

## AOSA & SCST CONSOLIDATED EXAM INFORMATION & CONTENT

### Qualifications & Administration

	<b>Consolidated Exam</b>
<b>Requirements</b>	Currently employed in seed testing. 2 years full time experience, equivalent to 4000 hours. Or equivalent as determined by Exam Committee
<b>Qualifications</b>	100 points: work experience, workshops, and acceptable college courses. Written recommendation by trainer/tutor that the applicant is competent to take the exam and become an accredited analyst.
<b>Herbarium</b>	150 seed herbarium collection reviewed at exam or voucher from lab supervisor that lab has a herbarium with at least 150 kinds of seed: common crops, federal and state noxious weeds. The voucher form must describe how the herbarium is organized.
<b>Application</b>	Submitted to Executive Director <u>and</u> Exam co-chair on a first come basis. Approved by Exam Committee
<b>Exam Fee</b>	\$300 for individual exam (either purity or germination) \$500 for purity and germination
<b>Location &amp; Frequency</b>	Once a year in each region (as needed), hosted by an approved/designated AOSA or SCST member lab, or at the annual meeting (can take the place of a regional exam).
<b>Grading</b>	Completed written and practical exams are sent to Executive Director <u>and</u> Exam co-chairs, exams are coded and distributed to graders (at least 2 committee members grade each exam, reviewed by chairs).
<b>Passing Grades</b>	≥70% written exam ≥80% practical exam ≥80% overall average
<b>Titles</b>	No change, each organization maintains current titles and membership categories.

## Key Exam References

Please note that the AOSA/SCST RST/CVT/CPT/CSA Study Guide specifies the level and detail of knowledge expected for the references listed below (Candidates are not expected to memorize the ISTA Rules or Canadian Methods & Procedures but should be able to identify key differences between AOSA, ISTA and the Canadian M&P.)

Reference	Consolidated Exam
<b>AOSA Rules Vol. 1, 2, 3, 4</b> (updated annually 10/1)	Sampling procedures Sample preparation Purity examination procedures Noxious weed examination procedures Germination procedures Uniform Blowing Procedures Uniform Classification of Crop & Weed Seeds Seedling Evaluation Handbook Calculating Multiple Seed Units (MSU) Florescence test procedures Seed count procedures (hand and mechanical methods) Moisture testing Calculating final results Reporting results
<b>AOSA Handbooks</b>	AOSA Seed Vigor Handbook, 2009 AOSA Tetrazolium Testing Handbook, 2010 AOSA Moisture Testing Handbook, 2018 AOSA Cultivar Purity Handbook
<b>Seed ID List</b>	List of 311 species provided by Exam Committee and included with the Study Guide.
<b>Other Methods or Rules</b>	Federal Seed Act Regulations: key concepts All States Noxious Weed Seed List Canadian Methods & Procedures: key concepts ISTA Rules for Testing Seeds: key concepts
<b>Other</b>	AOSA/SCST RST/CVT/CPT/CSA Study Guide SCST Seed Technologist Training Manual, 2018 Seed Technology DVDs AOSA Seed Analyst Training Manual (out of print) Principles of Seed Science and Technology, Copeland & McDonald A good botany book for flower and seed structures USDA Handbook 30: Manual for Testing Agricultural and Vegetable Seeds USDA Handbook 219: Identification of Crop and Weed Seeds

AOSA Rules and Handbooks: <http://www.aosaseed.com/publications>

SCST Publications: <http://www.seedtechnology.net/publications>

Canadian Methods and Procedures for Testing Seed or Seeds Regulations:  
available upon request from [cfia.ssts-ssts.acia@canada.ca](mailto:cfia.ssts-ssts.acia@canada.ca)

USDA-AMS Seed Regulatory and Testing Division Publications:  
<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=Template1&navID=Publications&rightNav1=Publications&topNav=&leftNav=FairTradingRegulations&page=SeedTestingPublications&resultType=&acct=lsngeninfo>

## Germination Exam Content

<b>Written Exam</b>	<b>Content</b>
<b>Points</b>	150
<b>Time</b>	2 hours
<b>References</b>	Provided with exam as needed
<b>Written Content</b>	Exam composed from pool of questions based on key exam references. Purity information: Demonstrate knowledge of sample preparation, pure seed units. (140 points)
<b>PSU for Planting</b>	10 images of seeds, classify as pure seed or inert (10 points)
<b>Practical Exam</b>	<b>Content</b>
<b>Points</b>	100
<b>Time</b>	2 hours
<b>References</b>	References not allowed.
<b>Seedling Image Evaluation</b>	90 pictures of seedlings to evaluate from species in Volume 4, Seedling Evaluation Handbook. (90 points) Classified as normal, abnormal, hard, non-germinated/dead. Brief explanation why.
<b>TZ Evaluation &amp; Preparation</b>	10 images of seeds from a TZ test. (10 points) Describe TZ preparation for the species in evaluation (examples): bisect, poke or partial cut, how to handle hard seed, TZ formula, identifying test artifact vs. abnormal, over-stained and damaged tissue.

## Purity Exam Content

<b>Written Exam</b>	<b>Content</b>
<b>Points</b>	155
<b>Time</b>	2.5 hours
<b>References</b>	Provided with exam as needed
<b>Written Content</b>	Exam composed from pool of questions based on key exam references: sampling, examinations, classification, blowing procedure, definitions, etc. Genus and specific epithet for 25 common names (40 scientific names will be given, examinee will match common with scientific name). Basic botany and plant family characteristics. Compute weight of the working sample for a mixture. Report of analysis exercises. Multiple Seed Unit and calculation
<b>Practical Exam</b>	<b>Content</b>
<b>Points</b>	205
<b>Time</b>	5.5 hours
<b>References</b>	Provided with exam as needed
<b>Mix &amp; Divide</b>	Demonstrate the correct technique to mix, divide, and weigh a sample. Sample, checklist & references provided. (5 points)
<b>Seed ID</b>	50 samples of seed from the Seed Identification List, identify the species using the scientific or common name. No references allowed. (100 points, 1 point for correct Genus only, 2 points for Genus and specific epithet or complete common name)
<b>Separations</b>	Complete 2 out of 5 samples of 25 seed mixture separations. No references allowed. (50 points)
<b>Purity Sample</b>	Complete a purity analysis on a sample: separate components, identify & classify contaminants, weigh and compute % of components. References provided (Vol. 3, sections of Rules needed for exercise). Choice of three species to conduct purity. (20 points)
<b>PSU Classification Calculate MSU</b>	Classify Objects found in a hypothetical sample, MSU classification (this is a virtual exam). References provided (20 points for correct classification). <b>Example included in study guide.</b> (20 points).
<b>Uniform Blowing Procedure</b>	Demonstrate use of Uniform Blowing Point. Checklist & References provided. (10 points)