

Consortium *for* Alfalfa Improvement

USDFRC



THE SAMUEL ROBERTS
NOBLE
FOUNDATION

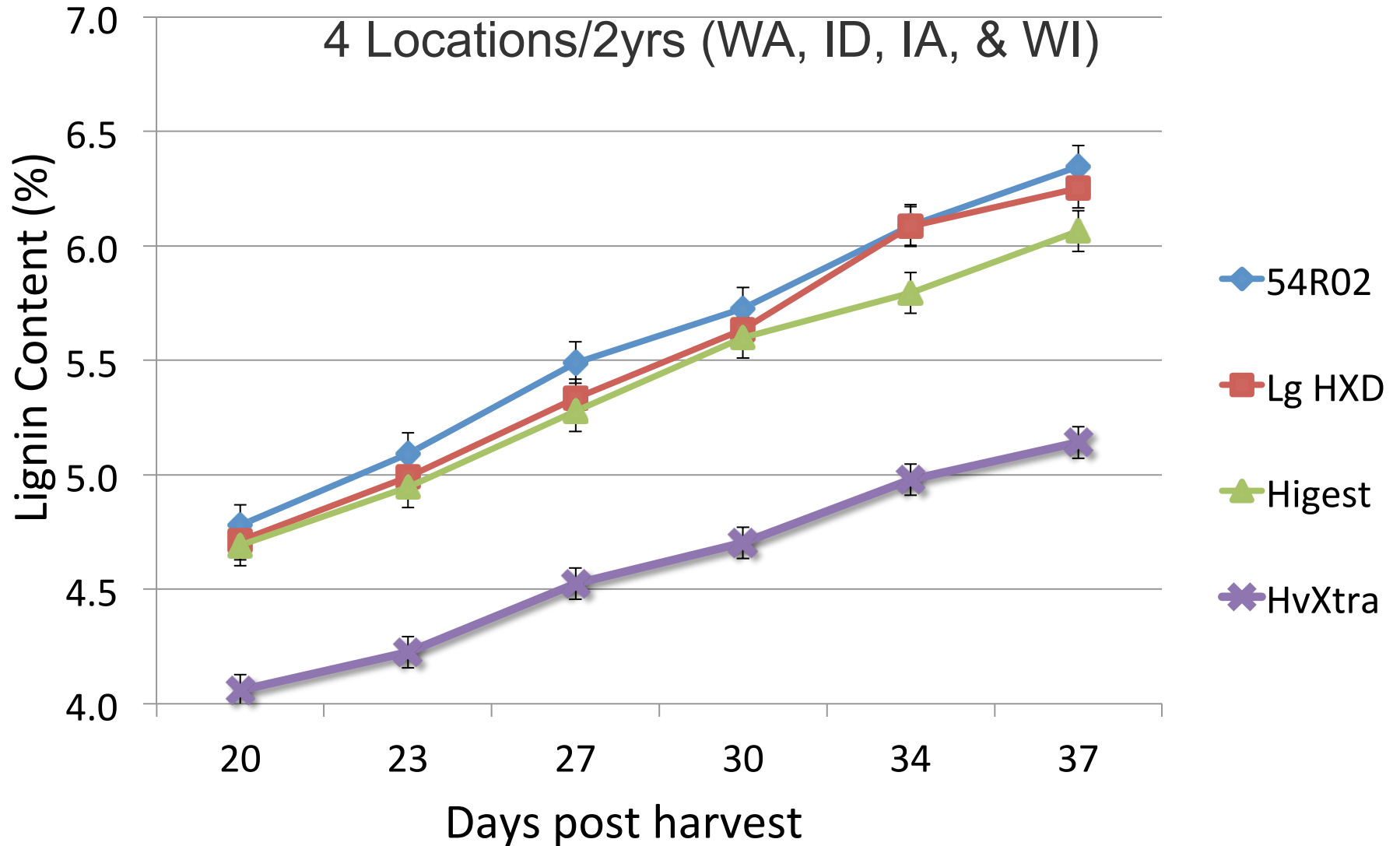


PIONEER[®]
A DUPONT COMPANY



**Forage
Genetics**
International

Change in ADL with Advancing Maturity

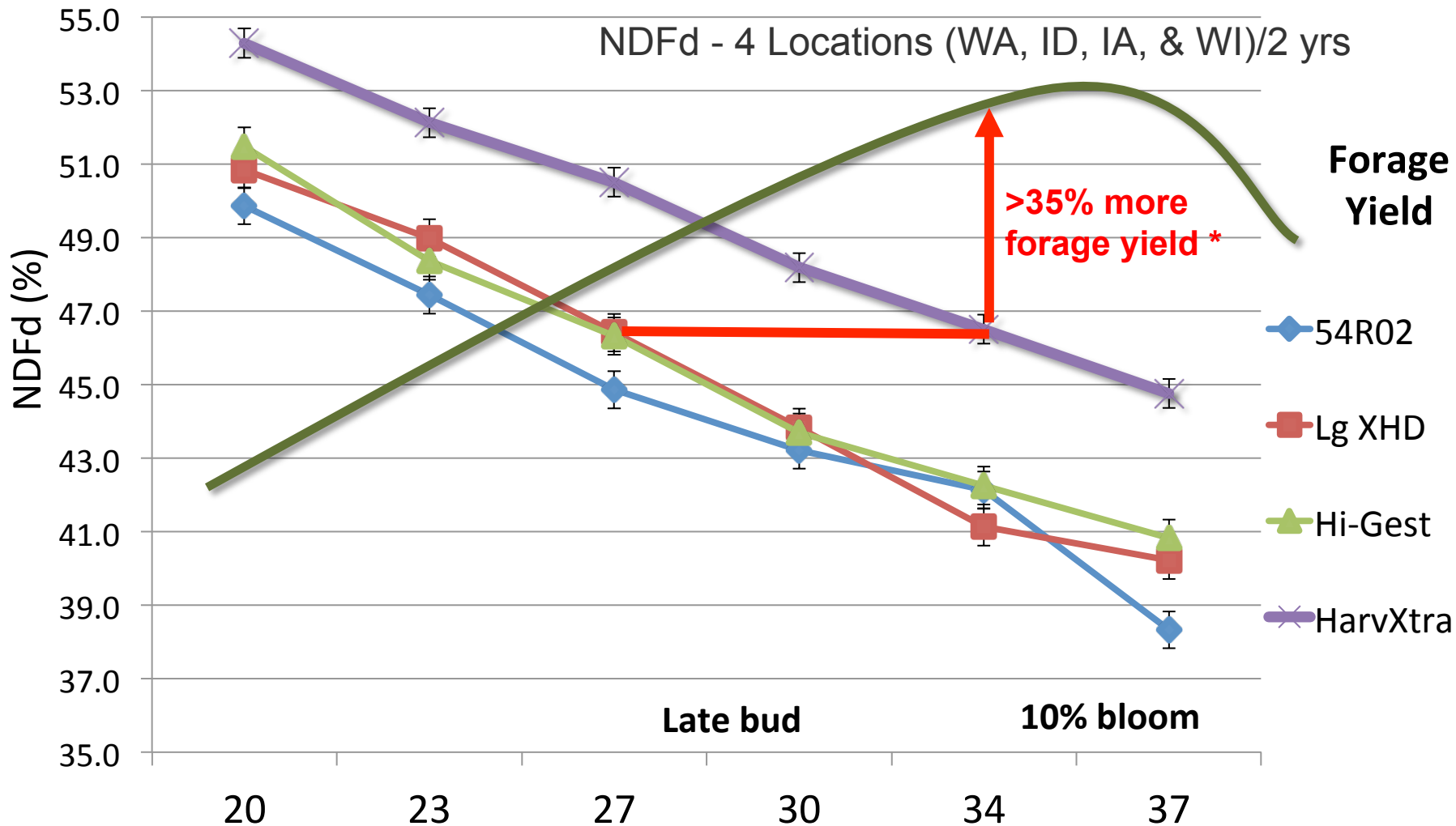


Value Proposition: # 1

Harvest Flexibility/Higher Yield

- Potential 7-10 day delayed harvest
- More yield potential with higher digestibility than conventional alfalfa at same maturity.
- Improved stand persistence/longer stand life
- Possible to reduce one cutting a year, out West could be 2 + cuttings

Harvest for Yield



Cutting Interval (Days)

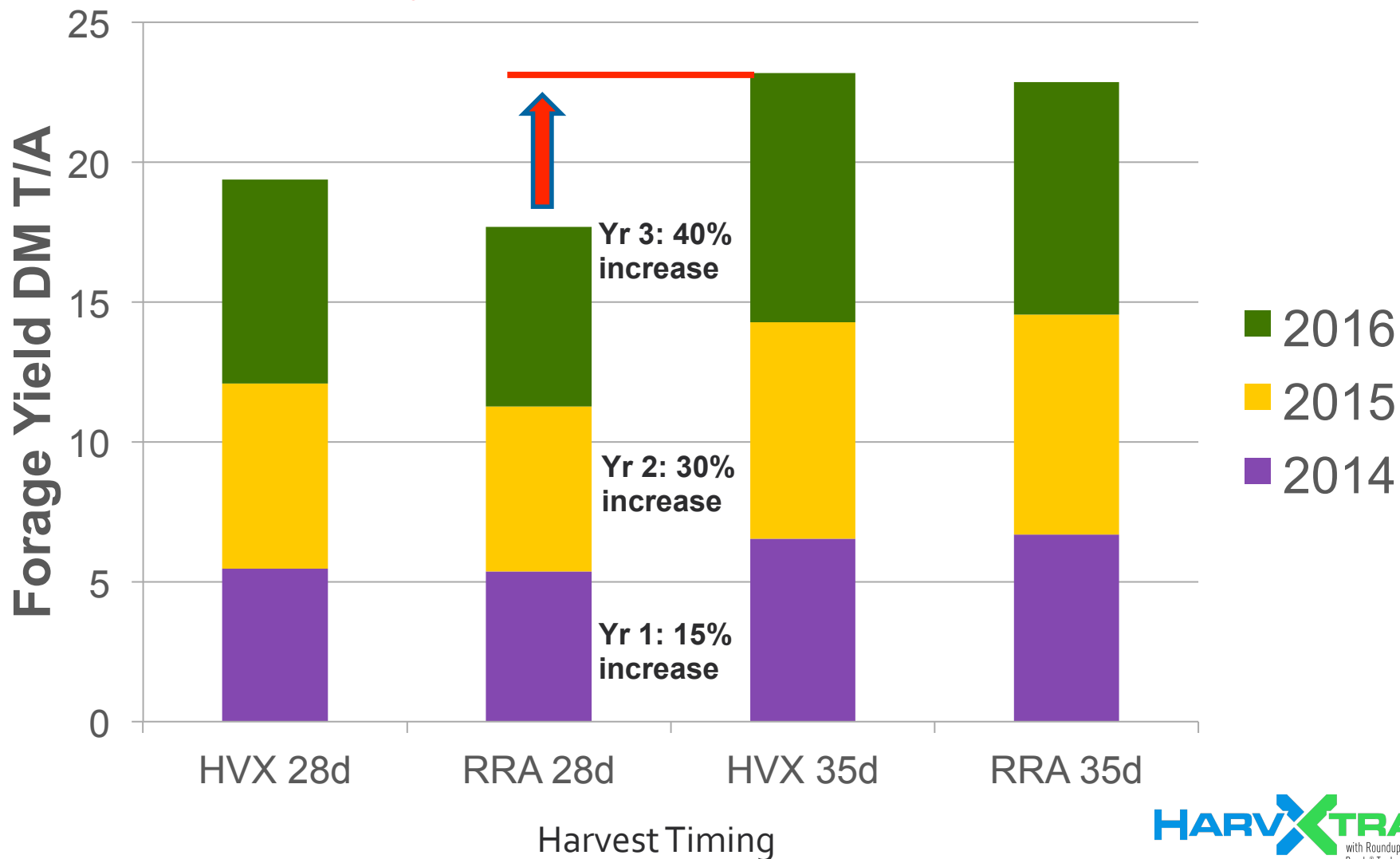
* Undersander, et. al. Low lignin alfalfa: Redefining the yield /quality tradeoff, 2009 Western Alfalfa & Forage Conference

28d vs 35d Forage Yield – 3yr Summary West Salem, WI

(Seeded Fall 2013)

HarvXtra Delay Harvest AVG 30% Yield Increase over 3 years compared to RRA 28d cut

*NOTE: NDFd for HarvXtra 35d was \geq RRA at 28d



Value Proposition: # 2

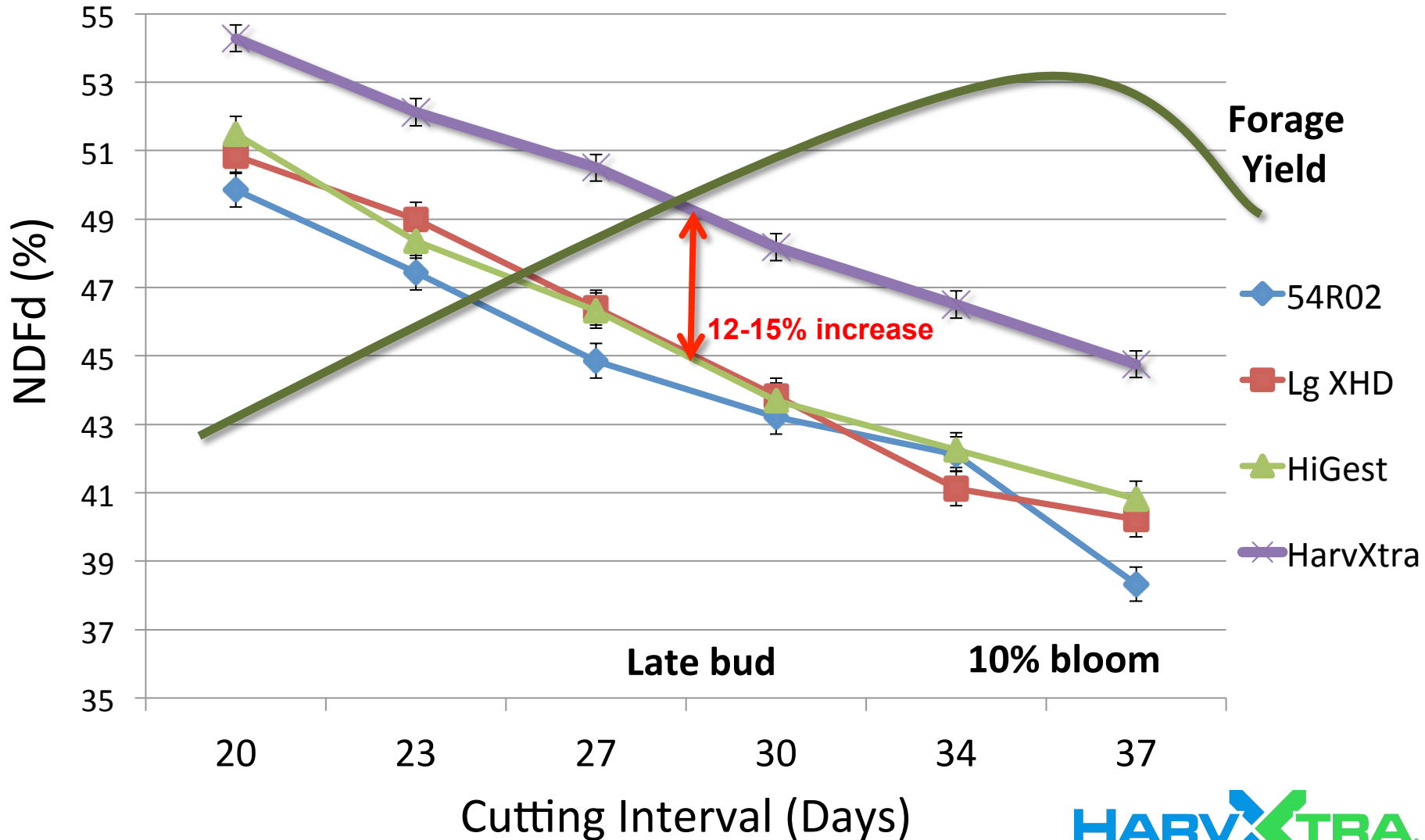
Same cutting schedule - Higher Quality

- 12-15%+ improvement in NDFd
- 20-30 point RFQ advantage
 - MW model 1 RFQ point = \$1/T premium



Harvest for Quality

NDFd - 4 Locations (WA, ID, IA, & WI)/2 yrs



Forage Quality Metrics

Why NDFd?

- NDFd (fiber digestibility) is one of the primary forage quality metrics used by dairy nutritionists to balance diets.
- A one-unit increase in NDFd was associated with a 0.37 lb./day increase in dry matter intake (DMI) and a 0.55 lb./day increase in 4% fat-corrected milk yield per cow. (Oba and Allen, 1999)
- NDFd is a primary component in calculation of RFQ.

Are there other improved quality alfalfa products on the market?

For over three decades alfalfa breeders have used conventional alfalfa breeding techniques to select for improved forage quality. Although there has been incremental progress in Relative Feed Quality (RFQ), these conventional breeding methods were not significantly successful in decreasing lignin content.

The HarvXtra[®] alfalfa trait allows lignin modifications not possible with conventional approaches and results in a true break-through in alfalfa forage quality for alfalfa growers and dairy producers.

Results Show

In these trials HiGest 360, which is marketed as “low lignin” alfalfa, is not significantly different in lignin content than Legendairy XHD, its FD3 counterpart in this study – and has significantly higher lignin content (17% on average) than the FD4 HarvXtra[®] alfalfa experimental.

Confusion in the marketplace about low lignin alfalfa can jeopardize the opportunity for alfalfa producers to realize the significant advantages associated by the real and significant reduction in lignin content and increases in fiber digestibility associated with the HarvXtra[®] alfalfa trait relative to all conventional varieties.