Equipment Needs for Feedstock Production

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Perennial Grasses

- Indiangrass
- Eastern gamagrass
- Old World Bluestems
- Switchgrass
- Flaccidgrass
Perennial grass crop – tilled soil

• Weed control
  - Preceding year
  - Prior to seeding
• Incorporate surface residues
• Soil surface
  - Uniform for depth control
  - Smooth
  - Firm
Weed control prior to seeding
Seedbed preparation
Perennial grass crop – No till

• Terminate prior crop
  - End of previous year
  - Prior to planting
• At least 50% soil exposure
• Dry soil conditions at planting
Surface residue & weeds
Perennial grasses

- Big bluestem
- Indian grass
- Switchgrass
Planting

- Depth
  - \(\frac{1}{4} - \frac{1}{2}\) in. fine soils
  - \(\frac{3}{4}\) in. course soils with adequate moisture

- Rates
  - Drill: 5 - 10 lb PLS/A
  - Broadcast: 8 - 14 lb PLS/A (two directions)
Planting

• Equipment
  - Drill
    ▪ Use press wheels
    ▪ Standard grain drills can be problematic
  - Broadcast
    ▪ Rolling/Cultipacking (before? / after)
Weed control

• Chemical
  - Grassy weeds prior to planting
  - Broadleaf control at 4-leaf stage

• Mechanical
  - Mowing above growing point
  - Cultivation?
50 MGY Cellulosic Biorefinery

75 gal/ton = 667,000 tons of biomass

Yield : Total Acres

(T/A) (x1000)

2 : 333
3 : 222
4 : 167
5 : 133
6 : 111
Equipment needs to seed perennial grasses for large biorefineries.
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Summary

• Seedbed preparation begins at least one year in advance
• Weed control critical
• Perennial grass establishment requires special attention
• Use proper equipment
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