COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA



FORAGE AND SEED FACTS

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BAKER ALFALFA RELEASED

Baker, tested as NS-68, is a winter dormant variety that has been released jointly by the Nebraska, Kansas and South Dakota Experiment Stations, and the USDA. It was developed in Nebraska by Dr. William Kehr, USDA, and is winter hardy with long persistence. It has high resistance to pea aphids, spotted alfalfa aphids, and bacterial wilt; moderate resistance to downy mildew and potato leafhopper yellowing; and low resistance to anthracnose. It is susceptible to phytophthora root rot and its reaction to stem nematodes is unknown. Forage yields in the north central region were superior or equal to Dawson and Vernal. Seed yields were comparable to Ranger in California and Vernal in Idaho. Some certified seed will be available for planting in the spring of 1978. It is a 7-clone synthetic whose parentage includes germ plasm from Atlantic, Baltic, Cossack, Grimm, Kansas Common, Ladak, Nebraska Common, Ranger, Turkestan, Vernal, M. falcata, M. gulutinosa, and three plant introductions.

Letter of Release, March 28, 1977

U-5560 LOW SAPONIN ALFALFA BREEDING LINE RELEASED

The ARS-USDA and the Utah Agricultural Experimental Station announce the release of U-5560 a low sapinon, bacterial resistant breeding line. It is similar to Ranger in general appearance and performance, and it was derived from Vernal, Du-Puits, ladak, Ranger and Lahontan. Residual saponins in U-5560 have been reduced 33 percent in quantity and over 400 percent in quality in toxicity to Trichoderma compared to parental cultivars. Twenty-five grams of Syn II seed will be provided each breeder upon receipt of a written request and agreement to make appropriate recognition of its source a matter of open record when the germ plasm contributes to the development of a new cultivar or hybrid. Address requests to USDA-ARS Crops Research Laboratory, Utah State University, UMC 63, Logan, Utah 84322.

Notice of Release, USU and USDA,
August 11, 1977

BLOAT CONTROL OF ANIMALS GRAZING ON ALFALFA PASTURE

Gene E. Cope and Frank Petr

The main problem with alfalfa grazing is frothy bloat. Factors involved include stage of maturity, geographical location, time of year, and individual animal susceptibility. Polaxalene, when adequately consumed by cattle, has been effective in preventing frothy bloat.

Research has demonstrated that bloat can be controlled effectively under commercial conditions using Poloxalene in a liquid molasses carrier. Over-grazing results in over-consumption of the bloat prevention material. Dry, overly mature or poor quality alfalfa also causes over-consumption of the molasses mix. Bloat control is a greater problem during the spring and early summer months. Adequate

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University of California and the United States Department of Agriculture cooperating.

consumption of Poloxalene should be the major management emphasis during this period. Over-consumption becomes a problem during July, August and September.

The following management practices have assisted in bloat management during these months. 1) Give access to bloat preventative 2-5 days before turning them on alfalfa. 2) Turn cattle on alfalfa midmorning after filling on other roughage. Leave them on pasture constantly, even at night, so they will never be hungary. 3) Place liquid feed troughs around water or loitering areas to provide access. 4) Check bloat preventative daily to see that recommended consumption of 0.2 pounds supplement per 100 pounds body weight is being eaten. 5) Do not graze alfalfa before the 1/10 bloom stage. 6) Establish five or six equal sections for grazing. Graze each section 5 days then rotate cattle to next section, allowing at least 25 days for regrowth after 5 days grazing. 7) Stock at five to seven head of 400 pound cattle per acre (five head per acre is based on hay production rate of 6 tons per acre per year). 8) Manage stocking rate and rotation interval properly. If over-grazing occurs, cattle may overeat when they are rotated to fresh pasture and thus increase bloat. Leave alfalfa 4 inches high when cattle are rotated to fresh pasture. Uneven grazing allows some plants to become larger and less palatable, forcing animals during regrazing to eat the younger plants. 9) Irrigate as needed to sustain maximum production through the season. 10) Excessive trompout of alfalfa during wet weather can be a problem, especially on clay soils. 11) Alfalfa requires a 30-day regrowth to restore root reserves and therefore improve winter survival and next years production. The ideal time is in the fall, after which the alfalfa can be harvested or regrazed.

Additional bloat management points are contained in the publication. Economic considerations are also discussed. In the Texas Extension Demonstration Program, alfalfa was capable of producing 1,000 to 2,000 pounds of beef per acre. Utilizing alfalfa for summer months and overlapping winter small grain pasture in both the spring and the fall increased buying and marketing flexibility and overall profitability.

Texas Agricultural Extension Service
Fact Sheet L-1496, September 1976

MODIFYING SOIL STRUCTURE IN SANDY SOILS

Keith S. Mayberry

Sandy soils of the Rositas and Mecca series comprise about 10% of the farmed area in the Imperial Valley. These sandy soils may be found near the northwestern and southeastern margins of the Valley. Sandy soils are frequently stratified with clay or silt layers. The soils may be characterized as having low natural fertility, poor water retention and often poor growth of deep-rooted crops.

Could these soils respond favorably to profile modification? The USDA conducted a series of research projects to investigate the best mehtod to alleviate problems of stratification 1/. Experiments on alflafa and wheat showed:

> Although water penetrates sandy soils readily, roots do not. The sand particles are oriented so that the grains are "cross braced" similar to the construction of an arch. If the particles do not slide against one another, roots have difficulty in forcing their way through the soil.
>
> In one alfalfa field, deep slip plowing (2-ways) produced more than twice the number of tons of hay than disking alone. Deep moldboard plowing was the next best treatment. Slip plowing (1-way) was only about 50% more effective than convention disking.
>
> A wheat experiment compared disking alone, chiseling in two direction, slip plowing in one direction and slip plowing driections. Again, slip plowing (2-ways) proved to be the best treatment providing a 50% increase in yield.

UC Coop. Ext., Imperial Co. Ag Briefs
April 22, 1977

DR. LARRY R. TEUBER JOINS AGRONOMY AND RANGE SCIENCE STAFF, DECEMBER 1977

Larry Teuber was born in Prescott, Arizona, in 1951, and lived in a number of locations in eastern Arizona and western New Mexico. He attended high school in Albuquerque. He attended New Mexico State University from 1969 to 1974, receiving a B. S. in Agricultural Biology in 1973 and an M. S. in Plant breeding in 1974. Larry, then went to the University of Minnesota where he received a Ph.D. in Plant breeding in 1977. His master's research dealt with adapting procedures for screening for resistance to anthracnose and Phytophthora to New Mexico conditions. Larry's Ph.D. research dealt with the characteristics of Nectar production in alfalfa with long-range objective of developing alfalfas specifically designed for honey production. As the Alfalfa breeder at Davis, Larry's interests will be in developing methods of breeding and germplasm developments. His interests are diverse, but will be initially centered around seed production, insect and disease resistance and germ plasm conservation and utilization.

NEW PUBLICATIONS

FIELD CROPS STATISTICS - California, 1967-1976. California Crop and Livestock Reporting Service, P. O. Box 1258, Sacramento, California 95806.

PROCEEDINGS, Seventh California Alfalfa Symposium. Edited by Vern L. Marble, Estension Agronomist, U. C. Davis. Available for $4.00 U. S., $5.00 outside U.S.

ESTIMATED COST TO PRODUCE LADINO CLOVER SEED. Robert L. Sailsbery and Lee C. Benson. Glenn County Leaflet, Cooperative Extension, Orland, California 95963.

THE EFFECT OF SOILS AND FERTILIZERS ON HUMAN AND ANIMAL NUTRITION. W. H. Allaway. Agriculture Information Bulletin No. 378, Cornell University, ARS and Soil Conservation Service, USDA cooperating, March 1975.

GROWING ALFALFA IN ARIZONA. Robert E. Dennis, et al. Arizona Cooperative Extension Bulletin A16, Revised 1977.

CORN SILAGE PROFITS. Published and available from Sperry Newholland dealers. Contains information on growing, harvesting, storage, silo chemistry, adjusting quality, measuring silage quality, etc.



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