Mineralogy of Soils on Pliocene to Holocene aged Terraces of the Alabama River. (S05-hajek095240-Poster)

Authors:

- B.F.Hajek - *Agronomy and Soils, Auburn University*
- J.N.Shaw - *Agronomy and Soils, Auburn University*
- W.C.Lynn - *USDA-NRCS Soils Survey Lab*
- R.L.Guthrie - *Agronomy and Soils, Auburn University*

Abstract:

The clay mineralogy of horizons for 29 pedons on 7 Alabama River terraces (A through G) was determined. In their area of occurrence A and B terraces are the highest points in the landscape. Lowest terraces, F and G, are subject to flooding. Percent kaolinite (KLN) and hydroxy-interlayered vermiculite (HIV) are nearly the same in surface horizons. In subsurface horizons, on A, B, C and some D terraces, KLN increases and HIV decreases with depth. Below 200 cm both minerals remain constant with depth. On E, F, G, and some D terraces, KLN increase and HIV decreases are less and erratic. Weathering favors HIV formation and stability in A, E, and Bt1 horizons. CEC at pH 7 of the clay fraction in subsurface horizons correlates with HIV, about one unit of CEC per percent HIV. Subactive clays are dominant on A, B, C and D terraces; E, F, and G terraces are dominantly semiactive. Clay fraction mineral distribution in A, B, and C terrace soils are similar to soils on the lower Coastal Plain Citronelle formation.

Corresponding Author Information:

Ben Hajek
Auburn University
Agronomy and Soils Dept.
Auburn, AL 36849

phone: 334 844 3990
fax: 334 844 3945
e-mail: bhajek@acesag.auburn.edu

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