Retracing Charles Kellogg’s Path in Ghana

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Bennan Hudson and I were approved in August 2000 to participate in a science and technology mission to Ghana. Before leaving the country, we discovered that Charles Kellogg had visited Ghana (Gold Coast) during August 1954. Detailed notes in his African Journal provided day-by-day information for his one-week excursion. Kellogg’s mission in 1954 was to interact with the British to assess whether swollen shoot disease of the cocoa trees was soil-borne. After our itinerary arrived from our hosts in Ghana, it became apparent we would be traveling much of the same path as Charles Kellogg did in 1954.

After arriving in Accra on 5 Nov. 2000, we were introduced to our colleagues at the Ecological Research Laboratory at the University of Ghana in Legon. The international team consisted of Henrik Madsen and Mogens Greve from Denmark, Theodore Awadzi and Seth Danso from Ghana, and Berman and I from the NRCS National Soil Survey Center in Lincoln, NE. Our mission was to assess the Ghanaian soil survey program, sample soils at seven benchmark sites throughout the southern part of Ghana, and present two symposiums about the soil survey program in the United States.

With sampling equipment in hand, we left Legon and traveled the southern coastal region where we described and sampled an Oxisol (Tikobo). Then we traveled to Kumasi, home of the Soil Research Institute where Kellogg had visited in 1954. We found out that Drs. C.H. Charter, Brammer, and Ahn, British soil scientists in Ghana during the 1950s and colleagues of Charles Kellogg, were still held in high regard. They had introduced the soil series concept and set up 360 series based on 25 soil descriptions for each series. When Theodore Awadzi presented us a series description for the Tikobo series, it was not the type one might expect, but a highly technical description matching many of our official series descriptions in the United States. In fact, we in the USA rarely take the time to define a soil series based on 25 descriptions.

In Kumasi, we tried to interpret Kellogg’s journal entry:

The calcium-collecting tree called Chlorophora excelsa, one of the emergents. Locally, it is called ‘odum.’ This tree collects calcium, which oozes into old wounds and cuts, probably as calcium malate. This changes to a kind of limestone that runs 80 to 90 percent calcium carbonate. The soils under such trees become neutral to alkaline while soils under adjacent trees may be strongly acid.

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Editor’s Note: This is a presentation made in November 2002 at the ASA–CSSA–SSSA Meetings in Indianapolis, IN as part of the Kellogg Symposium. Henry Mount was the principal organizer of the symposium.