





# 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



# Cover Crops





# Strip Till Sugar Beets between wheat that is terminated

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South Central Idaho

Courtesy of Orthman

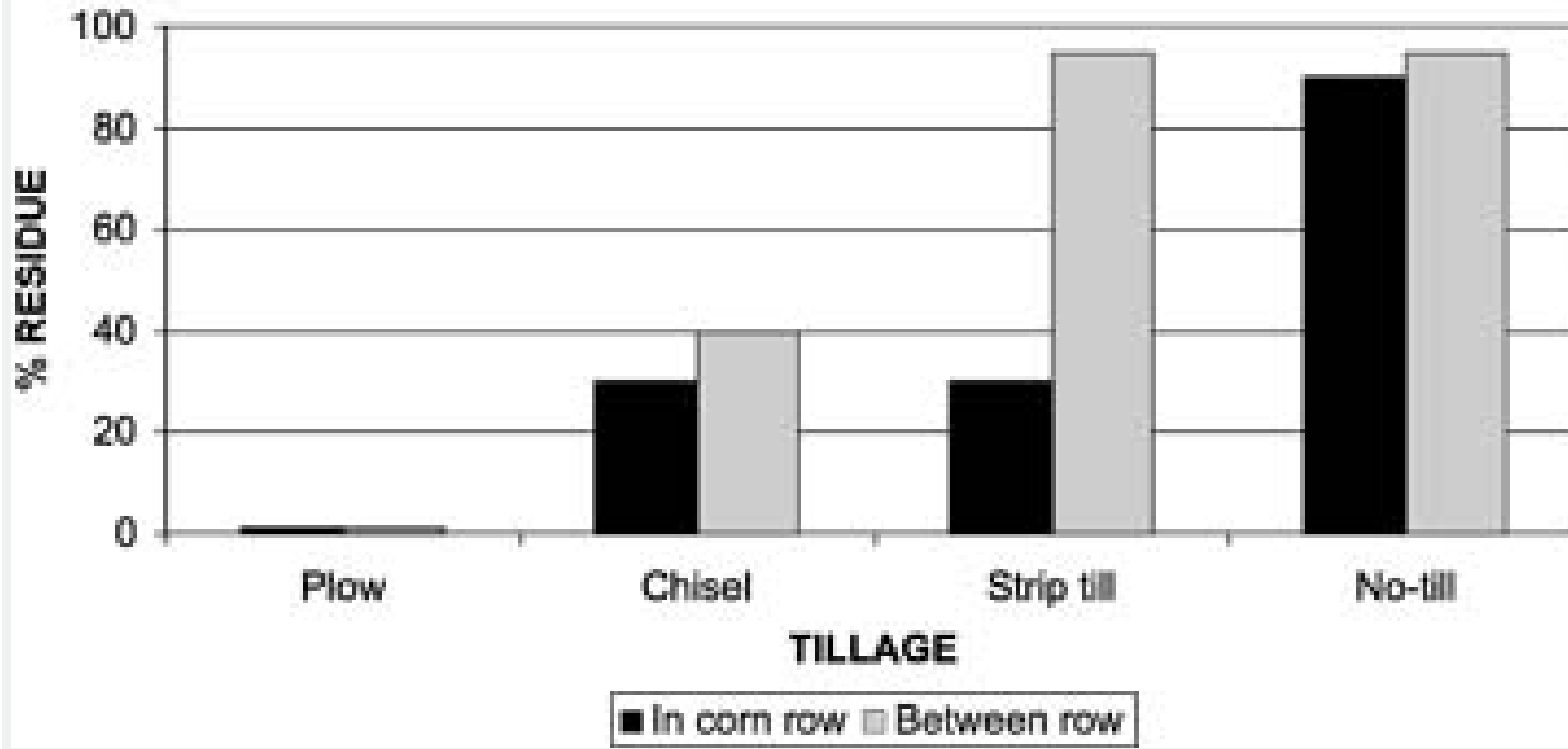




# Why Strip Tillage?

- Fuel savings – reduced trips
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- Cover crops incorporate easily
- Reduce soil erosion

# RESIDUE ON SOIL SURFACE AFTER CORN PLANTING (previous crop = soybeans)



Courtesy of Ohio State University Extension



# Why Strip Tillage?

- Fuel savings – reduced trips
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- Cover crops incorporate easily
- Reduce soil erosion
- Reduce soil compaction



# Undistributed Soil to run tires on



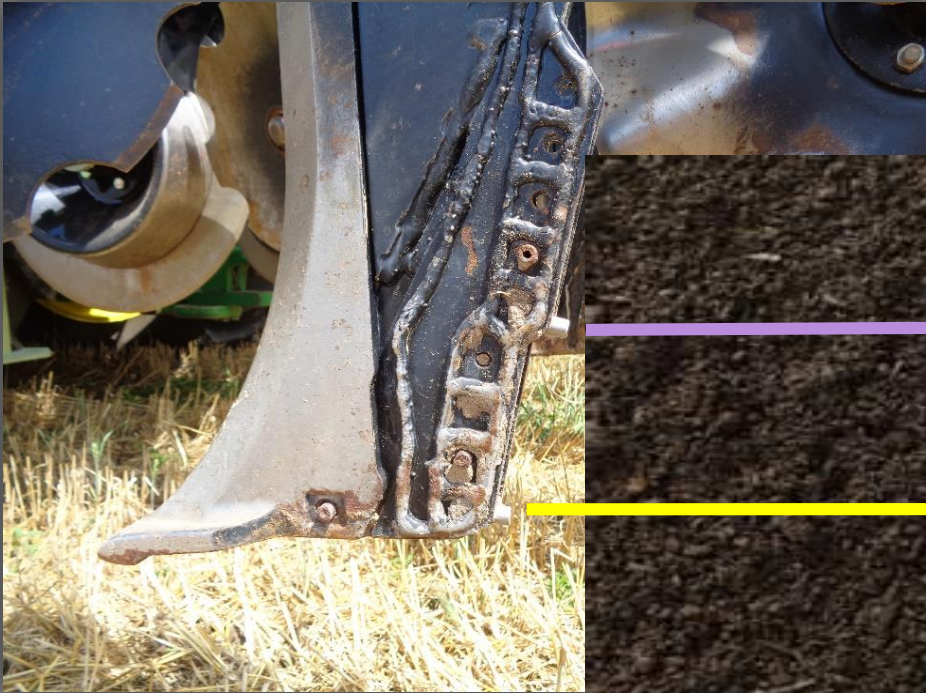


# Why Strip Tillage?

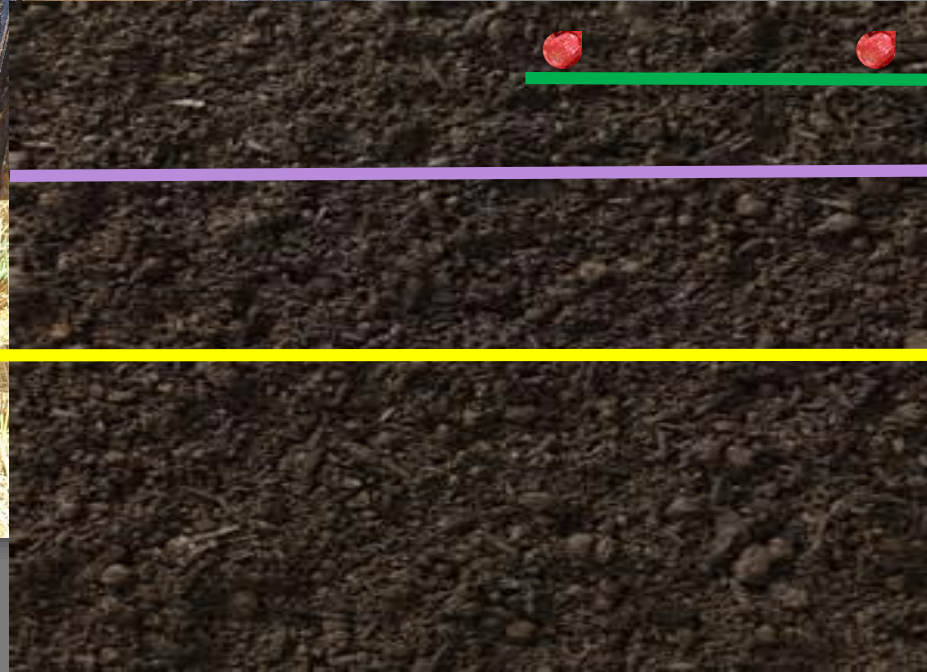
- Fuel savings – reduced trips
  - Fertilizer savings
  - Cover crops incorporate easily
  - Reduce soil erosion
  - Reduce soil compaction
- Fertilizer placement advantage



# Fertilizer Placement



## Multiple Level Nutrient Placement



A) In Furrow with seed

B) 4" below soil surface

C) 8" below soil surface



NORTH CENTRAL  
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# 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

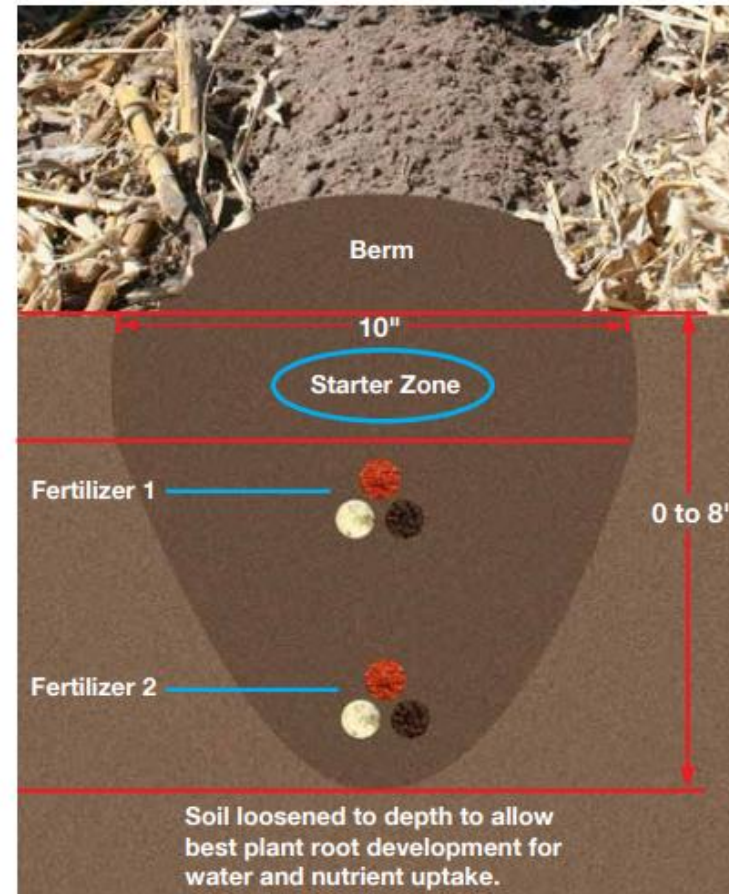
Starter fertilizer applied shallow in the profile to provide nutrients right at germination. This fertilizer may be applied in a separate operation (i.e. with the planter at seeding) or with the Gladiator instead of zone 1 or 2.

### 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.



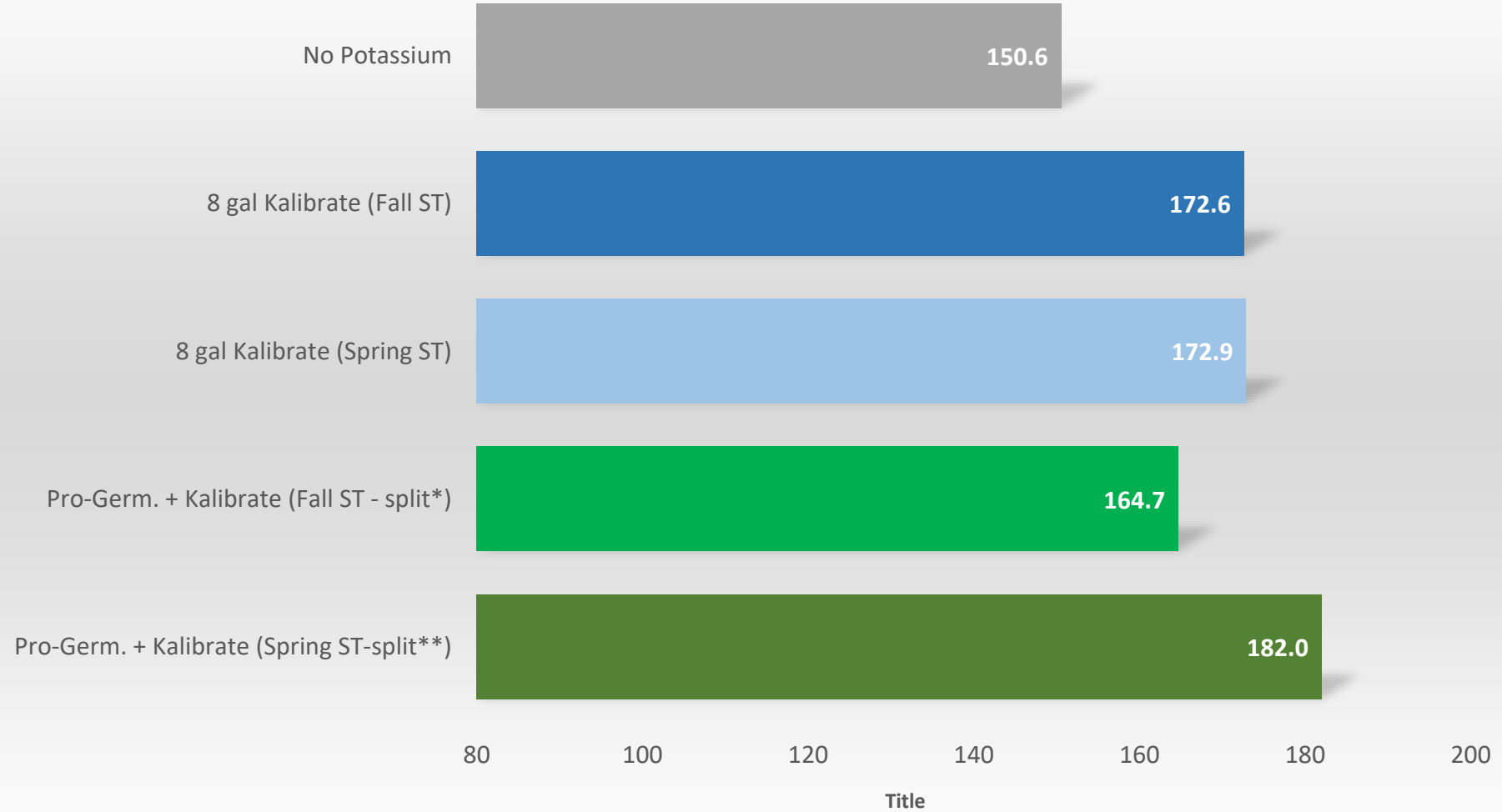
Courtesy of Kuhn Krause



## Fall/Spring Strip-Till Applied Potassium Fertilizer Comparisons

*North Central Research Station - 2016*

Average of 3 Replications



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

# Why Strip Tillage?

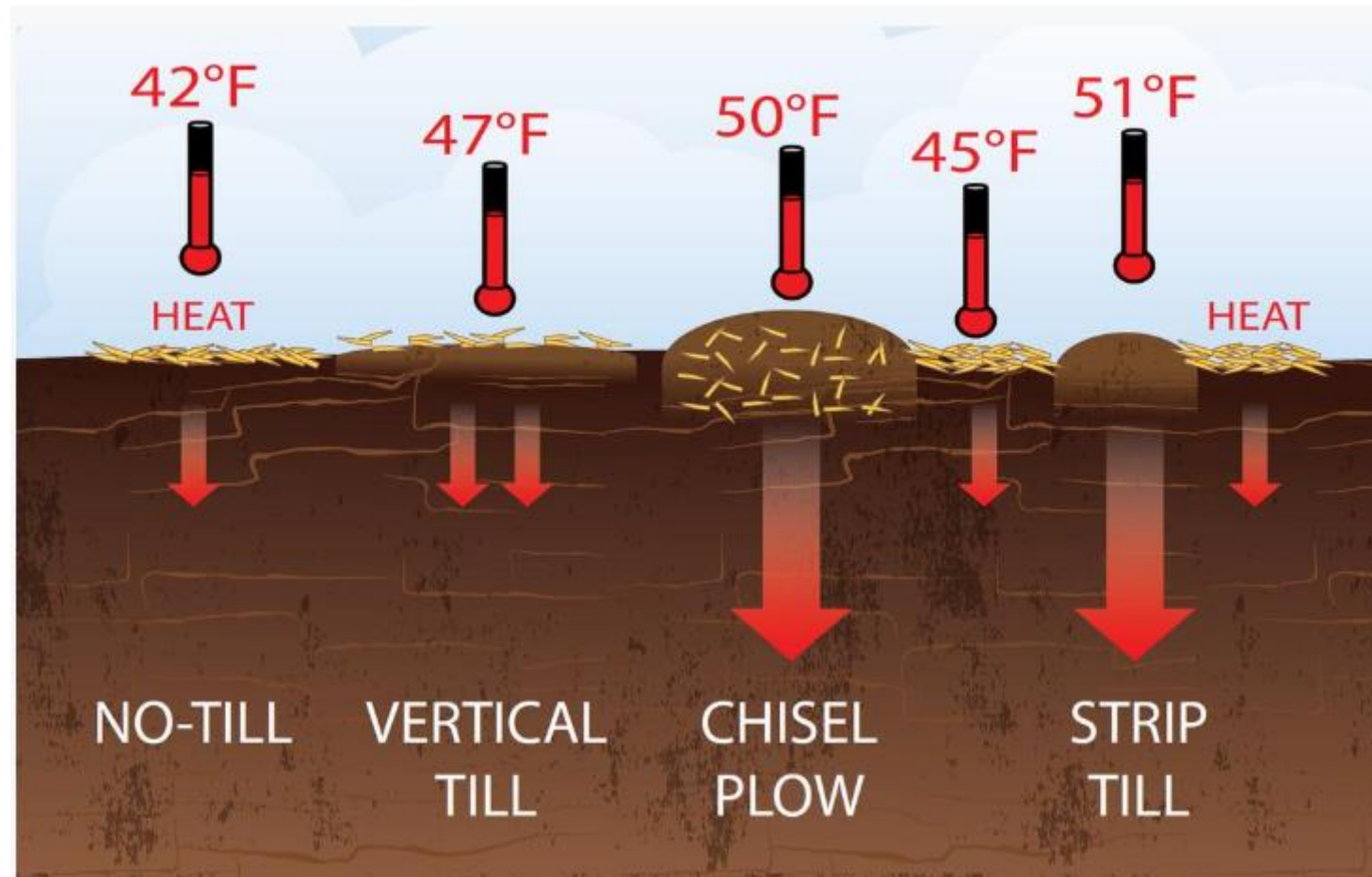
- Fuel savings – reduced trips
- Fertilizer savings
- Cover crops incorporate easily
- Reduce soil erosion
- Reduce soil compaction
- Fertilizer placement advantage
- Weed control
- Maintain higher levels of soil OM
- Biological health of the soil
- Warms the soil



# 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° 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 seedling 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.

Courtesy of Orthman



Courtesy of NDSU Extension

# Machine Types





## Anatomy

1. Coulter
2. Row Cleaner
3. Shank
4. Nutrient Placement
5. Closing disk
6. Soil Conditioner



Courtesy of Kuhn Krause



# Soil Warrior



Courtesy of Soil Warrior



## 1tRIPr Row Unit

### HIGHLIGHTS



Courtesy of Orthman





Courtesy of Soil Warrior













Further Questions?







Soil Surface

A close-up photograph of a heavy-duty metal blade, likely from a construction or agricultural machine. The blade is dark, possibly black-painted, and shows signs of wear and rust. It is positioned vertically, with its tip pointing downwards. The background consists of dry, yellowish-brown grass. Several horizontal lines of different colors (yellow, green, yellow, red) are drawn across the image to indicate measurements. Labels in yellow boxes with black text provide specific measurements: '9"' on the left, '4"' on the right, and '8"' on the right. A label 'Soil Surface' is at the top. Two red circular markers are also visible on the right side of the blade.

9"

4"

8"