

Linking the Value Chain

Christian Schutz
William J. Wells, Ph.D.

Presented at 3rd Annual Iowa Renewable Fuels Summit

Global ethanol

January 7, 2009

Polk County Convention Complex

Des Moines, IA

Options for Selling Corn Oil

DDGS



Corn Oil



Corn Oil Extraction Economics

100 Million Gallons Per Year of Undenatured ethanol

36.4 Million Bushels of Corn/Year

341,000 tons DDGS annually
@
\$120/ton
Total revenue = \$40.92MM

50% of Oil removed we separate 32.1MM
pounds of oil
@
\$0.15/pound
Net current = \$4.82MM

All Oil in = 357,000 tons/yr of DDGS
@
\$120/ton = \$42.84MM

Total Revenue
= \$45.74MM

Annual Revenue Increase of \$2.9 Million with 50% Oil Separation



DDGS Composition

Effect of 50% Oil Removal

<u>Before</u>	<u>After</u>
30.1% Protein	31.5% Protein
8.8% Fat	4.6% Fat

Notes:

- Starting with “typical” corn
- All percentages by weight



Additional Benefits of Corn Oil Extraction

- **Increased inclusion rates** - Corn oil removal can improve DDG marketability and inclusion rates by reducing fat content.
- **Reduced operating costs and emissions** - Corn oil removal can improve drying efficiency by up to 20% with reduced natural gas or coal needs & reduced emissions.
- **Risk diversification** - Corn oil sales hedge your facility against declining DDG prices in the future.
- **Upside on corn oil sales** - you facility benefits from any increase in crude corn oil prices since our program ties your corn oil sales to diesel and biodiesel.

