

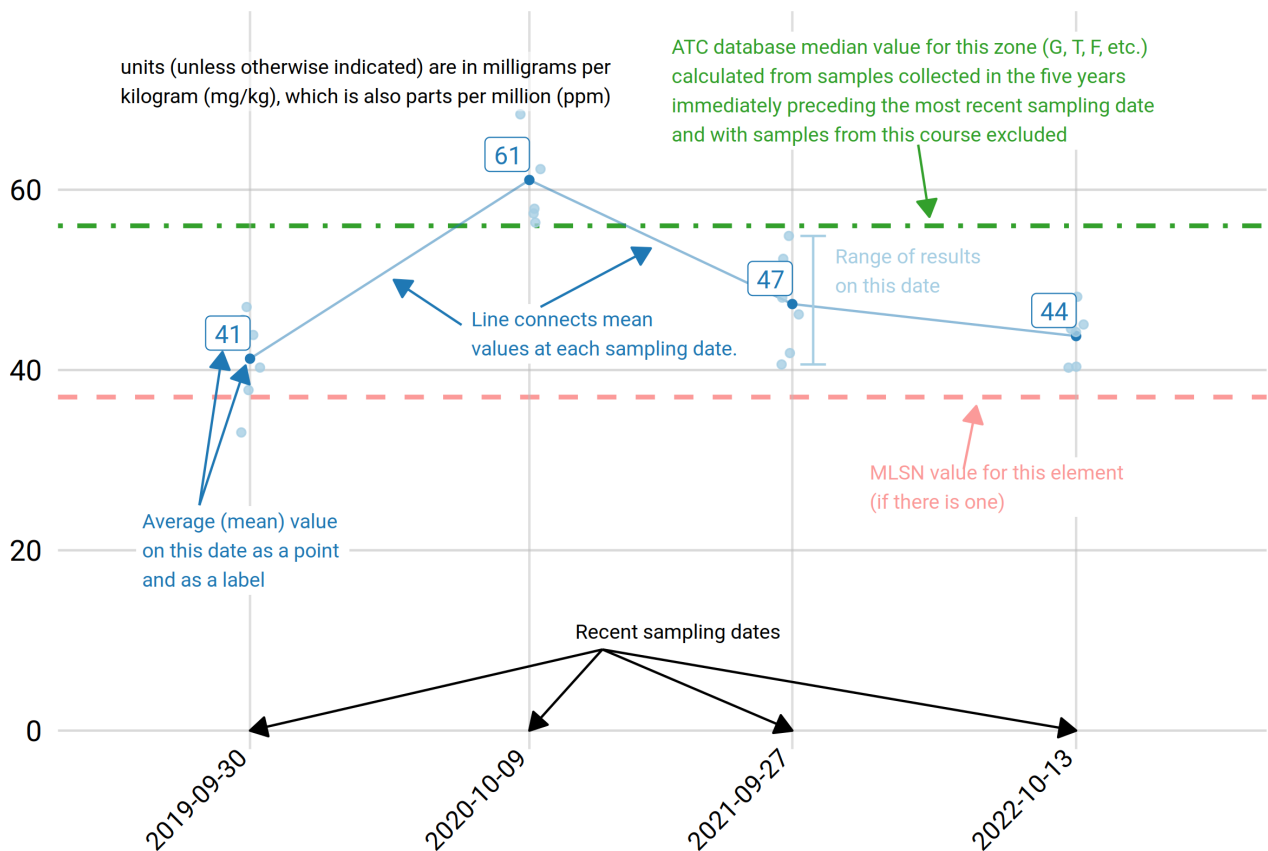


Hello,

I've updated the code I use to generate the summary charts that accompany the soil test reports. The image here has annotations that show some of the key things to look at on the chart.

Plot legend: example for Potassium (K)

mg/kg



- **Test results** shown for the most recent sampling dates as individual points on the chart. You can see the range of results for each date.
- The **average value** for each of the most recent sampling dates. This average is calculated as the *mean* for composite samples and as the *geometric mean* for single core samples.
- The **trend line** connecting the average values from each sampling date shows if the soil test parameter is going up or down.
- The **ATC database average** for the most recent five years of data, for that same zone, is shown as a green dot-dash line. With a glance at this, you can see how your results compare to other locations.
- The **MLSN value** is shown as a red dashed line for the elements that have an MLSN minimum.

I find all of these useful. If I had to pick one, I'd say it is the trend line between the averages. If the nutrient is going up, then that means more is being added to the rootzone than is being lost. And if the nutrient is going down, then the opposite is true. The MLSN line represents a value that one doesn't want to drop below, except in special cases. The spread of results is something that one can study to decide if spot treatments should be made across that zone. And the ATC database average makes it easy to check, at a glance, if your results are low, normal, or high compared to other locations.

Doug Soldat and I discussed soil testing mistakes

Doug Soldat joined me on the ATC Doublecut to discuss the most common soil mistakes and how to avoid them.

We discussed [this blog post](#) on that topic. You can [watch on YouTube](#) or [listen to the podcast](#).

Among other potential mistakes, we discussed:

- sampling depth
- extraction methods
- laboratory consistency
- interpretation of results
- season of testing

We didn't talk much about seasonal consistency in testing. I forgot to bring that up, but I can note it here. My advice is to be consistent in season of testing, and to try to collect samples within the same two week period each year.

If you would take a soil sample in autumn, and then again in spring, some of the test results may be different. Potassium (K) would probably go up. Sodium (Na) might go down. Soil pH could change. I recommend trying to collect samples within the same two week period each year. By collecting samples at essentially the same date each year, the seasonal changes are eliminated—they can be assumed to balance out—and the changes in test results can be attributed to the products applied and the maintenance work done and the weather.

Try to avoid this

For turf growing in sand rootzones, I recommend soil testing once per year. For turf growing in soil (some silt and clay), the soil chemical properties don't change so rapidly and a test every two or three years should be fine, even for professionally managed turf.

I [wrote on the ATC blog](#) about a sand rootzone that saw soil pH go from a "no-problem" level of 6 to an "I wouldn't want my tees at this pH" level of 4.8. This happened over a 37 month period between soil tests. With annual testing, it's unlikely that the soil pH would get that low, because a previous test would have caught that downward trend and a lime recommendation could have been made sooner.

Henry Bechelet on soil testing

I enjoyed listening to Henry Bechelet and Glenn Kirby in their "On the horizon" podcast discussing a common sense approach to soil testing and soil test interpretation. You can listen to their discussion and Henry's advice [beginning about 43 minutes in to this episode](#).

More resources

- ATC's [soil test page](#)

- [OM246 project page](#)
- [Demystifying soil analyses](#) from PACE Turf.

If you'd like to see the first edition of this soil testing newsletter, you can [read it here](#).

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