

# The Illinois Ethanol Industry and Water Usage

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Illinois Corn Growers

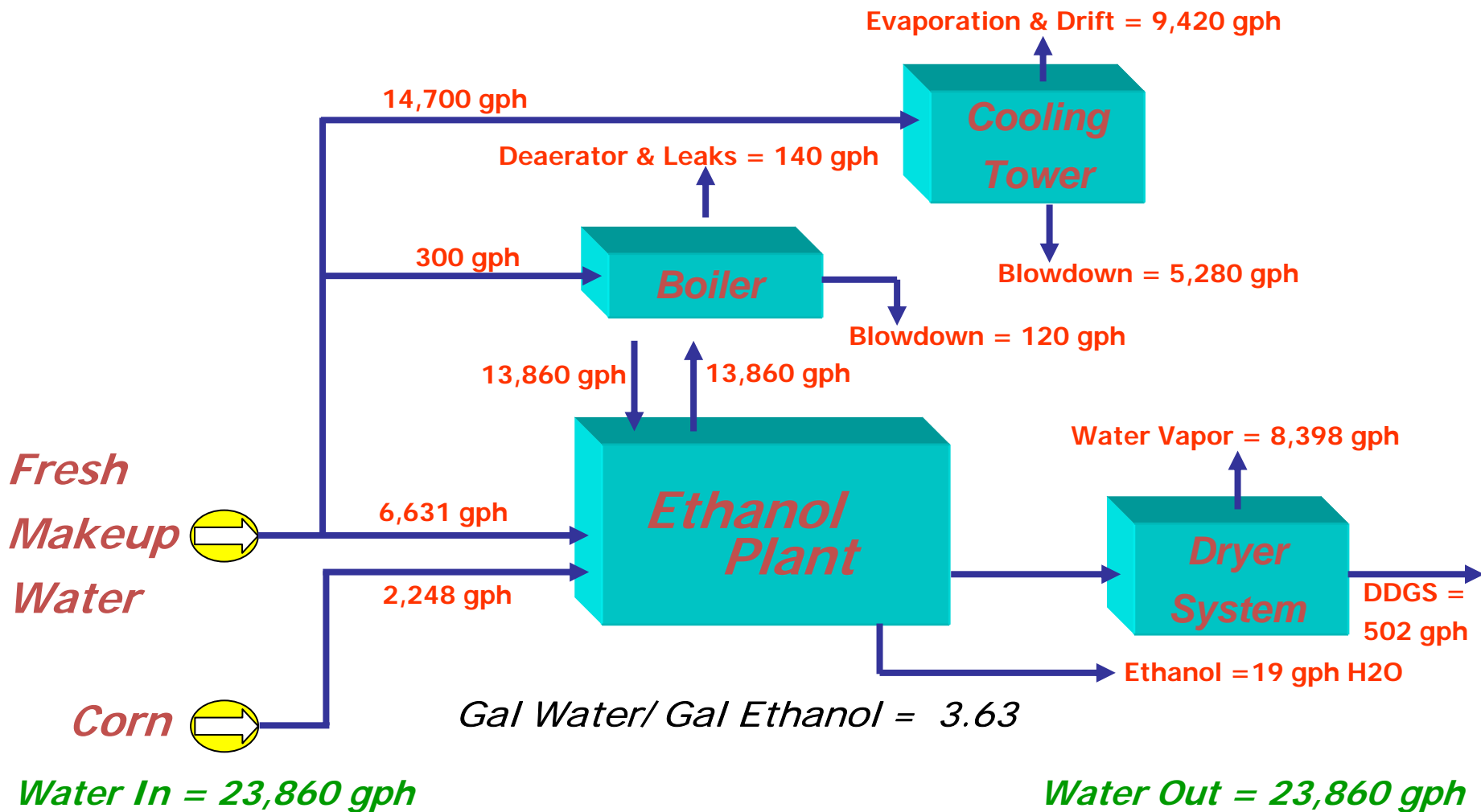
May 30, 2008

# Illinois Producing Ethanol Plants

- Archer Daniels Midland-Decatur 350 million gallons
- Archer Daniels Midland-Peoria 275 million gallons
- Adkins Energy, LLC. 46 million gallons
- Center Ethanol Co. 50 million gallons
- Aventine Renewable Energy 156 million gallons
- Illinois River Energy, LLC. 55 million gallons
- Lincolnland Agri-Energy, LLC. 50 million gallons
- Marquis Energy, LLC. 110 million gallons
- MGP, Inc. 70 million gallons



# Overall Water Balance



Basis: 50 mmgpy Typical Corn-Based Dry Mill ethanol Plant

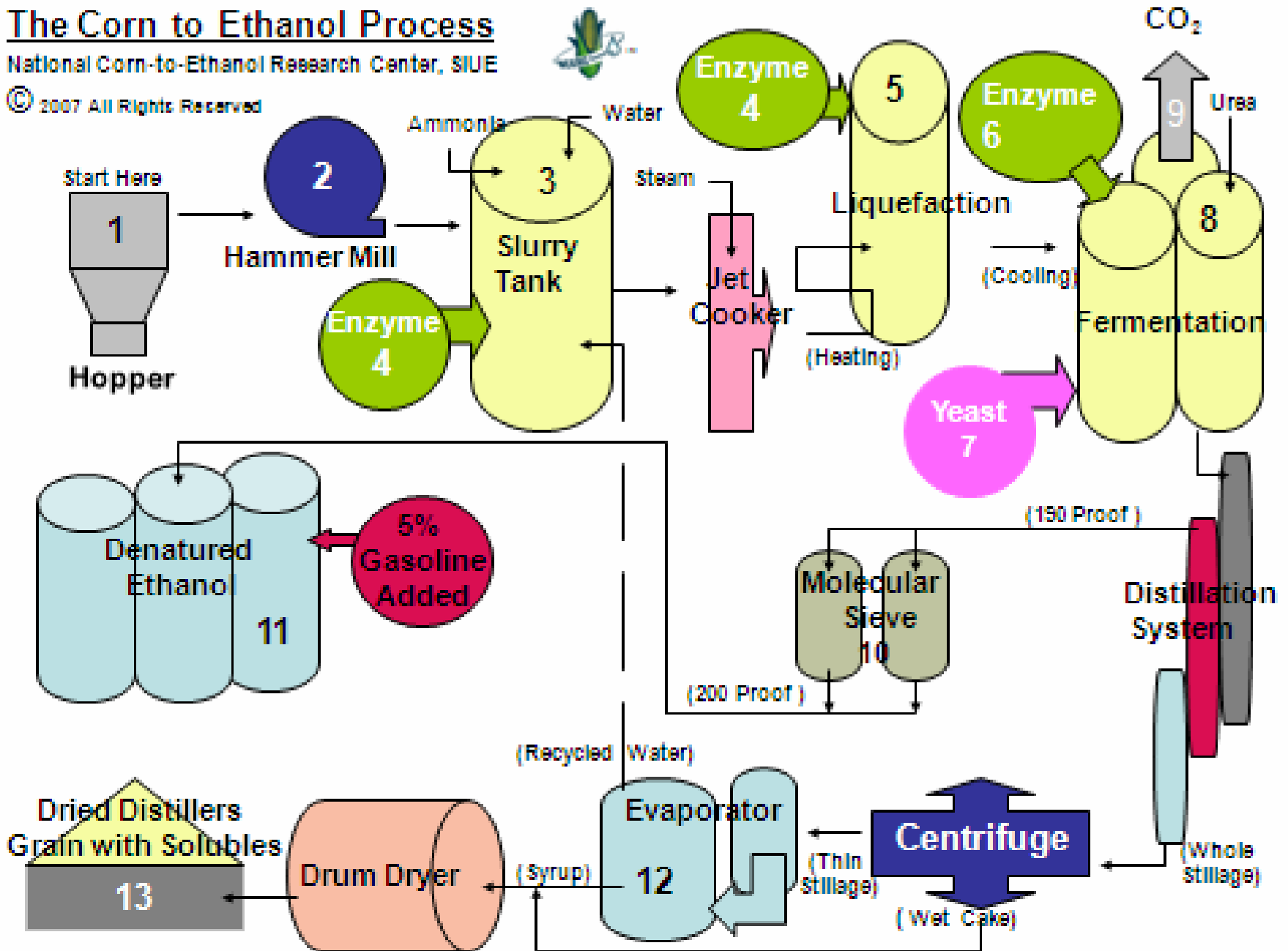
# **An acre of corn gives off 4,000 gallons of water a day in evapotranspiration**

About 1 to 1.5 million gallons of moisture per acre  
annually

# The Corn to Ethanol Process

National Corn-to-Ethanol Research Center, SIUE

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## The Dry-Grind Corn to Ethanol Process



The dry-grind ethanol fermentation process (from kernel to ethanol) requires approximately 54 to 58 hours. The time consuming step is the actual fermentation which requires almost 50 hours.

One bushel of corn (56 pounds) yields approximately 2.8 gallons of ethanol, 18 pounds of carbon dioxide, and 18 pounds of Dried Distillers Grain with Solubles (DDGS).

# Ethanol Plants Under Construction in Illinois

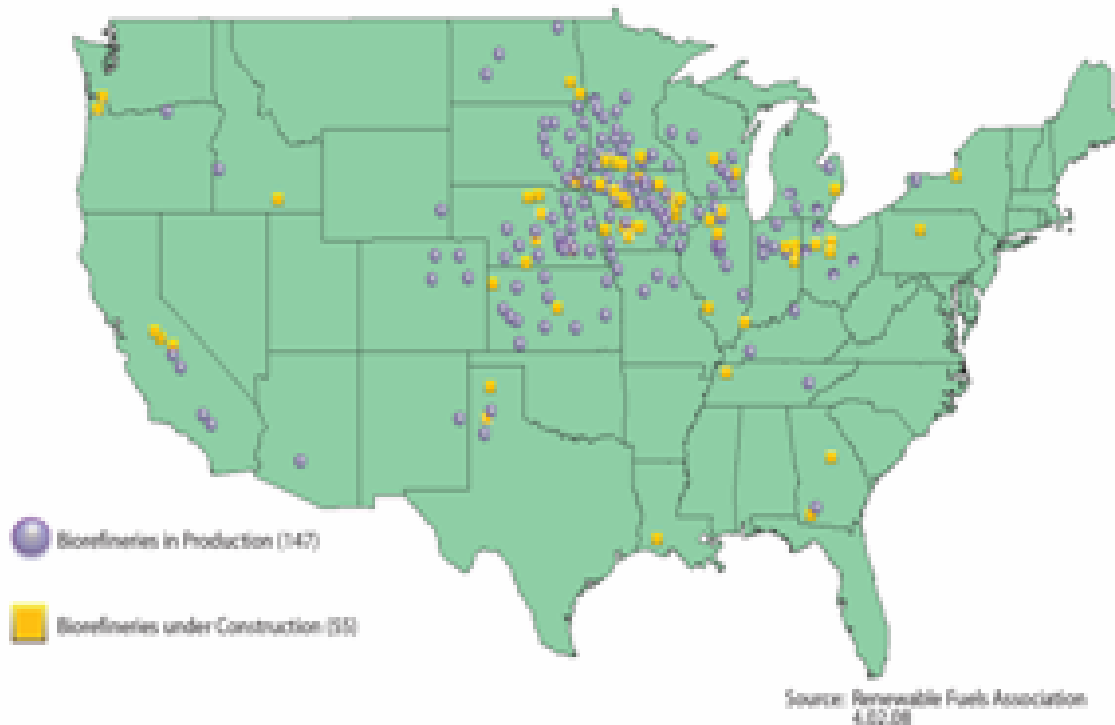
- Big River Energy, LLC. Galva
  - 110 million gallons
- Illinois River Energy, LLC. Rochelle
  - 55 million gallons
- One Earth Energy, LLC. Gibson City
  - 110 million gallons
- Patriot Renewable Fuels, LLC. Annawan
  - 110 million gallons



# Developing Ethanol Projects in Illinois

- Abengoa Granite City
  - 100 million gallons
- The Andersons Champaign
  - 100 million gallons
- CPC Argo
  - 50 million gallons

# U.S. Ethanol Biorefinery Locations



# Increased Efficiencies in Dry Mill Ethanol Plants

	2001	2007	Change
yield	2.64	2.81	6.4%
Total Energy Use Btus /gallon	39,719	31,070	-21.8%
Consumptive Water Use(gal/gal of denatured ethanol)	4.7	3.45	-26.6%
Range		2.65-4.9	