

FORAGE

Phone app provides soils data in the field

by Chad Ellis / crellis@noble.org



The Natural

Resources Conservation Service (NRCS) launched the Web Soil Survey website (websoilsurvey.nrcs.usda.gov) in 2005. The site allows

online users to access soil survey information for a particular piece of land instead of having to refer to the traditional county-level soil survey books. You can read more about this website in a 2011 *Ag News and Views* article written by Dr. Corey Moffet, entitled *USDA-NRCS Has a Very Useful Tool in Web Soil Survey* (www.noble.org/ag/pasture/soil-survey).

The disadvantage of the WSS is that user access is limited to use on a personal computer. Due to this limitation, NRCS and the University of California-Davis Soil Resource Lab recently developed an app for iPhone and Android smartphones called "SoilWeb." (Figure 1.)

One unique feature of the SoilWeb app is that it retrieves graphical summaries of soil types associated with the user's geographic location through smartphone GPS capabilities. By following instructions on the app, farmers and ranchers can quickly obtain information about soil types and properties to help make manage-

ment decisions while still in the field (Figure 2). Each summary shows the soil name and horizon, or layer. By clicking on the soil horizon, the app will load the Official Series Description (OSD), a narrative of commonly used soil properties such as horizon depths, colors, texture and rock fragments. Clicking on the soil name (e.g., 'Pollasky' as seen in Figure 2) provides the user with a more detailed description, including physical and chemical properties, definitions, and links to other databases (plants, ecological information system, etc.).

As an example, consider a producer who is contemplating bermudagrass establishment in a particular pasture. Key factors for successfully establishing bermudagrass are soil type and soil health. The producer can instantly receive soil type and physical property information about pasture using the SoilWeb app and determine if the soil in the pasture is suitable for bermudagrass establishment. The type of soil determines which nutrients are needed and how much water should be applied or how much rainfall is required for a defined level of production. The SoilWeb only provides information about soil physical properties – not the current fertility status. The SoilWeb app provides a lot of useful information, but it does

Figure 1



not replace soil testing. Soil testing is still needed to determine the level of nutrients available for the current growing season.

The SoilWeb app is an extremely useful tool for smartphone-using farmers, ranchers or others interested ▶

in land stewardship. With its embedded GPS system, this app provides instantaneous soil information from your given location, which is very convenient. Perhaps the best thing

about the SoilWeb app is it can be downloaded for free from the Apple App Store for the iPhone or from play.google.com for the Android OS. ■

Figure 2

