

Oxford Dictionary of National Biography

Hawkes, John Gregory [Jack] (1915–2007), *botanist*

by Michael T. Jackson

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Hawkes, John Gregory [Jack] (1915–2007), botanist, was born on 27 June 1915 at 9 Clarence Place, Kingsdown, Bristol, the only child of Charles William Hawkes, a journeyman house decorator who later became a teacher in a technical school, and his wife, Gertrude Maude, *née* Chappell. He first attended a dame school in Bristol, then Stroud elementary school, followed by Cheltenham grammar school (1929–34). He won a place at Christ's College, Cambridge, and graduated with first-class honours in natural sciences in 1937; he completed his PhD in 1941 under the supervision of the noted potato breeder and historian Redcliffe N. Salaman. The university awarded Hawkes the degree of ScD in 1957. On 20 December 1941 he married, at Cambridge register office, Barbara Ellen Leather, who was working as an organizing secretary in Norwich for the Workers' Educational Association. Three years younger than Hawkes, she was the daughter of Charles Henry Leather, secondary school teacher. They had two daughters, born in 1944 and 1946, and twin sons born in Colombia in 1950.

On graduation in 1937 Hawkes had successfully applied for the position of assistant to P. S. Hudson, director of the Imperial Bureau of Plant Breeding and Genetics in Cambridge, for an expedition to Lake Titicaca in the Andes. In the event this expedition did not materialize due to Hudson's poor health, but Hawkes joined another in 1938–9 to Peru, Argentina, Bolivia, Ecuador, and Colombia, led by E. K. Balls, a professional plant collector. Thus began his lifelong interest in 'the humble spud'. In order to prepare himself for the expedition, and because he recognized that he 'knew virtually nothing about the scientific aspects of potato species' (*Economic Botany*, 2), he received permission to travel to Leningrad to meet the Russian scientists S. M. Bukasov and S. W. Juzepczuk, who had already collected potatoes in South America, and to seek their advice about the planned British expedition. It was during this visit that he met the world-famous geneticist Nikolay Vavilov, whom he described as 'a colossus among his colleagues both within and outside the USSR' (Hawkes, 11). He acknowledged that it had been 'a privilege to have known him', and was certain that Vavilov's influence helped to shape his career (*ibid.*, 11). During the visit he also met the controversial Trofim Lysenko, whose influence with Stalin led to the banning of Mendelian genetics in the Soviet Union for a generation. Hawkes did not like Lysenko one little bit and thought him 'a dangerous and wholly repellent person ... a politician rather than a scientist' (*ibid.*, 14). Lysenko's ascendancy led to Vavilov's disgrace and early death in 1943.

The 1938–9 expedition was the first of more than a dozen major plant-collecting trips that Hawkes made to South and Central America in search of wild potato species, which became the basis for his taxonomic treatment of potatoes, first published in 1956, with several later revisions. He had a long collaboration with the Danish botanist J. Peter Hjerting, with whom he published two major monographs on the wild potatoes of Argentina, Brazil, Paraguay, and Uruguay (1969) and Bolivia (1989), emphasizing not only the taxonomy but also breeding relationships to facilitate their use in potato improvement.

From 1948 to 1951 Hawkes was seconded to the Colombian government to establish a potato research station. Nelson Estrada, a renowned Colombian potato breeder, was one of his protégés, and their hybridization research became a model for potato breeding programmes. Not long after returning to the UK, Hawkes was appointed lecturer in taxonomic botany at the University of Birmingham in 1952, and he remained there until his retirement in 1982. In 1961 he received a personal chair in taxonomic

botany, and in 1967 was appointed Mason professor of botany and head of department. In addition to his lifelong research on potatoes he spearheaded scientific interest in the *Solanaceae* plant family, which also includes the tomato, tobacco, chilli peppers, and aubergine, and many species with pharmaceutical properties. With his colleagues at Birmingham in the late 1950s he developed serological methods to study relationships between potato species. He was also one of the leading lights in the production of a computer-mapped flora of Warwickshire, a first of its kind, published in 1971.

One of Hawkes's most important legacies, stemming from his work on potatoes, was his participation in and contributions to the nascent genetic resources conservation movement of the 1960s. He joined the United Nations Food and Agriculture Organization's (FAO) panel of experts led by the eminent wheat breeder Sir Otto Frankel, which also included the plant collector Erna Bennett and the cereals expert Jack Harlan, among others. They envisaged a worldwide effort to conserve plant genetic resources in a network of gene banks, and gave impetus to international efforts to collect and conserve plant varieties that were threatened with extinction. These efforts led eventually to the establishment of the International Board for Plant Genetic Resources in Rome, under the auspices of the FAO. Hawkes was chairman of the European Association for Plant Breeding Research's gene bank committee for thirty years from 1961. He actively supported the genetic resources programme at the International Potato Center in Lima, Peru, from 1973, and several of his PhD students did their research there. He also acted as scientific adviser to the Commonwealth Potato Collection in Scotland (founded from germplasm he had collected in 1939) and the United States department of agriculture potato collection at Sturgeon Bay, Wisconsin.

Shortly after being appointed Mason professor of botany Hawkes received support from the university to develop a one-year course in plant genetic resources. In September 1969 just five students enrolled on an MSc course that was subsequently offered for almost four decades. This was significantly longer than Frankel had predicted when Hawkes first mooted the idea, and by 2008 over 1400 MSc and three-month short course students from more than 100 countries had studied at Birmingham, many becoming genetic conservation leaders in their own countries. The course (and its successor) was the only formal training of its kind in the world.

Hawkes received many honours and awards, including the Frank N. Meyer memorial award from the American Genetic Association for services to plant introduction in 1973, and the distinguished economic botanist award from the Society for Economic Botany in 1996. In 1984 he received the Linnean medal from the Linnean Society of London, of which he was later elected president (1991–4), a role that gave him immense satisfaction. He was appointed OBE for services to botany in 1994. He received many other honours, but what probably gave him most pleasure were the Vavilov medal and honorary professorship of the N. I. Vavilov Institute of Plant Industry in 1999, of which he was the second recipient and the first non-Russian. In a sense his life's work had come full circle from the moment in 1938 when he had met the great geneticist at the institute that later bore his name.

After his retirement from the university Hawkes continued to publish actively. In 2004 his memories of the 1938–9 expedition—and his initiation into the world of the potato—were published under the title *Hunting the Wild Potato in the South American Andes*. In all he published 240 scientific works. After Barbara died in 2005, and increasingly frail, he left his home of more than fifty years in Harborne, Birmingham, and moved to Reading to be near his family. He died at Austen House Care Home, Lower Earley, Reading, on 6 September 2007, and was survived by his four children.

MICHAEL T. JACKSON

Sources

LondG (11 June 1994) [suppl.] · 'J. G. Hawkes, distinguished economic botanist: reply to AWARD, 4 July 1996', *Economic Botany*, 51/1 (Jan 1997), 2–5 · M. T. Jackson, 'Jack Hawkes: plant collector, researcher, educator and visionary', *Managing plant genetic diversity*, ed. J. M. M. Engels and others (2002), xv–xvi · J. G. Hawkes, *Hunting the wild potato in the South American Andes: memories of the British empire potato collecting expedition to South America, 1938–1939* (2004) · *Daily Telegraph* (21 Sept 2007) · *The Independent* (18 Oct 2007) · *The Times* (7 Nov 2007) · R. Croston, 'Biography of Jack G. Hawkes', www.eucarpia.org, accessed on 1 Feb 2010 · *WW* (2009) · personal knowledge (2011) · private information (2011) · b. cert. · m. cert. · d. cert.

Likenesses

obituary photographs

Wealth at death

£517,841: probate, 7 Jan 2008, *CGPLA Eng. & Wales*

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