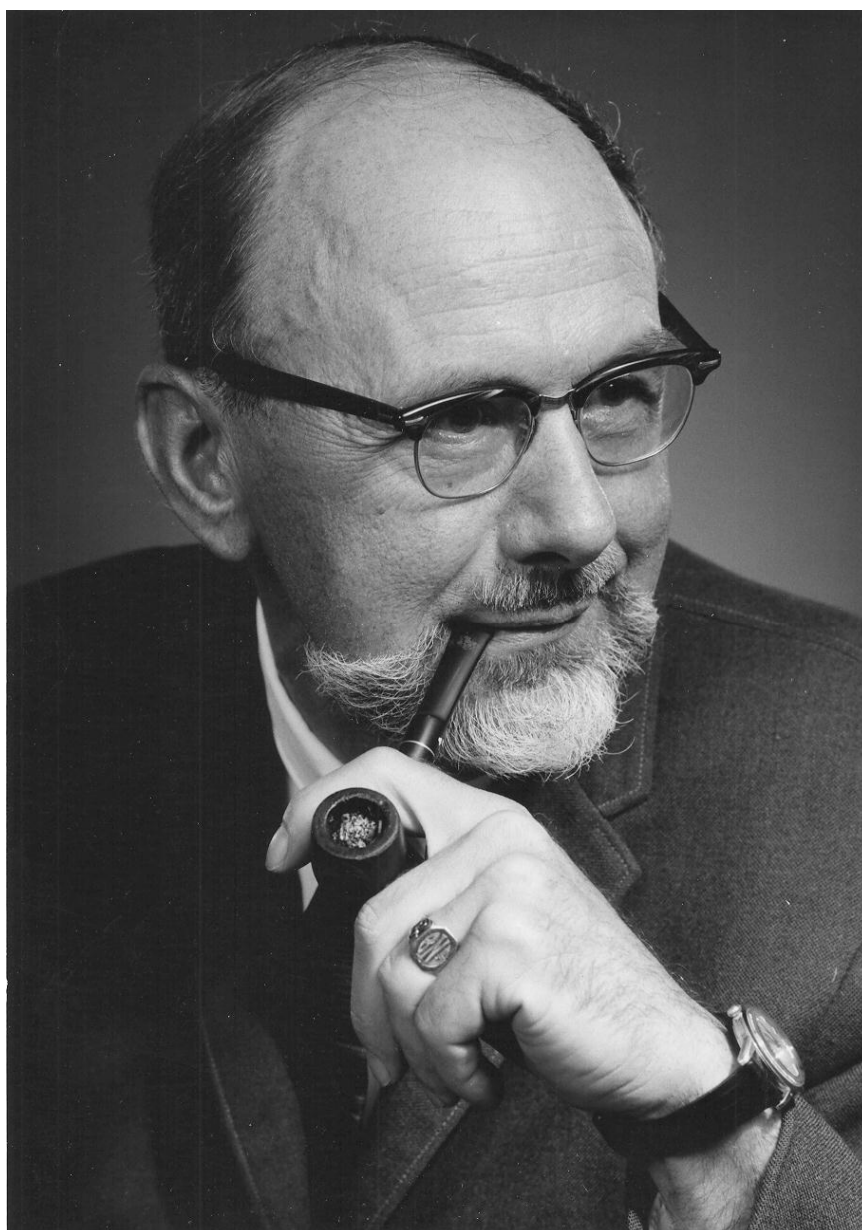


GERARD WYATT, FRSC

Beverley Northcott Smallman
1913-2005



The death on May 4, 2005, of Dr. Beverley Smallman at the age of 91, in Kingston, Ontario, deprived Canada of a distinguished scientist and a person of unusual breadth of interests and human qualities. His 40-year career with the Canadian Department of Agriculture and with Queen's University was marked by important contributions to insect neurobiology as well as effective roles as a scientific administrator and teacher.

Bev Smallman was born in 1913 in Port Perry, Ontario. His father was a blacksmith and parttime pastor, but Bev early revolted against conventional religion, swayed by a love of nature and the rationality of science. After schooling in Port Perry, he attended Queen's University in Kingston, obtaining his B.Sc. in 1936, followed by M.Sc. from the University of Western Ontario in 1938. In 1937 he married Hazel Mayne, from Vancouver; and they had a devoted relationship; their daughter, Sylvia, was born in 1947. For his doctoral work they went to Edinburgh, where their lives suffered upheaval with the outbreak of the Second World War in September, 1939, but he was able to complete his research on water loss in insect moulting and they returned to Canada in 1940. In Montreal, he was appointed instructor and lecturer at McGill, wrote his thesis and obtained his Edinburgh PhD.

In January 1941, in response to an urgent request from the Canadian Department of Agriculture, Smallman moved to Winnipeg to investigate and deal with the serious and widespread infestation by cereal mites (and subsequently grain beetles and weevils) of huge stores of western wheat, from a bumper crop, needed for the war effort, and for several years he travelled between the Lakehead and the Rockies supervising the fumigation of wheat stores with chloropicrin, while building the practical and social skills needed for the job. Chloropicrin was a lethal nerve gas used in the First World War, and in one accident he barely escaped. This was classified as essential war work, but it was not easy to assuage feelings of guilt that he was not in the fighting. Several publications during these years show growing interest in basic aspects of pesticide action.

Smallman stayed with Canada Agriculture, and from 1947 to 1954 served as Principal Entomologist in the Science Service laboratory in London, Ontario. He embarked on pioneering research on the cholinergic neurotransmitter system in insects, as the target of organophosphorus insecticides. The results obtained with several collaborators included rigorous identification of acetylcholine and characterization of choline acetylase from insects, both shown to occur at much higher levels than in nervous tissues of vertebrates. Some of this work was done during leave of absence spent at the National Institute for Medical Research in London, England.

In 1956 Smallman moved to Ottawa to become Research Director for Entomology and Plant Pathology in the federal Department of Agriculture. However, in 1963 a desire to return to more personal participation in research and teaching, augmented by a need for change after the death of his wife from cancer in 1960, led him to accept the headship of Biology at Queen's University in Kingston. He served as Department Head until 1973, doing much to build a modern department, then as professor until retirement in 1979 and thereafter as emeritus professor. He established an active research laboratory, investigating first some environmental and physiological aspects of insect development and diapause, and then focussing on the insect cholinergic system with molecular studies on the enzymes and the acetylcholine receptor. Sabbatical leaves in 1971 and 1976 were spent at the CSIRO Laboratory in Brisbane and other laboratories in Australia, where he examined the cholinergic enzymes in cattle ticks, demonstrating altered enzyme levels in organophosphate-resistant strains.

In 1965, Bev married Florence Hazel Cook (known as Sue), a psychologist and master spinner and weaver. Upon retirement from Queen's, with Sue as his beloved partner, he moved to a small farm, "Smallmanor", near Kingston and they raised sheep, geese and bees, as well as fruits and vegetables. He served as County Bee Inspector and taught beekeeping at St. Lawrence College. Sue outlived Bev, to die in 2008.

In addition to many research papers, Smallman published "Goodbye Bugs" (with A. West, Grovesnor House Press, Toronto, 1983), "Queen's Biology" (with H.M Good and A.S. West, Queen's University, Kingston, 1991) and reminiscences on his work during the Second World War (in "Back Then: Voices of Memory, 1915-45", D. Helwig ed., Oberon Press, 1993). He was elected a Fellow of the Royal Society of Canada and served on the Royal Society Council and on federal Natural Sciences and Engineering Council Grant Selection Committees. He was awarded the honorary degree of LLD from Trent University in 1982.

Bev left his daughter Sylvia Smallman and granddaughter Kirsten Graham of Vancouver, and Sue's daughter Clare Grant of Kingston (deceased 2010) and granddaughter Jessica Christiaans of Barrie, Ontario. He is remembered by many friends with much respect and affection for his intelligence, his enthusiasm for life and his sense of humor and warm personality.

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(Author's title given as of the time of writing)