

Hello, I'm **Ken Gilleo of ET-Trends with a *CircuiTree* 2-Minute Tip** on "Fuel of the Future".

As a chemist, I'll talk briefly about fuel and energy. Ethanol gets a lot of attention today as the new fuel. But we still use the moonshiner's process - ferment corn - and distill out the alcohol. Ethanol is the star right now, but let's include butanol - a bio-generated alcohol, but from cellulosic crops.

Is ethanol really a new fuel? In the 1920's, Henry Ford saw it as the best choice for his model T's. There wasn't a petroleum infrastructure then. In 1925, Ford told the New York Times that ethanol was the fuel of the future - vehicles can be powered by things that grow - what vision. Today we use corn, a bad choice, but Ford tried many sources including cellulosic hemp. I'll predict that corn will be replaced by a better source, perhaps switch grass that grows in poor soil and has a higher energy yield. Let's get politics out of the fuel line and put science back in.

Fords ran well on ethanol and then - rival General Motors, made a breakthrough - a new gasoline additive. It was lead tetraethyl that we used for a half-century until lead finally got banned. During all those years, we were sending lead nanoparticles into the air. So we're back from the future waiting for right fuel of the future - maybe hydrogen, butanol or ethanol.

Ethanol was good for the Model T and it ran tractors, even racing cars. Indy cars run on alcohol blends but will soon use 100% ethanol. Want real horsepower, mix ethanol and nitromethane. That's how fuel dragsters crank out 8,000 HP and hit over 300 MPH in less than 5-seconds. But don't expect good mileage. These fuelers are rockets on 4 wheels - even if the wheels don't stay on the ground.

And speaking of rockets, many rocket engines have run on ethanol. Just pump liquid oxygen and ethanol into the rocket chamber, and you can come up with a million horsepower - but don't expect good mileage. The German V2's and early US rockets used ethanol as fuel. Today, the Space Shuttle uses hydrogen - not a friendly fuel. So what's fuel of the future? Maybe electronics - let's wait and see.

This has been Ken Gilleo, of ET-Trends, with your *CircuiTree* Two-Minute Tip.