

Choosing Alfalfa Varieties: its importance to Pest Management

An aerial photograph of a vast alfalfa field. The field is divided into numerous long, parallel rows. Each row is marked with small, dark, rectangular markers spaced evenly apart. The alfalfa plants are green and appear to be in a late stage of growth. The field extends to the horizon under a clear, light blue sky. In the distance, a line of trees and a utility pole are visible.

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Alfalfa Seed – Your Future

- The full yield, quality, pest resistance potential is contained in that tiny seed
- Biotech traits (RR and HarvXtra)



Criteria for Choosing Alfalfa Varieties?

- My grandpa planted that variety, seemed to work
- Cost of Seed?
- Rumors: Everyone's planting that one?
- Got a great hat from the seed guy?

Correct

Criteria for Choosing Alfalfa Varieties:

- Yield
- Fall Dormancy
- Pest Resistance Package
- Persistence
- Quality Possibilities
- Biotech traits (RR, HarvXtra)
- **Performance:** Return on Investment (not cost)
- Cost

Variety Choice: What's the difference?



September 2020 Virtual Field Day

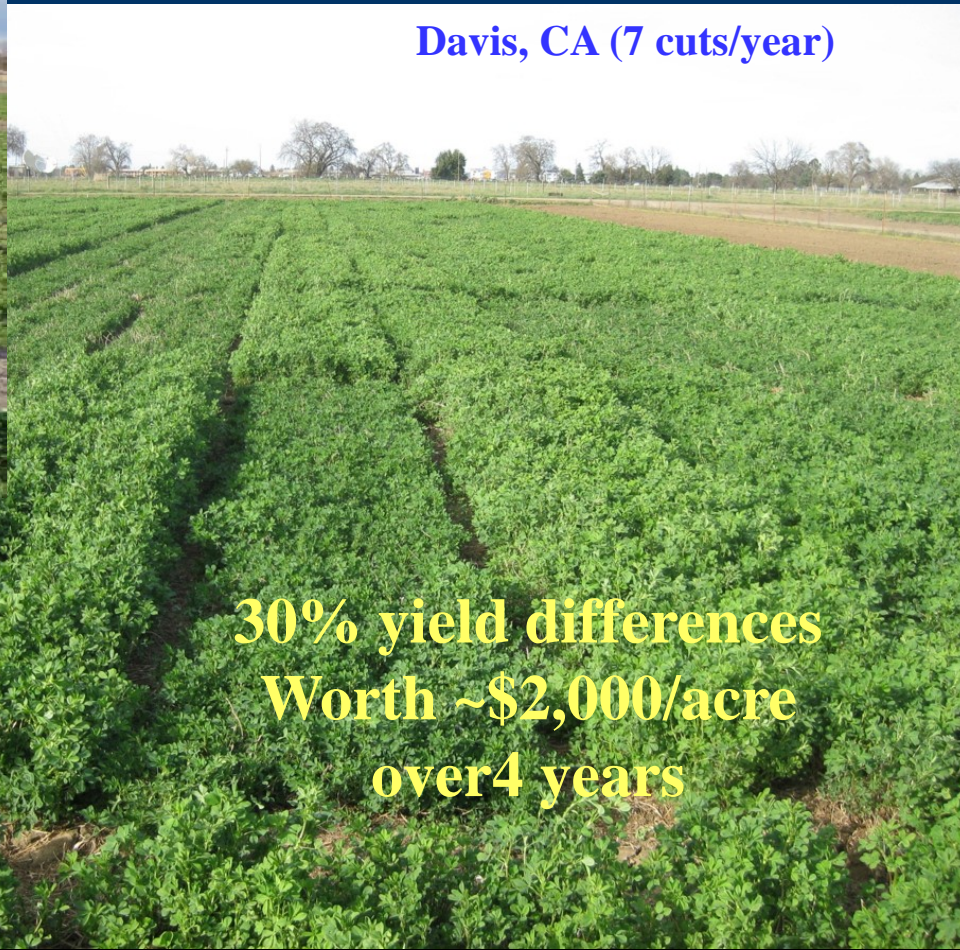
Can you tell the difference?

Tulelake, CA (4 cuts/year)



We still had 15% yield differences, worth \$880/acre over 4 years

Davis, CA (7 cuts/year)



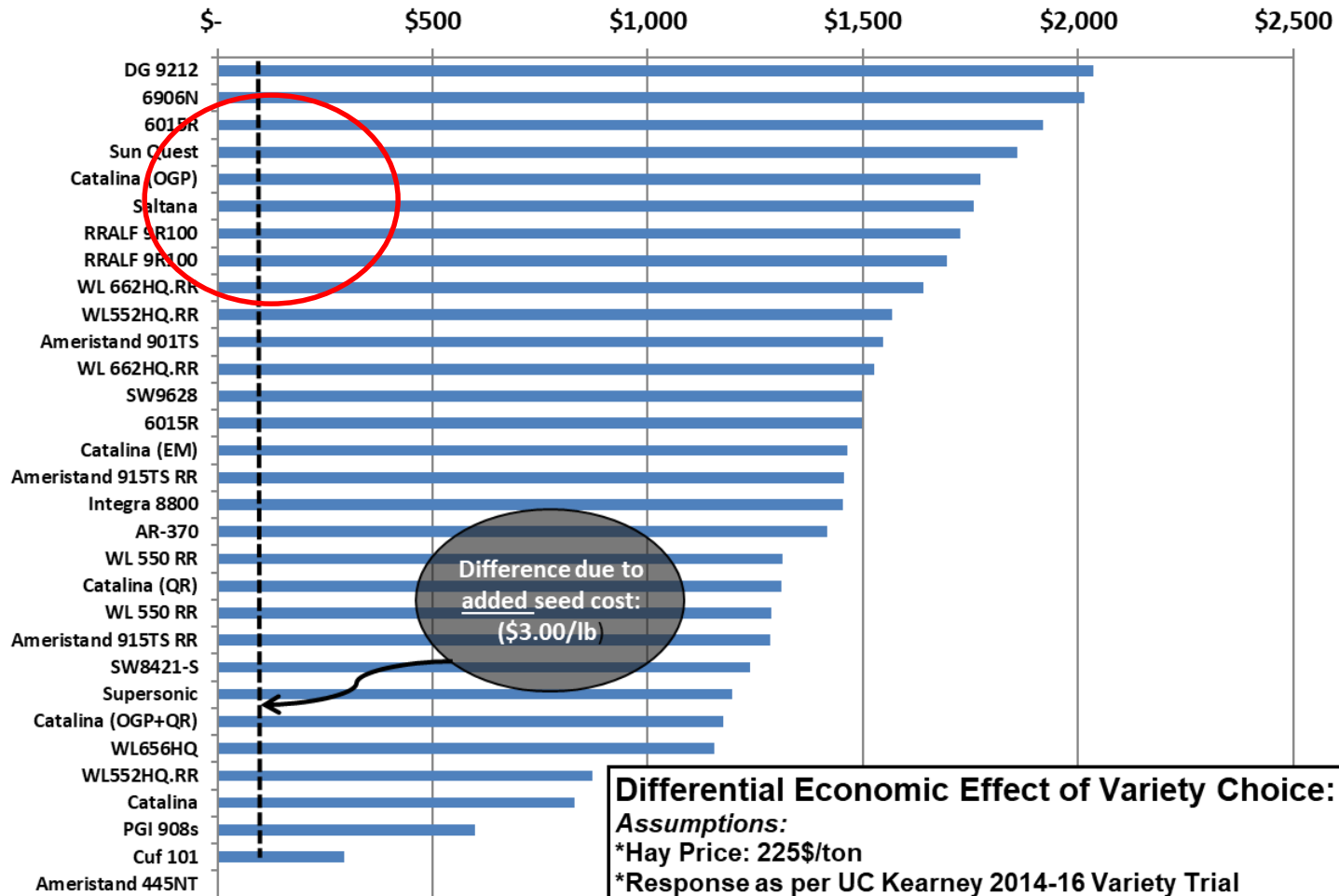
30% yield differences
Worth ~\$2,000/acre
over 4 years

Let's talk economics



Look at Return on Investment:

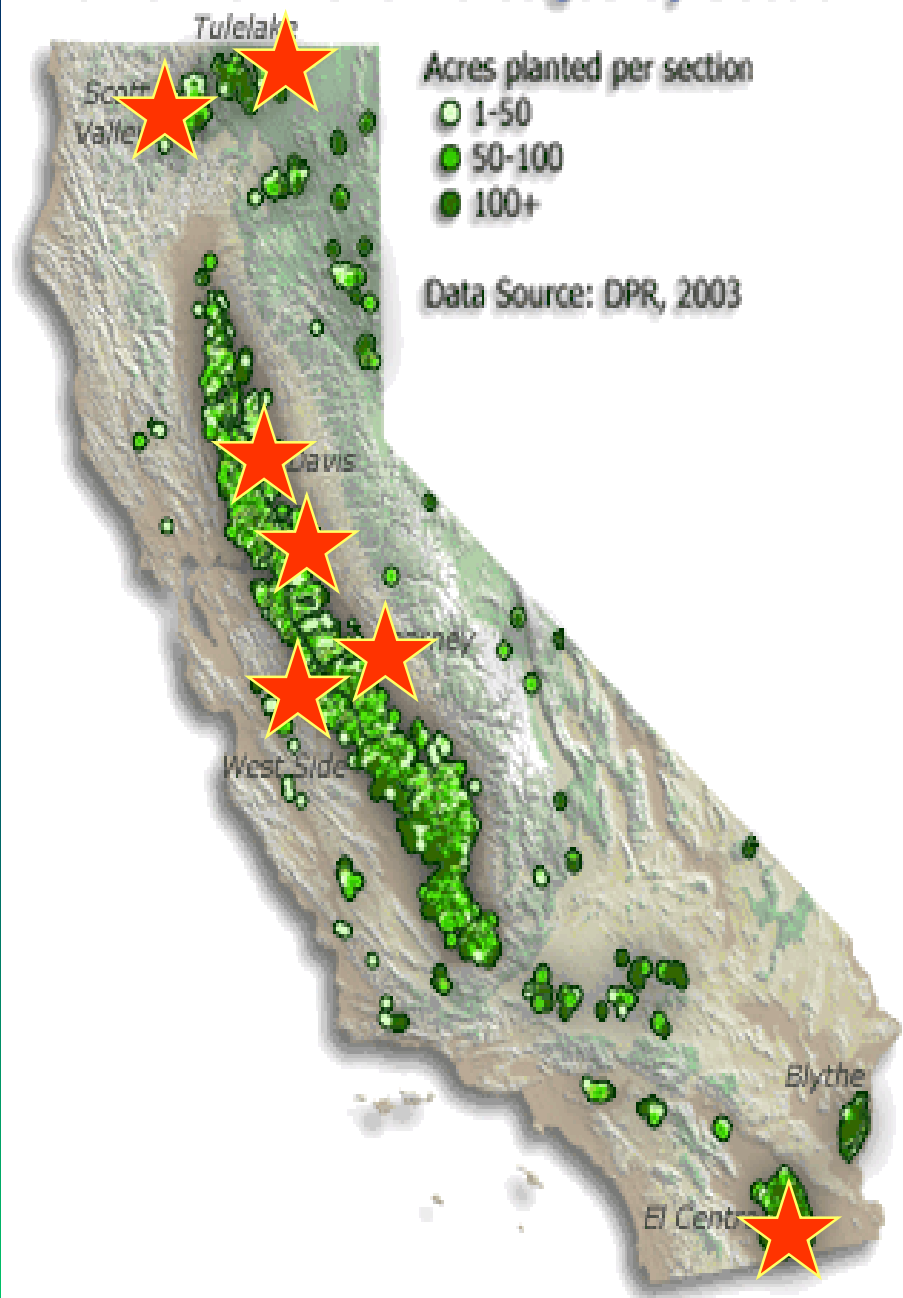
Economic Value Due to Variety Choice (\$/acre/3 years)
Kearney Trial (2014-2016 data)



Variety Trials:

- Understand your Agro-Ecological Zones
- Differences in Fall Dormancy
- Differences in Cutting Schedules

California Alfalfa Acreages by Section



San Joaquin Valley 8 cut

(Kearney Research and Extension Center,
eastern Fresno Co.)



Sacramento Valley (7 cut)

Davis, Yolo County



September 2020 Virtual Field Day

Fall Dormancy (December)



Fall Dormancy Evaluation

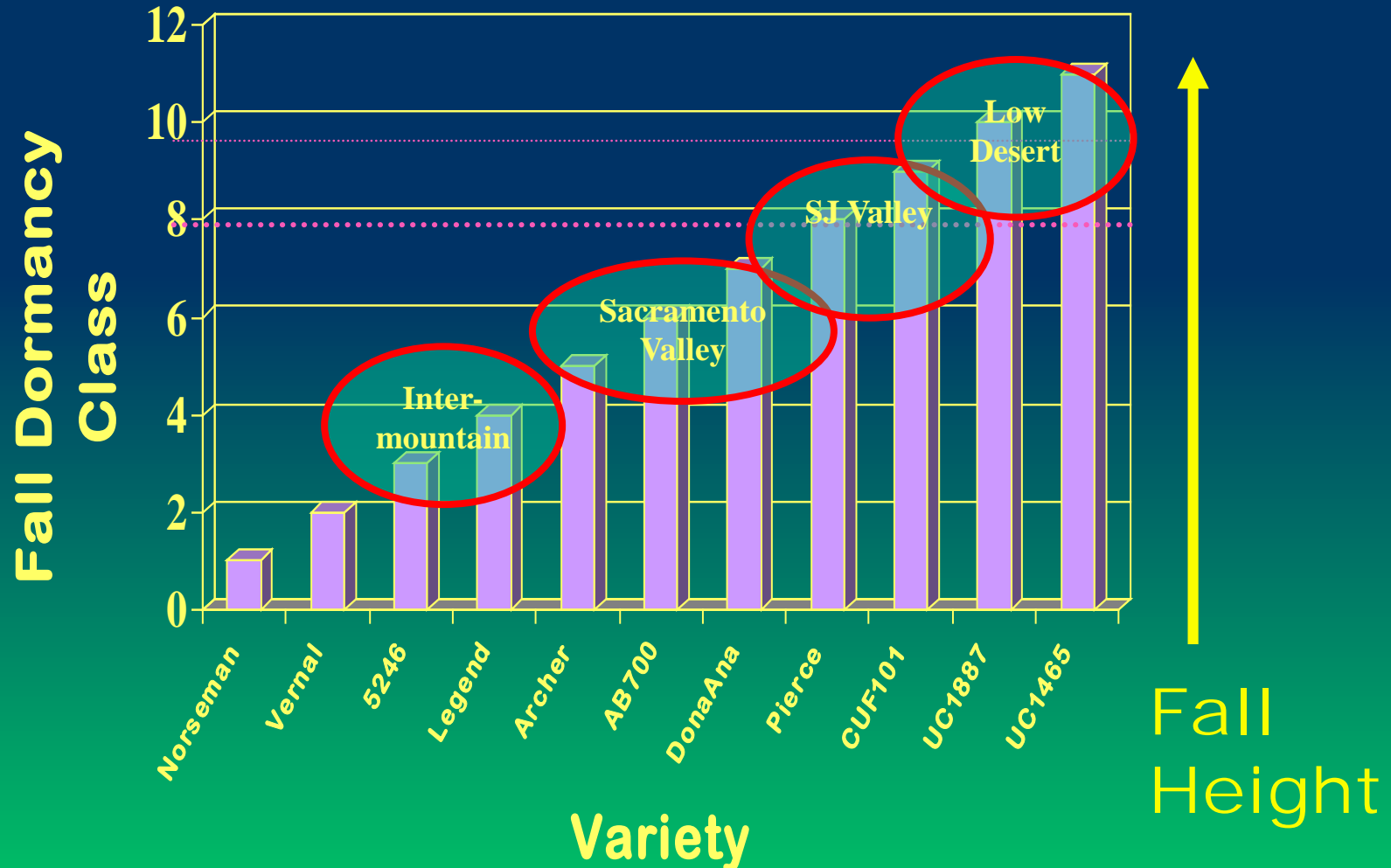
Evaluation method

- Four locations
- Spring planted (seeded)
- Spaced plants.
- Fall clip - 3.5 weeks of regrowth.
- 1 to N scale;
class = 5 cm of regrowth
- Scores are square root transformed to remove heterogeneity.

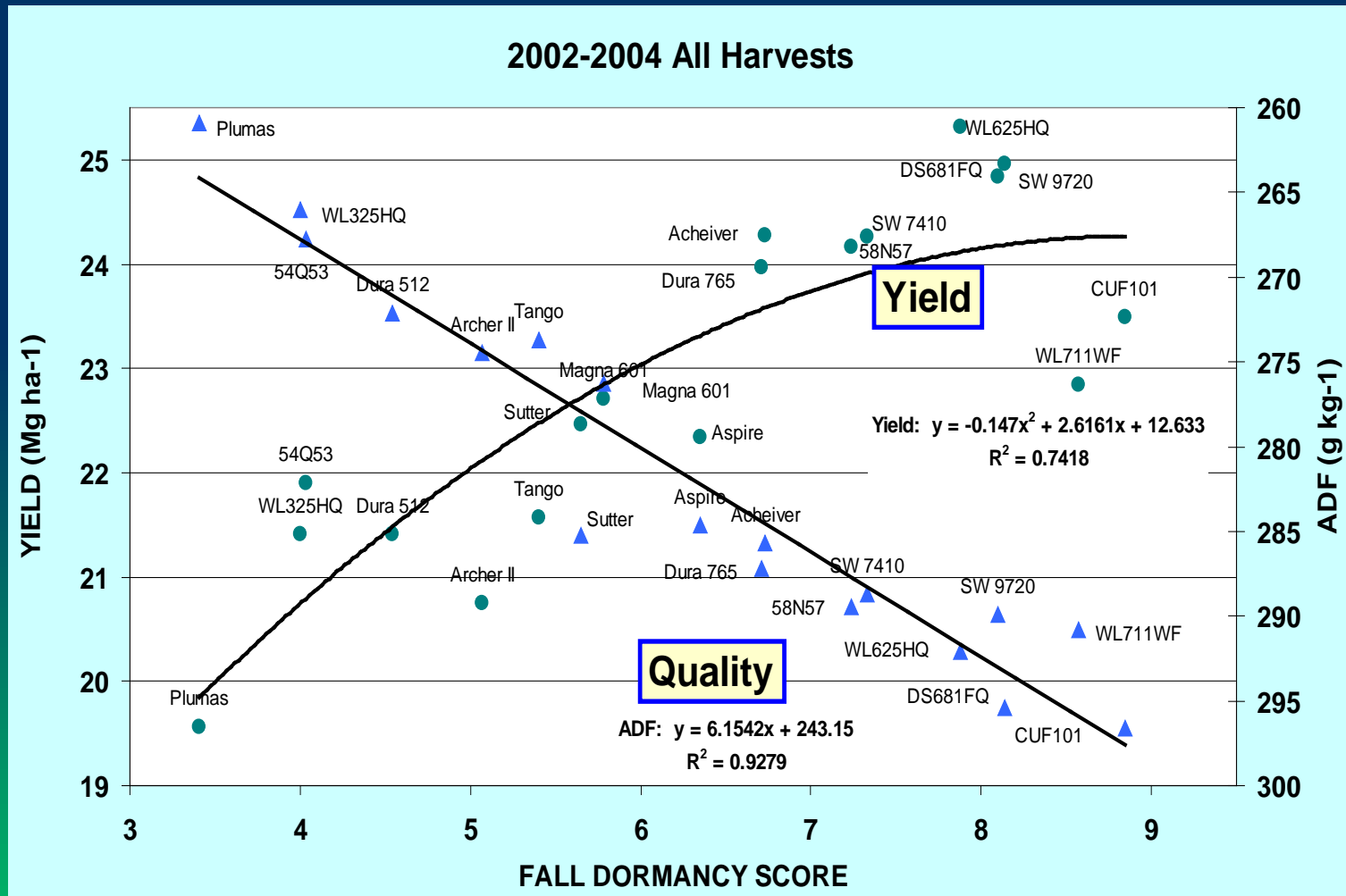


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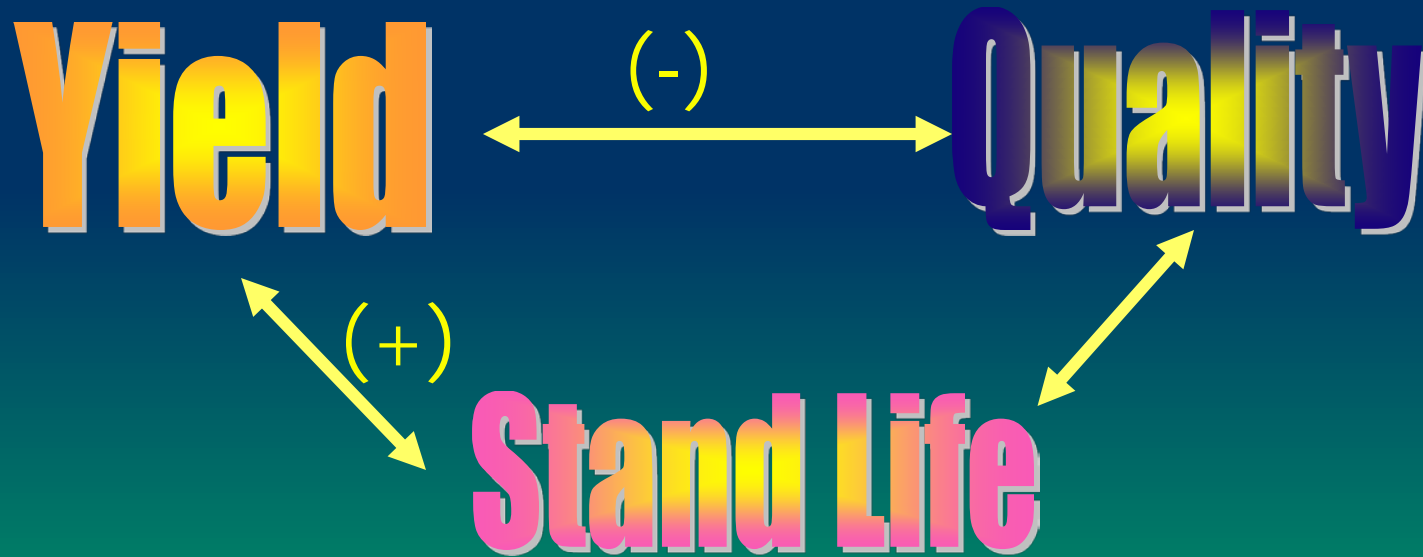
Fall Dormancy of Alfalfa Varieties



Variety, Quality and Yield



Alfalfa Quality: Always a Dilemma:



Slightly more dormant varieties may have longer stand life, but it depends

FD-General

Recommendations

- ❑ Since FD is related to yield, increase dormancy to the point where persistence is not compromised
- ❑ Persistence link, includes summer/cutting schedule losses (non-dormants)
- ❑ Quality link (dormant varieties tend to be higher in quality)

Variety Selection: importance for Pest Management?



The best defense against weeds, insects and diseases is a vigorous alfalfa stand, with deep roots and vigorous regrowth potential: Variety, stand establishment method