

Basil Bartley 1927 - 2008: Cocoa Geneticist, Guardian of the Cocoa Breeders' Treasury

Rob Lockwood

Basil's whole working life was devoted to cocoa, initially genetics and through the latter part of it increasingly to cocoa germplasm, culminating in his monumental book on the genetic resources of cocoa and their utilization. His working experience and his knowledge were unique.

Basil was something of a prodigy. He graduated in India when aged only 20, received his Masters degree from Iowa State College a year later and his PhD two years after that. Basil's PhD work was on quantitative genetics in soybean, a background that informed his approaches to cocoa breeding.

In 1951, Basil joined the cocoa team at the Imperial College of Tropical Agriculture in Trinidad, working with F.W. Cope to build on the sure foundations laid by E.E. Cheesman, F. Hardy, F.J. Pound and others. He spent twenty years in Trinidad, where his role was complimentary to W.E. Freeman's, the cocoa breeder with the Trinidad and Tobago Ministry of Agriculture (who developed the Trinidad Selected Hybrids (TSH) and like series of clones). Basil published widely on the genetics of *Theobroma cacao* L. and especially on its interaction with *Moniliophthora perniciosa*, the witches' broom disease pathogen. The papers from that period, many of them now forgotten, reward deeper study, as they were borne of Basil's thorough understanding of both genetics and cocoa as a crop. During this period, Basil supervised several post-graduate students, among them the late J.D. Amponsah from Ghana. While in Trinidad, Basil developed linkages with cocoa programmes in South America, notably Instituto Nacional de Investigaciones Agro-Pecuarios (INIAP) in Ecuador, where his visits in the early sixties led to the then American Cocoa Research Institute funding a plant breeder (W.S. Chalmers) based in Trinidad working on a co-operative programme with Ecuador.

On leaving Trinidad, Basil became cocoa advisor to São Tomé and Príncipe, working with his long-standing friend J.C. Ascenso. After five years, Basil moved to Brazil, for 17-year long stay in Brazil contracted by the Interamerican Institute for Cooperation in Agriculture to work with Comissão Executiva do Plano da Lavoura Cacaueira (CEPLAC) in Brazil as an adviser to the cacao improvement programme. His colleagues included D. Ahnert, C.M.V.C. de Almeida, J.P. Barriga, G. Carletto, G.C.T. de Castro, J.M. Ferrão, P.F.R. Machado, G.R.P. Melo, W.R. Monteiro, T.N.S. Pereira and M.M. Yamada.

Basil's interest in the genetic resources of cocoa developed with his participation in the Anglo-Colombian expedition 1952-53. While in Trinidad he worked with the large collection built up by F.J. Pound from his visits to Peru and Ecuador in the late thirties and early forties, with Myers' material from Suriname and other collections, making many exploratory crosses with them. In the mid-sixties, he facilitated a large scale transfer of clonal and seedling material from Trinidad to Nigeria. The clonal material went via intermediate quarantine at Kew Gardens, from where much of it was transferred to Ghana and Malaysia as well, becoming the backbone of the breeding programmes there for the rest of the Twentieth Century and into the Twenty-First.

While Basil was in São Tomé and Príncipe, he maintained his interest in cocoa genetic resources through his involvement in the programme of cooperation between INIAP and the Cacao Research Scheme in Trinidad. Subsequently, during his 17-year stay in Brazil, Basil made a huge impact on the conservation of genetic resources in that country. He guided the establishment of a new cacao genebank at CEPEC (Bahia), and

drew up the plan of action for the collection, conservation and characterisation of cacao germplasm from the Amazonian region. His contribution towards the coordination of the resulting major Brazilian Amazon Genetic Resources Programme, and the establishment of the extensive genebank at Belem, were recognised as the "Basil George David Bartley " collection, established at the Estação de Recursos Genéticos do Cacau (ERJOH), at CEPLAC in Marituba, that contains natural and artificial inter-specific hybrids between Brazilian *Theobroma* species.

Basil travelled widely throughout his life, freely sharing his knowledge and experience. He had a phenomenal memory of cocoa phenotypes as well as a lifetime collection of notes, which made him an invaluable visitor to genebanks. He was very good at recognising off-types, and on occasion able to identify them with authority. He worked extensively with the International Cocoa Quarantine Centre and the International Cocoa Germplasm Database at Reading with many of his observations preserved in the latter. Basil's life-time collection of field notes and papers has been preserved in the library at University of California, Davis Campus, through the generosity of the Mars Corporation. Over the last fifty years, numerous cocoa researchers have benefitted from Basil Bartley's life-long commitment to the genetics and genetic resources of the crop. Over the years ahead, more and more cocoa farmers around the world will grow better varieties and improve their livelihoods, partly due to Basil's contribution. He will continue to influence cocoa researchers through his papers and above all his book. Not only did Basil Bartley guard the cocoa breeders' treasury, he enriched it materially and greatly improved our understanding of it.

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