

# Chariton Valley RC&D Switchgrass to Energy Project

## **1. History**

- Sponsored by U.S. Department of Energy
- Host plant is Ottumwa Generating Station
  - Nominal 700MW, Tangential-fired, coal boiler
  - Switchgrass (a native Iowa prairie grass) proposed for co-fire fuel
  - Co-fire approximately 5% of fuel (energy input basis)
- Completed one preliminary test to demonstrate some equipment concepts and to obtain preliminary emissions data while co-firing
- Now working on design of handling equipment. Expect next test to occur late this year to provide more extensive equipment performance and emissions performance data.

## **2. Issues of concern**

- Handling and logistics associated with low-bulk-density fuel
- Co-mingling fuels versus separate fuel injection to boiler
- Potential for ash problems (due to mineral content of grass)

## **3. Technology development questions associated with combustion**

- How do we achieve potential NO<sub>x</sub> benefit from the different combustion characteristics of the renewable fuel?
- Is there some beneficial interaction for mercury capture when co-firing switchgrass with coal (may be due to presence of chlorine in switchgrass)?