

Table 1. Effect of fairway rolling frequency on dollar spot infection centers, 2015.

| Frequency      | Dollar Spot Infection Centers <sup>z,y</sup> |        |        |        |        |        |        |        |       | AUDPC <sup>x</sup> |
|----------------|--|--------|--------|--------|--------|--------|--------|--------|-------|--------------------|
|                | 3-Aug  | 17-Aug | 24-Aug | 26-Aug | 31-Aug | 10-Sep | 17-Sep | 25-Sep | 2-Oct |                    |
| 0              | 19 a <sup>w</sup>                            | 27 a   | 45 a   | 56 a   | 51 a   | 52 a   | 52 a   | 38 a   | 45 a  | 2635 a             |
| 3X             | 12 ab  | 16 b   | 24 b   | 36 b   | 33 b   | 33 b   | 26 b   | 22 b   | 32 b  | 1593 b             |
| 4X             | 11 ab  | 14 b   | 26 b   | 32 bc  | 21 b   | 28 bc  | 20 bc  | 21 b   | 19 c  | 1368 bc            |
| 6X             | 6 b  | 8 b    | 14 b   | 21 c   | 17 b   | 18 c   | 14 c   | 15 c   | 18 c  | 906 c              |
| <i>P</i> value | *  | **     | **     | ***    | ***    | ***    | ***    | ***    | ***   | ***                |

<sup>z</sup> All fungicide program treatments were included for analysis (untreated, calendar and threshold programs).

<sup>y</sup> Number of dollar spot infection centers per plot were reported as the mean of 4 replications.

<sup>x</sup> Area under the disease progress curve were reported as a mean of 4 replications.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).

Table 2. Effect of fungicide programs on dollar spot infection centers, 2015.

| Fungicide      | Dollar Spot Infection Centers <sup>z,y</sup> |        |        |       |        |        |        |        |        |        |        |        | AUDPC <sup>x</sup> |        |
|----------------|--|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|--------|
|                | 14-Jul                                       | 19-Jul | 27-Jul | 3-Aug | 10-Aug | 17-Aug | 24-Aug | 26-Aug | 31-Aug | 10-Sep | 17-Sep | 25-Sep |                    | 2-Oct  |
| Untreated      | 5 a <sup>w</sup>                             | 11 a   | 14 a   | 37 a  | 35 a   | 49 a   | 78 a   | 89 a   | 81 a   | 97 a   | 82 a   | 72 a   | 83 a               | 4603 a |
| Calendar       | 0 b  | 2 b    | 0 b    | 1 b   | 3 b    | 0 b    | 3 b    | 0 c    | 1 b    | 0 b    | 0 b    | 0 b    | 0 b                | 48 b   |
| Threshold      | 4 a  | 4 b    | 1 b    | 0 b   | 0 b    | 0 b    | 0 b    | 21 b   | 9 b    | 0 b    | 0 b    | 0 b    | 2 b                | 225 b  |
| <i>P</i> value | **   | **     | ***    | ***   | ***    | ***    | ***    | ***    | ***    | ***    | ***    | ***    | ***                | ***    |

<sup>z</sup> All fairway rolling frequencies were included in the analysis (0, 3X, 4X and 6X).

<sup>y</sup> Number of dollar spot infection centers per plot were reported as the mean of 4 replications.

<sup>x</sup> Area under the disease progress curve were reported as a mean of 4 replications.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).

Table 3. Effect of fairway rolling frequency on dollar spot infection centers among untreated plots, 2015.

| Frequency      | Dollar Spot Infection Centers <sup>z</sup> <sup>y</sup> |        |        |        |        |        |        |        |       | AUDPC <sup>x</sup> |
|----------------|---|--------|--------|--------|--------|--------|--------|--------|-------|--------------------|
|                | 3-Aug   | 17-Aug | 24-Aug | 26-Aug | 31-Aug | 10-Sep | 17-Sep | 25-Sep | 2-Oct |                    |
| 0              | 58 a <sup>w</sup>                                       | 81 a   | 126 a  | 130 a  | 133 a  | 154 a  | 153 a  | 114 a  | 133 a | 7424 a             |
| 3X             | 36 b  | 49 b   | 67 bc  | 86 b   | 88 b   | 99 b   | 77 b   | 64 b   | 92 b  | 4470 b             |
| 4X             | 33 b  | 43 bc  | 76 b   | 85 b   | 57 b   | 84 bc  | 59 bc  | 64 b   | 56 c  | 3927 bc            |
| 6X             | 19 c  | 24 c   | 41 c   | 55 c   | 48 b   | 53 c   | 41 c   | 46 b   | 53 c  | 2592 c             |
| <i>P</i> value | *   | **     | **     | ***    | ***    | ***    | ***    | ***    | ***   | ***                |

<sup>z</sup> Only data from the untreated plots was used in this analysis.

<sup>y</sup> Number of dollar spot infection centers per plot were reported as the mean of 4 replications.

<sup>x</sup> Area under the disease progress curve were reported as a mean of 4 replications.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).

Table 4. Effect of fairway rolling frequency on dollar spot infection centers, 2016.

| Frequency      | Dollar Spot Infection Centers <sup>zy</sup> |        |        |        |        |        |        |       |        |        |        |        |         |                    |
|----------------|---|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|---------|--------------------|
|                | 8-Jun                                       | 16-Jun | 22-Jun | 28-Jun | 13-Jul | 21-Jul | 27-Jul | 4-Aug | 15-Aug | 24-Aug | 1-Sept | 7-Sept | 14-Sept | AUDPC <sup>x</sup> |
| 0              | 7   | 15     | 10     | 9      | 16     | 30     | 28     | 50    | 57     | 58     | 67 b   | 82     | 73      | 3589               |
| 3X             | 2   | 9      | 6      | 4      | 22     | 53     | 55     | 78    | 89     | 87     | 110 a  | 118    | 94      | 5283               |
| 4X             | 3   | 5      | 4      | 3      | 8      | 20     | 24     | 35    | 60     | 45     | 53 b   | 65     | 66      | 2782               |
| 6X             | 2   | 4      | 2      | 2      | 12     | 31     | 28     | 53    | 53     | 56     | 58 b   | 74     | 63      | 3170               |
| <i>P</i> value | NS  | NS     | NS     | NS     | NS     | NS     | NS     | NS    | NS     | NS     | *      | NS     | NS      | NS                 |

<sup>z</sup> All fungicide program treatments were included for analysis (untreated, calendar and threshold programs).

<sup>y</sup> Number of dollar spot infection centers per plot were reported as the mean of 4 replications.

<sup>x</sup> Area under the disease progress curve were reported as a mean of 4 replications.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).

Table 5. Effect of fungicide programs on dollar spot infection centers, 2016.

| Fungicide      | Dollar Spot Infection Centers <sup>zy</sup> |        |        |        |                   |        |        |       |        |        |        |       |        |                    |
|----------------|---|--------|--------|--------|-------------------|--------|--------|-------|--------|--------|--------|-------|--------|--------------------|
|                | 8-Jun                                       | 16-Jun | 22-Jun | 28-Jun | 13-Jul            | 21-Jul | 27-Jul | 4-Aug | 15-Aug | 24-Aug | 1-Sept | 7-Sep | 14-Oct | AUDPC <sup>x</sup> |
| Untreated      | 5   | 11     | 6      | 5      | 43 a <sup>w</sup> | 100 a  | 101 a  | 161 a | 169 a  | 183 a  | 206 a  | 243 a | 223 a  | 10456 a            |
| Calendar       | 1   | 0      | 0      | 0      | 0 b               | 0 b    | 0 b    | 0 b   | 0 b    | 0 b    | 0 b    | 0 b   | 0 b    | 17 b               |
| Threshold      | 6   | 14     | 11     | 8      | 0 b               | 0 b    | 0 b    | 1 b   | 26 b   | 1 b    | 10 b   | 12 b  | 2 b    | 646 b              |
| <i>P</i> value | NS  | NS     | NS     | NS     | ***               | ***    | ***    | ***   | ***    | ***    | ***    | ***   | ***    | ***                |

<sup>z</sup> All fairway rolling frequencies were included in the analysis (0, 3X, 4X and 6X).

<sup>y</sup> Number of dollar spot infection centers per plot were reported as the mean of 4 replications.

<sup>x</sup> Area under the disease progress curve were reported as a mean of 4 replications.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).

Supplemental Table 6. Effect of fairway rolling frequency on soil bulk density, turf quality and organic matter (thatch), 2016.

| Frequency      | Bulk Density (g/cm <sup>3</sup> ) <sup>z</sup> | Turf Quality <sup>y</sup> |        | Organic Matter (Thatch) <sup>x</sup> |
|----------------|--|---------------------------|--------|--------------------------------------|
|                | 2-Nov  | 27-Jul                    | 7 Sept | 14 Sept                              |
| 0              | 1.32   | 5.1 b <sup>w</sup>        | 4.6    | 14.4%                                |
| 3X             | 1.38   | 5.8 a                     | 5.5    | 15.2%                                |
| 4X             | 1.34   | 5.9 a                     | 5.3    | 15.0%                                |
| 6X             | 1.42   | 6.1 a                     | 5.5    | 14.1%                                |
| <i>P</i> value | NS   | *                         | NS     | NS                                   |

<sup>z</sup> Only the threshold fungicide program treatment was included for analysis. Bulk density is reported as a mean of 4 replications.

<sup>y</sup> Turf quality was visually assessed where 1=dead, 6=acceptable, 9=dark green.

<sup>x</sup> Soil organic matter in the top inch of the soil was determined to examine the effect of rolling on thatch degradation.

<sup>w</sup> Means followed by the same letter are not significantly different according to Fisher's protected least significant difference test ( $\alpha = 0.05$ ).