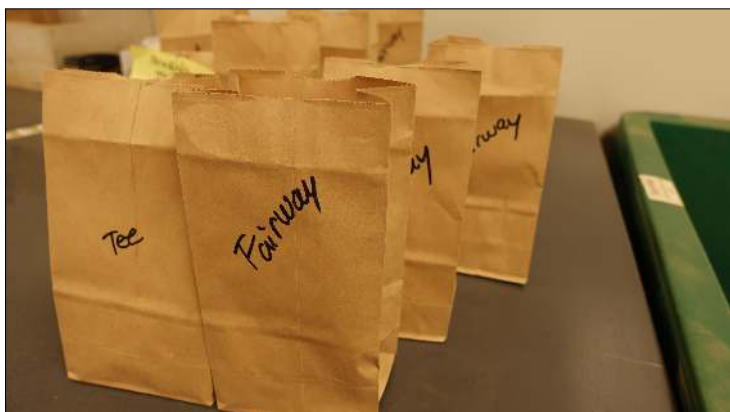
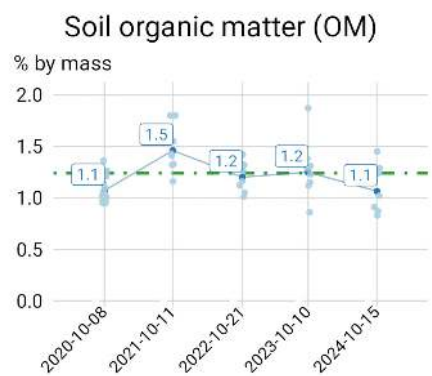
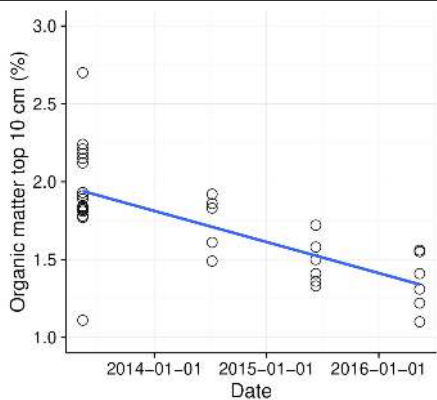


About the OM246 test







2016 Study Review

Objectives

1. To determine the effect of substrate on the growth of the fungus.
2. To determine the effect of temperature on the growth of the fungus.
3. To determine the effect of light on the growth of the fungus.
4. To determine the effect of humidity on the growth of the fungus.
5. To determine the effect of pH on the growth of the fungus.

Method

1. Preparation of substrate
2. Preparation of inoculum
3. Inoculation of substrate
4. Incubation of substrate
5. Harvesting of substrate

Results

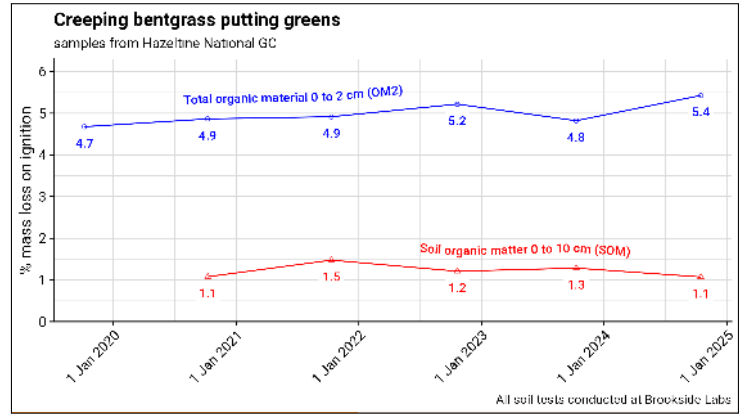
The results of the study are presented in the following tables:

Substrate	Temperature	Light	Humidity	pH
Straw	25°C	12h	90%	7.0
Straw	25°C	12h	90%	8.0
Straw	25°C	12h	90%	9.0
Straw	25°C	12h	90%	10.0
Straw	25°C	12h	90%	11.0
Straw	25°C	12h	90%	12.0
Straw	25°C	12h	90%	13.0
Straw	25°C	12h	90%	14.0
Straw	25°C	12h	90%	15.0
Straw	25°C	12h	90%	16.0
Straw	25°C	12h	90%	17.0
Straw	25°C	12h	90%	18.0
Straw	25°C	12h	90%	19.0
Straw	25°C	12h	90%	20.0

Conclusion

The study has shown that the growth of the fungus is affected by substrate, temperature, light, humidity, and pH. The best conditions for growth are a substrate of straw, a temperature of 25°C, 12h of light, 90% humidity, and a pH of 7.0.





Using OM246 test results



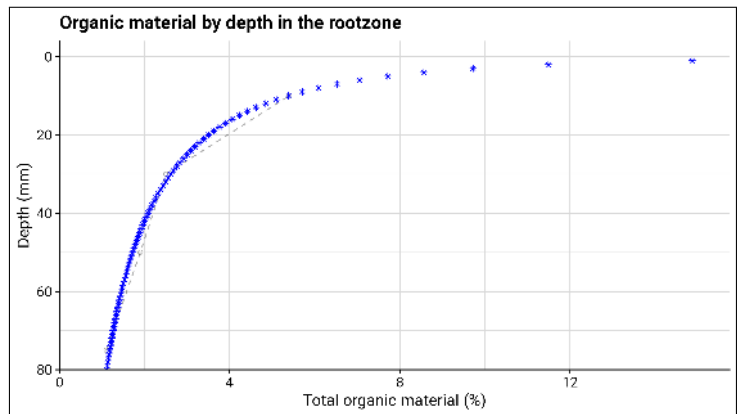
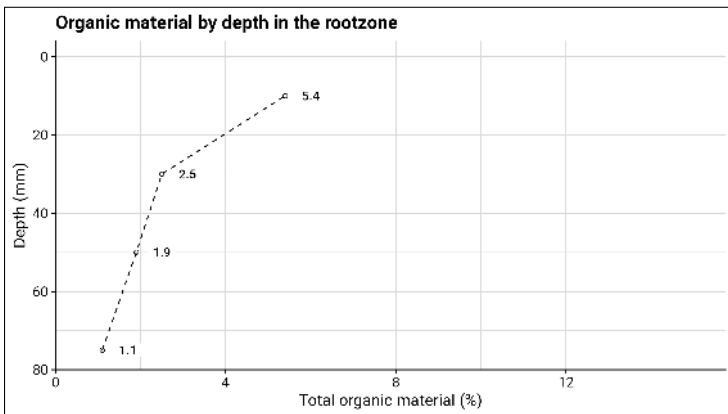


Table 1: Example sampling depth percentage error based on recent Hazeltine National GC OM246 and SOM data.

Puck depth mm	OM2 %	Puck OM2 %	Error %
18	5.4	5.6	-3.8
19	5.4	5.5	-1.9
20	5.4	5.4	0
21	5.4	5.3	1.9
22	5.4	5.2	3.8
23	5.4	5.1	5.6
24	5.4	5.0	7.3

Adding **1 mm** of sand (≈ 16 tons/ha) to a 20 mm section of soil is an instantaneous change in OM of **about 5%**.

Getting started OM accumulation rate Sand requirement Unit conversions Details

Select unit for sand quantity:

millimeters (mm)

Enter sand quantity:

1

Select desired measurement unit and choose an amount of sand to see the amount in other measurement units.

Unit	Value
mm	1.0
kg/ha	15600
lbs/1000 IP	319
lb/1000 IP	3.3

The conversions are made based on a sand bulk density of 1.56 g/cm³

Getting started OM accumulation rate Sand requirement Unit conversions Details

Depth of soil layer (cm)

2

If you have applied 2 mm of sand to a 2 cm layer of the soil with a starting OM of 4.8% on 2023-10-18 and ending OM of 5.4% on 2024-10-18, the total organic matter accumulation rate is:

11.99 grams per kg of soil per year

Starting OM %

4.8

Ending OM %

5.4

Date range (starting OM% & ending OM%)

2023-10-18 to 2024-10-18

Sand added (mm)

2

Getting started OM accumulation rate Sand requirement Unit conversions Details

Depth of soil layer (cm)

2

Adding 3.5 mm of sand to the 2 cm depth by 2023-10-18 will result in a total organic matter content of 5.7% if the accumulation rate remains at 11.99 g/kg/year.

The calculation assumes constant accumulation rate through the year. In fact, the app takes the annual rate and adjusts it for number of days being calculated. For additional information, see the Details tab.

Current OM %

5.4

Desired OM %

5.4

Site-specific OM accumulation rate (g/kg/year)

11.99

Date range over which sand will be applied to reach desired OM %

2024-10-18 to 2025-10-18

Getting started OM accumulation rate Sand requirement Unit conversions Details

Depth of soil layer (cm)

2

Adding 4.8 mm of sand to the 2 cm depth by 2025-10-18 will result in a total organic matter content of 5.2% if the accumulation rate remains at 11.99 g/kg/year.

The calculation assumes constant accumulation rate through the year. In fact, the app takes the annual rate and adjusts it for number of days being calculated. For additional information, see the Details tab.

Current OM %

5.4

Desired OM %

5.2

Site-specific OM accumulation rate (g/kg/year)

11.99

Date range over which sand will be applied to reach desired OM %

2024-10-18 to 2025-10-18

Getting started OM accumulation rate Sand requirement Unit conversions Details

Depth of soil layer (cm)

2

Adding 8.2 mm of sand to the 2 cm depth by 2025-10-18 will result in a total organic matter content of 6.2% if the accumulation rate remains at 9 g/kg/year.

The calculation assumes constant accumulation rate through the year. In fact, the app takes the annual rate and adjusts it for number of days being calculated. For additional information, see the Details tab.

Current OM %

5.4

Desired OM %

6.2

Site-specific OM accumulation rate (g/kg/year)

9

Date range over which sand will be applied to reach desired OM %

2024-10-18 to 2025-10-18

Getting started OM accumulation rate Sand requirement Unit conversions Details

Depth of soil layer (cm)

2

This result is not possible with the given starting parameters.

The calculation assumes constant accumulation rate through the year. In fact, the app takes the annual rate and adjusts it for number of days being calculated. For additional information, see the Details tab.

Current OM %

5.4

Desired OM %

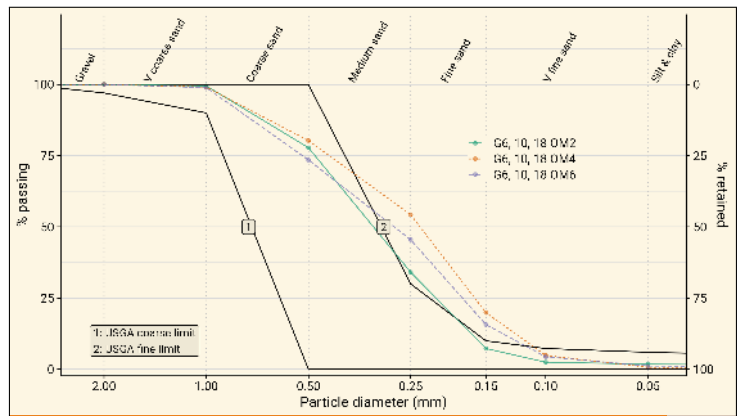
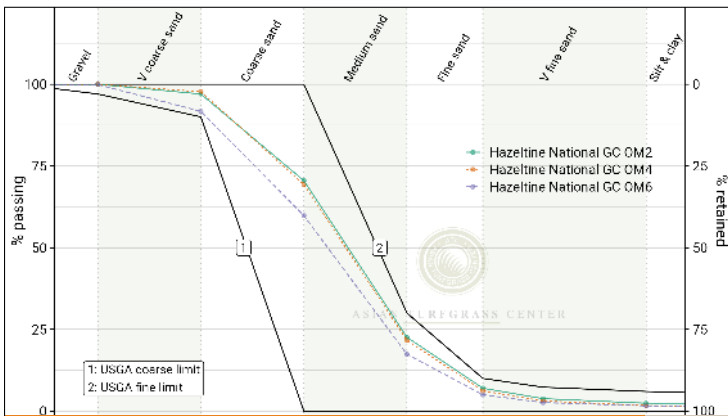
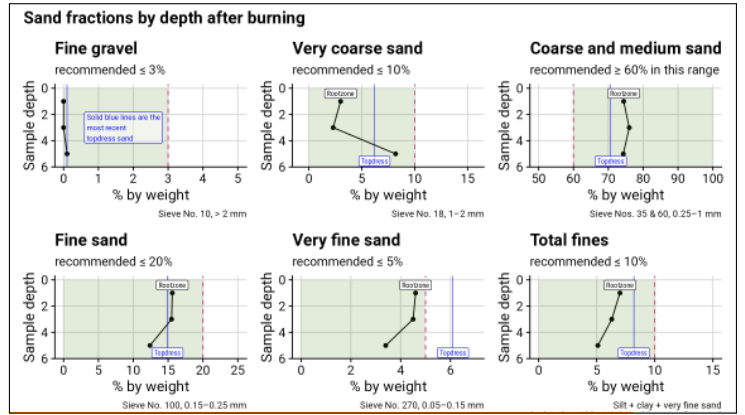
4

Site-specific OM accumulation rate (g/kg/year)

9

Date range over which sand will be applied to reach desired OM %

2024-10-18 to 2025-10-18





Online handout with slides & more info



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