

Sustane and Worm Power Vermicompost Extract

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Treatment #	Treatment ^y	Nitrogen	Substrate Incorporation ^z
1	Inorganic 20-10-20	20%	No Incorporation
2	B	3%	No Incorporation
3	C	2%	No Incorporation
4	D	2%	No Incorporation
5	E	4%	No Incorporation
6	F	1.003%	No Incorporation
7	G	1.601%	No Incorporation
8	H	2.003%	No Incorporation
9	I	3.201%	No Incorporation
10	JWorm Power Extract	0.006%	No Incorporation
11	Inorganic 20-10-20	20%	8-4-4 Incorporation
12	B	3%	8-4-4 Incorporation
13	C	2%	8-4-4 Incorporation
14	D	2%	8-4-4 Incorporation
15	E	4%	8-4-4 Incorporation
16	F	1.003%	8-4-4 Incorporation
17	G	1.601%	8-4-4 Incorporation
18	H	2.003%	8-4-4 Incorporation
19	I	3.201%	8-4-4 Incorporation
20	JWorm Power Extract	0.006%	8-4-4 Incorporation
21	No liquid feed	0%	4-6-4 + Biochar inc.
22	A	20%	4-6-4+ Biochar inc.
23	J	0.006%	4-6-4+ Biochar inc.
24	B	3%	4-6-4+ Biochar inc.
25	No liquid feed	0%	8-4-4 Incorporation
26	No liquid feed	0%	No Incorporation

^yliquid treatments applied every 3 days at 100 ppm Nitrogen

^zSubstrate amended with 8 pounds of Sustane 8-4-4 per cubic yard (or 4-6-4+ biochar), or no incorporation.

128 cell trays

Tomato 'Celebrity' and Basil 'Pluto'

4 weeks growth at 70 °F

- Seeded on Oct. 1
- Pictures/harvested on Nov. 1
- Liquid fertilizer treatments - fertilized 3/wk (M, W, F) at 100 mL at 100 ppm N except
- Vermicompost extract was 5/wk at 30 ppm N
- Clear water all other days as needed
- Sustane applied at 8 pounds / cubic yard



Control
+20-10-20

Sustane

20-10-20

Sustane



Control

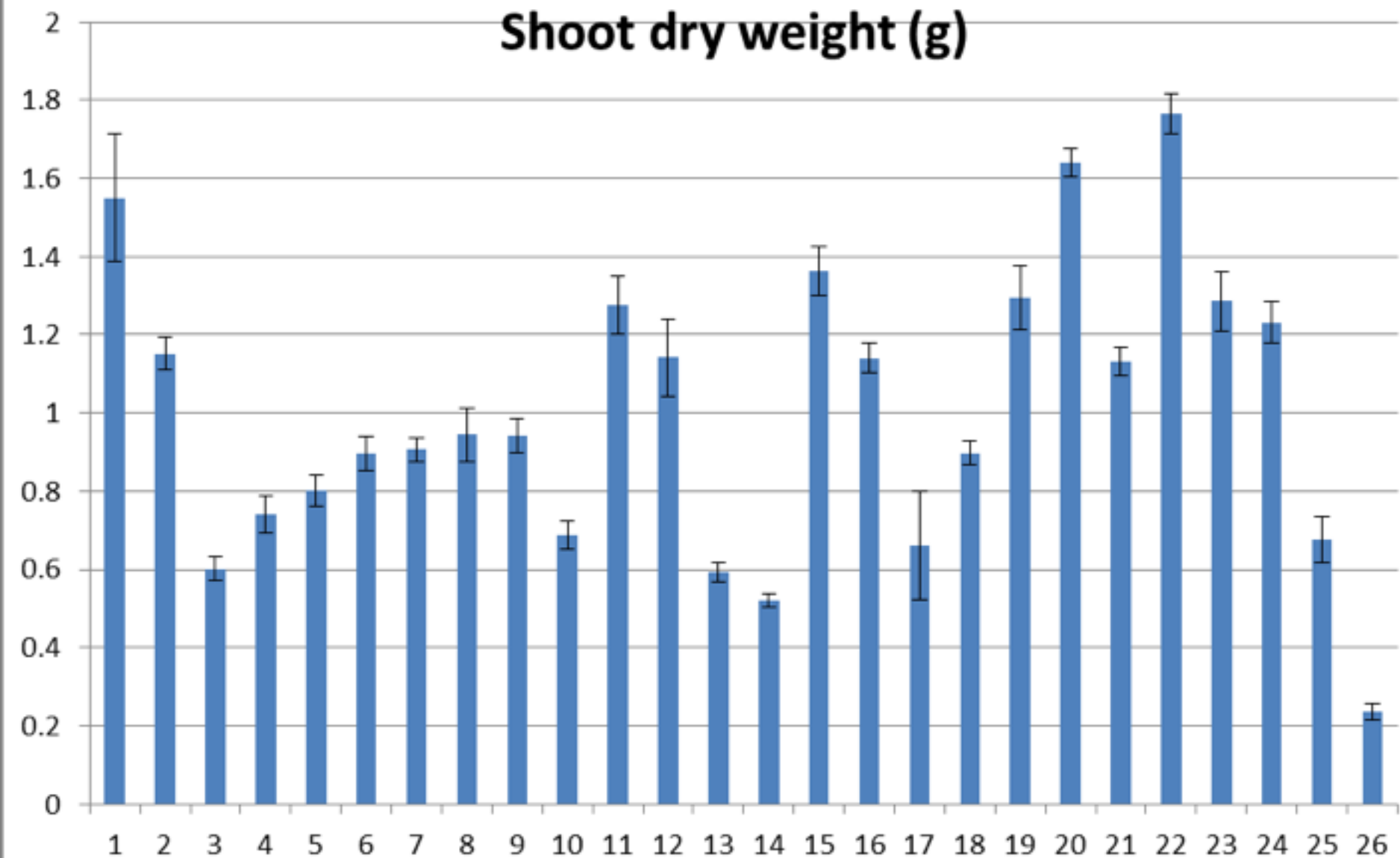
Sustane

Worm Power

WP

+Sustane

Shoot dry weight (g)





Control
+20-10-20



Sustane



20-10-20



Sustane



Control
+20-10-20



Sustane



20-10-20



Sustane



Control

+Sustane



Sustane



Worm Power



WP



Control



Sustane



Worm Power



WP

+Sustane



Control

Sustane

Liquid D

D

+Sustane



Control



Sustane



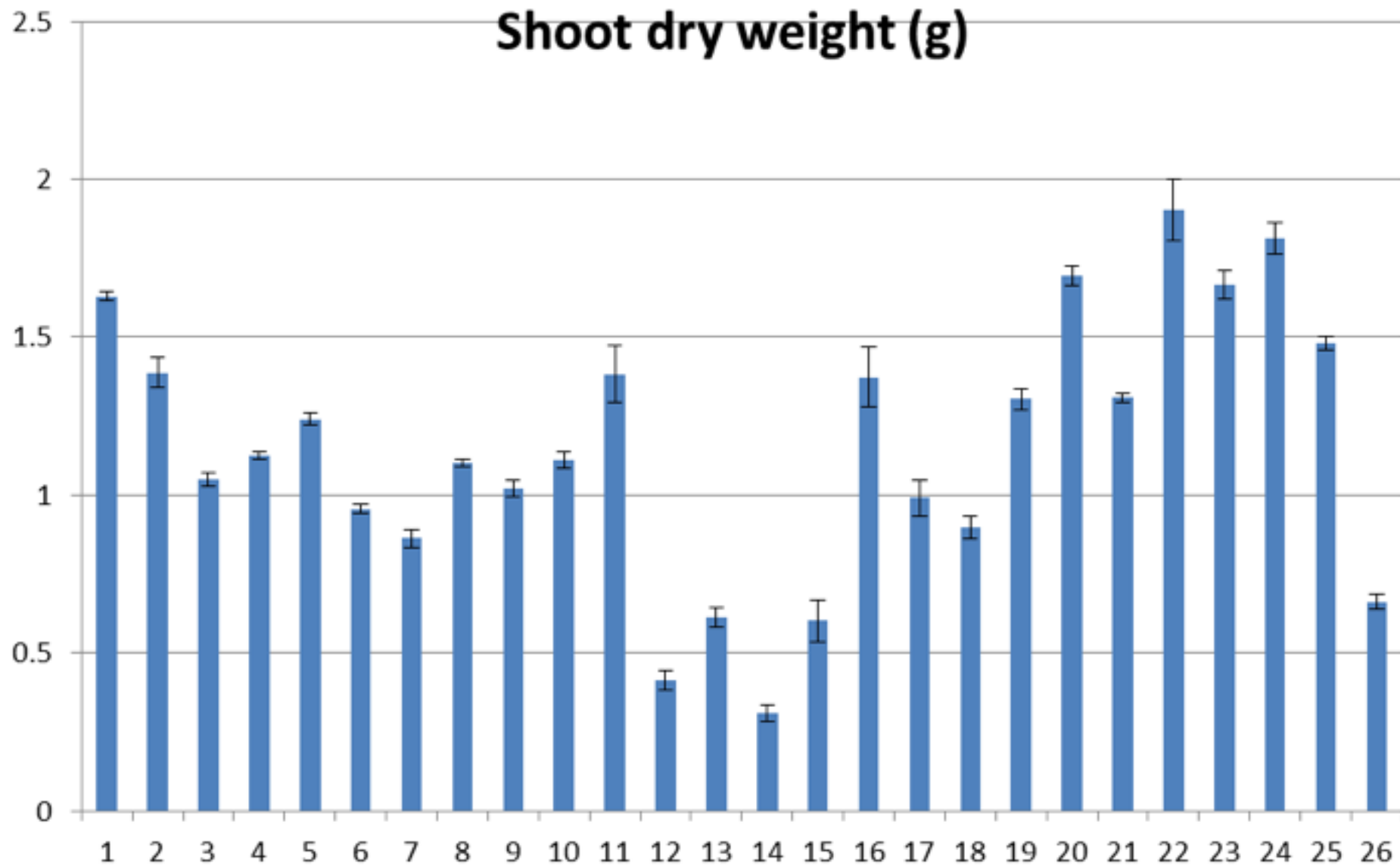
Liquid D



D

+Sustane

Shoot dry weight (g)



4-inch pots

5 week growth stage at 70 °F

- Seedlings transplanted September 23
- Pictures/harvested on October 31
- Liquid fertilizer treatments - fertilized 3/wk (M, W, F) at 100 mL at 100 ppm N except
- Vermicompost extract was 5/wk at 30 ppm N
- Clear water all other days as needed
- Sustane applied at 8 pounds / cubic yard

Control
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Sustane

20-10-20

Sustane



Control

Sustane

Worm Power

WP

Sustane



Control
+Sustane

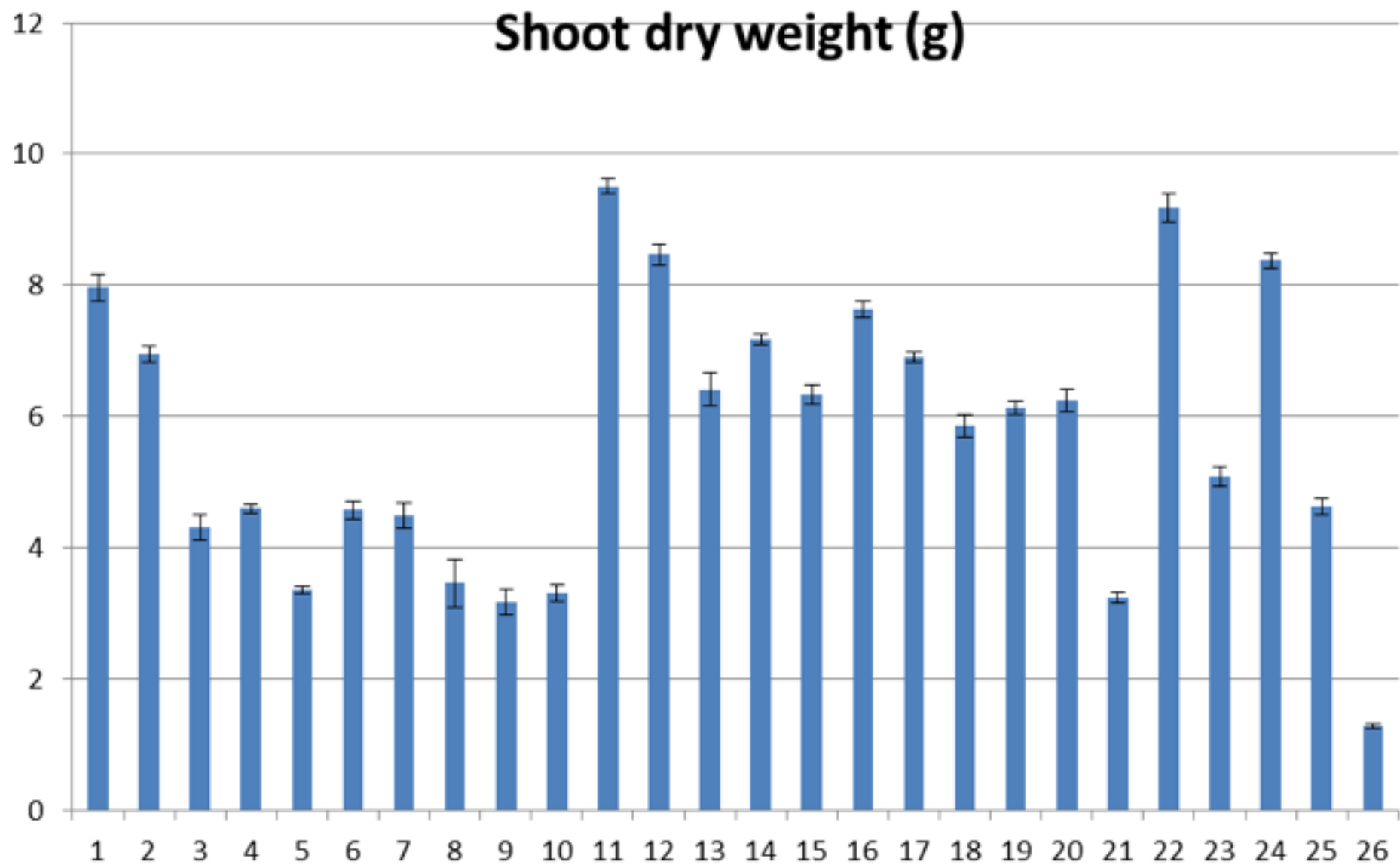
Sustane

Liquid D

D



Shoot dry weight (g)



Fusarium Wilt confirmed by Margery Daughtrey



Control
+Sustane

Sustane

Liquid G

D



Control
+Sustane

Sustane

Liquid I

D



Control
+Sustane

Sustane

Worm Power

WP

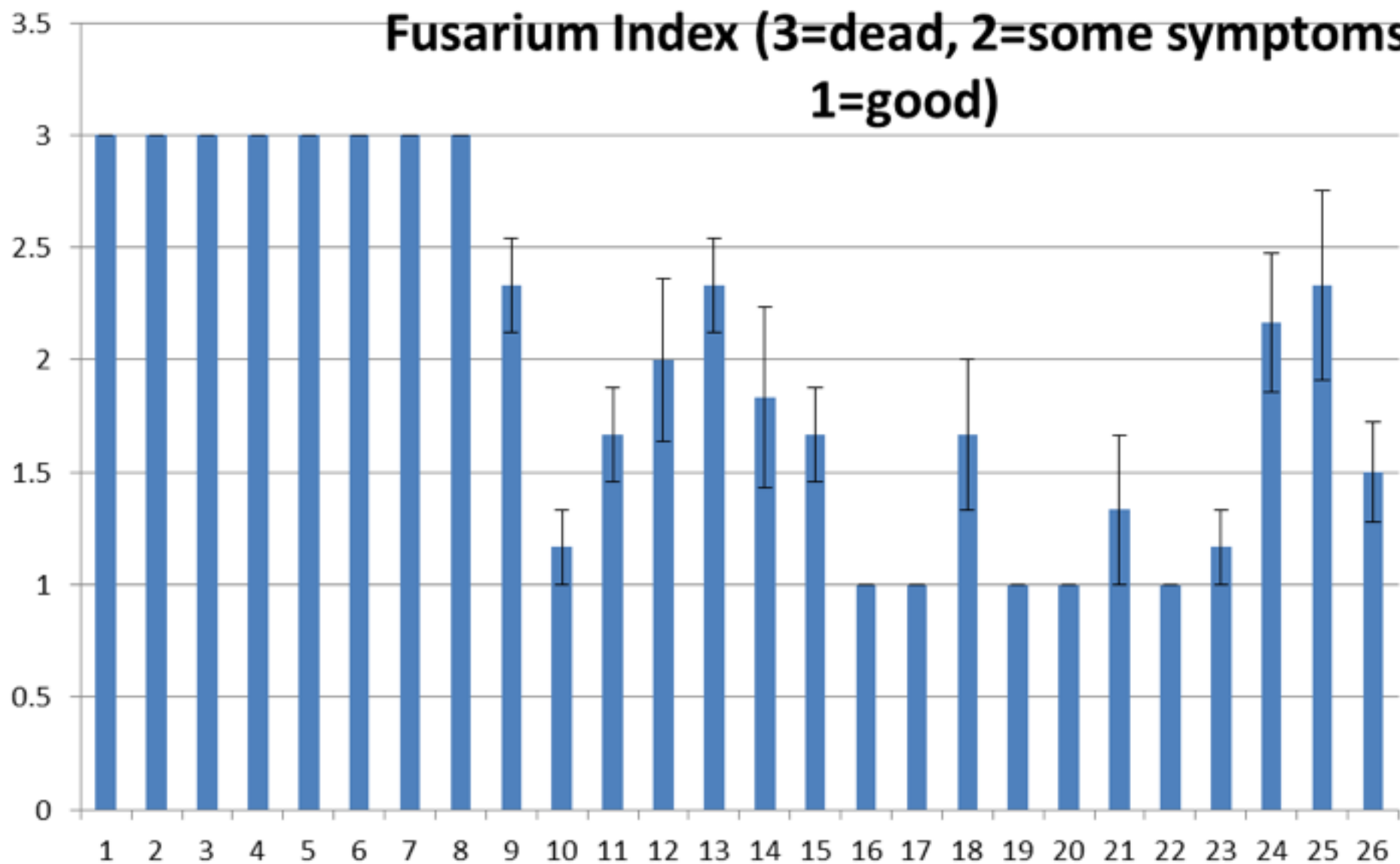


Control
+Sustane

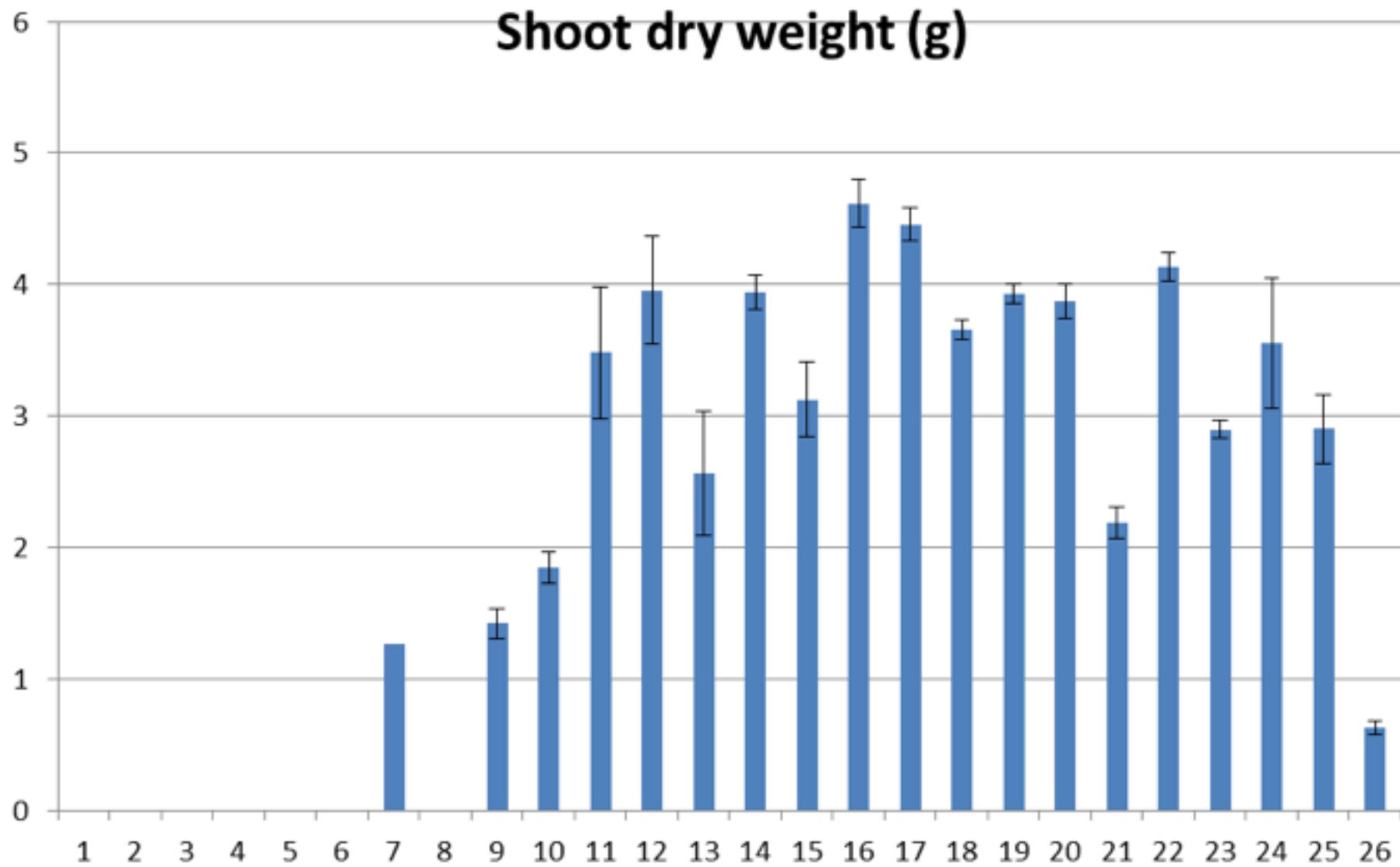
Sustane

C

Fusarium Index (3=dead, 2=some symptoms, 1=good)



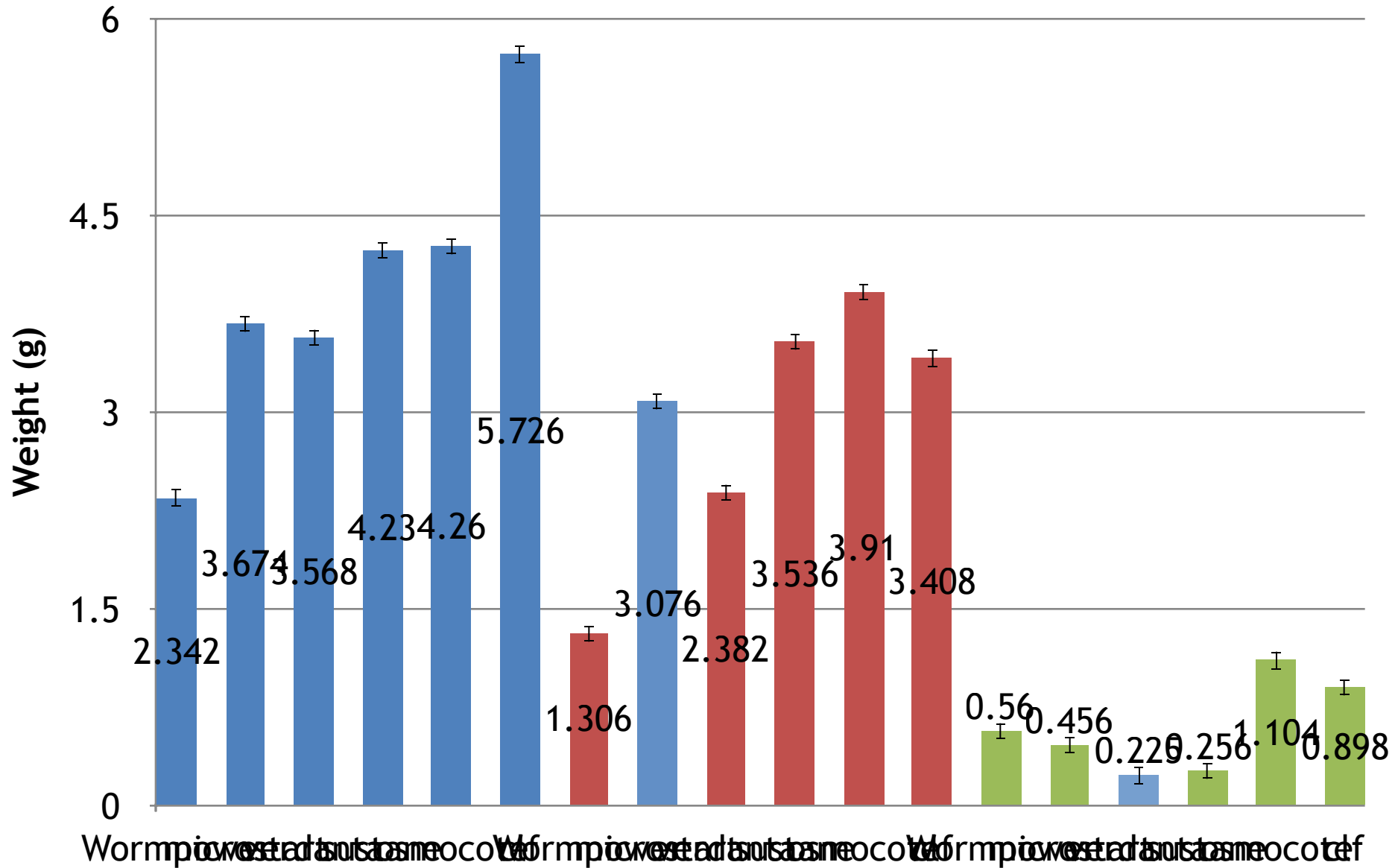
Shoot dry weight (g)



Comparing organic fertilizers in response to temperature

- Several organic granular fertilizers + CRF applied at the same N rate
 - 0.64 lbs. N per cubic yard substrate
 - Equivalent to 8 lbs/yd³ of Sustane 8-4-4
- Compared to CLF at 150 ppm N
- 3 temperatures: 50, 60, 70 F

Dry Weight



10 C



CLF



OSMOCOTE



SUSTANE



MICROSTART



WORMPOWER



VERDANTA

10 C



WORMPOWER



MICROSTART



VERDANTA



SUSTANE



OSMOCOTE



CLF

15 C



CLF

OSMOCOTE

SUSTANE

MICROSTART

WORMPOWER

VERDANTA

15 C



WORMPOWER

MICROSTART

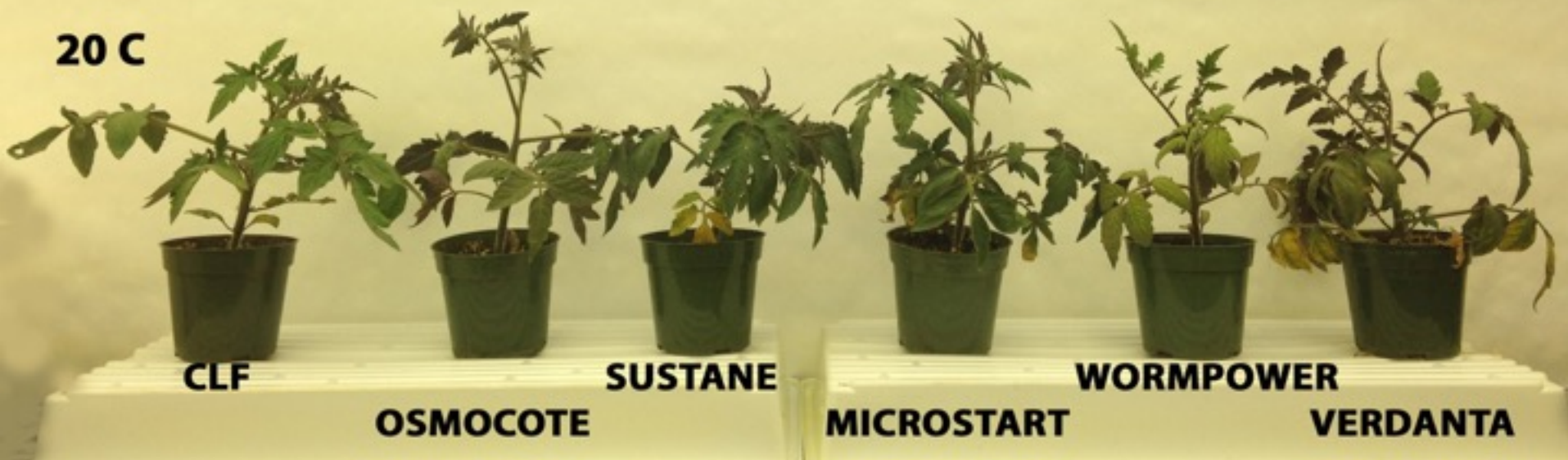
VERDANTA

SUSTANE

OSMOCOTE

CLF

20 C



20 C

