
Profile

RALPH HOLMAN



Ralph Holman, recipient of the 1978 Award in Lipid Chemistry, is equally at home in a research lab or in a boggy marsh.

His research on essential fatty acids during the past three decades has brought international renown, capped by his unofficial title as "guru of lipid research," bestowed by Applied Sciences' Subramania Ramachandran during presentation of the lipid chemistry award in St. Louis this past May. Dr. Holman's research is reviewed in his Award in Lipid Chemistry Acceptance lecture (page 774A).

His accomplishments in the boggy marshes, however, are less well known outside his native Minnesota, or to *JAOCs* readers.

Ralph is the third generation of his family to live in Minnesota. His grandfather, Carl Gustav Nilson, was a Swedish minister who immigrated to the United States in 1881. His other grandfather, Alfrid Holmen, immigrated in 1886 and brought his family to St. Paul in 1888. He worked digging ditches for the sewer department until he saved money to buy an 80 acre farm near Upsala, Minnesota. His first son, Alfrid Teodor, was the first American born child in the family, and he eventually became a streetcar conductor in Minneapolis-St. Paul. His son, Ralph Holman, thus grew up a city lad, but not completely. From eight until he was sixteen, Ralph spent every summer on grandfather Nilson's farm, and even today thinks of that rural area as more of a home than he does the south Minneapolis neighborhood where he lived during the school year.

During the Depression, the chances were poor for the son of a streetcar conductor to attend college. Holman, a high school honor student, had a job as janitor at his church, earning \$3 a week in summer and \$5 a week in winter. When Ralph graduated from high school, the pastor asked his janitor about his postgraduate plans. Holman said he'd like to attend college but lacked the means. A few weeks later, the pastor came to Holman's home with the dean of Bethel College, a denominational school in St. Paul. As an honor student, Holman was eligible for a scholarship at Bethel. He had to pay his first semester tuition, but the school would waive tuition the second semester if he maintained honor roll status. He did.

Holman's career plans were revised twice in college. In high school, he had hoped someday to be an engineer. After taking Bethel's only college chemistry course, he thought about becoming a chemical engineer.

The eventual switch to biochemistry is a bit more involved. His schedule at Bethel and his finances stretched just enough to permit him to enroll at the University of Minnesota, a mile away, to take another chemistry course. The only course he could schedule while still attending Bethel was a biochemistry analytical methods course. No one mentioned a mandatory \$5 lab breakage fee until the first class session. When he told the instructor after the class that he didn't have the money, the instructor took him to see the "chief" — Professor R.A. Gortner, himself.

"There I was, sitting at the end of what seemed to be an enormous table, with this all-powerful scientist at the other end," Holman recalls.

"What's the problem?" Gortner asked.

"This student can't pay his chem lab fee," the instructor explained.

The "chief" then began questioning the worried youth about his academic background, why he was enrolled at two schools at one time, and when he might be able to pay. He then granted Holman a month to raise the money and let him stay in the class.

When Holman transferred from Bethel to the University of Minnesota, he naturally became a biochemistry major, partly because he knew something about the department, its courses, and its faculty.

Since his graduation from the University of Minnesota in 1939, Holman has been outside that state for extended periods three times. He went to New Jersey in 1939 to work toward his master's degree at Rutgers University in 1941. There he met Karla Calais, a student at the New Jersey College for Women, on a blind date. They were wed March 26, 1943, in Minnesota where Ralph had returned to work on his doctorate, which he received in 1944.

His second major trip outside Minnesota was to Sweden. After World War II ended, federal funds for postdoctoral work in Europe became available. Holman's last-minute application for a grant to study enzyme isolation with Professor Theorell was approved, and he and his bride went to Sweden in 1946. They were traveling by train in Sweden enroute to the Medical Nobel Institute when they passed through Västergötland, the home region of Holman's grandfather. In a spur-of-the-moment decision, they left the train to seek out relatives. They went to the local church to explain their mission to the village pastor. Holman spoke no Swedish then, for his parents had wanted him to grow up strictly Americanized. The pastor spoke no English, but after some conversation in German, he began to understand, checked church records, and took Holman to the home of his father's cousin. This communication was mainly in sign language, but the familial ties were renewed.

When he returned to the United States in 1948, Holman accepted a post at Texas A&M University. Holman had become an AOCS member in 1946, and in 1948 he



Dr. Holman's rustic retreat designed to resemble architecture in Sweden.

presented two papers at the spring meeting in New Orleans. By 1951, Holman was worried about his declining activity. "I couldn't stand the heat and I couldn't afford air conditioning," he says. He accepted a post with the University of Minnesota's Hormel Institute, and he was back in Minnesota to stay. Since his return to Minnesota, he has built a summer place near Upsala imitating as much as possible the style of Swedish log buildings.

Why did lipid researchers come to talk about their biochemistry in a fats and oils society, rather than talk about fats and oils in a biochemical society? "At that time the real action in lipids was in developing methods. The biochemical societies didn't accept papers on analytical methods," Holman says, "but AOCS and its journal did." The group's influence grew to where AOCS began publishing a second journal, *Lipids*. Holman now is editor of *Lipids*. He and several other lipid researchers have served as AOCS presidents.

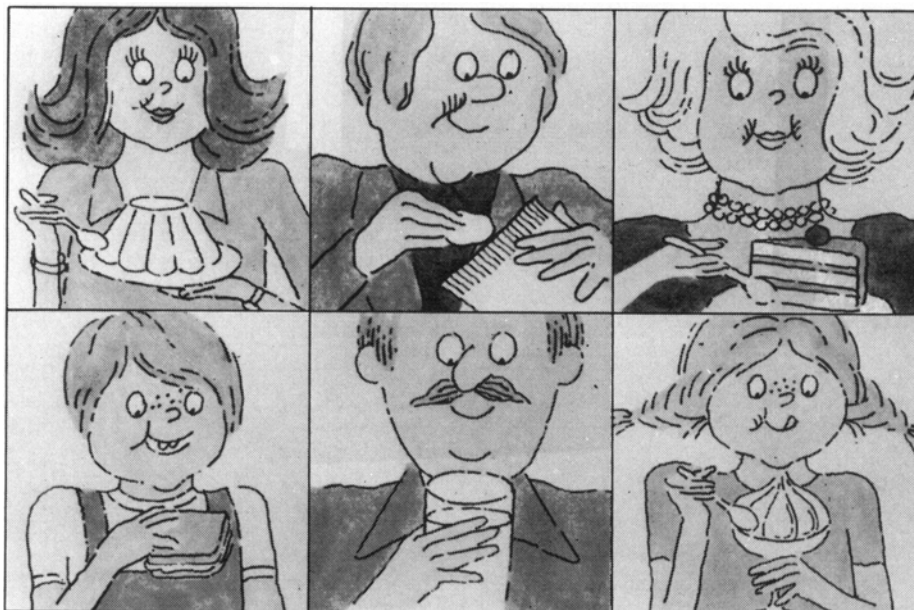
Karla Holman has long been a house gardener with such plants as African violets throughout the Holman home. Ralph got interested through building facilities for growing them, and eventually built a greenhouse. That led to trying orchids, and, out of curiosity, to the study of orchid fragrances. For years he had been interested in the Showy Lady's Slipper, Minnesota's state flower, which is thought to be in jeopardy. To aid in efforts for its conservation, Ralph created artificial bogs to examine how the Lady Slipper can be propagated. He and Karla still go trekking down railroad right-of-ways or through wet land to find Lady Slippers, and he is studying the role of fragrance of orchids in mechanism of pollination. Holman is one of the few persons in Minnesota authorized to transplant the protected native orchids for scientific purposes. He also notes that the Hormel Institute is the only branch of the University of Minnesota receiving funds to do research on orchids, which is why the annual listing of Hormel publications includes a few botanical titles.

All-in-all, 1978 has been a good year for the Holmans and the Hormel Institute. Karla is doing well after knee and hip surgery and was in St. Louis to watch Ralph receive his award and deliver his lecture. In June, Ralph attended the 50th wedding anniversary celebration of an aunt and uncle for whom he had been ring bearer when they were wed. At the Institute, an NIH training program for lipid scientists began July 1 for four postdoctoral fellows each year during the next five years. A new scholarship program gives undergraduate students a chance to participate in the Institute's program and to learn research by doing it. The Institute budget has now reached about \$2 million a year. A fish facility was built last year, and the 1978 Minnesota Legislature appropriated funds for an animal research facility to be built next year. The

Institute is partner in a Center for Peripheral Neuropathy Research at Mayo Medical School, and Holman has been appointed Professor of Biochemistry in Mayo Medical School. The Institute has recently inaugurated a Guest Professorship program.

When Carl Gustav Nilson saved enough money to buy his 80 acre farm near Upsala, Minnesota, many years ago, he named it "Lyckans Höjd," which translates roughly as "The Height of Good Luck." Holman borrowed that title for the book-length family history he has written. He also thinks it says something about the character of his grandfather, who had to give up the ministry for economic reasons but who named his subsistence level farm the Height of his Good Luck. Perhaps, Holman muses, life requires a few obstacles or adversities which, like vitamins, stimulate effort.

Lyckans Höjd!



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