**Farm Energy IQ**

Farms Today Securing Our Energy Future

**Making Pellets on the Farm**

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**The Local Pellet Concept**

**What You Need**

• Feedstock
• Equipment
• Patience

**How to Do It**

• Prepare feedstock
• Run the equipment

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**What You Need - Feedstock**

• Woody material
  -- Sawmill sawdust
  -- Shrub Willow
  -- Woodlot Thinnings
  -- Not as available on most farms
  -- Lower ash content, if bark excluded

• Herbaceous (grassy) material
  -- Perennial grasses (switchgrass, Miscanthus)
  -- Crop Residues (corn stover, wheat straw)
  -- Available at relatively low cost
  -- High ash content (about 3 to 6%)
Grinder to reduce particle size
1. Tub grinder
2. Hammer mill
3. Collection System

Moisture control to add or remove moisture

Pelletizer to create pellets

Cooling Equipment
– Pellets dry and harden as they cool

What You Need – Patience

How to Do It – Prepping the Feedstock
- Grind material to a uniform size – use screen no larger than pellet diameter
- Adjust moisture content – 12 to 18% is best for most setups
How to Do It – Running the Machine

Keep rollers snug

Consider using a pre-mix at startup

How to Do It – Running the Machine

• Adding feedstock: dump all at once or add gradually?
  • In open-hopper machines, dumping material all at once works better than does gradual feed
  • For sealed hopper machines, gradual feed may work

How to Do It – Running the Machine

• Reduce machine speed

How to Do It – Running the Machine

• Extra binders or additives?

Will it pay off?

Typical costs for producing pellets

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost per ton of final product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing feedstock</td>
<td>$60-$80</td>
</tr>
<tr>
<td>Grinding</td>
<td>$10-$20</td>
</tr>
<tr>
<td>Drying/Moisture Control</td>
<td>$0-$10</td>
</tr>
<tr>
<td>Pelletizing</td>
<td>$10-$30</td>
</tr>
<tr>
<td>Bagging</td>
<td>$5-$10</td>
</tr>
<tr>
<td>Total</td>
<td>$85-$150</td>
</tr>
</tbody>
</table>
Conclusions

- The right feedstock
- The right equipment
- The right technique
- The right stuff!

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Questions?