

A PRACTICAL GUIDE

BY POET

ETHAKNOWLEDGE



PLANTING KERNELS OF TRUTH

ABOUT ETHANOL

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WHAT DO YOU KNOW ABOUT ETHANOL?



There is a lot of talk about ethanol on cable news, newspaper editorial pages, and around the Thanksgiving dinner table, but there is an unfortunate lack of real information in much of that talk.

Ethaknowledge is your opportunity to learn—and share—a few kernels of knowledge about ethanol and its role in our country and world.

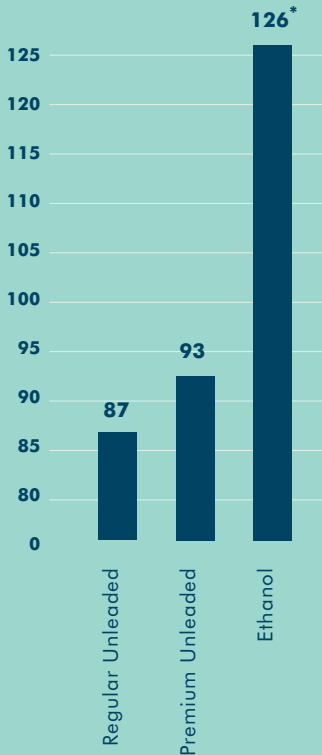
PERFORMANCE



START YOUR ENGINES

Ethanol is the highest performance fuel on the market, with a 126 octane rating when used as a blend component.

OCTANE RATING



*When used as a blend component.

FUEL FOR THOUGHT

Ethanol burns 100 percent, and leaves zero residue, keeping fuel injectors cleaner while improving performance.

Because it burns so clean, ethanol will not block fuel lines or injectors. Since it's water-soluble and has a low freezing point, it even helps prevent gas lines from freezing in cold weather. Ethanol's water-solubility also lowers the likelihood of phase-separation.

KERNEL OF TRIVIA

Henry Ford designed the first automobile to run on ethanol.

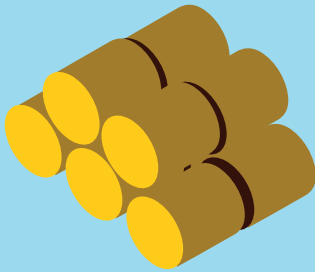
ETHANOL MOVES FAST



In 2011, NASCAR adopted E15 (a 15% ethanol blend) for use in all national racing series. The blend's high octane **increases horsepower while keeping engines cooler and reducing emissions.**

Since 2011, NASCAR competitors have driven millions of miles on Sunoco Green E15, a fuel blend containing 15% American made ethanol.

CELLULOSIC ETHANOL



ARE YOU DONE WITH THAT?

Traditional corn ethanol breaks down the starch in corn kernels to produce ethanol. Our cellulosic ethanol process allows us to produce ethanol from crop residue—stalks, husks, and leaves. By producing cellulosic ethanol, we're literally turning waste material into fuel.

CREATING LIBERTY



In 2014, POET-DSM—a joint venture between POET and Royal DSM—opened Project LIBERTY, one of the first commercial-scale cellulosic ethanol plants in the United States.

KERNEL OF TRIVIA

Project LIBERTY is so innovative it converts leftover materials into another form of energy that not only powers the cellulosic plant, but the nearby grain ethanol plant, too.



ECONOMIC IMPACT



MAKING ETHANOL MAKES JOBS

For every one billion gallons of ethanol produced, 10,000-20,000 jobs are added to our domestic economy.

400,000*

The number of new U.S. jobs created and supported by the ethanol industry in one year.

\$44

BILLION*

The amount contributed to the U.S. GDP.

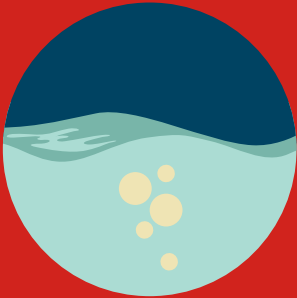
A typical POET plant purchases around
20 MILLION BUSHELS

of locally produced corn, employs 40-50
people, and contributes around

\$200 MILLION

to the local economy.

ENVIRONMENTAL IMPACT



LET'S CLEAR THE AIR

NOTHING GOES TO WASTE. NOT EVEN WASTE.

POET is continuously developing new ways to make our biorefining process even more efficient.

From using landfill gas and wood waste to power a plant, to capturing CO₂ emissions, to recycling all of our water, our biorefineries are proof that opportunities for sustainability are everywhere if you know where to look.

KERNEL OF TRIVIA

Every truckload of corn delivered to a POET biorefinery displaces 66 barrels of imported oil.



BEYOND ETHANOL

At POET, developing new bio-based products is a major focus of our research and development efforts. Our goal with each of these initiatives is to produce renewable products with the smallest possible environmental footprint.

FEED AND MORE

The POET biorefining process not only produces ethanol, but a highly nutritious livestock feed in the form of our Dakota Gold® distillers grains.

POET also produces **Voilà®**, a corn oil used as a high-energy additive to feed rations and as a renewable oil source for biodiesel, plastics and rubber production.



KERNEL OF TRIVIA

After corn, distillers grains are the most widely used livestock feed ingredient.

OPPORTUNITY IS EVERYWHERE

NOW YOU KNOW WHERE TO LOOK

There are bio-based solutions for just about every modern necessity. Through innovation and good old-fashioned hard work, we are already turning renewable resources into clean, green American energy and food. And even more innovations lie ahead.

At POET, we've found tomorrow's energy solutions all around us.

The future looks so much brighter above ground.

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