

Livestock Newsletter

Ashe County Center

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Interpreting Soil Reports

What do the numbers mean on a soil report for pastures and hay fields? Find your soil report and let's go over it together, keeping it basic for now. On the first sample ID make sure you remember which field it belongs to and follow the row out to lime. Lime recommendations will be given to you in tons per acre. Note, you do not want to put more than 2 tons per acre, even if the report calls for that. It is best to split between two separate applications because the soil cannot utilize that amount of lime during one application period.

Let's continue on across the row and the letter N (nitrogen) probably will have 120-200 units listed below it. This is not pounds per acre. This is a common recommendation because nitrogen moves so often it is difficult to measure and it is known that this is a general need. This number also needs to be split and for most recommendations start with 70 units per acre. To achieve that measurement, choose your fertilizer and note the amount of nitrogen in it. To keep it simple let's choose a fertilizer grade 19-19-19 (N-P₂O₅-K₂O) for this example.



Take the 70 units of nitrogen needed for the pasture and divide it by the 19 representing the nitrogen in the fertilizer, then multiply by 100. That will give us 368 pounds per acre commercial fertilizer. Don't stop there! We need to keep going to see what our phosphorus and potash require to determine the best results.

For this example, our soil report came back with a phosphorus (P₂O₅) needs at 70 units and potash (K₂O) 80 units. Take the 70 units of phosphorus needed and divide it with the 19 in the fertilizer then multiply by 100. Do the same with the 80 units of potash.

Phosphorus will come back as 368 pounds per acre and potash 421 pounds per acre. If using 19-19-19, the results show that you will need to use 368 pounds per acre to meet the requirement of nitrogen and phosphorus and 421 pounds per acre to attend the requirement of potash. To make this more relatable and easier to apply without over applying nitrogen, apply between 350-400 pounds per acre of 19-19-19 for the season. The following season re-sample your fields to adjust what fertilizer you may need.

Cation Exchange Capacity

On your soil report you will find the abbreviation CEC and a corresponding number underneath. CEC is an abbreviation for Cation Exchange Capacity, which influences the soil's ability to hold onto essential nutrients and provides a buffer against soil acidification.

High CEC such as 10 meq/100cm³ or more is a great number to see here because your soil will be able to hold more nutrients.

A low CEC that is less than 5 meq/100cm³ is not ideal for soils because there will be more leaching which requires more soil sampling and more fertilization. More fertilization due to leaching of nutrients requires more money out of your operating budget to update.



Sincerely,

Micah Orfield
Extension Agent, Agriculture

NC COOPERATIVE EXTENSION



North Carolina Cooperative Extension, Ashe County Center

Soil Health Workshop

ONLINE VIRTUAL CLASS!

Tuesday, March 1, 2022
12:00 p.m.

Join Speaker
Dr. Luke Gatiboni, Extension Soil Fertility Specialist
to Learn About:

- ⇒ *Accurately Taking Soil Samples*
- ⇒ *Reading Soil Reports*
- ⇒ *Amending Soil According to Reports*
- ⇒ *Choosing the Best Fertilizer*

To register for this online virtual class please visit ashe.ces.ncsu.edu or call NC Cooperative Extension, Ashe County Center at (336) 846-5850 for more information.



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