

A detailed illustration of a man with dark hair and glasses, wearing a blue button-down shirt and a red tie with a repeating ice cream cone pattern. He is smiling broadly and holding a dark-colored ice cream cup with a spoon. The cup contains three scoops of ice cream: a light-colored scoop on top, a red scoop in the middle, and a dark brown scoop at the bottom. The background is a plain, light color.

# Buck's Brings Back Ice Cream

A fund started by "Mr. Ice Cream," the late Wendell Arbuckle, will support ice-cream research at Mizzou. It also means the revival of ice cream in Eckles Hall, where customers can buy the cold cones under a striped awning at Buck's Ice Cream Place.

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Alumni may scream with delight at this cold scoop: Ice cream will return to Eckles Hall. From the 1920s to 1972, students, faculty, staff and Columbians licked chocolate, vanilla and strawberry cones at a nickel for a single, dime for a double and 15 cents for a one-pint triple-decker. The location was a sales room located under the east steps of Eckles Hall.

By next spring, the tradition will return in the form of Buck's Ice Cream Place. A candy-striped awning will greet customers at the place named for "Mr. Ice Cream": the late Dr. Wendell "Buck" Arbuckle. Arbuckle, an internationally known ice-cream researcher who did graduate work at Mizzou, started the idea churning with Campus administrators before Christmas 1986. Arbuckle, who died March 22 at age 76, bequeathed \$5,000 to get the idea to gel.

"Buck wanted to get ice cream brought back to the sales room, plus he wanted to continue research he felt was important," says his wife, Ruth Weaver Arbuckle, BS Ed '36, about the Wendell S. Arbuckle Ice Cream Endowment Fund. As of late May, \$8,920 had been contributed by 65 individuals and corporations. Even though the memorials represent a "modest amount of money," says agriculture Dean Roger Mitchell, "they're an enormous affirmation of how important he was as a professor and as a person."

Once the first \$50,000 is raised, the endowment will provide undergraduate scholarships and graduate-student assistantships. Such help would've been valuable to Arbuckle, who as an undergraduate at Purdue University milked cows at 2 a.m. to help pay college expenses. His widowed mother also worked. After the endowment reaches \$350,000, it will boost the salary of a faculty member specifically hired for ice-cream research. "We hope alumni will be interested in this and will back this," Ruth Arbuckle says.

As a graduate student at Mizzou in the late 1930s, Arbuckle was a pioneer in the study of ice cream's ice crystals and air cells. He worked with ice cream sliced so thinly you could read through it. To withstand temperatures of 20 degrees below zero in his laboratory, he sported a thick coat and heavy cap.

A night watchman stopped by the refrigerated compartment to check on Arbuckle every night. In return, Arbuckle dipped him a dish of ice cream.

Arbuckle's major professor was the late Dr. W.H.E. "Bill" Reid, professor of dairy science. Because of Reid, the College of Agriculture was known for its ice-cream research during the late 1930s and early 1940s. With the Arbuckle professorship, "We hope to recreate that," says Dr. Bill Stringer, chairman of food science and nutrition. Arbuckle also worked with the late Dr. C.E. Marshall, professor emeritus of agronomy, an expert in colloid chemistry, and Dr. Walter Keller, professor emeritus of geology, who assisted him with electron microscopy. "Both were great helps in his ice-cream research," Mitchell says.

Arbuckle earned an MA in 1937 and a PhD in 1940. He and Ruth, daughter of animal husbandry Chairman L.A. Weaver who served from 1912 to 1960, were married in 1940. For 38 years, Arbuckle taught at the University of Maryland, retiring in 1972.

After his retirement and during what his wife calls the most satisfying part of his career, Arbuckle traveled worldwide—Germany, Guyana, Chile, Switzerland, Sweden, France, Holland, England, New Zealand and Australia—helping people make better ice cream. For the past decade, he also consulted with a big name in USA ice creams—Baskin Robbins.

Ruth Arbuckle tells of a candy company in Japan that wanted to boost lagging summertime sales. Buck used green tea, a favorite among the Japanese, as a base for formulating an ice-cream flavor by the same name.

His best-known exotic flavor is sweet potato, invented for the Maryland Sweet Potato Growers in 1963. It was served at the Maryland pavilion at the 1964-65 New York World's Fair, where it generated a lot of publicity.

Other unique flavors he concocted included rhubarb, carrot, pink grapefruit, holly berry, creme de menthe, cinnamon zigzag, bubble gum and cantaloupe.

Another ingredient in Arbuckle's successful career was publishing. The fourth edition of *Ice Cream*, the textbook for college students and ice-cream manufacturers, was printed in 1986. *The Little Ice Cream Book* was

## Research to Churn Out Palate Pleasers

After eating a high-fiber breakfast and a salad for lunch, the consumer of the '80s is ready for a special treat after dinner.

Witness the boom of premium ice creams like Haagen-Dazs and Ben and Jerry's. Discriminating adults pay premium prices for such ice creams that are higher in butterfat and sugars. It's the fastest-growing segment of an industry that requires the equivalent of 21 billion pounds of milk and produces almost \$4 billion in sales annually.

Improving ice cream—whether flavor, texture, stabilization or emulsification—is the goal of research at Mizzou. Providing alternatives for other market niches—such as low-fat, low-sugar and low-lactose ice creams—also is within the realm of possibilities.

Providing such alternatives is an emphasis of the Food for the 21st Century program. "We'll focus on consumer needs and desires that will lead us to the markets of the 1990s and thereafter," says Dr. Robert Marshall, alternative-foods-and-feeds section leader and professor of food science and nutrition.

Formulating an ice cream with lower lactose, or milk sugar, would appeal to people who can't digest milk, he says. A lower-calorie ice cream could be possible by replacing sugar with an artificial sweetener. The question is: What would replace sugar's body, or texture?

Since flavor and texture have a major effect on ice-cream quality, Marshall says research will have a nutritional orientation that focuses on functional properties of ingredients. "We want the very best flavor and texture," he says.

Patenting a new process or flavor might result from the research. Other spinoffs include stronger cooperation with industry, including consulting, research and teaching short courses.

The need for trained graduates remains strong. "Not a week goes by that we don't get a call from a plant supervisor of an ice-cream manufacturer or from a business that sells to ice-cream manufacturers," says Dr. Joe Edmondson, professor of food science and nutrition.

The department is the fastest-growing department in the University and the third-largest department within the College of Agriculture. Food service and lodging management is the fastest-growing segment in the department. Enrollment was 97 students in 1981; by fall 1987, it had grown to 350 students.

"Graduates get hired as plant or line supervisors and will be in top management in five years," Edmondson says. —Karen Worley

published in 1981. The second edition of *Arbuckle Ice Cream Store Handbook* for retailers was published last year, and later this year, *Ice Cream Recipes and Formulas: Favorites and Gems of the Past*, will be in print. It will be fun for manufacturers to backyard crankers, Ruth Arbuckle says.

The ice-cream couple put their heads together for a retail venture called Arbuckle's Ice Cream Parlor in Columbia's Broadway Shopping Center from 1962 to 1974. Ruth Arbuckle recalls a delicious combination of two scoops of ice cream (any flavor), sliced bananas, chocolate syrup, whip-

ped cream and crushed nuts called a Hippie Sundae. It was, according to the menu, "for those who do not know what they want in life and are willing to fight for it." Another treat, Love-in Sundae, was made with butter pecan ice cream, butterscotch and marshmallow sauce, and topped with nuts and cherries. It filled tummies with "beneficence, gladness, honesty, love and non-violence."

A sign from their ice-cream establishment, "The Place to Go—Arbuckle's Ice Cream Parlor," may hang in the new Buck's Ice Cream Place. Although details are incomplete at this time, Stringer envisions a red-and-white or green-and-white awning covering the entrance to the new ice-cream store on the south edge of Eckles Hall. Customers can indulge while sitting on benches on a plaza surrounded by lush lawns and tall oak trees. The Eckles Hall oasis is located along a main walkway from the Animal Sciences Center and Agricultural Engineering Building to the main Campus.

Inside, cones and carry-home half-gallons will be served from a 12-by-16-foot area. Flavors will include the standard chocolate, vanilla and strawberry, "plus creative types, like rhubarb and gooseberry—a part of a graduate student's research," Stringer says. The products will be priced to cover the cost of student labor and the cones. "Whatever the price, it'll be well worth the money," he says.

"The amount of ice cream produced will be tied to research and

teaching of the department," Stringer says. "We won't compete with Baskin Robbins. We won't take your order for 20 gallons; we won't have it."

In order to get the ice-cream laboratory rolling, the department is depending on donations from industry for equipment, such as pasteurizers, freezers, homogenizer, fruit feeder, packaging equipment and infrared milk analyzer. "I do believe industry will support it," says Charles Beck, chief operating officer for St. Louis' Beck Flavors. "This is a great opportunity for academia and industry to work together to achieve opportunities for the marketing of frozen-dessert items." The equipment will have a spanking-new home, because remodeling of Eckles Hall, built in the early 1900s, was just completed a year ago. Arbuckle was one of the speakers at the 1986 dedication.

"With the remodeling and the attitude of the faculty, we felt this was the place we wanted to continue the work," Ruth Arbuckle says.

Antiquated equipment was one of the reasons the sales room closed in 1972. Tight budgets and changing times, such as the demise of fountains in drug stores, were others.

Eating Eckles Hall ice cream is a tradition with alumni. "Two to three people every month come through the east door and look for the sales room," says Dr. Joe Edmondson, BS Agr '39, MA '40, professor of food science and nutrition. Edmondson, a faculty member for 47 years, was one of Arbuckle's dairy manufacturing students in 1937 and now has an office across the hall from the old sales room.

"I've seen kids come in when it was 15 below zero, eat a cone and go back outside," he says.

One student worker, John Campbell, BS Agr '55, MS '56, PhD '60, now dean of agriculture at the University of Illinois in Urbana, says filling sales-room orders was good experience. A full range of dairy products was offered in black-and-gold cartons, imprinted with the Columns and the University seal. "I learned a lot about dealing with the public—some are nice, others are demanding," says Campbell, who earned 50 cents an hour to start and "never got up over 90." One bit of philosophy garnered from a customer, Dr. W.A. Albrecht, a professor of soils, involved the purchase of one pound of butter when

three pounds of margarine cost the same. "Quality will be remembered long after the price is forgotten," Albrecht told him. "And I like butter."

Most products were high in quality, but there were occasional mistakes. Campbell recalls the day a student mixed a batch of ice cream, measuring out the milk, dry milk, cream and gelatin, according to the recipe. Compared with the other ingredients, very little gelatin, which acted as the stabilizer, was required. The student thought that couldn't be right and moved the decimal point over, adding 10 times the amount needed. "The ice cream became so thick," Campbell remembers. "In industry, someone would've lost a paycheck that day. In school, the lesson was: Be careful when you weigh things."

The sales room was open from 11 a.m. to 1 p.m. and from 4 to 5:30 p.m. seven days a week. In the summer, afternoon hours began at 3:30. One person worked in the morning; two, sometimes three during summer afternoons. In the early years, you could get shakes, sundaes and ice-cream bars. "As fountains went out in drug stores, then it got down to strictly pints, quarts and cones," Edmondson says.

But those cones were "tremendous," says Jack Revare, BS BA '54, vice president of Merrill, Lynch, Pierce, Fenner & Smith Inc. of Overland Park, Kan. He and brothers of Phi Delta Theta, then located at 606 College Ave., would make numerous trips to Eckles Hall in spring and fall months.

So did Tom Atkins, BS BA '59, president of Atkins Building Services and Products of Columbia. He'd join his girlfriend, now wife, Linda Holman Atkins, BS Ed '56, for a creamy vanilla cone during breaks and lunch from her Eckles Hall secretarial job. He remembers one counterman from the early '50s in particular, Whitten Lentz, now a Fuller Brush salesman in Columbia. Lentz "made sure you got your money's worth," Atkins says.

Lentz acknowledges his servings were ample. His boss told him on more than one occasion that he was "dipping a little heavy."

The sales room had a way of generating loyal customers. "Once you were exposed to the store, tucked away in the southeast corner of Campus," Tom Atkins says, "you always found your way back." □

