ETHANOL: Cleaner Air. Affordable. Fuel everyone can use.

SUCCESSFUL FARMERS SERIES
ENERGY AND AGRICULTURE
JANUARY 10, 2020
The State of Ethanol in Nebraska and Opportunities for You
1. How is the ethanol industry doing today?
2. Latest news and developments in Nebraska.
3. What is going on with the U.S. EPA?
4. E15 and opportunities for you?
5. Is the future promising for Nebraska ethanol?
1. How is the ethanol industry doing today?

• 25 ethanol production facilities in Nebraska – 24 currently producing ethanol
• Nationwide over 20 production facilities have either closed or idled production
• Nebraska plants have the capacity to produce 2.6 billion gallons of ethanol
• 2018 Nebraska produced 2.1 billion gallons using 750,000,000 bushels of Nebraska corn
Economic Impacts of the Nebraska Ethanol and Ethanol Co-Products Industry 2015 - 2017

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Highlights

Ethanol Production - 2.076 billion gallons

Value of Ethanol Production - $2.872 billion

Total Value - $3.764 billion

Employees - 1,453 full-time equivalents (FTEs)

Labor Income - $109 million

Indirect Business Taxes - $13 million
Overall Economic Impact (2017)

Employment - 5,166 FTEs

Total Labor Income - $370 million

Total Output - $4.154 billion
2. Latest news and developments in Nebraska

- 24 out of our 25 ethanol plants are producing ethanol
- We continue to work on fuel infrastructure
  - Nebraska Corn Board grants
  - LB585 – cost share grant program to improve retail motor fuel sites by installing, replacing, or converting infrastructure used to store, blend, or dispense gasoline-ethanol blends
    - passed by the NE Legislature in 2019
    - Legislature did not appropriate any funding when passed
  - NE Energy Office (NDEE), NE Ethanol Board, Renewable Fuels NE and NE Corn Board have applied for a grant through the Nebraska Environmental Trust to provide funding for 3 years at $1 million per year
  - Talk of another BIP program through USDA similar to prior BIP program that provided $3.2 million to Nebraska
  - E15 is available year-round now
  - Nebraska has 125 retail stations offering ethanol blends higher than E-10
- Ethanol production facilities continue to become more efficient
  - Most plants are now getting 2.9 gallons per bushel of corn
  - Some are adding value added operations – high protein, corn oil, corn fiber
3. What is going on with the U.S. EPA?

Small Refiner Exemptions

Oil Refinery RFS Exemptions

<table>
<thead>
<tr>
<th>Year</th>
<th>Granted</th>
<th>Rejected</th>
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<tbody>
<tr>
<td>2018</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>2017</td>
<td>35</td>
<td></td>
</tr>
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<td>2014</td>
<td>8</td>
<td>5</td>
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<tr>
<td>2013</td>
<td>8</td>
<td>7</td>
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</table>

SOURCE: EPA
<table>
<thead>
<tr>
<th>Compliance Year</th>
<th>Estimated Volumes of Gasoline and Diesel Exempted (million gallons)</th>
<th>Estimated Renewable Volume Obligations (RVO) Exempted (million RINs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,980</td>
<td>190</td>
</tr>
<tr>
<td>2014</td>
<td>2,300</td>
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<tr>
<td>2015</td>
<td>3,070</td>
<td>290</td>
</tr>
<tr>
<td>2016</td>
<td>7,840</td>
<td>790</td>
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<tr>
<td>2017</td>
<td>17,050</td>
<td>1,820</td>
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<tr>
<td>2018</td>
<td>13,420</td>
<td>1,430</td>
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</table>

Gallons of ethanol exempted for 2016, 2017 and 2018 – 4.04 billion gallon

Bushels of corn not used for ethanol due to these exemptions – 1,442,857,143
So what was the big fight about with EPA, oil, ethanol and ag with the 2020 Renewable Volume Obligations?

President Trump’s promise to the Ag and Ethanol industries on an October 4, 2019 phone call

• Three year rolling average of the gallons EPA has *actually waived* for compliance years 2016-2018
  • 2016 – 790 million gallon exempted
  • 2017 – 1.82 billion gallon exempted
  • 2018 – 1.43 billion gallon exempted
  • 3-year average = 1.34 billion gallon that was promised to be added to the 2020 RVOs

• What did EPA actually do?
  • Used the DOE recommended gallons to be exempted
  • Average of 770 million gallons – about half of actual
4. E15 and the opportunities for you

Additional Gallons of Ethanol for each percentage point above E10

(Results are based on the average yearly liquid fuel use of 142 billion gallons)

\[
\begin{align*}
E10 &= 14.2 \text{ billion gallons of ethanol} = 5.07 \text{ billion bushels of corn} \\
E11 &= 15.6 \text{ billion gallons of ethanol} = 5.58 \text{ billion bushels of corn} \\
E12 &= 17.0 \text{ billion gallons of ethanol} = 6.09 \text{ billion bushels of corn} \\
E13 &= 18.5 \text{ billion gallons of ethanol} = 6.59 \text{ billion bushels of corn} \\
E14 &= 19.9 \text{ billion gallons of ethanol} = 7.10 \text{ billion bushels of corn} \\
E15 &= 21.3 \text{ billion gallons of ethanol} = 7.61 \text{ billion bushels of corn}
\end{align*}
\]

Difference between E10 and E15

- 7.1 billion gallons of ethanol
- 2.54 billion bushels of corn

(there’s your carry-over plus a little)
5. Is the future promising for Nebraska ethanol?

- What will the federal government do?
- What personal decisions will you make?
  - Will you allow people to believe the outright lies
  - Will you allow yourself to believe the outright lies

- A lot of opportunities
  - Bio-campus
  - Low carbon fuel standards
  - High efficiency automobiles (ICE)
  - Exports
The ethanol industry works very closely with the U.S. Grains Council on exports.

Markets with ongoing programs include Brazil, Canada, India, China, Japan and Mexico.

These efforts are paying off. In 2018/2019 1.55 billion gallons of U.S. ethanol – 548 million bushels in corn equivalent – were exported to 69 countries.
WHERE IS U.S. ETHANOL GOING?
Top U.S. Export Customers In Marketing Year 2018/2019

Dollar Amount
1. BRAZIL $679 MILLION
2. CANADA $658 MILLION
3. INDIA $357 MILLION
4. EUROPEAN UNION $188 MILLION
5. SOUTH KOREA $144 MILLION

Gallons
BRAZIL 398,111,001
CANADA 233,735,840
INDIA 242,048,815
EUROPEAN UNION 127,514,445
SOUTH KOREA 91,651,301
PHILIPPINES 79,044,191
COLOMBIA 54,620,041
PERU 47,773,885
UNITED ARAB EMIRATES 33,776,100
MEXICO 33,735,489

Thank You!

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Nebraska Ethanol Board