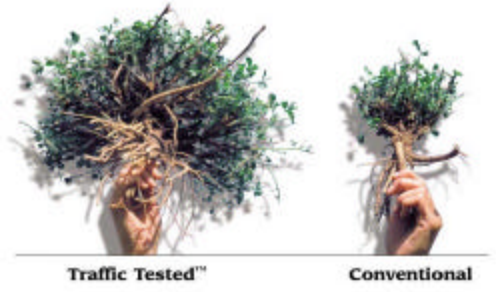


Traffic Tolerance in Alfalfa

Dr. Donald Miller and Dr. Jim Moutray ¹

Key words: alfalfa, traffic tolerance

America's Alfalfa research is focused on 'real world' development of plant types that benefit the farmer. Our selection process has helped us develop unique plant types that look and perform differently from conventional alfalfa plant types.



Cooperative testing with the University community have confirmed the benefits of these unique plant types:

- More yield under wheel traffic
- Better winter survival
- Improved stand health/persistence
- Greater stand density

More yield under wheel traffic

2000 – 2001 data from 6 trials, in four states, reported year-to-date indicate a consistent annual yield advantage vs conventional plant types.

Genetic Source	U of WI Yield Avg.	U of MN Yield Avg.	IA Yield Avg.	Oklahoma State Univ. Yield Avg.	Annual Yield Avg. All Locations	Annual Yield Advantage Vs. Genetic Source
Traffic Tested America's Alfalfa	5.12	5.15 tons	4.59	6.10	5.11	
Source A	4.75	4.95 tons	4.49	5.77	4.86	.25
Source B	4.65	4.63 tons	4.46	6.07	4.82	.29
Source C	4.58	4.88 tons	4.19	6.22	4.77	.34
Source D	4.49	4.07 tons	3.66	5.75	4.35	.76

Data from the only 3 year trial, seeded in 2000 by the University of Wisconsin at Arlington, also indicates that Traffic Tested plants widen their yield advantage as stands age. In this trial, the Traffic Tested variety **increased its annual yield advantage vs. the average of all competitors by 24% (from 2001 to 2002).**

Better winter survival

The Traffic Tested variety (4 fall dormancy) has an average Winter Survival Index of 2.1 in three independent trials conducted by the University of Wisconsin. Testing by the University of Minnesota has proven that these plants store, on average vs. conventional varieties, 39% more root carbohydrates than conventional varieties. This improves winter survival, re-growth and stand longevity.

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Better stand persistence

Traffic Tested genetics also perform better under grazing. Following are results from that study. Varieties in both grazing and wheel traffic tests represent widely planted varieties from different genetic sources.

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Iowa State University Animal Traffic Trial - % initial stand after 3 years of intensive grazing
Rhodes, Marshall County, Rhodes Research Farm - Planted 14 April 2000; 4 x 5 Lattice, 6 reps

Entry	Brand	% Stand			% Initial
		10/3/2000	10/3/2001	10/15/2002	
AmeriStand 403T	America's Alfalfa	96	76	45	47
5454	Pioneer	95	51	11	12
FQ 315	Cargill Mycogen	97	59	10	11
WL 323	WL Alfalfa	97	65	10	10
DK 140	DeKalb/Monsanto	94	52	9	9
54Q53	Pioneer	100	62	8	8
Rebound 4.2	Croplan Genetics	96	62	6	7
Magnum V	Dairyland Seed	96	65	7	7
Mean		96	63	15	16
LSD (5%)		8	14	11	12

Greater stand density

Traffic Tested genetics produce more crown buds, shoots and stems than conventional varieties. This improves yield and persistence.

Univ. of WI, Oklahoma State Univ., and Univ. of MN and Iowa Results YTD

	Stems/Shoots Per 2 Row Feet	AmeriStand 403T % Stand Density Adv. vs. Competitor
AmeriStand 403T	87.6	
FQ 315	82.4	6%
Magnum V	82.2	7%
DK 140	80.7	9%
Rebound 4.2	80.0	10%
54Q53	79.4	10%

What's New!

America's Alfalfa research is focused on improving our traffic tolerant lines to:

- Further improve yield in real world conditions
- Develop traits that environmentally friendly
- Improve utilization of alfalfa forage