USDA Feedstocks and Biofuels

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AGENDA

• Research and Development

• USDA Activities

• Q&As
Office of the Chief Economist
Office of Energy Policy and New Uses

Complexity: Matching Feedstocks With Technology
Concentrate on a Specific Regional Feedstocks

- Crop residues
- Perennial grasses
- Energy cane
- Non-food biomass sorghum
- Lipid seed crops
- Invasive rangeland trees

No one feedstock will meet all national biofuel needs
Total factor productivity (TFP)

Source: USDA, Economic Research Service
Corn, Soybeans and Wheat Yields
(Bushels Per Harvested Acre)

Source: USDA, Economic Research Service and National Agricultural Statistical Service
Office of the Chief Economist
Office of Energy Policy and New Uses

**Corn, Soybeans and Wheat Farm Price and Variable Cost of Production**
($ Per Bushel)

Source: USDA, Baseline Tables:
Feedstock Readiness Levels (FSRL) and Activities

<table>
<thead>
<tr>
<th>Technology Readiness</th>
<th>Feedstock Readiness</th>
<th>FSRL Components with Tollgates</th>
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<td>Production</td>
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<tr>
<td>1</td>
<td>Basic Principles</td>
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<td>2</td>
<td>Concept Formulated</td>
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<td>Feedstock Availability</td>
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<td>8</td>
<td>Commercialization</td>
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<tr>
<td>9</td>
<td>Production Capability Established</td>
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Feedstocks integrated with other supply chain components

Feedstock Development
Feedstock Production
Feedstock Logistics
Feedstock Processing
Biofuels Conversion
Fuel Testing & Approval
Large Scale Deployment

Integrates with:

Commercial Deployment
## FEEDSTOCK READINESS LEVEL (FSRL) TOOL

<table>
<thead>
<tr>
<th>Process</th>
<th>Description</th>
<th>Feedstock Readiness Level (FSRL)</th>
<th>Resources</th>
<th>FSRL</th>
<th>Comments with Targets</th>
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<tbody>
<tr>
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<td>Feed Harvesting</td>
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<td>Material Transportation</td>
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<td>3</td>
<td>Feed Processing</td>
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<td>4</td>
<td>Fuel Conversion</td>
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<td>5</td>
<td>Final Product</td>
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**CAAFI Website:** [http://caafi.org/information/fuelreadinessstools.html](http://caafi.org/information/fuelreadinessstools.html)
THANK YOU