

How to: Soil Sampling



Soil Sampling

Why bother?

- Cost!!!
- Do you *really* know what your nutrients are? And pH
- Is it time renovate? Or start over?
- Is the forage/hay getting what it needs?
- What direction is my forage going?
 - too much N = grass
 - too much clover = bloat (over 50%)
 - overall meeting needs of animals

Soil sampling

Define the sampling area

- Uniform soil and management
- Look for changes in topography
- Check soil survey
- Grid maybe needed if the sampling unit has too much variation
- Rule of Thumb – sampling unit not to exceed 20 acres – smaller is acceptable



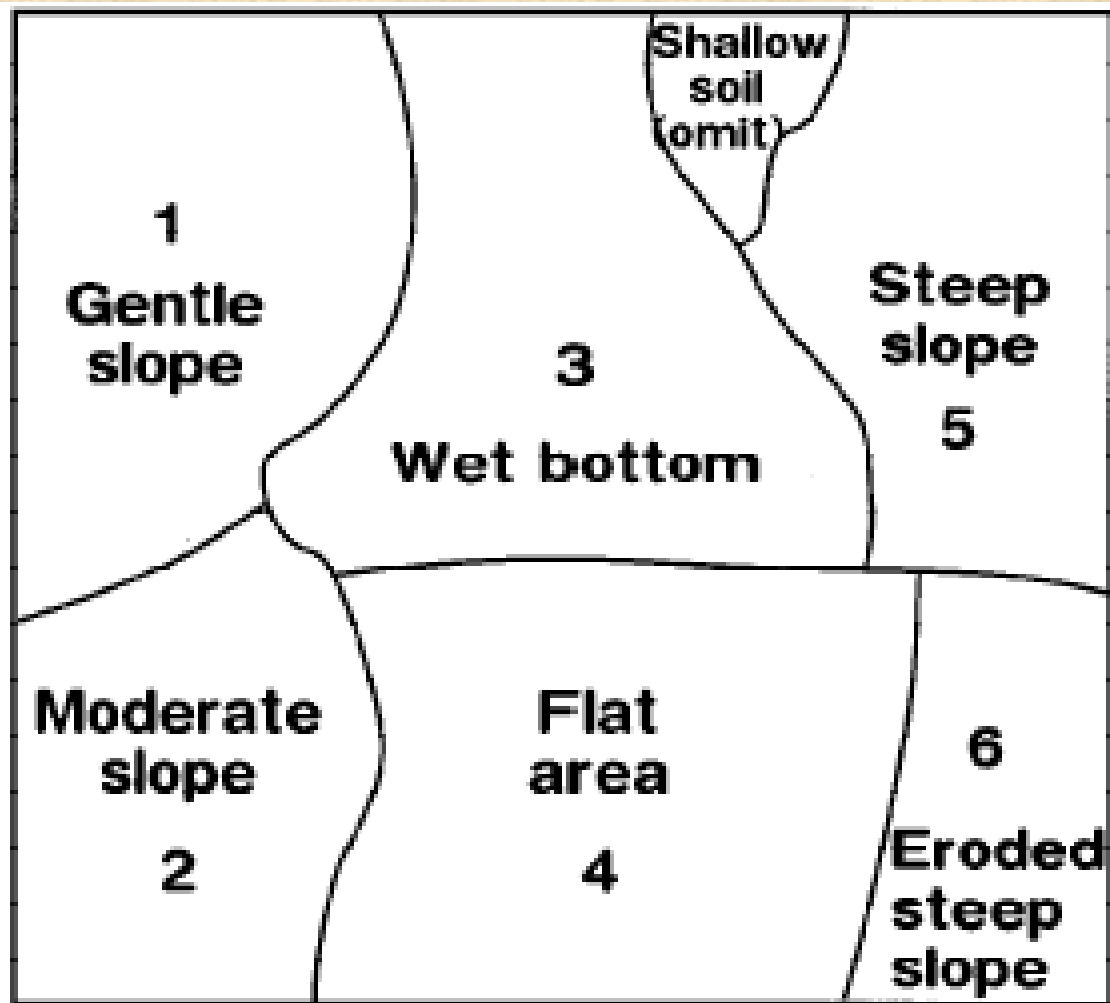


Fig. 2. A field with areas identified as sampling units.

Soil Test Phosphorus, lbs./A

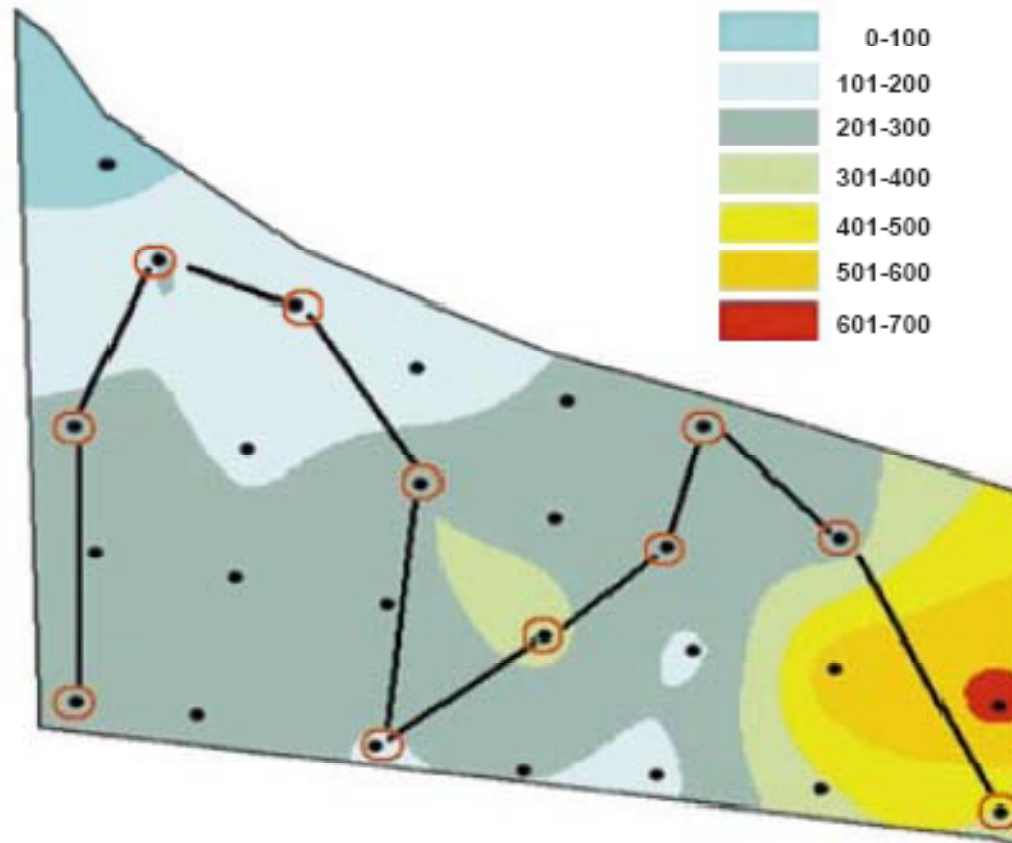


Figure 1. Soil phosphorus map for a 6-acre pasture developed from 26 separate samples taken at grid points (●). Black line indicates zigzag pattern where grid points encircled in red were composited into one sample to represent the entire field.

Soil Sampling

Sampling procedures

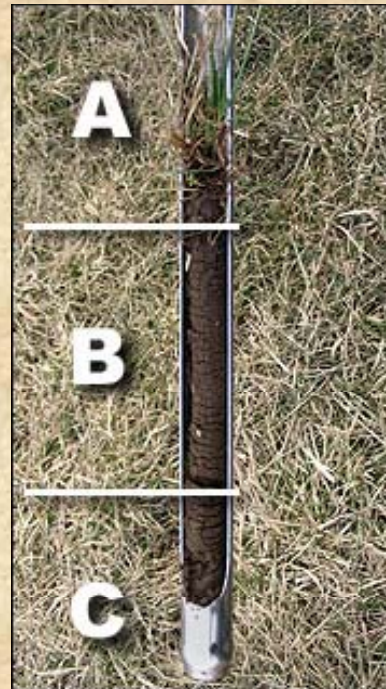
- Use proper equipment – PLASTIC bucket, soil probe, plastic or paper bags, spade or shovel can be used (be careful if testing for iron)



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Sampling procedures

- Pattern – random zig-zag cover the field/unit, grid pattern – avoid bias!
- Depth – 6 inches (8 maximum)



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Sampling procedures

- Number of samples – depends on size of sampling unit - approx. 20 sub-samples for 20 acre unit.,
 - mix sub-sample thoroughly into one sample.
 - need about 1-2 cups of soil to submit to lab

Table 1. Number of subsamples recommended for a representative composite sample based on field size.

Field size (acres)	Number of subsamples
fewer than 5	15
5 to 10	18
10 to 25	20
25 to 50	25
more than 50	30

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Other issues

- Observe animal activities – watering sites, loafing areas – manure plies and urine spots
- Management of livestock – intensive grazing – smaller pastures – sample each pasture individually.
- How well you know the field – some variables are not obvious
- Sampling frequency – once “dialed in” about every two years.
- Timing – be consistent

