Set-N-Seed
A Better Way to Set Planting Depth

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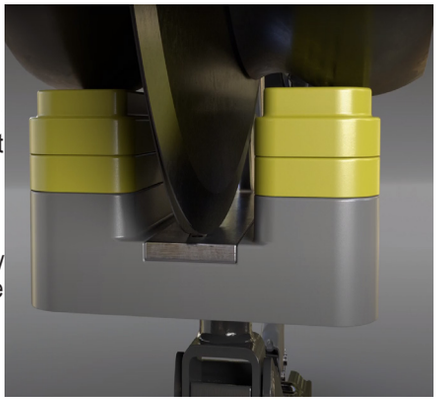
No matter the crop, planting seeds at the proper depth is critical to ensure even seedling emergence. A key part of achieving this desired depth is a well-calibrated planter. Up until recently, however, setting proper planting depth took a lot of time and work. Now thanks to a southern Illinois Precision Planting Specialist's innovation, there is a better way to check depth row to row without the need for a forklift and wooden block apparatus.

Introducing the Depth Equalizer



The Set-N-Seed is a first-of-its-kind planter depth calibration tool that not only checks depth but also sets it. Invented by Blake Patton, a self-proclaimed tinkerer and current Director of Agronomy Innovations at Rend Lake College in Ina, IL, the device helps to eliminate inconsistent and variable seeding depth across a planter by quickly and accurately setting planter depth.

With continued use, planter row units encounter wear and tear. "No two row units will wear exactly the same, especially in higher clay content soils" emphasized Patton. "Row units behind the wheels of the tractor tend to wear faster due to compaction. I've seen up to a half-inch difference in depth due to this wear."
This inconsistency, in turn, can drastically reduce germination in the row, especially in dry conditions where a seed might be placed above the soil moisture line. "We want all seeds to germinate within 24 hours of each other to produce optimum yields," said Patton. "A quarter-to-half-inch of variability can cost a couple of bushels due to uneven soil moisture levels."

According to Patton, the Set-N-Seed is capable of calibrating all planters and even drills which set their depth by utilizing gauge wheels that are placed adjacent to the disk openers. Among its many benefits, the Set-N-Seed provides time savings, eliminates hidden yield losses due to depth variation, and assists in identifying other planter unit problems that may need maintenance.

The Invention Process

Patton's inspiration for the Set-N-Seed grew out of his frustration with the practice of utilizing wood blocks to check the depth of each row unit.

"Although the process worked well, it took much longer than I knew it should take," he said. "After deciding I did not want to do it that way anymore, I took a deep dive into the mechanics of the row unit to learn and identify what successfully had to happen."

To get started, Patton spent time taking apart the disk opener and gauge wheel assembly on a planter. He investigated the usual wear points and studied the physics that goes into placing seeds at the correct soil depth.

An important step in this process was understanding how the gauge wheel arms are free to travel to a set depth if the depth adjustment is set to the deepest setting.

"This allows the gauge wheels to travel to your preferred depth by placing side rails on each side of the disc openers" noted Patton. "When the disk openers touch the bottom plate, the distance from the bottom of the disks to the bottom of the gauge wheels resting on the side rails is the depth the seed should be placed."
Based on these findings, Patton set to work creating the Set-N-Seed. During its development, the device evolved through several different designs before landing on the current iteration which was released in late 2022.

"I put the prototypes through physical abuse to make sure I wasn't creating something that may not last," he said. "Testing different materials was interesting. Our final plastic variation from rigid, strong, glass-filled polypropylene to the pliable, yet rugged side attachments has created a very accurate and durable tool."

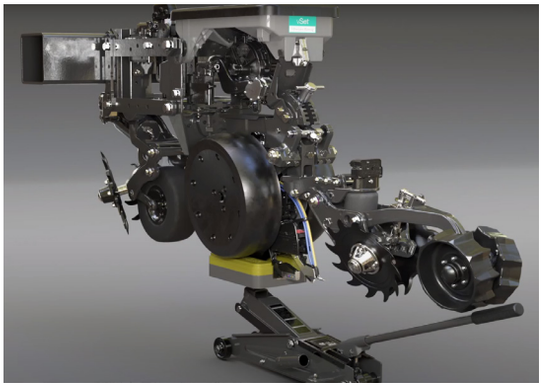
Patton makes an effort to source most components for manufacturing the Set-N-Seed locally, within 35 miles of his home, aside from the plastic mold injection which happens at a facility on the northern side of Detroit, Michigan. He utilizes local businesses to obtain materials and package and ship the products to customers after they are assembled by the Washington County Vocational Workshop in Nashville, IL, which employs individuals with disabilities.

"Sourcing locally was one of my main goals," said Patton. "It makes me happy that my invention is helping other companies and people in the community."

Calibrate With Five Simple Steps

The Set-N-Seed works by creating the correct distance between the bottom of the planter's gauge wheels to the bottom of the disk opener using premeasured blocks that ultimately set seeding depth. The calibration process for each row unit follows these five steps.

1. On level ground, raise the planter one foot from the surface.
2. Bring the T-handle to the deepest setting.
3. Set your desired planting depth by utilizing the one-inch main block or by adding the half-inch stacks to increase depth.
4. Lower the planter unit down onto the Set-N-Seed or raise the Set-N-Seed up until the planter unit rises. The fastest way to set row unit depth is by utilizing a floor jack to lift the Set-N-Seed unit up until the entire row unit is lifted slightly.
5. Bring the T-handle to the shallowest setting. Disk openers will be centered on the protective plate while the gauge wheels will have pressure on the side rails. Depending on the acres planted and soil type, row-unit wear may be uneven causing variable depth. Each row-unit will be calibrated to ensure each row is planted at the correct depth.



The Set-N-Seed is capable of setting multiple depths from one to two-and-a-half inches.

Field-Tested Efficiency

In the field, planter dealers and farmers alike are singing the praises of Set-N-Seed pointing to its ease of use, simplistic design, and time-savings.

"We've always had issues with customers' confidence in a planter's depth consistency," said Colton Parchert, a product specialist for John Deere dealer Sydenstricker Nobbe Partners (SNP), which has 28 locations across Missouri and Illinois. "Anytime we have a device or tool handy our customers can easily use it, they adopt it quite quickly. The Set-N-Seed was the perfect example. It's easy for us to explain its purpose. The challenge I have is teaching them the training and marketing that goes behind some of these new devices, which can be quite expensive. So this was the exception, we didn't have to explain to customers why seed depth is important. We just had to explain to them that there's a tool now available for them to use to verify it."

Parchert's confidence in the Set-N-Seed does not end with its ease of use. He also made the investment to have one Set-N-Seed at every SNP location that does pre-delivery instruction. "This is the moment where we set a planter up and make sure it is field-ready before a customer gets it," he said. "Every new planter gets recalibrated, even though it's brand new, and we train our customers every spring to recalibrate as well."

Parchert points out the amount of wear on your planter increases faster and faster throughout its use so it is important that consistency of depth is there from the beginning.

Similar to Parchert, Benjamin Harriss, a sales consultant with H&R Agri-Power in Vergennes, IL appreciated the simplicity of using the Set-N-Seed. "It's a one-man job to set depth," he said. "I recommend it to anyone I'm talking planters with. I'm an equipment dealer and have even started sending one with every new planter I sell. It's that important to me."

In addition to its user-friendly functionality, Jeremy Harris, Precision Ag Specialist at Southern FS in Marion, IL said the Set-N-Seed has made his Precision team more efficient in doing depth true-ups, saving the team and their customers money due to less service labor charges.

"We have seen tremendous efficiency increases using this product," said Harris. "On a 16-row planter, you can correct the depth settings in 10-15 minutes or less. That is a huge advantage especially in-season when growers are having depth issues due to incorrect settings."

Additionally, Patton said, he has also seen interest in the Set-N-Seed from research and development companies. "They know that small variations in emergence could cost them valuable research studies and site years," he said.

Bringing It On Home

With its ability to quickly and accurately calibrate planting depth across all planter row units, leading to more consistent crop emergence and higher yields, the user-friendly Set-N-Seed has demonstrated itself to be an innovative new tool that saves farmers time and improves the profitability of their operations.

The Set-N-Seed costs $185 and includes a one-inch main block and multiple half-inch stackable inserts. As of December 2023, two additional adapters to increase the span of available planting depth are also available.

The first, a three-quarter-inch center adapter, raises the center metal protective plate to allow for a starting depth of one-quarter inch. This particular new add-on came about at the behest of several cotton and sugar beet growers asking for a way to set depth shallower than one-inch starting depth.

The second adapter is a one-quarter-inch side attachment which allows the farmer to fine-tune their depth to a one-quarter-inch increment instead of a half-inch. Combined these two attachments increase the span of available planting depth calibration from one-quarter to two and three-quarter inches. This range accounts for the majority of seed and crop types grown around the world.

Farmers can purchase the Set-N-Seed at setnseed.com and from select equipment dealers such as those mentioned in this article. CFC Distributors/Granit Parts and S.I. Distributing are the current distributors to dealers in the US