

Seeking New Opportunities for Soybean Based Products

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Omni Tech International, Ltd.



What is Omni Tech International, Ltd?

- Technical and Business consultants
- Most members have industry experience
- Soybean industry consulting represents a significant portion of our activity

What is the nature of the OTI soybean based business?

- Provide technology and commercial consulting services to the United Soybean Board's New Uses Committee
- Evaluate soy research proposals from companies and academic institutions
- Track funded projects
- Host TAPs to discuss research progress
- Track feedstock pricing & markets
- Staff USB booth at trade shows

How Do We Do This?

Soy project team:

- Seven Commercialization Managers
 - Plastics and Fundamental Research
 - Urethane Systems
 - Solvents, Surfactants and Pesticides
 - Coatings, inks and adhesives
 - Lubricants
 - Composites
 - Biotechnology and Bioprocessing

- In addition, there are 11 other professionals who provide tech, regulatory and business support
- Another consultant is based in Switzerland

Samples of Current Research Projects

- Soy-based asphalt cement
- Moldicides
- Bioremediation
- Uses for crude glycerine
- Soy resin for OSB

Current projects (con't)

- Soy protein applications
- Soy feedstocks for plastics
- Crankcase engine oil
- Mosquito larvicide
- Formaldehyde free soy adhesives

Initiative for Future Agriculture and Food Systems project (2002-4)

Purpose

Develop value-added products at the local community level using expeller-extruder equipment

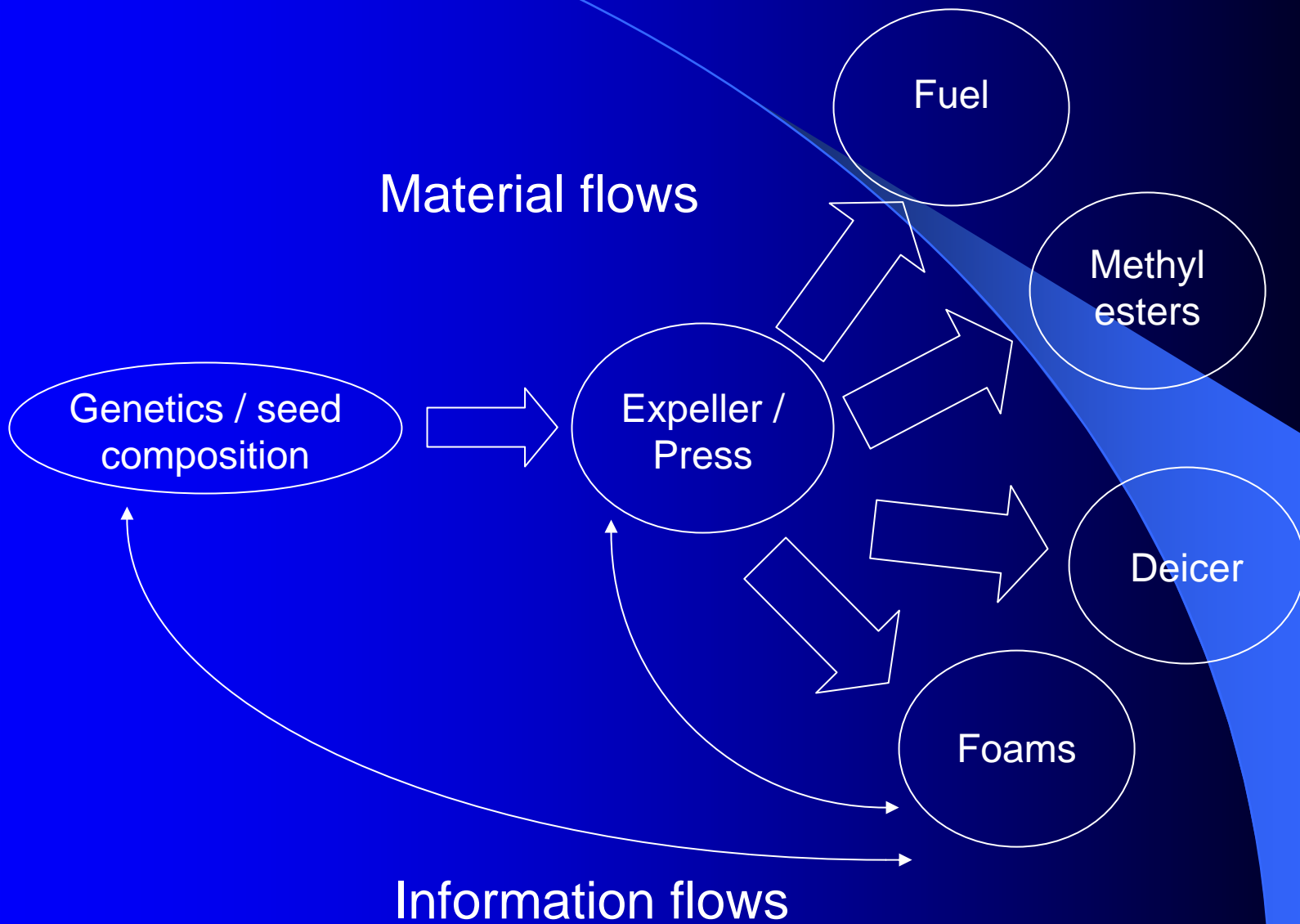
Project members

Purdue, ISU, Univ. of Missouri, Ohio SU, InstaPro/Triple F, USDA/ARS, Omni Tech

IFAFS project (con't)

Scope

Assess feasibility of three soy products and a fatty acid ester process



IFAFS (con't)

Findings

- Modest sized expeller-extruder could produce oil for biodiesel production or heating fuel
- New catalyst for ester was developed but could not be recycled economically
- Glycerin could be formulated into aircraft deicer but FAA testing cost was too high

IFAFS Findings (con't)

- Varietal differences played only a small role in expeller efficiency and were offset by other agronomic factors
- Soy polyol from flour showed promise but other pathways to polyol have received more commercialization attention

USDA Federal Biobased Preferred Product Procurement Program (FB4P)

- USA initiative to improve demand for biobased products using government agency purchasing power
- Stimulate development of processing and manufacturing in rural communities

FB4P (con't)

- Omni Tech is providing soy product recommendations to USDA listing process
- Over 100 soy products now on current or proposed procurement list
- Agencies will be audited for compliance
- <http://www.biobased.oce.usda.gov>

Qualisoy[®] Initiative

What is Qualisoy®?

QUALISOY® is a collaborative effort among the soybean industry to help market the development and availability of healthier soybeans and soy oil, reduce environmental impacts of livestock production through improved soybean meal, and improve the global competitiveness of the U.S. soybean industry.

Mission

Develop and commercialize a better quality commodity soybean for the food industry

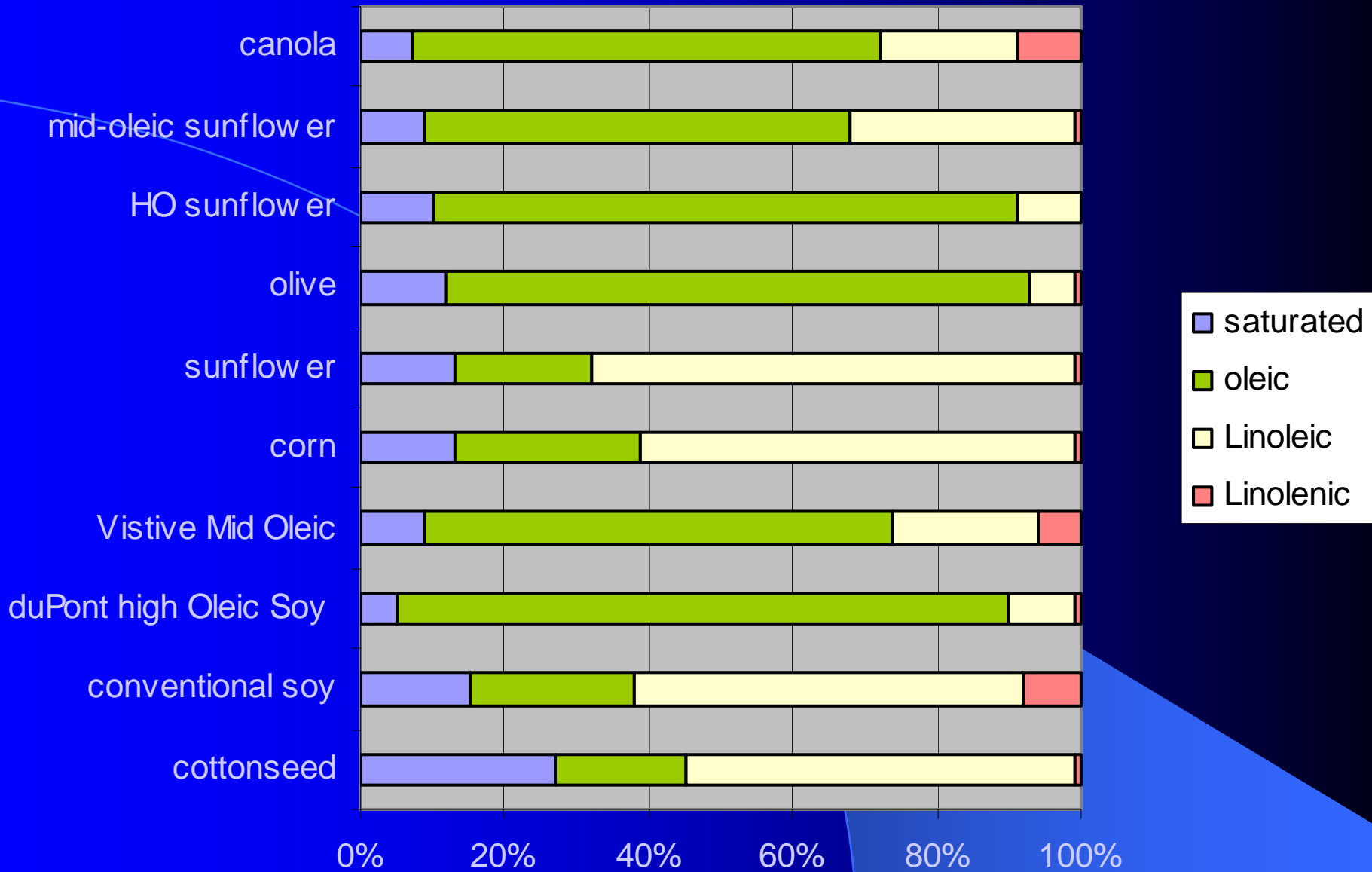
Oil Objectives

- Reduced saturates (<7%)
- Reduced linolenic acids (<3%)
- Increased oleic acids (>50%)

Key participating organizations

- Monsanto VISTIVE – low lin bean. AGP markets oil
- Pioneer – low lin bean. Oil is marketed through Bunge as NATRIUM
- Iowa State University – ultra low (<1%) lin bean. Oil is called ASOYIA

Fatty Acid profiles



Non-food opportunities for specialized soybeans

- Most industrial products are being developed on commodity beans/oil due to cost
- Lubricants need oxidative stability. High oleic oil favored
- Omni Tech is preparing a report on soy adhesives for composite wood products. Due in December

Perspectives

- Omni Tech is interested in collaborating with Soy 20/20 on emerging R & D and commercial opportunities. What process is feasible?
- USA soy product companies are interested in Ontario partnerships. Both organizations should facilitate that process

Thanks to Soy 20/20 for
inviting us to meet you and
share our perspectives on the
emerging markets for soybean
based products