AGRICULTURAL BIOMASS FOR ENERGY PRODUCTION

Program Action - Logic Model

Situation

Supply of biomass for energy production Impacts – production cost, environmental, byproducts, water, communities, Expanded growth of domestic bioenergy (mainly ethanol and biodiesel) products to replace fossil fuels has increased the demand for agricultural biomass. This growth of biomass production has impacted the environment (soil, air quality, water supplies, and residue management), livestock feeds, communities, and production decisions on type and method of culture of biomass.

Priorities

From scientific research, develop Best Management Practices (BMPs) that address agricultural production of energy-related crops and deliver/implement the BMPs to the agricultural sector. The BMPs would address grain and cellulosic production, handling and storage of biomass, environmental issues, utilization of byproducts, and other factors and policies that affect communities.

Inputs

What we invest

Collaborators:

- Community Economic Development colleagues
- local & state economic development agencies
- complementary University colleges/departments
- other USDA agencies (Rural Development)
- DOE
- agricultural trade associations

Outputs

Activities

What we do

- Identify emerging energy- related crop production issues of each state
- Review scientific research materials
- Develop resource and presentation materials for audiences
- Conduct presentations, workshops, and news/web releases for audiences
- Evaluate effectiveness of activities.

Participation

Who we reach

- Land Owners
- Agricultural producers of grain, forage, fiber and energy resource crops, horticultural, forestry, and value added crops
- Local & state energy-related agency personnel
- Local & state units of government
- Utilities, polymer industry, communities, financial institutions
- Educational institutions

Outcomes - Impact

Short Term

What the short term results are

Learning

Audience will gain knowledge about:

- Production and marketing of energy-related crops
- Effective use of pesticide/fertilizer applications and crop rotations to maintain soil properties/nutrients and reduce soil erosion and runoff
- Efficient fuel and energy use for agricultural crop production
- Tillage, planting, irrigation, harvesting, and storage systems of energy-related crops

Medium Term

What the medium term results are

Action

- Agricultural producers will implement BMP's to remain competitive in US and world markets.

Long Term

What the ultimate impact(s) is

Conditions

- A reduction in energy use per unit of agricultural production will occur.

Assumptions

External Factors

Evaluation

Focus - Collect Data - Analyze and Interpret - Report

Short Term Indicators:

1. Increased awareness of renewable energy-related crop alternatives and risk information
2. Increased knowledge of current practices and emerging technologies
3. Increased acceptance to renewable energy production options

Medium Term Indicators:

1. Number of producers that adopt environmentally sound biomass production practices\
2. Number of individuals, organizations, and communities participating and receiving BMP information about bio-product and energy production
3. Number of new technologies developed for more efficient and economical bio-product production

Long Term Indicators

1. Number of energy-related crop acres that are following BMPs
2. Number of communities that have addressed issues of biomass production