

**2017 OSU TURF FIELD DAY**  
**Lewis Brown Horticulture Farm**  
**Corvallis, OR**  
**33329 Peoria Rd.**  
**Corvallis, OR 97333**  
**Thursday – August 31, 2017**



**Oregon State**  
**University**

**Speakers:**

Alec Kowalewski, Turfgrass Specialist  
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Brian McDonald, Senior Faculty Research Assistant  
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## Field Day Agenda

<b>Research PowerPoint Presentations: 9:00 to 10:00</b>
Opening Remarks. Speaker – A. Kowalewski
Fungicide Alternatives for the Control of Microdochium Patch. Speaker - C. Mattox (Page 3)
Optimizing Irrigation Rates and Frequencies for the Willamette Valley Speaker – C. Olsen (Page 4)
Low Maintenance Ground Covers of Oregon Schools. Speaker – G. Micah (Page 5)
<b>Formal Field Tour: 10:00 to 11:00 am</b>
<b>Stop 1:</b> Management of Anthracnose on Annual Bluegrass. Speaker – B. McDonald (Page 6 and 7)
<b>Stop 2:</b> National Turfgrass Evaluation Project Fine Fescue Trial With and Without Traffic. Speaker – A. Kowalewski (Page 8 and 9)
<b>Stop 3:</b> National Turfgrass Evaluation Project Perennial Ryegrass Trial. Speaker – B. McDonald and A. Kowalewski (Page 10 and 11)
<b>Open House: 11:00 to 11:30 am</b>
<b>Featured Projects:</b> <ul style="list-style-type: none"> <li>• Perennial Ryegrass Cultivars for Greywater Irrigation – C. Olsen (Page 12 and 13)</li> <li>• Granular Broadleaf Herbicides – C. Mattox (Page 14)</li> <li>• Liquid Broadleaf Herbicides – M. Gould (Page 15)</li> <li>• Annual Bluegrass Seed Head Suppression – B. McDonald (Page 16)</li> </ul>
<b>Lunch: 11:30 to 12:30 pm at Lewis Brown Farm</b>
<b>Jason Oliver Memorial Golf Tournament and Dinner 1:00 to 6:00 pm at Trysting Tree Golf Course</b>
<b>Exhibitor List and Golf Outing Sponsors: Page 17</b>
<b>2016/2017 Research Supporters: Page 18</b>
<b>2017 Scholarships and Awards: Page 19</b>

**Fungicide Alternatives for the Control of Microdochium Patch.**

**Clint Mattox**

**9:15 to 9:30 am**

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**INTRODUCTION:**

Since 2013, twelve field trials have taken place focusing on the objective to manage Microdochium patch on annual bluegrass putting greens in the absence of fungicides. These trials have focused on the use of nitrogen, iron sulfate, sulfur, phosphite, horticulture oils, biological control products, and cultural practices.

**FERTILITY TRIALS:**

Based on data collected from 2103-2015, an article about the effects of iron sulfate and nitrogen on annual bluegrass putting greens was accepted for publication in the journal Crop Science and a summary of this research will appear later this winter in GCM. This two-year study strongly suggested that urea applied at 0.1 #N/M every two weeks does not increase the incidence of Microdochium patch on annual bluegrass putting greens, while 0.2 #N/M does lead to more disease. This study also suggested that 2.0#FeSO<sub>4</sub>/M applied every two weeks will suppress the incidence of Microdochium patch, although this rate of iron sulfate will lead to abiotic damage. The second phase of this research concluded in April 2017 with an additional two field trials considering the differences in spray carrier volumes and timing frequency of 2.0#FeSO<sub>4</sub>/M. This research suggests that spray applications of every two weeks was the most effective as suppressing Microdochium patch and that higher spray carrier volumes (7.5 or 10.0 gal/M) still lead to abiotic damage although the turfgrass color is not darkened as much as with a lower carrier volume (2.5 or 5.0 gal/M).

**ALTERNATIVE PRODUCTS TRIALS:**

Trials taking place from 2013-2015 strongly suggested that Civitas One, sulfur, phosphite, or rolling applied alone or in any combination would suppress Microdochium patch, although treatments including rolling in combination with Civitas One would lead to abiotic damage. Since 2015, five more trials have taken place to explore methods of managing Microdochium patch without the adverse effects of abiotic damage. The data from these subsequent trials suggest that combinations of 0.25#S/M and phosphite (applied at 0.075 # H<sub>3</sub>PO<sub>3</sub> /M) applied every two weeks suppress the incidence of Microdochium patch better than sulfur or phosphite applied at the same rates alone.

Among all the trials to date, the most promising results have been observed when treatments of 8.5 oz. Civitas One/M were applied every four weeks in combination with 0.075 # H<sub>3</sub>PO<sub>3</sub> (phosphite)/M in rotation with a combination of 0.5# S/M and 0.075 # H<sub>3</sub>PO<sub>3</sub> /M. Under traffic replication (76 rounds of golf a day), this treatment combination provided suppression of Microdochium patch comparable to a traditional fungicide and no abiotic damage was observed at any time in two separate trial years.

**UPCOMING TRIALS / PROJECTS:**

Two more field trials are taking place this winter. One is exploring rates of Civitas One and phosphite at different timings and also the effects of using Civitas One for only certain months of the winter. The second trial is exploring the use of phosphite in combination with iron sulfate to elucidate if the addition of phosphite may reduce overall iron sulfate use and lead to less abiotic damage observed.

In addition, the Oregon State University turfgrass program is teaming up with the University of Wisconsin and the Irish Turfgrass Institute to develop a Microdochium patch model on annual bluegrass. We take light box 7 days a week throughout the winter to assess disease development and will work on finding correlations with weather station data over the three sites. More information to come soon!

**Optimizing Irrigation Rates and Frequencies for the Willamette Valley**

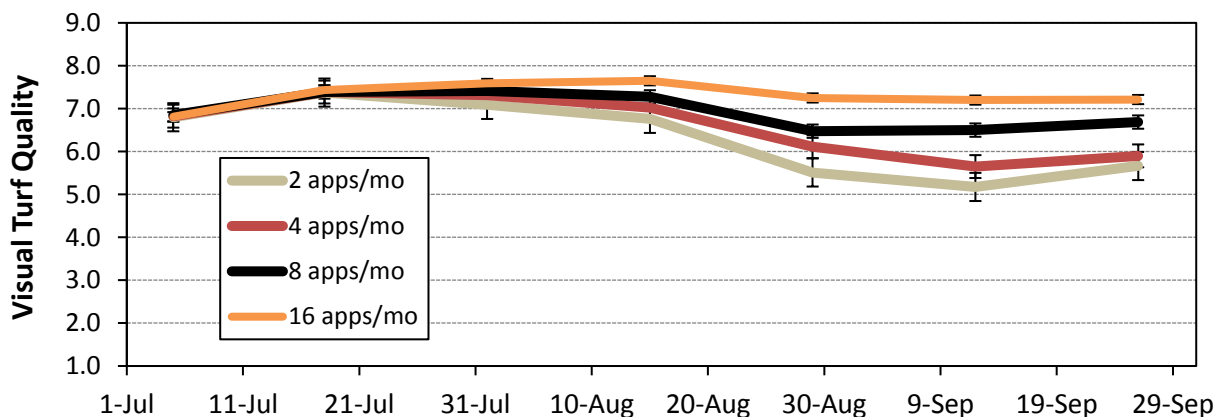
Conner Olsen

9:30 to 9:45

**Introduction:** The OSU Master Gardener Program has been providing top-notch advice to amateur gardeners for many years; advice considered to be the most sustainable, best management practices (BMPs) known to date. One area of ambiguity, however, has come in their recommendation for turfgrass irrigation requirements, where it was simply stated that cool-season grasses in the cool-humid Pacific Northwest should be supplied with an inch of precipitation/irrigation per week. Unfortunately, this recommendation did nothing to answer the age-old question of whether turfgrasses should receive light-and-frequent or deep-and-infrequent irrigation applications. This experiment looks to solve that question through a factorial design that incorporates reduced irrigation rates ( $\leq 1''$ /week) applied at different frequencies.

**Materials and Methods:** A field experiment is being conducted at the Oak Creek Center for Urban Horticulture (OCCUH; OSU campus) to determine optimal *set-it-and-forget-it* watering schedule for a typical lawn in the Willamette Valley. Perennial ryegrass (*Lolium perenne*) was established on a native (sandy clay loam) soil beginning in August 2015. Experimental design is a randomized block design with 4 replications. Factors include irrigation rates (2, 2.5, 3, 3.5, and 4 inches per month), and frequencies (2, 4, 8, and 16 applications per month).

**Findings:** Plots were established Fall 2015, and treatments began the first week of July 2016. In the first year of this study, it was observed that turf quality was directly related to the frequency of irrigation applications (see figure), while the intensity of irrigation events had no significant impact. Plots were renovated Fall 2016 and the study was repeated for a second year beginning the first week of July 2017. This second year is providing similar results, however, reduced irrigation rates are having less success with the severity of this summer’s heat. Data collection will be completed by October 2017.



Low Maintenance Ground Covers of Oregon Schools.

Gould Micah

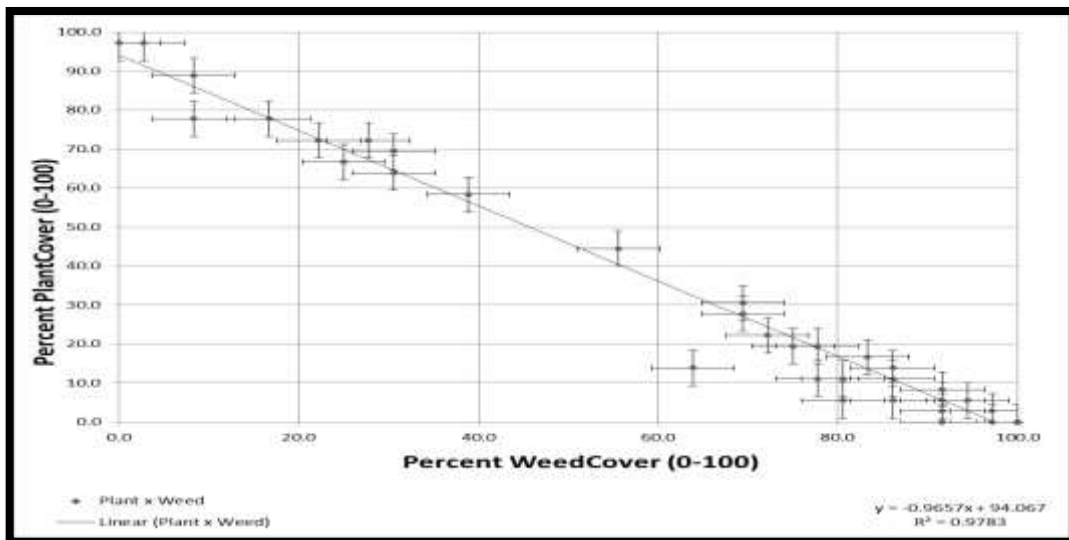
9:45 to 10:00

The **OBJECTIVE** of this project is to evaluate the establishment, drought tolerance, weed suppression, and visual quality of various ground covers and grasses in a low situation. This data can potentially be used by school grounds employees to get an idea of fast establishing, low maintenance ground covers that require low input plants to be utilized in their landscapes.

**Methods and Materials:** Research was initiated on 21 April 2015. Factors include species and year. This field research is being conducted at Lewis-Brown Horticulture Research Farm. During establishment, May to September 2015, irrigation was applied at an average rate of 1 inch per week. After September 2015, irrigation was discontinued and will remain off for the remainder of the experiment (May 2017). Response variables include: percent coverage, visual quality ratings on a 1-5 scale, and dry weed mass, which are taken monthly.

Plant Species	% Cover	% Weed	Weed Mass (g)	Rating (1-5)
col. bentgrass	85.1	13.9	69.3	4.1
strong red fescue	68.1	24.7	47.9	3.6
chewings fescue	66.0	30.2	114.1	3.4
stonecrop	24.0	70.1	475.5	1.6
creeping juniper	22.6	65.0	377.5	2.3
dwarf periwinkle	7.0	87.5	582.6	1.1
bearberry cotoneaster	5.6	86.5	742.6	1.1
point reyes ceanothus	4.9	88.5	539.9	1.0
wintercreeper	1.1	89.6	534.8	1.0
green carpet	0.7	86.8	680.1	1.0

**Current Findings:** Differences in percent plant coverage and weed cover have been observed as well as visual quality. From May 2015 to May 2017, colonial bentgrass, chewings fescue, and strong red fescue had the highest percent of plant coverage among all ground covers (85%, 68% and 66%, respectively). The next closest ground covers were Sedum spurium, (24%) and Juniperus horizontalis (22%). From there, the plants drop off in plant coverage and increase in weed coverage. Similar rankings for percent weed cover (turfgrasses performed the best followed by s. spurium and j. horizontalis. Strong correlations between percent weed cover vs. plant cover and visual quality were observed.



**Formal Field Tour – 10:00 to 11:00**

**Stop 1: Management of Anthracnose on Annual Bluegrass**  
**Brian McDonald**

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Treatments Applied: 6/16/2017, 6/30/2017, 7/14/2017, 7/28/2017, 8/11/2017, and 8/25/2017

<b>Treatment</b>	<b>Products</b>	<b>oz. per 1,000 sq. ft.</b>
1	Untreated	Na
2	Daconil Action + A14658	3.5 + 6.0
3	Daconil Action + Signature Xtra	3.5 + 4.0
4	Mirage rotated with Signature Xtra + Daconil Ultrex	1.5/ 4.0 + 3.2
5	Mirage + Primo rotated with Signature Xtra + Daconil Ultrex + Primo	1.5 + 0.10/ 4.0 + 3.2 + 0.10
6	Oreon + PAR	4.0 + 0.37
7	Oreon + PAR	6.0 + 0.37
8	Oreon + PAR	8.0 + 0.37
9	Autilus + PAR	6.0 + 0.37
10	Treatment 10: Rotation	See Below
11	Heritage Action + Primo rotated with Daconil Action + Primo	0.40 + 0.10/ 3.5 + 0.10
12	A22063A + Heritage Action + Primo rotated with Daconil Action + A22063A + Primo	0.50 + 0.40 + 0.10/ 3.5 + 0.5 + 0.10
13	Daconil Action + Appear	3.5 + 6.0
14	Daconil Action + Appear + Primo	3.5 + 6.0 + 0.10
15	Velista + Primo rotated with Daconil Action + Primo	0.50 + 0.10/ 3.5 + 0.10
16	A22063A + Primo rotated with Daconil Action + Primo	0.50 + 0.10/ 3.5 + 0.10

<b>Application</b>	<b>Treatment 10: Rotation</b>	<b>oz. per 1,000 sq. ft.</b>
1	Oreon + Par	8.0 + 0.37
2	Signature Xtra + Daconil Weatherstik	4.0 + 3.6
3	Velista + Affirm	0.3 + 4.0
4	Oreon + Medallion SC + Par	4.0 + 1.5 + 0.37
5	Signature Xtra + Daconil Weatherstik	4.0 + 3.6
6	Velista + Affirm	0.3 + 4.0

Formal Field Tour – 10:00 to 11:00

Stop 1: Management of Anthracnose on Annual Bluegrass Continued...

																East ---->																	
Rep 1				Rep 2				Rep 3				Rep 4																					
10				14				7				9				6																	
	5	16			15	8			13				12				15	6															
		4			2	1			9				8					5															
	12	11				12			10				4					4															
	6	14				7			16				6					6															
	1	15				16			3									3															
	8	9				11			12									10															
	7	15				11			14									16															
	3	9				16			12									2															

Formal Field Tour – 10:00 to 11:00

Stop 2: National Turfgrass Evaluation Project Fine Fescue Trial with and without Traffic  
Alec Kowalewski

**2014 NTEP Fine Fescue**

Seeded 09/17/14; watered Friday 9/18

Plot Size 4' X 5'

Area = 36' X 70' = 2,520 sq ft

42 Entries

14 Entries per Row

3 Rows per Rep

Hard Fescue
Sheep Fescue
Chewings
Creeping Red

		South-->											
		Rep 3				Rep 2				Rep 1			
5'	4'	31	28	4	42	15	14	25	35	17			
	8	32	33	41	16	13	9	1	26				
	37	25	5	40	17	12	23	39	24				
	27	2	36	39	18	11	21	38	3				
	23	11	6	38	19	10	4	33	29				
	22	34	30	37	20	9	15	14	28				
	18	1	26	36	21	8	2	27	41				
	12	3	24	35	22	7	40	13	20				
	42	13	17	34	23	6	30	10	12				
	19	29	41	33	24	5	36	42	32				
	20	38	14	32	25	4	22	19	16				
	16	21	7	31	26	3	34	11	6				
	35	39	15	30	27	2	5	7	31				
10	9	40	29	28	1	37	8	18					



**Formal Field Tour – 10:00 to 11:00**

**Stop 2: National Turfgrass Evaluation Project Fine Fescue Trial with and without Traffic Continued...**

<b>Number</b>	<b>Name</b>	<b>Species</b>	<b>Sponsor</b>
1	Minimus	Hard Fescue	Landmark Turf & Native Seed
2	Marvel*	Strong Creeping Red	Landmark Turf & Native Seed
3	7C34	Strong Creeping Red	Brett Yound Seeds Ltd
4	DLFPS-FL/3066	Hard Fescue	DLF Pickseed USA
5	DLFPS-FRC/3060	Hard Fescue	DLF Pickseed USA
6	DLFPS-FL/3060	Hard Fescue	DLF Pickseed USA
7	DLFPS-FRR/3069	Strong Creeping Red	DLF Pickseed USA
8	MNHD-14	Hard Fescue	University of Minnesota
9	DLFPS-FRR/3068	Strong Creeping Red	DLF Pickseed USA
10	Quatro*	Sheep	Standard
11	Boreal*	Strong Creeping Red	Standard
12	Gladiator* TH456	Hard Fescue	Columbia River Seed
13	7H7	Hard Fescue	John Deere Landscapes
14	Sword*	Hard Fescue	Columbia River Seed
15	Seabreeze GT*	Slender Creeping Red	Standard
16	Radar*	Chewings	Standard
17	Beacon*	Hard Fescue	Standard
18	Navigator II*	Strong Creeping Red	Standard
19	PPG-FL 106	Hard Fescue	Mountain View Seeds
20	PPG-FRC 114	Chewings	The Scotts Company
21	PPG-FRT 101	Slender Creeping Red	Mountain View Seeds
22	PPG-FRR 111	Strong Creeping Red	Mountain View Seeds
23	PPG-FRC 113	Chewings	Mountain View Seeds
24	Kent*	Strong Creeping Red	Columbia Seeds
25	RAD-FC32	Chewings	Columbia Seeds
26	BAR FRT 5002	Slender Creeping Red	Barenbrug USA
27	BAR VV-VP3-CT	Chewings	Barenbrug USA
28	BAR 6FR 126	Chewings	Barenbrug USA
29	C14-OS3	Strong Creeping Red	The Scotts Company
30	RAD-FR33R	Strong Creeping Red	Brett Yound Seeds Ltd
31	RAD-FC44	Chewings	Bailey Seed Company
32	RAD-FR47	Creeping Red Fescue	Bailey Seed Company
33	PST-4DR4	Creeping Red Fescue	Pure Seed Testing Inc.
34	PST-4RUE	Creeping Red Fescue	Pure Seed Testing Inc.
35	PST-4BEN	Creeping Red Fescue	Pure Seed Testing Inc.
36	PST-4BND	Hard Fescue	Pure Seed Testing Inc.
37	PST-4ED4	Creeping Red Fescue	Pure Seed Testing Inc.
38	DLFPS-FRC/3057	Chewings	DLF Pickseed USA
39	Cascade*	Chewings	Standard
40	DLF-FRC 3338	Chewings	DLF Pickseed USA
41	DLF-FRR 6162	Creeping Red Fescue	DLF Pickseed USA
42	Beudin*	Hard Fescue	DLF Pickseed USA

**Formal Field Tour – 10:00 to 11:00**

**Stop 3: National Turfgrass Evaluation Project Perennial Ryegrass Trial.**  
**Brian McDonald and Alec Kowalewski**

<b>2016 NTEP Perennial Ryegrass Trial</b>																	
<b>Date Seeded: 09/30/16</b>				<b>Seeding rate: 200 grams per 60 sq ft</b>										<b>S ----&gt;</b>			
<b>Plot area 68' X 105'</b>				<b>7.3 lbs/1000</b>										<b>7,140 sq ft</b>			
<b>4'</b>																	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
<b>REP 3</b>	<b>38</b>	<b>19</b>	<b>73</b>	<b>45</b>	<b>110</b>	<b>55</b>	<b>54</b>	<b>64</b>	<b>114</b>	<b>27</b>	<b>9</b>	<b>91</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	<b>43</b>	<b>3</b>	<b>106</b>	<b>17</b>	<b>37</b>	<b>83</b>	<b>59</b>	<b>46</b>	<b>52</b>	<b>95</b>	<b>47</b>	<b>25</b>	<b>81</b>	<b>112</b>	<b>69</b>	<b>14</b>	<b>41</b>
	<b>24</b>	<b>71</b>	<b>82</b>	<b>12</b>	<b>58</b>	<b>101</b>	<b>60</b>	<b>53</b>	<b>100</b>	<b>2</b>	<b>16</b>	<b>20</b>	<b>72</b>	<b>103</b>	<b>113</b>	<b>65</b>	<b>109</b>
	<b>89</b>	<b>29</b>	<b>13</b>	<b>78</b>	<b>111</b>	<b>102</b>	<b>49</b>	<b>75</b>	<b>1</b>	<b>23</b>	<b>39</b>	<b>32</b>	<b>90</b>	<b>105</b>	<b>42</b>	<b>85</b>	<b>15</b>
	<b>48</b>	<b>107</b>	<b>21</b>	<b>7</b>	<b>99</b>	<b>96</b>	<b>57</b>	<b>62</b>	<b>51</b>	<b>35</b>	<b>74</b>	<b>98</b>	<b>28</b>	<b>88</b>	<b>26</b>	<b>31</b>	<b>56</b>
	<b>104</b>	<b>10</b>	<b>18</b>	<b>61</b>	<b>87</b>	<b>33</b>	<b>80</b>	<b>34</b>	<b>79</b>	<b>4</b>	<b>30</b>	<b>94</b>	<b>6</b>	<b>67</b>	<b>93</b>	<b>40</b>	<b>36</b>
	<b>11</b>	<b>44</b>	<b>84</b>	<b>76</b>	<b>63</b>	<b>5</b>	<b>22</b>	<b>70</b>	<b>77</b>	<b>8</b>	<b>92</b>	<b>86</b>	<b>108</b>	<b>68</b>	<b>66</b>	<b>97</b>	<b>50</b>
<b>REP 2</b>	<b>103</b>	<b>104</b>	<b>105</b>	<b>106</b>	<b>107</b>	<b>108</b>	<b>109</b>	<b>110</b>	<b>111</b>	<b>112</b>	<b>113</b>	<b>114</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	<b>102</b>	<b>101</b>	<b>100</b>	<b>99</b>	<b>98</b>	<b>97</b>	<b>96</b>	<b>95</b>	<b>94</b>	<b>93</b>	<b>92</b>	<b>91</b>	<b>90</b>	<b>89</b>	<b>88</b>	<b>87</b>	<b>86</b>
	<b>69</b>	<b>70</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>
	<b>68</b>	<b>67</b>	<b>66</b>	<b>65</b>	<b>64</b>	<b>63</b>	<b>62</b>	<b>61</b>	<b>60</b>	<b>59</b>	<b>58</b>	<b>57</b>	<b>56</b>	<b>55</b>	<b>54</b>	<b>53</b>	<b>52</b>
	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>	<b>51</b>
	<b>34</b>	<b>33</b>	<b>32</b>	<b>31</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>26</b>	<b>25</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>21</b>	<b>20</b>	<b>19</b>	<b>18</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
<b>REP 1</b>	<b>67</b>	<b>25</b>	<b>104</b>	<b>110</b>	<b>94</b>	<b>107</b>	<b>112</b>	<b>55</b>	<b>40</b>	<b>97</b>	<b>57</b>	<b>36</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	<b>93</b>	<b>100</b>	<b>109</b>	<b>99</b>	<b>92</b>	<b>65</b>	<b>5</b>	<b>31</b>	<b>71</b>	<b>85</b>	<b>59</b>	<b>88</b>	<b>106</b>	<b>79</b>	<b>51</b>	<b>73</b>	<b>21</b>
	<b>4</b>	<b>39</b>	<b>61</b>	<b>27</b>	<b>89</b>	<b>90</b>	<b>102</b>	<b>111</b>	<b>46</b>	<b>34</b>	<b>78</b>	<b>6</b>	<b>35</b>	<b>43</b>	<b>58</b>	<b>38</b>	<b>23</b>
	<b>28</b>	<b>52</b>	<b>41</b>	<b>2</b>	<b>45</b>	<b>20</b>	<b>8</b>	<b>87</b>	<b>95</b>	<b>76</b>	<b>84</b>	<b>103</b>	<b>30</b>	<b>12</b>	<b>50</b>	<b>17</b>	<b>74</b>
	<b>108</b>	<b>64</b>	<b>9</b>	<b>77</b>	<b>54</b>	<b>82</b>	<b>91</b>	<b>83</b>	<b>26</b>	<b>37</b>	<b>48</b>	<b>15</b>	<b>56</b>	<b>96</b>	<b>7</b>	<b>42</b>	<b>13</b>
	<b>62</b>	<b>86</b>	<b>11</b>	<b>53</b>	<b>29</b>	<b>68</b>	<b>19</b>	<b>24</b>	<b>33</b>	<b>18</b>	<b>114</b>	<b>69</b>	<b>1</b>	<b>14</b>	<b>22</b>	<b>72</b>	<b>81</b>
	<b>10</b>	<b>80</b>	<b>16</b>	<b>49</b>	<b>113</b>	<b>63</b>	<b>70</b>	<b>66</b>	<b>47</b>	<b>105</b>	<b>98</b>	<b>3</b>	<b>44</b>	<b>101</b>	<b>75</b>	<b>60</b>	<b>32</b>

## Formal Field Tour – 10:00 to 11:00

### Stop 3: National Turfgrass Evaluation Project Perennial Ryegrass Trial Continued...

Plot Number	Entry Name	Sponsor	Plot Number	Entry Name	Sponsor
1	021	The Scotts Miracle-Gro Co	58	PPG-PR 329	Mountain View Seeds
2	BSP-17	Bailey Seed & Grain LLC	59	PPG-PR 331	Turf Merchants, Inc
3	BWH	Bailey Seed & Grain LLC	60	Derby Xtreme	Standard
4	BSP-25	Bailey Seed & Grain LLC	61	PPG-PR 339	Mountain View Seeds
*5	Savant	Ledeboer Seed LLC	62	PPG-PR 343	Mountain View Seeds
6	LPB-SD-105	Ledeboer Seed LLC	63	PPG-PR 360	Integra Turf
*7	Saguaro	Ledeboer Seed LLC	64	PPG-PR 367	Mountain View Seeds
8	LPB-SD-104	Ledeboer Seed LLC	65	PPG-PR 370	Lewis Seed Company
*9	Mensa	Ledeboer Seed LLC	66	PPG-PR 371	Turf Merchants, Inc.
10	LPB-SD-101	Ledeboer Seed LLC	67	PPG-PR 372	Columbia Seeds
11	LPB-SD-102	Ledeboer Seed LLC	68	PPG-PR 385	Mountain View Seeds
12	LPB-SD-103	Ledeboer Seed LLC	69	PPG-PR 419	Mountain View Seeds
13	DLFPS-236/3540	DLF Pickseed USA, Inc	70	PPG-PR 420	Peak Plant Genetics, LLC.
14	DLFPS-236/3542	DLF Pickseed USA, Inc	71	PPG-PR 421	Proseeds Marketing
15	DLFPS-236/3544	DLF Pickseed USA, Inc	72	PPG-PR 422	Columbia Seeds
*16	Intense	Landmark Turf & Native Seed	73	PPG-PR 423	Peak Plant Genetics, LLC
*17	Xcelerator	Landmark Turf & Native Seed	74	PPG-PR 424	Peak Plant Genetics, LLC
18	UF3	Landmark Turf & Native Seed	*75	Karma	Standard
19	JR-123	Jacklin Seed by Simplot	*76	SR 4650	Standard
20	JR-747	Jacklin Seed by Simplot	77	DLFPS-236/3538	DLF Pickseed USA, Inc.
21	JR-888	Jacklin Seed by Simplot	*78	Grand Slam GLD	Standard
22	DLFPS-236/3541	DLF Pickseed USA, Inc	79	LTP-FCB	Lebanon Seaboard Corp.
23	DLFPS-236/3543	DLF Pickseed USA, Inc	80	BAR LP 6117	Barenbrug USA
24	DLFPS-236/3545	DLF Pickseed USA, Inc	81	BAR LP 6131	Barenbrug USA
*25	Evolve	SiteOne Landscape Supply	82	BAR LP 6159	Barenbrug USA
26	MRS�-PR16	SiteOne Landscape Supply	83	BAR LP 6233	Barenbrug USA
27	PL2	SiteOne Landscape Supply	84	PST-2FOXY	Pure-Seed Testing, Inc.
28	MRS�-PR15	SiteOne Landscape Supply	85	PST-2CRP	Pure-Seed Testing, Inc.
29	SNX	Smith Seed Services	86	PST-2EGAD	Pure-Seed Testing, Inc.
*30	Signet	Smith Seed Services	87	PST-2FIND	Pure-Seed Testing, Inc.
31	02BS4	Smith Seed Services	88	PST-2GTD	Pure-Seed Testing, Inc.
32	CS-6	Columbia Seeds	89	PST-2BDT	Grassland Oregon
33	DLFPS-236/3556	DLF Pickseed USA, Inc	90	PST-2MAY	Pure-Seed Testing, Inc.
*34	ASP0116EXT	Allied Seed LLC	91	PST-2GAL	Pure-Seed Testing, Inc.
35	A-PR15	Allied Seed LLC	92	PST-2PDA	Pure-Seed Testing, Inc.
36	A-4G	Allied Seed LLC	93	PST-2A2	Pure-Seed Testing, Inc.
37	A-6D	Allied Seed LLC	94	DLFPS-236/3553	DLF Pickseed USA, Inc.
38	NP-3	Pennington Seed	95	DLFPS-236/3554	DLF Pickseed USA, Inc.
39	NP-2	Pennington Seed	96	PR-5-16	Columbia Seeds
40	APR2616	Pennington Seed	97	BAR LP 6158	Barenbrug USA
41	GO-141	Grassland Oregon	98	BAR LP 6162	Barenbrug USA
42	GO-142	Grassland Oregon	99	BAR LP 6164	Barenbrug USA
43	GO-143	Grassland Oregon	100	BAR LP 6165	Barenbrug USA
44	APR2612	ProSeeds Marketing	*101	Overdrive 5G	Burlingham Seeds, LLC.
45	APR3060	Pennington Seed	102	02BS1	ProSeeds Mktg
46	AMP-R1	AMPAC Seed Co.	103	CPN	Columbia Seeds
47	DLFPS-236/3546	DLF Pickseed USA, Inc	104	JR-197	Jacklin Simplot
48	DLFPS-236/3547	DLF Pickseed USA, Inc	105	DLFPS-238/3014	DLF Pickseed USA, Inc.
49	DLFPS-236/3548	DLF Pickseed USA, Inc	106	RAD-PR 103	Lewis Seed Company
50	PR-6-15	Columbia Seeds	107	RAD-PR 112	Bailey Seed
51	DLFPS-236/3550	DLF Pickseed USA, Inc	*108	UMPQUA	Vista Seed Partners LLC
52	DLFPS-236/3552	DLF Pickseed USA, Inc	*109	Seabiscuit	Lebanon Seaboard Corp.
53	023	Brett Young Seeds	*110	Man O'War	Lebanon Seaboard Corp.
54	FP2	Turf Merchants, Inc.	*111	Pharaoh	Lebanon Seaboard Corp.
55	02BS2	Brett Young Seeds	*112	AllStar III	Standard
56	RRT	The Scotts Miracle-Gro Co	*113	Brightstar SLT	Standard
57	PPG-PR 241	Mountain View Seeds	*114	Linn	Standard

\*COMMERCIALY AVAILABLE IN THE USA IN 2016

## Open House – 11:00 to 11:30

### Perennial Ryegrass Cultivars for Greywater Irrigation

Conner Olsen

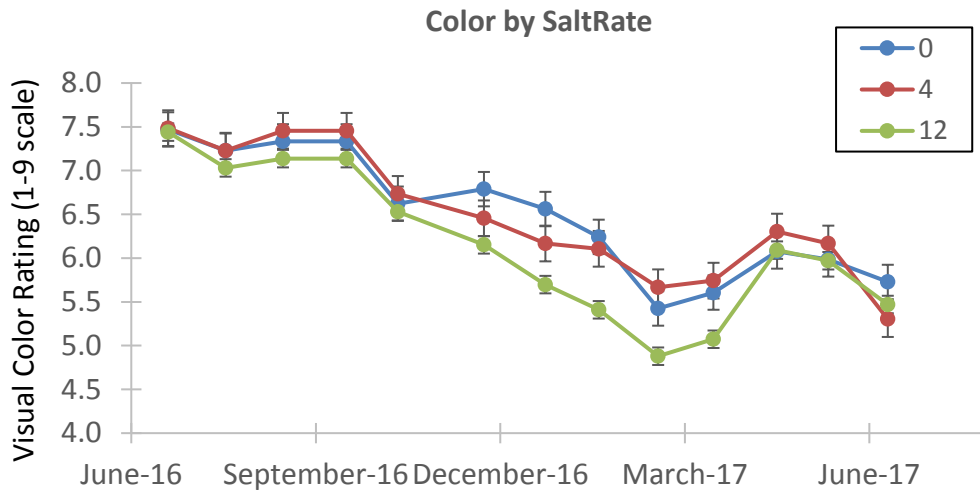
Department of Horticulture, Oregon State University

.....  
**Introduction:** Researchers in arid regions, where fresh water is limited, have explored greywater as an alternative irrigation source. However, in arid environments, greywater has a tendency to increase soil nutrients (particularly salts) to toxic levels. In response to this, turfgrass breeders have been working to identify salt-tolerant turfgrasses to further improve their nutrient toxicity limits by developing resistant cultivars. In the cool-humid regions of North America (i.e. the Willamette Valley), seasonal rainfall could mitigate nutrient toxicity associated with greywater use. The use of salt-tolerant cultivars within these regions may altogether alleviate the symptoms associated with greywater irrigation.

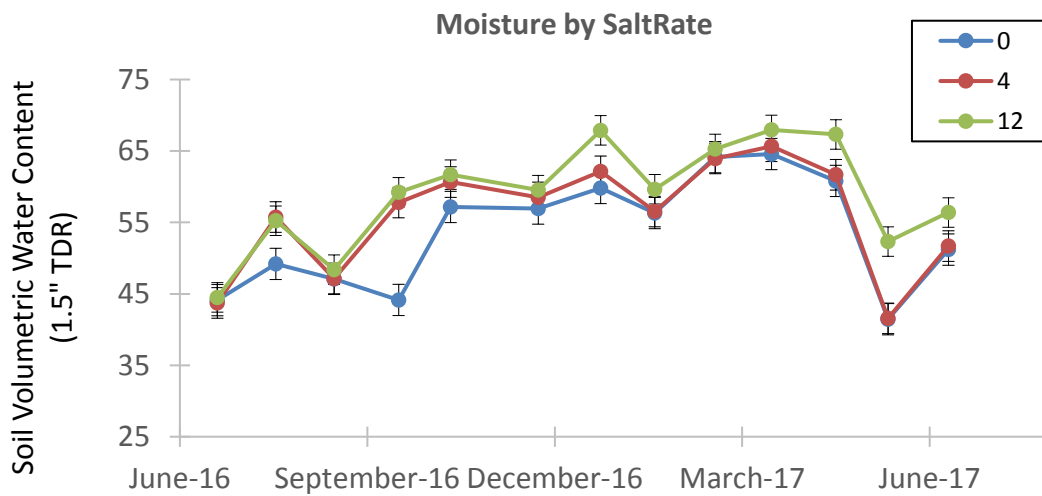
**Materials and Methods:** A field experiment is being conducted at the Lewis-Brown Horticulture Farm to assess the viability of using greywater as a source of irrigation for rough-height perennial ryegrass, along with an assessment of salt-tolerant cultivars. Greywater irrigation is simulated using twice-weekly foliar applications of a concentrated solution of common agricultural and household products to mimic the sodium, chloride and boron loading of 1.5" overhead irrigation using reclaimed wastewater. Concentrated foliar applications are watered-in with 0.1" overhead irrigation, and flat-rate daily irrigation equates to 1.3" per week. The annual loading of sodium, chloride, and boron was determined using concentrations found in effluent-quality wastewater used for irrigation of the Heritage Golf Course, Westminster, Colorado. Perennial ryegrass (*Lolium perenne*) was seeded in Fall 2015 on a native clay-loam soil, established through Spring 2016, and treatments began the last week of June 2016. Experimental design is a randomized block design with 4 replications. Factors include three rates of greywater treatments, and assessment of 11 cultivars.

**Findings:** Winter 2017 provided some interesting results when the 12-month treated plots showed significant browning in the coldest months, and the 4-month treated plots seemed to have a more rapid spring green-up than even the untreated plots (Figure 1). This summer is also proving to be interesting with significant fungal activity in the two treated strips, and almost none in the untreated plots. This could potentially be due to the elevated soil moisture content in the treated plots (Figure 2).

Perennial Ryegrass Cultivars for Greywater Irrigation Continued...



**Figure 1:** Plot of monthly visual color ratings for each greywater rate from June 2016 through June 2017. Treated plots tended to have poorer color ratings than untreated plots, with the exception of Spring 2017.



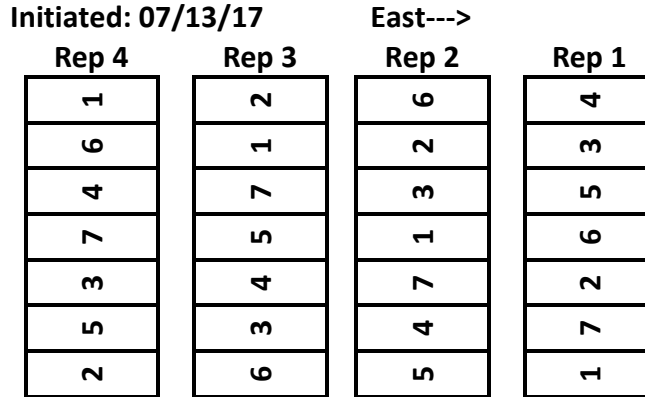
**Figure 2:** Plot of monthly soil moisture for each greywater rate from June 2016 through June 2017. Significant differences were observed in multiple months where the treated plots maintained higher moisture content than the untreated plots.

**Open House – 11:00 to 11:30**

**Granular Broadleaf Herbicides**

Clint Mattox

Department of Horticulture, Oregon State University



Trt							
1	Untreated						
*2	penoxsulam	0.0305	lbs. ai per acre	+	pyrimisulfan	0.0305	lbs. ai per acre
*3	penoxsulam	0.0610	lbs. ai per acre	+	pyrimisulfan	0.0610	lbs. ai per acre
4	penoxsulam	0.0305	lbs. ai per acre	+	pyrimisulfan	0.0305	lbs. ai per acre
5	quinclorac	0.4879	lbs. ai per acre	+	arylex	0.0079	lbs. ai per acre
6	arylex	0.0079	lbs. ai per acre	+	dicamba	0.0695	lbs. ai per acre
7	2,4-D	1.4758	lbs. ai per acre	+	MCPP	0.7440	lbs. ai per acre

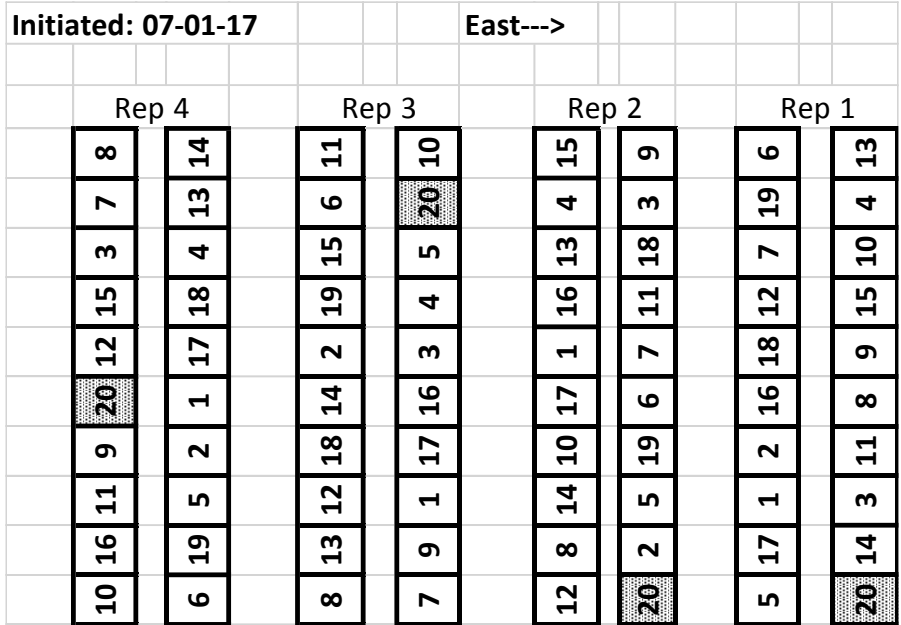
**\*Treatments 2 and 3 are EH1580 powered by the herbicide Vexis plus Andersons 25-0-3 fertilizer**

**Open House – 11:00 to 11:30**

**Liquid Broadleaf Herbicides**

Micah Gould

Department of Horticulture, Oregon State University



trt	active ingredient	lbs. a.i. per acre	active ingredient	lbs. a.i. per acre	active ingredient	lbs. a.i. per acre	active ingredient	lbs. a.i. per acre	Application(s)
1	Untreated								
<b>3*</b>	XDE-729 Methyl	0.1900	fluroxypyr	0.1410	dicamba	0.1260	7/1/2017		
<b>4*</b>	XDE-729 Methyl	0.1900	fluroxypyr	0.1410	dicamba	0.1260	7/1/2017 and 7/28/2017		
6	2,4-D	0.5090	dicamba	0.0250	carfentrazone	0.0200	7/1/2017		
7	2,4-D	0.5090	dicamba	0.0250	carfentrazone	0.0200	7/1/2017 and 7/28/2017		
9	2,4-D	1.1350	R(+),2,4-DP	0.2165	dicamba	0.0255	carfentrazone	0.0205	7/1/2017
10	2,4-D	1.1350	R(+),2,4-DP	0.2165	dicamba	0.0255	carfentrazone	0.0205	7/1/2017 and 7/28/2017
12	2,4-D	1.1000	sulfentrazone	0.0385	fluroxypyr	0.1370	triclopyr	0.1270	7/1/2017
13	2,4-D	1.1000	sulfentrazone	0.0385	fluroxypyr	0.1370	triclopyr	0.1270	7/1/2017 and 7/28/2017
15	2,4-D	0.5110	2,4-DP	0.1500	dicamba	0.0250	carfentrazone	0.0200	7/1/2017
16	2,4-D	0.5110	2,4-DP	0.1500	dicamba	0.0250	carfentrazone	0.0200	7/1/2017 and 7/28/2017
17	2,4-D	1.1725	fluroxypyr	0.1225	triclopyr	0.1138	sulfentrazone	0.0350	7/1/2017
18	2,4-D	1.1725	fluroxypyr	0.1225	triclopyr	0.1138	sulfentrazone	0.0350	7/1/2017 and 7/28/2017
19	2,4-D	2.3800	MCPP	0.3150	dicamba	0.1050	7/1/2017		

**\*The tradename of this herbicide is 'Switchblade'**

**Open House – 11:00 to 11:30**

**Annual Bluegrass Seed Head Suppression**

Brian McDonald

Department of Horticulture, Oregon State University

Trt #	Products	Timing	Percent Poa annua Seed Heads									
			03/24	04/07	04/13	04/21	04/28	05/07	05/15	06/05	06/12	06/29
1	Untreated	na	0.0	1.2	4.8	17.5	23.8	23.8	23.8	21.3	23.8	13.8
2	Proxy + Fiata (5.0 + 3.5)	Nov*, April, May, June	0.0	0.2	0.2	1.0	2.8	5.8	8.8	5.3	4.3	1.3
3	Proxy + Fiata (5.0 + 3.5)	April, May, & June	0.0	0.7	4.8	7.5	7.5	8.8	12.5	10.8	8.8	3.7
4	Proxy + Fiata (5.0 + 3.5)	All dates*	0.0	0.0	0.1	0.6	1.8	2.3	4.3	3.5	3.0	1.3
5	Proxy + Fiata (5.0 + 3.5)	Mar, April, May, June	0.0	0.2	1.6	3.3	8.0	4.8	6.3	3.5	3.0	0.7
6	Proxy rate varies + Fiata 3.5	Nov* and Mar @ 5.0 fl. oz, Apr thru Jun at 3.0 fl. oz.	0.0	0.0	0.1	0.6	2.3	2.5	4.0	4.0	3.8	1.4
7	Proxy rate varies + Fiata 3.5	Mar @ 5.0 fl. oz. and Apr thru Jun at 3 fl. oz.	0.0	0.2	0.8	3.8	8.8	7.5	7.5	4.0	3.8	1.8
* Fiata not applied in November												

South --->	
Rep 3	Rep 2
1	5
3	2
4	3
7	6
5	1
2	4
6	7
2	6
5	7
1	4
6	3
3	2
7	1
4	5
Rep 4	Rep 1



## Exhibitor List and Golf Outing Sponsors

### .....Exhibitors.....

Name	Organization	Phone	Email
Alexis Wenker	OGCSA	503-344-6535	<a href="mailto:ogcsa@ogcsa.org">ogcsa@ogcsa.org</a>
Sally Cheyne	Oregon Turf Foundation	541-979-9473	<a href="mailto:otf@oregonturfgrassfoundation.org">otf@oregonturfgrassfoundation.org</a>
Ed Price	The Anderson's, Inc.	509-981-9077	<a href="mailto:ed_price@andersonsinc.com">ed_price@andersonsinc.com</a>
Mark Willcut	RainBird Company	503-798-7203	<a href="mailto:mwillcut@rainbird.com">mwillcut@rainbird.com</a>
Rennie Kubik	AMVAC Environmental Products	360-921-8019	<a href="mailto:renniek@amvac-chemical.com">renniek@amvac-chemical.com</a>
Jack Karlin	Turfgrass Water Conservation Alliance	541-971-4418	<a href="mailto:jack.karlin@tgwca.org">jack.karlin@tgwca.org</a>
Joe Landis	Affordable Turf and Specialty Tire	623-258-8277	<a href="mailto:joe.landis@sstireaz.com">joe.landis@sstireaz.com</a>
Jason Moore and Damon Richardson	Oregon Sports Turf Managers Association	503-692-1195 ext.#6	<a href="mailto:damon@pacificsportsturf.com">damon@pacificsportsturf.com</a>
Tony Lasher and Gary Willis	Target Specialty Products	503-252-2732	<a href="mailto:tony.lasher@target-specialty.com">tony.lasher@target-specialty.com</a> <a href="mailto:gary.willis@target-specialty.com">gary.willis@target-specialty.com</a>
Karen Cooper	Turfgrass Producers International	847-737-7631	<a href="mailto:kcooper@turfgrassod.org">kcooper@turfgrassod.org</a>
Kurt Wright and Jon Atkins	Simplot	503-793-2665 and 208-481-2703	<a href="mailto:Jon.Atkins@simplot.com">Jon.Atkins@simplot.com</a> <a href="mailto:kurt.wright@Simplot.com">kurt.wright@Simplot.com</a>
Angie Blacker	Oregon Seed Association	503-685-7555	<a href="mailto:blacker@pacwestcom.com">blacker@pacwestcom.com</a>
Zach Kuenzi and Bo Lacy	Barenbrug USA	8005474101	<a href="mailto:zkuenzi@barusa.com">zkuenzi@barusa.com</a>
Rich Schwabauer and Tyler Fisher	Rocky Mountain Turf Equipment	503-667-5000 and 503-887-2471	<a href="mailto:rich@rmtequipment.com">rich@rmtequipment.com</a>
Michael Steve	Griggs Brothers	208-227-7034	<a href="mailto:michael.steve@griggbros.com">michael.steve@griggbros.com</a>
Larry Calvert	PBI Gordon Corporation	816-460-6290	<a href="mailto:lcalvert@pbigordon.com">lcalvert@pbigordon.com</a>
Austin Fricker and Crystal Fricker	Pure Seed	503-651-2130	<a href="mailto:africker@pureseed.com">africker@pureseed.com</a> <a href="mailto:cfricker@pureseed.com">cfricker@pureseed.com</a>
Sean Watts	CPS Professional Products	503-989-1907	<a href="mailto:sean.watts@cpsagu.com">sean.watts@cpsagu.com</a>

<b>Golf Outing Tee Sponsors</b>
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Oregon Golf Course Superintendents Association

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BASF	OSU Department of Athletics
Bayer Crop Science	PBI Gordon
Canadian Turfgrass Research Foundation	Pure Seed
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Columbia Seeds, Inc.	Rainbird Company
Corvallis Country Club	Rocky Mountain Turf Equipment
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Koch Agronomic Services LLC	United States Golf Association
Mountain View Seeds	USDA-NIFA
National Turfgrass Evaluation Program	Western Canada Turf Association
Northwest Turf Association	Western Equipment Distributors
NuFarm Americas Inc.	Wilbur-Ellis Company
Ontario Turfgrass Research Foundation	Winfield, Land O'Lakes
Oregon Golf Association	WISErg Corporation

## 2017 Scholarships and Awards

Bob Senseman	OSU Turf Friends and Alumni
Dick Fluter	OSU Turf Friends and Alumni
Derrick Stelle and Mitchell Monen	USGA Competitive Internship
Conner Olsen	Jason Oliver Memorial Scholarship
Conner Olsen	OGCSA - Whitworth
Evan McFadden	OGCSA - Martin
Derrick Stelle	OGCSA Scholarship
Julia Heaston	Tom Cook Legacy Scholarship
John Marony	Bruce Faddis Memorial Scholarship

## 2016 Jason Oliver Memorial Golf Tournament Champions

Tony Lasher
Ty Patton
R.O. Gamez
Kekon Coe

