

The Evolution From Rendering to Energy

Presented by:

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Who is Sanimax?

- ▶ In the rendering business since **1881**
- ▶ **1,100** employees across North America
- ▶ USD **\$500 Million** in annual sales
- ▶ Collection and processing of more than **one million tons** per year of:
 - ▶ Animal by-products
 - ▶ Food by-products
 - ▶ Used Cooking Oil
 - ▶ Hides & Skins
- ▶ Our global customers include:
 - ▶ Feed companies
 - ▶ Chemical manufacturers
 - ▶ Tanneries
 - ▶ Soap producers
 - ▶ Pet food manufacturers
 - ▶ Fuel Blenders



Our Business Units



Energy

Production of clean-burning biodiesel and other renewable fuels



Restaurant Services

Professional collection of used cooking oil and grease



Rendering

Transformation of animal by-products into high quality fats and proteins



Hides • Skins • Leather

Preparation of hides and skins for leather production



Ingredients

Premium ingredients and custom blends for a variety of industries

Our presence in North America





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What we do...

- ▶ Operate a 20 million USG biodiesel refinery in DeForest, WI
- ▶ Own a share of a 10 million USG biodiesel refinery in Wisconsin
- ▶ Market and trade biodiesel through partnerships (USA, Canada & International)
- ▶ Market by-products to new applications
 - ▶ Biodiesel – wood preservative carrier, solvent
 - ▶ Glycerin – anti-freeze, paints



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Our refinery in De Forest, WI

- ▶ 20 million gallon per year capacity
- ▶ Continuous dry processing using distillation
- ▶ Uses unique chemical pre-reaction to enable processing of animal tallow, yellow grease and other inedible feedstocks
- ▶ Operating 24 hours a day, 350 days a year
- ▶ Rail and road access



Huge environmental impact

- ▶ Re-use of our feedstock limits the carbon emissions from the production of virgin alternatives
- ▶ Significant impact producing energy from renewable stocks due to increasing levels of carbon emissions per unit of petroleum-based energy produced



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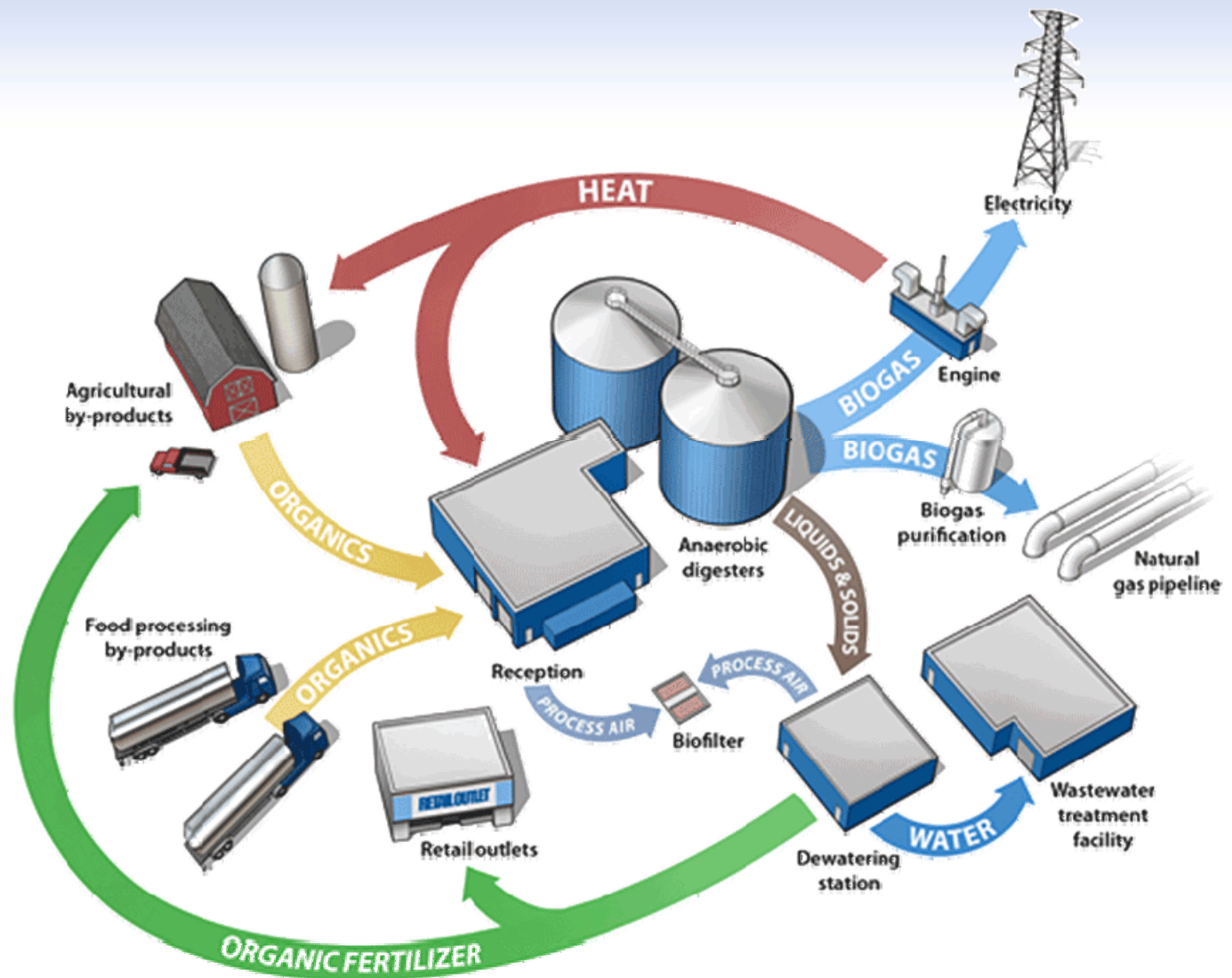
Our Biogas Venture

- ▶ Large scale bio-gas projects
 - ▶ Production of electricity and natural gas from organic by-products
 - ▶ Plants operating by end of 2009 with goal of **25MW of electricity generation**
- ▶ Transforms organic by-products like...
 - ▶ DAF sludge
 - ▶ Food waste
 - ▶ Slaughterhouse by-products
 - ▶ Manure
- ▶ ...into Methane gas and high grade fertilizer



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Our Biogas Venture



The Biodiesel Market

Challenges and Updates



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Biodiesel Markets...

- ▶ North American biodiesel industry produced 400 million USG last year against a capacity of 1.2 billion USG
- ▶ Renewable energy will continue rapid growth, with increased emphasis on sustainability
 - ▶ Canadian mandates (E-5, B-2 by 2010/2012)
 - ▶ Environmental concerns
 - ▶ USA energy independence



Challenges...

- ▶ Slowed growth in biodiesel due to high feedstock costs (although diesel pricing is high)
- ▶ Lack of mandates
- ▶ Yellow grease's high FFA
- ▶ Tallow's high cloud point
- ▶ Poor quality perception



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Our Quality...

- ▶ Premium quality biodiesel
- ▶ Consistently exceeding ASTM and European standards



New oils update...

▶ Algae

- ▶ Not produced yet on a commercial scale
- ▶ Difficulty separating algae from water & cracking algae to access oil
- ▶ Best system for growing not yet established, area needed to produce enough oil to be economically viable
- ▶ Still researching what best algae strain is for optimum production



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New oils update...

▶ Jatropha

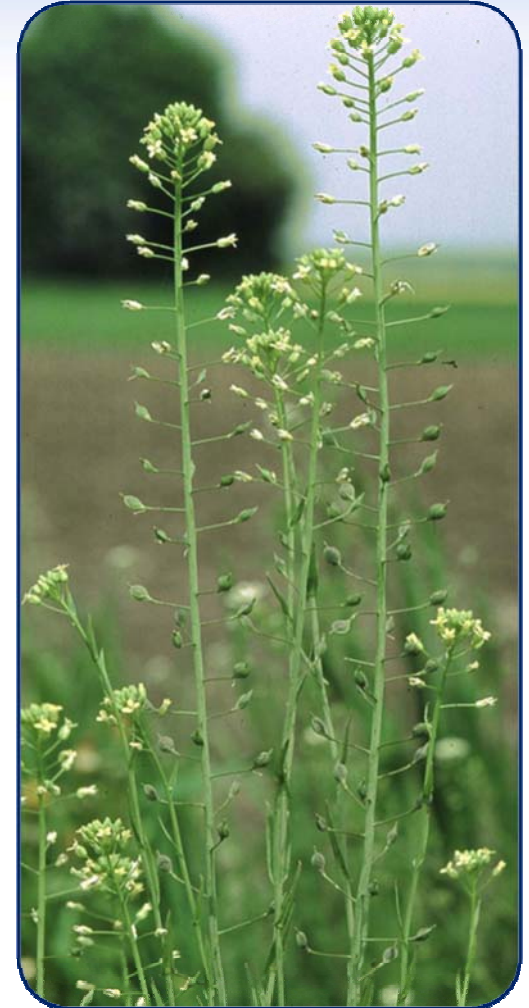
- ▶ Difficult to grow – takes many years for plants to establish
- ▶ By-product is poisonous
- ▶ Product is being developed in countries a large distance from North America, transportation costly
- ▶ Hardy, resistant to draught and pests can grow on very arid lands.
- ▶ No long term studies to understand what growing the product does to soil over long term.
- ▶ Seed contains approx 40% oil



New oils update...

▶ Camelina

- ▶ Falls into the family with rapeseed, mustard, sometimes referred to wild flax.
- ▶ Contains very high levels of omega 3 fatty acids, high in antioxidants.
- ▶ Cheaper alternative to vegetable oil, can be used as a food oil.
- ▶ Oil content between 29-39% or 490 kg oil/hectare

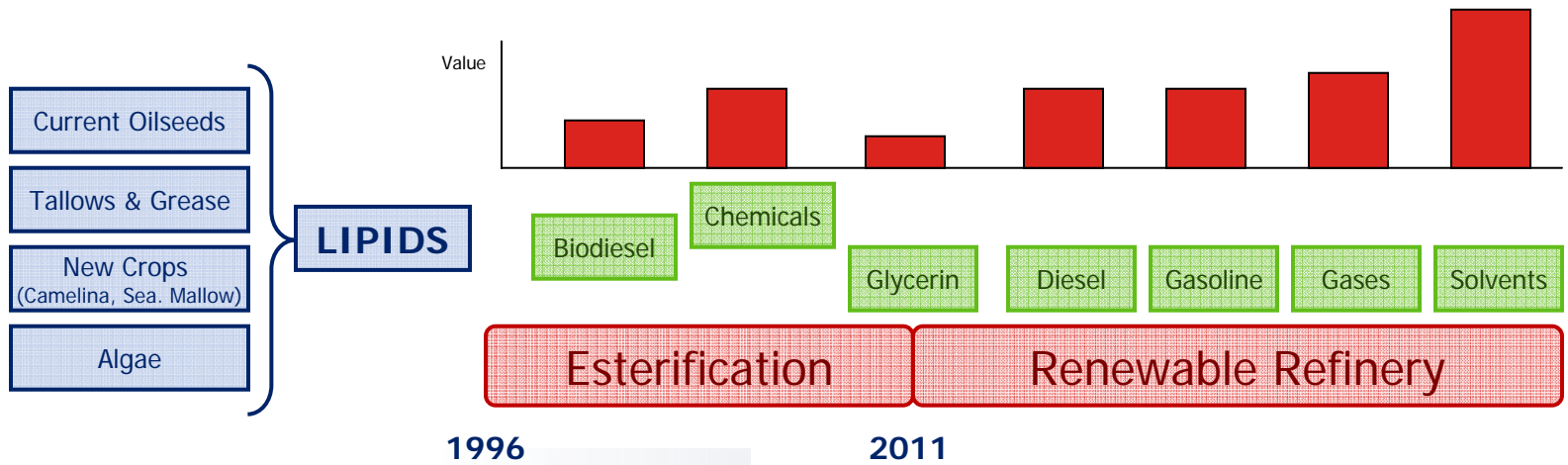


The future of tallow and YG...

- ▶ **Biopyrolysis** – Production of renewable fuels and solvents from fats and oils
 - ▶ Production planned for 2012



Feed, Technology & Value Developments



- Current Oilseeds
- Tallows & Grease
- New Crops (Camelina, Sea. Mallow)
- Algae

LIPIDS

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