Turn Negative Margins Positive with D3MAX

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Forward Looking Statements

- *This presentation contains forward-looking statements including, but not limited to, the projected financial performance of ethanol plants using the D3MAX process.*
- *Forward-looking statements are provided to allow potential customers the opportunity to understand management's beliefs and opinions with respect to the future so that they may use such beliefs and opinions as one factor in evaluating the licensing of D3MAX technology.*
- *Although forward-looking statements contained in this presentation are based upon what D3MAX management believes are reasonable assumptions, there can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.*

Introduction to D3MAX

- In 2007 BBI International began developing cellulosic ethanol technology resulting in patent 8,288,138 for conversion of a grain fermentation residual product into ethanol
- 2015: BBI created D3MAX, LLC and completed an equity raise to develop the technology
- 2016: the D3MAX pilot plant was designed and fabricated
- 2017: D3MAX signed an agreement with Ace Ethanol to conduct pilot tests at their 50 mgy plant in Stanley, WI; pilot testing was conducted from March to Nov. 2017
- April 24 2018: Ace and D3MAX announce the first commercial-scale D3MAX plant to be installed at Ace Ethanol
- October 1, 2018: Construction of the first commercial scale D3MAX plant begins
- Our business model is to license D3MAX technology to dry mill ethanol plants in the US and other countries

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What does D3MAX Technology Do?

- D3MAX technology converts carbohydrates in wet cake to ethanol
- Ethanol production increases by 6-7%; yield increases from ~ 2.9 to 3.1
- Removes fiber from DDGS so can be fed to poultry and swine
- DDGS protein is increased from 30% to 50%
- Dryer load is reduced 20%
- Grind can be increased 10-20%
- Increases corn oil recovery by as much as 0.5 lb/bu
- D3MAX uses Separate Processing - Cellulosic ethanol is measured
- When integrated with Whitefox technology, energy use is reduced

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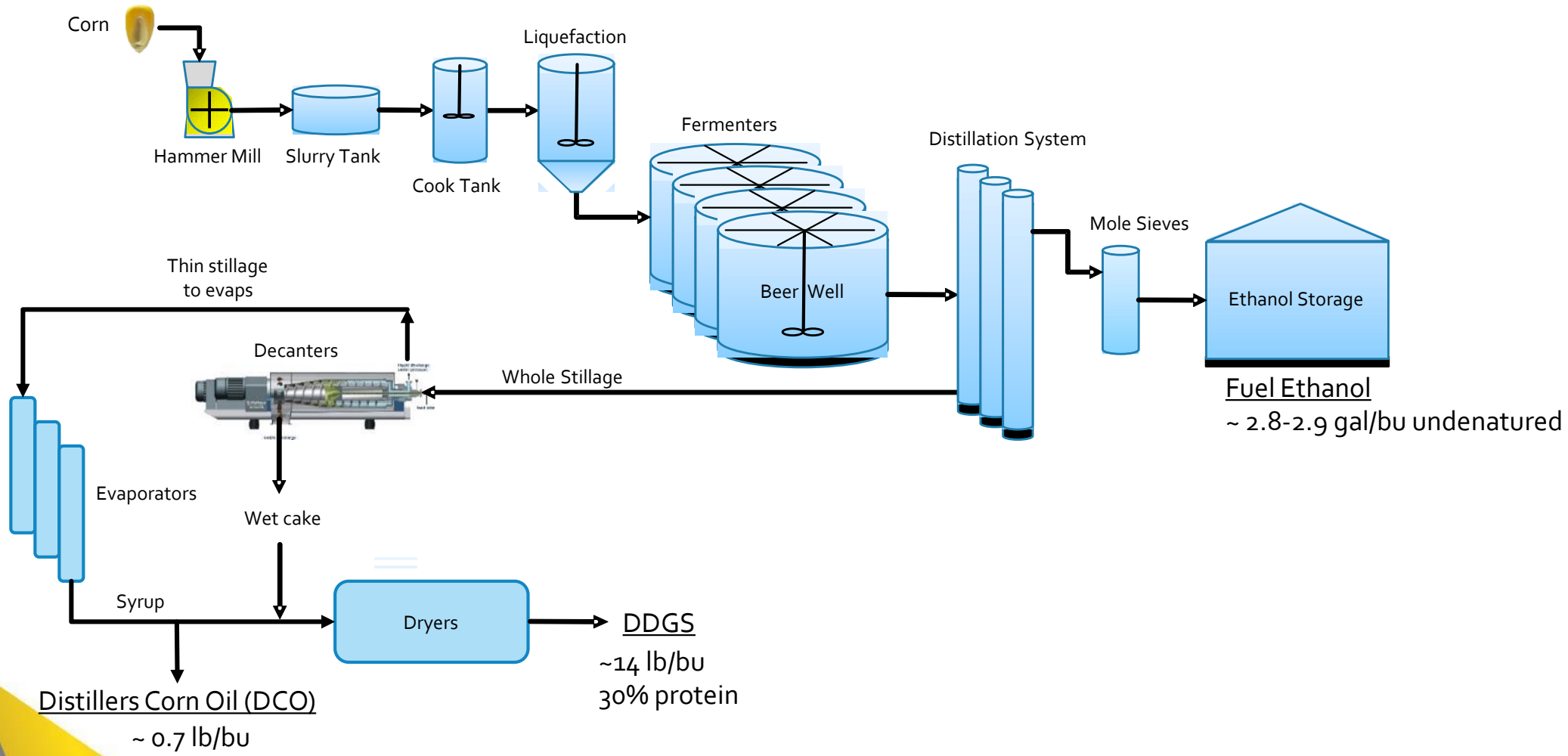
Dry Mill Ethanol Plant



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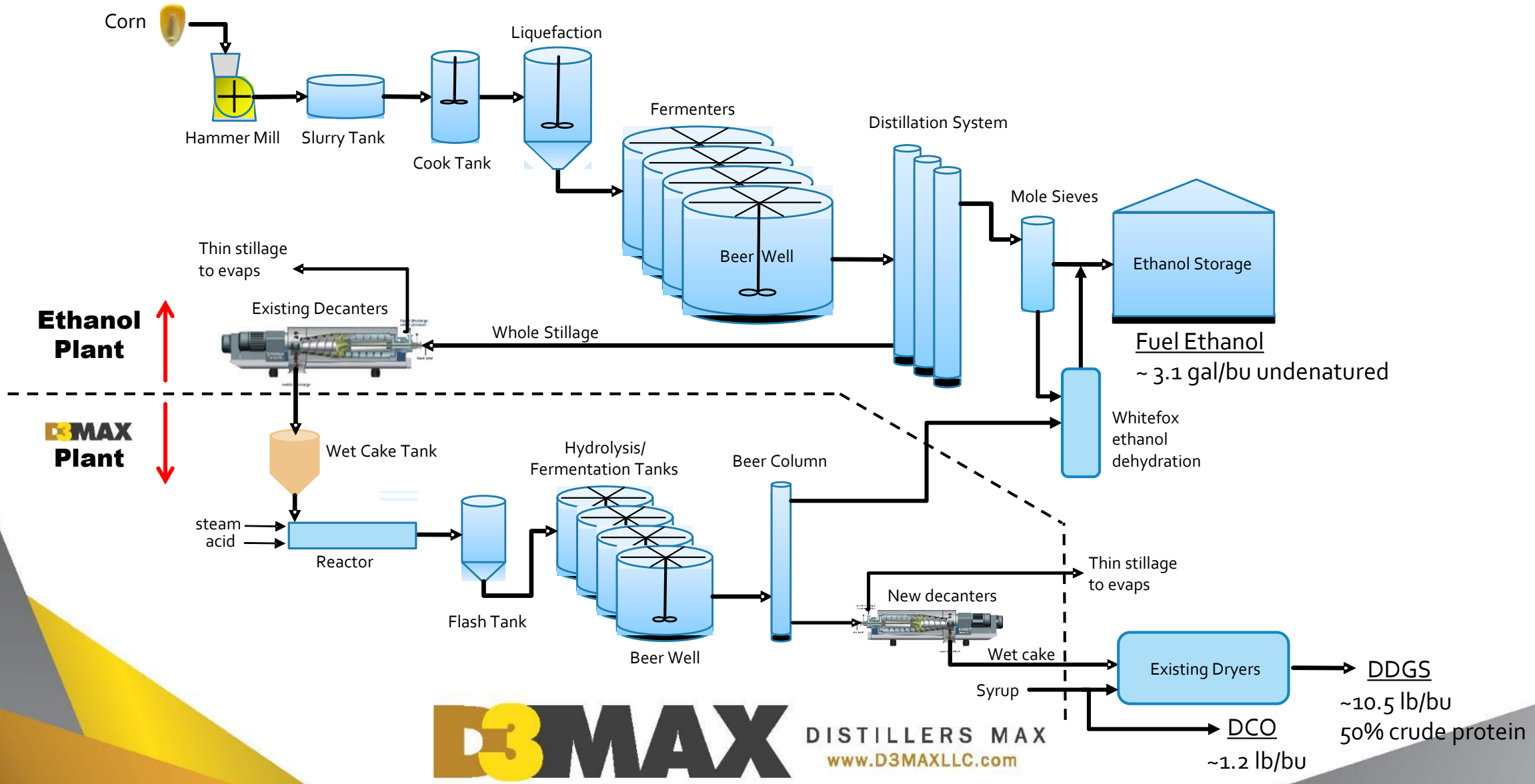
Dry Mill Ethanol Plant with D3MAX



Potential D3MAX Impact on the Fuel Ethanol Industry in Nebraska

Nebraska Ethanol Plants and Potential D3MAX Impact

- Nebraska is the #2 ethanol producer in the US with 2.5 billion gal/year production capacity
- 24 dry mill ethanol plants in Nebraska with a total production capacity of about 1.9 billion gal/year (average dry mill capacity is 80 MGY)
- Cellulosic ethanol production potential with D3MAX technology from Nebraska dry mill ethanol plants is 130 MGY, plus:
  - 200 new permanent jobs
  - $800 million in construction
  - **$475 million/year increase** in Nebraska ethanol plant EBITDA

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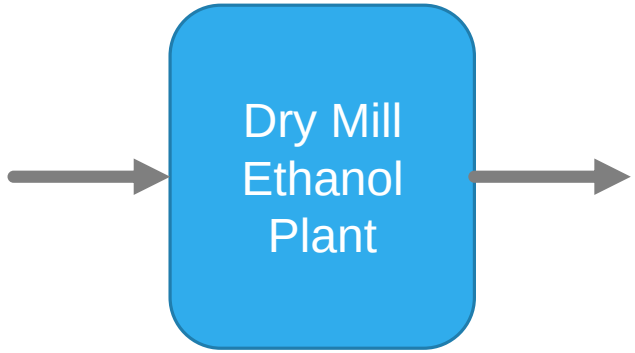
Inputs and Outputs for Average Nebraska Dry Mill Ethanol Plant

Corn, 27 million bu/year
Natural gas, 29,000 BTU/gal
Electricity, 0.65 kWh/gal
Yeast & Chemicals, $0.12/gal
Denaturant, $0.03/gal
44 employees

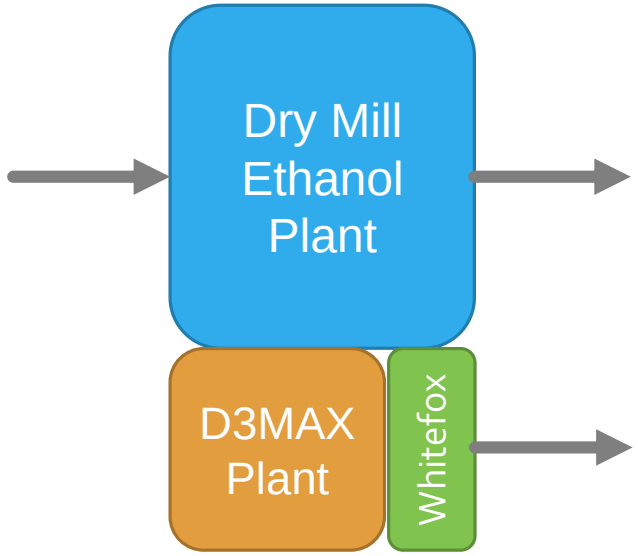


Ethanol, 80 million gal/year
DDGS, 184,000 ton/year (30% protein)
Corn Oil, 9,500 ton/year (0.7 lb/bu)

Avg. Nebraska dry mill = 80 MGY

D3MAX and Whitefox Integration

Corn, 27 million bu/year
Natural gas, **26,000** BTU/gal
Electricity, **0.66** kWh/gal
Yeast & Chemicals, **$0.18**/gal
Denaturant, $0.03/gal
52 employees



Ethanol, 80 million gal/year
DDGS, **140,000** ton/year (50% protein)
Corn Oil, **16,200** ton/year (1.2 lb/bu)

Cellulosic Ethanol, **5.3 million gal/year**
D3 RINs, **5.3 million/year**
CA Carbon Intensity Score of **31** (gCO2e/MJ)

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What is the EBITDA/gal for a 80 MGY dry mill ethanol plant in Nebraska with and without D3MAX and Whitefox Technologies?

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Financial Analysis Inputs

D3MAX Financial Model Inputs for "average" Nebraska Ethanol Plant	80 MGY Plant	80 MGY Plant with D3MAX
Corn Ethanol Production (D gal/year)	80,000,000	80,000,000
Annual Corn Use (bu/year)	27,045,300	27,045,300
Corn Fiber Ethanol (D gal/year)	0	5,328,200
D3MAX EPC Cost (10% contingency)	$0	$30,100,000
Whitefox Ethanol Dehydration System	$0	$4,100,000
D3MAX License Fee	$0	$4,000,000
Ethanol Price ($/gal)	$1.12	$1.12
Corn Price ($/bu)	$3.35	$3.35
DDGS Protein (10% moisture)	30%	50%
DDGS Price ($/ton)	$145.00	$238.48
DDGS Production (ton/year)	184,000	140,000

D3MAX Financial Model Inputs for "average" Nebraska Ethanol Plant	80 MGY Plant	80 MGY Plant with D3MAX
D3 RIN Income ($/gal)	$0.00	$1.44
CA LCFS Credit ($/gal)	$0.00	$0.70
Corn Oil Recovery (lb/bu)	0.70	1.20
Corn Oil Price ($/lb)	$0.25	$0.25
Chemicals, Enzymes and Yeast ($/gal)	$0.12	$0.18
Natural Gas Use (BTU/gal)	29,000	26,000
Natural Gas Price ($/MMBTU)	$4.30	$4.30
Electricity Use (kWh/gal)	0.65	0.66
Electricity Price ($/kWh)	$0.07	$0.07
Denaturant ($/gal)	$1.50	$1.50

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Proforma Income Statement for Year 2 for "average" Nebraska Ethanol Plant	80 MGY Plant	80 MGY Plant with D3MAX	Difference
Revenue	**$/Year**	**$/Year**	**$/Gal**
Corn Ethanol	$90,496,000	$90,496,000	$0.000
DDGS	$26,932,438	$33,665,547	$0.080
Corn Oil	$4,780,257	$8,194,726	$0.040
Corn Fiber (Cellulosic) Ethanol	$0	$6,027,260	$0.070
D3 RINs	$0	$7,672,608	$0.090
CA LCFS Credits	$0	$3,729,740	$0.040
Total Revenue	$122,208,695	$149,785,881	$0.320
Production & Operating Expenses			
Corn	$91,507,776	$91,507,776	$0.000
Chemicals, Enzymes and Yeast	$9,696,000	$15,081,759	$0.060
Natural Gas	$10,175,520	$9,755,362	$0.000
Electricity	$3,712,800	$4,039,973	$0.000
Denaturant	$2,400,000	$2,559,846	$0.000
Makeup Water and Wastewater	$808,000	$861,815	$0.000
Production Labor & Benefits	$1,666,170	$1,969,110	$0.000
Total Production Costs	$119,966,266	$125,775,640	$0.070
Administrative & Operating Expenses	$3,777,435	$4,547,023	$0.010
EBITDA	($1,535,006)	$19,463,218	$0.250
EBITDA/gal	**($0.02)**	**$0.23**	**$0.250**

25¢/gal x 1.9 B gal/yr = **$475 million/yr increase in EBITDA statewide**

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Ace Ethanol D3MAX Project Update

Ace Ethanol D3MAX Project

- Construction of the first commercial-scale D3MAX plant started Oct 1, 2018
- Startup is scheduled for 3rd quarter 2019
- Project team:
  - Ace Ethanol – owner/operator of the first D3MAX plant
  - D3MAX – corn fiber-to-ethanol technology provider
  - Fagen Inc – EPC contractor
  - AdvanceBio and FQPT – process engineering
  - DSM – enzyme supplier
  - Lallemand Biofuels & Distilled Spirits – yeast supplier
  - Whitefox Technologies – membrane ethanol recovery technology

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Ace Ethanol D3MAX Project Highlights

- The Ace D3MAX project will be a full-scale, commercial D3MAX plant
- All of the Ace wet cake (without syrup) will be processed by the D3MAX plant
- The D3MAX plant will process 225 dry ton/day of wet cake or 750 wet tons at 30% solids and produce 3.5 million gal/year of denatured cellulosic ethanol
- The overall Ace plant ethanol yield will increase from 2.9 to 3.1 gal/bu
- DDGS protein will increase from 30% to 50%
- DDGS volume will decrease by 24%
- Overall energy use will **decrease** by about 3% after D3MAX and Whitefox systems are installed at Ace Ethanol

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Ace Ethanol – Stanley, WI

Ace Ethanol
50 MGY
Delta T design

D3MAX
Project Site

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Ace D3MAX Project Construction – 10/8/18

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Ace D3MAX Project Construction – 2/26 and 3/1/19

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Ace D3MAX Project Construction – 3/5/19

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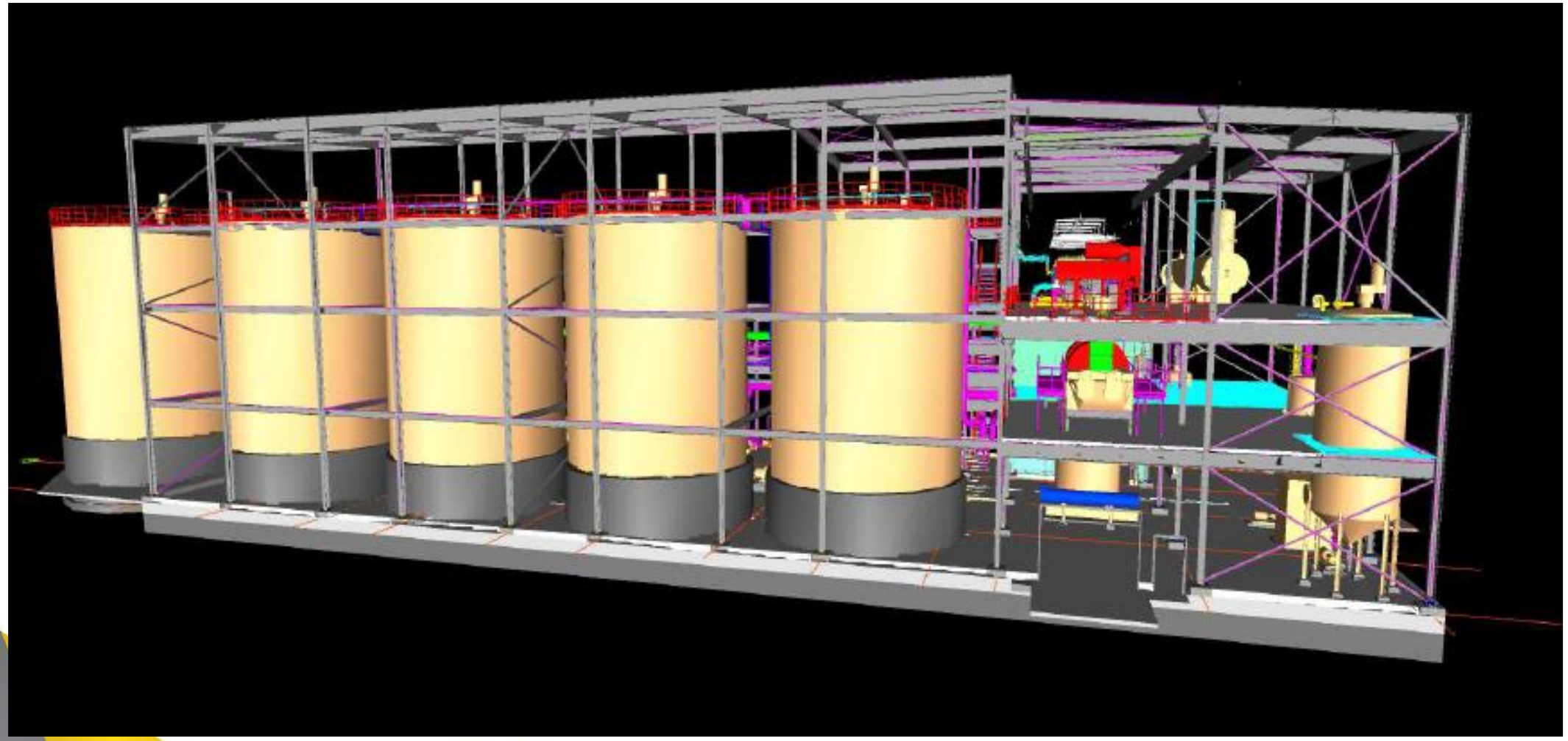
Ace Ethanol D3MAX Project 3D Model



Property of Ace Ethanol

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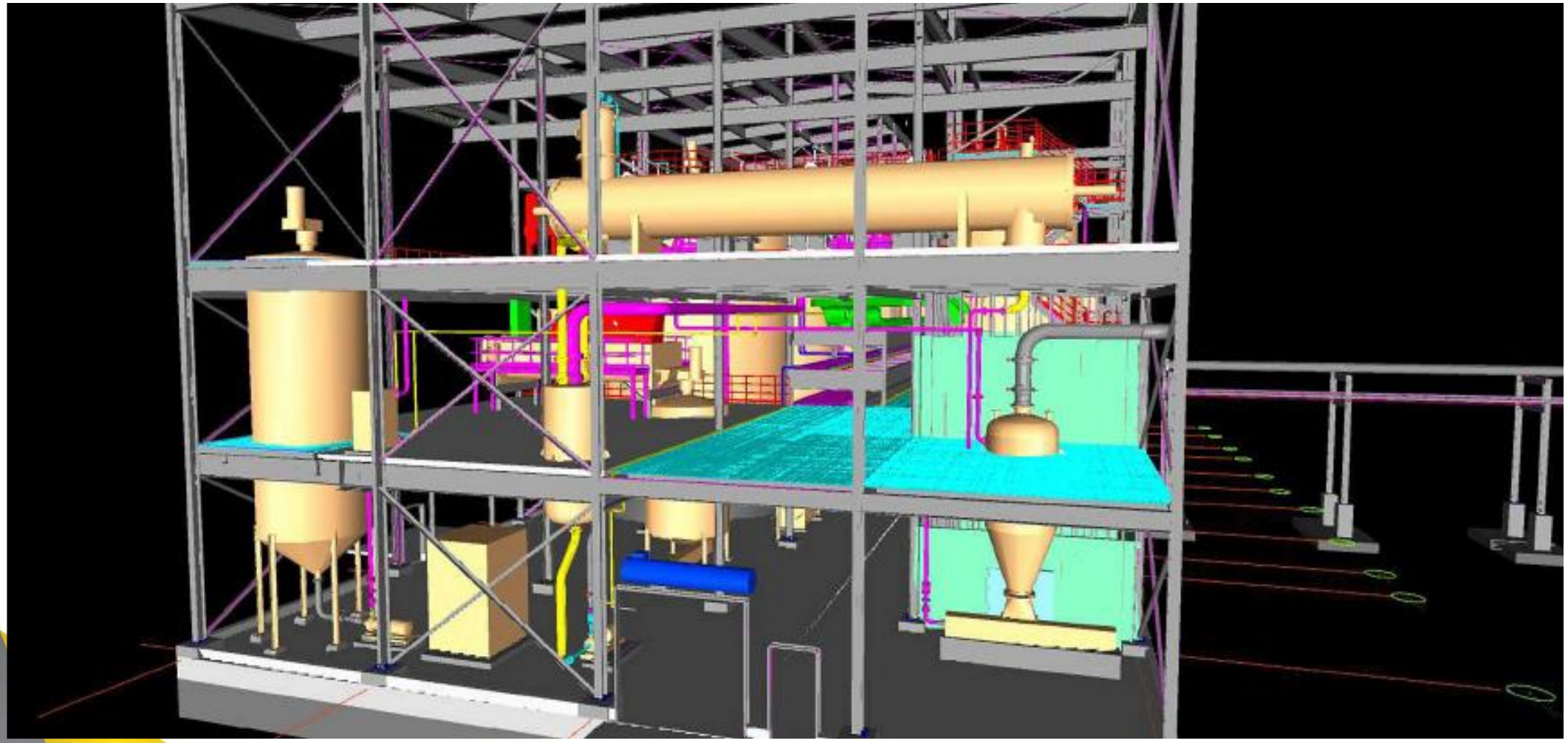
Ace Ethanol D3MAX Project 3D Model



Property of Ace Ethanol

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Benefits of D3MAX

- Convert low value fiber (and residual starch) to high value cellulosic ethanol
- Increase DDGS protein to 50%
- D3MAX is the only Separate Processing technology on the market for corn fiber to ethanol; measure your cellulosic ethanol production
- Low EPC capital cost per gallon (~ $5.00/gal of installed capacity)
- Debottleneck your plant; increase grind 10-20%
- Increase corn oil recovery by as much as 0.5 lb/bu
- One-time license fee; no on-going royalties
- Projected IRR can easily exceed 100% with less than 1 year payback on 40% equity investment

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Turn Negative Margins Positive!

Get Started On Your D3MAX Project Today!

For more information, please contact
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