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25TH ANNUAL CALIFORNIA ALFALFA SYMPOSIUM

ALFALFA VARIETIES

INTERPRETING YOUR HAY TEST REPORT

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The 25TH Annual Alfalfa Symposium will be held in Modesto this year. Enclosed in this newsletter is a copy of the program. To receive a lower registration rate, you must register by November 17th. To receive registration materials, call the Agronomy Extension Office at UC Davis at 752-0700.

ALFALFA VARIETIES

What Varieties of Alfalfa do you Grow?

Every year at this time I start to get phone calls asking what is new and exciting in certified alfalfa varieties. My "recommendations" will always follow the same pattern.

First I need to know:

What are the pest and disease problems you need to worry about?

What is your market? Horse, dairy, beef or other livestock?

What are your soil and irrigation constraints? Do you have heavy soil, a limited irrigation district season, salinity or other soil problems?

Do you have set production goals?

Based on those constraints, I will go to the Certified Variety list and eliminate any varieties which would not fit...
your needs due to dormancy or pest problems. I can also provide you with variety trial results from Davis, which can give you information about stand persistence and yield. Not all varieties you are interested in will be on the variety trial list. Many entries are experimental varieties which will be released by the company at a later date with another name.

Your experience with a variety is the only way to truly determine if a variety will meet your needs. My recommendation will be a list of several certified varieties, never just one "magic" selection.

Included in this newsletter are the yield results, stand counts and cover ratings for semi-dormant varieties planted at the UC Davis variety trials in 1991.

**INTERPRETATION OF YIELD RESULTS**

Experimental field plots are replicated within a site, across sites, and over years to sample the variation which naturally occurs within a region, from field to field, within a field, and from year to year. It is important to obtain reliable data on a cultivar from as many sites or from as many years as possible. One can find examples of varieties which perform well in single cuttings or single years, but perform poorly when tested more widely. One should never choose an alfalfa variety based upon the yield results from a single year.

**Importance of "Yield Groups"**

Although varieties are ranked from highest to lowest yielding, it is important to consider whether there are really differences between them, or whether the numerical differences are due to "random" effects (e.g. slight variations in soil or environment). The Least Significant Difference (LSD), which is reported at the bottom of each column of numbers, is one way of testing the true difference between any two variety means. The LSD value determines a "critical difference", beyond which a variety is judged to be truly different. Simply subtract or add the LSD value to a variety mean yield. Any other variety mean which falls within this range is considered similar, and values which fall outside of this range are considered different.

For convenience, we have placed the letters, "A", "B", "C", etc. next to the yields. Numbers with the same letter are considered similar. Please note that even though rankings are given within these letter groupings, for all practical purposes, we can't tell the difference between them. This statistical test is made with a 95% confidence level. That is, we are making the decision that varieties are either different or similar with a less than 1 in 20 chance of being wrong (≤5% probability). If you are willing to accept a higher probability of being wrong, you should group the varieties more narrowly (smaller number per group).

**Assessing Variation.**

Another statistic, the Coefficient of Variation (C.V.), is an estimation of the overall level of uncontrolled variation in the experiment. High value for a C.V. means that one should consider the data to be less reliable. Coefficients of Variation under 10-12% are usually considered acceptable.

Although there may appear to be a "winner" in each trial, more realistically there are a "group of winners" in a trial. This grouping of high yielding cultivars should then be coupled with consideration of disease resistance and dormancy qualities.
The Certified Alfalfa Seed Council located in Davis puts out a list of Certified Alfalfa Varieties every year. The dormancy classification and pest resistance ratings are listed along with the variety names and the companies who market the seed. You can get this list directly from the Council by writing to:

Certified Alfalfa Seed Council  
PO BOX 1017  
DAVIS CA 95617-1017
Hay bales, with wires removed, being elevated, shredded, and loaded into a feed wagon.