

The UNIVERSITY of VERMONT **PROCTOR PAGE**  
 News from the University of Vermont Proctor Maple Research Center

# Students take part in maple-making competition

Skill development program aims to foster future sugaring

By **MARK ISSELHARDT**  
 University of Vermont Extension  
 Maple Specialist

SHELBURNE, Vt.—Forty-seven students representing 10 Vermont high schools braved a rainy, early May day at Shelburne Farms to compete in the first ever Vermont FFA maple career development event (CDE).

The winners were  
 ■ Green Mountain Technology and Career Center (Hyde Park, Vt.), Ben Notterman-Instructor

■ Patricia A. Hannaford Career Center (Middlebury, Vt.), Aaron Townsend-Instructor

■ Cold Hollow Career Center (Enosburg Falls, Vt.), Josh Goss-Instructor

A CDE is a competition designed to test skill development and prepare students for careers in the particular area of focus. Results are often included in a student's resume. There are CDE's for many topics including public speaking, dairy science and forestry, for example.

This year's maple CDE was designed through a collaboration between Vermont high school agriculture/natural resources instructors, UVM Extension Maple Specialist Mark Issehardt and UVM Graduate student/Shelburne Farms employee Lynn Wolfe. It is the first time maple has had its own



Mark Issehardt

**STUDENTS COMPETED** in a sugaring knowledge showdown between state FFA programs at the Shelburne Museum on May 7.

exclusive CDE.

Last year at the winter forestry CDE there were maple grading questions included in the program. For this new maple-exclusive program we sought to build on those syrup grading questions and expand the event to capture the broad spectrum and complexity of subjects related to the production of quality pure maple syrup from tree to bottle.

The event consisted of an individual competition and team event.

The individual competition included four separate stations: tools and materials, syrup grading, tapping skills and general knowledge.

The tools and materials station included 25 numbered items that had to be identified, such as a one-handed tubing tool, sight level, mainline fittings, etc.

The syrup grading station included five syrup samples that had to be correctly graded for color, clarity, flavor and density.

**IN THE KNOW**  
**How would you do?**

A few examples of questions from the CDE:

**A stand of trees that are all roughly the same age/size is considered \_\_\_\_\_ aged**

- A. Stem exclusion
- B. Even
- C. Middle
- D. Uneven

**A \_\_\_\_\_ is a device that allows sap to dump out of the tubing system without breaking the vacuum.**

- A. Mainline quick coupler
- B. Releaser
- C. Diaphragm pump
- D. Filter press

**What is the best time to filter syrup?**

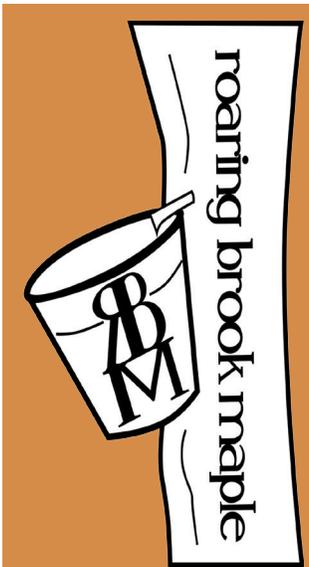
- A. When it is hot
- B. When it is cold
- C. When it is lukewarm
- D. Anytime

**What is the minimum temperature required to hot pack syrup?**

- A. 150°F
- B. 173°F
- C. 180°F
- D. 204°F

**If you have a 40-gallon barrel of syrup and syrup is selling for \$2.75/lb, how much is the barrel worth? (Syrup weight is 11.15 lbs)**

- A. \$1,226.50
- B. \$986.50
- C. \$106.65
- D. \$394.60



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The students also had to use a mixture of instruments including a hydrometer, optical refractometer and digital refractometer to determine if the sample density was within acceptable limits.

Students had to determine the color grade of the syrup using a Vermont temporary grade kit and check for clarity visually.

Students were also asked to determine if the flavor was acceptable Grade A syrup or if it fit the definition of Processing Grade syrup.

The team event required each team of four students to install a 5/16" lateral line from a designated tree and connect the tubing to a preinstalled section of mainline. Each team was given a selection of tubing, fittings and tools to accomplish the task in the 45 minutes provided. The system was tested by introducing water at the top of the lateral line.

Teams were judged to see if their system would conduct "sap" according to the basics of tubing installation (Tight-Straight-Down-hill) as well as if the students selected the appropriate fittings and properly connected all fittings and if all trash was picked up.

All teams successfully installed a functional system with some separation in scores owing to slight differences in the quality of the installation.

The tapping skills portion of the competition included four sections of tapped sugar maple stem. Students were asked to determine if each stem had been tapped correctly and if not, what mistakes were made in the tapping.

In addition to the questions students were able to see a special educational display of tapping provided by sugarmaker Dave Folino from Hillsboro Sugarworks of Starksboro, Vt. The display was a 4-foot section of sugar maple stem with a history of tapping that had been turned on a lathe to expose the tap hole stain. This display allows students to see the importance of promoting good stem growth



Mark Isselhardt

**FFA STUDENTS** from around Vermont install a pipeline system to demonstrate their knowledge of sugaring, during an skill development program.

and of spacing tap holes in order to produce good sap production.

Feedback from the instructors responsible for teaching the students about all things maple, described the test as running smoothly, being fair and could even be a bit more challenging next year.

One instructor noted: "Each question is simple and straightforward, but the range of questions (tested) students' understanding of the process."

The syrup grading portion was considered by many to be the most difficult. Not all stu-

dents have had the same amount of experience grading syrup and not all students were familiar with each of the instruments used. Although at least one student didn't need to taste the sample of "buddy" syrup, opting to discard the syrup after smelling what was clearly Processing Grade syrup in her cup.

A team of volunteers was needed to make the event happen and run smoothly. They were Dana Bishop (Shelburne Farms), George Cook (UVM Extension-Retired), Cyrus Grennon (H2O Innovations), Liz Kenton (UVM Extension) David Lalanne

(CDL USA), and Marshall Webb (Shelburne Farms).

Many of the tools, materials and prizes were donated due to the generous support of maple equipment companies and others: CDL USA, H2O Innovations, Lapierre USA, Leader Evaporator, Shelburne Farms and UVM Extension.

Support for Lynn Wolfe's graduate project was provided by Averill Cook. Organizers will review the event and make necessary changes to ensure next year's event is an event greater success.

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