

## The Furrow - The Seed's Lifeline

Digging seeds is a time consuming yet important task at planting time. Getting your eyes on the furrow, where the seeds are placed, will allow you to understand if those seeds are in an environment to thrive. Does the seed have adequate temperature and moisture? Has it been surrounded by clean soil, free of residue? What is the power of the soil around each seed to feed the growing plant? Until now, you didn't know these things for every seed, you were simply guessing. With SmartFirmer you can now have eyes in the furrow.

## Smarter Every Season

Soil warmth and moisture are the two most critical factors to consider at planting time for rapid, uniform germination to happen. SmartFirmer measures soil temperature in real time and displays it on the 20|20 allowing you to decide if the soil is warm enough for germination to happen quickly. Moisture can vary from heavy low ground to a sandy knob in the field, and SmartFirmer will show this change to you, allowing you choose to plant a little deeper to maintain adequate moisture. Mechanical problems on the row unit, such as a loose gauge wheel can cause dry soil to shower into the furrow. SmartFirmer would alert you to this, allowing you to look for the issue on the row unit and fix it.

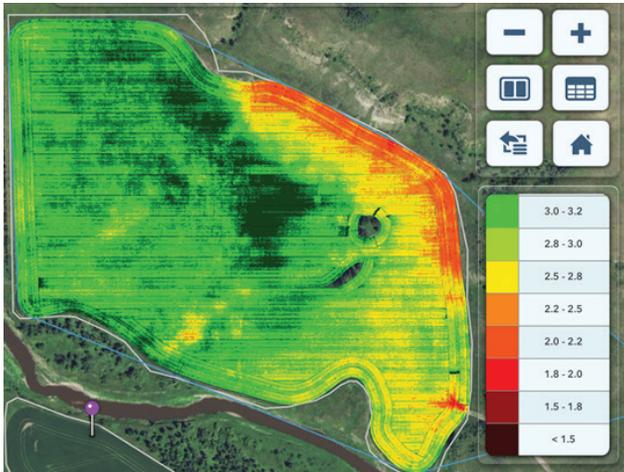
## Residue Visibility

Old crop residue in the furrow hurts a seed's ability to germinate quickly, but it can also carry disease into the new crop. SmartFirmer senses residue in the furrow and displays a clean furrow metric on the 20|20. SmartFirmer residue sensing compliments a floating row cleaner control system like CleanSweep® by allowing farmers to have confidence that the furrow is cleared and that row cleaner settings are correct.

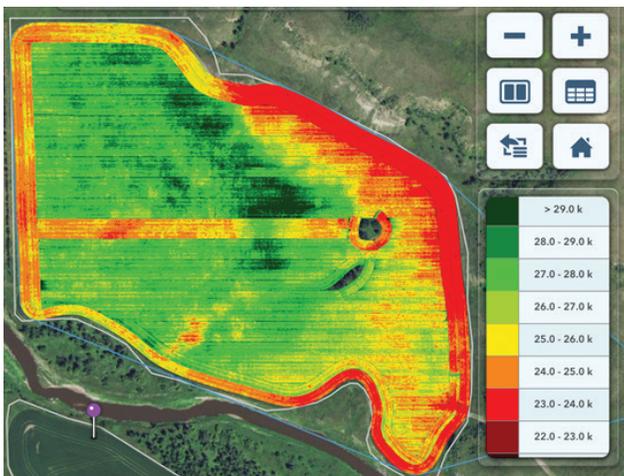


# See The Difference

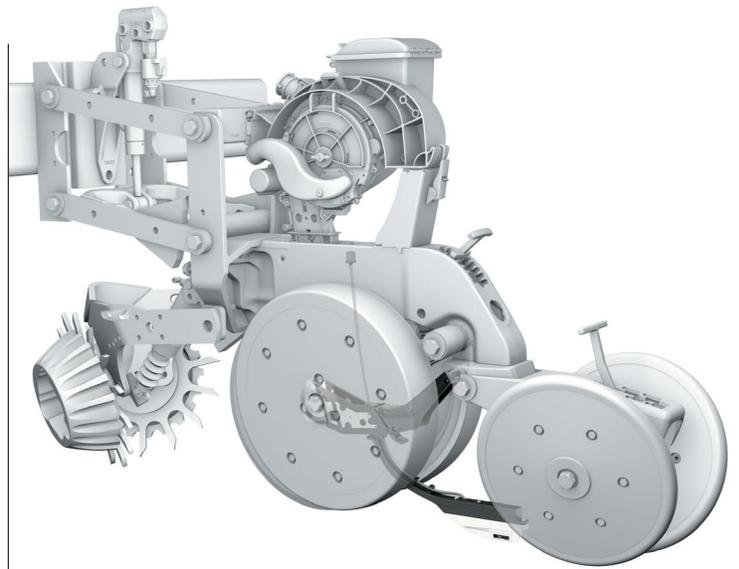
Organic matter is one of the most influential measurements for overall productivity of a soil. SmartFirmer provides a cost effective way to measure organic matter in every inch of the furrow. SmartFirmer can also act on those organic matter measurements when paired with Precision Planting control technologies. Plant population, hybrid, and fertilizer rate can all be controlled on-the-go as SmartFirmer detects different organic matter zones in the field. For farmers who have found variable rate technology too overwhelming, SmartFirmer provides a simple way to make the most out of every zone.



Organic Matter



Population

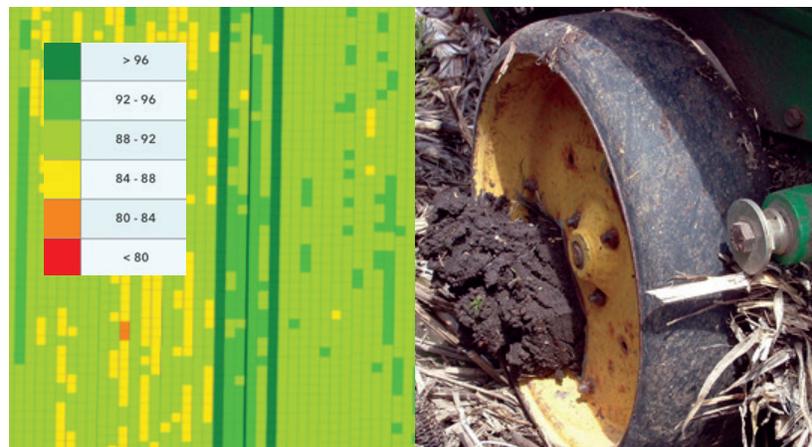


## Compatibility

### ROW UNIT

- HARVEST INTERNATIONAL® LaserPro
- JOHN DEERE® 7000/1700/7100/7200/7300/17XX/DB/17X5
- KINZE® 2000/3000/4900
- PRECISION PLANTING® Ready Row Unit
- WHITE® 9000

See below where a gauge wheel and disk opener became plugged with soil and residue and was plowing the top 3 inches of soil rather than creating a furrow. Seeds were placed on top of this newly exposed soil. SmartFirmer, running in this moist soil 3 inches deep, alerted the operator to the issue through the uniform furrow reading.



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 Precision Planting®