

# Total organic material (TOM) and soil organic matter (SOM) and how to manage them

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Asian Turfgrass Center

[www.asianturfgrass.com](http://www.asianturfgrass.com)

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DAD  
IPA  
HOFMANN'S NEST

SILLY  
SAISON  
HOFMANN'S NEST

Voll-Damm  
DORSE  
MALTA  
HOFMANN'S NEST

St. Bernardus  
Tripel  
HOFMANN'S NEST

BELTIRIJSER  
DOCTERIJN  
HOFMANN'S NEST

EASY  
IPA  
HOFMANN'S NEST

STRAFFE  
HENDRIK  
HOFMANN'S NEST

Tripel  
Carmeliet  
HOFMANN'S NEST

STRAFFE  
HENDRIK  
HOFMANN'S NEST

VEDET  
IPA  
HOFMANN'S NEST

HOFMANN'S NEST  
IPA  
HOFMANN'S NEST

INTERLOCIPLE  
Blond  
HOFMANN'S NEST

HOFMANN'S NEST  
IPA  
HOFMANN'S NEST

HOFMANN'S NEST  
IPA  
HOFMANN'S NEST

HOFMANN'S NEST BEER  
HOFMANN'S NEST BEER



# Soil OM management goals

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Measure total organic material  
(OM246)

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0 to 0.8  
inches

0 to 2 cm  
OM2

0.8 to 1.6  
inches

2 to 4 cm  
OM4

1.6 to 2.4  
inches

4 to 6 cm  
OM6



# The definition of soil organic matter

**soil organic matter:** The organic fraction of the soil exclusive of undecayed plant and animal residues. See also humus.

**humus:** the well decomposed, more or less stable part of the organic matter in mineral soils.

# Total organic material

**total organic material:** organic material in a soil sample that has not passed through a sieve. This test is conducted on the sample as it is received at the laboratory, with no removal of living or dead plant material prior to testing.



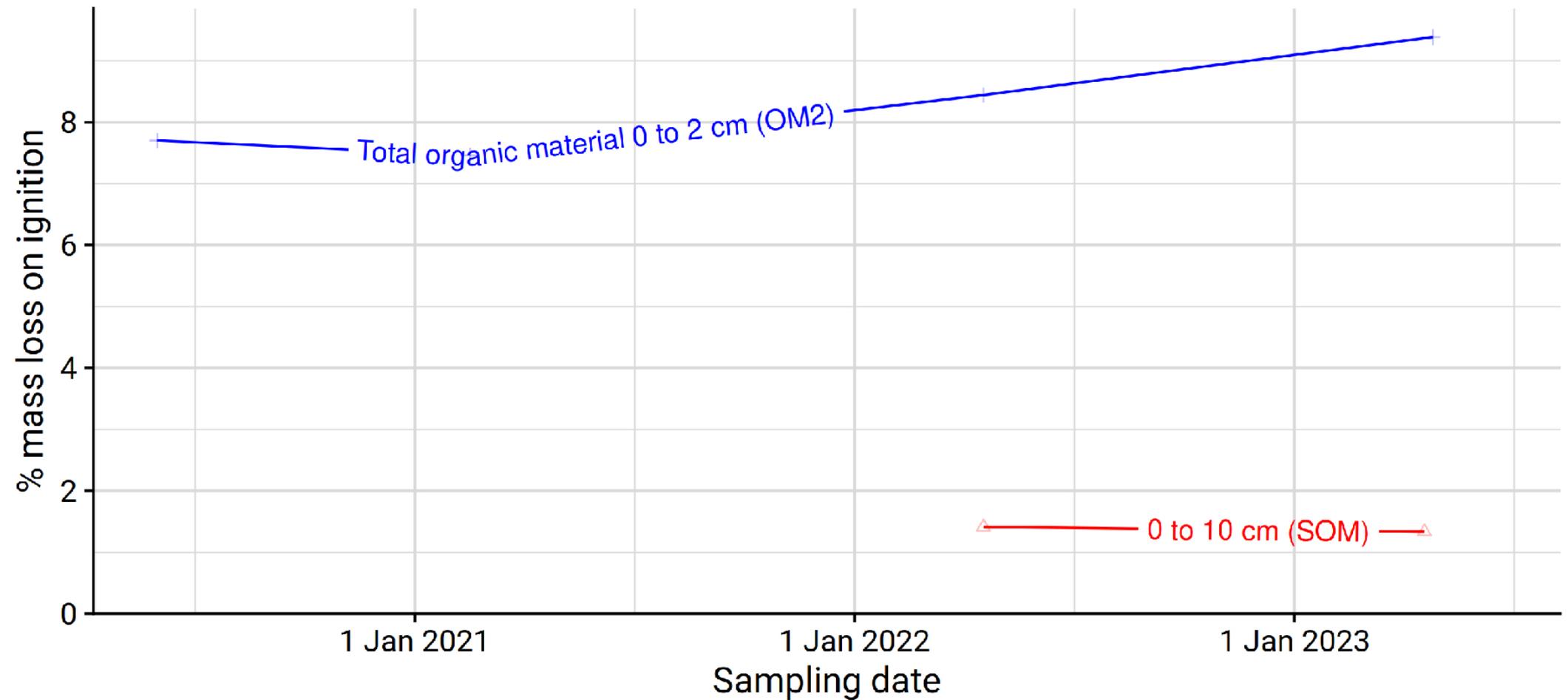






# Poa annua putting greens

samples from Chambers Bay GC

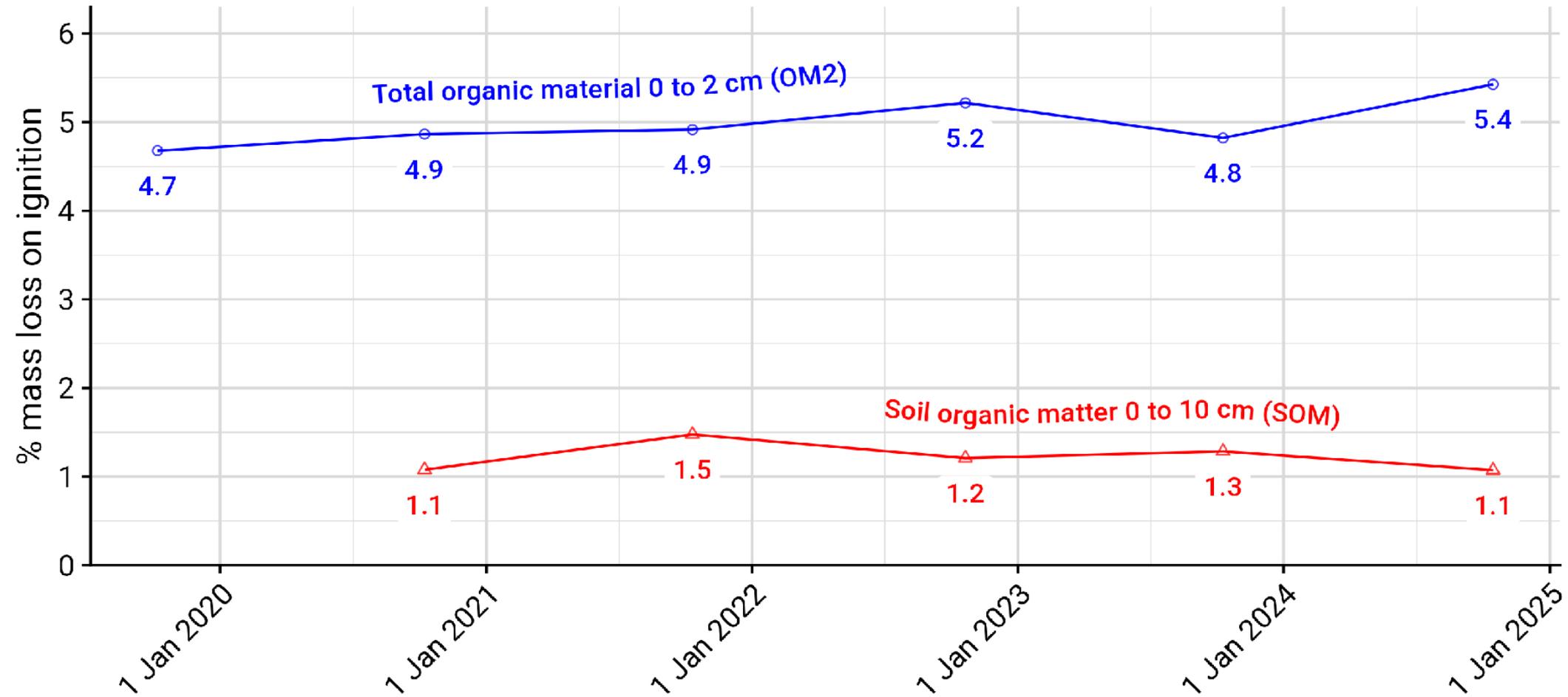


All soil tests conducted at Brookside Labs



# Creeping bentgrass putting greens

samples from Hazeltine National GC

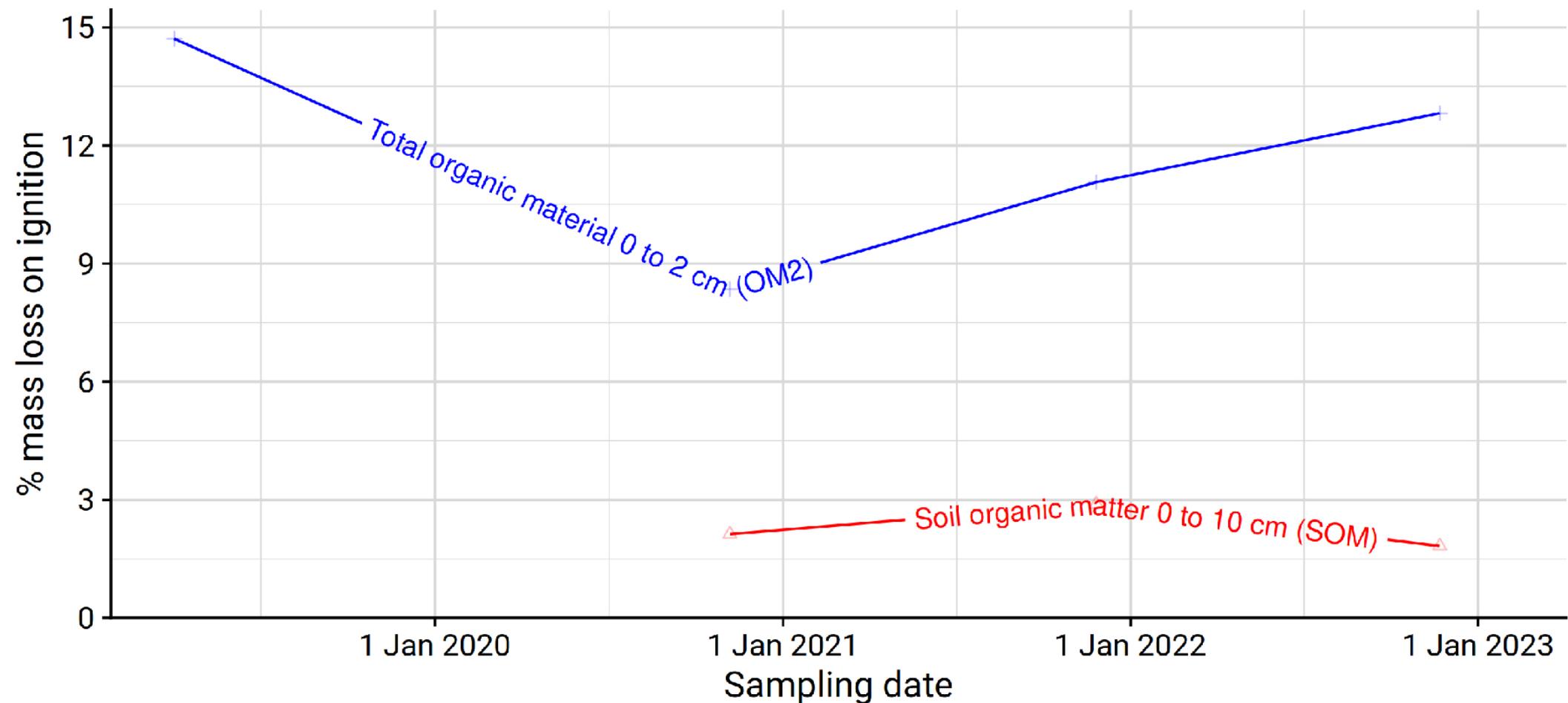


All soil tests conducted at Brookside Labs



# Tifeagle putting greens

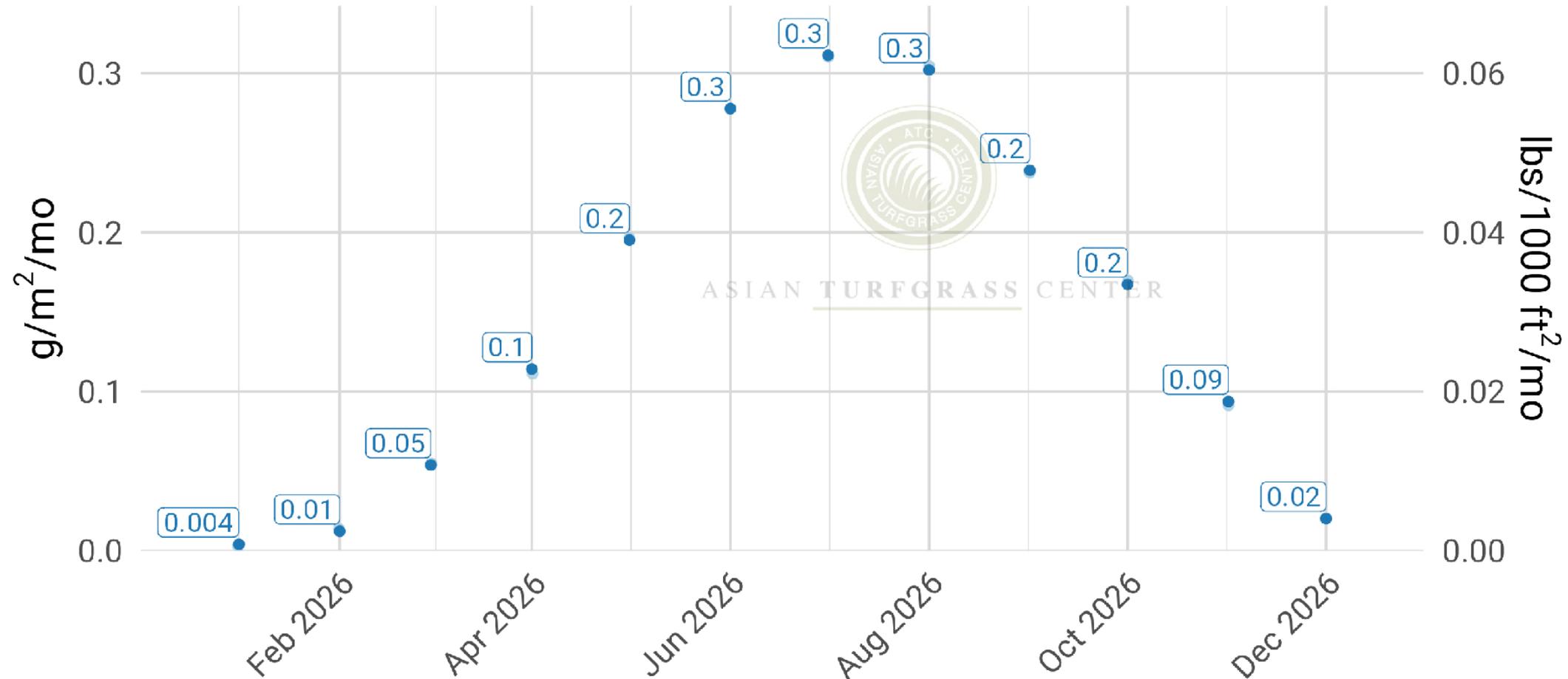
samples from Bangsai CC



All soil tests conducted at Brookside Labs

# Estimated nitrogen (N) mineralization

1.8 g (0.36 lbs) annual total based on site-specific temperatures & a starting OM of 2%.



Calculated using temperatures from Copenhagen, Denmark

**Depth of soil layer (cm)****Starting OM %****Ending OM %****Date range (starting OM% & ending OM%)**

to

**Sand added (mm)**

If you have applied 4 mm of sand to a 2 cm layer of the rootzone with a starting OM of 8% on 2024-02-03 and ending OM of 8% on 2025-02-03, the total organic material accumulation rate is:

**21.62 grams per kg of soil per year**



# At the laboratory



Brookside Laboratories, Ohio, USA







Soil organic matter crucibles



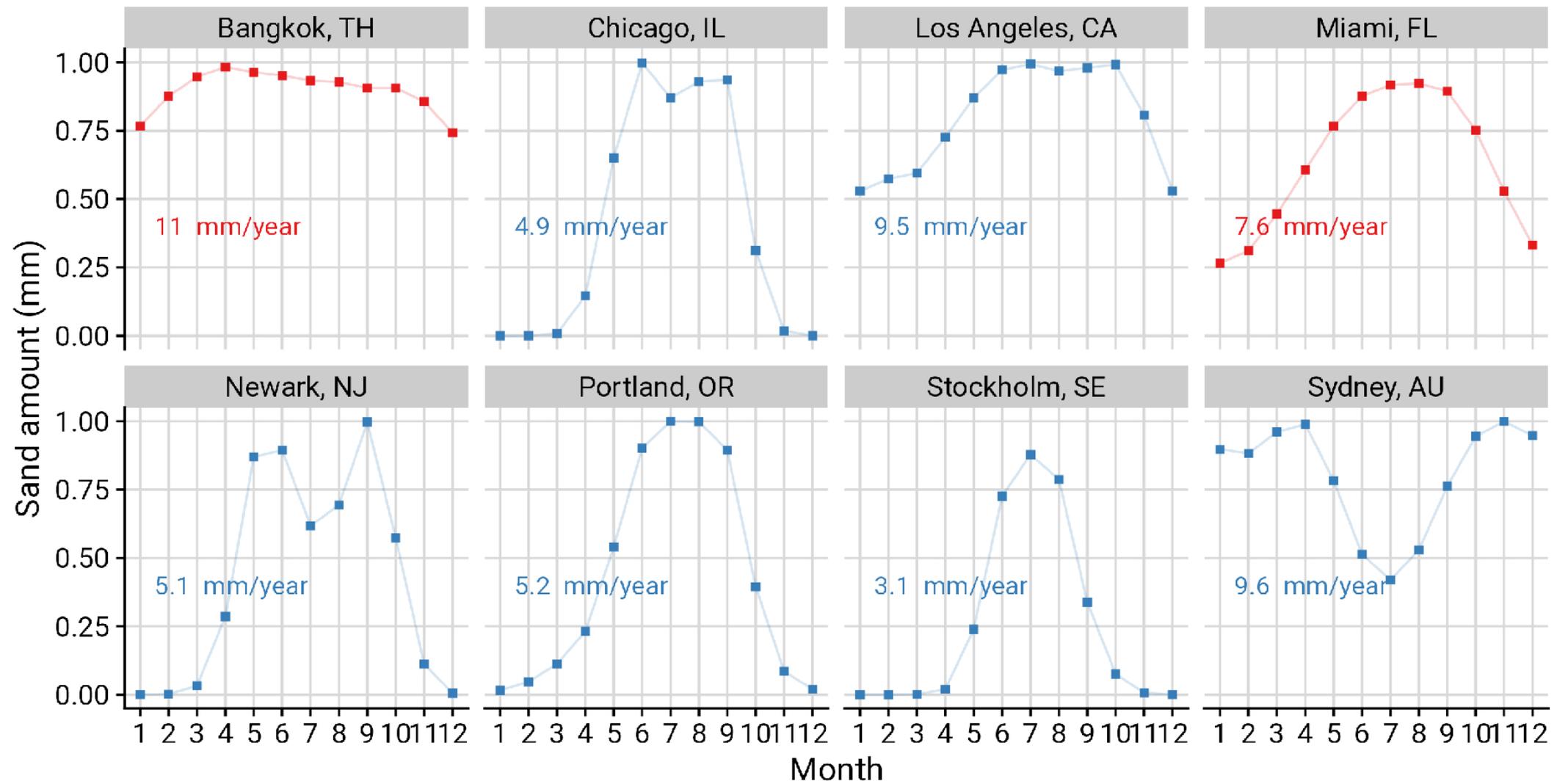
Total organic material (OM246) crucibles

Know the sand application rate

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# Temperature-based growth potential prediction of sand toppers



$$1 \text{ mm} \approx 320 \text{ lbs}/1,000 \text{ ft}^2$$

$$1 \text{ mm} \approx 3.3 \text{ ft}^3/1,000 \text{ ft}^2$$

$$1 \text{ mm} \approx 16 \text{ tons/ha}$$

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