



**Northeast**  
Sustainable Agriculture  
Research and Education

**Improving Soil Tilth and  
Productivity with Mycorrhizal and  
Saprophytic Fungi  
By Matthew Harhai**



Fungi #4  
03/16/15

Mushroom Mountain  
PARASOL - KEEOWEE  
Amerilepicle process - MMS MPRO1  
 Smaller  Pilot  Small  Fulling size  
302 FINLEY ROAD, SUITE 100, 21642  
WWW.MUSHROOMMOUNTAIN.COM



















Date collected	sample ID	treatment	rep	soil grams	volume sampled cm3	bulk density
3/29/2022	PT1	Parasol	1	50	47.88	1.04
3/29/2022	PC1	Control	1	46	47.88	0.96
3/29/2022	PT2	Parasol	2	44	47.88	0.91
3/29/2022	PC2	Control	2	43	47.88	0.89
3/29/2022	PT3	Parasol	3	51	47.88	1.06
3/29/2022	PC3	Control	3	51	47.88	1.06
3/29/2022	BT1	Blewit	4	49	47.88	1.02
3/29/2022	BC1	Control	4	45	47.88	0.93
3/29/2022	BT2	Blewit	5	43	47.88	0.89
3/29/2022	BC2	Control	5	54	47.88	1.12
3/29/2022	BT3	Blewit	6	47	47.88	0.98
3/29/2022	BC3	Control	6	49	47.88	1.02
3/29/2022	ST1	Shaggy Mane	7	51	47.88	1.06
3/29/2022	SC1	Control	7	44	47.88	0.91
3/29/2022	ST2	Shaggy Mane	8	46	47.88	0.96
3/29/2022	SC2	Control	8	47	47.88	0.98
3/29/2022	ST3	Shaggy Mane	9	45	47.88	0.93
3/29/2022	SC3	Control	9	45	47.88	0.93



<b>3/29/2023</b>	<b>Sample ID</b>	<b>Treatment</b>	<b>Rep</b>	<b>Soil Grams</b>	<b>Volume Sampled cm3</b>	<b>Bulk Density</b>
<b>3/29/2023</b>	PT1	Parasol	1	37	47.88	0.77
<b>3/29/2023</b>	PC1	Control	1	66	47.88	1.37
<b>3/29/2023</b>	PT2	Parasol	2	42	47.88	0.87
<b>3/29/2023</b>	PC2	Control	2	50	47.88	1.04
<b>3/29/2023</b>	PT3	Parasol	3	38	47.88	0.79
<b>3/29/2023</b>	PC3	Control	3	69	47.88	1.44
<b>3/29/2023</b>	BT1	Blewit	4	33	47.88	0.68
<b>3/29/2023</b>	BC1	Control	4	57	47.88	1.19
<b>3/29/2023</b>	BT2	Blewit	5	31	47.88	0.64
<b>3/29/2023</b>	BC2	Control	5	57	47.88	1.19
<b>3/29/2023</b>	BT3	Blewit	6	42	47.88	0.87
<b>3/29/2023</b>	BC3	Control	6	46	47.88	0.96
<b>3/29/2023</b>	ST1	Shaggy Mane	7	44	47.88	0.91
<b>3/29/2023</b>	SC1	Control	7	45	47.88	0.93
<b>3/29/2023</b>	ST2	Shaggy Mane	8	50	47.88	1.04
<b>3/29/2023</b>	SC2	Control	8	52	47.88	1.08
<b>3/29/2023</b>	ST3	Shaggy Mane	9	46	47.88	0.96
<b>3/29/2023</b>	SC3	Control	9	39	47.88	0.81



<b>Averages 2022</b>		<b>Bulk Density Grams / cm<sup>3</sup></b>
	PT	1
	PC	0.97
	BT	0.96
	BC	1.02
	ST	0.98
	SC	0.94
<b>Averages 2023</b>		<b>Bulk Density Grams / cm<sup>3</sup></b>
	PT	0.81
	PC	1.28
	BT	0.73
	BC	1.11
	ST	0.97
	SC	0.94

From 2022 to 2023:

Parasol Treatment:

A 19 % average reduction in soil density.

Parasol Control:

A 25 % average increase in soil density.

Blewit Treatment:

A 25 % average reduction in soil density.

Parasol Control:

A 9 % average increase in soil density.

Shaggy Mane Treatment:

From an average of .98 bulk density to .97 bulk density.

Shaggy Mane Control:

No change from an average of .94 bulk density to .94 bulk density.