

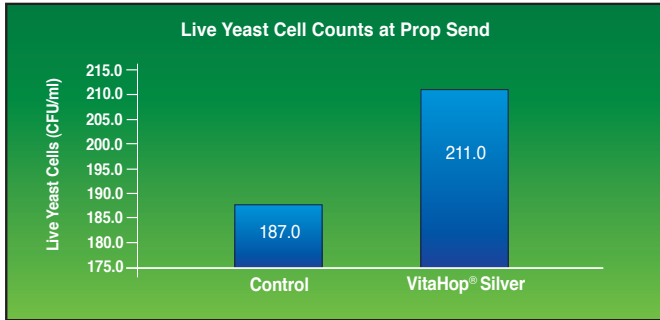


# BetaTec® – Case Study

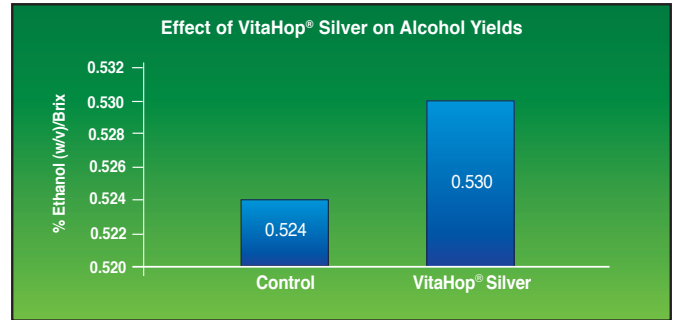
## VitaHop® Silver in Full Scale Production

### Nebraska dry mill corn ethanol plant

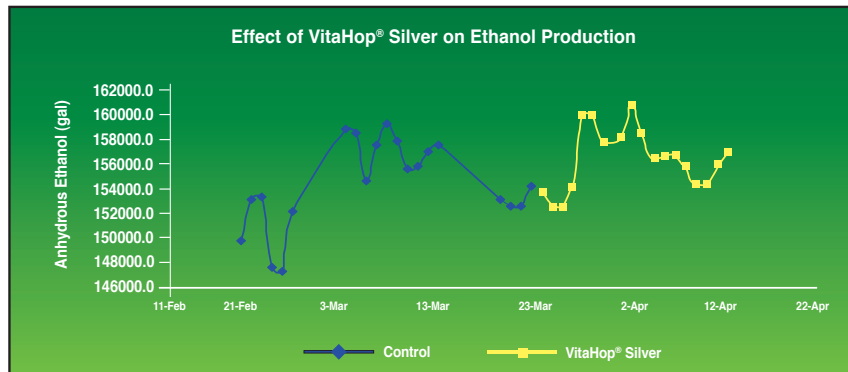
The following graphs show analytical data from a full scale production in a dry mill corn ethanol plant located in Nebraska using BetaTec's VitaHop® Silver yeast nutrient. Immediately after yeast addition, VitaHop® Silver was added to the yeast propagator at a rate of 5 pounds per 1,000 gallons of mash.



VitaHop® Silver treatment increased the live yeast counts at the end of propagation by 12.8% over the control.



% Ethanol/Brix ratio is used as an indicator to determine the alcohol yield for each batch. The comparison clearly shows that the VitaHop® Silver increased the average alcohol yield by 1.14% or 1,640 gallons/day.



The application of VitaHop® Silver was able to increase the production of the 200 Proof ethanol from an average of 154,679 gallons before the trial started to an average of 156,321 gallons during the trial, a 1.10% increase or 1,640 gallons/day.

- VitaHop® Silver increased the total rate of fermentation by 10%, finishing a 62 hour fermentation 6 hours sooner.
- VitaHop® Silver provides the necessary vitamins and minerals needed to achieve optimal fermentation performance...nutrients that might have been scavenged by bacteria. It also provides sterols and unsaturated fatty acids for the yeast membrane, making it more resistant to stress factors late in fermentation.
- A healthier yeast will consume less sugar for growth, thus leading to more ethanol production, greater than 1,640 gallons/day.

For more information on IsoStab® and VitaHop® Silver yeast nutrient visit [www.bthp.info](http://www.bthp.info).

