

2010 University of Delaware Fall Broccoli Variety Trial

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A fall broccoli variety trial was conducted in 2010 at the University of Delaware research farm near Georgetown, DE.

Varieties evaluated and participating companies:

| | |
|-------------|-------------------------|
| Arcadia | standard |
| Batavia | Bejo Seeds |
| Beaumont | Bejo Seeds |
| Belstar | Bejo Seeds |
| Captain | standard |
| Castle Dome | Seminis Vegetable Seeds |
| Diplomat | Sakata Seed (standard) |
| Fiesta | Bejo Seeds, Inc. |
| Green Magic | Sakata Seed |
| Imperial | Sakata Seed |
| Iron Man | Seminis Vegetable Seeds |

Materials and Methods

Seeds of each variety were planted in 72 cell trays in the greenhouse on June 30 and July 1, 2010. Plants were transplanted to the field on August 9, 2010. The soil was a Hammonton loamy sand. Plots were 20' long with 3' between rows and 1' between plants. The experimental design was a randomized complete block with 4 replications. Herbicides applied were bensulide and oxyfluorfen (Prefar and Goal). Fertilizer applied preplant included 80 lbs N and 60 lbs K₂O per acre. Additional N was applied at a rate of 50 lbs N per acre 3 and 6 weeks after planting. Insecticides were applied 4 times and consisted of spinosad and thiamethoxam+chlorantraniliprol (SpinTor and Voliam Flexi). Fungicide was applied two times and consisted of azoxystrobin (Quadris). Irrigation was provided by overhead sprinklers. Plots were cultivated once. Plots were harvested weekly from the second week in October to the third week in November. Data collected included marketable heads, head weight, crown diameter, crown height, outer spear length, and stem diameter. Descriptive characteristics including color, dome shape, bead size, and hollow stem incidence were also recorded.

Results

Yield results are presented in Table 1. Green Magic had the highest yields (523 boxes per acre, 100% marketable) and was significantly greater than all varieties except Diplomat, Batavia and Imperial. Imperial was also high yielding (411 boxes per acre). Yields of other varieties tested

were below 400 boxes per acre. These lower yields can be attributed to stressful conditions during the early growth period with very high temperatures. Insect and disease pressure was also heavy. The lowest yielding variety was Iron Man, which was also the latest variety in the trial. High quality varieties with good appearance and tight heads included Fiesta, Imperial and Iron Man. Stem cracking was evident on Captain and Castle Dome. Green Magic showed minor brown beading. Beaumont and Castle Dome showed some bronzing.

Crown and spear characteristics are shown in Table 2. Crown diameter ranged from 11.3 to (Beaumont) to 16.3 cm (Captain). Imperial and Green Magic had the highest domes; Captain and Green Magic had the longest outer spears. Descriptive characteristics are given in Table 3. All varieties except Castle Dome were blue-green in color. Fine beaded varieties included Arcadia, Beaumont, Belstar, Castle Dome, Diplomat, Imperial, and Iron Man. All varieties were semi-domes except Batavia and Imperial, which were full domes. Minor hollow stem was found in Iron Man, Imperial, and Captain. Stem diameters at the cut base ranged from 30 to 35 cm.

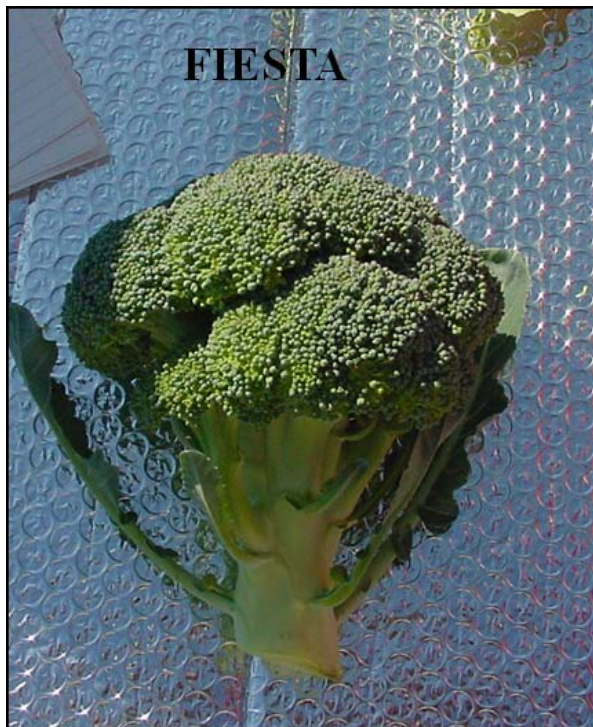


Table 1. Broccoli yields and percent of heads marketable, UD-REC, Georgetown, fall 2010.

| Variety | Yield | | Marketable |
|-----------------------------|---------------------|------------|------------|
| | lbs/acre | boxes/acre | % |
| <u>Arcadia</u> ¹ | 6387 b ² | 304 | 95 |
| Batavia | 7728 ab | 368 | 99 |
| Beaumont | 5000 b | 238 | 80 |
| <u>Belstar</u> | 5770 b | 275 | 88 |
| <u>Captain</u> | 5938 b | 283 | 79 |
| <u>Castle Dome</u> | 4670 b | 222 | 58 |
| <u>Diplomat</u> | 7489 ab | 357 | 100 |
| Fiesta | 5873 b | 280 | 95 |
| Green Magic | 10988 a | 523 | 100 |
| <u>Imperial</u> | 8629 ab | 411 | 83 |
| Iron Man | 4376 b | 208 | 63 |

¹Varieties underlined are those currently recommended for Delaware.

²Means followed by the same letter are not significantly different at the 0.05 level by least squares means.

Table 2. Broccoli crown and spear characteristics, UD-REC, Georgetown, fall 2010.

| Variety | Crown | | Outer Spear Length |
|-----------------------------|----------|--------|--------------------|
| | Diameter | Height | |
| | cm | cm | cm |
| <u>Arcadia</u> ¹ | 13.3 | 6.2 | 10.2 |
| Batavia | 13.1 | 6.6 | 9.3 |
| Beaumont | 11.3 | 4.8 | 6.4 |
| <u>Belstar</u> | 11.9 | 5.8 | 7.4 |
| <u>Captain</u> | 16.3 | 6.6 | 11.4 |
| <u>Castle Dome</u> | 13.1 | 6.2 | 7.2 |
| <u>Diplomat</u> | 14.9 | 5.8 | 9.9 |
| Fiesta | 13.2 | 5.8 | 8.6 |
| Green Magic | 15.5 | 7.1 | 11.2 |
| <u>Imperial</u> | 15.0 | 7.4 | 10.7 |
| Iron Man | 13.8 | 5.1 | 7.1 |
| LSD 0.05 | NS | 1.1 | 1.4 |

¹Varieties underlined are those currently recommended for Delaware.

Table 3. Broccoli variety comments and characteristics, UD-REC, Georgetown, fall 2010.

| Variety | Color | Bead | Dome Shape | Hollow Stem | Stem Diameter |
|------------------------------------|------------|--------|------------|-------------|---------------|
| | | | | | cm |
| <u>Arcadia</u> ¹ | Blue-Green | Fine | semi-dome | none | 33 |
| Batavia | Blue-Green | Medium | dome | none | 35 |
| Beaumont | Blue-Green | Fine | semi-dome | none | 33 |
| <u>Belstar</u> | Blue-Green | Fine | semi-dome | none | 33 |
| <u>Captain</u> | Blue-Green | Medium | semi-dome | minor | 35 |
| <u>Castle Dome</u> | Green | Fine | semi-dome | none | 35 |
| <u>Diplomat</u> | Blue-Green | Fine | semi-dome | none | 34 |
| Fiesta | Blue-Green | Medium | semi-dome | none | 33 |
| Green Magic | Blue-Green | Medium | semi-dome | none | 36 |
| <u>Imperial</u> | Blue-Green | Fine | dome | minor | 35 |
| Iron Man | Blue-Green | Fine | semi-dome | minor | 30 |

¹Varieties underlined are those currently recommended for Delaware.

Table 4. Weather data for the Georgetown REC site August 2010.

| | | | | | | | | | | | | | | |
|----|----------|------|------|--------------|------|------|------|------|-----|----------------|------|------|--|------|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| 1 | 72.8 | 80.9 | 66.3 | 23.6 | 75.3 | 94.7 | 52.7 | 18.6 | 1.2 | 0.08 | 0.14 | 81.5 | 91 | 74.7 |
| 2 | 74.3 | 81.8 | 68.5 | 25.1 | 72.2 | 87.2 | 53.4 | 15.1 | 1 | 0 | 0.12 | 81.6 | 89 | 75.7 |
| 3 | 76.5 | 87.5 | 65.3 | 26.4 | 74.2 | 92.7 | 52.9 | 20.6 | 2.8 | 0 | 0.17 | 84.8 | 98.4 | 74.8 |
| 4 | 80.9 | 88.8 | 73.8 | 31.3 | 78.5 | 89.5 | 62.1 | 18.4 | 3.6 | 0 | 0.17 | 87.2 | 97.8 | 79.5 |
| 5 | 81 | 94.4 | 73.8 | 34.1 | 77.4 | 95.1 | 50.3 | 18.6 | 3.8 | 0.36 | 0.19 | 87.8 | 103 | 80.3 |
| 6 | 79.2 | 88.5 | 69.2 | 28.8 | 73.4 | 95.3 | 37.5 | 21.6 | 4.2 | 0 | 0.21 | 83.7 | 93.4 | 76.2 |
| 7 | 74.9 | 87.2 | 64 | 25.6 | 73.7 | 95.3 | 37.8 | 23.3 | 1 | 0 | 0.17 | 84.1 | 98.4 | 72.2 |
| 8 | 77.4 | 89.2 | 65.6 | 27.4 | 75.7 | 97.8 | 37.3 | 21.7 | 0.7 | 0 | 0.16 | 86.2 | 100 | 74.4 |
| 9 | 79.3 | 92.2 | 71.1 | 31.7 | 75.8 | 98.1 | 35.7 | 22.1 | 1.4 | 0.01 | 0.18 | 89 | 104 | 79.6 |
| 10 | 83.5 | 96.1 | 73.1 | 34.6 | 70.7 | 96.3 | 37.3 | 22.7 | 2.2 | 0 | 0.2 | 91 | 106 | 80.2 |
| 11 | 82.7 | 93.7 | 74.4 | 34 | 74.5 | 95.9 | 44.4 | 19.1 | 1.7 | 0 | 0.17 | 91.1 | 103 | 81.8 |
| 12 | 77.7 | 85 | 73.1 | 29 | 86 | 96.9 | 62 | 13.4 | 1.4 | 0.54 | 0.12 | 84.6 | 92.7 | 78.2 |
| 13 | 74.6 | 79.8 | 70.1 | 24.9 | 71.7 | 91.7 | 58.2 | 16.1 | 2.2 | 0 | 0.13 | 80 | 86.6 | 75.1 |
| 14 | 72.5 | 80.4 | 62.9 | 21.6 | 70.2 | 90.6 | 50.5 | 22.3 | 1.3 | 0 | 0.16 | 81.7 | 95.7 | 70.7 |
| 15 | 74.3 | 81.4 | 67 | 24.2 | 79 | 93.1 | 59.4 | 11 | 2.2 | 0 | 0.1 | 80.6 | 86.6 | 75.4 |
| 16 | 81.6 | 90.7 | 73 | 31.9 | 76.5 | 90.7 | 57.6 | 21.5 | 4.9 | 0 | 0.2 | 87 | 99.4 | 77.6 |
| 17 | 77.2 | 83.2 | 75.5 | 29.3 | 88.1 | 94.9 | 74.9 | 5.9 | 1.3 | 0 | 0.04 | 81.9 | 84.6 | 80.2 |
| 18 | 72.1 | 76.6 | 68.3 | 22.5 | 95.8 | 97.4 | 92.9 | 3.6 | 3.2 | 0.69 | 0.04 | 79.3 | 83.6 | 77.5 |
| 19 | 76 | 86.1 | 69.7 | 27.9 | 82.2 | 98.4 | 53.5 | 19.5 | 2.1 | 0 | 0.16 | 80.6 | 87 | 76 |
| 20 | 78.2 | 89.9 | 68.4 | 29.1 | 75.3 | 98.2 | 40.8 | 22.7 | 1.7 | 0 | 0.18 | 82.6 | 90.4 | 76.5 |
| 21 | 77 | 88.7 | 65.1 | 26.9 | 74.7 | 97.5 | 43.5 | 18.6 | 1.3 | 0 | 0.15 | 82.7 | 88.9 | 77 |
| 22 | 77 | 85.5 | 72.5 | 29 | 88.7 | 96.7 | 69.3 | 10.8 | 3.2 | 0.34 | 0.11 | 82 | 85.4 | 79.6 |
| 23 | 74.4 | 82.3 | 67.8 | 25.1 | 78.2 | 97.5 | 53.3 | 18.6 | 3.9 | 0 | 0.16 | 79.9 | 84 | 76.2 |
| 24 | 67.7 | 71.2 | 65.2 | 18.2 | 85.3 | 94.9 | 74.6 | 7.6 | 7.1 | 0.01 | 0.08 | 76.1 | 78.9 | 74.3 |
| 25 | 69.1 | 76.6 | 62.8 | 19.7 | 82.5 | 95.2 | 62.9 | 10.2 | 3.3 | 0 | 0.1 | 75.1 | 78.7 | 71.9 |
| 26 | 72.8 | 84.1 | 62.7 | 23.4 | 76.2 | 97.2 | 45.7 | 20.1 | 2.7 | 0 | 0.16 | 77.4 | 84 | 71.8 |
| 27 | 69.2 | 80.9 | 56.9 | 18.9 | 68.1 | 94.2 | 41.6 | 23.7 | 2.1 | 0 | 0.16 | 77.7 | 85.1 | 71.4 |
| 28 | 70 | 83 | 56.3 | 19.6 | 71.8 | 96.2 | 42.4 | 23.1 | 1.7 | 0 | 0.16 | 78.3 | 85.9 | 71.8 |
| 29 | 73.7 | 91.1 | 56.7 | 23.9 | 71.1 | 97.1 | 34 | 23.1 | 1.9 | 0 | 0.18 | 79.4 | 87.5 | 72.5 |
| 30 | 77.6 | 92.8 | 63.8 | 28.3 | 70.1 | 97.6 | 31.7 | 22.6 | 2.1 | 0 | 0.18 | 81.3 | 88.7 | 75.1 |
| 31 | 78.4 | 94.4 | 62.2 | 28.3 | 65.3 | 96.2 | 31.1 | 21.3 | 2.1 | 0 | 0.18 | 81.7 | 88.5 | 75.4 |
| A | Day | | | | | | | | | | | | | |
| B | Avg Temp | | | (°F) | | | | I | | Avg Solar | | | (MJ.m ⁻² .day ⁻¹) | |
| C | Max Temp | | | (°F) | | | | J | | Avg Wind Speed | | | (mph) | |
| D | Min Temp | | | (°F) | | | | K | | Rainfall | | | (in) | |
| E | GDD | | | (base 50 °F) | | | | L | | Ref ET | | | (in day ⁻¹) | |
| F | Avg RH | | | (%) | | | | M | | Avg Soil Temp | | | (°F) | |
| G | Max RH | | | (%) | | | | N | | Max Soil Temp | | | (°F) | |
| H | Min RH | | | (%) | | | | O | | Min Soil Temp | | | (°F) | |

Table 5. Weather data for the Georgetown REC site September 2010.

| | | | | | | | | | | | | | | |
|----|----------|------|------|--------------|------|------|------|------|------|----------------|------|------|--|------|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| 1 | 79 | 92.9 | 64.2 | 28.5 | 66.1 | 96.6 | 36.4 | 21.4 | 3.4 | 0 | 0.19 | 82.8 | 89.7 | 76.7 |
| 2 | 78 | 90.3 | 69.3 | 29.8 | 71.9 | 92.7 | 39 | 17.3 | 3.3 | 0 | 0.17 | 82.7 | 88.4 | 78.1 |
| 3 | 76.1 | 82.1 | 72.5 | 27.3 | 86.2 | 95 | 56.3 | 5.3 | 6.7 | 0.01 | 0.11 | 80.1 | 82.5 | 78.3 |
| 4 | 73.4 | 81.6 | 57.7 | 19.7 | 54.9 | 87.1 | 29 | 22.8 | 6 | 0 | 0.21 | 79.4 | 84.9 | 75.1 |
| 5 | 65.1 | 78.5 | 50.9 | 14.7 | 61.6 | 95.7 | 28.1 | 22.7 | 3.2 | 0 | 0.16 | 77.5 | 83.9 | 71.8 |
| 6 | 67.7 | 83.3 | 50.4 | 16.9 | 65.7 | 93.3 | 38.4 | 20.3 | 3.3 | 0 | 0.16 | 77.2 | 84.1 | 71 |
| 7 | 74.3 | 86.4 | 61 | 23.7 | 71.3 | 95.5 | 48 | 19.8 | 6.6 | 0 | 0.19 | 78.5 | 84.5 | 73.2 |
| 8 | 79.2 | 90.6 | 70.3 | 30.4 | 58.4 | 81.1 | 32.5 | 18.5 | 7.5 | 0 | 0.24 | 80.4 | 85.7 | 76.4 |
| 9 | 66.2 | 75 | 56.4 | 15.7 | 55.5 | 82 | 37.3 | 18.8 | 6.1 | 0 | 0.17 | 77.4 | 81 | 73.3 |
| 10 | 64 | 73.8 | 52.3 | 13.1 | 63 | 88.4 | 43.6 | 15.6 | 4.4 | 0 | 0.13 | 74.4 | 78.4 | 70.3 |
| 11 | 65.2 | 78.3 | 52.3 | 15.3 | 61.8 | 90.7 | 34 | 21 | 3 | 0 | 0.15 | 75.7 | 82.1 | 70 |
| 12 | 61.6 | 66.6 | 55.4 | 11 | 90.9 | 97 | 81.7 | 3.4 | 1.9 | 0.46 | 0.04 | 72.3 | 75.7 | 70.8 |
| 13 | 66.7 | 78.7 | 59.3 | 19 | 79.3 | 98.3 | 41 | 18.5 | 4 | 0 | 0.15 | 73.1 | 80.3 | 68.6 |
| 14 | 67.5 | 82.3 | 55.6 | 18.9 | 68.5 | 97.8 | 27.2 | 20.4 | 4.4 | 0 | 0.18 | 73.4 | 81.2 | 67.2 |
| 15 | 65.8 | 80 | 52.3 | 16.1 | 67.7 | 94.3 | 33.4 | 21 | 2.3 | 0 | 0.14 | 73.2 | 81.6 | 66.2 |
| 16 | 74.3 | 87 | 59.6 | 23.3 | 74.5 | 96.9 | 46.7 | 16.5 | 7 | 0.01 | 0.18 | 75.5 | 82.5 | 69.9 |
| 17 | 73.5 | 80.4 | 63.5 | 22 | 66.1 | 91.7 | 45.2 | 18.2 | 6.6 | 0.09 | 0.17 | 76.4 | 81.2 | 72.5 |
| 18 | 63.4 | 77.1 | 53 | 15.1 | 69.1 | 91.9 | 42.8 | 20.8 | 3.4 | 0 | 0.14 | 74.2 | 82 | 67.9 |
| 19 | 65.7 | 83.9 | 50.5 | 17.2 | 72.9 | 96.4 | 36.5 | 20 | 1.4 | 0 | 0.13 | 74.4 | 83 | 67.3 |
| 20 | 66.3 | 76.4 | 55.8 | 16.1 | 59.1 | 94.1 | 24.7 | 20.5 | 5.5 | 0 | 0.17 | 74.6 | 80.3 | 70.3 |
| 21 | 62.9 | 79.8 | 44.9 | 12.3 | 67.6 | 93.3 | 30.8 | 20.3 | 3.1 | 0 | 0.15 | 72.6 | 80.3 | 65.7 |
| 22 | 74.3 | 87.7 | 61.3 | 24.5 | 74.4 | 91.2 | 54.4 | 18.5 | 6.6 | 0 | 0.17 | 75.5 | 82.6 | 69.9 |
| 23 | 75 | 91 | 65 | 28 | 76.7 | 96.3 | 41.2 | 17.4 | 2.5 | 0 | 0.15 | 78.4 | 85 | 73.4 |
| 24 | 80.3 | 94.5 | 67.8 | 31.1 | 69.9 | 97.5 | 33.9 | 18.4 | 6.2 | 0 | 0.21 | 79.5 | 85.3 | 74.4 |
| 25 | 79.3 | 89 | 69.5 | 29.2 | 65.3 | 90.9 | 41.8 | 18 | 6.5 | 0 | 0.19 | 80.4 | 85.7 | 76 |
| 26 | 68.8 | 75 | 65.8 | 20.4 | 74 | 95.7 | 56.4 | 8 | 6.8 | 0.08 | 0.1 | 76.9 | 79.8 | 75 |
| 27 | 72 | 77 | 66.4 | 21.7 | 92.6 | 97 | 80.5 | 4.9 | 5.5 | 1.7 | 0.06 | 74.7 | 76.5 | 72.7 |
| 28 | 72.6 | 78.5 | 66.5 | 22.5 | 88.5 | 96.6 | 67.7 | 7.2 | 6.8 | 0.13 | 0.09 | 74.1 | 76.5 | 72.4 |
| 29 | 65.2 | 70.4 | 60.7 | 15.5 | 90.9 | 96.9 | 80.1 | 4.7 | 2.4 | 0.07 | 0.05 | 70.7 | 72.3 | 69.1 |
| 30 | 75.8 | 79.6 | 70.2 | 24.9 | 88.6 | 96.8 | 79.9 | 2.8 | 10.6 | 1.48 | 0.06 | 73 | 74.4 | 70.6 |
| 31 | | | | | | | | | | | | | | |
| A | Day | | | | | | | | | | | | | |
| B | Avg Temp | | | (°F) | | | | I | | Avg Solar | | | (MJ.m ⁻² .day ⁻¹) | |
| C | Max Temp | | | (°F) | | | | J | | Avg Wind Speed | | | (mph) | |
| D | Min Temp | | | (°F) | | | | K | | Rainfall | | | (in) | |
| E | GDD | | | (base 50 °F) | | | | L | | Ref ET | | | (in day ⁻¹) | |
| F | Avg RH | | | (%) | | | | M | | Avg Soil Temp | | | (°F) | |
| G | Max RH | | | (%) | | | | N | | Max Soil Temp | | | (°F) | |
| H | Min RH | | | (%) | | | | O | | Min Soil Temp | | | (°F) | |

Table 6. Weather data for the Georgetown REC site October 2010.

| | | | | | | | | | | | | | | |
|----|----------|------|------|--------------|------|------|------|------|----------------|------|------|---|------|------|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| 1 | 65.5 | 76.5 | 55.7 | 16.1 | 80.3 | 96.5 | 54.7 | 7.6 | 8.8 | 1.4 | 0.12 | 70.8 | 73.8 | 66.2 |
| 2 | 57.4 | 68.8 | 47.4 | 8.1 | 70.6 | 95.1 | 41.3 | 19.1 | 2.8 | 0 | 0.11 | 66.3 | 72 | 61.6 |
| 3 | 55.1 | 60.2 | 47.6 | 3.9 | 93.2 | 96.4 | 82.9 | 3.1 | 6 | 0.89 | 0.04 | 63.1 | 65.2 | 61.2 |
| 4 | 52.8 | 57.4 | 50.8 | 4.1 | 93.5 | 96.3 | 88.2 | 2.6 | 9.1 | 0.21 | 0.03 | 61.1 | 62.7 | 59.4 |
| 5 | 52.8 | 59.3 | 46.7 | 3 | 86.5 | 96.3 | 66.9 | 5.7 | 5.5 | 0 | 0.06 | 59.9 | 61.8 | 58.7 |
| 6 | 52.1 | 62.2 | 41.6 | 1.9 | 78.7 | 97.9 | 52.1 | 11.8 | 3.6 | 0 | 0.08 | 58.8 | 62.6 | 55.1 |
| 7 | 61.3 | 73.3 | 50.6 | 11.9 | 65.8 | 91.2 | 40.2 | 17.4 | 6.5 | 0 | 0.14 | 60.5 | 65.4 | 56.6 |
| 8 | 61.5 | 75.2 | 48.3 | 11.7 | 61.9 | 89.3 | 30.3 | 18 | 4.6 | 0 | 0.14 | 61.5 | 66.7 | 57.1 |
| 9 | 64.3 | 79.3 | 53.1 | 16.2 | 63.8 | 90.4 | 25.9 | 17 | 3.4 | 0 | 0.13 | 62.3 | 67.6 | 57.8 |
| 10 | 63.9 | 78.7 | 48.2 | 13.4 | 64 | 88.9 | 37.6 | 16.4 | 3.8 | 0 | 0.13 | 63.2 | 68.7 | 58.4 |
| 11 | 72.2 | 85.4 | 60.1 | 22.7 | 59.6 | 87.8 | 28.2 | 15.6 | 3.6 | 0 | 0.14 | 66.5 | 71.7 | 62.6 |
| 12 | 68.9 | 81.4 | 58.6 | 20 | 69.8 | 94.2 | 38.4 | 15.7 | 2.8 | 0 | 0.12 | 67.6 | 72.9 | 63.8 |
| 13 | 58.4 | 67.6 | 47.5 | 7.5 | 72.1 | 96 | 47.9 | 16 | 4.3 | 0 | 0.1 | 65.5 | 70.1 | 61.9 |
| 14 | 52.2 | 59.7 | 44 | 1.8 | 93.1 | 97.1 | 77 | 2.3 | 2.9 | 0.57 | 0.03 | 60.8 | 63.1 | 59 |
| 15 | 54.7 | 62.5 | 48.5 | 5.5 | 64.5 | 92 | 41.6 | 14.3 | 9.5 | 0 | 0.12 | 57.9 | 60.8 | 55.3 |
| 16 | 55 | 64.6 | 46.6 | 5.6 | 54.1 | 78.8 | 29 | 16.8 | 8.6 | 0 | 0.14 | 56.5 | 60.1 | 53.8 |
| 17 | 56.9 | 71.8 | 40.9 | 6.4 | 65.4 | 95.2 | 31.6 | 15.9 | 4.8 | 0 | 0.12 | 56.7 | 62 | 52.1 |
| 18 | 54.1 | 67.4 | 43.4 | 5.4 | 71.4 | 95.5 | 35.3 | 13.5 | 1.2 | 0 | 0.07 | 57.9 | 63.3 | 53.5 |
| 19 | 55.5 | 60.4 | 48.3 | 4.4 | 79.1 | 95.3 | 69.8 | 6.4 | 4.2 | 0 | 0.05 | 59 | 61.2 | 56.9 |
| 20 | 51.7 | 54.1 | 46.5 | 0.3 | 95.9 | 97 | 93.5 | 1.4 | 1.1 | 0.65 | 0.02 | 57.5 | 58.2 | 56.9 |
| 21 | 55.6 | 67.1 | 41.3 | 4.2 | 73.9 | 96.9 | 40.5 | 13.4 | 6.2 | 0.01 | 0.11 | 58 | 62 | 55.4 |
| 22 | 47.1 | 56.9 | 37.6 | 0 | 66.3 | 94.8 | 36.3 | 15.9 | 5.3 | 0 | 0.09 | 54 | 57.3 | 51.4 |
| 23 | 51.4 | 67.5 | 34.8 | 1.1 | 70.6 | 96.4 | 31.8 | 15.1 | 3.9 | 0 | 0.1 | 53.5 | 58.7 | 48.9 |
| 24 | 62.3 | 73 | 54.6 | 13.8 | 64.2 | 80.9 | 38.5 | 12.1 | 5.3 | 0 | 0.12 | 57.4 | 61.3 | 54.5 |
| 25 | 66.9 | 74.4 | 57.5 | 16 | 79.5 | 92.1 | 63.8 | 8.2 | 8.4 | 0 | 0.09 | 60.2 | 63.8 | 56.9 |
| 26 | 66.8 | 75.4 | 63.3 | 19.3 | 86.1 | 93.6 | 73.3 | 7.2 | 8 | 0 | 0.07 | 62 | 65.3 | 61.1 |
| 27 | 74.3 | 81.8 | 69.9 | 25.8 | 86.1 | 94.8 | 68.7 | 7.2 | 8.8 | 0.47 | 0.1 | 67.5 | 70.5 | 64.6 |
| 28 | 70 | 78.3 | 58.3 | 18.3 | 70.6 | 95.8 | 38 | 13 | 6.5 | 0.01 | 0.13 | 67.8 | 70.4 | 64.1 |
| 29 | 51.7 | 58.1 | 43.8 | 1 | 56.7 | 69.8 | 41.3 | 12.5 | 9 | 0 | 0.11 | 59.2 | 64 | 55.6 |
| 30 | 47.8 | 58 | 35.4 | 0 | 66.4 | 93.6 | 36.1 | 13 | 4.8 | 0 | 0.08 | 55.3 | 58.8 | 52.2 |
| 31 | 55.4 | 65.7 | 46 | 5.9 | 58.1 | 85.6 | 32.9 | 12.9 | 6.9 | 0 | 0.11 | 55.7 | 58.7 | 53.5 |
| A | Day | | | | | | | | | | | | | |
| B | Avg Temp | | | (°F) | | | | I | Avg Solar | | | (MJ.m ² .day ⁻¹) | | |
| C | Max Temp | | | (°F) | | | | J | Avg Wind Speed | | | (mph) | | |
| D | Min Temp | | | (°F) | | | | K | Rainfall | | | (in) | | |
| E | GDD | | | (base 50 °F) | | | | L | Ref ET | | | (in day ⁻¹) | | |
| F | Avg RH | | | (%) | | | | M | Avg Soil Temp | | | (°F) | | |
| G | Max RH | | | (%) | | | | N | Max Soil Temp | | | (°F) | | |
| H | Min RH | | | (%) | | | | O | Min Soil Temp | | | (°F) | | |

Table 7. Weather data for the Georgetown REC site November 2010.

| | | | | | | | | | | | | | | |
|----|----------|------|------|--------------|------|------|------|------|----------------|------|------|---|------|------|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| 1 | 42.2 | 51.4 | 33.8 | 0 | 65.6 | 92.6 | 39.8 | 14.2 | 4.1 | 0 | 0.06 | 52.7 | 55.6 | 50.2 |
| 2 | 39.5 | 51.4 | 31.1 | 0 | 74.5 | 92.3 | 43.8 | 11.9 | 3.4 | 0 | 0.05 | 50.5 | 54.6 | 47.3 |
| 3 | 45.6 | 56.4 | 33.1 | 0 | 79 | 93.2 | 46.7 | 9.5 | 1.5 | 0 | 0.04 | 51.3 | 55.1 | 48.4 |
| 4 | 52.4 | 56.8 | 46.3 | 1.5 | 96.1 | 97.7 | 89.8 | 1.9 | 4.4 | 0.72 | 0.02 | 54.9 | 56.6 | 53.4 |
| 5 | 47.1 | 55.4 | 38.3 | 0 | 83.1 | 95.5 | 52.9 | 9.7 | 5.2 | 0.04 | 0.06 | 53.7 | 55.7 | 51.3 |
| 6 | 43.2 | 52.1 | 35.4 | 0 | 76.1 | 96.3 | 52.4 | 10.2 | 4.6 | 0 | 0.05 | 50.7 | 53.4 | 48.3 |
| 7 | 41 | 48.9 | 34.2 | 0 | 66.1 | 83.2 | 43.1 | 13.4 | 7.5 | 0 | 0.07 | 48.2 | 50.7 | 45.9 |
| 8 | 48 | 57.9 | 37.7 | 0 | 53.6 | 74.3 | 37.1 | 12.5 | 9.6 | 0 | 0.11 | 48 | 50.6 | 45.3 |
| 9 | 48.4 | 57.5 | 39.5 | 0 | 66.7 | 83.9 | 50.6 | 12.8 | 6.8 | 0 | 0.08 | 49.2 | 52.6 | 46.3 |
| 10 | 48.7 | 56.6 | 40.2 | 0 | 78.9 | 94.7 | 62.6 | 5 | 5.3 | 0 | 0.05 | 50.1 | 52.4 | 47.9 |
| 11 | 42 | 53.1 | 31.8 | 0 | 75.1 | 93.8 | 47 | 12.8 | 4.3 | 0 | 0.06 | 48.7 | 52.3 | 45.9 |
| 12 | 43.2 | 59.4 | 31.8 | 0 | 63.6 | 94.2 | 25.1 | 13 | 4.2 | 0 | 0.08 | 47.2 | 51.2 | 44 |
| 13 | 44.4 | 61.2 | 32 | 0 | 70.4 | 93.7 | 42.1 | 12.4 | 2.7 | 0 | 0.05 | 47.4 | 52.2 | 43.6 |
| 14 | 45.1 | 63.5 | 29.7 | 0 | 79.8 | 97.8 | 38.4 | 12.2 | 1.6 | 0 | 0.05 | 47.7 | 52.5 | 43.7 |
| 15 | 49.6 | 62.6 | 40.4 | 1.5 | 92.7 | 98.7 | 67.1 | 7.9 | 1.2 | 0.08 | 0.03 | 50.8 | 54.6 | 47.7 |
| 16 | 56.8 | 62.9 | 49.2 | 6 | 87.9 | 97.6 | 71.2 | 4.2 | 5.7 | 0.09 | 0.05 | 53.4 | 55.9 | 51.5 |
| 17 | 57.9 | 66 | 46.8 | 6.4 | 61.6 | 93.4 | 39.2 | 11.6 | 12.1 | 0.28 | 0.12 | 55.2 | 56.9 | 51.3 |
| 18 | 47 | 54.7 | 38.6 | 0 | 67.5 | 87.5 | 47.3 | 6 | 3.8 | 0 | 0.05 | 50.1 | 52.2 | 48.1 |
| 19 | 41.3 | 50.7 | 30.6 | 0 | 73.6 | 92.7 | 43.2 | 9.1 | 3.5 | 0 | 0.05 | 47.8 | 50.1 | 45.6 |
| 20 | 46.9 | 61.5 | 35.4 | 0 | 75.1 | 94.5 | 44.7 | 11.1 | 4.3 | 0 | 0.06 | 47.6 | 51.7 | 44.4 |
| 21 | 44.7 | 56.4 | 34.3 | 0 | 83.1 | 95.8 | 62.5 | 10.4 | 2.5 | 0 | 0.04 | 48 | 51.8 | 44.9 |
| 22 | 52.7 | 66.5 | 38.1 | 2.3 | 82.3 | 98.4 | 57.8 | 10.1 | 4.8 | 0 | 0.06 | 49.8 | 53.8 | 46.1 |
| 23 | 60.4 | 68.8 | 52.2 | 10.5 | 73.2 | 88.8 | 34 | 8.2 | 8 | 0 | 0.11 | 53.1 | 56.3 | 50.3 |
| 24 | 44 | 56.6 | 33.8 | 0 | 52.2 | 83.9 | 28.1 | 11.3 | 6.9 | 0 | 0.09 | 49.4 | 53.5 | 47 |
| 25 | 45.8 | 55.8 | 38.8 | 0 | 75.4 | 87.2 | 60 | 2.6 | 3.6 | 0.02 | 0.04 | 48.2 | 50.1 | 46.8 |
| 26 | 54.5 | 62.9 | 41.8 | 2.4 | 67.7 | 92.2 | 30.6 | 2.4 | 9.1 | 0 | 0.11 | 52.1 | 54.7 | 48.6 |
| 27 | 38.9 | 45.5 | 33.5 | 0 | 50.4 | 64.1 | 39 | 10.7 | 8.2 | 0 | 0.07 | 46.1 | 48.6 | 43.8 |
| 28 | 35.9 | 46.3 | 26.3 | 0 | 66.7 | 93.7 | 42 | 11 | 2.6 | 0 | 0.03 | 44.2 | 47.6 | 41.8 |
| 29 | 37.7 | 51.6 | 23.2 | 0 | 81 | 95.4 | 53.4 | 10.8 | 1.6 | 0 | 0.03 | 43.1 | 46.9 | 39.6 |
| 30 | 57.2 | 63 | 45.4 | 4.2 | 81.6 | 93.4 | 66.8 | 3.2 | 6 | 0.01 | 0.05 | 48.7 | 52.3 | 44.6 |
| 31 | | | | | | | | | | | | | | |
| A | Day | | | | | | | | | | | | | |
| B | Avg Temp | | | (°F) | | | | I | Avg Solar | | | (MJ.m ² .day ⁻¹) | | |
| C | Max Temp | | | (°F) | | | | J | Avg Wind Speed | | | (mph) | | |
| D | Min Temp | | | (°F) | | | | K | Rainfall | | | (in) | | |
| E | GDD | | | (base 50 °F) | | | | L | Ref ET | | | (in day ⁻¹) | | |
| F | Avg RH | | | (%) | | | | M | Avg Soil Temp | | | (°F) | | |
| G | Max RH | | | (%) | | | | N | Max Soil Temp | | | (°F) | | |
| H | Min RH | | | (%) | | | | O | Min Soil Temp | | | (°F) | | |