

# Better Process Control Schools

## A training program for the processed food industry

To prepare industry practitioners and help companies meet federal regulations, the GMA Science and Education Foundation (SEF) promotes the Better Process Control Schools (BPCS) throughout the year. The course is beneficial to personnel in plants that pack and thermally process low-acid foods and acidified foods in hermetically sealed containers. Since 2009, GMA SEF has been recognized by the U.S. Food and Drug Administration (FDA) with the authority to conduct on-site BPCS courses in companies. In addition, GMA SEF partners with accredited institutions around the world to deliver scheduled programs throughout the year.

## Advancement in abilities & compliance with regulations

The FDA regulations in 21 CFR 108, 113, and 114 became effective May 15, 1979, requiring that each processor of low-acid or acidified foods operate with a certified supervisor on hand at all times during processing. These regulations are designed to prevent public health problems in low-acid and acidified canned foods.

The BPCS course also meets U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) regulations 9 CFR 318.300 and 381.300 for thermally processed meat and poultry products implemented on June 19, 1987.

The BPCS subject areas include thermal processing system operations, microbiological food safety, equipment operations, and acidification and container closure evaluation programs for low acid and acidified canned foods.

## Many details to learn & more than one training option

Training is typically delivered by two instructors (University Professor and/or recognized Process Authority). BPCS training can run from two to four days depending on the amount of materials covered. In order to receive a certificate of completion, attendees must complete and pass 7 required chapters. There are 10 additional chapters that can be used to customize each school based on a plant's needs. These chapters primarily cover equipment specific to the process as well as processing methods.

## Who should attend Better Process Control Schools

The BPCS program is an important and valuable educational opportunity for mid-level managers and employees of food processing plants that utilize thermal processing.

The course is an excellent platform to improve food safety training for food safety and quality assurance personnel, individuals who work with canned and flexible packaged food products, academia, and government auditors and inspectors.

2015-2016

# Better Process

# Control Schools



Science and  
Education  
Foundation®

[www.gmaonline.org/sef](http://www.gmaonline.org/sef)

## Program Components

There are three training options to choose from:

- **Option 1:** Choose from one of 28 institutions listed in this catalog.
- **Option 2:** Contract the GMA SEF to hold a BPCS in your plant. Two instructors will be assigned to teach the course. For arrangements within the U.S. or internationally, contact: **Dr. Akhila Vasan** [avasana@gmaonline.org](mailto:avasana@gmaonline.org), (202) 637-4810
- **Option 3:** BPCS training is also provided online. See catalog for participating institutions.

At the completion of course work and examination, participants are awarded a certificate of completion, providing an additional respected credential to processing professionals.

**All schools offer: On-Demand In-Person Training and Company-Specific Onsite Training.**

## Course Text

The GMA SEF publication, *Canned Foods: Principles of Thermal Process Control, Acidification, and Container Closure Evaluation* (8th Edition) is the **only FDA approved text in the instruction of Better Process Control**. It is currently available in English, Spanish and Chinese at [www.GMABooks.org](http://www.GMABooks.org).

BPCS is comprised of several modules, each supplemented by a chapter from the *Canned Foods* manual.

- **2-day BPCS** — Chapters 1,2, 4–8 (Federally mandated minimum)
- **3-day BPCS** — Acidified (Federally mandated minimum + Chapter 3)
- **4-day BPCS** — All modules in the *Canned Foods* manual

When customizing a workshop for a client, GMA SEF will recommend modules based on the client's products, processing methods, and packaging system.

## 2015–2016 Participating Institutions

### Campden BRI

**Course schedule to be determined**

**LOCATION:** Station Road, Chipping Campden, GL55 6LD, UK

**URL:** <http://www.campdenbri.co.uk/>

**CONTACT:** Jo Rathkey

[jo.rathkey@campdenbri.co.uk](mailto:jo.rathkey@campdenbri.co.uk), +44 (0) 1386 842081

### Chapman University

**2-Day Acidified Foods Workshop:**

**March 21–22 and August 15–16, 2016**

**4-Day Low Acid Foods Workshop:**

**March 21–24 and August 15–18, 2016**

**LOCATION:** One University Drive, Orange, CA

**URL:** [www.chapman.edu/bpcs](http://www.chapman.edu/bpcs)

**CONTACT:** Ms. Christy Dumauval

[dumauval@chapman.edu](mailto:dumauval@chapman.edu), (714) 997-6566

## Clemson University

**BPCS: December 1–4, 2015**

**LOCATION:** Hampton Inn in Greenville, SC

**REGISTRATION CONTACT:** Ms. Glenda Brown

[gbrwn@clemson.edu](mailto:gbrwn@clemson.edu)

**COURSE CONTACT:** Dr. Felix Barron

[fbarron@clemson.edu](mailto:fbarron@clemson.edu), (864) 656-5694

**OFFERS TRAINING IN SPANISH**

## Cornell University

**Acidified Foods Only: November 5–6, 2015**

**URL:** [events.cals.cornell.edu/bpcsnov2015](http://events.cals.cornell.edu/bpcsnov2015)

**Low Acid and Acidified Foods: May 2–5, 2016**

**URL:** [events.cals.cornell.edu/bpcsmay2016](http://events.cals.cornell.edu/bpcsmay2016)

**LOCATION:** 630 W. North Street, Food Science, Geneva, NY

**REGISTRATION CONTACT:** Ms. Gemma Osborne

[gro2@cornell.edu](mailto:gro2@cornell.edu), (315) 787-2248

**COURSE CONTACT:** Dr. Olga Padilla-Zakour

[oipl@cornell.edu](mailto:oipl@cornell.edu), (315) 787-2255

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## Institute of Food Technology–ITAL

**BPCS: May 16–20, 2016**

**LOCATION:** Instituto de Tecnologia de Alimentos – ITAL, Av. Brasil. 2880, 13.070-178 Campinas – Sao Paulo, Brasil

**URL:** [www.ital.sp.gov.br/gepc/](http://www.ital.sp.gov.br/gepc/)

**REGISTRATION CONTACT:** Dr. Michele Nehemy Berteli

[berteli@ital.sp.gov.br](mailto:berteli@ital.sp.gov.br), 55 1937431834

**COURSE CONTACT:** Dr. Maria Isabel Berto

[miberto@ital.sp.gov.br](mailto:miberto@ital.sp.gov.br), 55 1937431835

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## Louisiana State University

**Acidified Foods Only: January 12–13, 2016**

**BPCS: July 25–28, 2016**

**LOCATION:** Efferson Hall, LSU, Baton Rouge, LA

**URL:** [www.lsu.edu/departments/nfs/outreach/training.htm#p5](http://www.lsu.edu/departments/nfs/outreach/training.htm#p5)

**REGISTRATION CONTACT:** Ms. Celika Murphy

[CMurphy@agcenter.lsu.edu](mailto:CMurphy@agcenter.lsu.edu), (225) 578-4475

**COURSE CONTACT:** Ms. Evelyn Gutierrez

[MEGutierrez@agcenter.lsu.edu](mailto:MEGutierrez@agcenter.lsu.edu), (225) 578-6304

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## McGill University

**BPCS: February 29–March 3, 2016**

**LOCATION:** McGill University, Macdonald Campus, Ste-Anne-de-Bellevue, Québec, Canada

**URL:** [www.mcgill.ca/foodscience/](http://www.mcgill.ca/foodscience/)

**REGISTRATION CONTACT:** Brigitte Cadieux

[Brigitte.Cadieux@mail.mcgill.ca](mailto:Brigitte.Cadieux@mail.mcgill.ca), +1 (514) 398-7544

**COURSE CONTACT:** Lawrence Goodridge

[Lawrence.Goodridge@mcgill.ca](mailto:Lawrence.Goodridge@mcgill.ca), +1 (514) 398-7921

## Michigan State University

**BPCS: October 6–9, 2015**

**URL:** [www.events.anr.msu.edu/BPCSOct2015](http://www.events.anr.msu.edu/BPCSOct2015)

**BPCS: March 8–11, 2016**

**URL:** [www.events.anr.msu.edu/BPCSMarch2016](http://www.events.anr.msu.edu/BPCSMarch2016)

**LOCATION:** Crop and Soil Science Teaching and Research (Agronomy Farm), 4450 Beaumont Road, Lansing, MI

**CONTACT:** Ms. Jennifer Labun

[events@anr.msu.edu](mailto:events@anr.msu.edu), (517) 353-3175

## New Mexico State University

**Acidified Foods Only: November 23–25, 2015**

**LOCATION:** Las Cruces, New Mexico

**Acidified Foods Only: March 15–17, 2016**

**LOCATION:** Albuquerque, New Mexico

**BPCS Spanish: May 24–27, 2016**

**LOCATION:** Mexico City, Mexico

**URL:** [www.aces.nmsu.edu/ces/foodtech/better-process-control-s.html](http://www.aces.nmsu.edu/ces/foodtech/better-process-control-s.html)

**REGISTRATION CONTACT:** Ms. Gloria Hernandez  
[glorhern@nmsu.edu](mailto:glorhern@nmsu.edu), (575) 646-2198

**COURSE CONTACT:** Dr. Nancy Flores

[naflores@nmsu.edu](mailto:naflores@nmsu.edu), (575) 646-1179

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## Northwest Food Processors Association

**BPCS: August 31–September 2, 2015**

**LOCATION:** 2780 Lee Rd, Prosser, WA (Training location may vary. Contact course provider for updates)

**URL:** [www.nwfpa.org/nwfpa-events/training](http://www.nwfpa.org/nwfpa-events/training)

**CONTACT:** Brian Campbell

[bcampbell@nwfp.org](mailto:bcampbell@nwfp.org), 503-327-2211

## Oklahoma State University

**BPCS: June 7–9, 2016**

**LOCATION:** Room 120 FAPC, Stillwater, OK

**URL:** [www.fapc.biz/workshops/processcontrol](http://www.fapc.biz/workshops/processcontrol)

**CONTACT:** Ms. Karen Smith

[karenl.smith@okstate.edu](mailto:karenl.smith@okstate.edu), (405) 744-6277

## Oregon State University

**Combined Acidified Foods and BPCS:  
December 14–17, 2015**

**LOCATION:** Wiegand Hall, 3051 SW Campus Way, Corvallis, OR

**URL:** [www.oregonstate.edu/foodsci/2015-afs-bpcs](http://www.oregonstate.edu/foodsci/2015-afs-bpcs)

**REGISTRATION CONTACT:** Debby Yacas

[deborah.yacas@oregonstate.edu](mailto:deborah.yacas@oregonstate.edu), (541) 737-6483

**COURSE CONTACT:** Dr. Mark Daeschel

[mark.daeschel@oregonstate.edu](mailto:mark.daeschel@oregonstate.edu), (541) 737-6519

## Penn State University

**BPCS: April 25–28, 2016**

**LOCATION:** Nittany Lion Inn, State College, PA

**URL:** [www.agsci.psu.edu/bpcs](http://www.agsci.psu.edu/bpcs)

**REGISTRATION CONTACT:** Ms. Kristin Smeltzer

[kkw115@psu.edu](mailto:kkw115@psu.edu), (814) 865-8301

**COURSE CONTACT:** Dr. Stephanie Doores

[sxd11@psu.edu](mailto:sxd11@psu.edu), (814) 863-2956

## Purdue University

**BPCS: May 9–12, 2016**

**LOCATION:** Stewart Hall, Purdue University, West Lafayette, IN

**URL:** [www.ag.purdue.edu/foodsci/extension/Pages/default.aspx](http://www.ag.purdue.edu/foodsci/extension/Pages/default.aspx)

**REGISTRATION CONTACT:** Thomas Roberston, [roberttl@purdue.edu](mailto:roberttl@purdue.edu)

**COURSE CONTACT:** Dr. Manpreet Singh, [Manpreet@purdue.edu](mailto:Manpreet@purdue.edu)

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## Rutgers University

**BPCS: November 11–13, 2015**

**LOCATION:** Cook/Douglass Campus, New Brunswick, NJ

**URL:** [www.cpe.rutgers.edu/programs/food\\_science\\_food\\_safety.html](http://www.cpe.rutgers.edu/programs/food_science_food_safety.html)

**REGISTRATION CONTACT:** Ms. Bianca Scardina  
[scardina@rutgers.edu](mailto:scardina@rutgers.edu), (848) 932-7316

**COURSE CONTACT:** Dr. Dalynn Knigge

[knigge@rutgers.edu](mailto:knigge@rutgers.edu), (848) 932-7315

## Texas A&M University

**BPCS: October 5–8, 2015**

**LOCATION:** Courtyard Marriott, Hwy 6 at Prairie Rock Rd, College Station, TX

**URL:** [www.aggie-horticulture.tamu.edu](http://www.aggie-horticulture.tamu.edu)

**REGISTRATION CONTACT:** Ms. Cindy Wise

[cindywise@tpga.org](mailto:cindywise@tpga.org), (979) 846-3285

**COURSE CONTACT:** Dr. Al Wagner

[a-wagner@tamu.edu](mailto:a-wagner@tamu.edu), (979) 845-7023

## The Ohio State University

**BPCS: March 14–17, 2016**

**Acidified Foods Only: June 15–16, 2016**

**BPCS Spanish: August 8–11, 2016**

**LOCATION:** Ohio State University Campus, 110 Parker Food Science, Columbus, OH

**URL:** [www.go.osu.edu/bpcs](http://www.go.osu.edu/bpcs)

**REGISTRATION CONTACT:** Ms. Heather Dean,  
[dean.840@osu.edu](mailto:dean.840@osu.edu), (614) 292-7004

**COURSE CONTACT:** Dr. Valente Alvarez, [alvarez.23@osu.edu](mailto:alvarez.23@osu.edu)

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## Course Content

1. Introduction
2. Microbiology of Thermally Processed Foods
3. Principles of Acidified Foods
4. Principles of Thermal Processing
5. Principles of Food Plant Sanitation
6. Food Container Handling
7. Records and Recordkeeping
8. Equipment, Instrumentation, and Operation for Thermal Processing Systems
9. Still Steam Retorts
10. Still Retorts Processing with Overpressure
11. Hydrostatic Retorts
12. Continuous Rotary Retorts
13. Batch Agitating Retorts
14. Aseptic Processing and Packaging Systems
15. Closures for Double Seamed Metal and Plastic Containers
16. Closures for Glass Containers
17. Flexible and Semirigid Containers

## University of Alaska Fairbanks —Alaska Sea Grant

**BPCS: February 10–12, 2016**

**LOCATION:** 1007 W 3rd Ave, Suite 100, Anchorage, AK

**URL:** [www.seagrant.uaf.edu/map/workshops/2016/bpcs](http://www.seagrant.uaf.edu/map/workshops/2016/bpcs)

**CONTACT:** Mr. Chris Sannito

[csannito@alaska.edu](mailto:csannito@alaska.edu), (907)486-1535

## University of Arkansas

**BPCS: November 2–4, 2015**

**LOCATION:** Student Union Building Room 507

**URL:** [www.uark.edu/ua/foodpro/Workshops/index.html](http://www.uark.edu/ua/foodpro/Workshops/index.html)

**CONTACT:** Dr. Steve Seideman

[seideman@uark.edu](mailto:seideman@uark.edu), (479) 575-4221

## University of California–Davis

**In-Person Course: February 9–12, 2016**

**Acidified Foods Manufacturing School,  
UC Davis ARC + RMI: February 9–11, 2016**

**LOCATION:** Activities and Recreation Center Ballroom, UC Davis

**ONLINE BPCS:** [www.ucfoodsafety.ucdavis.edu/  
Better\\_Process\\_Control\\_Schools\\_at\\_UC\\_Davis/](http://www.ucfoodsafety.ucdavis.edu/Better_Process_Control_Schools_at_UC_Davis/)

**REGISTRATION CONTACT:** Ms. Zann Gates

[zgates@ucdavis.edu](mailto:zgates@ucdavis.edu), (530) 752-5901

**COURSE CONTACT:** Dr. Linda Harris

[ljharris@ucdavis.edu](mailto:ljharris@ucdavis.edu), (530) 754-9485

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## University of Georgia

**Acidified Foods Only: November 10–12, 2015**

**BPCS: March 15–18, 2016**

**LOCATION:** 240 Food Science Building,  
University of Georgia Campus, Athens, GA

**URL:** [www.caes.uga.edu/departments/fst/  
WorkshopCalendar.html](http://www.caes.uga.edu/departments/fst/WorkshopCalendar.html)

**REGISTRATION CONTACT:** Ms. Marian Wendinger

[marianw@uga.edu](mailto:marianw@uga.edu), (706) 542-2574

**COURSE CONTACT:** Dr. Bill Hurst

[bhurst@uga.edu](mailto:bhurst@uga.edu), (706) 542-0993

## University of Hawaii

**BPCS: August 17–20, 2015**

**LOCATION:** University of Hawaii at Manoa

**URL:** [www.manoa.hawaii.edu/ctahr/  
pacific-afsp/?page\\_id=127](http://www.manoa.hawaii.edu/ctahr/pacific-afsp/?page_id=127)

**CONTACT:** Dr. Aurora Saulo

[aurora@hawaii.edu](mailto:aurora@hawaii.edu), (808) 956-6564

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## University of Massachusetts

**Low Acid and Acidified: November 17–20, 2015**

**LOCATION:** 243 Chenoweth Lab, Amherst, MA

**URL:** [www.umass.edu/foodsci](http://www.umass.edu/foodsci)

**CONTACT:** Amanda Kinchla

[amanda.kinchla@foodsci.umass.edu](mailto:amanda.kinchla@foodsci.umass.edu), (413) 545-1017

## University of Nebraska–Lincoln

**BPCS: September 29–October 1, 2015**

**Acidified Foods Only: April 11–12, 2016**

**BPCS: September 27–29, 2016**

**LOCATION:** Holiday Inn Downtown, 141 North 9th

**URL:** [fpc.unl.edu/bpcs](http://fpc.unl.edu/bpcs)

**REGISTRATION CONTACT:** Ms. Jill Gifford

[jgifford1@unl.edu](mailto:jgifford1@unl.edu), (402) 472-2819

**COURSE CONTACT:** Dr. Jayne Stratton

[jstratton1@unl.edu](mailto:jstratton1@unl.edu), (402) 472-2829

## University of Puerto Rico —Mayaguez Campus

**Acidified and Low Acid, Spanish: June 6–9, 2016**

**LOCATION:** Food Safety Institute of University of Puerto Rico

**REGISTRATION CONTACT:** Ms. Leanora Grin

[leanoray.grin@upr.edu](mailto:leanoray.grin@upr.edu), (787) 832-4040 ext 2926

**COURSE CONTACT:** Dr. Lynette Orellana

[lynette.orellana@upr.edu](mailto:lynette.orellana@upr.edu), (787) 832-4040 ext 2924

## University of Tennessee

**BPCS: September 22–25, 2015**

**Acidified Foods Only: September 22–23, 2015**

**LOCATION:** Holiday Inn World Fair Park, 525 Henley Street,  
Knoxville, TN

**BPCS: February 16–19, 2016**

**Acidified Foods Only: February 16–17, 2016**

**LOCATION:** Holiday Inn Opryland–Airport, 2200 Elm Hill Pike,  
Nashville, TN

**URL:** <http://iiny.utk.edu/BPCS>

**REGISTRATION CONTACT:** Ms. Lyssa McKenry

[lmckenry@utk.edu](mailto:lmckenry@utk.edu), (865) 974-7717

**COURSE CONTACT:** Dr. Faith Critzer

[faithc@utk.edu](mailto:faithc@utk.edu), (865) 974-7274

## University of Wisconsin–Madison

**BPCS: April 26–29, 2016**

**LOCATION:** Pyle Conference Center, 702 Langdon Street,  
Madison, WI 53706

**URL:** [www.foodsafety.wisc.edu](http://www.foodsafety.wisc.edu)

**REGISTRATION CONTACT:** Ms. Angela Chopp

[angela.chopp@ecc.uwex.edu](mailto:angela.chopp@ecc.uwex.edu), (608) 265-9585

**COURSE CONTACT:** Dr. Barbara Ingham

[bhingham@wisc.edu](mailto:bhingham@wisc.edu), (608) 263-7383

## Washington State University

**Acidified Foods Only: February 1–5, 2016**

**4 day full course: February 1–5, 2016  
(exact dates to be determined)**

**LOCATION:** Greater Seattle area

**URL:** <http://foodprocessing.wsu.edu/extension/training/bpcs/>

**REGISTRATION CONTACT:** Ms. Cathy Blood

[blood@wsu.edu](mailto:blood@wsu.edu), (509) 335-2845

**COURSE CONTACT:** Dr. Girish Ganjyal

[girish.ganjyal@wsu.edu](mailto:girish.ganjyal@wsu.edu), (509) 335-5613