Benefits of Strip Tillage

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Strip Till

Combining the benefits of tillage in the seed zone, while retaining the needed soil-erosion and moisture-saving benefits of no-till.
Why Strip Tillage?

• Fuel savings – reduced trips
• Fertilizer savings
• Cover crops incorporate easily
Strip Till Sugar Beets between wheat that is terminated

South Central Idaho

Courtesy of Orthman
Why Strip Tillage?

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- Cover crops incorporate easily
- Reduce soil erosion
RESIDUE ON SOIL SURFACE AFTER CORN PLANTING
(previous crop = soybeans)

% RESIDUE

TILLAGE

- Plow
- Chisel
- Strip till
- No-till

In corn row  Between row

Courtesy of Ohio State University Extension
Why Strip Tillage?

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• Reduce soil erosion
• Reduce soil compaction
Undistributed Soil to run tires on
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- Fertilizer placement advantage
Fertilizer Placement

Multiple Level Nutrient Placement

A) In Furrow with seed
B) 4” below soil surface
C) 8” below soil surface
Fertilizer Placement

ANATOMY OF A GLADIATOR® STRIP-TILL SEEDBED

The Berm
Creating a good berm in the fall is essential to ensure that, as the strip settles over winter, it does not form a gully which will channel water off the field washing away valuable soil and nutrients. Building a berm in the spring in areas where fields are prone to waterlogging or flooding is also beneficial as a raised berm dries out faster than the surrounding field. Planting can take place sooner and the warmer seedbed allows for quicker germination.

Starter Zone
Starter fertilizer applied shallow in the profile to provide nutrients right at germination. This fertilizer may be applied in a separate operation (i.e. with the planter at seeding) or with the Gladiator instead of zone 1 or 2.

Fertilizer Zone 1
A slightly shallower fertilizer placement for dry or liquid which will be more quickly reached by the plant roots.

Fertilizer Zone 2
Deep placed fertilizer such as dry or anhydrous ammonia which needs to be well sealed in the soil or placed farther from the seed to ensure roots have matured before contact so as to prevent burn.

Courtesy of Kuhn Krause
Fall/Spring Strip-Till Applied Potassium Fertilizer Comparisons
North Central Research Station - 2016

Average of 3 Replications

- No Potassium: 150.6
- 8 gal Kalibrate (Fall ST): 172.6
- 8 gal Kalibrate (Spring ST): 172.9
- Pro-Germ. + Kalibrate (Fall ST - split*): 164.7
- Pro-Germ. + Kalibrate (Spring ST-split**): 182.0

All treatments: 3 gal Pro-Germ. + 1 qt Micro 500 + 1 qt Mn (IF)
All treatments sidedressed with 52 gal High NRG-N at V5 with Y-Drop
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- Fertilizer placement advantage
- Weed control
- Maintain higher levels of soil OM
- Biological health of the soil
- Warms the soil
Benefits of Root Zone Conditioning

Among the benefits of precision tillage is the creation of a better seedbed that promotes early emergence and more vigorous root growth. Orthman agronomists have determined that precision tillage produces soils that are 1°F to 7°F warmer in the strip-till zone. This, combined with the proper soil density created by the shank, is very conducive to root elongation and early lateral root development of the seeding root, allowing the seed to quickly establish a root system that will not only anchor the plant but help it sustain life throughout the growing season.
Machine Types
Anatomy
1. Coulter
2. Row Cleaner
3. Shank
4. Nutrient Placement
5. Closing disk
6. Soil Conditioner
Soil Warrior

Courtesy of Soil Warrior
1tRIPr Row Unit

Courtesy of Orthman
Further Questions?