2017
Corn and Soybean Quality Evaluation Workshop
Seed Conditioning Workshops

SPONSORS
Seed Science Center
Seed Testing Laboratory
Agricultural and Biosystems Engineering
College of Agriculture and Life Sciences
Iowa State University Extension and Outreach

INSTRUCTORS
Alan Gaul; Susana Goggi, Ph.D.; M.K. Misra, Ph.D.;
Gary Munkvold, Ph.D.; Kim North; Mike Stahr;
and industry guest speakers

IOWA STATE UNIVERSITY
Schedule
Workshop schedule is from 8 a.m. to 4:30 p.m. with registration from 8 to 8:30 a.m. on the first day of each workshop. Lunch is provided with each full-day program.

Location and Parking
Unless otherwise noted, the workshops will be in the Seed Science Center at Iowa State University. Parking is available. You'll receive a map and parking permit with your registration confirmation.

Registration
Workshop enrollment is limited. Registrations will be accepted on a first-come, fees-paid basis. The coordinator of the workshops reserves the right to limit the number of persons attending per company or institution. If you have questions about registration, contact Registration Services at (515) 294-6222.

Change in Plans
If you cannot attend a workshop, you may send a substitute. Cancellations made at least one week in advance will be subject to a $25 handling fee. For cancellations made within a week of the workshop, you'll be reimbursed 50 percent of your fee. No refunds are provided for cancellations made after the start of the workshop. Contact Registration Services at (515) 294-6222 to report a substitute or cancel your registration.

Messages
During the workshop, messages may be left at (515) 294-6826.

On-Location Workshops
Special arrangements may be made for the workshops to be on-location at your plant or place of operation if four or more employees are involved.

Customized Workshops
Special arrangements may be made for customized workshops designed to suit your company needs. These workshops meet in the Seed Science Center and can vary in duration and content, based on your company's specific needs.

Hotels
For a complete listing of hotels in Ames, call the Ames Convention and Visitors Bureau at (800) 288-7470 or go to www.thinkames.com.

Special Needs
If you need special disability or dietary accommodations, call Registration Services at (515) 294-6222.

For More Information
Cherie Hill
Iowa State University
109 Seed Science Center,
Ames, Iowa 50011-3228
(515) 294-6826 | clhill@iastate.edu

CORN and SOYBEAN QUALITY EVALUATION WORKSHOP
August 15-17, 2017
Limit of 21 people
FEE: $300
LAST DAY TO REGISTER: August 1

The Seed Quality Evaluation Workshop offers lecture and laboratory hands-on training for both corn and soybean seeds.

The following topics are covered:
• Seed and seedling morphology
• Viability: Germination tests (rolled towels, sand, crepe cellulose paper)
• Vigor: Principles, accelerated aging, tray cold and saturated cold
• Tetrazolium test
• Fungi identification/seed health testing
• Special tests: electrical conductivity, hypochlorite soak (soybeans), fast green (corn)
• Trait testing: herbicide bioassay, ELISA/lateral flow strips, PCR
• AOSA Rules, purity test and sampling

WHO SHOULD ATTEND
• Those studying to take CSA, RST, or RGT exams
• Beginning seed analysts
• Quality assurance managers
• Production managers
• Field production managers
• Interested personnel

SEED CONDITIONING WORKSHOPS

The workshop series offers hands-on training with typical seed conditioning machinery and a detailed review of seed conditioning operations. Workshops include a mix of classroom presentations and equipment demonstrations. The training is suitable for new personnel or used as a refresher course for experienced operators. Fees include a box or catered lunch each day.

FOOD GRADE BEAN CONDITIONING
May 15-18, 2017
FEE: $415

Offered in conjunction with the ISU Grain Quality Lab and Center for Crops Utilization Research (CCUR). The program is similar to the soybean seed program, but focused on requirements for food grade identity preserved soy and dry edible bean markets with an emphasis on issues relevant to primary export markets and related processes. Equipment demonstrations include seed conditioning, sample analysis, and common soybean processes for various end-use applications.
• Bean conditioning review
• Sampling and material handling
• Bulk storage, aeration, and drying
• Air screen cleaning and aspiration
• Bean polishing machinery
• Spiral and belt separation
• Destoner and gravity separation
• Color sorting and FM removal
• Packaging and palletizing
• Quality control and food security
• Traceability-inventory control
• NIR sample quality analysis
• Common end-use applications
• Pest control and fumigation
COLOR SORTING
SATAKE ScanMaster II - June 5-6, 2017
SATAKE Evolution - June 7-8, 2017
BUHLER SORTEX - June 13-14, 2017
FEE: $245
Brand-specific workshops provide advanced color sorter training for equipment operators and other interested personnel. Hands-on training will be provided using corn and soybean seed. Primary focus will be on Satake ScanMaster II, Satake Evolution and Buhler Sotrex Z-Series machines, with additional coverage of advanced optical sorting and sample analysis technology when appropriate. Company representatives will be available to assist with class presentations, equipment operation, and technical support.

• Technology review
• Color sorting demonstrations
• Equipment operation training
• Basic machine maintenance

SEED TREATMENT
July 19-20, 2017
FEE: $265
Intended for seed industry personnel requiring updated information and more detailed coverage of current seed treatment products, typical seed pests and pathogens, chemical stewardship, application equipment, and calibration procedures. The seed treatment workshop will be held in a larger ISU facility to accommodate indoor equipment displays and multiple concurrent sessions. The program will include presentations by University personnel and company representatives on a variety of current seed treatment topics.

• Seed treating equipment and calibration
• Recent treating equipment developments
• Product and performance review
• Seed treatment product updates
• Chemical stewardship considerations
• Research and development presentations
• Entomology and pathology
• Tour of ISU seed testing laboratory

SEED CORN CONDITIONING
June 26-29, 2017
August 7-10, 2017
FEE: $415
General “crop specific” workshop covering typical operations required for conditioning seed corn for lot sizes typical of larger foundation and commercial seed production. Additional coverage for small lot or research applications may be included based on attendee demographics.

• Seed corn conditioning review
• Basic harvest operations
• Ear corn receiving, husking, and sorting
• Ear corn dryer operation and management
• Ear corn shelling and material handling
• Bulk storage and aeration
• Air screen cleaning and aspiration
• Seed corn sizing
• Gravity separation
• Color sorting
• Seed treatment
• Packaging and palletizing
• Pest control and fumigation
• Climate controlled storage

SPECIALTY SEED CONDITIONING
June 20-22, 2017
FEE: $340
General workshop covering typical operations required for conditioning small lots of unusual or high value products such as vegetable, flower, tree, or grass seeds.

• Seed conditioning review
• Threshing and seed extraction
• Surface disinfection
• Sampling and material handling
• Seed drying and aeration
• Debearding and brushing
• Air screen cleaning and aspiration
• Sizing and length grading
• Spiral and belt separation
• Frictional separation
• Destoning and gravity separation
• Color sorting technology
• Scarification and priming basics
• Seed coating and pelleting
• Counting and packaging
• Climate controlled storage

Early registration is strongly advised as the final program may be adjusted slightly to meet specific attendee requirements.

GRAVITY SEPARATION
August 1, 2017
August 3, 2017
FEE: $150
Detailed review of the operation, adjustment, and effectiveness of the destoner and gravity table for removing foreign material and upgrading seed quality. The primary focus will be on typical seed corn and soybean separation issues with additional discussion regarding other seed and food grade applications.

• Fluidized bed technology review
• Destoner operation and adjustment
• Gravity table operation and adjustment
• Basic machine maintenance
• Hands-on gravity separator training
• Oliver, Heid, LMC, and Forsberg gravities

Register Today!
Most workshops have a maximum attendance of 25 people, so register today to ensure your enrollment in this year's workshop. Please call (515) 294-6222 to check availability for workshops if you are registering less than a week prior to the workshop.

Iowa State University does not discriminate on the basis of race, color, age, religion, national origin, sexual orientation, gender identity, sex, marital status, disability, or status as a U.S. veteran. Inquiries may be directed to the Director of Equal Opportunity and Diversity, 3680 Beardshear Hall, (515) 294-7612.
REGISTRATION — SEED WORKSHOPS

Mark the session(s) you will attend. Lunch is provided with each full-day program. Please register early – at least one week prior to workshop. One person per registration form. Please make copies if needed.

Mail registration to:
Registration Services
1601 Golden Aspen Drive
Suite 110
Ames, IA 50010
Fax: (515) 294-6223

<table>
<thead>
<tr>
<th>Session/Workshop</th>
<th>Date</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Food Grade Bean Conditioning</td>
<td>May 15-18</td>
<td>$415.00</td>
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<tr>
<td>Color Sorting – SATAKE (ScanMaster II)</td>
<td>June 5-6</td>
<td>$245.00</td>
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<td>Soybean and Small Grain Seed Conditioning</td>
<td>July 10-13</td>
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<td>Seed Treatment</td>
<td>July 19-20</td>
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<td>Soybean and Small Grain Seed Conditioning</td>
<td>July 24-27</td>
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<tr>
<td>Gravity Separation</td>
<td>August 1</td>
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<td>$300.00</td>
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TOTAL $ ______

First Name___________________________________________________ Last Name___________________________________________________
Job Title____________________________________________________ Company / Affiliation________________________________________
Day Phone___________________________________________________ Evening Phone_______________________________________________
E-mail______________________________________________________ Fax________________________________________________________
Work Mailing Address___________________________________________________________________________________________
City________________________________State_________ Zip___________ Iowa County________________________

Please list any special disability or dietary needs

☐ CHECK (payable to Iowa State University)
☐ CREDIT CARD ☐ Visa ☐ Mastercard ☐ Discover
Cardholder Name________________________________ Card Number________________________ 3-Digit Security Code_____
Expiration Date__________________________ Signature________________________________
☐ PURCHASE ORDER Name__________________________________ Phone________________________________________
Billing Address___________________________________________________________________________________________