

# [***Production Roundup; Crop consultant offers a pragmatist's approach to soil health***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6B8H-2681-JCDT-J22B-00000-00&context=1516831)

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**Body**

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Dr. Lee Briese goes by the motto 'Details Matter'. In fact, the North Dakota-based crop consultant has had stickers made up, bearing those words and his name. Just contact him on Twitter and he'll send you one.

It's the attention to detail that he uses to help his customers navigate their ***soil health*** journey. Recently, he offered some advice to growers at the Midwest portion of the Ontario Agriculture Conference in Waterloo.

Though he briefly listed the five key ***soil health*** principles - ***soil*** armour, minimizing disturbance, plant diversity, continuous living roots, and livestock integration - his talk was more pragmatist than purist.

"Principles in practice are hard to do," he said. "You're running a business, sometimes you have to bend the rules."

Briese conceded that the principles may make sense for some but not for everyone. "Your situation is unique."

So, where do you start? "Pick the low-hanging fruit," he said. Find the acre that always performs poorly "and find out why."

Your best bet here may be to just "lift the planter" and plant cover crops in the bare spot later. Input costs in his area amount to about $350(US)/acre. With $100 spent on cover crop seed and paying "a 14-year-old" to run the ATV spreader, "you've made $250 for not planting."

He then used the example of growing crops in the Red River Valley. Excess spring moisture is the key issue here, preventing growers from getting on the field in a timely fashion. Once that problem is identified, you can consider possible solutions.

Maybe it's tillage at the right time "to get the water to evaporate". Or maybe cover crops can help...as long as you pick the right ones. If you're growing wheat, for example, stay away from cereal rye, he warned. All it takes is some rye seed in the sample to "drop you out of the market."

His preference is oats since "I can kill oats in spring or winter wheat."

Once you've laid out the plan and implemented it, go back and evaluate the outcome, he added.

In some cases, the problem is ***soil*** erosion. It's not just a problem from the Dirty 30s, he said. It continues to happen. He showed a slide of a ***soil*** drift up the top strand of a four-wire fence. It was taken at Jud, North Dakota ironically on Earth Day 2015. Looking at the picture, there's not a tree in sight. "I think we've found the problem," he said.

This is where you double back to the ***soil health*** principles. Don't loosen the ***soil***, have some living roots, leave some residue.

The latter solution can be a two-edged sword if it's poorly done. He showed another slide of a field with alternating strips of bare ground and soybean residue.

"I hate that picture," he said, adding the farmer has created a problem for next year. With the combine likely traveling diagonally across the field, all of next year's rows will have at least some plants with poor emergence.

Machinery size is one issue.

At one time there were 25-foot headers and the residue was spread 25 feet behind. Now, you're running a 45-or 50-foot header and still spreading residue at 25 feet, he said.

In contrast, he showed a slide of a "beautiful" stand of residue where the grower had taken off wheat with a stripper head before planting a cover crop of oats, radish, and some sunflowers. For growers in North Dakota, standing residue is ideal because it catches snow for moisture and the drying winds make it brittle and easy to plant into.

But you have to set the drill differently to plant into it, even changing the setting from the moisture of morning to the wa r mt h of m id-day, he stressed.

He pointed out the nature of the ***soil*** underneath the cover crop. "It's not hard, it's firm. It has structure." He used the example of taking some heavy machinery along a dirt path in wet weather. You drive on the grass, not in the rut, he said. "It'll hold you up."

A grower in the audience asked about compaction. "I'm not anti-tillage," Briese said. "I like to be surgical."

He singled out the highspeed disc, "one tool I'm having a really hard time finding a place for."

When conditions are right, "it builds a nice seedbed." But there are other situations, like working up ***soil*** that was too wet to plant into. Shortly thereafter, it turned hot and dry.

"How do you make bricks?" he quipped. You take some clay and a bit of straw, squeeze the air out of it, and then you ba ke it. T hose 'br icks'extended right down to the depth of the tillage.

And the ***soil*** underneath that layer was still wet because "we sealed off the evaporation."

The bottom line? "Stay the hell out of the field when it's too wet. Manage that excess moisture properly."

But he also warned his audience to be prepared that taking the path to ***soil health*** means enduring the odd failure. He used some yo-yo tricks to make his point, recalling the time that a trick went awry and the string became entangled in his beard. "Sometimes you screw up and people laugh at you."

"Welcome to your ***soil health*** journey."

**Graphic**

/ (See hardcopy for photo);; Dr. Lee Briese presented this photo as proof that erosion on North Dakota farms has continued long after the 'Dirty 30s';; Dr. Lee Briese: " You're running a business, sometimes you have to break the rules.";; Uneven residue spread leads to emergence issues come spring;

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