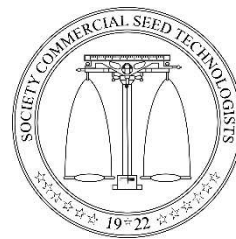
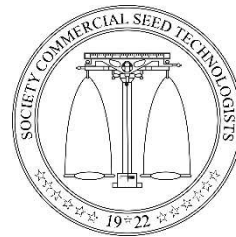
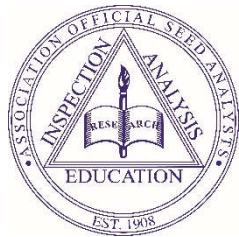


AOSA & SCST CONSOLIDATED EXAM INFORMATION & CONTENT

Qualifications & Administration

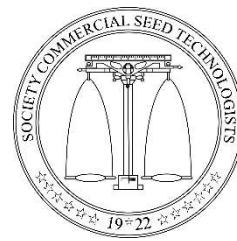
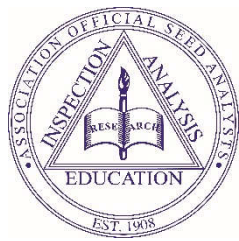


	Consolidated Exam
Requirements	Currently employed in seed testing. 2 years full time experience, equivalent to 4000 hours. Or equivalent as determined by Exam Committee. SCST candidates must be an Associate Member for a minimum of two years prior to taking the exam.
Qualifications	100 points: work experience, workshops, and acceptable college courses (see application form for details). Written recommendation by trainer/tutor that the applicant is competent to take the exam and become an accredited analyst.
Herbarium	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. All examination candidates from both AOSA and SCST must attest to their herbarium collection; either a personal collection or an employer's lab collection. An approved herbarium must contain a minimum of 150 kinds of seed: common crops, common weeds, federal and state noxious weeds. The form that is part of the exam application must describe how the herbarium is organized.
Application	Submitted to Executive Director <u>and</u> Exam co-chair on a first come basis. For AOSA, application are review by the Exam chair; for SCST, applications are reviewed and approved as appropriate by the Exam Committee.
Exam Fee	\$300 for individual exam (either purity or germination) \$500 for purity and germination
Location & Frequency	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).
Grading	Completed written and practical exams are sent to Executive Director <u>and</u> Exam co-chairs. Exams are coded (to conceal the candidate identity) and distributed to 4 graders (two committee members from AOSA and two committee members from SCST). Scoring is reviewed by the Exam Co-chairs and scores finalized.
Passing Grades	≥70% written exam ≥80% practical exam ≥80% overall average



Exam Format

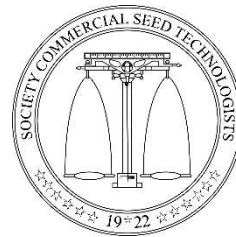
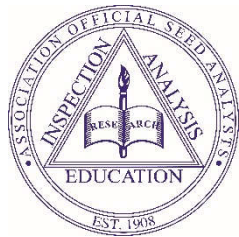
Open book means that candidates are allowed to refer to the AOSA Rules for Testing Seeds (Volumes 1, 2, 3, and 4) during BOTH written and practical exams. No other materials, handbooks or references may be used. AOSA Rules for Testing Seeds must be current, clean, and an unmarked printed version supplied by the candidate. The proctor at the site will be verifying your copy meets these requirement. If your material does not meet the acceptance criteria, you will not be able to use it. A clean printed copy will be available for community use if necessary. Electronic versions of the AOSA Rule for Testing Seeds will not be allowed.



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
AOSA Rules Vol. 1, 2, 3, 4 (updated annually October 1 st)	General topics include but are not limited to: Sampling procedures Sample preparation Purity analysis 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 Tolerances Cultivar tests Basically, anything appearing in the four volumes of the AOSA Rules is fair game on the exams.
AOSA Handbooks	AOSA Seed Vigor Handbook, 2009 AOSA Tetrazolium Testing Handbook, 2010 AOSA Moisture Testing Handbook, 2018 AOSA Purity Testing Handbook, 2020 Cultivar Purity Handbook 1991
Seed ID List	List of 290 species provided by Exam Committee and included with the Study Guide.
Other Methods or Rules (current versions)	State Noxious-Weed Seed Requirements Recognized in the Administration of the Federal Seed Act (i.e. All States Noxious Weed Seed List) Federal Seed Act Regulations: key concepts Canadian Methods & Procedures: key concepts ISTA Rules for Testing Seeds: key concepts



Other	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) Seed Testing: Principles and Practices, S. Elias, L. O. Copeland, M. B. McDonald, and R. Baalbaki, 2012. USDA Handbook 30: Manual for Testing Agricultural and Vegetable Seeds USDA Handbook 219: Identification of Crop and Weed Seeds AOSA Purity Testing Handbook, 2020
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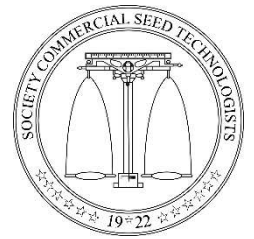
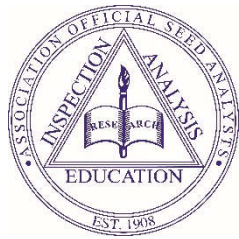
AOSA Rules and Handbooks: <https://analyzeseeds.com/product-category/publications/?v=dfd44cc06c1b>

SCST Publications: <https://analyzeseeds.com/product-category/publications/?v=dfd44cc06c1b>

Canadian Methods and Procedures for Testing Seed or Seeds Regulations: available upon request from ssts@inspection.gc.ca (updated annually July 1st)

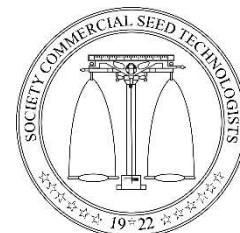
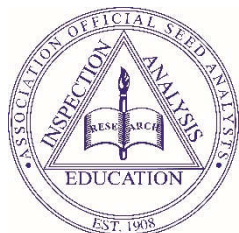
ISTA Rules: <https://www.seedtest.org/en/publications/international-rules-seed-testing.html>

USDA-AMS Seed Regulatory and Testing Division Publications: <https://www.ams.usda.gov/publications>



Germination Exam Content

Written Exam	Content
Points	150
Time	2.5 hours
References	AOSA Rules for Testing Seeds (Volumes 1, 2, 3 and 4) – Open Book No other materials, handbooks or references may be used.
Written Content	Exam composed from pool of questions based on key exam references: general botany, definitions, germination methods, evaluation, dormancy, calculations, tolerances, vigor testing, report of analysis, etc. Purity information: Demonstrate knowledge of sample preparation, pure seed units. (150 points)
Practical Exam	Content
Points	110
Time	2 hours
References	AOSA Rules for Testing Seeds (Volumes 1, 2, 3 and 4) – Open Book No other materials, handbooks or references may be used.
Seedling Image Evaluation	90 images 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.
TZ Evaluation & Preparation	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.
PSU for Planting	Images of seeds are provided for the candidate to classify as appropriate for planting in a germination test (i.e., pure seed) or not appropriate for planting in a germination test (i.e., inert matter or seeds of other species).(10 points)



Purity Exam Content

Written Exam	Content
Points	155
Time	2.5 hours
References	AOSA Rules for Testing Seeds (Volumes 1, 2, 3 and 4) – Open Book No other materials, handbooks or references may be used.
Written Content	Exam composed from pool of questions based on key exam references: sampling, purity analyses, examinations, classification, uniform blowing procedure, multiple seed unit procedure, definitions, tolerances, seed counts, cultivar purity, various types of calculations related to working weights and test procedures, report of analysis requirements, and other purity related content, etc. Also included are questions on basic botany, plant family characteristics, botanical nomenclature, equipment calibration, assessment of testing variables, and laboratory quality management.
Practical Exam	Content
Points	205
Time	5.5 hours
References	AOSA Rules for Testing Seeds (Volumes 1, 2, 3 and 4) – Open Book No other materials, handbooks or references may be used.
Mix & Divide	Demonstrate the correct technique to mix, divide, and weigh a sample. Sample, checklist and references provided. (5 points)
Seed ID	50 samples of seed from the Seed Identification List will be encased in clear plastic containers that cannot be opened. Identify the species using the scientific or common name. (100 points: 2 points for correct genus and specific epithet combination or complete common name, 1 point for correct genus only, 0.5 point for correct family name only).
Separations	Complete 2 out of 5 samples of 25 seed mixture separations. Seeds can be removed from their containers and assessed, being careful that no seeds are lost. (50 points)
Purity Sample	Complete a purity analysis on a sample: separate components, identify and classify contaminants, weigh and compute percentages of components. Choice of three species to conduct purity. (20 points)
Classification	Using excerpts from Volume 3 classification table and additional written information provided regarding noxious weed seeds and seed lot marketing location, candidates need to be able to classify images of pure seed units, inert matter, other crop seeds, and weed seeds, given the kinds of seeds under analysis. (20 points)
Uniform Blowing Procedure	Demonstrate use of the General Seed Blower as applied to the Uniform Blowing Procedure. Checklist & references provided. (10 points)