

4341 E. Broadway Road • Phoenix AZ 85040-8807 • (602) 470-8086, ext-314 • FAX: (602) 470-8092 • turf.arizona.edu
kumeda@cals.arizona.edu

Evaluation of AmegA Sciences wetting agents for overseeding germination and establishment. Kai Umeda and Gabriel Towers (University of Arizona Cooperative Extension, Phoenix, AZ 85040), David Kopec (University of Arizona, Plant Sciences Department, Tucson, AZ 85721), James Walworth (University of Arizona, Soil, Water, and Environmental Science Department, Tucson, AZ 85721), and Ken Marcum (Arizona State University Polytechnic campus, Mesa, AZ 85212). A small plot experiment was conducted at the Arizona State University Polytechnic campus, Mesa, AZ on the tee area of the driving range. The bermudagrass cv Tifway 419 was prepared for overseeding by verticutting in six directions (perpendicular and diagonally) and mowing at approximately 0.25 to 0.5 inch height. Perennial ryegrass blend composed of cv. Covet, Whitney, and Edison was seeded at 600 lb PLS/A using a drop spreader. Treatment plots measured 5 ft by 3 ft and each treatment was replicated four times in a randomized complete design. Wetting agent treatments were applied using a backpack CO₂ sprayer equipped with a hand-held boom with three 8003 flat-fan nozzles spaced 20-inches apart. The sprays were applied with water in a volume equivalent to 1 gallon/1000 ft². Seeding was followed immediately with spraying on 10 October 2005 when the air temperature was 80F°, clear skies, and soil temperature at 2-inch depth was 70F°. Overhead irrigation was initiated immediately after seeding and spraying and continued frequently and regularly until seed germinated and seedlings were established. After establishment, seedling stand counts in five sub-samples measuring 11.4 cm² were conducted at regular intervals, plant height was measured, and clipping weights were collected at the first mowing on 26 October. Turfgrass quality was evaluated in the spring 2006.

Ryegrass plant stand counts were collected beginning 9 days after seeding and until 3 weeks after seeding (Table). There was no statistical difference observed among treatments at any rating date. Plots treated with AS 063/1, AS 063/2, and AS 063/3 at 5.0 oz/1000 ft² tended to have more plants than plots treated with the 3.0 oz/1000 ft² at 9 and 11 days after seeding. The number of plants counted that were treated with the AS063 treatments at 5.0 oz/1000ft² tended to be slightly more than the untreated check and a standard, WilWet. Plant height measurements were all very comparable relative to the untreated check. Clipping weights of all of the AS 063 treatments were similar to the untreated check and WilWet. Turfgrass visual quality ratings conducted in the spring indicated that there was no difference among treatments.

Conclusions were that AS063 treatments did not offer a statistical advantage to establish ryegrass during fall overseeding. During the first 9 to 11 days after seeding, AS 063 treatments at 5.0 oz/1000ft² showed a tendency to have slightly more ryegrass plants compared to the lower rate, WilWet, and the untreated check. Ryegrass height and density with respect to clipping weight were not affected by wetting agent applications. The influence of a wetting agent on rapid establishment was not evident several months later in the spring when quality was rated.

Table. Effect of wetting agents on ryegrass stand establishment and quality

Treatment	Rate Per 1000 ft ²	Ryegrass stand count (no. plants/11.4 cm ²)					Height cm	Weight grams	08 Nov	Quality	
		19 Oct	21 Oct	24 Oct	26 Oct	31 Oct				20 Jan	09 Mar
Untreated check		25.3	38.3	21.4	28.3	21.1	4.8	23.9	7	5.5	4
WilWet	3 oz	25.8	34.0	27.1	28.0	20.1	4.9	28.5	7	5.3	4
AS 063/1	3 oz	24.6	31.8	22.3	23.5	20.5	5.1	26.9	7	5.3	4
AS 063/2	3 oz	25.2	33.6	22.2	22.9	21.2	4.4	17.7	7	5.8	4
AS 063/3	3 oz	27.1	32.4	24.3	24.9	18.3	4.6	22.7	7	5.8	4
WilWet	5 oz	25.4	36.0	21.6	27.0	20.3	4.6	22.8	7	5.8	4
AS 063/1	5 oz	26.8	40.1	25.8	23.9	21.5	4.8	26.5	7	5.8	4
AS 063/2	5 oz	28.6	37.4	21.1	27.3	19.4	4.7	25.8	7	5.5	4
AS 063/3	5 oz	28.5	41.8	23.4	25.5	21.0	4.7	21.8	7	5.8	4
LSD (p=0.05)		8.65	9.62	6.61	5.37	3.53	0.49	11.87	0	1.06	0

Treatments applied on 10 October 2005 at time of overseeding.

Plant height and clipping weights measured on 26 October.

Quality ratings based on 1 = poor to 9 = excellent. Jan and Mar 2006.