



*the **energy** of innovation™*

International Sorghum for Biofuels Conference

Presented by: Rob Meyer

August 19, 2008



Sustaining Agriculture Through Innovation

- ***Who We Are***

- Headquartered in Colwich, KS, ICM, Inc., engineers, builds, and supports the global biofuels industry's most efficient ethanol plants.

- ***What We Do***

- ***Manufacture***
- ***Engineer***
- ***Build***
- ***R & D***



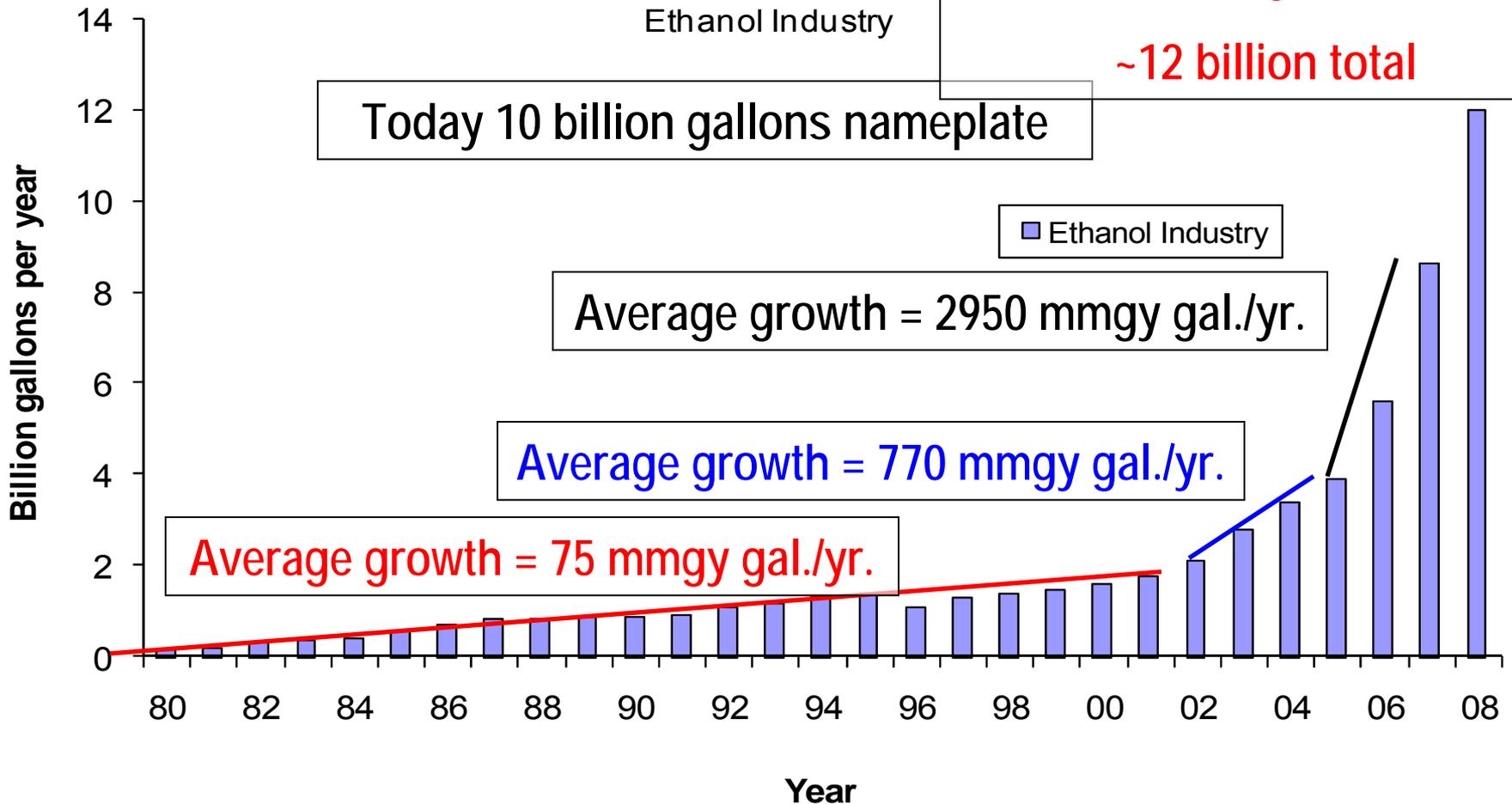
Starch Refinery Adaptability

- Where are we today?
- What technology is coming for starch?
- What is coming in the Future?
 - Sweet Sorghum
 - Cellulosic (Corn Fiber, Forage Sorghum, Switchgrass, etc.)



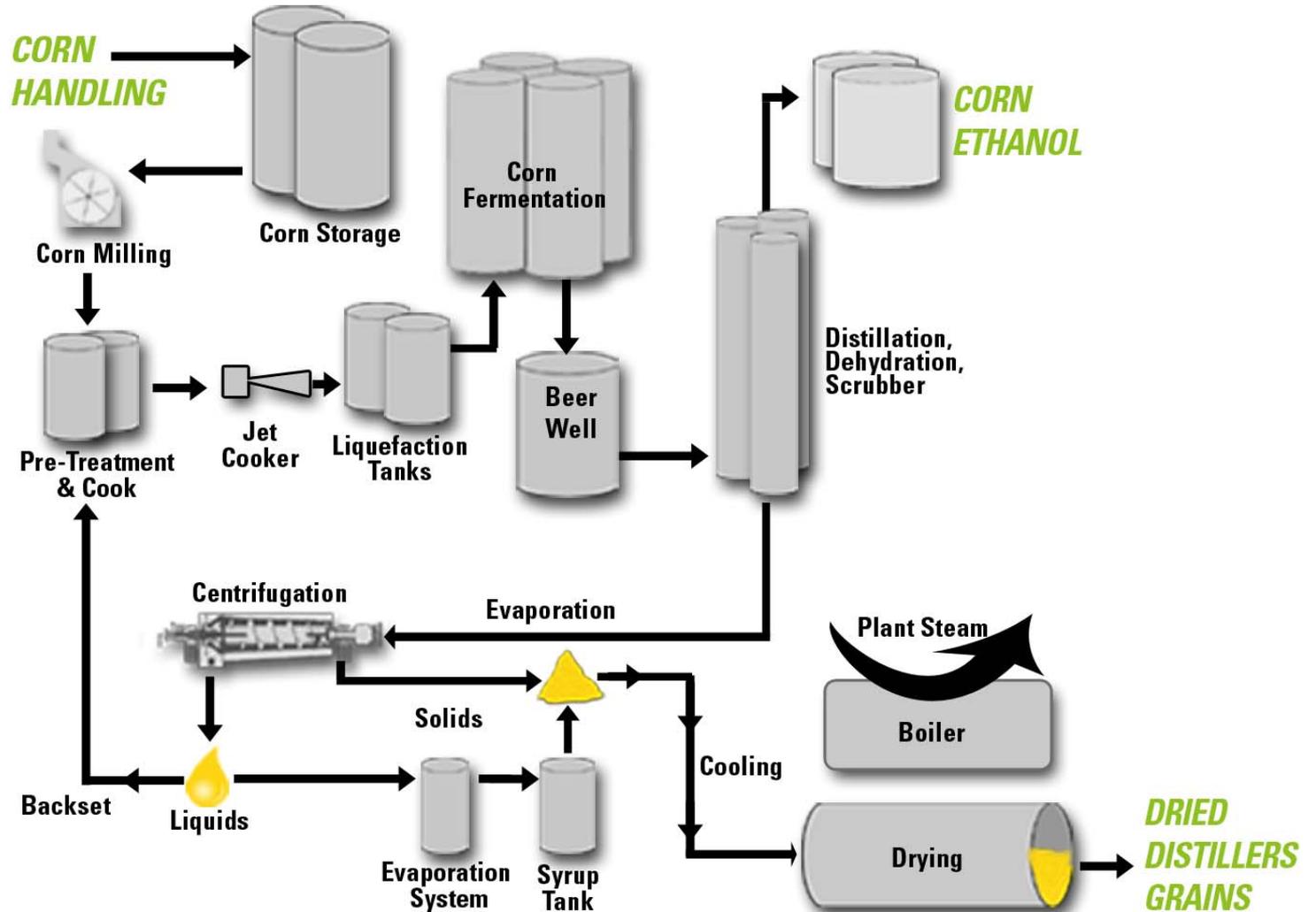
Ethanol Production Growth in the U.S.

Operating and under construction



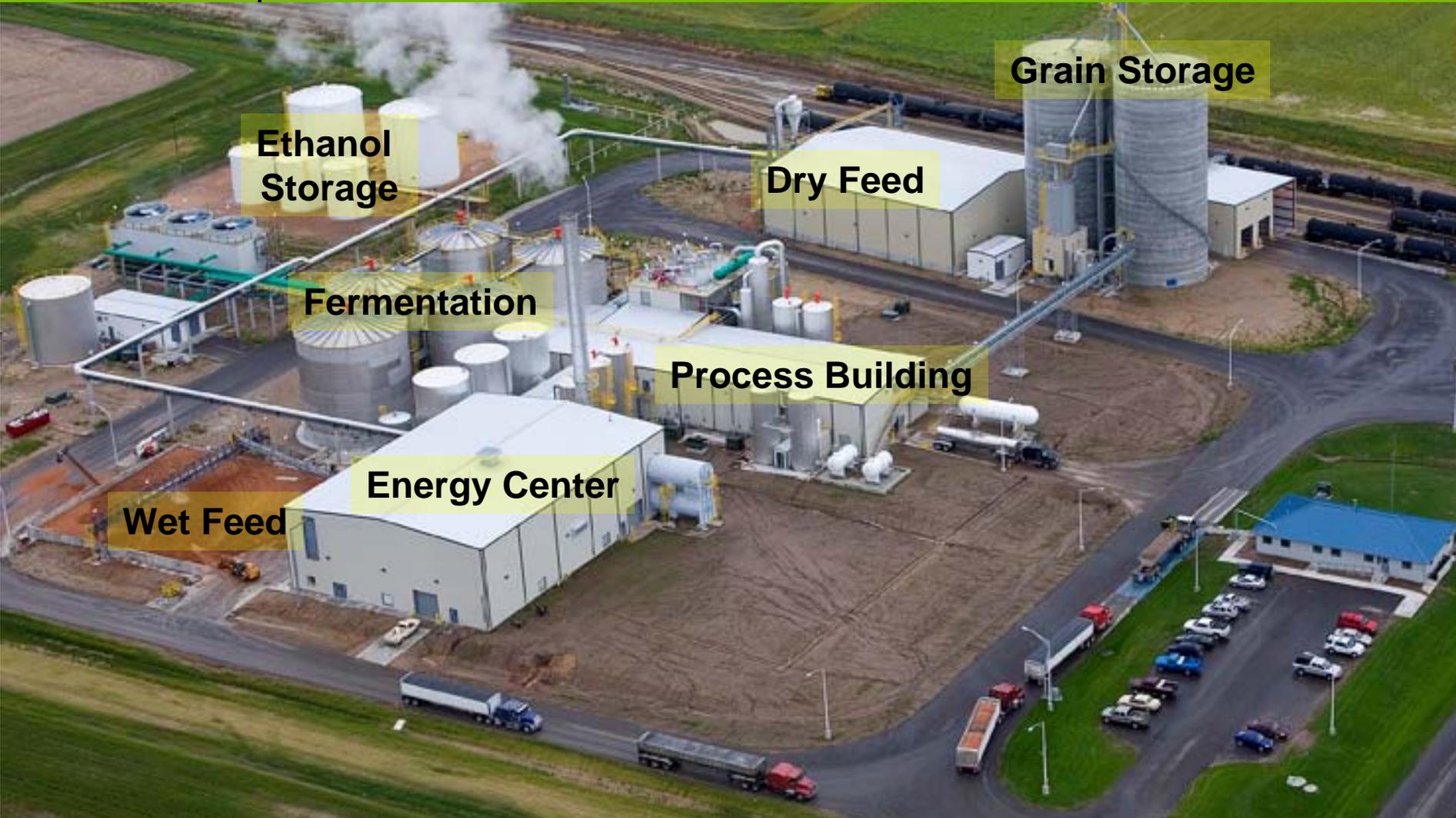


Corn Ethanol Facility Today



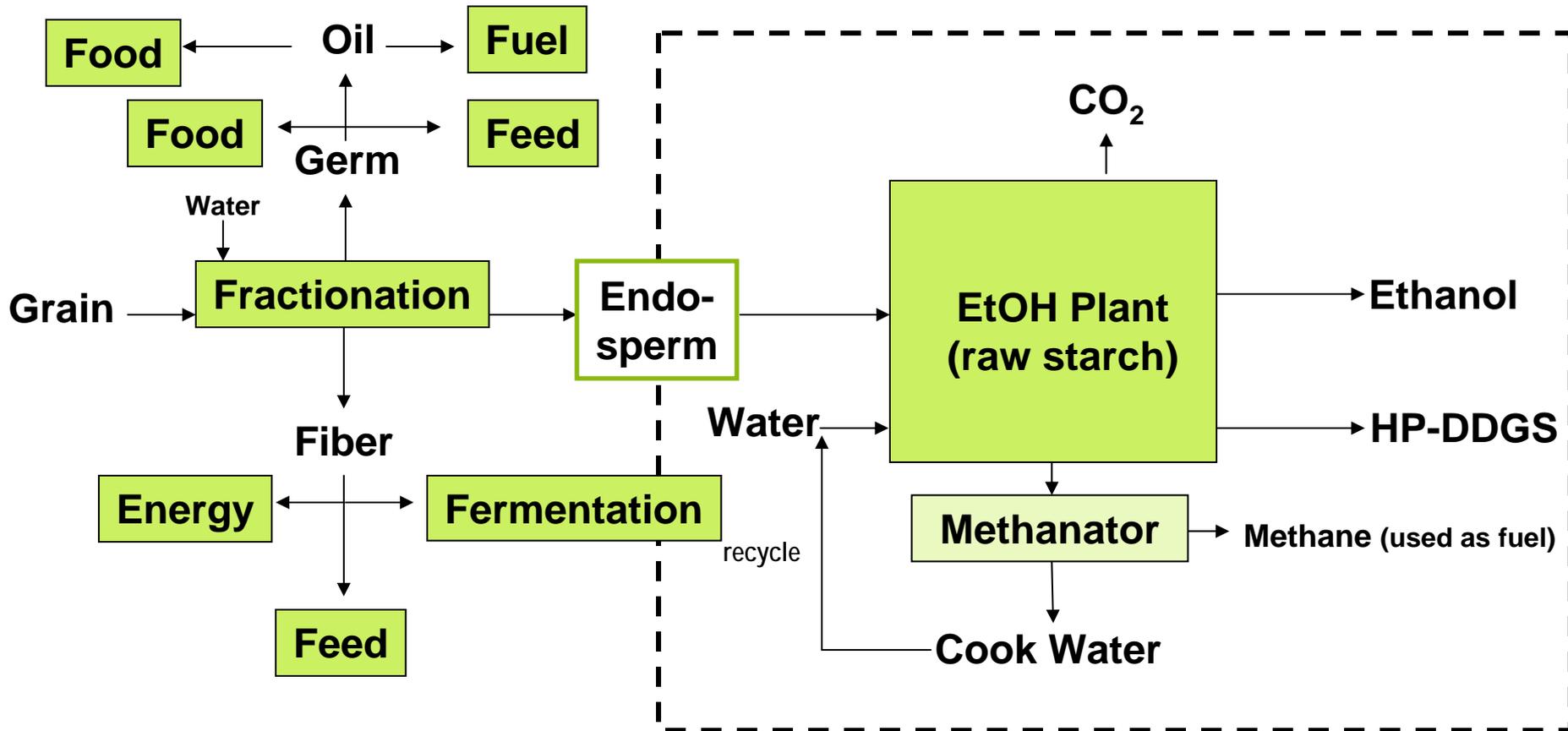


40 MMGY Plant





Near-term technology





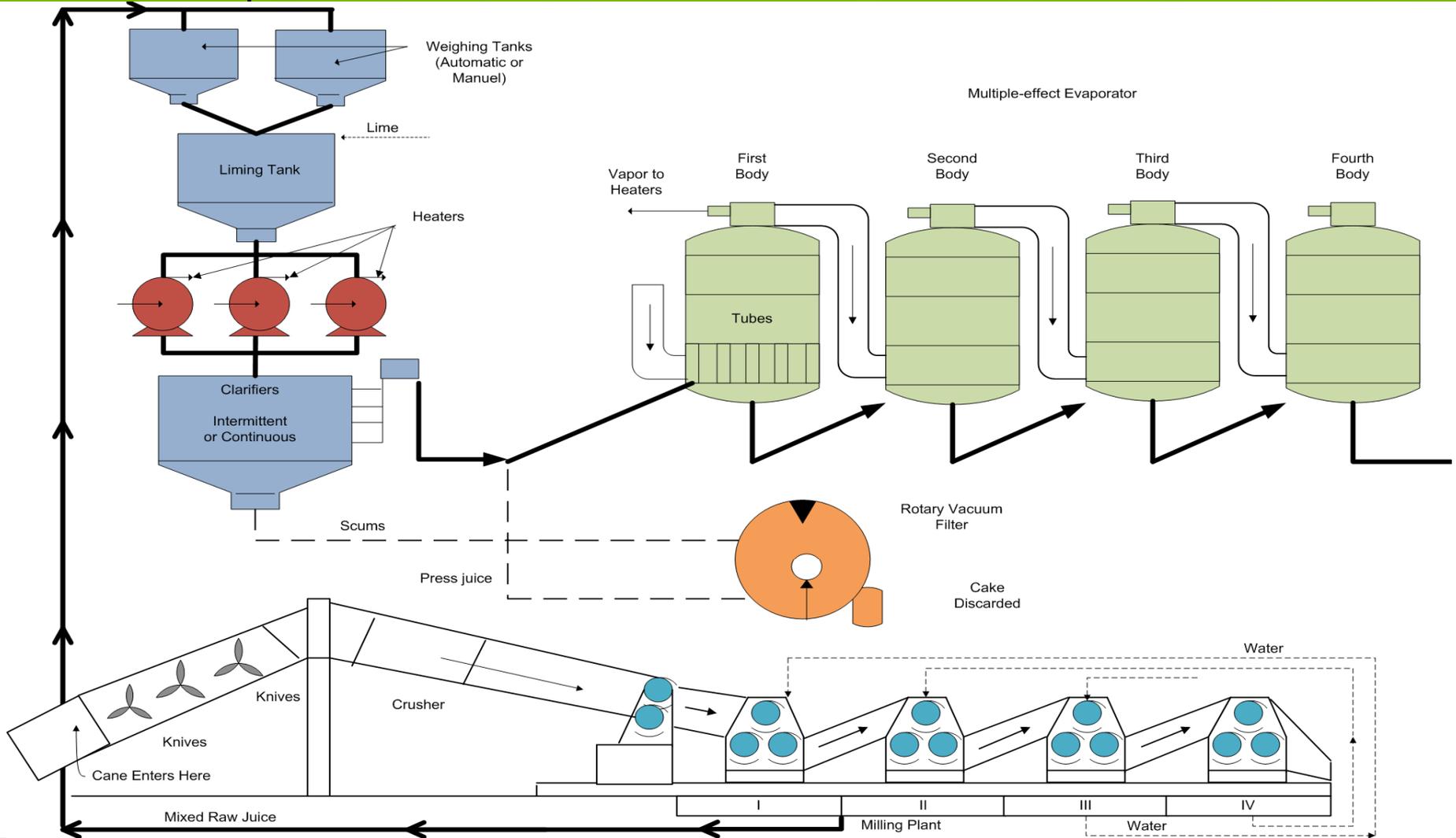
Biorefinery Needs

- Consistent Feedstock
 - Can't run switchgrass for 1 day, forage sorghum 1 day, miscanthus the next
- Consistent Quality
 - May be variety sensitive
 - Rocks, Dirt, etc.
- Consistent Packages
 - Sweet Sorghum – Chopped vs. Billets
 - Cellulose – Square Bales vs. Round Bales

- Sugar & Biomass
 - Can Extract Juice for Direct Fermentation
 - Juice isn't Stable & Needs to be Processed Quickly
 - Bagasse – Cellulosic Ethanol or Steam
- Equipment
 - Traditional Planting Equipment
 - Sugarcane Harvesting Equipment?
 - Different Trucks



Sweet Sorghum Front End



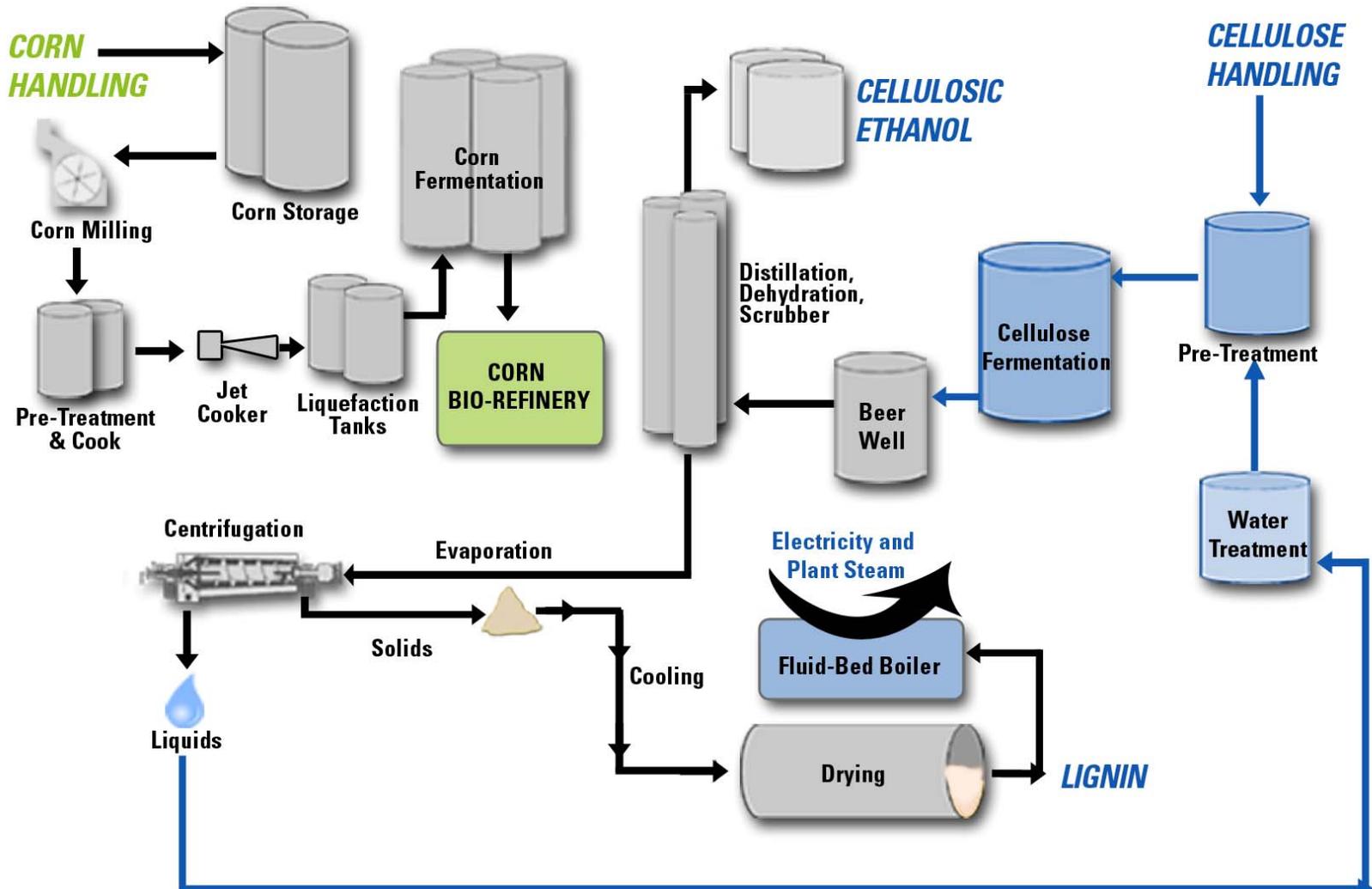


Forage Sorghum

- Biomass
 - Annual Crop – Fits Current Rotations
 - Large Yields First Year
- Equipment
 - Traditional Planting Equipment
 - Traditional Harvesting Equipment?
 - Dry or Wet



Ethanol Facility with Cellulose Fermentation





Quote

“We are all faced with a series of great opportunities brilliantly disguised as impossible situations.”

- Charles R. Swindoll



For More Information

Contact:

Rob Meyer

Principal Scientist - Agronomy

310 N. First Street

Colwich, KS 67030

Phone: 316.977.6598

E-mail: rmeyer@icminc.com

Helpful websites:

ICM: icminc.com

EPIC: epicinfo.org

Ethanol: drivingethanol.org