

Baking with Bricks

An old-fashioned technology warms the hearts and fills the stomachs of modern students.

The Putney School, an independent secondary school in southeastern Vermont, is a special place. Along with the usual academic facilities--classrooms, dining hall, school store, and so on--the school also has an observatory, dairy farm, visual and performing arts center, horse barn, two greenhouses, and six gardens. Students at the Putney School spend as much time learning about the natural world and their relationship to it as they do studying English and math.

These days, they're also learning about a historic way of cooking, thanks to a new wood-fired brick oven in which much of their food is prepared. The oven is the brainchild of executive chef Marty Brennan-Sawyer. "We started talking about this 15 years ago," he says. At the time, a brick oven seemed to some like an unnecessary complement to the kitchen's traditional ovens--until the old ovens failed. At about the same time, sustainability was becoming a growing concern, and the economy was driving new thinking about the cost of oil-based products. A generous benefactor stepped forward to pay for the wood-fired oven, which is now responsible for all of their baking and some of the regular food being prepared, such as baked beans (cooked overnight in a kettle), vegetables and meats.

Beyond food preparation, however, the oven has become a focal point in the community life of the school. It was built next to the main dining hall, in an unused private dining room that has been completely refurbished into a bake shop. The wall between the two dining areas has been replaced with a countertop where students can sit, enjoy a cup of coffee, and soak up the ambiance of the oven--along with a freshly-baked treat. "Throughout day, there are people sitting at the counter watching the fire," says Brennan-Sawyer. "It's very café like."

Sitting at the counter, one can feel the heat from the oven, the facade of which is a Roman style arch--firebricks laid up and supporting each other without any mortar. To Brennan-Sawyer, the design mirrors the philosophy of The Putney School. "It expresses what we're about," he says. "We stand shoulder to shoulder here."

Stretching along the front of the hearth is a black marble shelf (mined right in Vermont) that provides a place to rest foods as they are being moved into and out of the oven.

Baking as an all-day affair

When you bake with wood, the day begins early. At 6:30 a.m., as part of the communal work program, a student fire-stoker builds a large fire in the chamber. Over the course of a few hours, the fire heats the oven to between 700 and 1000 degrees. All that heat soaks into the bricks that make up the oven, some 35,000 pounds worth. The ashes are then raked out and the surface is cleaned. Bread is baked right on the freshly cleaned surface. This is called "direct fire" cooking, in which the heat stored in the bricks is slowly released, cooking the bread, along with other food items.

By 9:30 every day, the first baked goods are available for a student break called "milk lunch" consisting of snacks and tea cakes, a favorite with the students. According to Brennan-Sawyer,

this helps them understand the importance of the fire-stoker's job since, "If this person doesn't come in to do this job, there's no milk lunch." (He notes that when volunteers were requested to be fire-stoker, every boy in the room raised his hand.) Other students act as baker's helpers, and there are bread baker's apprentices working directly with the doughs.

The new oven isn't just about bread, though. It will handle anything you would normally bake. The kitchen does have traditional convection and range ovens for other types of cooking, but the school is trying to maximize the use of the brick oven to cut down on propane and oil use. The wood for the oven comes from the school's farm, harvested by students, or from local forests.

Cooking in a wood-fired oven is "interesting, to say the least," says Brennan-Sawyer. "A steel oven gives you a constant source of heat," he explains. "You turn it on and forget about it. It's dry heat, and the air doesn't move, so you know exactly what the environment is."

In contrast, a wood-fired oven is a very dynamic baking environment, one that changes over the course of the day. "This oven is alive," says Brennan-Sawyer. "The heat is a living thing, and almost seems to have a mind of its own." When the heat is highest--between 600 to 800 degrees, he will prepare foods that can take the high heat--meats, vegetables, seafoods, and so on. Bread baking begins as the heat starts to recede, between 500 to 570 degrees. After the bread come items that require lower temperatures, such as pans of banana chocolate chip cake, scones, biscuits, and strawberry-rhubarb pie. Throughout the day, the temperature gradually declines as heat is drawn out of the brick into the food.

Cooking by declining heat has advantages, especially when it comes to baking bread. High heat activates yeast, providing good "oven spring"--the rise that comes just after you put the dough into the oven. Brennan-Sawyer prefers to use natural leavening agents, which are less consistent and more variable than commercial yeast, but provide a depth of flavor and texture you can't get from commercial yeast. This too fits with the school's philosophy, says Brennan-Sawyer. "We're trying to instill in students an appreciation for variety, a sense of quality, and a history of consuming good bread." That works better than simply proselytizing about it, he notes, admitting that he will alternate stronger breads with more familiar, gentle flavors to introduce inexperienced diners to new flavors gradually.

The food service at Putney School is a cooperative effort with Fitz, Vogt and Associates, which has been providing food service consulting to the school for over 23 years. The FitzVogt philosophy is one of scratch-cooking (rather than pre-packaged foods), whole foods, buying locally whenever possible, and striving for sustainability --all of which fits with the philosophy of the Putney School. It's a partnership that has worked well for the school and its diners. "Our primary role here is to make people happy," says Brennan-Sawyer. "This is their home, for the adults as well as the students."

Fitz, Vogt and Associates has been providing food management services to schools, assisted living facilities, and other institutions across New England and the mid-Atlantic for over 30 years. It is committed to nutritious food, customized services, and sustainable practices such as support for local agriculture. For more information about FitzVogt, contact Sara Cannell at 603-756-4578.