Process Flowchart

Field
- 1,832.6 tons
- 2.76e10 btu
- 2.7 x 10^8 bushels of stover available in Illinois

Harvest
- -30%
- Stover
  - Leaves and stalk
  - Waste product with no other current uses
- Kernel
  - Competes for land and resources
  - Corn for food - not for fuel!

Bunch
- -3.22e5 btu/ton
- Square Bales
  - Requires multiple people
  - Easier to move via truck
  - Better stacking efficiency for long-term storage
- Round Bales
  - Done by one person
  - Harder to move
  - Inefficient stacking

Storage
- -0%
- Stover
  - Leaves and stalk
  - Waste product with no other current uses
- Kernel
  - Competes for land and resources
  - Corn for food - not for fuel!

Small scale
- On Field
- Cogen
- -40%
- Steam turbine
  - Capacity in MW: 0.5 – 5
  - Electrical efficiency 6–10%
  - Cheaper
- Gas turbine
  - Capacity in MW: 1 – 15
  - Electrical efficiency 22–32%
  - More costly

Large scale
- In a Facility
- Transport
- -1.01e5 btu/ton
- Compact
- -3.24e5 btu/ton
- Cogen
- -40%
- Truck
  - Easiest loading/unloading
  - Can reach almost all destinations
- Water
  - Cheapest cost
  - Limit to waterways
- Railroad
  - Cheaper than truck
  - Limit to rail destinations
  - Loading/unloading issues with square bales

IPRO 349