

Federal Assistance and Economics of Small-Scale Biodiesel Production



Presentation Outline

- Federal Assistance Programs
- Investment Costs
- Operation Costs
- Income Estimates
- Estimated Production Cost



Value-Added Producer Grant

- Sell biodiesel
- \$75,000 for planning grants
- \$200,000 for working capital grants
- Eligible for $\leq 50\%$ of project costs

Renewable Energy for America Program

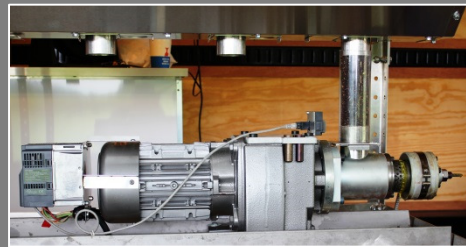


- Purchase and installation of renewable energy systems
- Grants: \$2,500 to \$500,000
- Loan guarantees: \$5,000 to \$25 million
- Eligible for up to 25% of project costs

Biodiesel Production



Canola seed



Conversion Technology

Production Cost



Canola Meal



Biodiesel

Revenue

1. Equipment Cost

- Oil press unit: \$8,000
- Biodiesel processor : \$4,000 - \$5,000
- Methanol recovery: \$3,495
- Installation Cost: \$2,100
- **Initial Investment Cost: \$18,835**

- Estimated annual loan payment: **\$2,380.**

- Capital cost including interest per gallon of biodiesel with annual production
 - 1000 gallons: **\$2.73**
 - 1500 gallons: **\$1.82**
 - 2000 gallons: **\$1.37**

2. Operating Cost

- Chemicals: **\$0.60 per gallon**
- Maintenance Cost: **\$0.07 – 0.14 per gallon**
- Electricity: **\$0.77 per gallon**

- Total Processing cost per gallon of biodiesel with annual production
- 1000 gallons: **\$4.23**
- 1500 gallons: **\$3.27**
- 2000 gallons **\$2.79**

3. Feedstock Cost

Feedstock production cost = \$160/acre

Canola Yield: 2100 lbs/acre

(National Winter Canola Variety Trials in Tennessee)

Feedstock Cost = **\$2.15 – \$2.73 per gallon**

Total Production Cost



Seed Cost
\$2.65



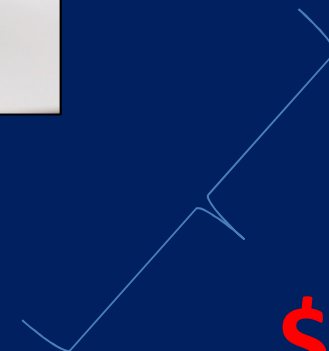
Investment
and Interest
Costs
\$1.82



Operation Costs
Chemicals, Electricity :
\$1.45



\$5.92



Revenue Generation

- Value of seed meal

\$2.17 - \$3.17 per gallon of biodiesel

Cost Scenarios

Ownership Scenarios	Total Production Costs (\$/gallon)	Seed meal value (\$/gallon)	Production Cost (\$/gallon)
Individually Owned	\$5.92	\$3.03	\$2.89
Subsidized (25%)	\$5.47	\$3.03	\$2.44
5 farmers	\$4.44	\$3.03	\$1.41
10 farmers	\$1.64	\$3.03	\$1.26

Further information

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