



October 2000

Field Crop Notes

2000 National Alfalfa Symposium Program

Luck or Skill? Producing Alfalfa for Profit in the West

Las Vegas Hilton, Las Vegas, NV, December 10 -12, 2000

Presented in Combination with the 30th California Alfalfa Symposium

Field Tour

Sunday, December 10, 2000, 9:45 am to 8 pm

(\$48 pre-registration required—includes lunch and dinner transportation and admission!!—it's a bargain)

Meet at Hilton Hotel east entrance, December 10 at 9:45 a.m. Join us for a terrific tour of the desert vistas, the awesome water works, and important alfalfa production sites in Southern Nevada. We will visit the Hoover Dam, go into its depths, hear how it was built, and how the Colorado River is critical for agriculture, urban, and environmental use. We will visit a modern chocolate factory and see how alfalfa and other agricultural products are made sweet. We will view alfalfa production under center pivots, visit field demonstration plots on time of seeding and herbicide performance, and visit an alfalfa cubing and export operation. We will have a relaxing barbeque with music in the evening at Sandy Valley Ranch. Come join us for a terrific tour. **Preregistration required.** Seats are limited so sign up early!

National Alfalfa Symposium

Monday, December 11, 2000

6:30-8:00 a.m. Registration

INDUSTRY TRENDS 8:00 - 9:45 am

Welcome and Overview of Western States Alfalfa Production

Alfalfa Market Conditions and Trends in Western States

Economics and Trends in U.S. Dairy Production

The Future of the Chino Milkshed in the Los Angeles Basin

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For special assistance regarding our programs, please contact us.

**WATER TRANSFERS, AGRONOMIC
CROPS AND IRRIGATION SECURITY 10:15 - Noon**

The Dynamics of the Imperial Valley Situation
Salmon, Water Quality, and Alfalfa—Water Conflicts in the Pacific Northwest
What Are the Opportunities for Producing Alfalfa with Less Water?
The Future of Agronomic Crops in Western States
Discussion

12:00 Banquet Lunch

Breakout Sessions (each session repeats once)

1:30 – 3:00 and 3:30 - 5:00 p.m.

Session I. Pest Management

Emerging and Important Insect Pests in Western States
Techniques to Improve Seedling Weed Control in Alfalfa
Controlling the “P” Weeds in Alfalfa (perennials and poisonous weeds)
Pest ID Contest
Discussion

3:30-5:00 Session Repeats

Session II. Soils and Irrigation

Soil Applied and Water Applied Phosphorus
Lagoon Water, Manures and Biosolids Applied to Alfalfa - Pros and Cons
Monitoring Alfalfa Water Use
Management of Sprinkler Irrigation
Discussion

3:30-5:00 Session Repeats

Session III. Marketing Alfalfa

Dynamics of the Export Market
Exporting Alfalfa to the Pacific Rim
Marketing Timothy Hay to Japan
Certified Weed Free Hay—What Are the Marketing Implications?
Discussion

3:30-5:00 Session Repeats

5:00-6:30 Social Hour in Exhibit Area with Sponsored Snacks and No-Host Bar

6:30-7:15 California Alfalfa & Forage Association Meeting

Tuesday, December 12

**SPECIAL FORAGE QUALITY SESSION 8:00 a.m. - Noon
(co-sponsored by the National Forage Testing Association)**

Producing Alfalfa Hay for Horses—What Buyers Are Looking For
What a Dairy Nutritionist Needs from Alfalfa
Anti-nutritional Factors in Hay (nitrates, poisonous weeds, botulism)
Interpretation of Forage Analysis Reports
Hay Sampling Principles & Practices
Discussion

Break

Agronomic Practices and Forage Quality
The Yield/Quality Tradeoff
Cutting Schedules to Maximize Profit
Future Trends in Forage Analysis
Discussion

12:00 LUNCH

**SEED, INFORMATION, BIOTECHNOLOGY,
AND REGULATION 1:20 - 3:30 p.m.**

Using the Web to Access Alfalfa Information to Improve Profitability
Pesticide Regulations in Alfalfa: What's in Store for You?
Dynamics of Alfalfa Seed Supply
Value Added Traits in Alfalfa
Roundup Ready Alfalfa - Where Are We Headed?
Biotechnology and Alfalfa - What Are the Implications for the Future

3:30 Adjourn

This conference provides a great opportunity to hear alfalfa experts not only from California but also from neighboring western states. Further information including speakers for each talk can be accessed from the internet at <http://alfalfa.ucdavis.edu/>.

2000 National Alfalfa Symposium Registration Form

**YES! I'd like to register for the year 2000 National Alfalfa Symposium
 December 10-12, 2000, Las Vegas, NV (Las Vegas Hilton)
 Tour December 10, Program December 11-12
 Registration (Please print neatly--use one form per registrant)**

	Cost	Total
Pre-Symposium Tour (pre-registration required - meet at east wing of Hilton at 9:45 a.m., December 10). Includes tour of chocolate factory, Hoover Dam guided tour, Nevada alfalfa ranch, alfalfa cubing operation, alfalfa field experiments. Includes both LUNCH AND BARBEQUE DINNER at ranch with country & western music.	\$48	_____
Alfalfa Symposium Registration (before November 17th, 2000). Includes admission, copy of proceedings, TWO BANQUET LUNCHESES, and refreshments. Banquet lunch only guaranteed with registration before deadline.	\$120	_____
Late Registration (After November 17, 2000)	\$160	_____
Extra Lunch Ticket (specify Monday or Tuesday or both)	\$24	_____
Additional Copy of Proceedings (will be mailed after symposium, or pick up)	\$12	_____
Total Enclosed (make out check to 'UC Regents'):		_____

Just PRINT AND SEND this page to the address below.

Please complete one form per person attending. Print or type the following information:

Name _____
 Company/Ranch Name _____
 Mailing Address _____
 City, State, Zip Code _____
 Phone (_____) _____ Fax (_____) _____
 E-mail address (important) _____

Special Meal Request: _____

Please mail this registration form with your check to: Nikki Picanco, 2000 National Alfalfa Symposium, Department of Agronomy & Range Science, University of California, One Shields Avenue, Davis, CA95616-8515. REGISTRATIONS WILL NOT BE CONSIDERED FINAL UNTIL A CHECK HAS BEEN RECEIVED. Please make out your check to 'UC Regents'. You may pick up your registration packet at the Symposium. For questions, E-mail Nikki at: ndpicanco@ucdavis.edu or call 530-752-0700 (fax 530-752-4361). NOTE: GROUP RATES AVAILABLE for 25 OR MORE REGISTERING JOINTLY (contact Nikki Picanco for details).

HOTEL: Room reservations are to be made by calling the Las Vegas Hilton directly at 1-800-732-7117. Hotel reservation: Deadline is November 9, 2000. Be sure to mention that you are attending the National Alfalfa Symposium in order to receive the conference rate of \$79 per night, available December 9-13.

Field Crop Notes (October 2000) _____

Silage Corn Trial

This year's trial was conducted on silty clay loam soil west of Tulare. Each plot was 6 rows wide and almost a quarter mile long. The field received solid manure prior to planting. Fifteen varieties, randomized and replicated 3 times, were planted on May 31, 2000.

Anhydrous ammonia was sidedressed prior to the first irrigation at 125 units/acre. In addition some irrigations contained lagoon water. Between the first and second irrigations, Banvel was applied for broadleaf weed control and Comite was applied for spider mite control. SC1181 appeared to be temporarily affected by the Banvel application as plants were leaning at both ends of the field. These plants later became upright but a bend at the base of the plant was visible on some stalks at harvest. At harvest, several varieties had small areas of lodging but it was not consistent in all the replications.

Weather this summer was fairly good for high corn yields except for a few hot days that had the potential to reduce yields if plants were pollinating. Aphids and late season leafhoppers hurt some fields but the test plot did not have significant insect pressure.

Harvest data (Table 1, page 7) are based on 3 of the center rows of each 6-row plot. The trial was harvested on the early side as can be shown by the relatively high moisture content of all varieties. Ideal moisture for harvest would be 68-70% moisture and moistures from the trial ranged from a low of 72.6% to over 78% moisture. As corn plants mature and lose moisture they are putting starch in the kernels. Taking the wet weight of corn and mathematically adjusting it to 70% moisture does not account for the increased weight from continued photosynthesis that would occur if plants dried naturally. So the weights in the adjusted column would have been higher had the corn been more mature at harvest. Yield differences in silage corn are due in part to the rate and amount of kernel filling that occurs as plants mature.

In this trial the adjusted weight differences of the varieties were not significantly different at the 5% level of probability. As a rule of thumb, the 5% level of probability is used as the cutoff for assigning differences in trials. It means that 5 out of 100 times we could be wrong when we say that one variety is different than another when in fact it was not different. On the other hand, 95 out of 100 times we are right when we say that two varieties are really different from each other. In this year's trial we cannot say with 95% certainty that there are real differences among the varieties when the yield data is adjusted to 70% moisture.

Quality data from this trial will be reported in a following newsletter.

Cowpea Aphid in Alfalfa

The cowpea aphid, which is a black shiny aphid, has become a problem in alfalfa in Tulare in the past year. When conditions are right, high populations develop that severely stunt plants and result in high levels of honeydew and the subsequent sooty mold on plants.

This aphid reached treatable levels in January as well as in July in our county. Last year high populations were found in western Fresno County in November and December. It is highly unusual for a species of aphid to thrive under such different temperature regimes. As a consequence, there are no times of the year when we can say it is safe not to be concerned about the aphid. The one exception is when it is rainy and foggy as there are fungi that parasitize aphids under those environmental conditions. But if this fall and winter are dry and there is little fog, keeping an eye out for this aphid would be the safe thing to do.

Nitrogen Uptake by Winter Cereals in Fall

Studies by Stanislaus County Farm Advisor Marsha Campbell Mathews indicate that winter cereals planted in mid-November, or later, take up about 50 lbs. of nitrogen per acre through January. Only in February, when temperatures start to increase and plants start to really grow, will nitrogen uptake be significant. Preplant applications of nitrogen, or pre-irrigations with lagoon water, should take this low uptake into account. Rain in November and December, or subsequent irrigations if it doesn't rain, have the potential to leach nitrogen below the root zone. When the growth period occurs, early-applied nitrogen may not be available to the crop.

Sclerotinia (white mold) in Alfalfa

By now, most growers and PCA's recognize this fungus-caused disease which can be very noticeable in wet years or years with a lot of fog even if total rainfall is low. The fungus needs high humidity in the crop canopy to infect and cause disease. Reducing crop canopy through weed control, timely harvest, or chemical burn-back (such as with Gramoxone), may reduce infections.

Observations indicate that the fungal structures that produce airborne spores form after temperatures have dropped and the first significant wetting has occurred (rain or irrigation). Last year November and December were dry. At the West Side Field Station there was an alfalfa variety trial that had been hit hard by this disease the previous 1998/99 winter, resulting in numerous sclerotia in the soil. (Sclerotia are resistant structures formed by this fungus in spring in order to survive the summer. Sclerotia germinate to form apothecia, which produce the airborne spores that infect plants.) In November of 1999 the trial was cut and irrigated. Apothecia, which produce the airborne spores, could then be found everywhere. Because the alfalfa had been cut

recently, little Sclerotinia was found in the alfalfa. However, susceptible garbanzo beans, were planted downwind of the alfalfa, developed numerous infection sites. If possible, therefore, when trying to manage this disease by minimizing plant canopy, the ideal is to do the chemical burn or the late cutting just prior to the first cold rain or irrigation. Of course, this is much easier written than done!

(Photos of this disease, sclerotia and apothecia can be viewed on the following Web site: <http://cetulare.ucdavis.edu/alfalfa.htm>.)



Carol Frate
Farm Advisor
(559) 733-6483

**Our new Web
address is:
cetulare.ucdavis.edu**

Table 1. 2000 Tulare County Silage Corn Trial

Cooperator: Mike Santos

Planted: May 31, 2000

Harvested: September 8, 2000, by Eugene Nunes and Sons

Soils: chino silty clay loam and foster loam; 38-inch row spacing

Fertilizer: 20 tons solid manure applied prior to pre-irrigation, 125 units anhydrous

ammonia sidedressed prior to first irrigation, lagoon water in some irrigations

Between first and second irrigations, Banvel was applied for weeds, Comite for spider mites

Company	Brand	Yield/A as harvested tons	Moisture at harvest %	Yield/A adj. To 70% Moisture tons	Initial Plant Population	After harvest Plant Population	Plant height ft.	Ear height ft.
Asgrow	RX913	47.5 a	77.0	36.3	27,943	30,091	12.6 def	7.4 bc
Baglietto Seed	5674	45.8 ab	75.9	36.7	34,500	30,367	13.8 a	7.8 a
Dairyland Seed	1020	45.3 ab	76.8	35.0	32,473	27,533	13.2 bc	7.5 abc
Novartis	N91-R9	45.0 ab	76.7	34.7	31,413	29,767	13.8 a	7.8 ab
ABI	9696	42.9 abc	76.3	33.9	28,917	27,133	12.2 fghi	7.3 cd
Southland Seed Co.	1836	42.8 abc	78.3	31.1	29,140	27,967	12.1 ghij	6.9 de
SeedTec	ST7638	42.2 abc	76.1	33.5	28,290	26,833	13.5 ab	7.7 ab
Pioneer	31G98	41.9 abc	75.5	34.1	28,250	28,033	12.5 efg	7.1 cde
Cargill	9027	40.9 bcd	73.4	36.3	28,583	26,667	12.9 cd	6.8 ef
United AgriProducts	9110	40.5 bcd	75.7	32.7	29,290	27,267	11.8 ij	6.4 f
NC+	NC+7507	40.3 bcd	77.7	29.9	28,223	24,633	11.7 j	6.9 de
Pioneer(Field Variety)	32K61	39.6 cde	73.5	34.8	29,028	28,983	12.6 def	6.9 de
Douglas King	6125	39.1 cde	76.6	30.5	29,553	26,000	12.3 efgh	6.9 de
DeKalb	697	35.8 de	72.6	32.8	31,557	28,700	11.8 ij	6.8 ef
SC1181	SC1181	33.9 e	73.9	29.4	29,137	25,333	12.0 hij	6.8 ef
coefficient of variability (%)		7.2	1.6	8.9	4.5	5.1	1.9	3.2
LSD		5.0 @P=5%	2.0	NS @ P=5%	2.2	2.4	0.4	0.4

Values within a column followed by a common letter do not differ from each other at the 5% level of probability using Duncan's Multiple Range.

Harvest data are based on 3 replicatons and 3 of the 6 rows of each plot.