



# MICHIGAN SOYBEAN PROMOTION COMMITTEE

## a new release



### FEATURE STORY

**FOR IMMEDIATE RELEASE**  
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### **St. Johns School Buses Rolling 1 Million Miles on Biodiesel**

For those doubters out there and for anyone interested in biodiesel, St. Johns Public Schools' biodiesel use is certainly a story to be heard.

Wayne Hettler, Garage Foreman & Head Mechanic for St. John's Public School for over seven years indicated, "It's exciting to report that we will roll over our 1 million mile mark with B20 before the end of April and we're still rolling!"

#### **St. Johns Public Schools Made the Switch to Biodiesel**

Biodiesel is a proven safe and efficient alternative to diesel fuel and can be used in existing diesel school buses, without modification,

saving school districts the enormous expense often associated with other alternative fuels. Biodiesel is a domestically-produced source of energy as it's made from the oil in soybeans grown right here in the U.S.A. It's safe, available, renewable, and dependable.



St. Johns Public Schools was the first Michigan school district to switch their entire bus fleet over to B20 (20 percent soy biodiesel fuel and 80 percent regular petroleum diesel) back in 2002. Their 31 school buses which include 13 powered by Cummins, 2 powered by Mercedes, and 16 powered by International, along with nine support vehicles including pickup trucks, a foodservice truck, service truck, New Holland tractor, and a Toro Diesel 3-wing mower have come a long way the past two years on biodiesel, and "all with no challenges and NO modifications," Hettler added. "We started using B20 in 5 vehicles in April of 2002, not in all vehicles only because we didn't have enough biodiesel at the time and we wanted to get used to mixing it. We took deliveries of 55 gallons of biodiesel in the spring and 2 – 110 gallon deliveries through the summer and early Fall. By October, all our diesel vehicles were fueled by B20."

Part of the incentive leading to the switch to B20 was the receipt of a grant in 2003 through the Michigan Department of Consumer and Industry Services which allowed St. Johns to receive the incremental cost difference of the B20 back. Even though the grant ended in December of 2003,

**Hettler's been able to show his administrative staff and the school board that they are still saving money by using B20.**

St. Johns diesel fleet is powered by engines from five different diesel engine manufacturers, namely: Cummins, International, Mercedes, GM, and Mitsubishi. Gail Frahm, Executive Director for the Michigan Soybean Promotion Committee (MSPC) said, "Having such a diverse fleet is part of the reason why we've been communicating with Wayne on a regular basis. Additionally, he's committed to keep the detailed records so that they and others may benefit from them. Wayne has been extremely gracious to offer anything he's learned during his two years of experience with biodiesel to any other fleets."

**Emission Reduction Substantial to Health of Staff, Students and Community**

To date, Hettler has used the oil from over 15,000 bushels of soybeans to fuel his fleet with biodiesel. He said, "There is much less smoke at the B20 level and both the mechanics and bus drivers have noted the difference, not to mention the kids. After all, we're using soy biodiesel for the health benefits for all of us, the environment, and to support America's soybean farmers."

Hettler commented. "When the drivers start their engines in the a.m. for their pre-checks, the air in the lot is much clearer, thus making it more pleasant for the drivers to complete their checks. Also, the maintenance staff recognized the immediate improved air quality in the shop when we changed the buses to B20."

No news is sometimes good news in that St. Johns' staff has not heard any complaints about the "new" odor from their buses. "The students, community, and staff all seem to be happy with what we're doing otherwise I'm sure we'd hear about it," Hettler reported. "When fueling, the 'diesel' smell is diminished by using B20 and the drivers don't have a hard time getting the smell off their hands." St. Johns holds 2-3 staff meetings per year with their drivers and they never indicated anything negative about the "new" fuel. Less smell and smoke near the buses and students is a benefit to all!

According to air quality studies, school children and bus drivers are exposed to hazardous exhaust emissions when riding diesel powered school buses. Increasing numbers of health authorities, including the United States Environmental Protection Agency, have recognized that diesel exhaust contains harmful particulate matter that can lodge deep in the lungs and exacerbate asthma, a condition most prevalent among children.

**Cost Savings are Worth It for St. Johns Schools**

Hettler tracks statistics like the time the buses idle, the miles per hour they drive, oil analysis, and the mileage the buses get. All along Hettler has claimed he has saved money since he changed over to the more costly biodiesel fuel. How can this be? Well, Hettler being a stickler for detail, has the records and is willing to share. The main cost savings seems to be on the extended intervals between oil changes. He noted his Internationals and Mercedes go 12,000-15,000 miles between oil changes and the Cummins about 8,000-10,000. The GM and Mitsubishi vehicles get oil changes on a regular basis as they are the service vehicles and don't generate a lot of miles over a long time.

"I'm convinced," noted Hettler, "that we are able to extend the oil changes because the B20 burns cleaner and isn't dirtying the oil as quickly. We're using oil analysis to determine the oil change times. We solely credit biodiesel for cleaning up the oil, thus saving the district the costs of oil, filters, labor and the like. We have our records for each bus before a single drop of biodiesel was ever put in the tank, up through our present usage. I challenge other fleets to 'read' their fleet records and make these cost-saving changes after switching to B20." Right now Hettler has extended the oil changes in his fleet by an average of 10%. He added, "Within one year, I expect a 20-30% extension on oil changes."

So, if B20 costs more, how could Hettler sell this to the school administrators? Initially, only a few of the maintenance personnel knew that a handful of the buses and service vehicles were changed over.

After tallying the data from those vehicles, St. John's Superintendent, Mr. Bob Kudwa, asked Hettler to present his in-house research to the school board. Once the school board heard what biodiesel could do for their fleet, St. John's was on their way to B20 in their entire fleet.

Was there more than the less frequent oil changes which contributed to the cost savings? Hettler says, "Yes. We've experienced improved lubricity leading to longer fuel pump life which we've based on pre-April of '02 data. Prior to April '02 we averaged one fuel pump change in our fleet per year. We haven't had to change any fuel pumps since April '02." Hettler clarified, "If we all of a sudden have to change four next year, perhaps I'll change my comment, but I don't think that will happen. We see the improved lubricity throughout the fleet because of the biodiesel."

"One other item of significance particularly relating to the cost savings is that our average miles per gallon has increased," added Hettler. "It's really important to track fuel mileage on a regular basis. The drivers wouldn't necessarily be able to notice multiple tenths mileage differences, but when we see it on the records, we can bring a bus into the shop and thoroughly go over it to see if there's an air hose leaking or some other problem. We jump in when mileage drops and look at what's going on with that bus. Pre April 2002, our fleet's mileage averaged 8.1 MPG. Now, we average 8.8," exclaimed Hettler. "That's a HUGE difference in MPG for buses!"

### Engine Types Vary in Performance on Biodiesel

Of the 16 International buses, 2 are HUI injected (Dt466E's) and have increased about .5 MPG, the 4 Dt360's and 7 Dt466's each increased 1.5 MPG and the 3 Dt408's increased about 1 MPG.

Of the 13 Cummins buses, they increased about 1 MPG up to 9.5 MPG.

The 2 Mercedes buses have only been fueled by B20. They've had at least as good or better mileage than other fleet managers have indicated with the same engines. Presently they're getting about 9.4 MPG.



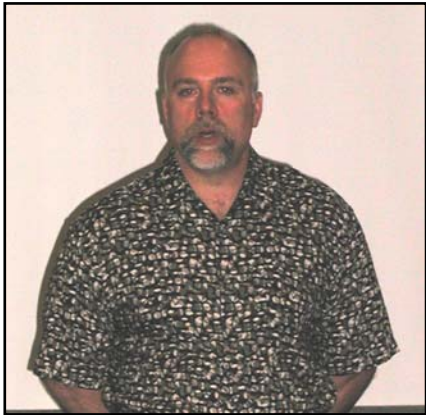
In the first year of B20 use (the 2002-2003 school year), St. Johns put 565,000 miles on the bus fleet and another 45,000 on their support vehicles. The average cost of the B20 was \$1.40 per gallon and the fleet averaged 8.8 MPG on the B20. The average cost of straight diesel fuel would have been about \$1.25 per gallon. With the diesel powered fleet averaging 8.1 MPG, the cost difference was \$2910.53. But remember, they received a grant to help recoup the added cost of the fuel for FY2003. Additionally, for the first 9 months of the 2003-2004 school year, Hettler has run his fleet an additional 496,185 miles which will put them over the 1,000,000 mile mark by the end of April. The added cost of biodiesel for the 2003-2004 school year is approximately \$2671.15, reduced in part because of the purchase of a mapping system which will save the district about 50,000 miles of driving, not to mention all the other costs affiliated with those miles.

The cost savings from the motor oil saved by extending the service interval was significant and, as mentioned earlier, Wayne believes directly is a result of their change to B20. 950 less quarts of motor oil were used in the first year as well as not needing to change any fuel pump and reduced fuel conditioner plus \$332.00 from oil filters not used added up to a \$4761.00 savings. **Therefore, the fleet's overall savings was \$1850.47 just for one year and that's not including the grant money!** This is only counting the oil, filters, pump, conditioner and biodiesel. For this school year,

Hettler expects to save \$4394.65 in unused motor oil, oil filters, no pump change, and less fuel conditioner. **Therefore, a cost savings of \$1723.50 is expected for this year when deducting the added fuel cost. A SAVINGS OF OVER \$3,573.97 WILL BE REALIZED BY ST. JOHNS FOR THE TWO YEARS DIRECTLY LINKED TO BIODIESEL USE.**

### **Hettler Relies on Fuel Supplier for Quality Fuel**

The district has 15,000 gallons of on-site, underground fuel storage. Presently G.E. Wacker Oil out of Manchester is their supplier and they deliver the premixed B20 directly to their tank about every 6-8 weeks. No special testing of the fuel is done at St. Johns upon arrival, Hettler merely takes a sample from his tank when Wacker delivers the B20 and sets the sample on his shelf in the exterior entrance of their shop. Throughout the winter he regularly checked the fuel sample in the morning for any potential cold weather issues that he might be facing that day from the fuel. "I'm excited to report we have experienced NO challenges from the B20. We rely on our supplier to make sure they're giving us good fuel and that it's properly prepared for cold winter use. We've actually experienced better cold weather starting and performance," Hettler added. He also indicated that the buses don't have black soot coming off the buses any more! There's a lot less soot to wash off.



What's the view for the future of St. Johns? Hettler says, "We're looking to achieve the best, not just hoping it's going to happen. The proof is in the records. Keeping good records has been what's sold the administrators here at St. Johns. We're looking at a few other ways to lower our costs even more, but that will be yet another story," Hettler concluded.

Over a dozen Michigan school bus fleets presently use biodiesel in their daily operation and over 80 diesel fuel suppliers are now carrying soy biodiesel in Michigan. Nationwide more than 400 fleets are using biodiesel with about 50 of those being school districts. "The excuse of 'I can't get it' is no longer valid," said Frahm. "Even though biodiesel is presently not made in Michigan, American grown soybeans are processed into soy biodiesel for use in our state. Therefore it is available in state and we encourage you to ask your fuel supplier to carry biodiesel. You can help to make an impact to reduce foreign oil imports and use a domestically-grown, renewable resource, namely soy biodiesel."

Biodiesel facts are readily available at [www.biodiesel.org](http://www.biodiesel.org) and the current list of Michigan's soy biodiesel retailers and suppliers can be found at [www.michigansoybean.org](http://www.michigansoybean.org).

The MSPC conducts research, promotion, and educational programs for Michigan's 10,000+ soybean farmers. The group receives their funding directly from soybean farmers who, when selling their soybeans at their local elevator, contribute a few cents on every bushel into the soybean promotion and research program called the soybean checkoff. This program gives farmers the opportunity to join together with other farmers in state and across the nation to develop new uses for soybeans, conduct agronomic research on soybeans and promote the edible and industrial uses of soybeans to professional audiences and consumers.

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Reporter note:

INTERVIEW OPPORTUNITY AVAILABLE BY CONTACTING Wayne Hettler at 989.227.5333.

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