



Science
Societies

Collecting potatoes in the Americas

By Mike Jackson

| February 14, 2022



Professor Jack Hawkes Stuck in the mud, near Durango, Mexico, in 1958.

Professor Jack Hawkes, a recipient of the Frank N. Meyer Memorial Medal in 1973, spent a lifetime studying the wild and cultivated potatoes indigenous to the Americas. He collected (and named) many species during numerous expeditions, from the southern USA to the Southern Cone countries of South America.



Professor Jack Hawkes collecting Solanum agrimonifolium in Guatemala in 1958.

He made his first trip to South America in 1939, joining the UK's Empire Potato Collecting Expedition led by eminent plant collector Edward Balls. In preparation for that expedition, he travelled in 1938 to St. Petersburg to meet Russian botanists and discuss their own experiences of collecting potatoes in the Andes. During that visit, he also met Nikolai Vavilov who left an indelible impression on Jack throughout his life.

Jack was 23 when he headed to Peru in December 1938 to meet up with Balls and the other member of the team, William Gourlay. Their expedition lasted until September 1939, covering more than 9,000 miles from northern Argentina to Colombia. Wild and cultivated potatoes were taken back to Cambridge, becoming the foundation accessions of the Empire Potato Collection (now the Commonwealth Potato Collection housed at the James Hutton Institute near Dundee, Scotland). In 2004, he published his memories of the expedition in *Hunting the Wild Potato in the South American Andes* (ISBN: 90-9018021-4).

Visual Record of Expeditions

What is remarkable is that Jack also left a visual record of some of his expeditions. On the South American expedition, more than 80 years ago, and on subsequent ones in 1958 (to the USA, Mexico, and Central America) and 1971 (to Bolivia), he filmed many of the landscapes they passed through, the peoples met, and the potatoes collected, on 16 mm cine film. These films were recently converted to digital format and, with narratives to accompany the films (written by Dr. Abigail Amey) and a host of photographs, are now available to view at:

<https://potatocollectingintheamericas.wordpress.com/>. This was made possible courtesy of a grant from the Crop Wild Relatives Project, funded by Government of Norway through the Crop Trust and Kew Gardens.

After returning from South America three months after the start of World War II, Hawkes continued to work at Cambridge, being awarded his Ph.D. from the university in 1941, based on the germplasm collected in South America. In 1948, he was seconded by the Government of Colombia to set up a potato research station near Bogotá, remaining in that country for three years.

Teaching and Publishing

In 1952, he joined the University of Birmingham as a lecturer and then professor in Taxonomic Botany in the Department of Botany, becoming Mason Professor of Botany and head of department in 1967. From the early 1960s, he was active in the emerging genetic resources movement, joining the likes of Sir Otto Frankel, Erna Bennett, and Jack Harlan among others to promote the conservation and use of plant genetic resources. To further these goals, in 1969, he launched a one-year M.Sc. course in "Conservation and Utilization of Plant Genetic Resources" to train scientists in the theory and practices of genetic conservation. The course attracted hundreds of

students from around the world for more than three decades. He retired from the university in 1982 but continued to publish and consult regularly for many years after. He passed away in 2007 at the age of 92.

His many publications included several major taxonomic revisions of the tuber-bearing *Solanum* species and detailed monographs of the potatoes of Argentina, Brazil, Paraguay, and Uruguay (in 1969) and Bolivia (1989) with his long-time collaborator, Danish botanist Peter Hjerting. Both monographs were biosystematic studies involving detailed morphological comparisons, making crosses and raising F₁ and F₂ progenies, studying chromosome number and behavior, and linking these aspects with a detailed knowledge of the species in the field and their ecology, always emphasizing their value to plant breeders. Ten Ph.D. students completed biosystematic studies on potatoes under Jack's supervision.

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