



Food Science & Technology Pilot Plant Use Guide & Policy

Update: October 15, 2018

Facilities

This document covers the following facilities:

- FST 15 Food Processing Pilot Plant
- FST 27, 28 Dairy and Cheese/Culture Processing Pilot Plants
- HABB1 103 Food Processing Pilot Lab
- HABB1 130 Food Safety Pilot Lab (BSL2)
- All Environmental Controlled Storage and Dry Storage rooms within the above listed spaces (does not include small incubators)

Personnel

Pilot Plant Manager – Brian Wiersema

BSL2 Lab Manager – Dr. Monica Ponder

Department Head – Dr. Joe Marcy

Goals

The Pilot Plant facilities provide professional, innovative and collaborative environments for teaching, research and extension use in support of the Food Science and Technology Department in the College of Agriculture and Life Sciences at Virginia Tech.

Teaching – to provide hands-on learning experiences for students.

Extension – to provide hands-on facilities for use in applied extension research and continuing education.

Research – to provide collaborative space, utilities, access to Virginia Tech faculty and analytical services for food and beverage related research. This includes product/process scale up, new products/methods/processes, and general research. Resources (facilities, staff and faculty support) are available on a fee-for-use basis to external users.

Resource Planning

Scheduling of space, time and equipment must be completed through the pilot plant manager. Use of the pilot plant **must be considered at the time of drafting your research grant or proposal, prior to its submission to the granting authority**. All users must coordinate with the pilot plant manager.

1. Internal, Virginia Tech users may log on to the Pilot Plant Website (<https://www.fst.vt.edu/facilities/food-processing-pilotplant.html>) and review the GMPs, training

Requirements and Available Equipment. After review of the calendars users may submit a request via the Pilot Plant Use Request Form on the page to the pilot plant manager.

2. External users may contact the Pilot Plant Manager at fstpilotplant@vt.edu or 540/231-0864.

All requests must include:

1. Start and End Date, including a simple Gantt Chart. Simple Excel forms are provided on the Pilot Plant Use Survey for submission and your planning use.
2. List of anticipated users.
3. Identification of specific equipment required.
4. Identification of space requirements.
5. Identification of auxiliary space (e.g. walk-in cooler) required.
6. Utilities needed (including but not limited to: Electrical, Steam, RO water etc.)
7. Resource Planning: Including but not limited to Budget for Consumables, Pilot Plant Staff/Manager Salary Savings, New Equipment Costs, Utility and Installation Hookup costs.

Priority

Priority in scheduling of space, time and equipment will be given in the following order:

1. Teaching Labs associated with university courses
2. Food Science Department and Extension research needs
3. Other University departmental research needs
4. Extension Use
5. External Client Use

Authorized Personnel, Activities and Materials

I. AUTHORIZED PERSONNEL

A. *Personnel.* Every person that works in the pilot plant should have safety training specific to the pilot plant environment and an orientation training covering appropriate aspects of the pilot plant for their needs, in addition to the other safety training required by the University. Only individuals with this training will be authorized to work in the pilot plant. The Pilot Plant Manager or Virginia Tech Environmental Health and Safety (EHSS) Department will provide this training. All unauthorized students and staff should not be in the pilot plant processing areas.

B. *Visitors.* Visitors should always be accompanied by a person authorized to be in the pilot plant. For liability reasons, persons that are not students, staff, people holding contracts for product development/research activities, or officially enrolled in an extension short course of the University are not allowed to work in the pilot plant. Visitors touring or observing a process should be kept at a safe distance away from hazardous equipment that is in operation.

C. *Tour Groups not affiliated with a class or program of the Food Science Department.* All members of a tour group must be 12 or older. Children under the age of 12 are not allowed in the pilot plant processing areas.

II. AUTHORIZED ACTIVITIES AND MATERIALS

A. Only activities approved and scheduled by the Pilot Plant Manager will be allowed in the pilot plant.

B. All activities in the pilot plant will use food grade materials. No experiments using nonfood grade ingredients, pathogenic organisms (with the exception of the BSL2 Pilot Plant), or nonfood materials are to be used or processed in the food processing equipment, placed in food grade environmental rooms, or in food grade storage areas. Processing of cosmetics, drugs, manure, and other nonfood materials is not appropriate.

C. Pump oils and hydraulic fluids that are inside the motor drives of equipment that are required for their operation are allowed in the processing area. Extra oil or fluids should not be stored in the pilot plant areas. They should be stored in the machine shop or in a laboratory. All oils, fluids and lubricants shall be food grade.

D. Glassware and glass containers, laboratory glassware, wooden items, (e.g., flasks, graduate cylinders, pipettes, beakers, thermometers, wooden shipping containers, etc.) are prohibited from the pilot plant.

E. Thermometers. Glass thermometers and thermometers containing mercury are prohibited. Metal probe digital or dial thermometers should be used. These should be provided by the user, the Pilot Plant does not provide thermometers/thermocouples.

G. The overhead door should only be opened to bring in or remove large pieces of equipment from the pilot plant as authorized by the manager. Opening the overhead door allows insects and birds to enter the processing area. Shipping and receiving of items and trash removal should use the loading dock that is provided for this purpose.

H. Equipment and supplies that are packaged in wood or cardboard shipping containers should be received on the loading dock and the packing materials should be removed on the loading dock, not in the pilot plant. Nails, screws, metal straps, wood, and other packing materials should not be brought into the processing area.

I. All activities carried out by students and department staff in the pilot plant should be scheduled. Only students and staff that have scheduled activities should be working in the pilot plant.

Equipment Available

Please see the website https://www.fst.vt.edu/content/dam/fst_vt_edu/facility/pilot-plant-resources/HABB1_Pilot_Plant_Equipment.pdf for the latest list

Utilities Available

Please see the website https://www.fst.vt.edu/content/dam/fst_vt_edu/facility/pilot-plant-resources/HABB1_Uilities.pdf for the latest list

Good Manufacturing Practices

The Pilot Plant facilities, equipment, all personnel visiting or working in the facilities, as well as products produced in the facilities shall follow Current Good Manufacturing Practices (cGMPs) as outlined in 21 CFR Part 117.

Safety

All Guidelines established by the Pilot Plant Manager, including those established by Virginia Tech Environmental Health and Safety must be followed. This includes any special training and documentation required for equipment as required by EHS and the Pilot Plant Manager.

Stop Work/Removal From Pilot Plant

If any of the above guidelines are not met, and after a meeting between the principal investigators, the pilot plant manager and the department head, the research project or any work may be stopped at any stage of the work until the guidelines are met or other agreed upon resolution.

References:

United States Code of Federal Regulations, 21CFR Part 110, <http://www.ecfr.gov>, last accessed on September 3, 2013

Cornell University Department of Food Science, <http://foodscience.cornell.edu/cals/foodsci/>, last accessed on September 3, 2013