

Switchgrass for Bioenergy

Monona Farms

PA Biomass Program - PDA

Planting CRP Lands

Harvest Study

DEP Energy Grant

WPPSEF

N.R.B.P

USDA-F.S.A.

PA Game Commission

Agriculture Research Service

John Deere Company

Private Foundations

Wildlife Organizations

Universities – Penn State,
IUP, CalU, CMU, Cornell

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USDA Biomass Pilot Projects

Announced in 2001

- Authorization from USDA for use of Conservation Reserve Program (CRP)
- Permits CRP lands to be harvested for use as energy crops
- Receive 75% of lease payments for acreage harvested
- Iowa, Minnesota, New York and Pennsylvania



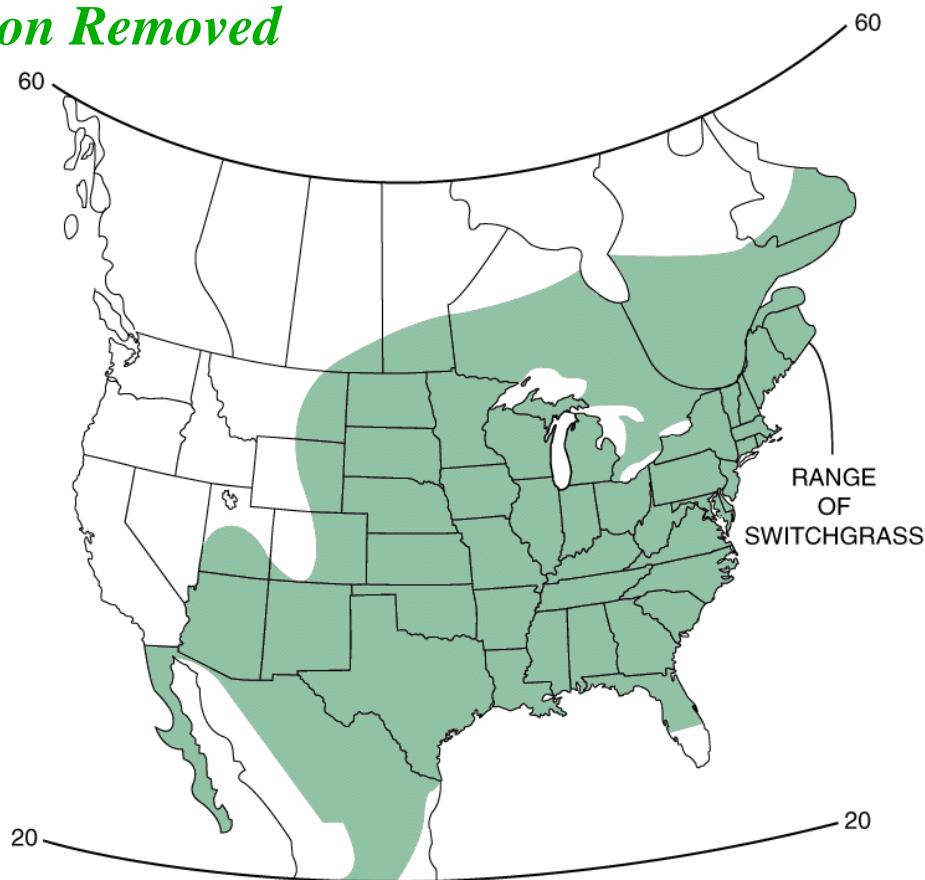
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PA Authorization

In 2002 Authorization Removed

- One year of switchgrass harvesting and wildlife data collected
- Monona Farms authorization from USDA county, state, national. Permission for CRP research/demonstration farm.
- Switchgrass will grow on almost entire U.S.



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Typical Pennsylvania CRP Lands

- Late 2002 Monona Farms granted special research and demonstration status from USDA
- Because of affiliations with NRBP and PA Biomass working group special status was granted.
- 2004 because of the research completed, 22,000 acres of CREP land allowed to be harvested for energy



Monona Farms 1999

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Windrowed Switchgrass

**Because of
collaborating
with others in
the Biomass
projects, our
CRP emphasis
focused on
harvest half/
leave half**



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Switchgrass Tour

The
public/private
partnerships
require
additional
resources to
be devoted to
outreach and
education.



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Carbon Sequestration Study: ARS

Because of our involvement with NRBP, Private foundations, Universities (not just PA) and A.R.S. became partners.



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PA Game Commission Officer Explaining Re-Growth Benefits

Additional partners including PGC, D.U., Pheasants forever became involved. We are working with a national committee to change CRP regulations to allow harvesting for energy.



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Switchgrass to Ethanol – Cornell University

**Project donated
switchgrass to
Cornell
University for
Ethanol
research.**

**Cornell found
the switchgrass
project through
other partners of
NRBP**



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Carnegie Mellon University/Cornell University Tour

CMU renewable energy development appropriation.

Cornell transportation appropriation – ethanol development

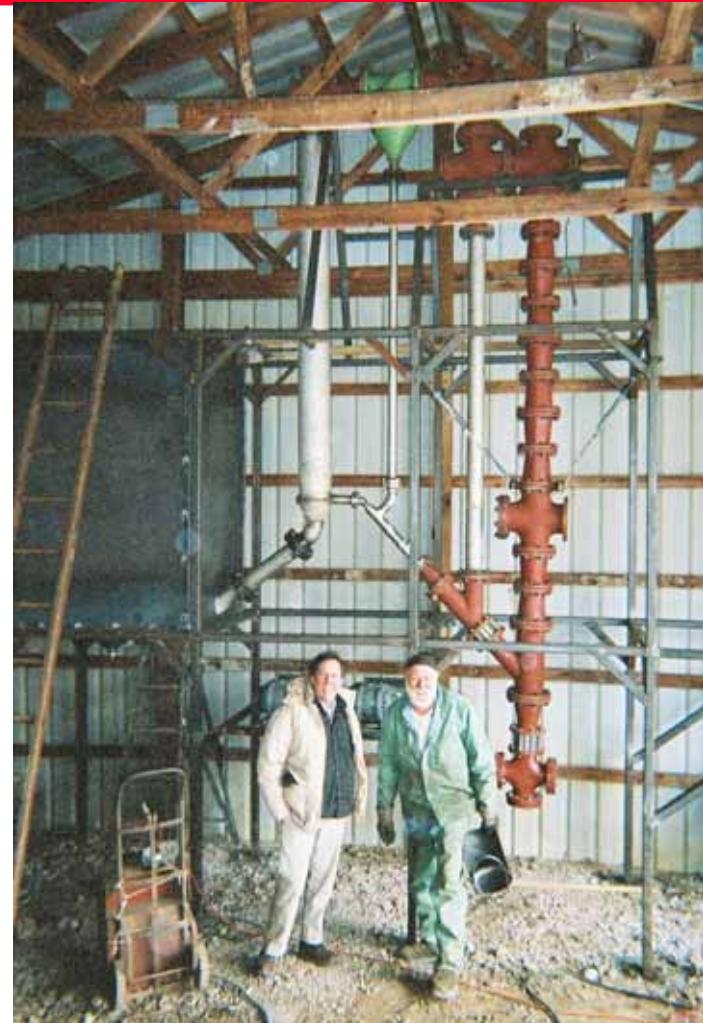


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Switchgrass Gasification Project

This project constructed a gasifier with Pa's DEP, Monona farms, and Taylor Energy from California. This is more of the collaboration between public and private entities.



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Pelletization of Switchgrass

**Working with
partners including:
Monona farms,
CPM, CPC in
Colorado, Auburn,
University of
Pittsburgh,
Penn State
University, the first
ton of switchgrass
pellets were
produced.**



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Switchgrass Pelletization

**In this project, we
mixed waste coal
with switchgrass and
included partners
such as PA DEP, C.Q.
inc and local coal
companies.**



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Other Partners

- USDA Agri-Research Service
- Penn State University
- USDA Farm Service Agency
- PA Department of Agriculture
- PA Farm Bureau
- PA DEP
- Monona Farms
- Pennsylvania Environment Council
- Western PA Watershed Program
- Ruffed Grouse Society
- Northeast Regional Biomass Program
- West Penn Power Sustainable Energy Fund
- Penn State Univ.- Extension
- Pheasants Forever
- PA Game Commission
- University of Pittsburgh
- Carnegie Museum Powdermill
- John Deere
- Ducks Unlimited

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