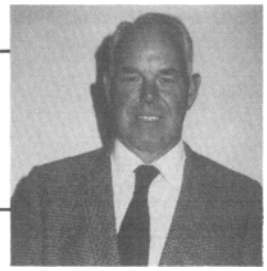
Profile

ORVILLE PRIVETT



The North Central Section of the AOCS chose Orville Privett for the 1978 Alton E. Bailey Award to recognize his contributions to the field of lipids, but within his home base at the Hormel Institute in Austin, MN, Dr. Privett is known for other accomplishments also.

The Bailey Award citation noted that Privett's "early work with Walter O. Lundberg led to significant contributions in the areas of action of lipoxygenase and structure of hydroperoxide formed during autoxidation of unsaturated fatty acids."

Dr. Holman brought to the attention of the audience that Orville directed the activities of the Lipid Preparation Laboratory of the Hormel Institute for 24 years. When it was phased out in 1973, this program was providing over 300 highly purified lipids to research workers as a public service to the scientific community.

"His interests in lipid methodology, especially microanalytical techniques have resulted in three well-received films covering thin layer chromatography, ozonolysis, and microanalytical techniques. He is engaged at the present time in the production of a fourth film covering HPLC-MS techniques for lipid analysis."

"His interests in lipid nutrition and metabolism have been equally profound. He and his associates have contributed over 140 publications in these areas," the Bailey Award citation said.

While that citation hints at his interest in film-making, it does not reflect his status as Hormel's senior physical fitness fanatic, his carpentry skill, nor does it reflect his puckish sense of humor.

His current curriculum vitae, for example, notes that he was born during June 1919 in London, Ontario, Canada, and goes on "Wife: Formerly Arlene Marion Larson, age 29; married July 1949, Delano, MN."

Ralph Holman, executive director of the Hormel Institute, chides Privett about listing Arlene's age as 29.

"She might not object to using her real age, but I wouldn't dare do so on my own," replies Privett, with his eyes twinkling.

Privett's father was a millwright, a background to which Privett attributes his skill as a carpenter. He and Arlene did all the carpentry work, including cabinetry, for their home in Austin.

Privett's addiction to physical activity began as a schoolboy on the east side playgrounds of London in Canada. "I played everything – baseball, track, any sport whether I was good or not, until the age of 16." In college at the OAC of the University of Toronto, Orv lettered in hockey and (Canadian) football. Orv helped pay his college expenses by playing on the 1939 Guelph June A OBA (Ontario Baseball Association) championship team and, in his senior year, on the OBA Welland-Port Colborne senior A Championship team of the Niagara league. Later, he coached hockey and football at Macdonald College of McGill University. For several years after joining the Hormel Institute he coached the Austin senior hockey team in the Southern Minnesota League.

Today he still ice skates, skis, plays racquetball, golfs (10 handicap), and bikes with regularity. Arlene is a participant along with Orv in most of these activities.

"I think I'm about ready for powder skiing," he says with anticipation. "I may try it out in Utah soon. There's nothing like it."

Regular skiing, he explains, is done on slopes that have been mechanically groomed to provide a smooth surface. Powder skiing is done on fresh, ungroomed snow. Controlling direction is much more difficult since there is no firm surface against which the skiier can exert pressure.

He tried it once in the back bowl at Vail. "I was heading down the hill toward a stand of trees on one side and I couldn't turn," Privett says. "So I finally decided I'd have to simply throw my skis up in the air – I didn't want to damage them." He did, and then found it was hard to get upright again since his ski poles only sank down through the deep snow. Eventually he became upright and wound up at the bottom of the hill, but it was the most strenuous skiing he had done. Now, with more experience he wants to try powder skiing again.

Recently Orv and Arlene took up cross country skiing to keep in shape for their skiing trips to the Rockies, and competed in the seven-mile event of the Wasioja group of the Sierra Club. They felt pretty good just to finish as beginners must pace themselves carefully, and Orv was elated to finish "not too far" behind his young Hormel postdoc colleague, a cross country veteran.

Privett claims his addiction to physical fitness helps offset his addiction to fattening foods such as pizza and beer about midnight after a night of skiing.

He somewhat drifted into chemistry at what was then the University of Toronto's Ontario Agricultural College (now the University of Guelph). "It was a government-supported college and inexpensive," he says, "so I could afford to go there. It was an agricultural college, and chemistry was the field that seemed to fit a city boy like me best." He was graduated in 1942 and went on to obtain his M.S. and Ph.D. in agricultural chemistry at McGill University in Montreal. This was followed by a postdoctorate fellowship at Purdue University before joining the Hormel Institute staff in 1949, the same year he joined AOCS.

It was at Hormel that Privett met the ageless Arlene Marion Larson, who was a bacteriology technician at Hormel. "I think you two were one of the first romances at Hormel," Dr. Holman notes.

It was during the late 1940s that Privett began to develop his moviemaking interest into a serious hobby. He became a member of Minneapolis' Cine Club, a group of amateur moviemakers. "Being a professional is not fun, it's just a job," Privett says, explaining that professional films are done for a specific commercial purpose, but the amateur can do what he wants, the only limits being his own creative ability and the amount of time he wants to devote to a project. One of the meetings of this prestigious group of cinematographers featured a 15 minute film that Privett made of the famed Calgary Stampede rodeo.

Privett brought his moviemaking abilities into his lab in the 1950s, using his own equipment and film to record how certain techniques should be done. The hardest part, he says, is recording matching narration. Rather than write out a script, he begins by ad libbing narration while watching

the film, revising continuously until the proper words are found. Even then, a single mistake when making a final sound track can mean having to start all over or letting an error go through.

One time, as a final recording was being made, his commentary said that the researcher was making an incision in the rat's tail, meanwhile the film shows a knife cleanly chopping the tail from the rat. Rather than redo the entire tape, he let it stand. He claims a long history of difficulty in speaking extemporaneously.

During the first AOCS meeting in Toronto, Privett showed his first film on TLC. The film was so well received that a second showing was scheduled for a noon break. The room again filled up. Privett's three films have been shown throughout the U.S., Canada, and Western Europe, and also in South America, Japan, Australia, and Poland. A small rental fee now pays for new film, although Privett still uses his own equipment in preparing his films.

Right now he's working on a film about the HPLC-MS device that he described to the North Central Section the evening he received the Bailey Award. That film may be ready for showing during AOCS' 1979 meeting in San Francisco.

Privett's work in edible oils and lipids also dates back to the 1940s when he was a graduate student at McGill. During World War II, Canada's National Research Council was searching for new sources of edible oils. Privett was investigating ways to use linseed oil for edible purposes and his doctorate thesis topic became polymerization mechanisms. It was through polymerization that he found a way to avoid flavor reversion in linseed oil, one of the major problems in converting linseed to edible use.

The research was virtually completed, and Privett had prepared a paper for an AOCS meeting (1946) when his supervising professor, W.D. MacFarland, suggested that perhaps he should run some feeding tests under the direction of Dr. Earl Crampton.

"One of the research fellows in the Department of Nutrition gave me some rats he had used for vitamin A assays," Privett recalls. "We fed them the tasteless and odorless oil, and they didn't grow. Then Dr. Crampton became interested, and we used weanlings. They didn't grow normally either."

Privett went to the AOCS meeting, and the day before he was to present his paper, MacFarland said, "You know, Orville, you really ought to mention those feeding tests."

"I was scared, but I had done my preparation quite thoroughly with visual aids," Privett recalls.

He gave his paper as prepared, then extemporaneously added one sentence:

"We fed them (the rats) the oil and all the animals died."

That brought down the house, he says. However, as sketchy as it was, this was actually the first report of the toxicity of heated fats and prompted the elegant work of Dr. Crampton and his colleagues in this area.

Privett's work has taken him far from the playgrounds of London where he romped as a schoolboy, but not too far. Hormel Institute staffers know that when Privett isn't working, he's out skating, skiing, golfing, biking, or perhaps engrossed in editing a new film. Even the laboratory is a place of challenge and excitement for Privett. In introducing his colleague to the Bailey Award dinner, Dr. Holman noted, "Dr. Privett has fantastic technique; it's a joy to watch him in the lab."

For his part, Privett upon receiving the Bailey Award noted quickly that much of what he has done has been made possible by excellent work by other Hormel staff members and the aid they have provided. ●

U.S. soybeans may spark record production

With world fats and oils production for 1978 already forecast at a record 53 million metric tons, market observers are waiting for the April 13 USDA report on how many acres U.S. farmers intend to plant to soybeans this spring.

The January report showed farmers intended to plant 63.9 million acres. Based on normal conditions, that acreage could produce a record crop of 1.73 billion bushels. But several factors could cause farmers to change their intentions: (a) price ratios between corn and soybeans may have changed enough since Jan. 1 to cause farmers to modify their plans; (b) farmers have had more time to consider the USDA's set aside program for corn and other grain crops; and (c) by planting time farmers will have a better idea of the size of the South American soybean crops.

A mid-January report from Brazil by U.S. embassy Agricultural Officer Edmond Missiaen tentatively forecast Brazil's 1978 crop at 12.8 million tons, compared to 1977's estimated 12 million tons. Drought conditions during part of the growing season have made crop estimating difficult. Brazil's crushing capacity is on the rise, Missiaen reported. Installed capacity at the start of the 1978/79 season will be 12 million tons annually, and more than 1 million metric tons of new capacity is expected to come on stream during the year.

Brazil may crush 8.7 to 10.5 million tons during 1978/79 season, he said. *The Wall Street Journal* reported in February that Brazil's central bank may allow processors to import soybeans to offset drought losses. Brazil and Argentina are increasing their capacity, becoming competitors for overseas oil and meal markets with U.S. processors. Kelly Harrison, general sales manager for the USDA, told an Illinois soybean producers organization that he expects those two nations to become more competitive in soybean meal and oil markets.

Total supply of soybean oil out of Brazil for 1978/79 is forecast at 1,876,000 metric tons; compared to an estimated 1,628,000 the previous season.

Reports in early March, however, said drought conditions may drop the Brazilian soybean crop below 12 million tons, perhaps closer to 11 million tons.

The outlook for other crops:

Sunflowerseed: Estimated 2.5 million acres to be planted in 1978, according to farmers intentions as of Jan. 1, a slight increase from the 1977 acreage that produced a record 1.2 billion metric tons. Soviet production is expected to be about 5.9 million tons, the USDA says.

Palm: Malaysia oilseed output is expected to rise to 1.9 million tons, up 13%, according to the Fats and Oils Situation. U.S. imports of palm oil during 1977/78 marketing year appear to be running about 0.7 billion pounds, about the same as a year ago, partially because of increased competition from domestically produced soybean, sunflower, and cottonseed oils.

Coconut oil: Production in the Philippines may rise slightly.

Cottonseed: The 1977 crop of approximately 5.5 million tons was the largest in 12 years with lower prices the result. Cotton farmers intend to plant about 7% less cotton acreage this year, they said in January, which could mean about 12½ million acres in cotton.

Flaxseed: Planting intentions as of January were 1.3 million acres, compared to 1.5 million acres a year ago. The large supply this past year has cut prices.

Inedible tallow: Production for the 1977/78 year is expected to be close to the previous season's 6 billion pounds, with exports off about 3% to 2.8 billion pounds. ●