OM246 Sampling Instructions

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This is version 0.3 of the instructions, generated on December 14, 2023. ATC is currently charging USD $33 per sample, so the twelve annual samples I recommend for most golf facilities comes to USD $396 for the total organic material tests. I recommend doing a particle size analysis on all the 0–2 cm samples combined, after the OM is burned off; and on the 2–4 cm samples combined; and on the 4–6 cm. These optional particle size analyses are USD $50 each, or $150 to check all three depths.

Concise instructions: collect five cores from each area to be tested, cut to depth, combine the five 0–2 cm segments to make an OM2 sample, the five 2–4 cm segments to make an OM4 sample, and the five 4–6 cm segments to make an OM6 sample. From putting green height turf, I leave the plants (aboveground stems and leaves) *on* the sample. For an 18 hole golf[1] facility, I recommend testing a total of twelve samples from putting greens, once per year. Those twelve samples come from three greens tested for OM246—that makes nine samples—and three additional greens tested for only OM2.

[1] Contact me to discuss sampling procedures for non-golf facilities, or for details about testing areas other than golf course greens.

Sampling tools

A KEY FEATURE of this testing is that the lab will burn 100% of the material that you send. There's no subsampling out of it at the lab, unless you send too much material.[2] You collect the samples, and the lab will test exactly what you send. Here's what you need:

- A soil sampler or profiler—you can use whatever tool you like—examples in Figures 1 & 2 show my favorite types of samplers
- A cutting board or clipboard
- A knife to cut the samples at defined depths
- A ruler or measuring tape (or mark 2 cm increments on the cutting board)
- Bags to hold the samples
- A pen or marker to label the sample bags in the field
- A bucket with sand, or turf plugs, to repair the sample holes

[2] How much material should you send? The largest crucibles at the lab—I'm referring here to Brookside Labs in Ohio, where all ATC samples are tested—can hold about 250 cm^3 (about 1 cup) of material. I recommend sending at least 30 cm^3 of material for each sample, up to a maximum of about 150 cm^3.

Figure 1: After using many different sampling tools, my favorite is 4 cm diameter stainless steel pipe, slightly sharpened at one end. This type of sampler pulls a clean and compressed core that is easy to cut at exact depth. Samplers with a tapered tip seem to decompact the soil. I have used them for OM246 sampling but prefer straight samplers with no taper at the tip.

Sample collection

TAKE A CORE from the green being sampled.[3] Lay the core (or profile) on the cutting board. Cut it, as shown in Figure 3 at 2 cm below the soil surface, 4 cm below the soil surface, and at 6 cm below the soil surface. The **soil surface** here is the top of the soil and the point where the grass comes out of the ground. I measure the 0 point as the top of the soil, not as the top of the grass.

Place the material from the 0 to 2 cm depth in a bag labeled with the course name, the hole number, and OM2. Place the material from the 2 to 4 cm depth in an OM4 bag. The 4 to 6 cm depth pucks go into an OM6 bag.

Do this five times per green; do more if you like, but keep in mind that a suitable volume of material for testing will be at least 30 cm^3 and won't exceed 150 cm^3.

[3] This video demonstrates a suggested sampling procedure: youtube.com/shorts/d5l5zuLKHjM

Figure 2: This is a 3 cm diameter sampling kit at Hazeltine National GC with mallet for pounding into the soil. Photo by Chris Tritabaugh.

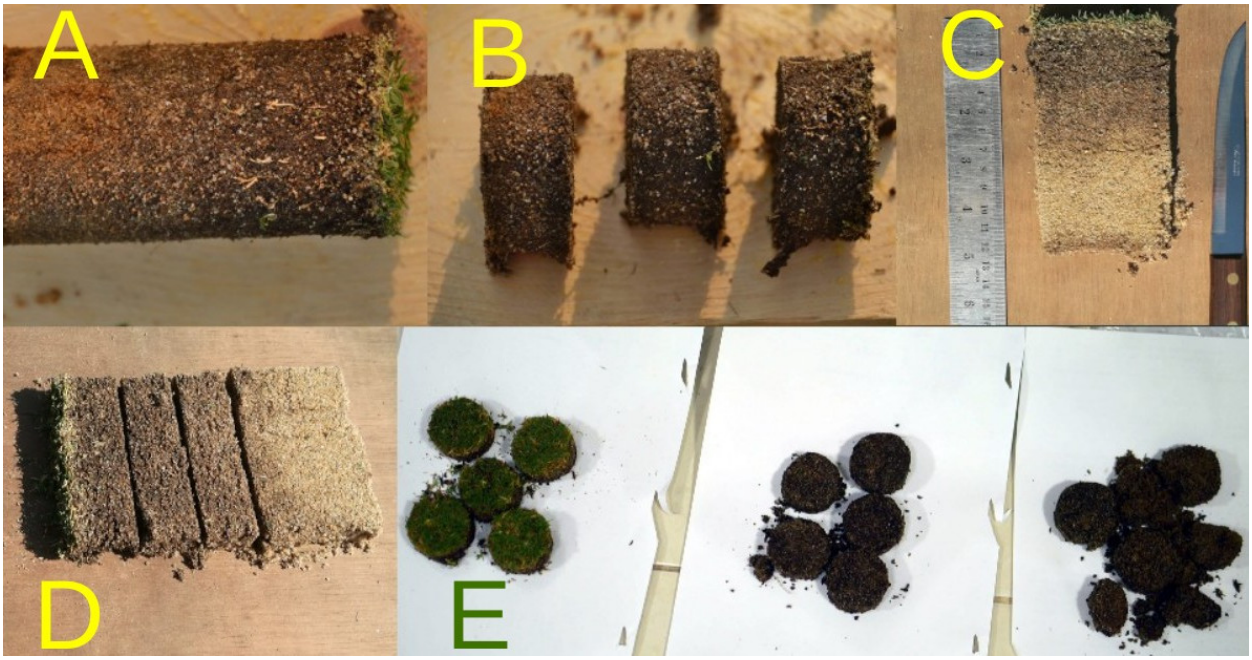

Figure 3: A) a 4 cm diameter core pulled with a stainless steel pipe B) that cylindrical core cut into "pucks" of 0–2 cm, 2–4 cm, and 4–6 cm depths C) a soil profile sample D) the soil profile sample cut to depth E) the five OM2 cores at left, OM4 at center, and OM6 at right air-drying before packing and shipping to the laboratory.

I recommend air drying the samples indoors prior to final packing and shipment to the lab. I do this by placing each sample onto a piece of paper, keeping track of which sample is on which piece of paper. Samples dry in 1 to 3 days, generally. Drying the samples stops microbial activity, so you don't need to worry about decomposition of organic matter during shipping. Drying samples also reduces shipping cost.

Paperwork and shipping

All these samples will go to Brookside Labs.[4] For consistency, please label each bag with course name (or abbreviated name), location and hole number, and depth. For example, I'd label a sample from the 2–4 cm depth from the 14th green at Waverley CC as:

Waverley G14 OM4

Contact me for the sample submission forms, and for soil import permits if you are sending samples from outside the USA.

Test results and the OM246 *report*

The lab usually gets these results back within about five business days. I then prepare and send a report with comments about the results, including informative charts that look at changes over time and at a comparison of the test results to other samples of the same species.[5]

- Example report: asianturfgrass.com/project/om246/example_om246_report.pdf
- OM246 project page: asianturfgrass.com/project/om246/

[4] Brookside Labs
200 White Mountain Dr.
New Bremen, OH 45869
USA
+1 419 977 2766

[5] I've recorded a video explaining what the charts are showing: youtu.be/wUtpJC1YPU

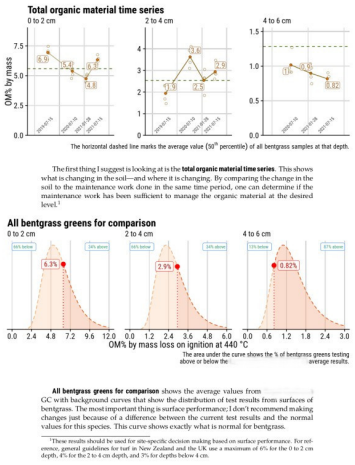

Figure 4: Page 1 of the report shows change over time and a comparison to the expected distribution of OM by depth for other samples of the same species.