

# Producer likes Montana, but...

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Securing the least expensive feedstock for an ethanol plant is critical because the end product is a price-volatile commodity, says a successful ethanol producer who would like to do business in Montana.

However, the added expense of using wheat, which is plentiful in Montana, versus corn, which is not, adds another \$15 million on the input side, he says.

"Hello! How do I get by that?" asked Dan Hernandez, CEO and general manager of Midwest Grain Processors in Lakota, Iowa.

"I need a cheap, readily available, abundant supply," he said. "In the United States that is corn or sorghum."

Processing the corn is also less expensive than wheat, he added.

Ethanol, which is essentially the same "white lightening" that drips from the stills



HERNANDEZ

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Please see Iowa, 5D

## Iowa

Continued from 1D

of moonshiners, is the renewable bio-fuel used as a gasoline extender, usually in a 10 percent blend with gasoline. Its increasing popularity and production, especially in the Corn Belt, is on a tear.

Promoted as a plank in his economic development program, Gov. Brian Schweitzer wants the Legislature to pass a bill this session that provides some economic incentives to those who risk building ethanol plants in Montana.

Hernandez has scouted sites in Montana and has not completely ruled it out.

"My objective is to make money for the co-op," he said. "I love Montana, but if I go to Montana to build a plant, my members would want to lynch me.

"I am still trying to skin the cat," Hernandez said, referring to future possibilities in Montana.

Hernandez leads the farmer-owned co-op MGA, which grinds 50,000 bushels of grain corn each day, seven days a week. The business is expanding to up production to 100,000 bushels a day within the year.

"We want to be a 300 million-gallon-a-year producer," he said.

Hernandez says that using wheat to produce ethanol costs a nickel a gallon more than corn.

MGA, which produces 50 million gallons of ethanol a year, has been in operation for two years. Its return on investment to co-op members has been 25 percent.

Hernandez said his corn supply is out his backdoor where farmers realize 180 bushels per acre.

Ethanol for gasoline blending is produced by adding water to the corn, adding enzymes to turn the starch into sugar and cooking the mash. The mash is fermented and distilled. The leftovers, distillers grains, can be used either wet or dry for livestock feed.

The ethanol is denatured so that it cannot be used for human consumption.

Hernandez said, on average, it takes a bushel of corn to produce 2.8 gallons of ethanol. His own plant does a little better at 2.9 gallons/bushel. For wheat, the conversion is 2.7 gallons; for barley, 2.2 gallons.

By using corn, all his input costs total \$2.50 a bushel, while wheat alone averages \$3.50. "A 40-million gallon a year plant would put me \$15 million out of

position," he said, referring to the added cost of wheat over corn. A further drawback is that one of the byproducts from wheat is the gluten, or the wheat kernel component that makes bread dough hold together.

"You can't pump jello," Hernandez said. "It plugs the pipes." He emphasized he was not putting down the Montana product: "You have spectacular wheat, the best in the world."

The other Montana grain available, barley, has a cost comparable to corn, but produces only 2.2 gallons of ethanol compared to 2.8 for corn, thus requiring more barley to meet the corn equivalent.

Corn is the cheapest of his inputs, Hernandez said. His other big cost is natural gas for energy. His outputs, distillers grains and ethanol are also variable-priced commodities which can fluctuate up and down with supply and demand.

According to U.S. Department of Energy estimates, the U.S. production of ethanol by the end of 2005 would reach 4 billion gallons annually. In a recent article on ethanol, the Wall Street Journal reported that Energy Department economists do not see the need for that much ethanol for another five years.

## ETHANOL FLEXIBLE-FUEL VEHICLES

This section contains the driving range and fuel economy values for ethanol flexible-fuel passenger cars and light trucks. Ethanol flexible-fuel vehicles are designed to operate on gasoline, E85 (a mixture of 85% ethanol and 15% gasoline), or any mixture of the two fuels. Annual fuel cost is estimated assuming 15,000 miles of travel each year (55% city and 45% highway) and an average fuel cost of \$1.50 per gallon of E85 and \$1.40 per gallon of gasoline.

The driving range and fuel economy values are shown for both gasoline and E85. When operating your FFV on mixtures of gasoline and E85, such as when alternating between using these fuels, your driving range and fuel economy values will be somewhere between those listed for the two fuels, depending on the actual percentage of gasoline and E85 in the tank.

Trans Type / Speeds	Eng Size / Cylinders	MPG City / Hwy	Annual Fuel Cost	Fuel	Range
<b>COMPACT CARS</b>					
<b>CHRYSLER</b>					
Sebring Convertible	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$914	Gas	390
Sebring Conv (2-Mode)	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$876	Gas	390
<b>MERCEDES-BENZ</b>					
C240 FFV	A-5	2.6/6	14/19 \$1,406	E85	260
			20/25 \$1,092	Premium	360
C320 FFV	A-5	3.2/6	15/19 \$1,406	E85	260
			20/26 \$1,092	Premium	360
C320 Sports Coupe FFV	A-5	3.2/6	15/19 \$1,406	E85	260
			20/26 \$1,092	Premium	360
<b>MIDSIZE CARS</b>					
<b>CHRYSLER</b>					
Sebring 4-door	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$914	Gas	390
Sebring 4-door (2-Mode)	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$876	Gas	390
<b>DODGE</b>					
Stratus 4-door	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$914	Gas	390
Stratus 4-door (2-Mode)	A-4	2.7/6	15/20 \$1,323	E85	270
			21/28 \$876	Gas	390
<b>MERCURY</b>					
Sable	A-4	3.0/6	15/20 \$1,323	E85	310
			20/27 \$956	Gas	400
<b>LARGE CARS</b>					
<b>FORD</b>					
Taurus	A-4	3.0/6	16/20 \$1,323	E85	310
			20/27 \$956	Gas	400
<b>SMALL STATION WAGONS</b>					
<b>MERCEDES-BENZ</b>					
C240 Wagon FFV	A-5	2.6/6	14/19 \$1,406	E85	260
			20/25 \$1,092	Premium	360
C320 Wagon FFV	A-5	3.2/6	15/19 \$1,406	E85	260
			20/26 \$1,092	Premium	360
<b>MIDSIZE STATION WAGONS</b>					
<b>FORD</b>					
Taurus Wagon	A-4	3.0/6	14/20 \$1,406	E85	290
			19/26 \$956	Gas	390
<b>MERCURY</b>					
Sable Wagon	A-4	3.0/6	14/20 \$1,406	E85	290
			19/26 \$956	Gas	390
<b>STANDARD PICKUP TRUCKS 2WD</b>					
<b>CHEVROLET</b>					
C1500 Silverado 2WD	A-4	5.3/8	11/14 \$1,874	E85	310/390*
			15/19 \$1,312	Gas	410/520*
<b>DODGE</b>					
Ram 1500 Pickup 2WD	A-5	4.7/8	9/11 \$2,250	E85	260
			12/15 \$1,615	Gas	340
<b>FORD</b>					
Explorer Sport Trac 2WD	A-5	4.0/6	12/16 \$1,730	E85	290
			16/21 \$1,168	Gas	410
<b>GMC</b>					
C1500 Sierra 2WD	A-4	5.3/8	11/14 \$1,874	E85	310/390*
			15/19 \$1,312	Gas	410/520*
<b>SPORT UTILITY VEHICLES 2WD</b>					
<b>CHEVROLET</b>					
C1500 Avalanche 2WD	A-4	5.3/8	10/14 \$1,874	E85	310/390*
			14/18 \$1,401	Gas	410/520*
C1500 Suburban 2WD	A-4	5.3/8	10/14 \$1,874	E85	310/390*
			14/18 \$1,401	Gas	410/520*
C1500 Tahoe 2WD	A-4	5.3/8	11/14 \$1,874	E85	310/390*
			14/19 \$1,312	Gas	410/520*
<b>FORD</b>					
Explorer 2WD FFV	A-5	4.0/6	12/16 \$1,730	E85	290
			16/21 \$1,168	Gas	410
<b>GMC</b>					
C1500 Yukon 2WD	A-4	5.3/8	11/14 \$1,874	E85	310/390*
			14/19 \$1,312	Gas	410/520*
C1500 Yukon XL 2WD	A-4	5.3/8	10/14 \$1,874	E85	310/390*
			14/18 \$1,401	Gas	410/520*
<b>MERCURY</b>					
Mountaineer 2WD FFV	A-5	4.0/6	12/16 \$1,730	E85	290
			16/21 \$1,168	Gas	410
<b>SPORT UTILITY VEHICLES 4WD</b>					
<b>CHEVROLET</b>					
K1500 Avalanche 4WD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
K1500 Avalanche AWD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
K1500 Suburban 4WD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
K1500 Suburban AWD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
K1500 Tahoe 4WD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
K1500 Tahoe AWD	A-4	5.3/8	10/14 \$1,874	E85	280/380*
			14/18 \$1,312	Gas	380/510*
<b>DODGE</b>					
Ram 1500 Pickup 4WD	A-5	4.7/8	9/11 \$2,250	E85	260
			12/15 \$1,615	Gas	340
<b>FORD</b>					
Explorer 4WD FFV	A-5	4.0/6	12/15 \$1,730	E85	290
			15/20 \$1,235	Gas	380

\* Driving ranges are shown for standard and optional fuel tanks.

**ABBREVIATIONS:**

A ..... Automatic Transmission  
 A-S ..... Special Automatic Transmission  
 AV ..... Continuously Variable Transmission  
 City ..... MPG on City Test Procedure

Conv ..... Convertible  
 D ..... Diesel  
 Elec ..... Electric Vehicle  
 Eng Size ..... Engine Volume in Liters  
 FFV ..... Flexible Fuel Vehicle

Hwy ..... MPG on Highway Test Procedure  
 M ..... Manual Transmission  
 NA ..... Not Available  
 T ..... Turbocharger/Supercharger  
 Trans ..... Transmission