

Understanding Paulding County Soils

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So, you have lived in Paulding County for many years or maybe you have just moved into the area. Regardless of how long you have called Paulding County home, do you know about the soils that make up our county and the properties that come along with those soils such as drainage capability or the potential for slippage? In this article, it is my hope to give a brief overview on the land that makes up Paulding County so that you can be informed when utilizing the land for agricultural, building, or recreational purposes.

Let's first get a general understanding of Paulding County. You certainly don't need me to tell you how abnormal our climate can be, how much clay is in our soils, nor how flat Paulding County is. The soil survey gets it spot on when it says that Paulding County is "level to gently sloping" with not too much in the way of elevation change taking place in the county. Our county has several small streams and two rivers which crisscross the area and it has wetness which is a major limitation which has an impact on how the soils are used. According to the USDA Soil Survey, precipitation received in the winter allows for a good accumulation of soil moisture by the time spring rolls around and as you can imagine our soils are primarily used for row crop production and livestock.

Paulding County is noted for its broad area of flat slopes formed by the various glacial lakes that once inhabited the area. As far as the soils found in Paulding County, we have Paulding, Roselms, Fulton, Latty, and Toledo soils which formed due to the clayey sediment left behind by the glacial lakes found primarily in the central and eastern sides of the county. For those in the western half of the county, Hoytville, Nappanee, and St. Clair soils make up the soil profile where action by the lake flattened out the slope and modified the till, which is material and sediment picked up by the action of glaciers, according to the Soil Survey.

Before we get too much further, let's get an understanding of where you can easily find information on soils. The USDA has a tool called the Soil Survey that is available in print at our office or via the web at websoilsurvey.nrcs.usda.gov. Most are likely apt to use to web version now which allows you to enter your location into the map with soil information populated tailored to your location with soil types laid out on a nice map. Should you ever need assistance with this tool, be sure to stop in at the Paulding SWCD office and we will happily assist! The names given above described soil series, which are a group of soil types that developed from similar parent materials (rocks, minerals, organic matter) under comparable climatic and vegetation conditions.

One natural resource of many that are important to Paulding County would have to be our soils when thinking about the crops and livestock raised on this natural resource. The clay which makes up our soils was quite valuable to the early farmers in the area. According to the Soil Survey, clay was used in tile manufacturing when it came to drainage purposes but also as brick in building construction. Plastic tile and alternative building materials have since made the clay pits and kiln ovens a faded memory.

A question that seems to come up when development is being planned or when it comes to agricultural production is the limitations that come with the soil type. If there is one limitation that is to be highlighted given our clay soils, it would have to be for the potential for slippage. Not sure what that is? Soil slippage is essentially shallow landslide that involves loose material laying above unweathered bedrock. Put another way, it is a downslope movement of weathered material (such as soil), due to stressors that have accumulated beyond the ability of the material to resist collapsing, according to the US Forest Service.

Retired USDA Soil Scientist Frank Gibbs notes this is due to the high expansion clays found in Paulding County, especially near the Paulding-Putnam county line which he says form “Slickenslides” on the “bowl shaped” faces in the cracks of the soil. Before we continue, it helps to define some additional terms. A soil aggregate consists of many fine soil particles held together in a cluster while a ped describes an individual soil aggregate. Frank Gibbs notes that the peds in our area are about the sizes of “washtubs” to a “car hood” which crack widely open during dry periods, as many farmers around Paulding County know. As a rain comes, water enters these cracks and “greases” the peds, thus creating the “slickenslide” conditions according to Gibbs. He further notes these high expansion clays as one factor behind higher than normal road maintenance costs.

While this is a lot of information to take in all at once, hopefully it gives you a better idea of what makes up the ground beneath your feet. As always, if you have any questions contact the Paulding Soil & Water Conservation District.