THE ARIZONA COOPERATIVE ALFALFA FORAGE YIELD TRIAL

2008-2010

BACKGROUND INFORMATION ON ALFALFA YIELD TRIALS AT TUCSON, AZ

The Arizona Cooperative Alfalfa Forage Yield Trial Program, which is administered by the Arizona Agricultural Experiment Station and Arizona Cooperative Extension, conducts forage yield trials at the University of Arizona's Campus Agriculture Center (CAC). CAC is located at an elevation of 2500 feet, approximately 5 miles north of the University of Arizona Campus in Tucson. Very nondormant cultivars are well adapted to this environment, which is typical of agricultural areas of central and western Arizona, where 8 to 10 harvests of alfalfa are common each year and stands typically remain productive for 2 to 4 years. All fields at CAC are laser-leveled and alfalfa is irrigated using border-strip methods on sandy loam soils. Total dissolved salts in irrigation water range from about 400 to 800 ppm. Planting, harvest and data reporting procedures will be as in the 2006-2008 trial.

EXPERIMENTAL CONDITIONS AND DATA REPORTING

Each 12 foot-long plot in these four-replication trials contains 5 rows spaced 6 inches apart. The equivalent of 20 pounds per acre was sown (7.5 g per plot, 30 g total) using a cone seeder on November 6, 2008. Plots are harvested with a Jari mower and weighed fresh. Plots are arranged so that wheel traffic does not confound evaluation of performance. All cultural practices common on farms in central Arizona are typically followed at CAC.

Results are updated following each harvest on this website. Updates include the yields in the most recent harvest as well as the running total yield. **Yields are presented on the basis of tons of dry forage (88% dry matter) per acre**. A printed summary of all data collected will be forwarded to each cooperator at least once each year or if requested at any other time. These data will also be distributed to Cooperative Extension personnel in Arizona and published in the *Forage and Grain Report*, which is widely distributed by the Cooperative Extension Service. The trial is located within a one half hours drive of Tucson International Airport and all cooperators are welcome to visit the trial. If you have any questions, contact Steve Smith at azalfalf@ag.arizona.edu.

YIELD DATA

Mixed-model analysis for a randomized complete block design was used and nearest-neighbor (within replications) yields were used as a covariate in this analysis (see Casler, M.D. 1999. Spatial variation affects precision of perennial cool-season forage grass trials. Agron. J. 91:75-81). Least-squares means from the mixed-model analysis are presented in order of decreasing total yield. The estimate for the residual is used to generate the least significant difference value reported and yields are represented as Tons/acre (12% moisture).

Information from: http://ag.arizona.edu/research/azalfalf/yield/2008/

Entry	10-Apr-09	5-May-09	16-Jun-09	14-Jul-09	11-Aug-09	10-Sep-09	8-Oct-09	15-Dec-09	TOTAL
FG 105+286	1.344	1.148	1.635	2.738	2.088	2.310	1.948	2.206	15.397
Fertilac 10	1.351	1.171	1.649	2.761	2.061	2.271	2.003	2.186	15.327
SW 9816	1.328	1.202	1.635	2.697	2.062	2.284	2.028	2.183	15.240
SW 9628	1.260	1.177	1.675	2.684	2.138	2.319	2.030	2.088	15.203
FG 115+288	1.242	1.075	1.600	2.648	2.066	2.283	2.022	2.128	15.147
DS077601	1.332	1.178	1.667	2.680	2.030	2.396	2.023	1.998	15.117
TS 0002	1.360	1.158	1.569	2.652	2.012	2.270	1.913	2.208	15.115
Mecca III	1.374	1.155	1.706	2.594	2.009	2.350	1.993	1.993	15.092
SW 9812	1.246	1.109	1.641	2.687	2.052	2.321	2.031	2.069	15.075
CW 1010	1.272	1.183	1.650	2.671	2.033	2.382	1.983	2.078	15.052
Lew	1.397	1.102	1.491	2.598	1.994	2.290	1.994	2.138	15.046
SW 9803	1.267	1.184	1.640	2.521	2.026	2.353	2.081	2.166	14.956
FG 106+701	1.189	1.041	1.620	2.696	2.094	2.362	2.098	1.971	14.905
FG 105+285	1.306	1.084	1.573	2.650	2.073	2.256	2.000	2.127	14.898
FG 92+206	1.255	1.129	1.655	2.640	2.034	2.177	1.919	2.053	14.889
SW 9813	1.251	1.093	1.598	2.595	2.085	2.285	1.951	2.135	14.881
A-1086	1.287	1.171	1.583	2.721	2.062	2.162	1.892	2.030	14.850
WL 625 HQ	1.158	1.061	1.621	2.817	2.052	2.307	1.871	2.000	14.802
DS593	1.168	1.185	1.679	2.520	1.951	2.271	1.887	2.036	14.770
DS067092	1.211	1.150	1.605	2.632	1.982	2.394	1.906	1.949	14.728
Magna 995	1.115	1.091	1.582	2.785	2.110	2.255	1.935	1.906	14.578
AL 999	1.182	1.070	1.502	2.629	1.967	2.187	1.926	2.040	14.381
CUF 101	1.257	1.120	1.516	2.526	1.955	2.096	1.894	1.965	14.311
CV (%)	8.48	9.37	7.00	4.33	5.19	4.44	3.68	7.02	2.62
LSD (5%)	0.147	0.106	0.116	0.162	0.145	0.148	0.103	0.200	0.541

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