Soil Testing for Pastures and Fields in Central Florida

J.H. Bosques[1]

The most important part of obtaining fertilizer recommendations is collecting a representative soil sample to send to the lab. Soil test results and fertilizer recommendations are based solely on a few ounces of soil submitted to the lab for analysis, which are assumed to represent several million pounds of soil in the field. If this sample does not reflect actual soil conditions, the results can be misleading and result in costly over- or underfertilization.

When is the best time to take a soil sample?

With fall sampling, lab results and nutrient recommendations may be returned more quickly because fewer samples are submitted to the lab at this time. Fall sampling will also allow you to apply the fertilizer when prices are generally lower. Regardless of the time of the year, it is important to remember to sample your soil at the same time each year. A field should always be resampled at the same time of the year so you can make historical comparisons.

Fields should be sampled every two years. If you apply horse manure or composted stall waste and/or other manures to your fields, you should sample annually, because manures rapidly raise soil phosphorus, potassium and zinc levels.

What tools should I use to take my soil sample?

A soil probe or garden trowel is needed to collect various vertical samples (cores) of your soil which will represent a given field or pasture. You will also need a clean, dry plastic bucket in which to collect and mix the sample cores. Be sure not to use galvanized or rubber buckets because they can contaminate your sample with zinc. Soil sampling kits can be found at all the UF/IFAS Extension offices throughout the state. These kits consist of a cardboard shipping box, submitting forms and paper soil bag (Figure 1).

How do I collect a good soil sample?

Figure 1. UF/IFAS Extension soil sampling kit.

An individual sample should represent no more than 10 acres unless your soils, past management, and cropping history are uniform. Individually sample areas that have received different management or vary in soil type, have suffered erosion or that are different in topography (Figure 2).

Soil sampling areas that are visually different can help you troubleshoot these areas and get information on the soil composition variations that result in this unevenness (Figure 2). Collect at least 20 soil cores for small areas and up to 30 cores for larger fields. Randomly take the soil cores throughout the sampling area and place them in the bucket (Figure 3).

Do not sample:

- dung piles
- old fencerows or under trees
- areas used for manure or hay storage
- livestock feeding areas where lime was previ-

1. J.H. Bosques, Small Farms Agent, UF/IFAS Extension Marion County, Ocala, FL., Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL, 32611.

ously stockpiled

How deep should I go when collecting a soil sample?

Soil sample depth is extremely important when it comes to obtaining accurate data from your fields or pastures. Since our forages on average will utilize the first four (4) to six (6) inches of depth in our soil, we should be taking a core sample that is comprised of equal amounts of soil from zero (0) to six (6) inches in depth.

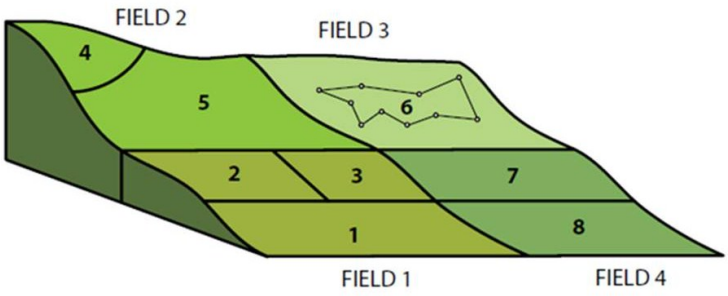

Figure 2. Areas of the farm that are topographically different or have been subject to different farming practices should be sampled differently. Divide your acreage and identify each soil sample appropriately (Source: University of Kentucky Extension publication AGR-200).

Before submitting the sample, please explain to me how to prepare my soil samples for shipping.

After collecting our sample, it should be placed in a bucket, crushed and mixed thoroughly. Plant material such as leaves and roots should be removed as well as stones. Collect a cup to 1.5 cups of sub sample from the cores that have been crushed and mixed in the bucket. Let it aerate and dry thoroughly before placing it in the paper bag.

Read and fill the soil sample submission form thoroughly. For Bahiagrass, use the form titled Nutrient Testing for Bahia Pastures. For other improved grasses, cool season annual grasses or summer forages, use the form titled Producer Soil Test Information Sheet. Before filling the soil sample bag with your sample, write your name, address, crop code, and sample identification. After this, fill your bag with soil to the dotted line to make sure that the sample amount is sufficient for the laboratory technicians to

The information on the bag should match the information written on the forms named above. To find the desired tests and crop codes, please turn to the second page of your soil test sheets. Specific crop codes can also be found in the form SL-35 (Producer Soil Test Information Sheet). For additional information on payment and test results, please see the table title Important Information for Sample Collection and Submission located on the first page of the forms above.

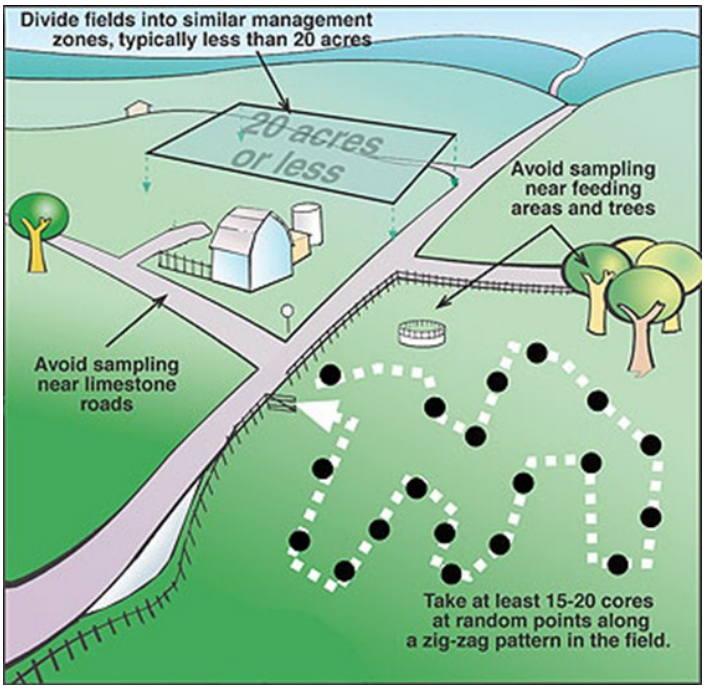

Figure 3. For obtaining a representative soil sample, you should walk in a zigzag pattern collecting at least 20 cores (Sources University of Missouri Extension publication G 9215).

When your soil sample is dry and ready to be sent out, close the soil sample bag and place it on the cardboard box given to you by the staff at your local UF/IFAS Extension office. Along with the sample, place your submittal sheet(s) and a check or money order in an envelope inside the box and seal it with shipping tape.

Your soil analysis report will be ready within five to 10 business days after the sample has arrived at the Extension Soil Testing Laboratory. The reports will be emailed or delivered through the regular mail to the address you have written in the information

sheet. A copy of your report will also be sent to your local UF/IFAS Extension office.

Contact your UF/IFAS Extension agent!

If you have trouble interpreting the soil sample results, do not hesitate to call your local UF/IFAS

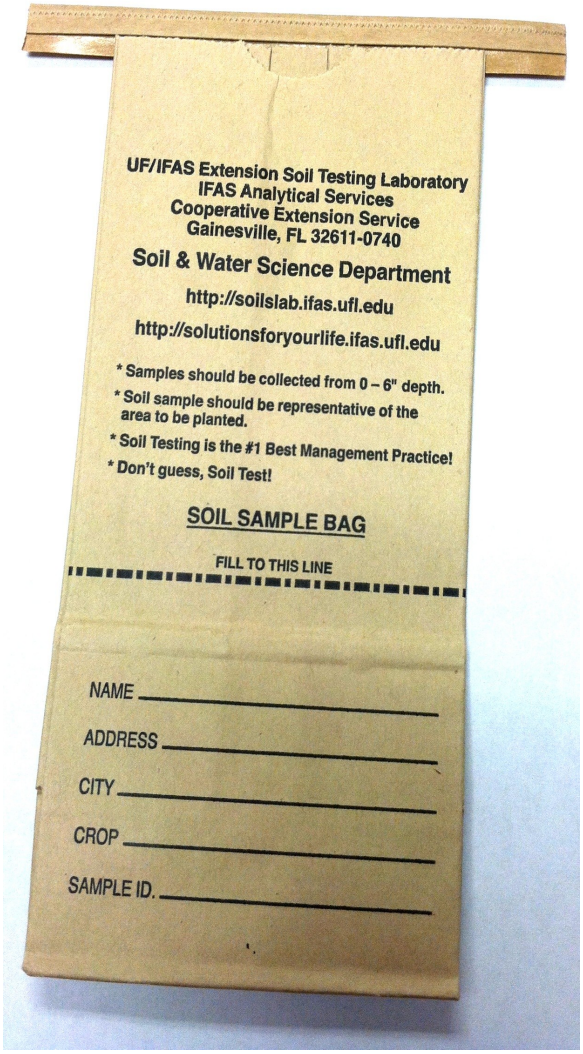

Figure 4. Before filling the sample bag with soil, write the requested information matching it to the information sheet.

Extension agent. He/she will guide you through the sheet and provide you with an answer or further information that you might need in order to amend the soil in your pasture or field. Please visit the UF/IFAS website www.solutionsforyourlife.ufl.edu for more information.

Bibliography

J. Lory and S. Cromley. 2005. Soil Sampling Pastures. University of Missouri Publication G 9215.

G.J. Schwab and M.W. Piersawl. 2010. Soil Sampling and Nutrient Management in Horse Pastures. University of Kentucky Publication AGR-200.