



Field Crop Notes

November 2001

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California Alfalfa and Forage Symposium

The annual statewide alfalfa meeting, to be held in Modesto on December 11–13, will not only address topics in alfalfa production but for the first time will devote the second day to other forages such as silage corn and winter forage. Speakers will cover production practices, quality, economics, and pest issues. For the complete program and registration forms, see pages 5–7 of this newsletter.

Corn Stunt

Corn stunt disease was first found in Kings and Tulare Counties in the 1940's and then did not appear very much until 1995. Since then we have seen it every year — some years more so than others. This year it was very severe in late corn, especially in Kings County, but numerous fields in Tulare County were also affected. There were even signs of disease in some early corn.

This disease is caused by a one-celled organism that is similar to a bacterium but which is called a spiroplasma. This particular spiroplasma is named *Spiroplasma kunkelii*. It is only known to infect corn. The corn leafhopper, *Dalbulus maidis*, is the only known vector in California.

Symptoms vary depending on the variety and on the stage of plant growth when it becomes infected. If infected when the corn is still small, significant stunting will occur. Plants may tiller excessively. Numerous ears may form but none will develop into a normal ear. If infected close to or after tassel, plants will not be stunted but ears may still be affected. Leaves tend to develop chlorotic streaks that later turn reddish in color. Plants may begin to dry down from the tassel toward the base.

The continued presence of corn stunt since 1995/96 and its severity this year indicates that it may be a disease that will continue to be a problem in our area. University researchers hope to obtain funding to begin research this winter on where the insect and the pathogenic organism overwinter. With many plant diseases, controlling an insect vector is an ineffective way to control the disease. However, diagnostic tools are now available that will help researchers know if corn leafhoppers are carrying the spiroplasma. Leafhopper control can then be evaluated to know if it is a useful strategy for disease management. At the present time, no varieties that are adapted to this area are known to be resistant.

For pictures of corn stunt, check out this newsletter on our office Web site, cetulare.ucdavis.edu.

Corn Silage Variety Trial

The annual Tulare County silage corn variety trial was conducted with the help of grower Alex Garcia. Yield and quality results of the trial follow this article. Yields in the tables are presented both at the moisture level at harvest and adjusted to 70%. This mathematical adjustment will favor varieties that were less than 70% at harvest and will slightly underestimate the varieties that were harvested above 70% moisture.

There were three replications of each variety. The first two replicates had eight rows for the quarter mile length of the field. In the third rep there were only four rows of each variety. The trial was planted on May 21 and harvested on September 6.

The field was well managed including timely weed, spider mite and aphid control. Preplant fertilizer was applied and some irrigations had lagoon water. Guttwein 2622 had poor emergence and plant population was lower than optimum for this variety. There was a low incidence of corn stunt that appeared scattered equally among varieties. There was also some stalk rot in the field and PGI/MBS 801 appeared to be affected more than other varieties. Moisture at harvest ranged from just over 64% to over 73%.

Farm Supervisor Workshop in Spanish, December 11-12

Supervisory training seminar for Spanish-speaking foremen and supervisors will include topics such as

interpersonal relations on the job, employee discipline, power and abuse of authority (including sexual harassment and favoritism), counseling employees, listening skills, and conflict management. The all-Spanish meeting provides supervisory staff a chance to actively participate through role-plays, cases, and lecture discussion.

The cost for the meeting is \$55 for the two days and includes lunch and materials. Cost is \$38 for registrations postmarked on or before December 3, 2001. Make checks out to UC Regents and mail to:

University of California Agricultural Extension
c/o Agricultural Personnel Management Program
3800 Cornucopia Way # A
Modesto, CA 95358

Please include your name, address, and phone in case we need to communicate with you. The meeting will take place at Kearny Ag Center, Parlier, December 11-12, 2001. For more information contact Yolanda Murillo at 559/456-7285 (ymurillo@ucdavis.edu).



Carol Frate
Farm Advisor
(559) 685-309, Ext. 214

2001 Tulare County University of California Cooperative Extension Corn Silage Variety Trial - Yield Summary¹

Cooperator: Alex Garcia Harvester: Edwin Vercauterin

Field Location: Rd 168 between Avenues 144 and 136.

Soil Type: Foster loam and Cajon fine sandy loam

Planted: May 21, 2001 on 30-inch beds; harvested September 6, 2001.

Preplant fertilizer: 100 lbs N, 50 lbs P₂O₅, 50 lbs K₂O/A; Weed control: Banvel @ 3/4 pt/A by ground on June 6

Spider mite control: 3 pt/A Comite plus foliar by helicopter on July 3

Aphid control: Lorsban 4E @ 2 pt/A with buffer and spreader by helicopter on July 18

Brand	Percent Moisture at harvest	Yield as harvested tons/acre	Adjusted Yield 70% moisture tons/acre	Plant Population ² number of plants/acre	Plant Height (ft)	Ear Height (ft)
Baglietto 5630	73.5	41.2 a	36.4 abcd	34,170	12.1	6.7
NK 91-R9	71.8	40.7 a	38.3 a	33,650	14.0	7.1
TS 518	73.8	40.6 a	35.7 abcd	33,313	12.3	6.2
Dairyland 11907	73.7	40.0 a	35.1 abcd	30,813	12.2	6.2
Pioneer 31G98	71.2	38.2 ab	36.8 ab	32,147	11.7	6.4
Cargill 9027	70.8	36.7 bc	35.8 abcd	32,273	12.5	6.2
SeedTec 7638	71.1	36.0 bcd	34.6 abcde	30,773	12.5	6.3
Asgrow RX897	70.8	35.9 bcd	34.9 abcde	32,667	11.8	6.3
UAP 9110	71.5	35.8 bcd	34.3 bcde	32,313	11.8	6.3
DeKalb 743 (field variety)	70.6	35.8 bcd	35.1 abcd	32,043	11.9	6.2
Simplot Seeds 2643 IMI	71.8	35.7 bcd	33.5 bcdef	32,690	12.3	6.9
Farmers Warehouse 8070	68.5	34.7 cd	36.6 abc	32,567	12.2	7.0
ABI 9696	71.5	34.1 cd	32.6 def	29,897	11.6	5.9
DeKalb 687	70.3	33.0 d	32.9 cdef	34,877	10.9	5.8
Garst 8288	67.6	29.1 e	31.3 ef	27,397	11.5	5.4
Croplan 743	64.3	27.5 ef	32.9 cdef	32,567	11.4	6.1
PGI/MBS 801	64.7	25.9 f	30.3 f	30,960	12.3	5.6
Guttwein 2622	69.9	25.1 f	25.3 g	21,940	10.2	5.0
Coefficient of variability	1.5	4.8	5.8		2.87	5.1
LSD P=0.05	1.7	2.8	3.2		0.57	0.52
average	70.4	34.8	34.0	31503	12	6.2

¹ Reps I and II were 8-row plots; Rep III were 4-row plots; plots extended for the length of the field. Values followed by a common letter do not differ significantly at the 5 % level of probability using Duncan's Multiple Range.

² Plant populations counted on June 6 (reps I and II and June 8 (rep III)).

2001 Tulare County University of California Cooperative Extension Corn Silage Variety Trial - Quality Summary¹

Cooperator: Alex Garcia

Harvester: Edwin Vercauterin

Field Location: Rd 168 between Avenues 144 and 136. Soil Type: Foster loam and Cajon fine sandy loam

Planted: May 21, 2001 on 30-inch beds; harvested September 6, 2001.

Preplant fertilizer: 100 lbs N, 50 lbs P₂O₅, 50 lbs K₂O/A; Weed control: Banvel @ 3/4 pt/A by ground on June 6

Spider mite control: 3 pt/A Comite plus foliar by helicopter on July 3

Aphid control: Lorsban 4E @ 2 pt/A with buffer and spreader by helicopter on July 18

Brand	Crude Protein %	ADF %	NDF %	Ca %	P %	Net Energy Mcal/lb	TDN %
Baglietto 5630	7.5 abc	29.3 abcd	46.7 abc	0.233 abc	0.237 abc	0.68 cde	67.58 cdef
NK 91-R9	7.6 abc	29.9 abcd	47.5 ab	0.237 abc	0.240 abc	0.67 cde	67.13 cdef
TS 518	7.5 abc	29.0 abcde	46.6 abc	0.232 abc	0.228 bc	0.69 cde	67.77 bcdef
Dairyland 11907	6.8 bcde	27.9 bcde	44.6 bcd	0.223 abc	0.217 bc	0.70 bcd	68.51 bcdef
Pioneer 31G98	7.3 bcd	27.2 de	43.4 cdef	0.218 abc	0.232 bc	0.71 bc	68.95 bc
Cargill 9027	6.7 cde	27.2 de	43.6 cde	0.218 abc	0.223 bc	0.71 bc	68.91 bcd
SeedTec 7638	7.0 bcde	28.6 abcde	45.7 abcd	0.232 abc	0.222 bc	0.69 bcde	67.97 bcdef
Asgrow RX897	6.7 cde	30.4 abc	47.9 abc	0.238 a	0.217 bc	0.67 de	66.80 def
UAP 9110	7.4 bcd	27.7 bcde	44.3 cde	0.223 abc	0.220 bc	0.70 bcd	68.60 bcde
DeKalb 743 (field variety)	8.3 abc	25.8 ef	41.4 def	0.222 abc	0.272 abc	0.73 ab	69.87 ab
Simplot Seeds 2643 IMI	6.5 de	31.5 a	49.4 ab	0.247 a	0.222 bc	0.65 e	66.13 f
Farmers Warehouse 8070	6.4 e	29.1 abcd	46.6 abc	0.230 abc	0.212 c	0.68 cde	67.65 cdef
ABI 9696	7.1 bcde	28.3 abcde	44.8 bcd	0.227 abc	0.232 bc	0.70 bcd	68.21 bcdef
DeKalb 687	7.8 abc	28.6 abcde	45.6 abcd	0.237 ab	0.253 ab	0.69 bcde	68.01 bcdef
Garst 8288	7.4 abc	23.2 f	38.9 f	0.197 c	0.218 bc	0.76 a	71.57 a
Croplan 743	7.0 bcde	23.9 f	39.7 ef	0.198 bc	0.232 bc	0.75 a	71.12 a
PGI/MBS 801	7.4 bc	30.7 ab	50.0 a	0.250 a	0.243 abc	0.66 de	66.64 ef
Guttwein 2622	7.2 bcde	28.6 abcde	47.0 abc	0.238 a	0.205 c	0.69 bcde	68.03 bcdef
Coefficient of variability	6.6	5.9	5.6	4.775	8.588	2.86	1.59
LSD P=0.05	0.8	2.7	4.2	0.018	0.033	0.033	1.80
grand average	7.2	28.1	45.2	0.230	0.230	0.7	68.3

¹ Analysis by Dairyland Lab using NIRS. ADF = Acid Detergent Fiber; NDF = Neutral Detergent Fiber; TDN = Total Digestible Nutrients. Two samples each for reps I and II with one sample for rep III.

California Alfalfa & Forage Symposium

December 11-13, 2001

Modesto, California

Featuring:

Production methods, utilization, quality, marketing, pest control, and waste recycling in alfalfa, corn silage, winter cereals, and alternative forages.

FIELD TOUR

Tuesday, Dec. 11, 2001

See interesting and unique agricultural sites in the Modesto/Turlock area including forage production, experimental plots of alternative forages, innovative manure management, cheese factory, and dairy production. (Separate registration required. Meet at lobby of Modesto Doubletree at 11:45 a.m. COST is \$25 including lunch.)

SYMPOSIUM PROGRAM

Dec. 12 and Dec. 13

Wednesday, December 12 — Alfalfa Profitability, Pest Management, and Water

Industry Trends and Policy Influences, 8:00 am - 9:50 am

Emerging issues of importance to the California alfalfa industry.

Dan Putnam, Forage Specialist, UC Davis, CA

Market trends in the California alfalfa industry.

Seth Hoyt, Ag Statistics Department, CDFR, Sacramento, CA

Implications of the 2001 Farm Bill and the potential for future growth of the California dairy/forage industry.

Bees Butler, Department of Agricultural and Resource Economics, UC Davis, CA

Klamath Basin and the Endangered Species Act: What can we learn?

Harry Carlson, UCCE Farm Advisor, Tulelake, CA

Why it is important for alfalfa growers to reach out to a non-ag audience.

Tom Ellis (alfalfa grower, Arbuckle, CA) and Jim Kuhn (alfalfa grower, El Centro, CA), California Alfalfa & Forage Association

Discussion

Forage Quality and Harvest Management, 10:20 am - Noon

Interpreting your hay quality test.

Mike Wolf, JL Analytical, Modesto, CA

Understanding the economics of the yield-quality tradeoff.

Steve Orloff, UCCE Farm Advisor, Yreka, CA

Managing big bales—pitfalls & successes.

Panel of growers/harvesters moderated by Rick Staas, San Joaquin Valley Haygrowers, Tracy, CA, and Mick Canevari, UCCE Farm Advisor, Stockton, CA

What's new in harvest equipment? Presentations of new ideas by hay equipment manufacturers.

Panel of Industry members moderated by Mike Rethwisch, UCCE Farm Advisor, Blythe, CA

Discussion

NOON BANQUET LUNCH

Pest Control, Markets, and Regulation, 1:20 pm - 3:00 pm

What is wrong with my alfalfa—nematodes, or something else?

Becky Westerdahl, CE Nematology Specialist, UC Davis, CA

Timing is everything—what makes you money in weed control?

Mick Canevari, UCCE Farm Advisor, Stockton, CA

Thrips, cowpea aphid, and sharpshooters in alfalfa—but do the bovines care?

Charlie Summers, UC Entomology Specialist, Kearney Ag Center, Parlier, CA

Successes and pitfalls producing organic alfalfa.

Bill Douglas, Organic Dairy Producer, Oakdale, CA

Preventing the off-site movement of pesticides in alfalfa—why it's important and how can it be done?

Dan Putnam, CE Alfalfa Specialist, UC Davis, CA

Discussion

Markets, Irrigation and Profitability, 3:30 pm - 5 pm

Producing hay for horses—what do we need to do?

Ann Rodiek, Professor, Fresno State University, Fresno, CA

Subsurface drip irrigation of alfalfa—prospects and possibilities.

Bob Hutmacher, UCCE Specialist, UC Davis and Shafter, CA

Recycling municipal effluent using alfalfa to produce a profit.

Gene Nebeker, Alfalfa Grower, Nebeker Ranch, Lancaster, CA

Economics and energy: comparing electric and diesel pump irrigation strategy.

Jim Thomson, Department of Agricultural Engineering, UC Davis

Discussion

5:00 Visit display areas

Thursday, December 13 — Production, Utilization, and Management of Forage Crops

Integrating Forage, Livestock, and Nutrient Cycling, 8 am - 10:00 am

Overview of different forage crops: current status and future trends.

Carol Frate, UCCE Farm Advisor, Visalia, CA

Timing nitrogen applications in corn and winter forages.

Marsha Campbell Mathews, UCCE Farm Advisor, Modesto, CA

Balancing manure nutrients with management of forages.

Stu Pettygrove, Soils Specialist, UC Davis, and Alison Eagle, Coordinator, Biologically Integrated Farming Systems Manure Project, Kearney Ag Center and UC Davis, CA*

Using dairy lagoon nutrient water to produce high yielding crops—a panel of three dairy/forage producers from the Central Valley.

Moderator: Marsha Campbell Mathews, UCCE Farm Advisor, Modesto

Discussion

Managing Forages for optimum Profitability, 10:30 - Noon

Timing of winter forage harvest on yield and quality.

Carol Collar, UCCE Farm Advisor, Hanford, CA

Have your cake and eat it too—a grazing and haying system with winter cereals.

Steve Orloff, UCCE Farm Advisor, Yreka, CA

Managing nitrates in fresh, ensiled, or hayed forages.

Steve Fransen, Forage Agronomist, Washington State University, Prosser, WA

Scientific aspects of silage making.

Lynn Johnson, Washington State University, Puyallup, WA

Discussion

NOON BANQUET LUNCH

Corn Silage and Alternative Forage Production and Management, 1:10 pm - 3:45 pm

What's coming down the pike in corn genetics? Value added corn—brown midrib, waxy, high-oil quality of corn for silage.

Joe Lauer, University of Wisconsin Corn Agronomist, Madison, WI

Maximizing stand establishment and growth of corn.

Roger Vinande, Pioneer Hi-Bred International, Modesto, CA

Harvest management of corn for silage production.

Wes Kezar, Pioneer Hi-Bred International, Boise, ID

Methods to evaluate the quality of corn silage and other forages.

Peter Robinson, Dairy Nutrition Specialist, Department of Animal Science, UC Davis, CA

Salt tolerant forages for the recycling of saline water.

Steve Kaffka, CE Specialist, UC Davis, CA

Growing sudangrass, kleingrass, and bermudagrass for profit.

Juan Guererro, UCCE Farm Advisor, Imperial County, El Centro, CA

Searching for alternative forage crops (including alternative clovers, tef, chicory, soybean, cowpea, millets).

Dan Putnam, Alfalfa and Forage Specialist, UC Davis, CA

Discussion

3:45 END OF SYMPOSIUM

REGISTRATION FORM ON LAST PAGE

Registration by November 17: \$85.00

Registration after November 17: \$125

2001 California Alfalfa and Forage Symposium Registration Form
December 12-13, 2001 - Modesto, CA (Doubletree Hotel)

(Please print neatly—use one form per registrant)

Pre-Symposium Tour – December 11

(Pre-registration required. Meet near lobby of Doubletree Hotel, Modesto, at 11:30 a.m. December 11.) Tour may include forage production, experimental plots of alternative forages, innovative manure management, Hilmar cheese factory, and dairy production, forage testing lab. Includes LUNCH. _____ \$25

Registration: Alfalfa/Forage Symposium registration (before November 17th, 2001). Includes admission for both days, ONE copy of proceedings, TWO BANQUET LUNCHES, and refreshments, plus loads of fun! Banquet lunch guaranteed only with registration before deadline. _____ \$85

Late Registration (full 2-day, after November 17, 2001, or walk-up) _____ \$125

Registration Single Day Only (specify which day: 12/12 or 12/13 _____) _____ \$48

Extra Lunch Ticket (specify Monday or Tuesday or both) _____ \$23

Additional Copy of Proceedings (will be mailed after symposium, or picked up) _____ \$12

Total Enclosed (make out check to ‘UC Regents’) \$ _____

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

Name _____

Company/Ranch Name _____

City, State, Zip Code _____

Phone (_____) _____ Fax (_____) _____

E-mail Address (important): _____

Special Meal Request: _____

Please mail this registration form with your check (payable to UC Regents) to: Nikki Picanco, 2001 California Alfalfa-Forage 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. 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 Doubletree Hotel directly at your earliest convenience (209-526-6000) or toll free at 1-800-222-8733 (mention the California Alfalfa Symposium to obtain symposium rates). Please make reservations by November 5, 2001.