



Turfgrass Water Conservation Alliance (TWCA) relies on our cooperators to conduct trialing. We recognize that our work is only a small part of what you do on your farm and that tracking the details of the study is not something you want to worry about. We also know you want to talk about all the cool and interesting work you spend your time on and we certainly hope TWCA is on the list of things you want to discuss.

To make it easier to express the scope and scale of the TWCA trialing we have created this list of talking points about the trial(s) TWCA is currently running.

2020 TALL FESCUE TRIAL

TRIAL DETAILS

- This singles species trial includes 3 replications of 44 entries and 6 standards
- Each trial is named for the year in which it is established although data collection WILL NOT begin until the following year
 - Data collection runs for three years so a trial established in 2020 will collect data in 2021, 2022, and 2023
- Data is collected using Digital Image Analysis (DIA) technology developed and refined by Dr D Karcher (U of AR) and K Hignight (NexGen)
- TWCA conducts trials in Rainout Shelters (ROs) and in field conditions:
 - In areas with a reasonable expectation of little to no rainfall during the summer months TWCA uses field trials
 - In areas where there is a moderate to high likelihood of rainfall during the summer TWCA uses ROS (Rainout Shelters) to more tightly control environmental factors.
 - When using ROSs for trialing TWCA cooperators change the plastic covering on the shelter every year to ensure high light penetration into the trial.
- This 3-year trial is replicated in the following locations:

TWCA Code	Primary Last	Location	State
1	Derr	Virginia Beach	VA
2	Hignight	Albany	OR
3	Bigelow	West Lafayette	IN
5	Richardson	Fayetteville	AR
7	Lyons	Guelph	ON
9	Fricker	Hubbard	OR
10	Kopp	Logan	UT
12	Fraser	Rolesville	NC
19	Raymer	Griffin	GA
24	Fidanza	Redding	PA



TRIAL TYPES

- All TWCA trialing is governed by the TWCA Turfgrass Water Conservation Protocol © 2010 and the TWCA Low Maintenance Schedule © 2014
- TWCA employs three trialing types to evaluate three different performance expectations
- The trial types are:
 - Acute- The most common of TWCA trialing methods this evaluates drought tolerance in a prolonged “no water” scenario. In acute trialing the established plots are brought to field capacity and the water is then shut off until the top performing turf reaches 25% green cover or 100 days, whichever comes first. DIA is collected once a month and the images
 - Chronic- Chronic trialing is used to evaluate performance in a decreased water scenario. Trials are brought to field capacity and watered weekly at a predetermined percent of replacement Evapotranspiration (ET).
 - Low Maintenance- the most brutal of TWCA’s trialing methods, Low Maintenance (LM) puts a cap on the annual fertility applied to the trials (no more that 2lb/1000sqft), eliminates herbicides and pesticides

STANDARDS

- TWCA implements a minimum of six standards in each trial. Two are selected as drought tolerant standards (D-Tol) from previous TWCA Qualifications, two are selected as Drought susceptible (D-Sus) also based on known performance from prior trialing, and two are chosen as named cultivars already in the marketplace. This **TALL FESCUE** trial is utilizing the following six standards:

CHECK	EXPNum	NAME
D-Sus	Firenza	Firenza
D-Sus	SIXPOINT	SIXPOINT
D-Tol	SBL	2nd Millennium
D-Tol	ATF1426	Aquavita
Known	PST-5SDT	RainDance
Known	K-31	K-31

QUALIFICATION

- TWCA Qualifications are both rigorous and time limited
- Qualification of cultivars is performed by the Research Review Committee (RRC)
- RRC is a third-party peer review of comprised of university researchers
- RRC evaluates the objective data and statistical analysis presented and makes final qualification based solely on the data
- Once Qualified TWCA cultivars have a finite shelf life before they must either re-qualify or lose their TWCA designation in the marketplace



FAQs

What are the 4-digit numbers in the “Published List”?

When membership ends mid-trialing the cultivar names are removed from the trial. The cultivars remain a part of the evaluation but are ineligible for qualification through TWCA

Does TWCA require Turf Quality scores?

Absolutely. Not only does TWCA collect turf Quality (TQ) scores on the trials (outside the drydown period) but we also require our members to have TQ trialing on hand in the event someone has questions about the overall quality of a cultivar. All cultivars must have ACCEPTABLE turf quality for TWCA qualification.

Has TWCA looked at the interactions between drought and other factors?

Yes! TWCA, working with cooperators has looked at turf performance under drought and in combination with other factors including:

- Wear (traffic)
- Fertility
- Mowing height
- Soil type

For more information about this work contact TWCA at info@tgwca.org

How does TWCA choose standards?

- Prior to 2020 Standards the RRC approved Program Administrator recommended standards.
- In 2020 TWCA adopted the Cultivar Plant Factor (CPF) methodology. Cultivars that exceed the performance of standards in performance and consistency are selected to become the new standards.
 - If a cultivar is selected but does not go to production the existing standard remains

TWCA chooses based on 3 factors:

- **Drought Performance-** Drought Tolerance as measured in previous TWCA trials. D-Tol standards are Drought Tolerant, and D-Sus are Drought Susceptible
- **Turf Quality-** Standards have at least Acceptable Turf Quality
 - The exception is K-31
- **Availability-** Known Standards are cultivars currently available in the market today. At least one of the two known standards is a previously qualified TWCA cultivar

Does TWCA use fungicide?

Yes. TWCA currently uses Heritage to control fungal infections in trialing. In the past TWCA utilized Tilt but, when a colleague pointed out the potential for growth regulation TWCA switched to the current recommended regime

Are all TWCA trials maintained the same way?

Yes! TWCA has created a Cooperator’s Maintenance Manual outlining the guidelines for installing, establishing and maintaining the TWCA trials. TWCA also holds 3 regularly scheduled cooperator calls to ensure all cooperators are maintaining the TWCA trials the same

What cultivars are Qualified?

TWCA qualified cultivars are found on the TWCA website at tgwca.org/qualified-products



Where can I learn more about TWCA?
Just go to the website tgwca.org



TWCA PLOT PLAN

BORDERS planted
with K-31

ENTRY	ENTRY #
PLOT	Plot #
orange fill	std
n	

22	21	50	30	20	19	15	7
101	102	103	104	105	106	107	108
39	38	24	33	35	1	31	48
116	115	114	113	112	111	110	109
41	34	3	27	23	14	43	16
117	118	119	120	121	122	123	124
40	25	49	4	6	11	17	36
132	131	130	129	128	127	126	125
13	28	26	45	18	9	32	29
133	134	135	136	137	138	139	140
5	10	12	8	47	42	44	37
148	147	146	145	144	143	142	141
36	47	46	24	38	41	2	46
149	150	201	202	203	204	205	206
48	43	23	33	28	10	32	22
214	213	212	211	210	209	208	207
39	42	31	11	16	1	40	30
215	216	217	218	219	220	221	222
44	35	50	2	17	45	6	19
230	229	228	227	226	225	224	223
8	9	27	14	4	12	20	3
231	232	233	234	235	236	237	238
34	13	7	37	5	25	49	26
246	245	244	243	242	241	240	239
18	21	15	29	39	23	3	42
247	248	249	250	301	302	303	304
37	32	49	8	41	5	38	15
312	311	310	309	308	307	306	305
6	22	17	12	44	43	25	34
313	314	315	316	317	318	319	320
14	9	26	15	29	7	4	48
328	327	326	325	324	323	322	321
24	2	18	13	50	45	33	46
329	330	331	332	333	334	335	336
28	47	30	40	10	35	31	19
344	343	342	341	340	339	338	337
27	21	36	20	1	11		
345	346	347	348	349	350	X	X



CHECK	Published Entry	ENTRY#	REP1 PLOT #	REP2 PLOT #	REP3 PLOT #
Known	PST-5SDT	1	111	220	349
D-Tol	SBL	2	150	227	330
D-Sus	Firenza	3	122	238	303
Known	K-31	4	129	235	322
D-Tol	ATF1426	5	148	242	307
D-Sus	SIXPOINT	6	128	224	313
	ATF2014	7	108	244	323
	ATF1748	8	145	231	309
	ATF1782	9	135	232	327
	ATF1617	10	147	209	340
	ATF1838	11	127	218	350
	ATF1736	12	146	236	316
	ATF1832	13	140	245	332
	ATF1785	14	119	234	328
	ATF1829	15	107	249	325
	ATF1992	16	117	219	305
	ATF1835	17	126	226	315
	PST-RSHD6	18	136	247	331
	PST-5E6	19	106	223	337
	PST-5FOE	20	105	237	348
	2021	21	102	248	346
	2022	22	101	207	314
	2023	23	120	212	302
	2024	24	114	203	329
	2025	25	131	241	319
	2026	26	138	239	326
	2027	27	121	233	345
	2028	28	139	210	344
	2029	29	133	250	324
	2030	30	104	222	342
	2031	31	110	217	338
	2032	32	134	208	311
	PST-5TRN	33	113	211	335
	PST-5HAF9	34	123	246	320
	PST5GQ	35	112	229	339
	2036	36	125	206	347
	2037	37	141	243	312
	2038	38	115	202	306
	2039	39	116	215	301
	2040	40	132	221	341
	2041	41	124	201	308
	EPW-16	42	143	216	304
	CCR-2	43	118	213	318
	PST-5T24	44	142	230	317
	PST-5SALT	45	137	225	334
	PST-5GLBS	46	149	204	336
	PST-5LOD	47	144	205	343
	PST-5DART	48	109	214	321
	PST-5BGG	49	130	240	310
	PST-5DC24	50	103	228	333