



FACT SHEET ————— AUGUST 2006

## USING BIOFUELS IN THE WEST

### SUCCESS STORIES

*WORC promotes clean, renewable, locally-owned biofuels production that will improve air quality, build long-term rural prosperity, reduce U.S. dependence on fossil fuels and combat global warming. Biofuels are being successfully used to power farms, ranches, city fleets, National Parks and Highway Departments.*

## BIOFUELS ON THE FARM

### Link Reinhiller, Farmer/Rancher Hazen, North Dakota

Link Reinhiller has farmed and ranched on the high plains of North Dakota for the past forty years. Link may not have an email address or an iPod, but he was one of the first to fuel his ranch with biofuels. Biofuels are a clean renewable replacement for petroleum that can be grown on America's farms and ranches.

For Link, biofuels are common sense:

“As an agricultural producer, I want to use energy sources that farmers and ranchers produce, instead of complaining and crying about the fuel industry. If farmers and ranchers can produce a fuel that in turn can help the economic situation of those producers we are on the right track.”

Link started using ethanol, a gasoline alternative distilled from corn in 1994, when the majority of ethanol was going into spirits, not gas tanks. Today, everything from four-wheelers to lawnmowers on Link's ranch runs on E10 (a blend of 10% ethanol and 90% gasoline).

Twelve years later, the U.S. automobile industry is realizing the potential of ethanol. The Big Three Detroit automakers have committed to promote the use of ethanol by increasing production of their lines of Flex-Fuel vehicles (FFVs) to 2 million a year by 2010. FFVs are specifically designed to run on E85 (85% ethanol, 15% gasoline). There are already 5 million FFVs on the road today.

But, Link still didn't have a farm-grown solution to run his diesel tractors and pickups. That changed in 2004, when Link started hearing about biodiesel. Link contacted Mel Roth, his local petroleum distributor. Link and Mel started with B2 (2% biodiesel) and worked up to running B20 for the 2006 haying season.

Today most biodiesel comes from soybeans. When crushed, the soybean oil, or any vegetable oil, can be converted through a simple chemical process into a diesel substitute known as biodiesel. Soybeans and other crops that have the potential to make diesel are known as oilseed crops, and include crops such as canola, rapeseed, safflower and sunflower.

Biodiesel is considered a “drop in product.” No engine or fuel line modifications are necessary for the vast majority of users. The result is very little difference between biodiesel and regular diesel. As Link puts it, “I really can't make any comparison if the engine is cleaner or if there is less smoke or if there has been a

loss or increase of power. To be dead honest everything is the same; the vehicles start up and run.”

#### **About The Reinhillers:**

Link and his wife, Josie, and their three kids, Jeb, Sarah and Liz farm and ranch near Hazen. They are active members of WORC's North Dakota member group, Dakota Resource Council.



*Link and Mel fuel an International combine with B20 for the harvest.*

# YELLOWSTONE NATIONAL PARK: FIRST IN BIODIESEL

In 1995, Yellowstone National Park collaborated with Dodge and the University of Idaho to test the feasibility of running pure biodiesel in a Dodge truck. The test was a success, with the truck engine showing less wear and tear after 100,000 miles than a truck running on conventional diesel. By 2003, the Park had converted its entire diesel fleet (400 vehicles) to run on a 20% blend. Now with the Park's demand of 40,000+ gallons a year, biodiesel fueling stations have sprung up at the Park's entrances. These stations meet a portion of the Park's fuel demand but also offer Park visitors the chance to run an environmentally friendly fuel during their visit. The Park's use of the fuel in touring buses has also educated millions of visitors about biofuel's potential and environmental benefits.



The success of biodiesel use in the high cold altitude of Yellowstone National Park has helped to build a reputation for the fuel as a realistic and dependable alternative to petroleum diesel.

In 1999, the Department of Energy and the Department of the Interior instituted a Green Parks Program. The Program, which relied heavily on the success at Yellowstone, works to promote green energy in U.S. National Parks. In fact, the use of alternative fuels is now a mandate for most federal fleets.

For more information see the U.S. National Parks' website, [www.nps.gov/renew/yellbio.htm](http://www.nps.gov/renew/yellbio.htm)

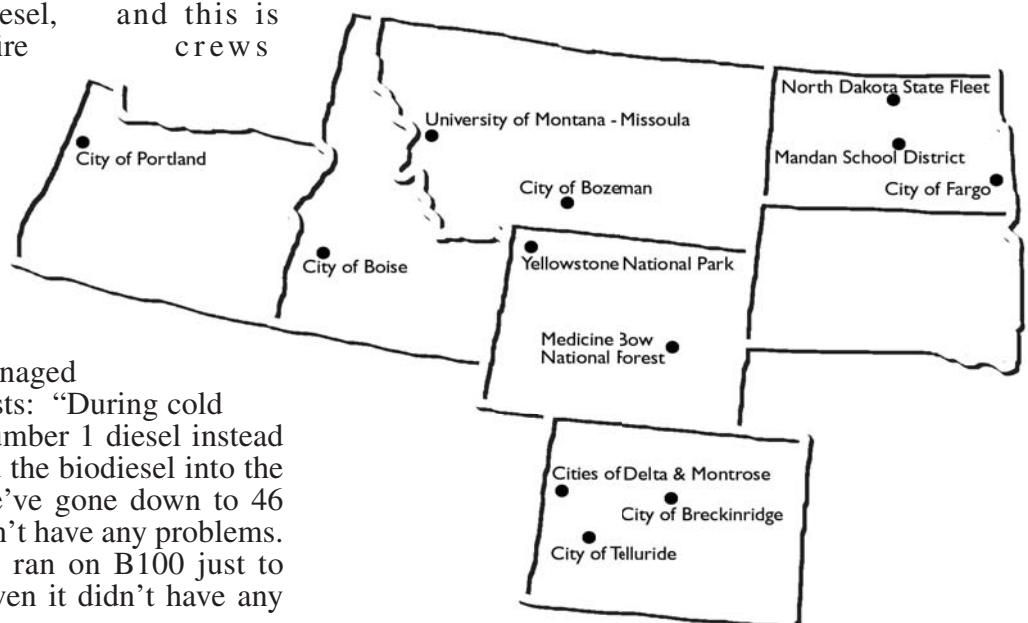
# MEDICINE BOW NATIONAL FOREST

The Medicine Bow National Forest is responsible for maintaining 2,883,943 acres of public forests and grasslands in southeastern Wyoming. Robin Brooks, the forest's fleet manager, depends on 55 vehicles made by Chevy, Ford, Dodge, Caterpillar, John Deere and Case to do his job. His fuel of choice for the past six years is a B20 blend of biodiesel, and this is the only diesel fuels he offers to fire fighting crews.

Robin believes that biodiesel is a better fuel "It's cleaner; workers noses and eyes don't burn and engines run cleaner with less internal wear and the oil holds up longer."

During the winter, when biodiesel must be carefully managed to prevent gelling, Brooks adjusts: "During cold weather, we've always used Number 1 diesel instead of Number 2, and we just blend the biodiesel into the Number 1," Brooks said. "We've gone down to 46 degrees below zero, and we didn't have any problems. We had one bulldozer that we ran on B100 just to see what would happen, and even it didn't have any problems."

## Biodiesel Fleets in WORC States



# WESTERN MOUNTAIN TOWNS DEPEND ON BIODIESEL

## Breckenridge, Colorado

“The Town of Breckenridge has been involved in Biodiesel for the past four years, beginning with a test project of seven vehicles that eventually led to conversion of the entire fleet of over 60 pieces of heavy equipment and transit buses. The Town Council is committed to active environmental stewardship and has been willing to financially support alternative fuels implementation in Breckenridge. We are currently operating on a B10 blend of biodiesel. Over these past four years, Breckenridge has also been active in the promotion of alternative fuel efforts by other communities and will continue to share our experiences with any fleets considering this or other fuels alternatives.”

— Dan Bell, City Fleet Administrator



The *Galloping Goose* transports visitors around the scenic mountain town of Telluride. During the summer, the bus operates on pure biodiesel (B100). Telluride, at an elevation of 8,750 feet, sits in a sensitive mountain environment. The town is committed to using biodiesel to reduce the environmental impacts from public transportation.

## Bozeman, Montana

John Van Delinder, the Street Superintendent for the City of Bozeman, has been running his entire fleet on B20 since 2003. The Bozeman street department cleans plows and maintains Bozeman's streets. In 2005, they replaced about 400 gallons of diesel fuel with biodiesel. John is now working with the other city departments and Gallatin County to switch their fleets to biodiesel.

# NORTH DAKOTA'S DEPARTMENT OF TRANSPORTATION TAKES INITIATIVE

In 2001, wanting to do their part to reduce our dependence on foreign oil and revitalize rural communities, the North Dakota Department of Transportation (NDDOT) began a limited test of biodiesel in three state trucks. The Department was already running several E85 vehicles and a Chevy Avalanche to promote the use of ethanol. Over the years, the biodiesel program expanded. In 2005, fleet vehicles in five cities were running on biodiesel. In 2006, Paul Hanson, the State Fleet Manager, decided to run the Department's fleet on biodiesel. Switching fuels in North Dakota is not something to be taken lightly; with the responsibility of maintaining more miles of road per-capita than any other state, the North Dakota economy depends on safe, open roads.

To prove to his truck operators and his superiors that biodiesel could be substituted for diesel, he did what any scientist would: a blind test. Truck drivers, unbeknownst to them, had their trucks filled with biodiesel blends.

A few weeks later when Paul inquired if there had been any performance difference in their trucks lately, the drivers had nothing to report.

Today, every state-owned fueling site provides biodiesel. Graders, snowplows and dump trucks across North Dakota all run on biodiesel. The NDDOT uses over a million gallons of diesel fuel annually. NDDOT commitment to biodiesel will displace over 30,000 gallons of fossil fuels annually for cleaner burning biodiesel.

Paul Hanson believes that using biodiesel makes sense, “it is a renewable resource, generates less harmful emissions and it can be grown by North Dakotan farmers.” The NDDOT runs on B20 during summer and drops down to B2 in the winter. By running B20 NDDOT reduces its diesel particulate matter emissions by 20% and its hydrocarbon and carbon monoxide emissions by 10%.

“As an agricultural producer, I want to use energy sources that farmers and ranchers produce, instead of complaining and crying about the fuel industry. If farmers and ranchers can produce a fuel that in turn can help the economic situation of those producers, we are on the right track.”

—Link Reinhiller, biofuels user and North Dakota farmer



## A Clean, Renewable Fuel from Our Farms

WORC is engaged in a campaign to develop clean, renewable biofuels from farms while promoting ecological health, sustainable family farms and rural economic opportunity. WORC promotes clean, renewable, locally owned biofuels production that will improve air quality, build long-term rural prosperity, reduce U.S. dependence on fossil fuels and combat global warming.

Campaign activities fall into four areas:

- 1) Shaping the structure of the industry to ensure benefits to rural communities and farmers and ranchers.
- 2) Establishing public policies that create incentives for sustainable biofuels production;
- 3) Increasing the adoption and use of biofuels on farm and small scale ventures.
- 4) Converting public transportation fleets of targeted institutions from petroleum diesel use to biodiesel use to help spur market development.

WORC has profiled the stories in this pamphlet to demonstrate that biofuels are a successful, reliable replacement to petroleum diesel. WORC is coordinating with its member groups to assist public fleets across our seven-state region to convert to biofuels. In July, WORC launched its Two Years, Ten Cities Campaign to convert ten public transportation fleets to use biofuels.

## TAKE ACTION

WORC and its member groups need your help to convert public fleets in our region to biofuels. Every drop of biofuel that displaces petroleum fuel is a step in the right direction. Here's what you can do to help:

- Use biofuels to fill your energy needs
- Contact your WORC member group or affiliate to become active in their local biofuels campaign
- Check out WORC's website, [www.worc.org](http://www.worc.org) for more information on biofuels and our work

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