

**STRIP TILLAGE FOR SUGARBEET  
PRODUCTION IN NORTH DAKOTA AND  
MINNESOTA**

**FORUM – REDUCED/STRIP TILLAGE**

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# STRIP TILLAGE FOR SUGARBEET PRODUCTION IN ND AND MN

NDSU

# Extent of Implementation

- Strip till is not used widely for sugarbeet production in ND and MN.
- ND
  - 800-1000 acres for sugarbeet
  - 15,000 – 20,000 acres for all crops
- MN
  - 1000-1500 acres for sugarbeet
  - 25,000 acres for all crops

# Greatest Challenges to Implementation

- Cold, wet soils in early spring are colder and wetter in strip tillage systems
  - Planting delays
  - Delayed germination and early season growth
  - Perception or Reality?
- Heavy residues more difficult to manage for 22-inch row spacings
- Heavy clay soils

# Ground Preparation Practices for Strip Tillage in ND & MN

- Prepare strips in fall
- Corn stalks may require chopping
- Fall or spring herbicide app. for weed control
- One pass in fall with strip tiller, applying fertilizer in same pass
- Plant directly into strips in spring
- RTK or other positioning systems

# STRIP TILLAGE - FAQs

- How much \$\$\$\$ can strip-till potentially save?
  - Just OPERATING costs

FALL OPERATIONS	CONVENTIONAL TILLAGE (\$/ac)	STRIP TILLAGE (\$/ac)
Chisel Plow	6.49	0
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Fertilize (spreader)	3.59	0
Strip Tillage*	0	8.35**
Savings by ↓ P & K 20%	10	0
<b>TOTAL</b>	<b>26.57</b>	<b>8.35</b>

\*\*Assumes a 24-row 22-inch strip tiller

\*\*Includes depreciation, interest, and insurance

Data Sources: Amer. Crys. Growers' Cost Benchmark  
And Strip Till for Field Crop Production (NDSU Ext. Bull)

# STRIP TILLAGE - FAQs

- How much \$\$\$\$ can strip-till potentially save?
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SPRING OPERATIONS	CONVENTIONAL TILLAGE (\$/ac)	STRIP TILLAGE (\$/ac)
Fall or Spring chem. burn down	0	\$16.72
Cultivator/Harrow	6.71	0
Cultivate	5.27	0
Spring Total	11.98	16.72
<b>FALL + SPRING TOTAL</b>	<b>38.55</b>	<b>25.07</b>

Data Sources: Amer. Crys. Growers' Cost Benchmark  
And Strip Till for Field Crop Production (NDSU Ext. Bull)

# STRIP TILLAGE - FAQs

- How much does a strip tiller cost?
  - A: \$1500-3000 per row unit
- How much horsepower is required to pull the equipment?
  - A: 12-30 HP per row unit
- Can the fert. app. rate be reduced since fertilizer is banded with the strip tiller?
  - A1: For P & K – probably
    - Univ. of Minn. Recommends a one-third rate reduction for P & K fertilizer with banding.
  - A2: For N, not recommended at this time



# STRIP TILLAGE - FAQs

- What kind of strip tiller should I buy?
  - A: Tough one! Consider the following:
    - What kind of residue will you be stripping into (small grain or soybean vs. corn)?
    - How you want to apply fertilizer (liquid, dry, anhydrous)?
    - Shank-type or Coulter-type?
- What kind of cost-share or conservation credits are available for strip-tillage?
  - Through ND NRCS-EQIP, \$8/acre /yr for up to 800 acres (MN \$24/a /y for 320 acres????) for ST practices
  - Others: for ND sugarbeet growers – Red River Valley Special Initiative