

*CASE STUDY:****Central Lakes Ag Center Heats with Corn***

By Joel Haskard, CERTs, Assistant Coordinator

Norm Krause, director of the Central Lakes Agricultural Center, gave the CERT team a presentation about the corn burner at the Central Lakes Ag Center in Staples on October 18th, 2006. The Woodmaster unit is manufactured in NW Minnesota and sits next to a supply tank that holds 350 bushels. For more information about Woodmaster, visit:

<http://www.woodsedge.us/product/woodmasterpl.us.aspx>.

The burner generates very little smell or smoke when it is in the firing mode. The supply tank which is a hopper bottom feed tank, is filled once in the fall and twice during the winter. The corn drops in via an auger and similar to a fluidized bed system moves through to the ash pan. The ash is 1.2% of the corn's original weight and the pan is emptied twice a week; the ash is spread out in the fields and is good fertilizer and lime source for the soil.

It is currently producing 20,000 BTUs/hr but is rated to go as high as 180,000 BTUs/hr; their 6100 square foot building doesn't need it. The entire unit is 75 feet from the building so there are no issues with insurance or the fire marshal. The corn heat is 90-95% efficient, and they hope to burn distressed corn in the future, which is a waste product that is often landfilled. To learn more about corn energy equivalents, please visit:

<http://energy.cas.psu.edu/EnergySelector/cornequiv.html>.

**Prices for the installation were:**

Hopper	\$2400
Boiler	\$7000
Piping	\$1200
Electrician	\$ 900
Plumber	\$2000 (main pump and three zonal pumps)
Total:	\$13,500

Central Lakes College is happy with the unit so far and with present prices it will have a five year payback. Senator Norm Coleman visited the site on Nov. 29th, 2006, to see the corn burner project and discuss renewable energy alternatives.

Currently, U of M professors Steve Taff and Carl Rosen plan on studying the project; Steve Taff will study the economics of the process and Carl Rosen will analyze the ash to evaluate its use as a field amendment.

For more information, please contact Norm Krause at 218-894-5160 or nkrause@clcmn.edu