

Northeast Region of Brazil comprises the study area. The proposal of the new subgroups are based on the morphological, analytical and taxonomic review of 750 soil profiles, comprising 400 soil profiles available from pedological studies published in the 70s and 80s of the past century, and 350 soil profiles of the reconnaissance soil survey (1:100,000 scale) under execution in the State of Ceará. The physical and chemical analyses of all soil profiles were made according to the methodology developed and used by Embrapa Soils. The detailed analysis of the 750 soil profiles and the current SiBCS structure showed the necessity of addition of 45 new subgroups to the system. These new subgroups will be distributed as follows: 13 in the order of the *Argissolos* (Ultisols); 3 in the order of the *Cambissolos* (Inceptisols); 2 in the order of the *Chernossolos* (Molissols); 3 in the order of the *Espodosolos* (Spodosols); 2 in the order of the *Gleissolos* (Aqualfs); 7 in the order of the *Latossolos* (Oxisols); 3 in the order of the *Luvissolos* (Alfisol); 3 in the order of the *Neossolos* (Entisols); 1 in the order of the *Organossolos* (Histosols); 2 in the order of the *Planossolos* (Alfisol); 4 in the order of the *Plintossolos* (Plinthudults); and 2 in the order of the *Vertissolos* (Vertisols).

**Keywords:** Taxonomy of soils; Coastal Tablelands; Brazilian soils.

**Financial support:** Project GeoTab number 05.14.05.002.00.00 (Embrapa).

**(8673 - 2925) Soils and soil organic carbon stocks in the Restinga de Cabedelo National Forest, in Cabedelo and João Pessoa Municipalities, Paraíba State, Brazil**

Aline Pacobahyba de Oliveira<sup>1</sup>; Maurício Rizzato Coelho<sup>1</sup>; Alexandre Fonseca D' Andrea<sup>2</sup>; Orione Álvares da Silva<sup>3</sup>; Gustavo de Mattos Vasques<sup>1</sup>

Embrapa<sup>1</sup>; IFPB - Campus João Pessoa<sup>2</sup>; ICMBio<sup>3</sup>

National Forests are conservation units of the nature that objective the sustainable multiple use of forest resources and the scientific research. This work aims to provide soil information for part of the Restinga de Cabedelo National Forest (Flona Cabedelo), specifically on taxonomic soil classes and soil organic carbon stocks (CS). The Flona Cabedelo is located in the municipalities of Cabedelo and João Pessoa (PB) and encompasses an area of 114.34 ha. Conventional methods were used to soil survey of the all area under coastal sandy plain vegetation (*restinga* vegetation) and a small area of mangrove. The carbon stock (CS) was to assess only under *restinga* vegetation at 0-20 cm and 0-100 cm depths using kriging. The results showed a close soil-sediment-vegetation relationship in the area: *Neossolos Quartzarênicos* are the unique soil classes under *restinga* vegetation. They occupy about 58 ha (91 % of the area) and are related to the sandy sediments of holocene marine terraces. The rest of the area is strongly influenced by riverine and marine tides, which can cause sulfidic, saline, sodic, gleyzic and lithologic discontinuity features in soils. The presence and intensity of one or more of these features in the soil are related to the current and past hydrological dynamics, which shaped the local relief, causing subtle differences in elevation at short distances, often defining the soil class, drainage regime and vegetation. At the lower elevations under permanently flooded salt marsh, the *Gleissolos Tiomórficos* predominate. As the landscape rises subtly, the soils are progressively less poorly drained, predominantly non-sulfidic, but still salic or solodic, and saline, and still present lithological discontinuities within 100 cm depth. In these areas, halophilic grass vegetation with a low density of individuals occur on *Gleissolos Sálícos* and *Neossolos Flúvicos*. The CS up to 100 cm depth in the *restinga* vegetation area ranged from 4.89 to 43.79 Mg ha<sup>-1</sup> (mean of 23.20 Mg ha<sup>-1</sup>), with approximately 50 % of this stock concentrated in the upper 20 cm. There was no clear relationship between soil classes and EC. Higher CS values for both depths were observed in the eastern part of the study area, possibly due to the stronger edge effect relative to the other parts of the remnant *restinga* vegetation.

**Keywords:** Soil-landscape relationship; coastal sandy plain; mangrove soils, *restinga* vegetation

**Financial support:** Project MEC/SETEC/CNPq, nº 94/2013

**(2229 - 2675) Soils of the Brazilian Quadrilátero Ferrífero, Minas Gerais state, under different native vegetation and parent materials**

Maurício R Coelho<sup>1</sup>; Gustavo M Vasques<sup>1</sup>; Diego Tassinari<sup>1</sup>; Zélio Resende de Souza<sup>2</sup>; Aline P de Oliveira<sup>1</sup>; Fátima M S Moreira<sup>2</sup>  
Embrapa Solos<sup>1</sup>; Universidade Federal de Lavras<sup>2</sup>

The *Quadrilátero Ferrífero* (QF), in the Brazilian state of Minas Gerais, is a region of great environmental diversity with strong potential for mining. Consequently, mining-related studies have been carried out, whereas soil-related studies are less common. This study aims to characterize the soils and evaluate their relation to the relief, geology and native vegetation in three representative sites of the QF region in Minas Gerais state: Córrego do Meio mine, municipality of Sabará; Miguelão mine, municipality of Nova Lima; and Córrego do Feijão mine, municipality of Brumadinho. The 28 soil profiles are allocated in five toposequences, encompassing all local physiographic variations. In most toposequences, *Cambissolos Háplícos Distrófcos latossólicas* (Cambisols) were the dominant soils in Sabará, occurring on metasedimentary rocks, hilly relief with concave curvature, and under semi-deciduous forest and savanna vegetation. They are soils with low fertility, usually aluminic, stony at the surface when occurring under savanna, with high silt content, often superior to clay, and have medium (savanna) or clay (forest) texture. *Latossolos Vermelhos Distrófcos cambissólicas* or *húmicos* (Ferralsols) are also present in Sabará on the same parent materials, both under semi-deciduous forest and savanna, and always located at the footslopes on hilly relief. In Brumadinho, *Latossolos Vermelhos* or *Vermelho-Amarelos* (Ferralsols) occur under semi-deciduous forest on granite parent material on gently undulated relief with concave curvature. These are the most evolved non-ferric soils observed in this study, and are located at the upper third of the only toposequence visited in Brumadinho. Below this portion of the slope, *Cambissolos Háplícos* or *Húmicos* (Cambisols) vary in classification and attributes as a function of the local relief ranging from gently undulated with convex curvature to undulated with concave curvature. In Nova Lima, *Plintossolos Pétricos* (Petroplinthic Plinthosols) are the only soils present in the *canga* fields in the visited toposequence, and are originated from the weathering of the ferruginous rocky outcrop. They have more than 70 % in volume of petroplinthite beginning at different depths in their profiles, and their physical and chemical attributes vary much across the landscape. Soil and relief vary at short distances in Nova Lima originating different physiographic, vegetation types and microhabitats for the local fauna and flora.

**Keywords:** Ferruginous rocks; Canga fields; Plinthosols.

**Financial support:** Project CRA – RDP – 00136-10 (FAPEMIG/ FAPESP/ FAPESPA/ VALE S.A.

**(7884 - 452) Soils of the hydrographic bowl of the Uberaba river**

João Chrisostomo Pedroso Neto<sup>1</sup>  
EPAMIG<sup>1</sup>

The catchment area of the Uberaba river includes tropical soils, highly weathered and with great agricultural potential, which makes the Uberaba municipality the largest state producer of corn and soybean. However, much information about the limitations and potentials of these soils remains beyond the reach of farmers. Thus, the work was conducted in the years of 2009 and 2010, with the objectives of geological characterization of the area; detailed survey of soils of the basin and classification of these soils, using the Brazilian Soil Classification System. Fieldwork consisted of the identification and characterization of the areas, as well as the collection of materials for analysis. According to the results obtained, it can be concluded that: