

Soil Taxonomy

Soil classification systems of various sorts have been used for hundreds of years. Many systems were based on one soil characteristic, such as color, elevation, moisture, fertility, or acidity-alkalinity. These systems of classification served a particular purpose for local conditions but were based on opinions that were difficult to reproduce; they therefore had very limited meaning. The Land Capability Classification System was an improvement over the older systems because it included the rating of several soil characteristics by observations and measurements which could be reproduced. The Capability Class system has helped many people recognize the importance of various soil characteristics; however, science and technology have expanded since it was first developed.

A new classification system was begun in 1951, and after several revisions the new system was adopted in 1965. This new system, called Soil Taxonomy, is based on physical, chemical, and mineralogical properties and can be used anywhere in the United States. The taxonomic system recognizes six categories: Order, Suborder, Great Group, Subgroup, Family, and Series. Soil order is the only category that is required in land judging contests. Dominant features of soil orders are described below (percent base saturation will be given in a contest), followed by a map of the soil orders in Florida.

Alfisols. Well-developed soils with a relatively fine-textured subsoil horizon that has a percent base saturation of 35 percent or more.

Aridisols. Dry soils that occur in arid or semi-arid regions.

Entisols. Soils with little or no horizon development.

Histosols. Soils composed of relatively thick (usually 16 inches or more) organic materials (mucks and peats).

Inceptisols. Soils of humid regions with profile development sufficient to exclude them from the Entisols, but insufficient to include them in Spodosols, Ultisols, or other well-developed soils. Soils that appear to be like Mollisols but have less than 50 percent base saturation may also be Inceptisols.

Mollisols. Soils with thick (usually 10 inches or more), dark surfaces that have a base saturation of 50 percent or more in the surface soil.

Oxisols. Highly weathered soils of the tropics.

Spodosols. Soils with a spodic horizon (a dark-colored subhorizon with a mixture of organic matter and aluminum [Al], with or without iron [Fe]).

Ultisols. Well-developed soils with a relatively fine-textured subsoil horizon that has less than 35 percent base saturation.

Vertisols. Soils with more than 30 percent clay which appreciably expand upon wetting and contract upon drying.