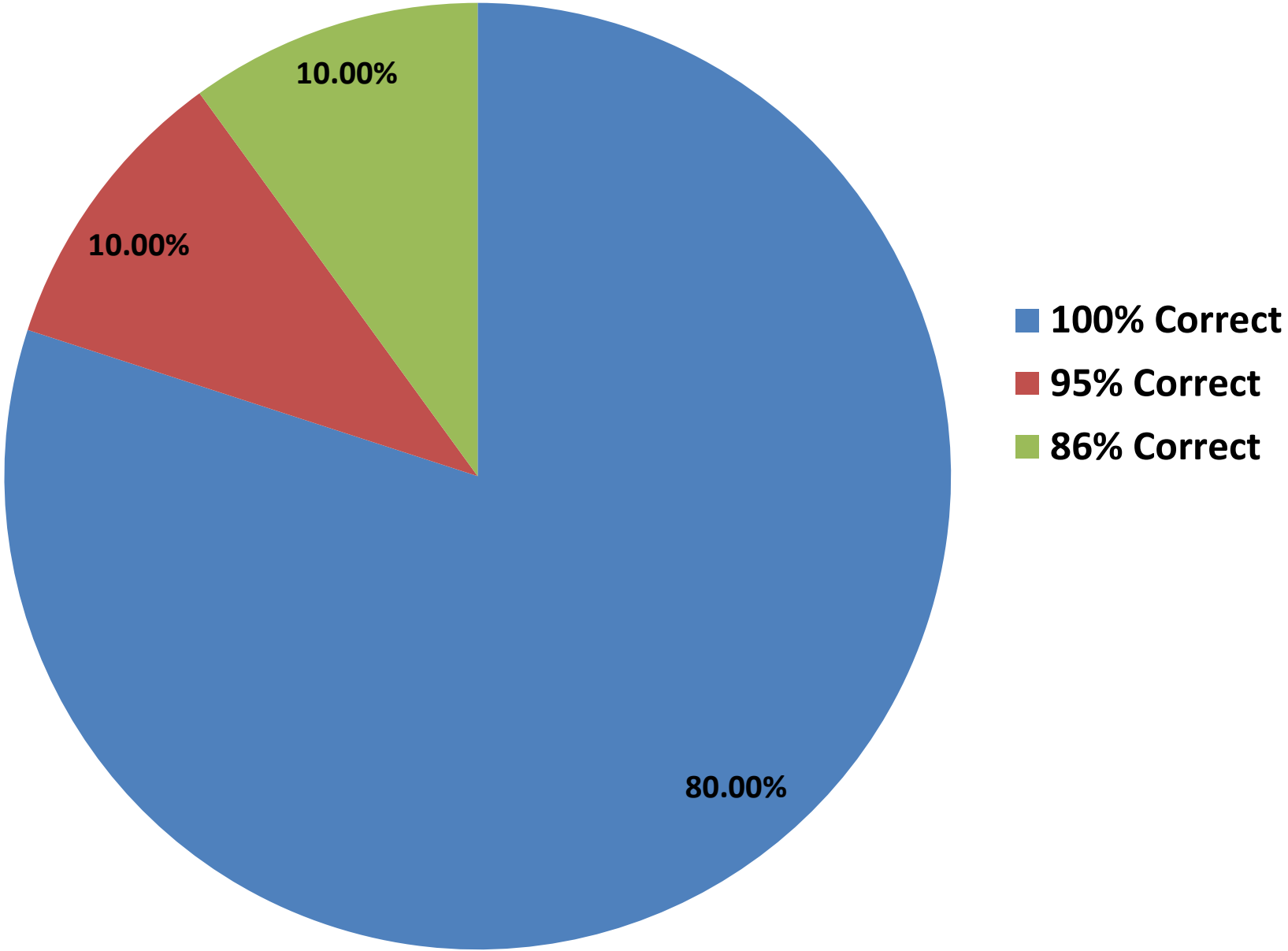
SPECIFIC REQUIREMENTS WRITTEN EXERCISE ACCREDITED ANALYSIS BREAKDOWN



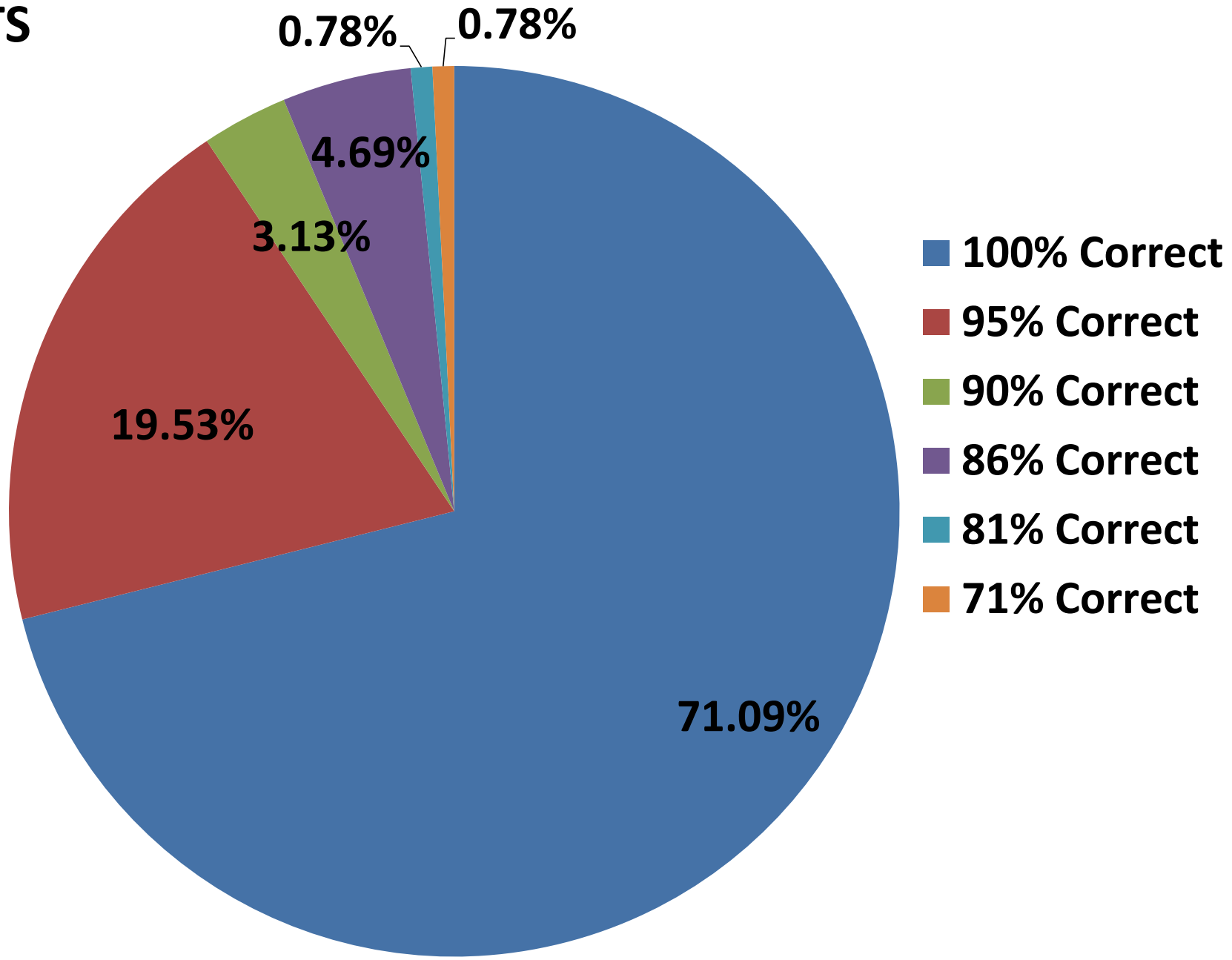
SPECIFIC REQUIREMENTS WRITTEN EXERCISE ACCREDITED INDIVIDUALS



SPECIFIC REQUIREMENTS WRITTEN EXERCISE NON-ACCREDITED INDIVIDUALS



SPECIFIC REQUIREMENTS WRITTED EXERCISE COMBINED RESULTS



What is the specific requirement for *Melilotus albus*?

a. paired test
b. embryo excision test
c. scarification
d. hard seeds 99%

Specific requirements and notes

Hard seeds: see sec. 6.2d and 6.9m(6)

- What are the requirements for fresh and dormant seed of *Psathyrostachys juncea*?

a. KNO_3

b. **Pre-chill** **95%**

c. light

d. ethephon

Fresh and dormant seed

Prechill at 5 or 10°C for 5 days

What is the specific requirement for *Bromus arvensis*?

TZ ungerminated seeds

Dark

Light **100%**

GA_3

Specific requirements and notes

Light

What is the specific requirement for *Carya illinoinensis*?

Pre-chill **100%**

Moisture on dry side

Clip seed coat

Soak in H_2SO_4

Specific requirements and notes

Prechill 60 days

What treatment is needed for fresh and dormant seeds of *Elymus Canadensis*?

light

TZ ungerminated seeds

Scarify seeds

Pre-chill **96%**

Fresh and dormant seed

Prechill at 5°C for 2 wk

What is the specific requirement for *Achillea millefolium*?

Ethephon

Light **100%**

Dark

Hard seeds

Specific requirements and notes

Light

What is the specific requirement for *Andropogon geradii*?

a. Calcium nitrate
b. Ethylene
c. TZ ungerminated seeds
d. **Light** **95%**

Specific requirements and notes

Light

What is the requirement for fresh and dormant *Pennisetum glaucum*?

Predry **99%**

Dark

Soak overnight

Hard seeds

Fresh and dormant seed

Prechill at 10 °C for 5 days or predry at 40°C for 5 days

What is the requirement for fresh and dormant *Bassia prostrate*?

Pre-chill

KNO_3

Use soil

TZ ungerminated seeds 91%

Fresh and dormant seed

Ungerminated seeds: see sec. 6.2f and 6.9m

- What is the specific requirement for *Glycine max*?
- Substrate on dry side
- **Hard Seeds 100%**
- Ethrel
- Paired test

Specific requirements and notes

Hard seeds: see sec. 6.2d and 6.9m(6)

What is the specific requirement for *Nicotiana tabacum*?

Scarification

Potassium nitrate

Light **100%**

Sensitive to drying

Specific requirements and notes

Light

What is the requirement for fresh and dormant *Panicum virgatum*?

Light

KNO_3

Paired Test

TZ ungerminated seeds 95%

Fresh and dormant seed

Prechill at 5°C for 2 wk. Ungerminated seeds: see sec. 6.2f and 6.9m

What is the specific requirement for *Picea glauca*?

Paired Test **99%**

Dark

Embryo excision

Calcium nitrate

Specific requirements and notes

Paired tests. Prechill 21 days

What is the requirement for fresh and dormant *Solanum lycopersicum* var *lycopersicum*?

Soak

Predry

Light **99%**

Clip seeds

Fresh and dormant seed

Light; KNO_3

What is the specific requirement for *Bouteloua curtipendula*?

Sensitive to warmer temperatures

Sensitive to moisture

Pierce swollen seeds

KNO_3 98%

Specific requirements and notes

Light; KNO3

What is the requirement for fresh and dormant of *Cardiospermum halicacabum*?

Clip seed coat 100%

Scarify seed

TZ ungerminated seeds

Adequate moisture supply

Fresh and dormant seed

Clipping seed coat will eliminate hard seed

What is the requirement for fresh and dormant of *Securigera varia*?

Light

Excess moisture

Pre-chill

Swollen seeds **91%**

Fresh and dormant seed

Swollen seeds: see sec. 6.8o

What is the requirement for fresh and dormant of *Secale cereale* subsp *cereale*?

KNO_3 100%

Pre-chill

Moisture on dry side

Ethephon

Fresh and dormant seed

Prechill at 5 or 10°C for 5 days or predry (refer to sec. 6.2g)

What is the specific requirement for *Viola tricolor*?

Predry

Sensitive to cool temperatures

TZ ungerminated seeds

KNO_3 99%

Specific requirements and notes

Prechill 7 days at 5°C with KNO3

What is the specific requirement for *Gypsophila repens*?

Sensitive to warm temperatures 98%

Hard seeds

Calcium nitrate

Clip seed

Specific requirements and notes

Sensitive to temperatures above 18°C

Explain how you handle the situation when you are referred to section 6.2f and 6.9m for ungerminated seeds.

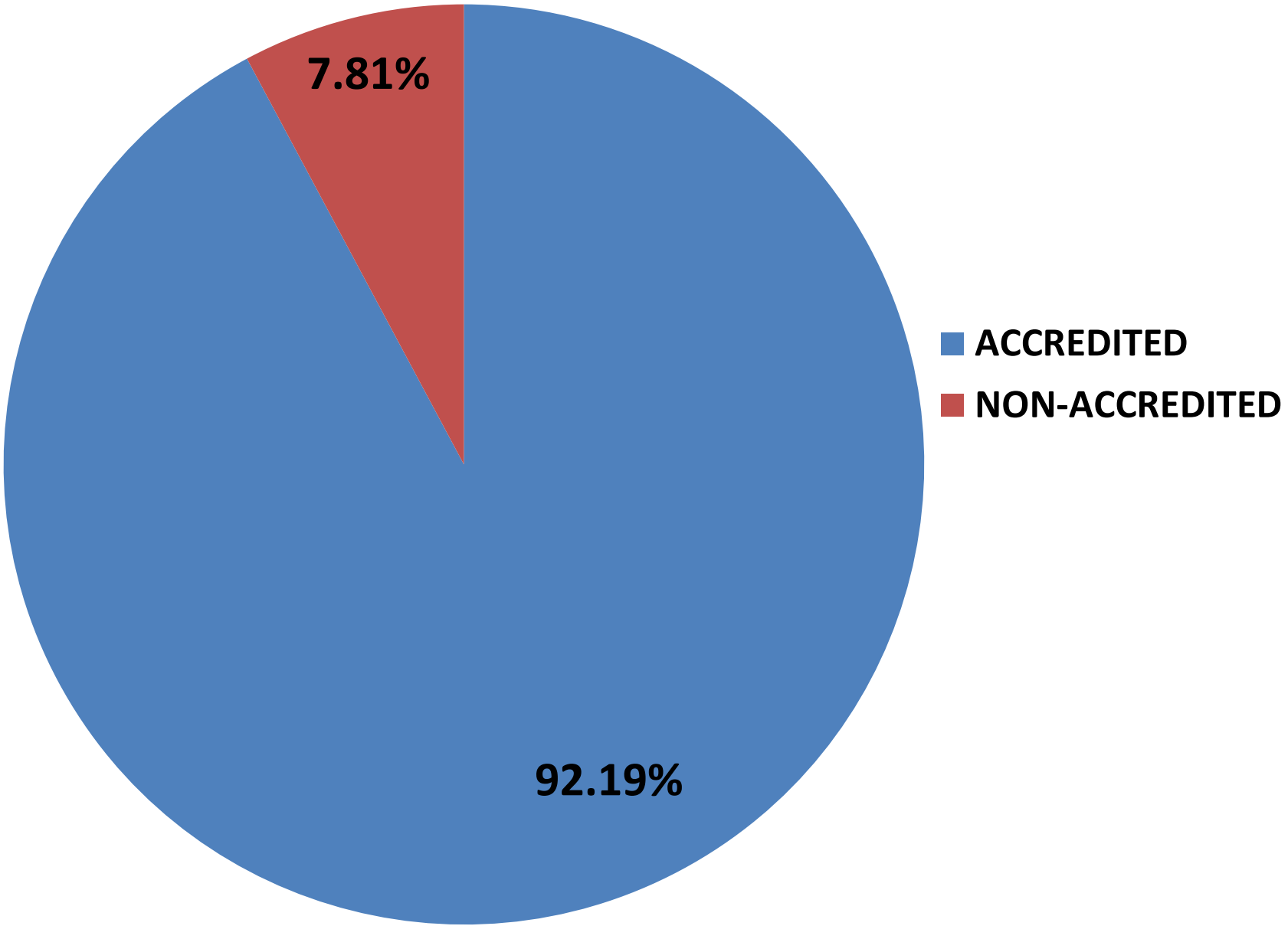
6.2.f. **Dormant seed. — Viable seeds, other than hard seeds, that fail to germinate when provided the specified germination conditions for the kind of seed in question. Viability of firm, ungerminated seeds of all species (see note below for clarification) must be determined by any appropriate method or combination of methods. Refer to section 6.9 m. The percentage of dormant seeds, if present, must be reported in addition to the percentage germination. If germination is over 90%, dormancy determination is not mandatory, unless it is a species sold on a pure live seed basis.**

Note: Refer to "specific requirements and notes" and/or "fresh and dormant seed" in Table 6A. Reference to prechill, paired test and chemicals which promote germination such as: KNO3, GA3, ethephon and ethylene are indicators of dormancy in that species. Any reference to 6.2 f, 6.9 m, and Section 8: Tetrazolium Testing, are indicators of dormancy. Due to the short-lived nature of dormancy in some agronomic species such as: grain crops, peanuts, and vegetables (See Federal Seed Act 201.2 (i) for kinds of vegetable seeds), these species shall be exempt from dormancy criteria. However, this exemption does not preclude dormancy determination at the analyst's discretion.

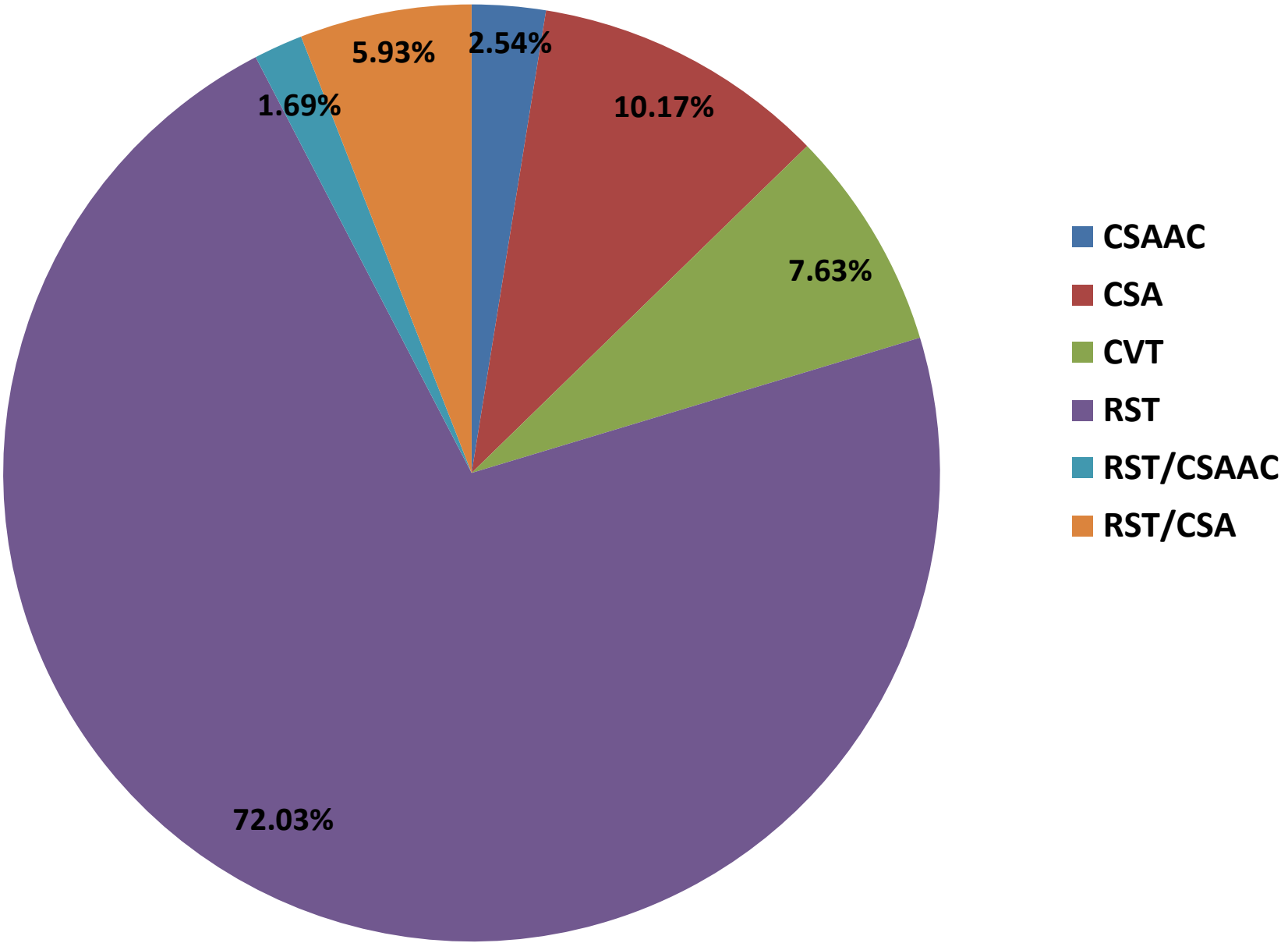
WHEN TO RETEST WRITTEN EXERCISE

- 118 accredited individuals
- 10 non accredited individuals
- Need to have 80% or greater classified correctly to be considered a passing score

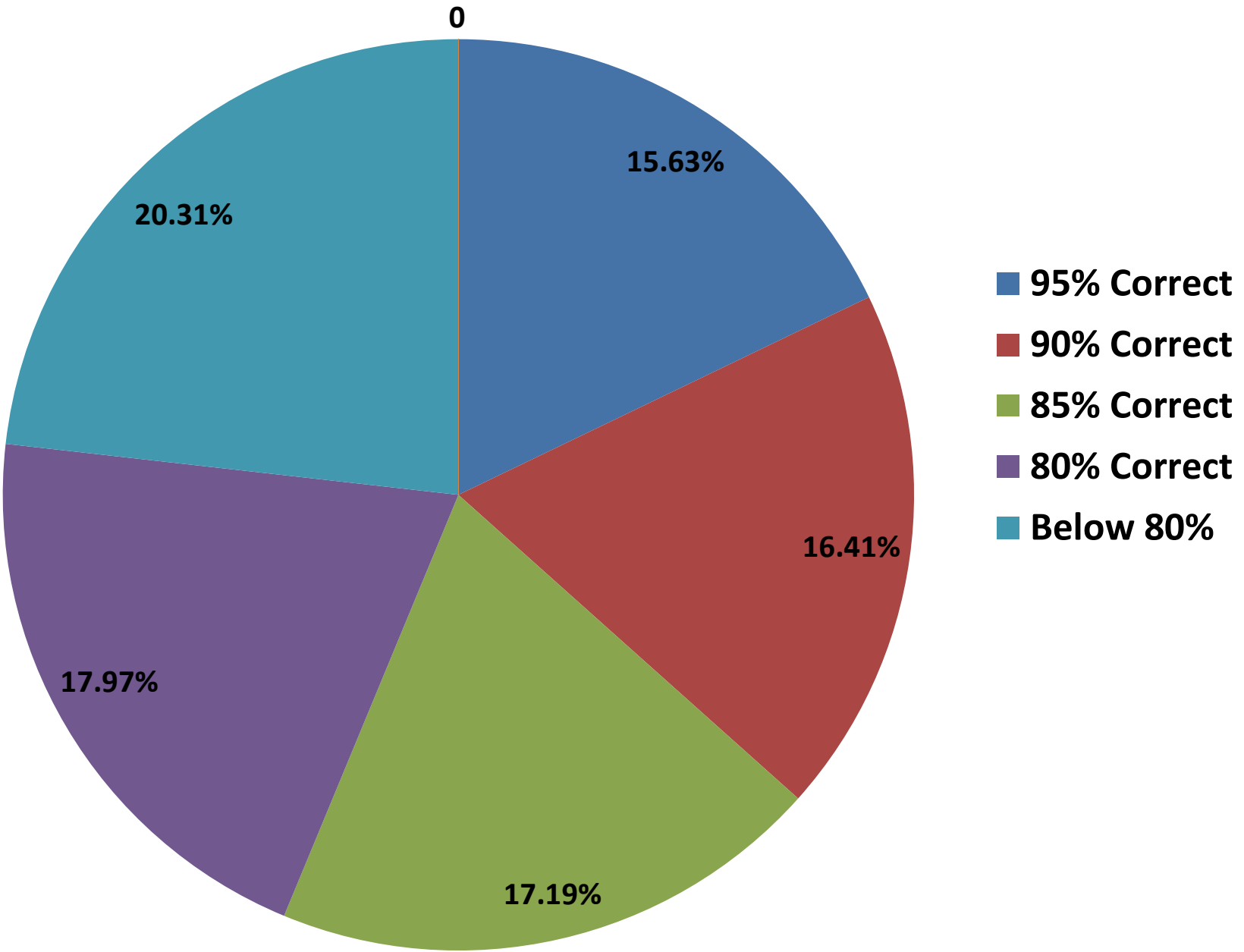
WHEN TO RETEST WRITTEN EXERCISE ACCREDITED VS NON-ACCREDITED INDIVIDUALS



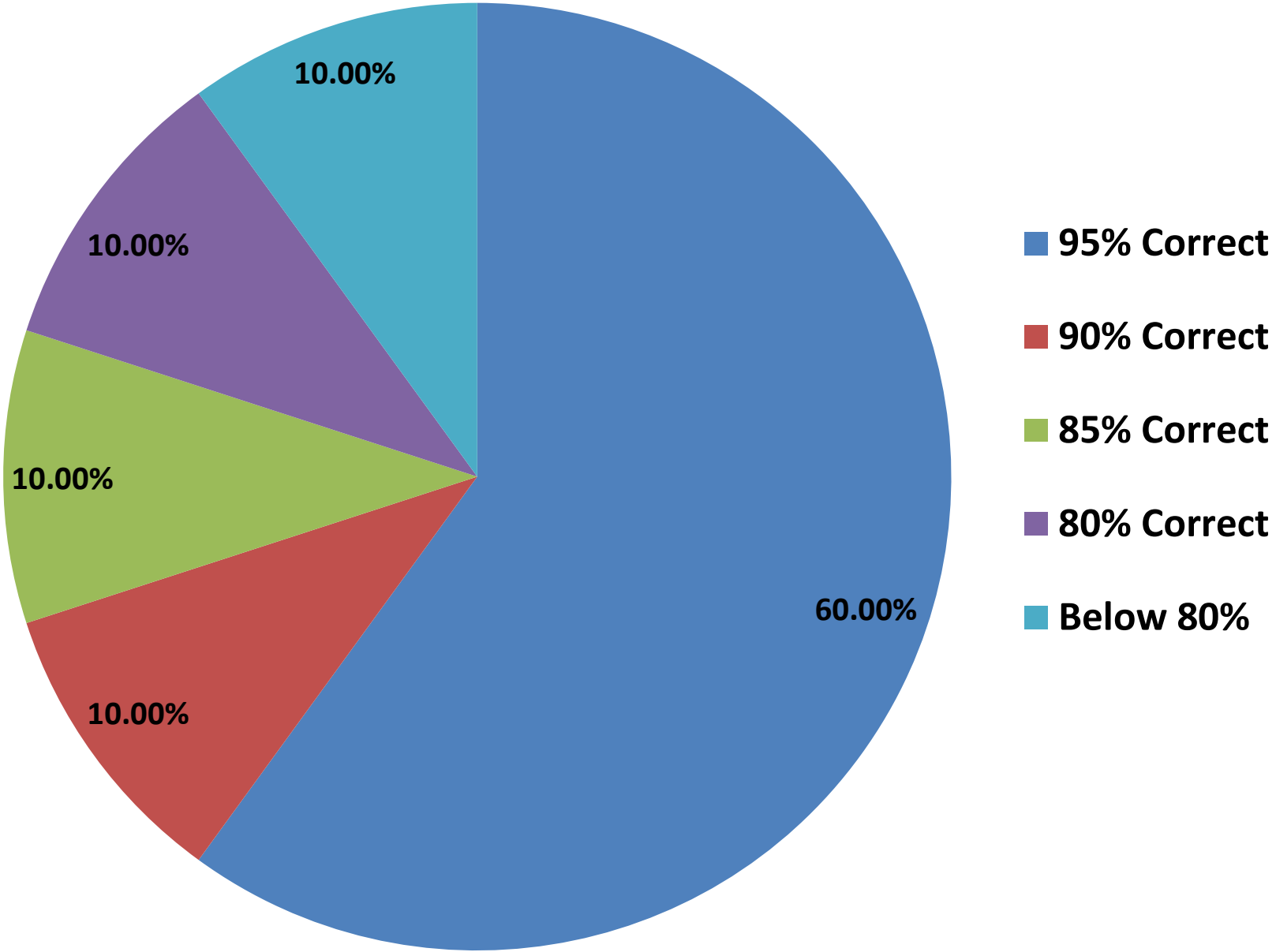
WHEN TO RETEST WRITTEN EXERCISE BREAKDOWN OF ACCREDITED INDIVIDUALS



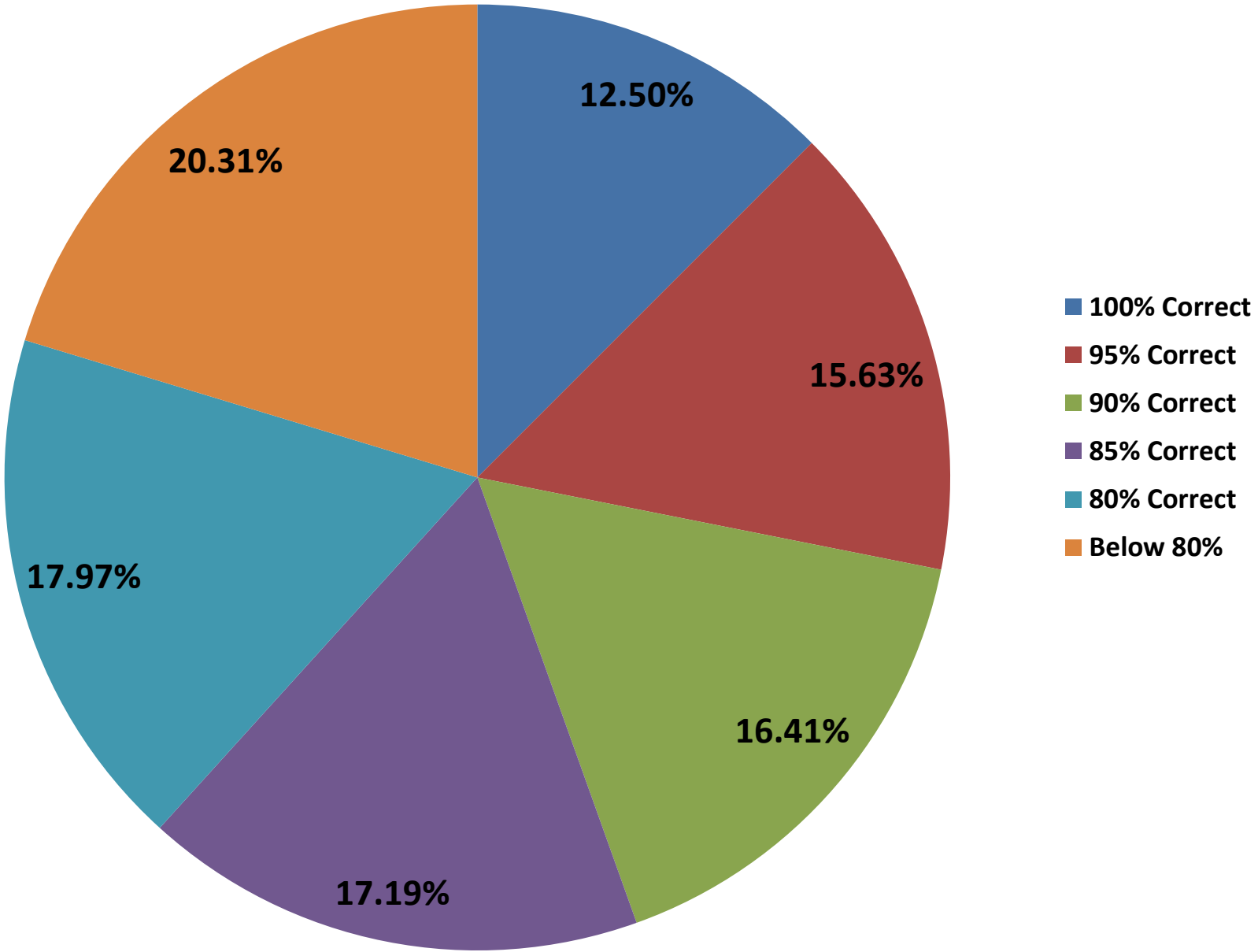
WHEN TO RETEST WRITTEN EXERCISE ACCREDITED INDIVIDUALS



WHEN TO RETEST WRITTEN EXERCISE NON-ACCREDITED INDIVIDUALS



WHEN TO RETEST WRITTEN EXERCISE COMBINED RESULTS



You have a sample of *Zea mays* planted in 4 replicates of 100 seeds. One of the replicates dried out.

☐**Yes** **98%**

☐No

6.6b. Retest when there are indications that a satisfactory germination has not been obtained at the time of the prescribed final count.

6.6c. Retest when there is evidence that the results may not be reliable due to any of the following: (1) improper test conditions, (2) errors in seedling evaluations, (3) the presence of fungi or bacteria, (4) inaccuracies in counting and recording results.

A sample of *Triticum aestivum* was planted in 4 replicates of 100 seeds. The germination of the 4 replicates are: 48, 52, 57, and 53. Each replicate also has the following % abnormals with short, stubby, thickened roots: 40, 32, 20, and 37.

☐**Yes** **56%**

☐no

6.6d. Retest when a sample shows seedling injury or abnormality from chemical treatment, exposure to chemicals, or toxicity from any source. The retest may be made in soil or in a mixture of sand and soil or organic growing media and the result of this test shall be reported.

-Short, stubby, thickened roots are usually a classic symptom of some sort of toxicity issue.

A sample of *Lolium perenne* was planted in 4 replicates of 100 seeds. The germination of the 4 replicates are: 88, 79, 87, and 85.

☐Yes

☐**No** **99%**

Average the 4 replicates:
88+79+87+85 = 339/4 = 84.75 = 85%

Use Table 14I **Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for average germination of 85% is 14.

Determine the difference between the highest replicate and the lowest replicate:
88-79 = 9. Since the difference between the highest and lowest replicate, 9, is less than the maximum of 14 you do not need to retest.

Two subsamples were taken for *Glycine max* the average germination of the first subsample was a 96% and the second subsample was an 89%.

☐**Yes** **87%**

☐No

Determine the average of the two tests:

96+89 = 185/2 = 92.5 = 93%

Use **Table 14J. Maximum tolerance values for comparing two 400-seed germination tests of the same or different submitted samples tested in the same or different laboratories (one-way test at *P=0.05).***

The maximum tolerance at 93% is 5%.
Determine the difference between the two tests:
96-89 = 7.
The difference between the 2 tests is 7% which is higher than the maximum tolerance of 5% so it will need to be retested.

A sample of *Phaseolus vulgaris* was planted in 16 replicates of 25 seeds. The number of normal seeds for each replicate are as follows: 20, 17, 24, 19, 15, 23, 18, 18, 21, 23, 16, 22, 20, 19, 17, 19.

☐Yes

☐**No** **95%**

Add the 4 replicates of 25 together to get your 100 seed replicates.

20+17+24+19 = 80

15+23+18+18= 74

21+23+16+22= 82

20+19+17+19= 75

Determine the average of the 4 replicates:

80+74+82+75 = 311/4 = 77.75 = 78%

Use **Table 14I. Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***

The maximum tolerance for 78% is 16.

Determine the difference between the highest replicate and the lowest replicate:

82-74 = 8. The difference of 8 between the highest and lowest replicate is less than the maximum tolerance of 16. You do not need to retest.

A sample of *Phleum pratense* was planted in 4 replicates of 100 seeds. The germination of the 4 replicates is 63, 68, 65, and 67. The average % abnormals is 28% with all short stubby roots.

☐**Yes** **59%**

☐No

6.6d. Retest when a sample shows seedling injury or abnormality from chemical treatment, exposure to chemicals, or toxicity from any source. The retest may be made in soil or in a mixture of sand and soil or organic growing media and the result of this test shall be reported.

-Short, stubby, thickened roots are usually a classic symptom of some sort of toxicity issue.

A TZ was conducted on *Avena sativa* one replicate of 100 seeds was an 87% the other replicate of 100 seeds was a 79%.

☐ Yes

☐ **No** **94%**

Determine the average between the two replicates:

87+79 = 166/2 = 83%

Use **Table 14I. Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***

The maximum tolerance at 83% is 12%

Determine the difference between the 2 replicates:
87-79 = 8%

Since the difference between the 2 replicates, 8%, is less than the maximum tolerance of 12%, the sample does not need to be retested.

A TZ was conducted on *Festuca arundinaceae* the average of test 1 is a 92% and the average of test 2 is an 86%.

☐Yes

☐**No** **98%**

Determine the average of the two tests:

92+86 = 178/2 = 89%

Use **Table 14M. Maximum tolerance values for comparing two tetrazolium tests from different submitted samples tested in different laboratories to determine if a second test is significantly poorer than a labeled value or a first test (one-way test at *P = 0.05).***

Maximum tolerance at 89% = 15%

Determine the difference between the two tests:
92-86 = 6%

Since the difference between the two tests, 6%, is less than the maximum tolerance of 15%. No retest is needed.

A moisture test was conducted on *Brassica rapa* subsp *rapa* replicate one moisture was 9.2% and replicate two moisture was 9.5%.

☐**Yes** **50%**

☐No

14.8 Seed moisture determination tolerances.

Tolerances shall be applied to the average of two tests from the same sample tested in the same or different laboratories. The moisture determination of each test shall be based on the mean of two replications. **If the difference between the two replications exceeds 0.2 percent, the test must be repeated.**

A moisture test was conducted on *Lactuca sativa* the first subsample had a moisture content of 7.8%. A second subsample had a moisture content of 8.4%.

☐**Yes** **92%**

☐No

First you need to determine the size of the sample. See **Table 11A. Air-oven method parameters for determining seed moisture content*.**

Lactuca sativa requires a 10 gram sample. Next you need to determine the average moisture between the two samples.
7.8+ 8.4 = 16.2/2 = 8.1%

Since the average moisture is 8.1% and the sample size is less than 30 seeds/gram the maximum tolerance is 0.3%.

Determine the difference between the two subsamples:
8.4-7.8 = 0.6%

Since the difference between the two subsamples, 0.6%, is higher than the maximum tolerance of 0.3%, you will need to retest.

A moisture test was conducted on *Capsicum* spp. The first subsample had a moisture content of 9.0%. A second subsample had a moisture content of 9.5%.

☐**Yes** **93%**

☐No

First you need to determine the size of the sample. See **Table 11A. Air-oven method parameters for determining seed moisture content*.**

Capsicum spp. requires a 10 gram sample. Next you need to determine the average moisture between the two samples.
9.0+9.5 = 18.5/2 = 9.25%

Since the average moisture is 9.25% and the sample size is less than 30 seeds/gram the maximum tolerance is 0.3%.

Determine the difference between the two subsamples:
9.5-9.0 = 0.5%

Since the difference between the two subsamples, 0.5%, is higher than the maximum tolerance of 0.3%, you will need to retest.

A sample of *Trifolium pretense* in a mixture was tested for a 200 seed germination test. The germination for the two replicates was an 84% and a 93%.

☐Yes

☐**No** **79%**

Average the 2 replicates:
84+93 = 177/2 = 88.5% = 89%

Use Table 14I **Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for average germination of 89% is 10.

Determine the difference between the two replicates:
93-84 = 9. Since the difference between the highest and lowest replicate, 9, is less than the maximum of 10 you do not need to retest.

A sample of *Dactylis glomerata* in a mixture was tested for a 200 seed germination test. The germination for the two replicates was a 60% and a 75%.

☐Yes

☐**No** **74%**

Average the 2 replicates:
60+75 = 135/2 = 67.5% = 68%

Use Table 14I **Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for average germination of 68% is 15.

Determine the difference between the two replicates:
75-60= 15. Since the difference between the highest and lowest replicate, 15, is equal to the maximum of 15 you do not need to retest.

A TZ test was conducted on *Beta vulgaris* subsp *vulgaris*. The first analyst received an 85%. The second analyst received a 92%.

☐Yes

☐**No** **78%**

Determine the average of the two tests:

92+85 = 177/2 = 88.5% = 89%

Use **Table 14M. Maximum tolerance values for comparing two tetrazolium tests from different submitted samples tested in different laboratories to determine if a second test is significantly poorer than a labeled value or a first test (one-way test at *P = 0.05).***

Maximum tolerance at 89% = 15%

Determine the difference between the two tests:
92-85 = 7%

Since the difference between the two tests, 7%, is less than the maximum tolerance of 15%. No retest is needed.

A sample of *Glycine max* was planted in 8 replicates of 50 seeds. The number of normal seeds for each replicate are: 40, 35, 43, 48, 45, 45, 37, 47.

☐ **Yes** **84%**

☐ No

First add the replicates together to get 4 replicates of 100 seeds:

40+35 = 75 43+48 = 91 45+45 = 90 37+47 = 84

Determine the average of the 4 replicates:
75+91+90+84 = 340/4 = 85%

Use **Table 14I. Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for 85% is 14.

Determine the difference between the highest replicate and the lowest replicate:
91-75 = 16

The difference between the highest and the lowest replicate is, 16, which is higher than the maximum tolerance of 14 so you will need to retest.

A sample of *Secale cereale* was planted in 4 replicates of 100 seeds. The germination of each replicate are: 43, 55, 59, and 48.

☐Yes

☐**No** **95%**

Determine the average of the 4 replicates:
43+55+59+48 = 205/4 = 51.25% = 51%

Use **Table 14I. Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for 51% is 20.

Determine the difference between the highest replicate and the lowest replicate:
59-43 = 16

The difference between the highest and the lowest replicate is, 16, which is less than the maximum tolerance of 20, so you do not need to retest.

A sample of *Schizachyrium scoparium* was planted in 4 replicates of 100 seeds. The germination of each replicate are: 85, 89, 83, and 86.

☐Yes

☐**No** **98%**

Determine the average of the 4 replicates:
85+89+83+86 = 343/4 = 85.75% = 86%

Use **Table 14I. Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for 86% is 14.

Determine the difference between the highest replicate and the lowest replicate:
89-83 = 6

The difference between the highest and the lowest replicate is, 6, which is less than the maximum tolerance of 14, so you do not need to retest.

A TZ was conducted on *LInum usitatissimum*. The first analyst received a 97%. The second analyst received a 92%.

☐Yes

☐**No** **82%**

Determine the average of the two tests:

97+92 = 189/2 = 94.5% = 95%

Use **Table 14M. Maximum tolerance values for comparing two tetrazolium tests from different submitted samples tested in different laboratories to determine if a second test is significantly poorer than a labeled value or a first test (one-way test at *P = 0.05).***

Maximum tolerance at 95% = 10%

Determine the difference between the two tests:
97-92 = 5%

Since the difference between the two tests, 5%, is less than the maximum tolerance of 10%. No retest is needed.

A moisture test was conducted on *Triticum aestivum*. The first subsample was a 12.8% and the second subsample was a 13.0%.

☐Yes

☐**No** **100%**

First you need to determine the size of the sample. See **Table 11A. Air-oven method parameters for determining seed moisture content*.**

Triticum aestivum requires a 10 gram sample. Next you need to determine the average moisture between the two samples.
12.8+ 13.0 = 25.8/2 = 12.9%

Since the average moisture is 12.9% and the sample size is less than 30 seeds/gram the maximum tolerance is 0.5%.

Determine the difference between the two subsamples:
13.0-12.8 = 0.2%

Since the difference between the two subsamples, 0.2%, is lower than the maximum tolerance of 0.5%, you do not need to retest.

An *Anthemum graveolens* germination was conducted in 4 replicates of 100 seeds. The germination replicates are 80, 88, 82, and 79.

☐ Yes

☐ **No** **95%**

Average the 4 replicates:
80+88+82+79 = 329/4 = 82.25 = 82%

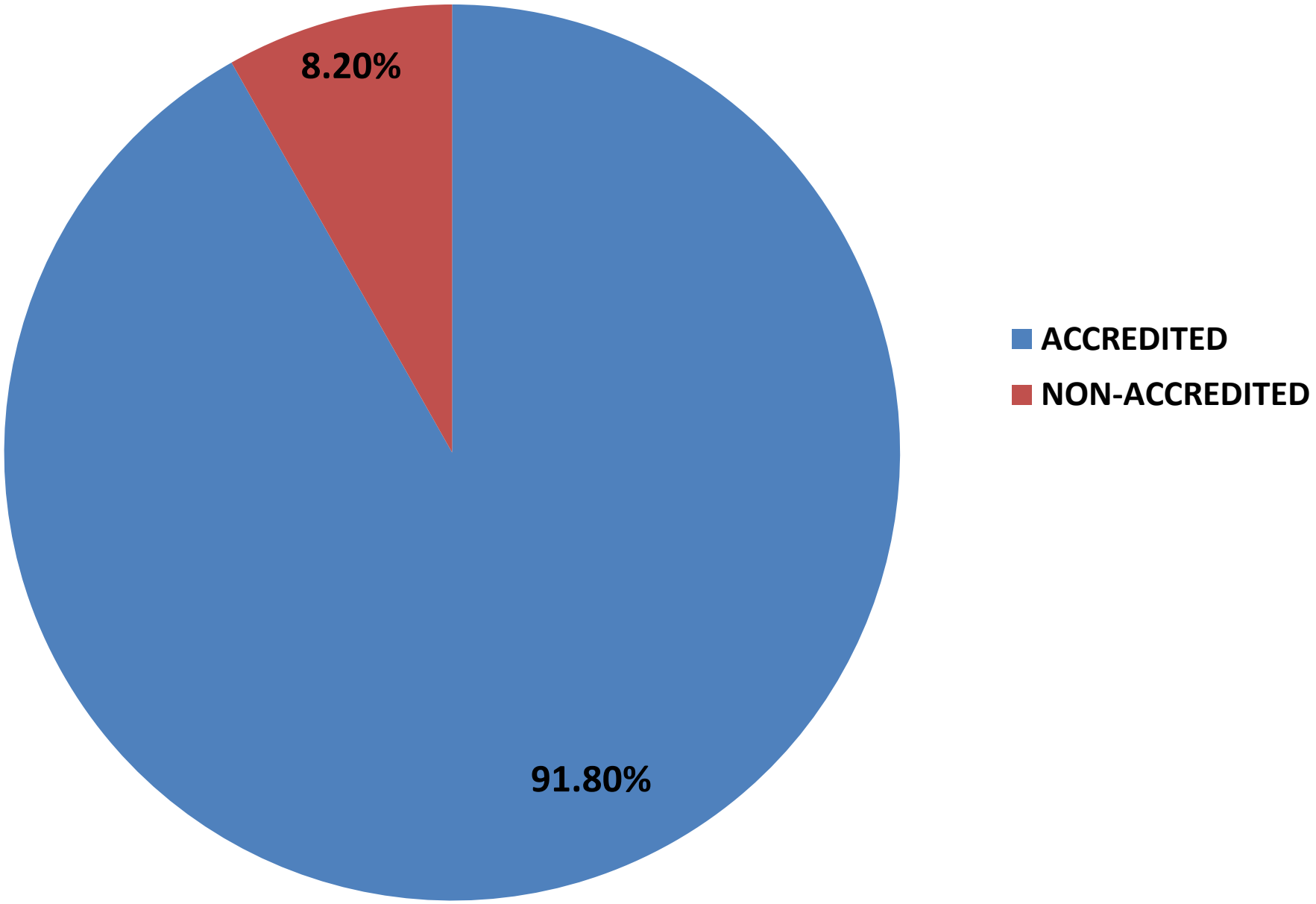
Use Table 14I **Maximum tolerance values between two and four replicates of 100 seeds in a single germination or tetrazolium test (2-way test at *P = 0.025).***
The maximum tolerance for average germination of 82% is 15.

Determine the difference between the highest replicate and the lowest replicate:
88-79 = 9. Since the difference between the highest and lowest replicate, 9, is less than the maximum of 15 you do not need to retest.

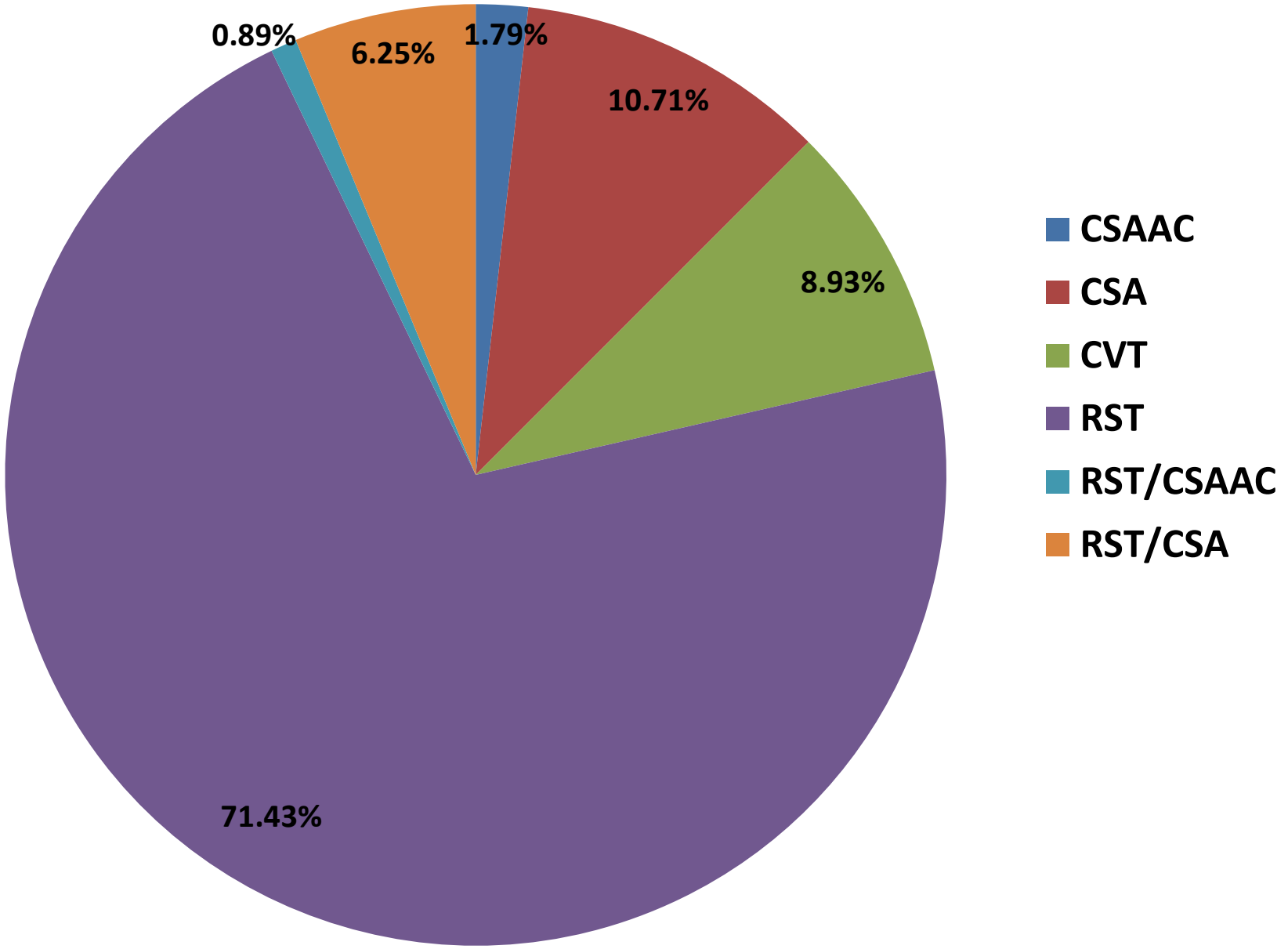
BROKEN SEED DIGITAL EXERCISE

- 112 accredited individuals
- 10 non accredited individuals
- Need to have 80% or greater classified correctly to be considered a passing score
- This exercise was graded but is informational for uniformity purposes. Does not count against individuals.

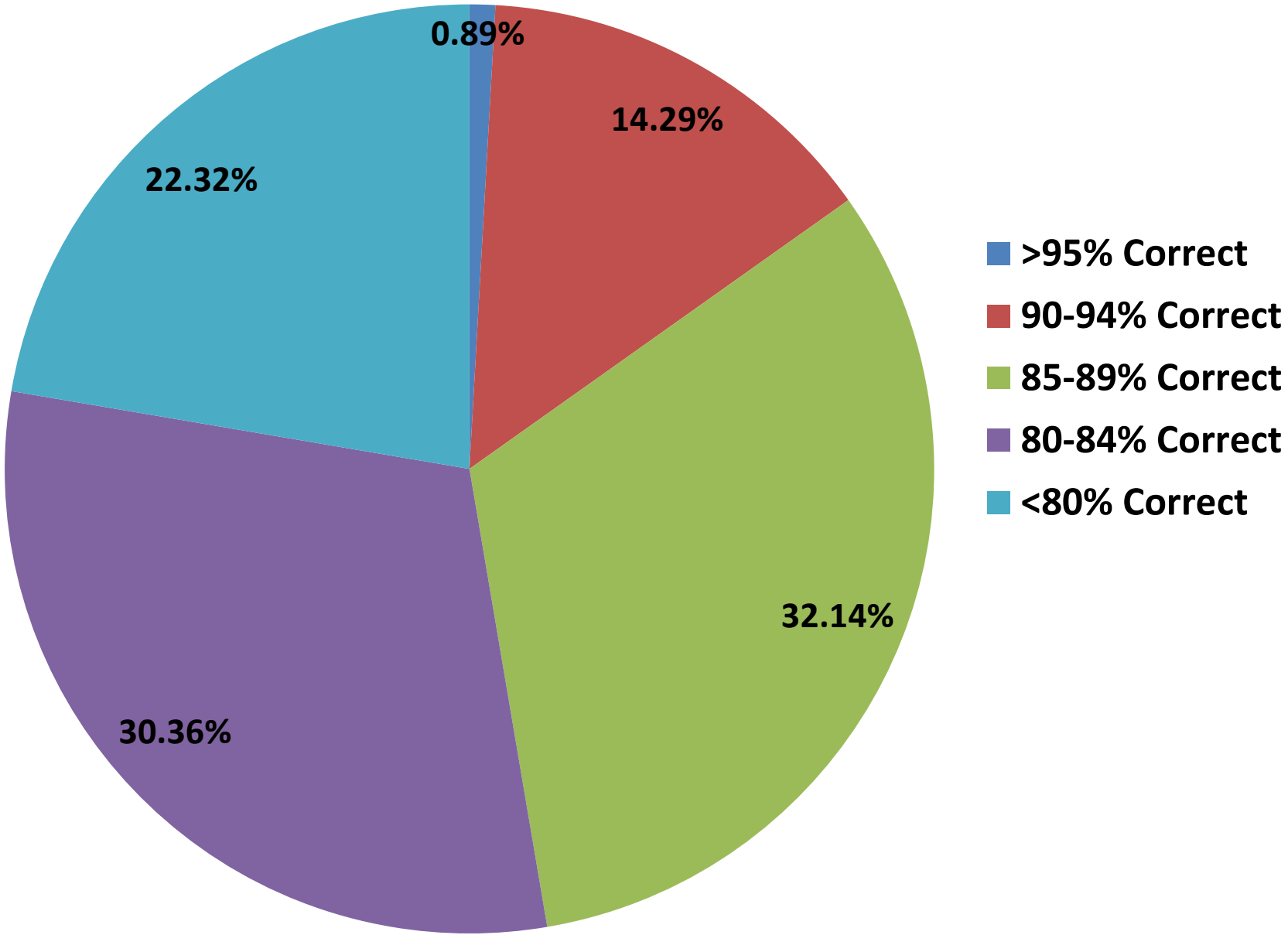
BROKEN SEED DIGITAL IMAGE EXERCISE ACCREDITED VS NON-ACCREDITED



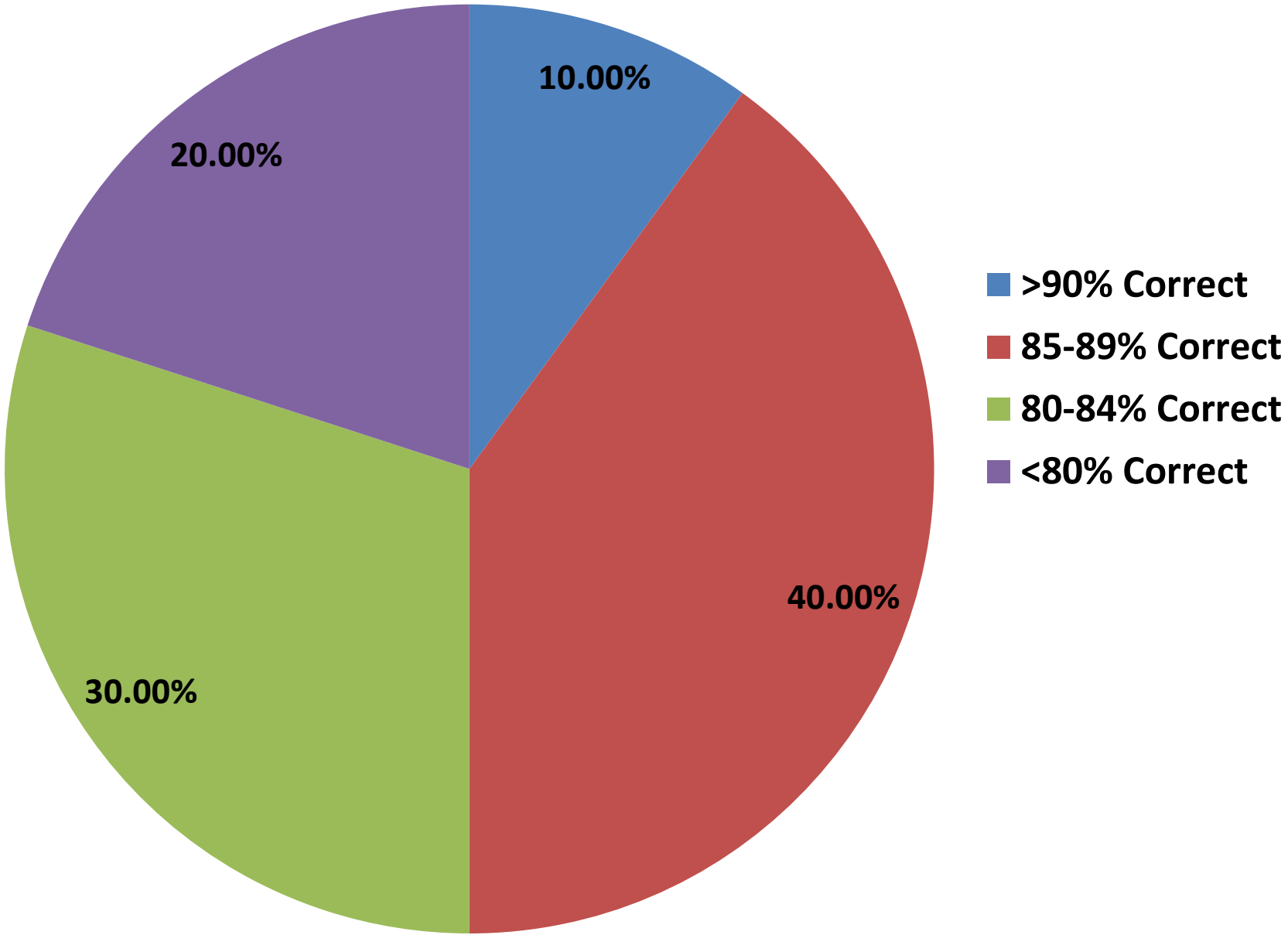
BROKEN SEED DIGITAL EXERCISE BREAKDOWN OF ACCREDITED INDIVIDUALS



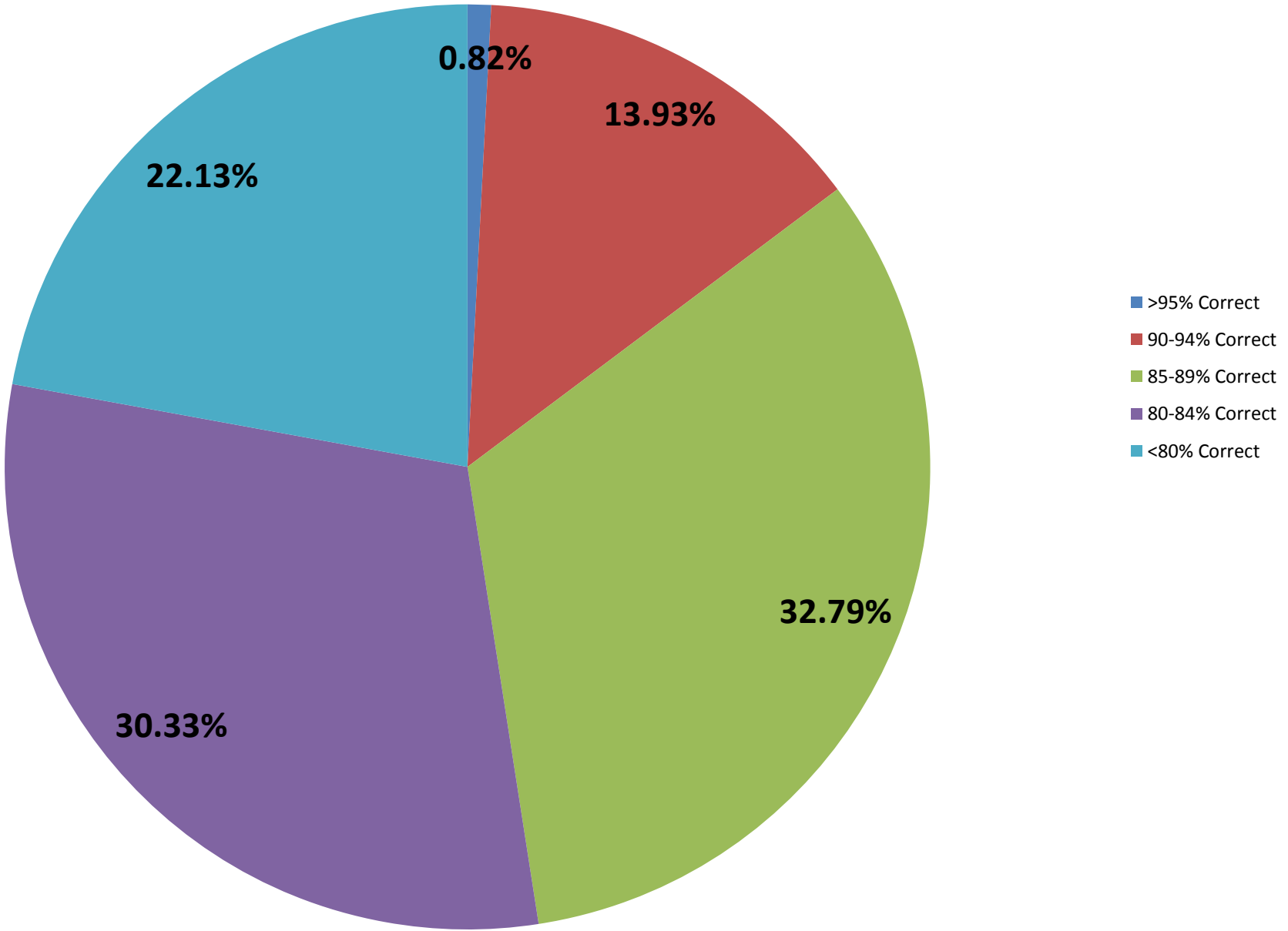
BROKEN SEED DIGITAL IMAGE EXERCISE
ACCREDITED INDIVIDUALS



BROKEN SEED DIGITAL IMAGE EXERCISE NON-ACCREDITED INDIVIDUALS



BROKEN SEED DIGITAL IMAGE EXERCISE COMBINED RESULTS



Pure Seed Unit #	Chaffy Seeds	Kind of seed
12		*Secale cereale L. subsp. Cereale* rye

PSU #	Description of Pure Seed Unit
12	Single floret, with or without awn, provided a caryopsis with some degree of endosperm development can be detected (either by slight pressure or by examination over light). Caryopsis or piece of broken caryopsis larger than one-half of the original size. Special consideration: * A fertile floret attached to another fertile floret shall be separated. * Attached glumes and empty florets shall be removed and classified as inert matter.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PURE SEED	37%
INERT	**63%**

PURE SEED	**96%**
INERT	4%

PURE SEED	21%
INERT	**79%**

PURE SEED	38%
INERT	**62%**

PURE SEED	**99%**
INERT	1%

PURE SEED	**100%**
INERT	0%


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PURE SEED	**81%**
INERT	19%

PURE SEED	35%
INERT	**65%**

PURE SEED	17%
INERT	**83%**

PURE SEED	**95%**
INERT	5%

PURE SEED	**100%**
INERT	0%

PURE SEED	50%
INERT	50%

PURE SEED	2%
INERT	**98%**


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PURE SEED	6%
INERT	**94%**

PURE SEED	**93%**
INERT	7%

PURE SEED	**56%**
INERT	44%

PURE SEED	**94%**
INERT	6%

PURE SEED	32%
INERT	**68%**

PURE SEED	39%
INERT	**61%**

PURE SEED	**97%**
INERT	3%

Pure Seed Unit #	Chaffy Seeds	Kind of seed
12		×*Triticosecale Wittm. ex A. Camus spp.* triticale

PSU #	Description of Pure Seed Unit
12	Single floret, with or without awn, provided a caryopsis with some degree of endosperm development can be detected (either by slight pressure or by examination over light). Caryopsis or piece of broken caryopsis larger than one-half of the original size. Special consideration: * A fertile floret attached to another fertile floret shall be separated. * Attached glumes and empty florets shall be removed and classified as inert matter.


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PURE SEED	43%
INERT	**57%**

PURE SEED	**99%**
INERT	1%

PURE SEED	**99%**
INERT	1%

PURE SEED	22%
INERT	**78%**

PURE SEED	**70%**
INERT	30%

PURE SEED	39%
INERT	**61%**

PURE SEED	**69%**
INERT	31%


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PURE SEED	**100%**
INERT	0%

PURE SEED	33%
INERT	**67%**

PURE SEED	**60%**
INERT	40%

PURE SEED	2%
INERT	**98%**

PURE SEED	7%
INERT	**93%**


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PURE SEED	43%
INERT	**57%**

PURE SEED	8%
INERT	**92%**

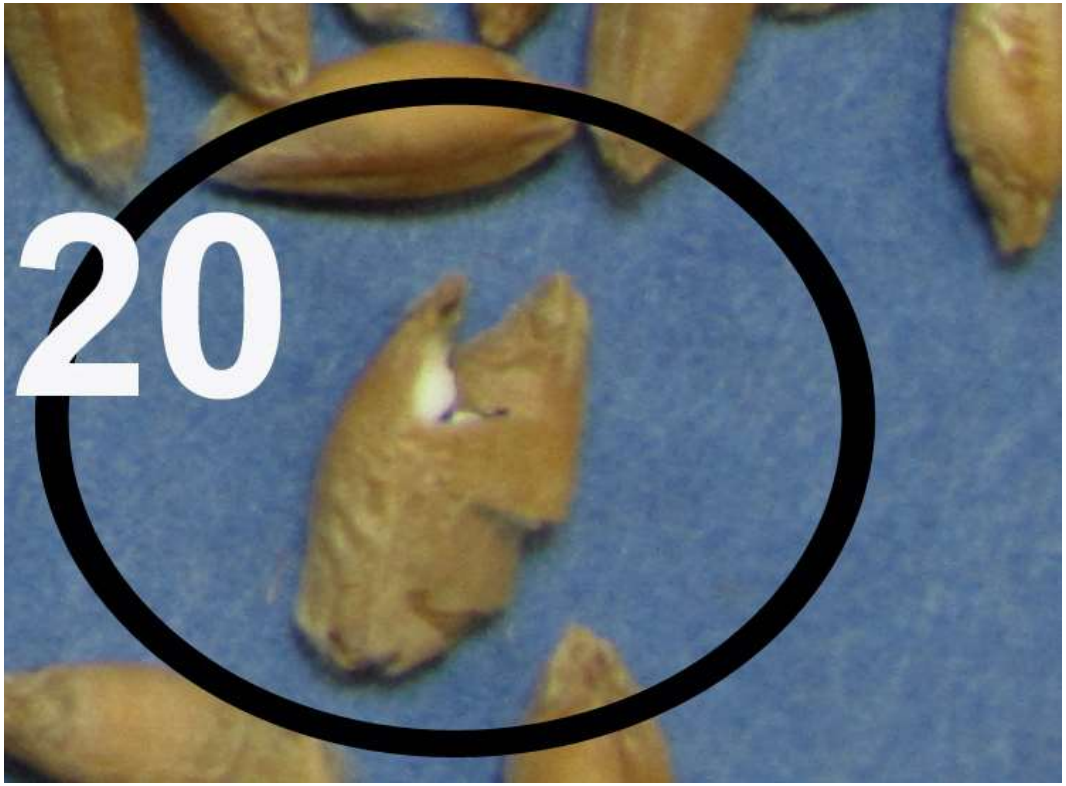
PURE SEED	**88%**
INERT	12%

PURE SEED	**98%**
INERT	2%

PURE SEED	**97%**
INERT	3%

PURE SEED	**56%**
INERT	44%

PURE SEED	3%
INERT	**97%**



PURE SEED	**93%**
INERT	7%

Pure Seed Unit #	Chaffy Seeds	Kind of seed
12		*Triticum aestivum L. and other spp.* wheat (also durum)

PSU #	Description of Pure Seed Unit
12	Single floret, with or without awn, provided a caryopsis with some degree of endosperm development can be detected (either by slight pressure or by examination over light). Caryopsis or piece of broken caryopsis larger than one-half of the original size. Special consideration: * A fertile floret attached to another fertile floret shall be separated. * Attached glumes and empty florets shall be removed and classified as inert matter.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PURE SEED	1%
INERT	**99%**

PURE SEED	**97%**
INERT	3%

PURE SEED	**53%**
INERT	47%

PURE SEED	**97%**
INERT	3%

PURE SEED	**100%**
INERT	0%

PURE SEED	**98%**
INERT	2%

PURE SEED	44%
INERT	**56%**

PURE SEED	**98%**
INERT	2%


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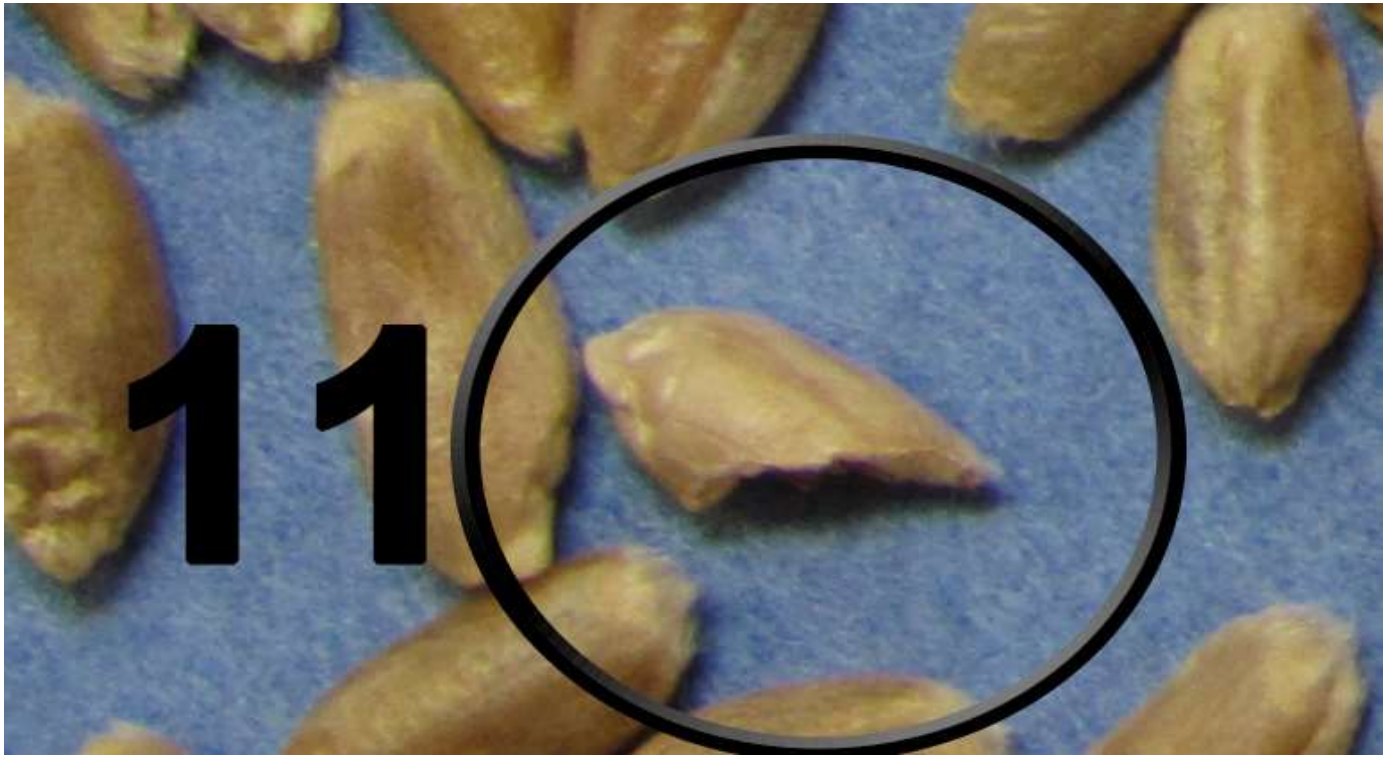
PURE SEED	**91%**
INERT	9%

PURE SEED	**52%**
INERT	48%



PURE SEED	**52%**
INERT	48%

PURE SEED	**93%**
INERT	7%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PURE SEED	20%
INERT	**80%**

PURE SEED	**93%**
INERT	7%

PURE SEED	2%
INERT	**98%**

PURE SEED	**72%**
INERT	28%

PURE SEED	34%
INERT	**66%**

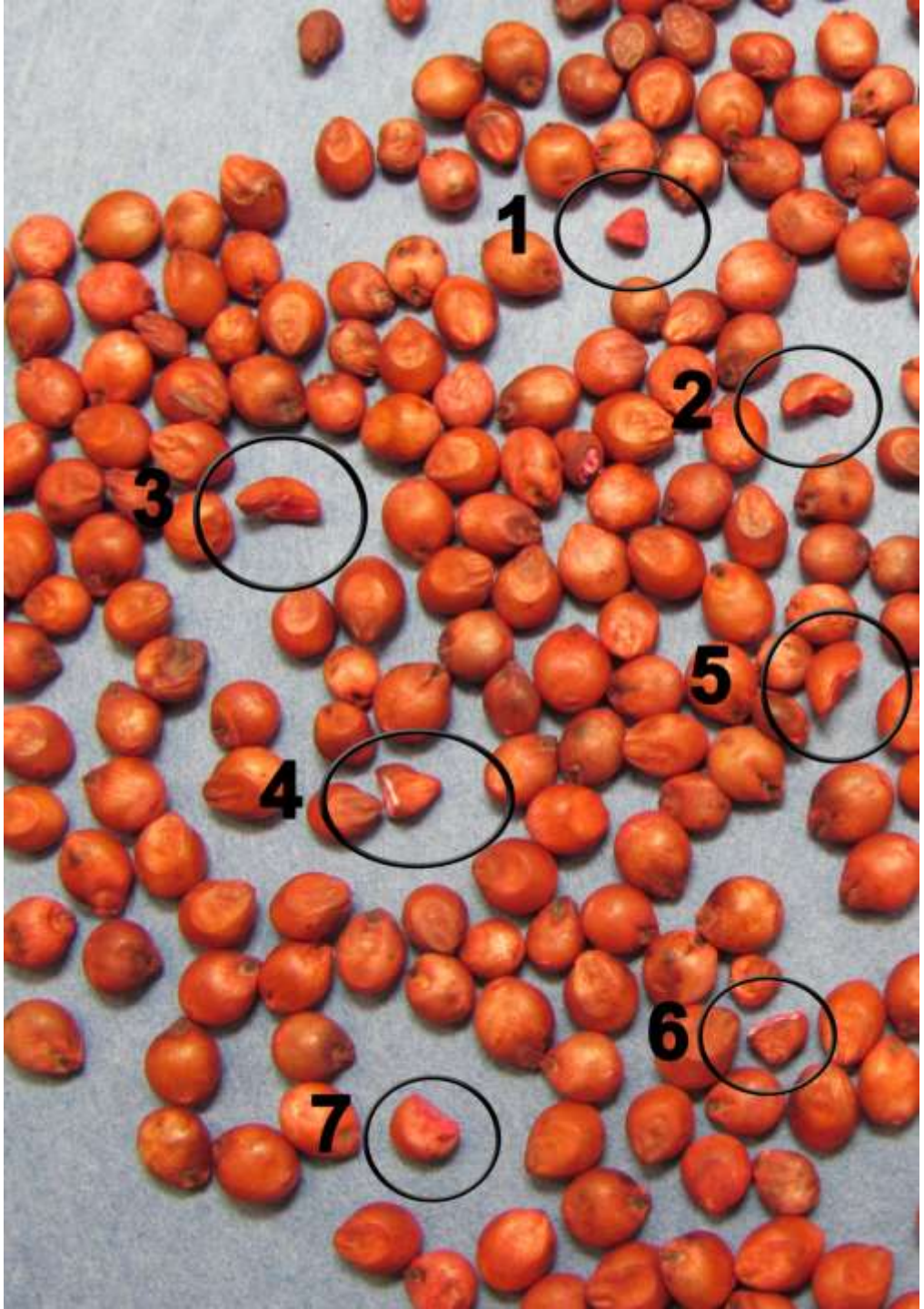
PURE SEED	32%
INERT	**68%**

PURE SEED	34%
INERT	**66%**

PURE SEED	**93%**
INERT	7%

Pure Seed Unit #	Chaffy Seeds	Kind of seed
15		*Sorghum bicolor (L.) Moench subsp. Bicolor* sorghum (incl. grain, sweet, and forage cvs.)

PSU #	Description of Pure Seed Unit
15	Spikelet with or without attached rachis segment (also see rame internode in glossary), pedicel and sterile spikelet, with or without awn(s), provided a caryopsis with some degree of endosperm development can be detected (either by slight pressure or by examination over light). Caryopsis or piece of broken caryopsis larger than one-half of the original size.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PURE SEED	1%
INERT	**99%**

PURE SEED	**58%**
INERT	42%

PURE SEED	25%
INERT	**75%**

PURE SEED	**80%**
INERT	20%

PURE SEED	41%
INERT	**59%**

PURE SEED	16%
INERT	**84%**

PURE SEED	**99%**
INERT	1%


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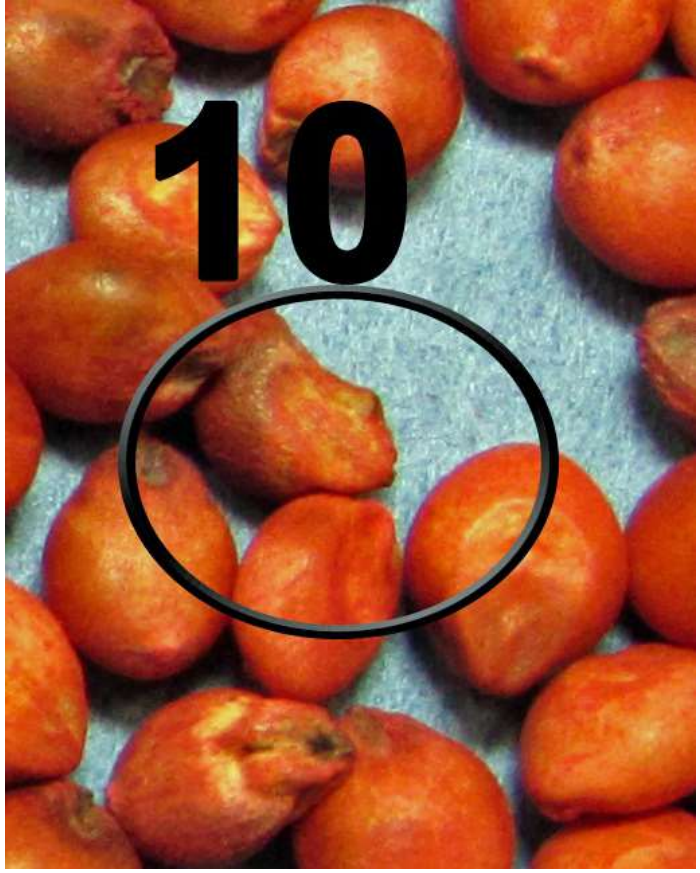
PURE SEED	**98%**
INERT	2%

PURE SEED	37%
INERT	**63%**



PURE SEED	**93%**
INERT	7%

PURE SEED	**67%**
INERT	33%

PURE SEED	**65%**
INERT	35%

PURE SEED	**53%**
INERT	47%

PURE SEED	**100%**
INERT	0%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PURE SEED	**60%**
INERT	40%

PURE SEED	**93%**
INERT	7%

PURE SEED	0%
INERT	**100%**

PURE SEED	**75%**
INERT	25%

PURE SEED	**99%**
INERT	1%

PURE SEED	0%
INERT	**100%**

Pure Seed Unit #	Chaffy Seeds	Kind of seed
1		*Cucumis sativus L.* cucumber

PSU #	Description of Pure Seed Unit
1	Seed, with or without seed coat. Piece of broken seed, with or without seed coat, larger than one-half the original size. Special considerations: * Seeds of Cucurbitaceae and Solanaceae whether or not they are filled. * Pairs of *Allium spp. seeds adhering together need not be separated. Refer to section 6.5 c.*


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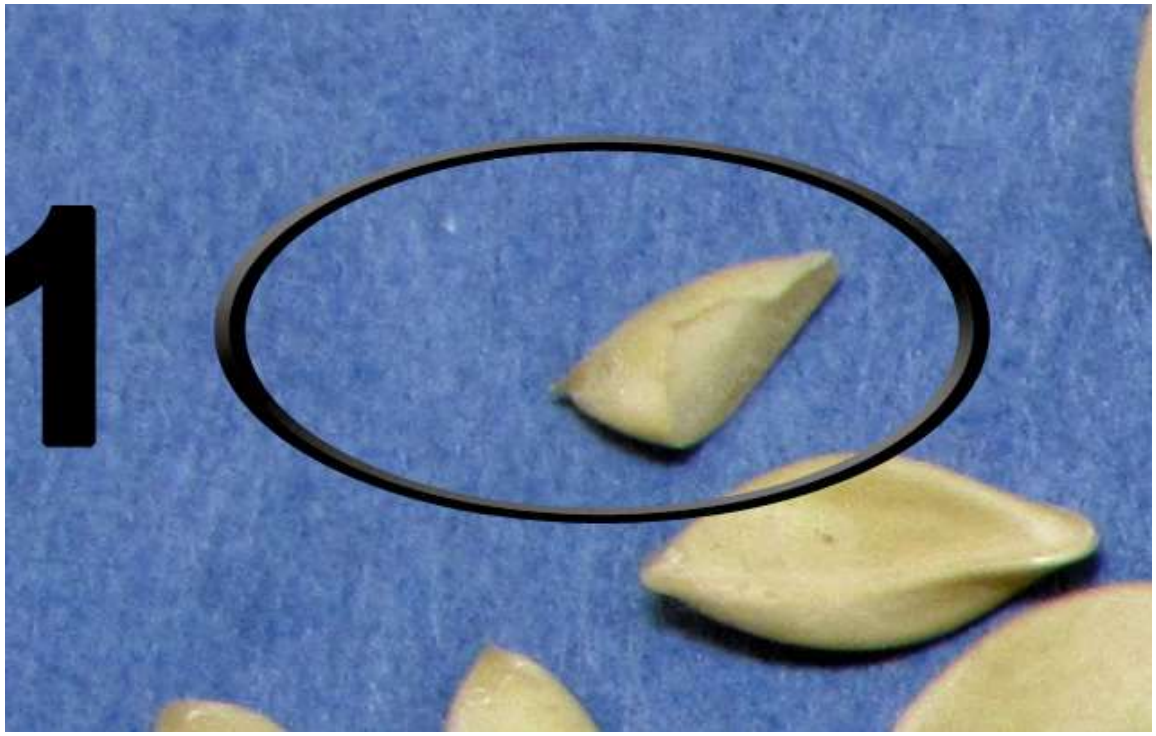
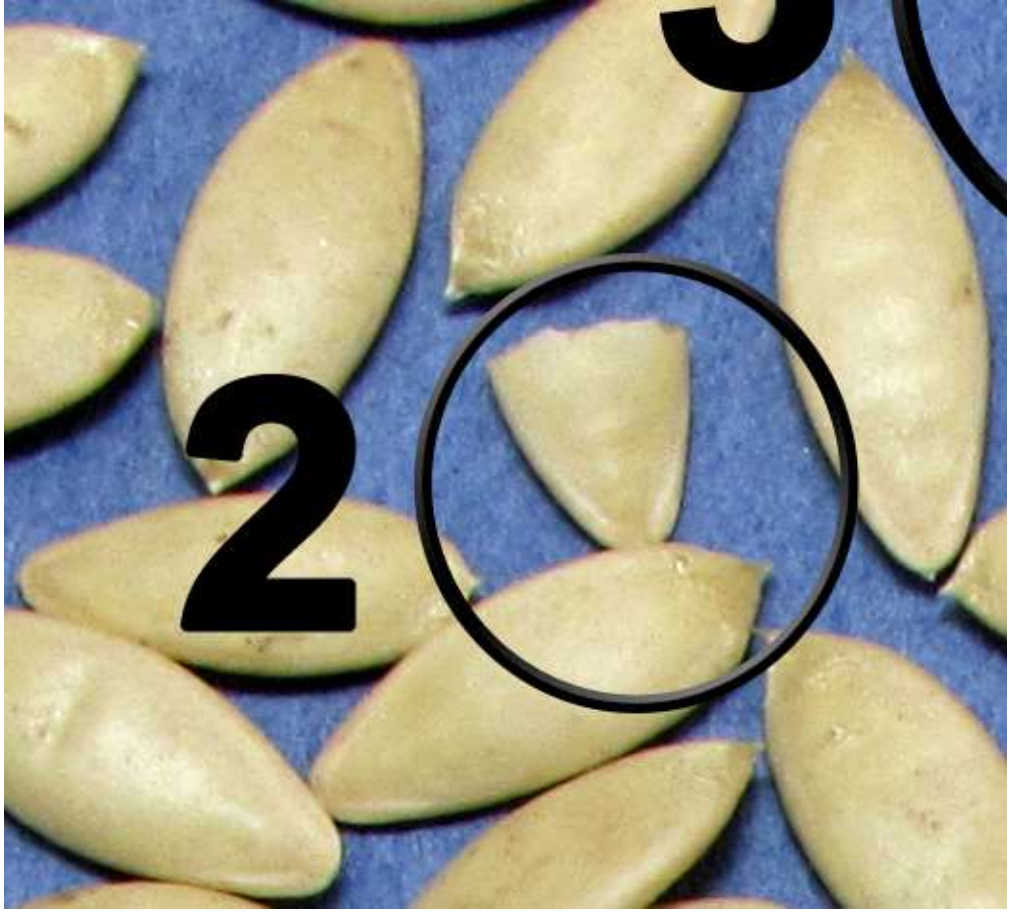
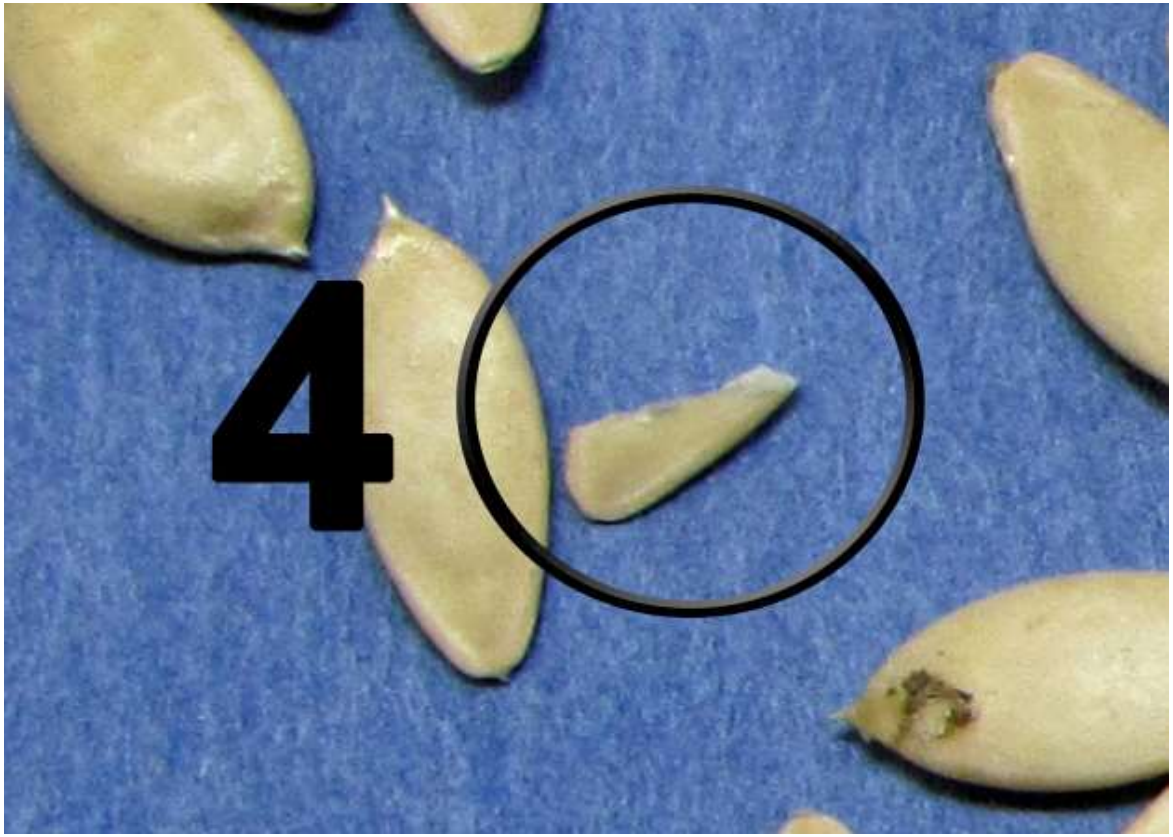


PURE SEED	14%
INERT	**86%**



PURE SEED	7%
INERT	**93%**

PURE SEED	**100%**
INERT	0%



PURE SEED	0%
INERT	**100%**

PURE SEED	**100%**
INERT	0%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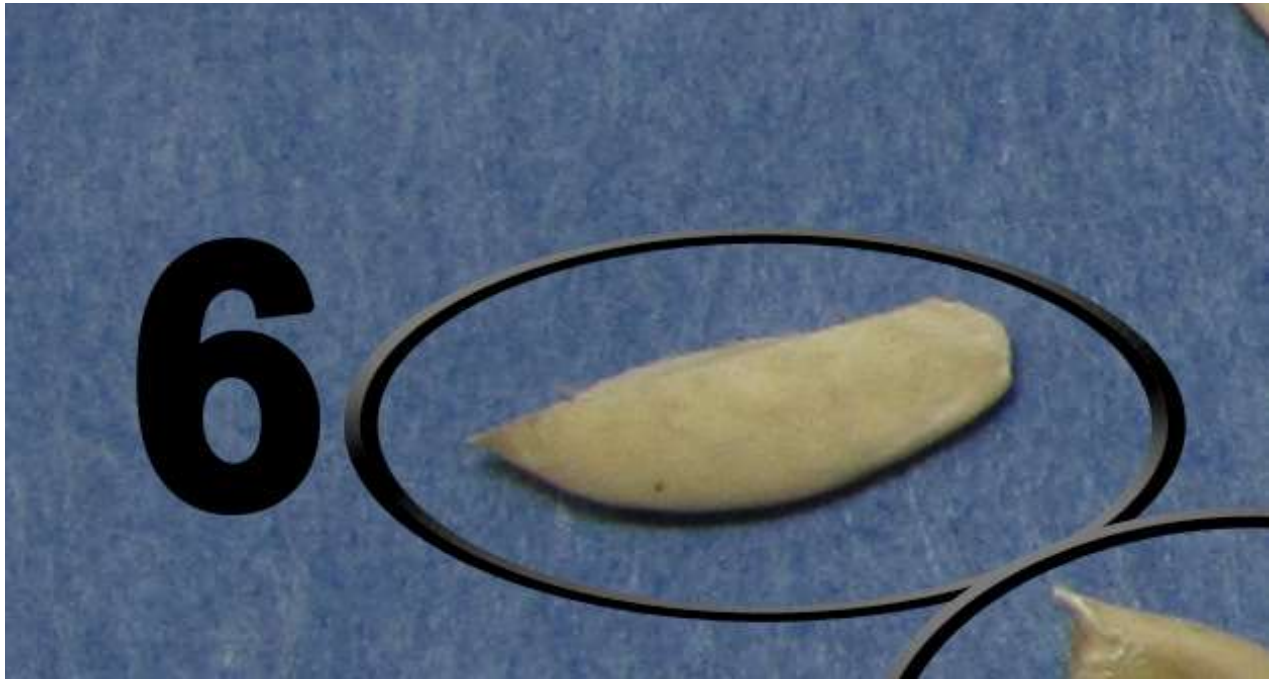
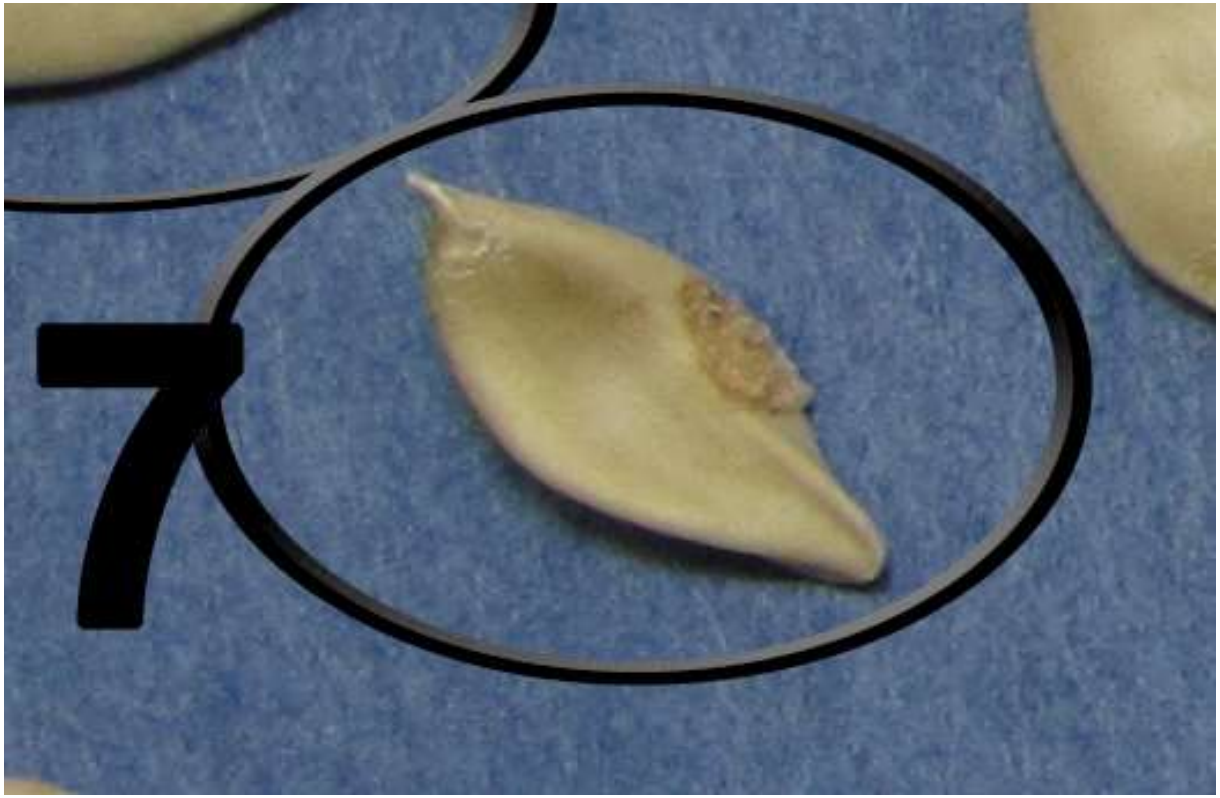
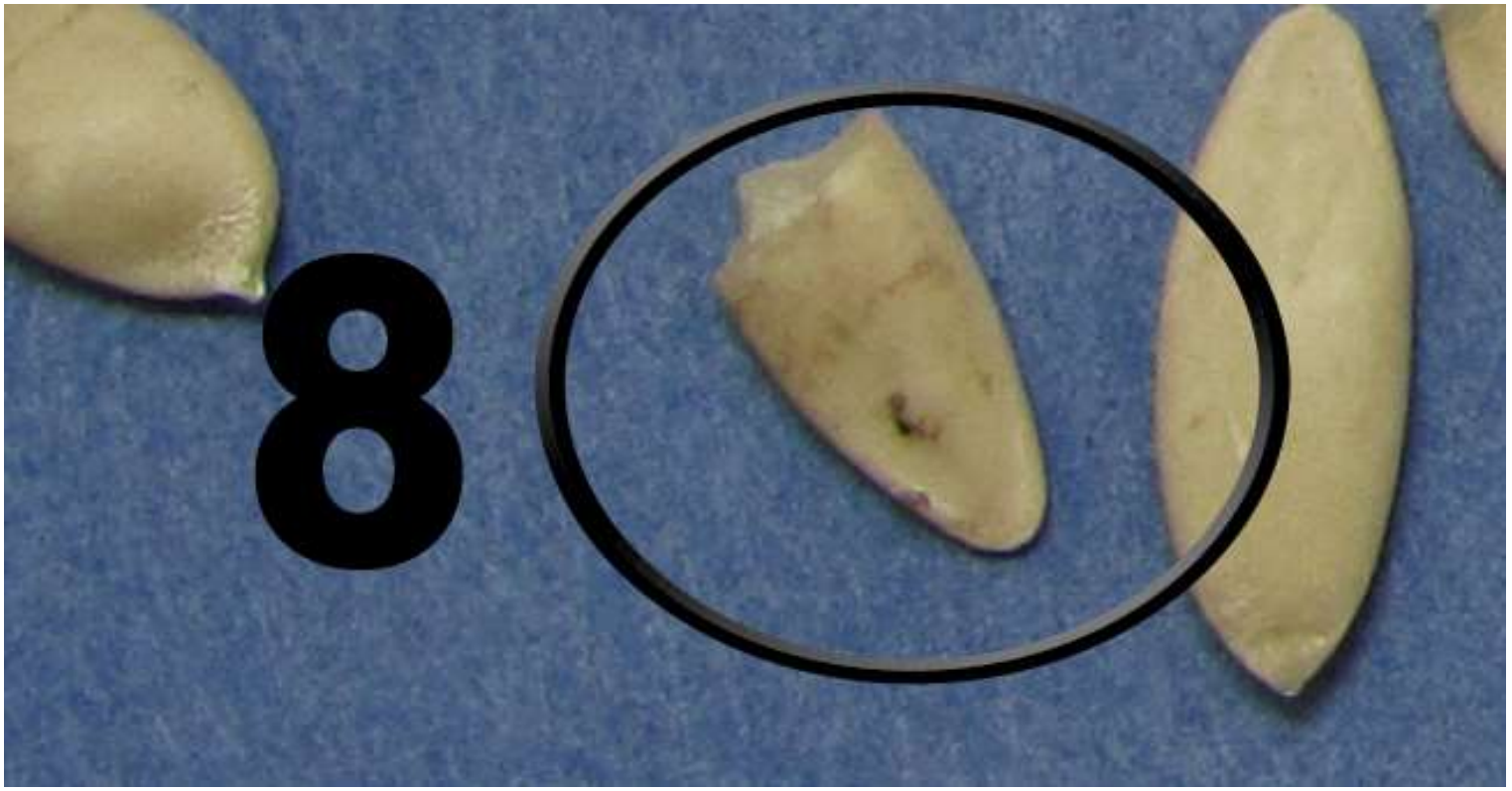


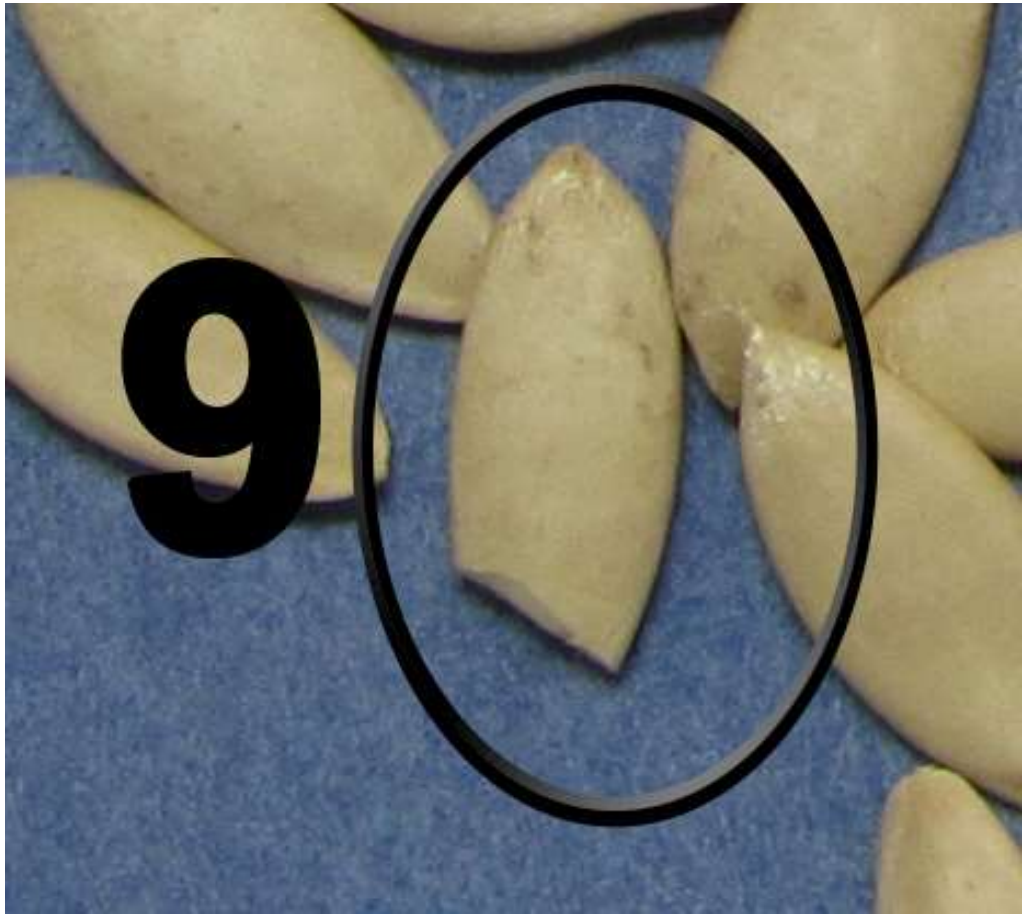
PURE SEED	**99%**
INERT	1%



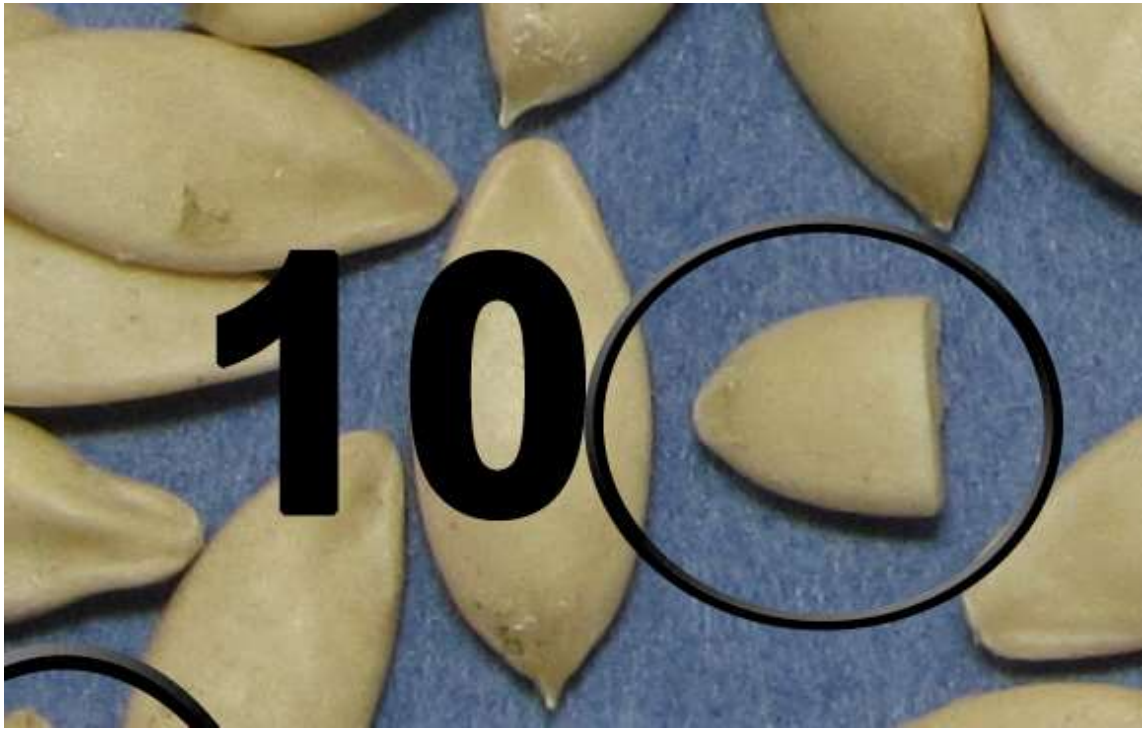
PURE SEED	**98%**
INERT	2%



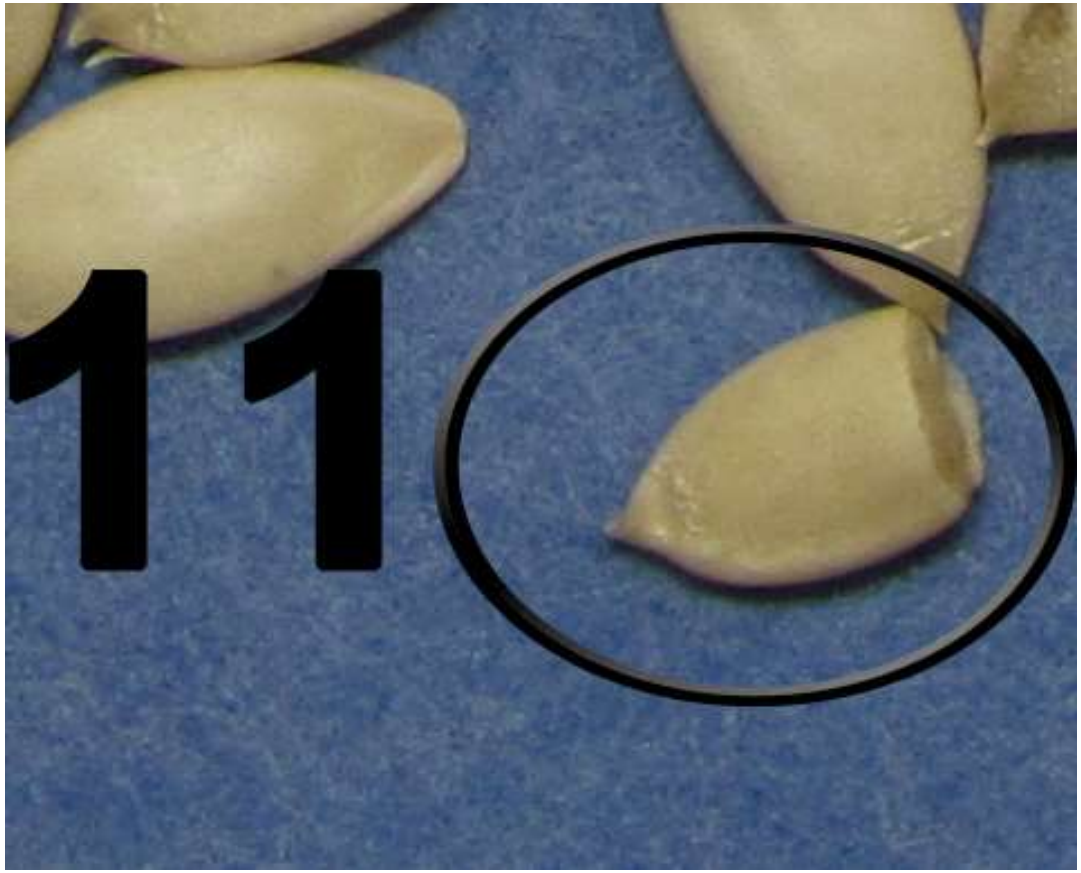
PURE SEED	**96%**
INERT	4%



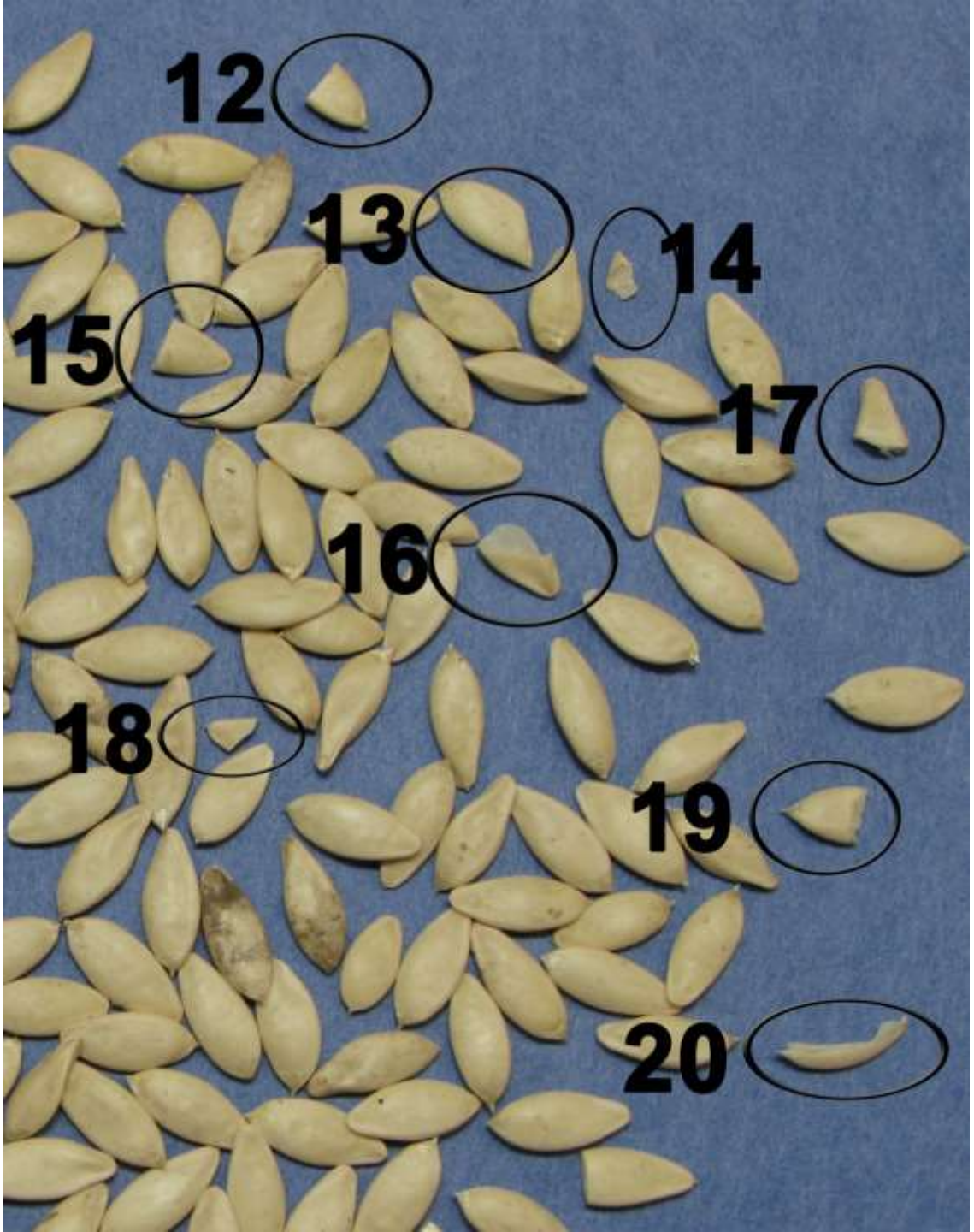
PURE SEED	**100%**
INERT	0%



PURE SEED	3%
INERT	**97%**



PURE SEED	**93%**
INERT	7%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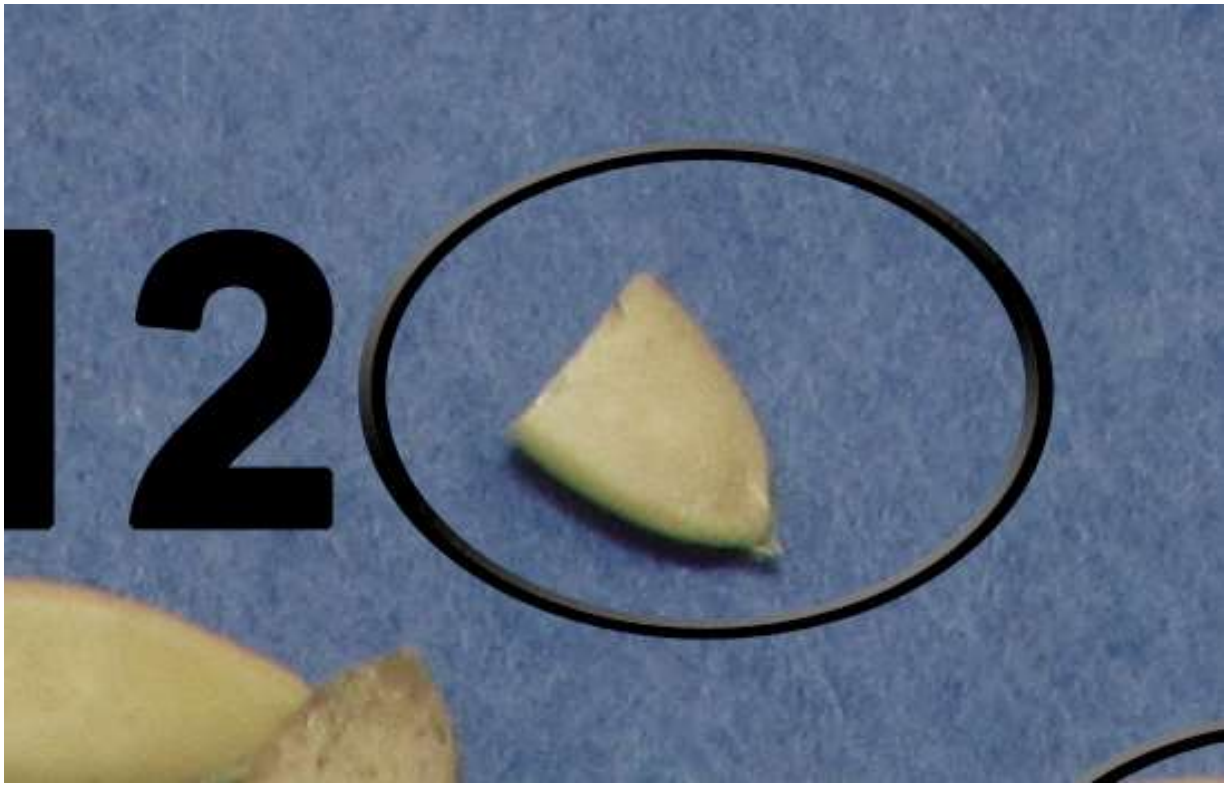
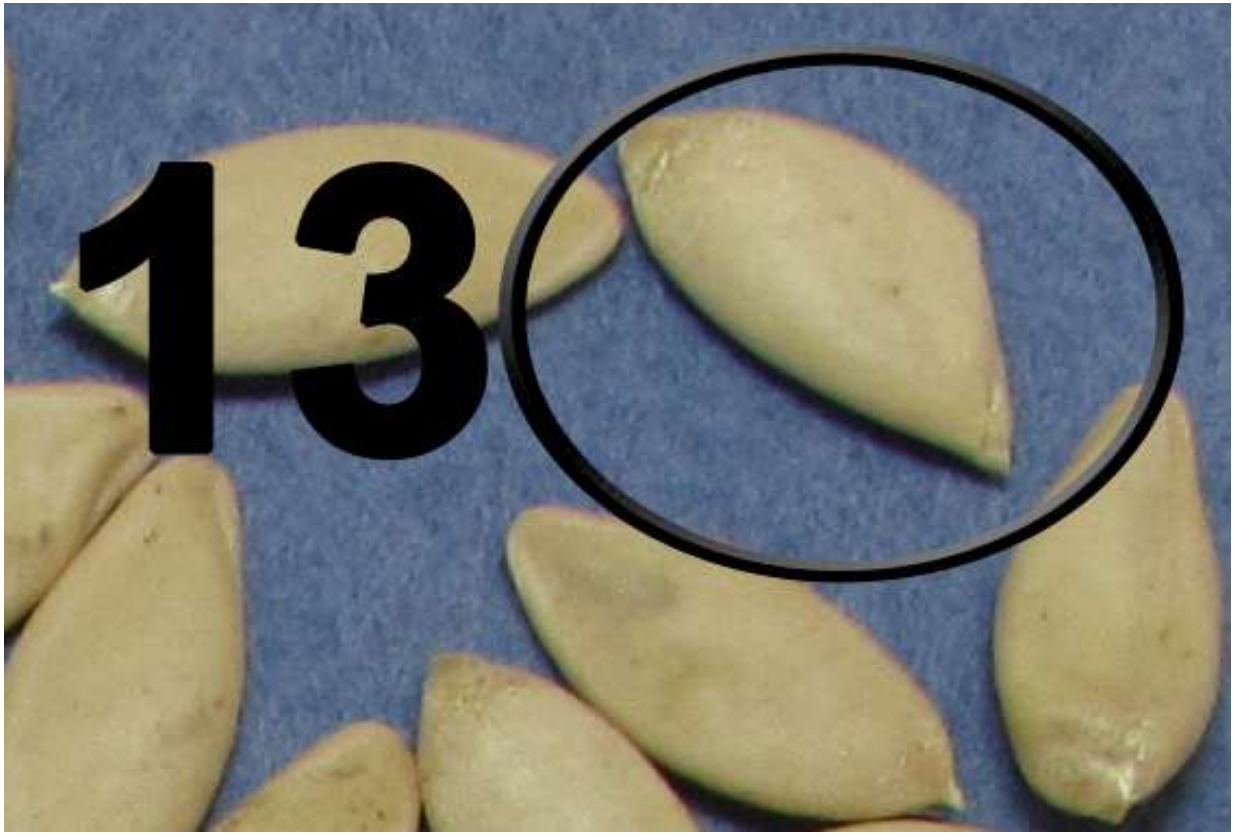
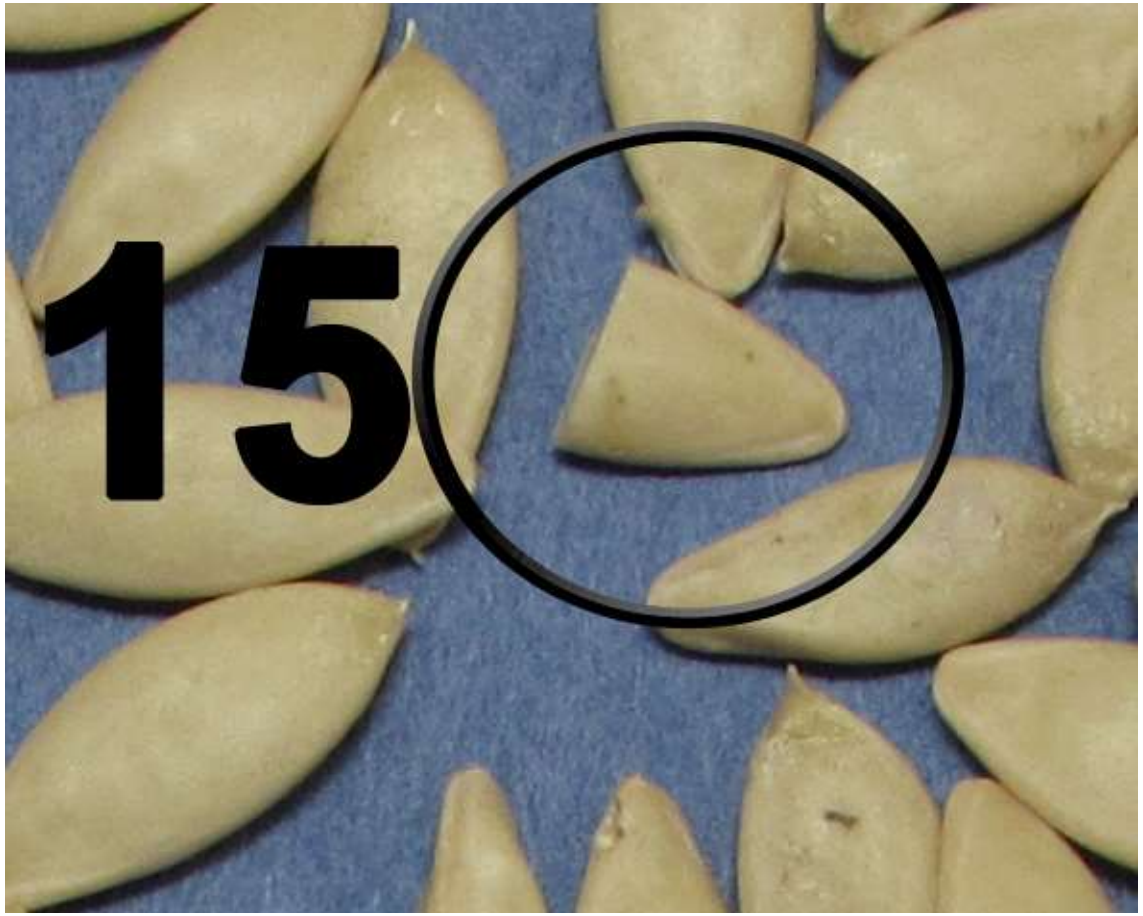


PURE SEED	10%
INERT	**90%**

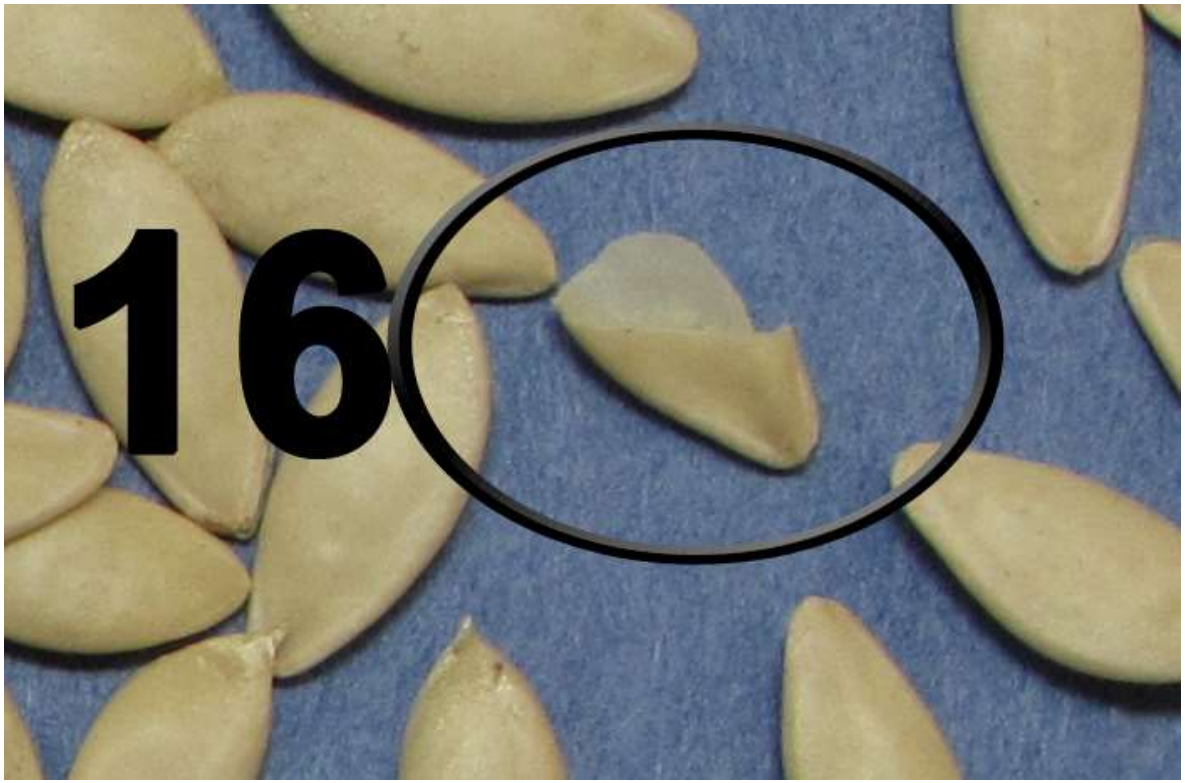


PURE SEED	**99%**
INERT	1%

PURE SEED	1%
INERT	**99%**



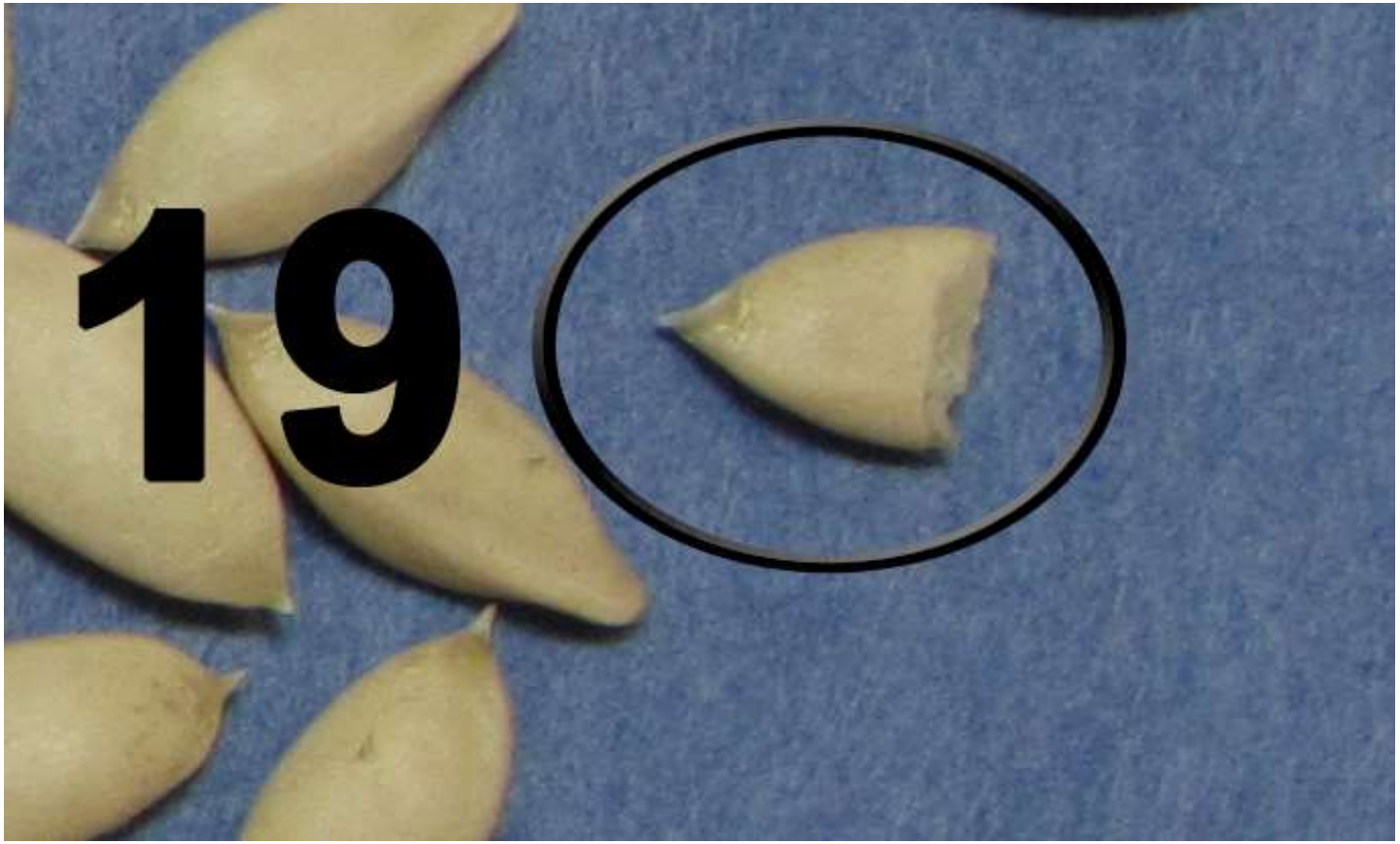
PURE SEED	42%
INERT	**58%**



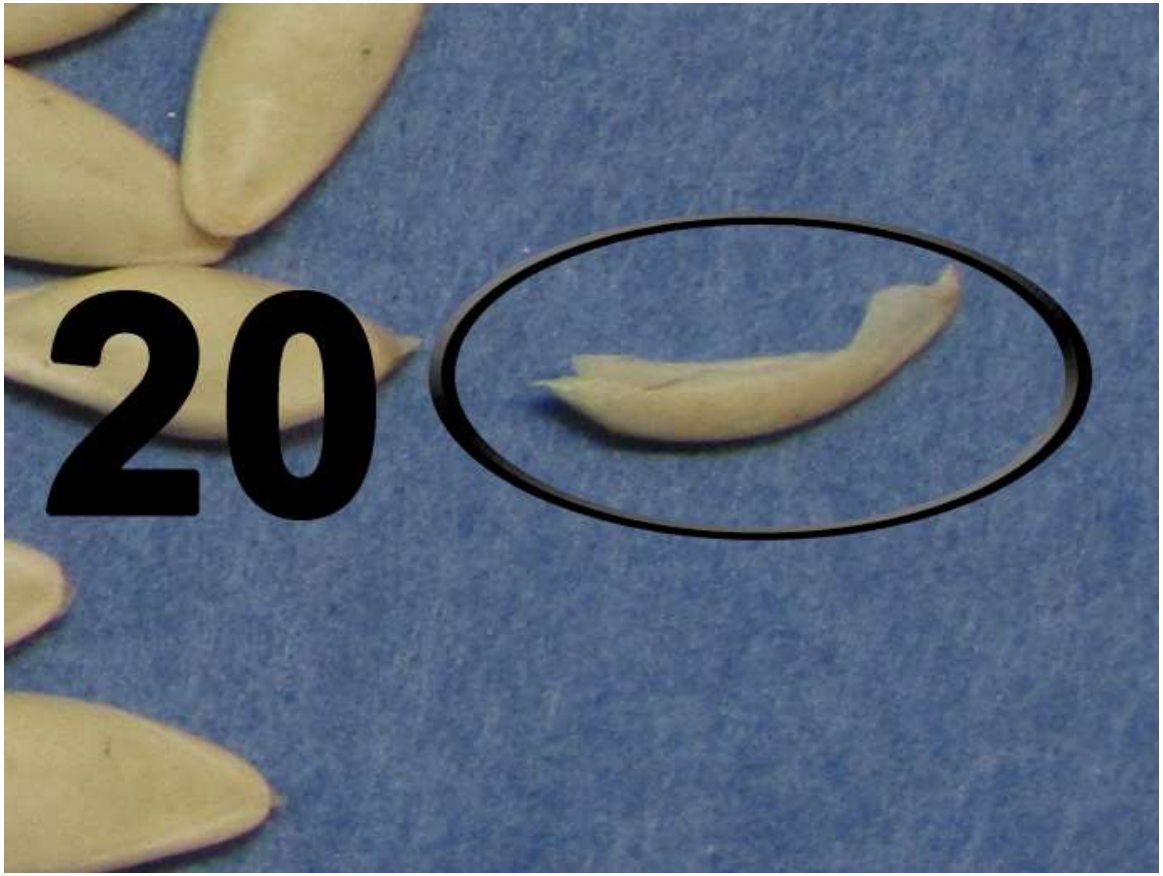
PURE SEED	20%
INERT	**80%**

PURE SEED	17%
INERT	**83%**

PURE SEED	2%
INERT	**98%**



PURE SEED	34%
INERT	**66%**



PURE SEED	2%
INERT	**98%**