

Report Out I: Herbaceous Crops— 2012/2030 Target

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A Scenario for Supplying 30% of 2004
Motor Gasoline with Biofuels by 2030

Biomass

Herbaceous Crops – Today's Agenda

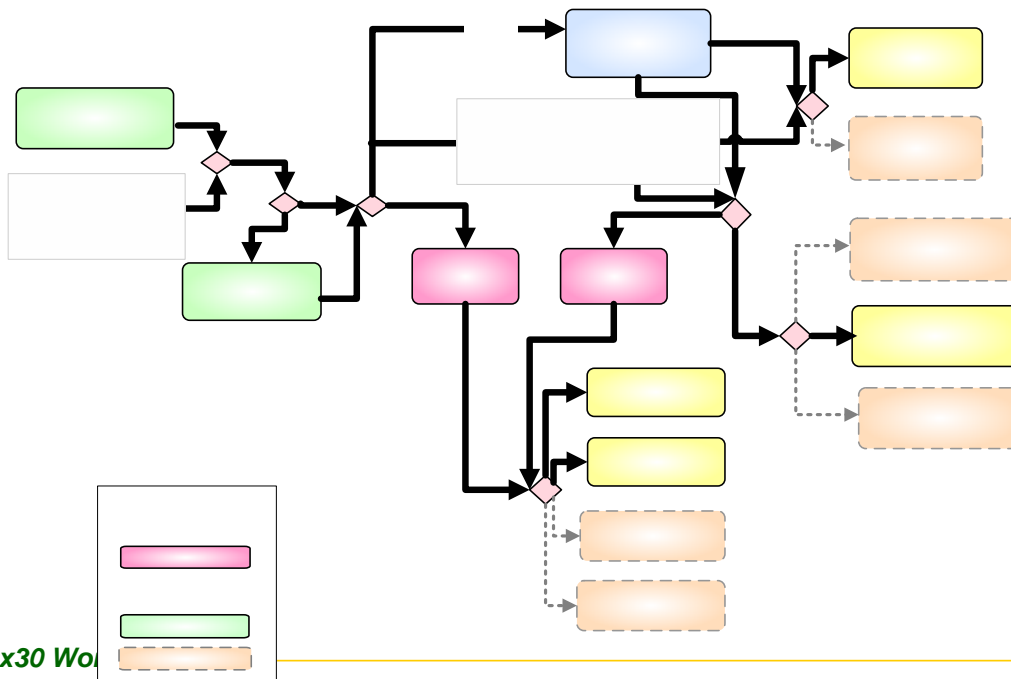
- » 2012 Cost Target
- » High Opportunity Pathway Route(s)
- » Pathway Synergies & Conflicts
- » Barriers

Herbaceous Crops: Cost Target

- How do you define cost competitive for cellulosic ethanol?
 - » \$1.07 - \$1.50/gallon
 - » Equivalent of \$1/mile cost to driver
- What is this pathway competing with?
 - » Gasoline
 - » Petroleum/Crude/Fossil Fuels
 - » Starch based ethanol
 - » Coal
 - » Any other biomass feedstocks
 - » Other land uses
- When do you see fuel from this pathway entering the market?
 - » When it is profitable for the farmer, for the producer, etc.
 - » When it can compete with the above fuels/materials

30x30 Workshop Range from 2012 to 2020 (most estimates on the earlier end)

Herbaceous Crops – Existing Pathway



Herbaceous Crops: Pathway Route(s)

- What is the most likely strategy for successfully producing cost competitive biofuels?
 - » Near-term: combustion of feedstock to produce heat & power
 - » Mid/Long-term: existing pathway diagram with modifications
 - ♦ Expand 5.1 to include genetics & agronomic systems
 - ♦ Add value-added co-products to output

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Herbaceous Crops: Relationship to Other Pathways

- What are the synergies with other breakout session pathways that should be considered?
 - » Ag Residue in all areas (i.e. feedstock supply, conversion, output, etc.)
 - » Woody and Forest in combination or in series with herbaceous at the plant around the annual cycle
 - » Corn Wet & Dry Mill in that lignin from herbaceous (or woody) can be burned for power at the mill
 - » All other pathways in relation to genomics and infrastructure
- Conflicts?
 - » In the near term, will compete with ag residue on a cost basis

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Herbaceous Crops: Priority Barriers

- Improved genetics, breeding technology & delivery of value-added traits
- Farm Bill Policy
- Managing Producer Risks
- Adequate Seed Supply
- Stable storage of adequate quantities of dry biomass

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Herbaceous Crops – Tomorrow's Agenda

- » 2007 – 2030 Development Timeline
- » R&D Needs
- » Policy Needs
- » Federal Role
- » Contribution to 2030 Volumetric Goal

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