

Comparing **DIGEST HD alfalfa** vs. **BOOST HG “low lignin” alfalfa**

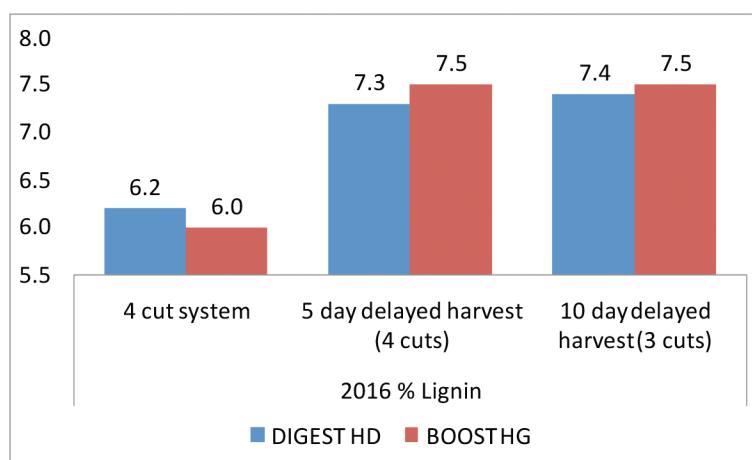
Legacy Seeds, Inc. Alfalfa Quality Over Time Study—2016

Legacy Seeds is the only independent alfalfa breeding program in the industry. In 2000 Legacy Seeds hired Dave Huset, a long-time alfalfa breeder. Since the program's inception Huset has been breeding high yielding, persistent varieties selected for improved digestibility (marketed as HD® - Highly Digestible Alfalfa). Improving digestibility in high yielding varieties has been the focus of the Legacy HD® program. Released HD® varieties proved to average ~104% higher NDFD compared to the average of competitor's dairy quality

Purpose of Alfalfa Quality Over Time Study: In 2014 Alforex introduced BOOST HG (sold as Hi-Gest® 360 in the US)—a conventionally bred “low lignin” alfalfa. Alforex claims Hi-Gest® alfalfa offers improved digestibility with 7-10% lower lignin and a wider harvest window up to 7 days beyond a late-bud or early flower harvest. (<http://www.alforexseeds.com/agronomy/low-lignin-alfalfa>) Because Legacy HD® varieties were bred and selected for improved digestibility it was prudent for Legacy Seeds to compare DIGEST HD (sold as L-455HD in the US) to BOOST HG (sold as Hi-Gest 360 in the US) in different cutting intervals to compare yield, lignin, NDFD, TTNDFD, milk per ton, uNDF, and milk per acre to gauge our program to Alforex's low lignin variety. Hybriforce 3400 is the standard check.



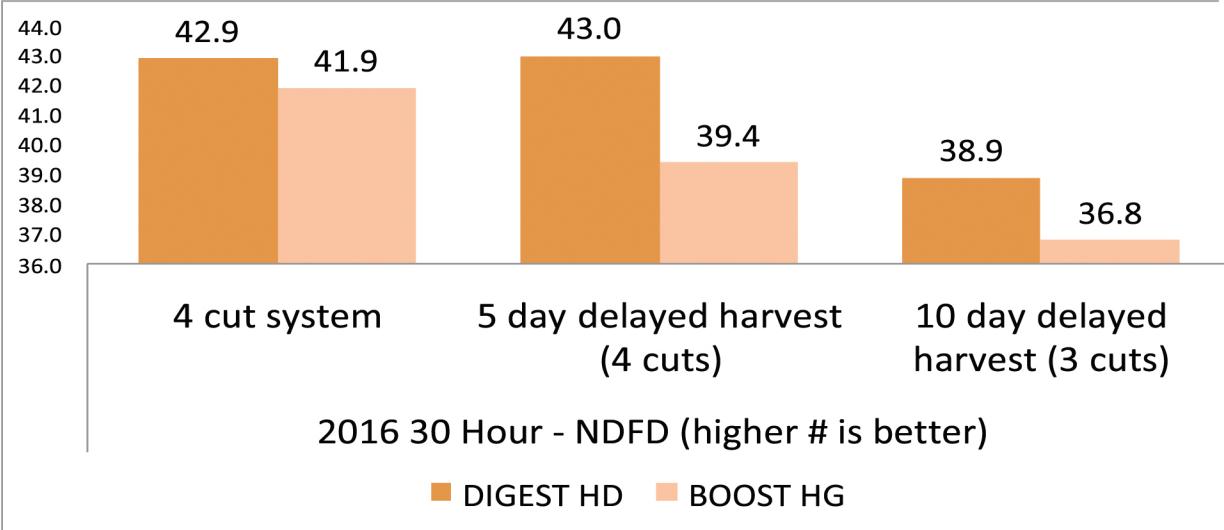
Techniques: DIGEST HD, BOOST HG and Hybriforce 3400 were planted in 3 different plots in 2015 to be cut in different intervals; a regular harvest interval (32 days-early bloom); a 5 day delayed harvest interval (37 days -mid-bloom); a 10 day delay interval (42 days—full bloom). Yield was taken each cut and forage samples were sent to Rock River Laboratory to attain forage quality results. The first harvest was May 20, 2016. All tests were conducted at the Legacy Alfalfa Research Farm near Evansville, Wisconsin with replicated harvest and quality tests.



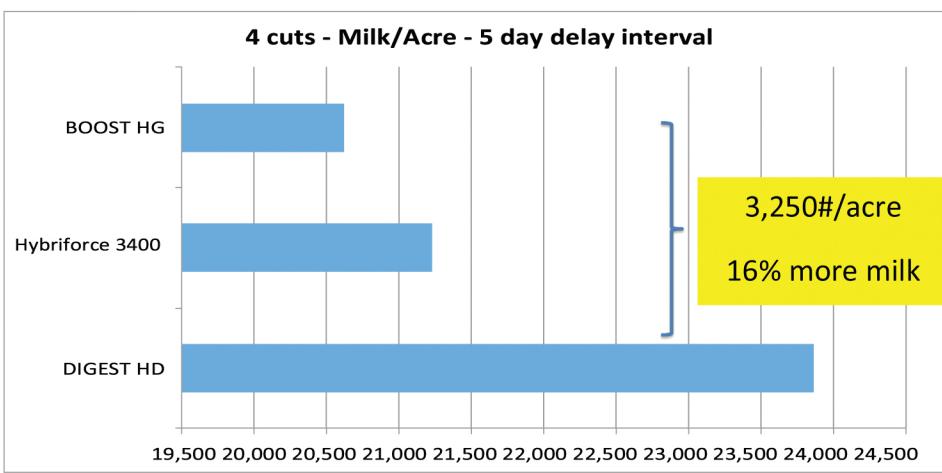
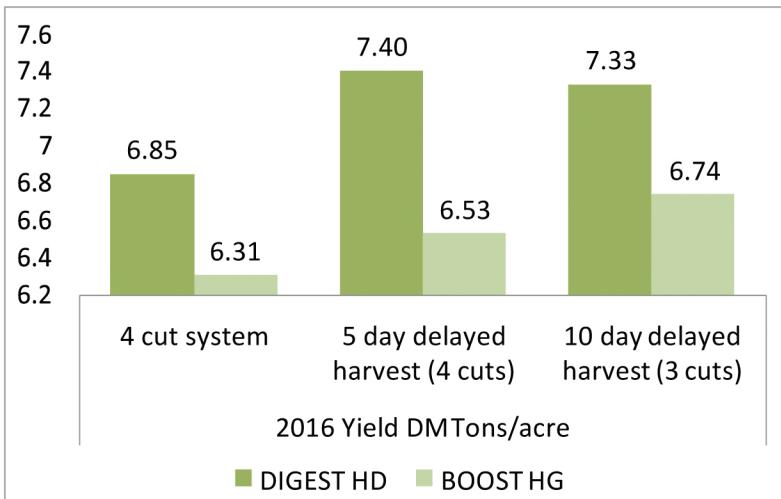
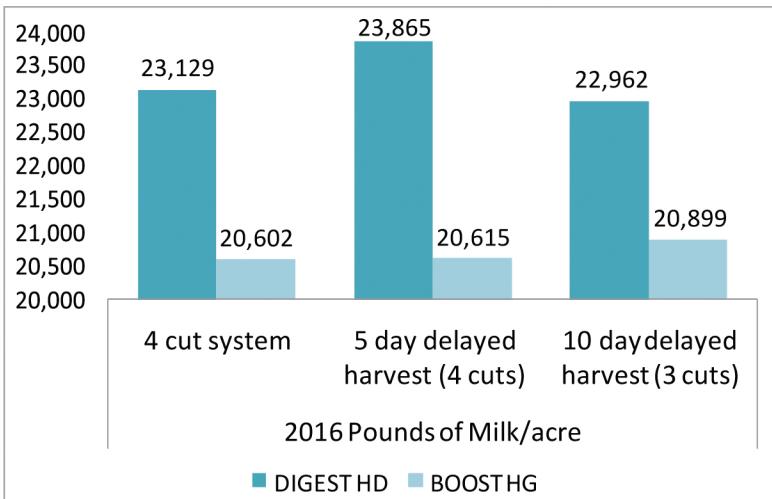
% Lignin was nearly identical between DIGEST HD and BOOST HG in all harvest intervals



Legacy HD® alfalfa won “Grand Champion” in two categories at the 2016 World Forage Analysis Superbowl contest. Grand Champion in the Haylage Division and also the “Quality Counts” Category (for fastest digestibility).



DIGEST HD had higher % 30 hour NDFD than **BOOST HG** each harvest interval. **DIGEST HD** averaged 3.25 units higher NDFD-48 per cut than **BOOST HG** and Hybriforce 3400 over 6 harvests (across 1st and 2nd harvests)



DIGEST HD is marketed in the US as L-455HD.

BOOST HG is marketed in the US as Hi-Gest 360.

Conclusions:

DIGEST HD from General Seeds is showing similar % lignin as BOOST HG with improved digestibility (%NDFD), improved % TTNFDD, yield, milk per acre, and profitability in all three cutting intervals in each cutting. In the regular harvest interval 3 additional competitor's dairy quality varieties were tested. In that trial DIGEST HD averaged 109% additional milk per acre above the average of all competitor's varieties.

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