



**Rural Economic Development:  
Issues, Challenges, and Prospects**

**BioEnergy Development in West Texas**

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## **Bioenergy Issue**

**In 2004, the U.S. consumed 20.7 million barrels of crude oil and refined products per day, approximately 58% of which were imported from other countries.**

**Approximately 47% of the U.S. crude oil consumption is Gasoline, 21% is Diesel, and 10% is Jet Fuel.**

**The 2005 energy bill established a renewable fuels standard to require the use of 7.5 billion gallons of ethanol and biodiesel by 2012, and extended tax benefits enabling both fuels to compete in today's market.**

***Biofuels are good for the environment,  
the economy, and world peace.***



***"Americans are discovering the road to energy independence is paved with natural resources grown right here at home. This is a new era for America's farmers, ranchers and rural communities as they seize this moment where opportunity meets need, and where American ingenuity breaks a century long addiction to oil."***

***USDA Secretary Mike Johanns***

**Rural Communities can be a part of this  
new economy through:**

**Ingenuity**

**Hard Work**

**Doing Things in the Right Order**



## **Key Bioenergy Development Challenges:**

- 1. Feedstocks**
- 2. Transportation**
- 3. Equipment**
- 4. Business Model**
- 5. Financing**



## **Feedstock Challenges**

**Neither Texas nor the U.S. produces enough grain to supply the Ethanol demand or enough oilseed crops to supply the Biodiesel demand.**

**The success of any Biofuel enterprise is dependent upon:**

- 1. Feedstock**
- 2. Feedstock**
- 3. Feedstock**

**The company who controls the Biofuel Feedstock is destined for success.**



## Economic Value of Biodiesel Feedstocks

Potential oil production of four species of oilseed crops grown in Texas.

Crop	Production Area - million acres -	Seed Production - million lbs. -	Oil Content - % -	Total Oil - million gallons
Cotton	5.73	4,462.0	20	111.550
Peanuts	0.26	455.7	45	45.7
Soybeans	0.25	455.0	18	10.2
Sunflowers	<u>0.05</u>	<u>4.5</u>	<u>40</u>	<u>3.4</u>
<b>Total:</b>	<b>6.29</b>	<b>5,377.2</b>	<b>--</b>	<b>111,609.3</b>



**If Texas is to participate as a feedstock supplier in significant biodiesel production, there is a need to:**

**Increase the average of oilseed crops grown across the state.**

**This production will compete directly with existing crops (wheat, sorghum, and dryland cotton) or will be located on marginal areas not currently in production.**

**The production of a 100 gallon per acre feedstock on a million acres would generate 100 million gallons of biodiesel with a wholesale value of \$300 million.**

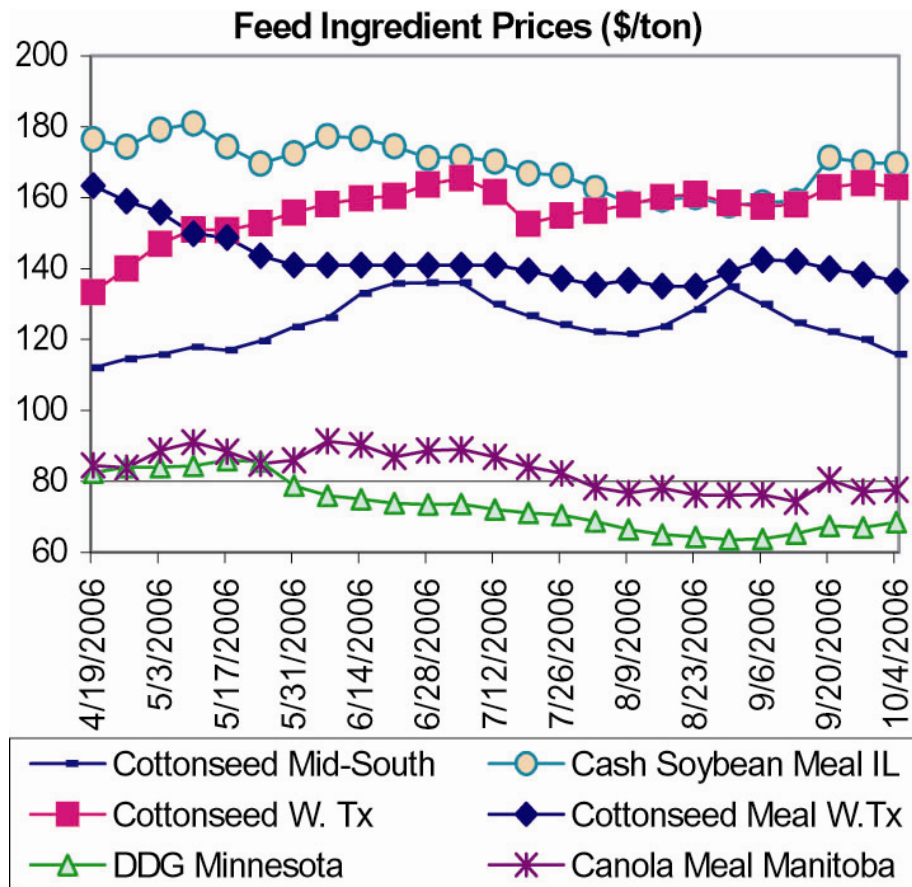
**A 40 gallons per acre feedstock can be grown where wheat and sorghum are currently grown. Under this scenario, a million acres of biodiesel feedstocks would generate 40 million gallons of vegetable oil (\$120 million).**

**All U.S. soybeans = 6% of Diesel demand**

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## Demand For Cottonseed





## **Economic Value of Ethanol Feedstocks**

***"It costs an average of \$1.10 to produce a gallon of ethanol, the average wholesale price of gasoline rose to \$2.04/gal this year. At those prices, ethanol is competitive with gasoline even without tax credits. In fact, ethanol will continue to be competitive with gasoline so long as oil prices do not drop below \$30 per barrel."***

***"Our economists...calculate that ethanol production could nearly double in the next five years [to 10 billion gallons by 2010] without forcing us to choose between using corn for food or for fuel."***

***USDA Secretary Mike Johanns***

**All U.S. corn = 12% of Gasoline demand**



## **Transportation Challenges**

**Less competition for rail service**

**Condition of rail lines**

**Cost of new or upgraded rail construction**

**Freight rates**

**Dependable delivery times**

**Unit trains**

***The current rail service is a difficult situation that is not improving soon, and is a battle that you will fight every day.***



## **Equipment Challenges**

**New and unproven technologies**

**Capital costs**

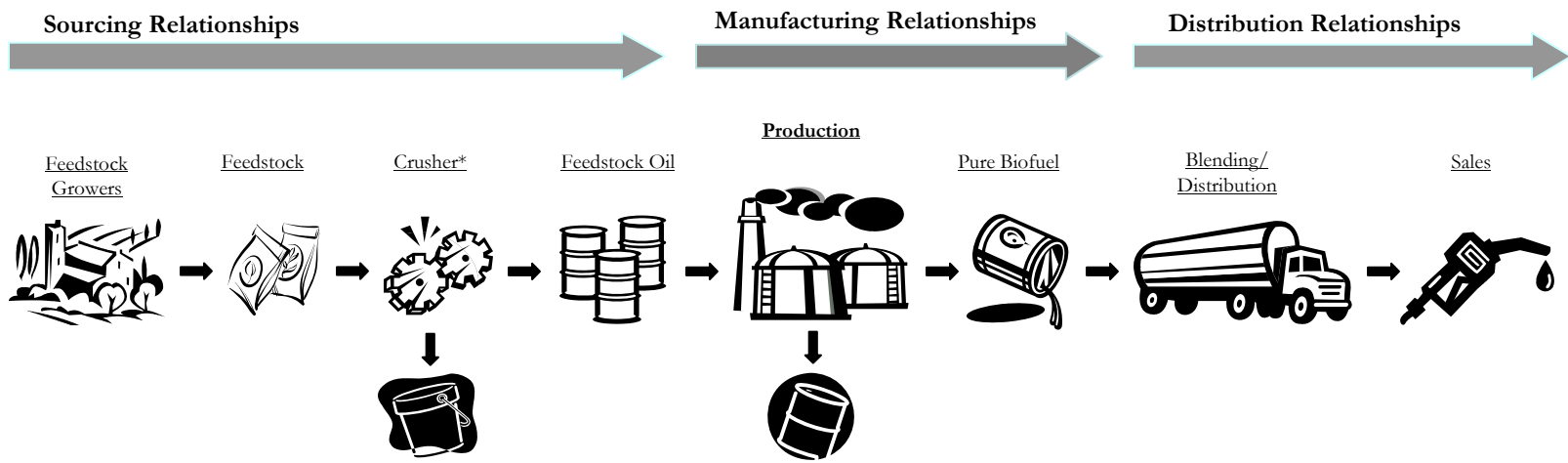
**Long wait for delivery of equipment**

**No trained workforce**

**Changing quality standards**



# Business Model Challenges





## **Financing Challenges**

### **Equity requirements**

- Business owners**
- Local community incentives**
- Investment community**
- Government assistance**

### **Current financial market requirements**

- Strong business model**
- Strong management**
- Strong marketing partners**
- Secure supply of feedstock**



## **Successful Rural Communities:**

**Have maximized their resources.**

**Invested in infrastructure.**

**Focused squarely on the future, not the past.**

**Looked for economic opportunities as well as  
quality of life opportunities.**



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