

# Precision

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PLANTING®

2015



**FARMING BY THE SEED™**



# THE ADVANTAGES OF PRECISION PLANTING



# 1-YEAR PAYBACK

In side-by-side, alternate-pass tests with well-equipped standard planters, the Precision Planting system paid for itself through increased yields, in just 1 season.\*

## Make your planter measure up.

Modern planters are amazing machines, but there's room for improvement – in monitoring, metering, depth control and more. Room to grow. Room for better yields.

Precision Planting makes room for improvement – room for a better return on your investment. We make tools that will boost your yield enough to pay for themselves quickly, often in one year. And then pay you for many seasons to come.

From among these, you may find one or two that resolve specific issues you're struggling with. You may find that the entire suite gives you everything you've ever hoped to achieve in your fields.

- 20/20 SeedSense® for better monitoring, in-field troubleshooting, analysis
- FieldView® and FieldView® Plus for information mapping that enhances decision-making
- DeltaForce® and AirForce® for automatic down force control and improved germination
- RowFlow® and vDrive™ for bushel-boosting prescription zexecution and population control
- eSet®, vSet® and Precision Meters for spacing and singulation that make every seed count
- WaveVision® for precise seed counts in any conditions
- CleanSweep® for cab-controlled row cleaner adjustment
- YieldSense™ for more accurate yield data

\*Monsanto 2014 FieldScripts Challenge Trials involving more than 5,000 field observations. Study included both split-planter and separate planter comparison, using both static and FieldScripts® seeding populations.





## Easier done than said.

Since Precision Planting operates at the leading edge of planter technology, our products can seem complex. They are complex. But they do what they're supposed to do and they're simple to use.

In fact, it's harder to explain how they work than it is for you to actually operate them because simplicity is a prime criterion for everything we create. When possible, we make it automatic.

Our industry-leading monitor, 20/20 SeedSense, senses and reports everything your planter is doing. But a common-sense interface and touch-screen make it remarkably easy to use, to see what's happening as you plant and fix any errors before it's too late.

There's more accurate yield monitoring. Advanced mapping and information sharing. Automatic down force control. Cab-controlled row cleaner adjustment. No-fuss meters. Smart seed tube sensors. Simple variable rate tools. They all make it easier for you to make the most of every field, every row, every foot, every seed.

## Way, way beyond the box.

We pack our yield-boosting products carefully in boxes. But what you get when you buy them goes way beyond that.

It includes your Precision Planting Premier Dealer. There are more than 300 of them all across the land. They're independent businesspeople, but they must meet the highest standards of skill and customer service. From product demonstration to installation to training to long-term follow-through, they deliver the knowledge and support you need, before and after the sale.

There's also our team of expert technical consultants. If you have a question about any of our products that your dealer can't answer, we will. We'll guide you through any concern – patiently and persistently – and follow up to any extent required.

And, of course, you'll find complete, up-to-date technical information about all our products on our website.

Our customers say our products perform beyond expectations. They say the same about our dealers and technical support team.

Find a dealer: [precisionplanting.com/locator](http://precisionplanting.com/locator).

Call a Precision Planting technical expert: 309-925-5050

Access support documents: on our website, click the Technical Support tab.

Precision Planting user videos: [myprecisionstory.com](http://myprecisionstory.com)





# REAL-TIME DATA. REAL-WORLD PROFITS.



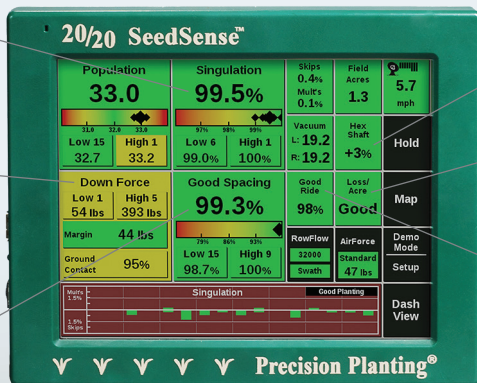
Once you're done planting, there's not much you can do about the stand. It's *while you're planting* that you can make a real difference. And that's when 20/20 SeedSense® pays off.

With its color-coded, touch-screen display, you'll spot any errors in down force, spacing and singulation immediately. You'll zero in on the source. You'll check it out. You'll fix it. And you'll move on, confident that you're doing everything you can to plant profitably.

Singulation shows you the percentage of skips and multiples for the entire planter and each individual row.

Watch ground contact to be sure you're planting at full depth and monitor excess weight that leads to compaction.

This is the percentage of seed spaced within the limits you set.



Is your ground drive transmission slipping? One glance tells you.

Find out your relative yield loss from the combined level of errors the monitor detects. If it says "Good," you're good.

Row Unit Ride reports bounce/vibration of the row unit, letting you know you need to slow down.

More precise than any other monitor, SeedSense tells you what you need to know about population, skips, doubles, speed, row unit ride, down force and ground contact. It enables you to seed precisely, maintain depth, avoid compaction and troubleshoot mechanical problems.

SeedSense is easier to use, too. The main screen summarizes everything. The most important metrics are the largest. Green means go, yellow means caution, red means stop and fix whatever's wrong. Just tap the screen and you'll see row-by-row details, so you know where to look.







## The heart of the system

SeedSense also powers a whole system of tools for growing more and banking more.



It delivers the data that FieldView® uses to bring your field to life. It informs the down force control of AirForce® and DeltaForce®. It guides the variable rate capabilities of RowFlow® and vDrive™. Move it to the combine with YieldSense, for more accurate yield monitoring.

SeedSense is where it all begins, and where you begin to make the most of your operation.



“[20/20 SeedSense] is the backbone of the system, providing the information at a glance, with touch screen simplicity and just the ease of operation. . . it lets you know by both visual and color prompts what’s going on and what amount of attention needs to be addressed to a potential issue before it becomes a problem.”

Mendel Elson  
Miami, MO





# SEE YOUR PERFORMANCE. REALIZE YOUR POTENTIAL.



SeedSense® shows planting data in real time, but FieldView® – on your Apple iPad® tablet – captures it for all time, on pinpoint-accurate, high-resolution maps.

What do those maps tell you? Everything you want to know about every pass, every row, every foot. They tell you what you can do to improve your performance.

Was the spacing as good as it can get? Did singulation swing on your triple stack? How did your hybrids compare? How did that clay knob affect down force?

Add your own field notes, photos, anything. You'll have the ideal scouting tool. You'll learn more, you'll understand more. You'll build on that. You'll realize your best possible yields.

Switch between fields by tapping on these buttons

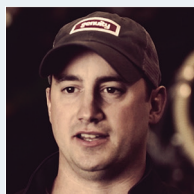
Tap these to switch maps

Zoom in and out. See the entire field or row-by-row performance from wherever you're standing.



Make notes, edit legends, take a screen shot, sync multiple iPads and more. And the more you use it, the more valuable it becomes – today, tomorrow, at harvest, next season and beyond.

FieldView requirements: 20/20 SeedSense, an iPad2 (or later) tablet, a FieldView hardware kit and the free FieldView app. For most growers, a 32GB iPad Air with WIFI + 4G LTE will be enough. Your iPad also delivers fast access to technical information, weather, markets and apps of every kind.



“FieldView allows me to go out there and take my iPad into the field and see exactly what happened, what was going on there, and help me evaluate what I can do next year to make it better.”

Jeremy Silsby,  
Gasport, NY





FieldView® Plus is a wireless system that puts all your data at your fingertips, wherever you go, at any time. Share it with those who need to know. Back it up securely and remotely.

It makes your data more valuable, more manageable. It makes your data work harder for you.

Get alerts in real time. Look at metrics and reports by field, planter and hybrid. Compare tile, fertility, yield and other maps.

FieldView Plus automatically syncs field pins (including notes and photos), client/farm/field lists and field map data so, wherever anybody is, they get the same information.

FieldView Plus makes file transfer and sharing (prescriptions and boundaries) easy. You can easily download 20/20 files to your desktop or share them with consultants, partners, landowners, insurers and others. It makes USB file transfers obsolete.

Back up all your 20/20 and FieldView data automatically, permanently, privately, securely.

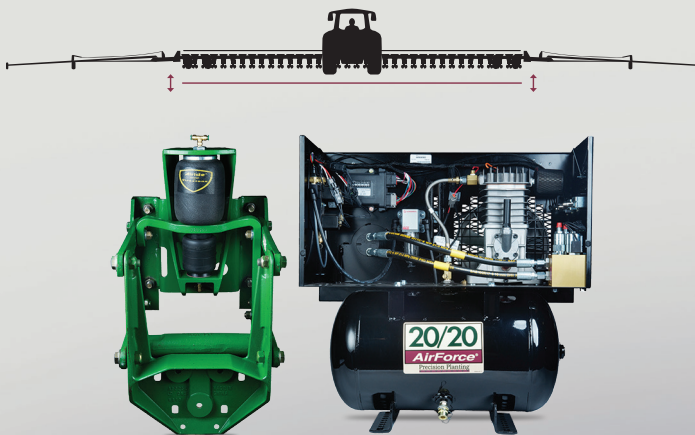




# NOT TOO HEAVY. NOT TOO LIGHT. JUST RIGHT.

With too much weight on your row units, you get compacted roots. With too little, you get uneven emergence. But when your down force matches field conditions, you maintain the right depth and create a just-right seed environment for maximum yield. These tools let you do just that, automatically, continuously.

Both DeltaForce and AirForce draw on 20/20 SeedSense®, with its ground contact and row unit weight sensors, to gauge the weight needed to maintain the depth you want. They respond automatically to increase or reduce down force as needed.

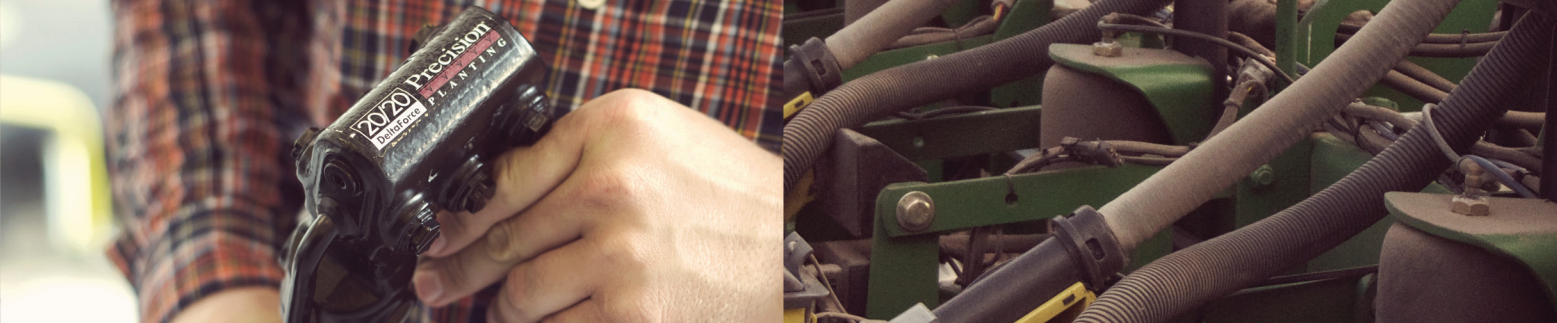


## AirForce®

AirForce continuously adjusts the applied down force to changing soil types by changing the pressure in your air bags as conditions and hopper weights change, so you maintain proper depth. It's configured specifically for your planter (Deere, Case IH, White, Kinze), with lift or lift and down air bags.

All you have to do is select the control for your field and conditions. You'll ensure consistent and correct down force. You'll avoid sidewall compaction. You'll encourage the uniform germination that gets the most out of every seed to maximize your yield potential.





## DeltaForce®

DeltaForce replaces the springs or air bags on your planter with hydraulic cylinders. That means it automatically increases or reduces weight with military precision, on each row individually. So when one row encounters conditions different than another (wheel tracks, old road beds, clay knobs, headlands, whatever), each will adjust independently.

Row by row, foot by foot, depth stays exactly where you want it. Row by row, foot by foot, even seed by seed, you produce an environment that fosters uniform germination, optimum growth and maximum yield. You can put DeltaForce on most Deere, Case IH, Kinze and select White planter models.



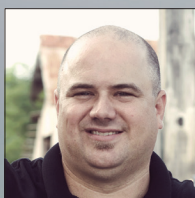
AirForce  
bushel per acre  
advantage

### Both AirForce and DeltaForce make a big difference.

In a third-party, five-year study, AirForce (which operates planter-wide) produced an average of 8+ bushels per acre more than static down force control. DeltaForce (which operates by row) added more than 11 bushels per acre.\* Your choice depends on your operation. Your Precision Planting Premier Dealer can help you decide which one is right for you.



DeltaForce  
bushel per acre  
advantage



Brad McAfee,  
Depauw, IN

“It has given us the versatility of down pressure, all of our variable soil types and hardness. It keeps soil depth a perfect depth across the field, on target on where we want it. It changes in the different hardness or softness in the ground, it raises it where it needs it and puts it down where it needs it. It has been a big key factor in our stand this year.”



\*Jason Webster, Becks PFR Research Study, 2013.



# SIMPLIFY PRESCRIPTIONS. CONTROL POPULATIONS.

Variable rate prescriptions. Precise populations. Swath control. Getting them all right – getting higher yield from lower input costs – is a little tricky. Or it used to be.

From Precision Planting come two ways to make it all not just easier, but truly easy. Either will simply help you manage variable rate prescriptions and populations across different yield management zones and terrain. Both will make the most of your seeds in every foot of your field. Each represents still another dividend from your 20/20® system.



## RowFlow®

If you're just starting to use variable rate prescriptions, you'll find it easy – and profitable – to get going. Even if you've been doing it for years, you'll see improved accuracy. Control of liquid fertilizer on the planter and side-dress applicator are optional.

Incredibly accurate swath control is standard. RowFlow's clutch timing is based on actual seed data, not expected coverage or distance, so you get the precision that leads to maximum productivity from every field.

Your RowFlow package comes with the RowFlow module (RFM), cab control module, base harness and 20/20 software update. It connects to your SeedSense and is compatible with all popular planters.



"...here in our terrain in Missouri where everything is terraced and steep slopes, our overlap before RowFlow was in excess of 15%, now we are down under 3%. It's unbelievable the savings that it has given us on this operation."

Mitch Corbin  
Mound City, MO







## vDrive™

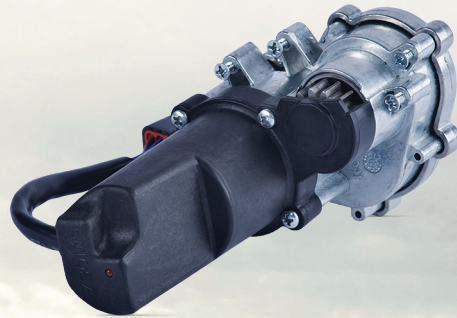
Standard drive motors don't allow individual rows (from the outside to the inside of the planter) to adjust around curves. With vDrive, each row adjusts independently, so you get accurate populations on curves and with your prescriptions.

Created exclusively for vSet™ meters, vDrive enables amazingly precise population control through curves and ground speed changes. It works with all variable rate prescriptions – even highly granular FieldScripts.™

With its row-by-row control, you'll get precisely planted headlands, high-definition population reporting, and even the ability to plant male and female seed corn plants in the same pass.

And you know all the maintenance headaches caused by clutches, hydraulic motors and chains or cables? With the vDrive electric motor, those parts go away, and so do the headaches.

vDrive requires SeedSense® and vSet meters. vDrive is a 12V system that easily installs with 4 screws onto your existing vSet meter. It pulls 1.25A per row (2.25 if paired with DeltaForce®); an alternator is optional. It is compatible with many John Deere, Kinze and Case IH planters.





# SENSE THE DIFFERENCE. SEE YIELDS RISE.

To get accurate counts of the seeds you're planting, you rely on your seed tube sensors. But optical sensors aren't very reliable in dusty conditions or near tires that are kicking up debris. They can report dust and debris as seeds. Then you get bad counts. Then your yield suffers because you're not making needed adjustments as you plant.

WaveVision® sensors and seed tubes don't depend on optics. They don't see seeds, they detect mass, using high-frequency sensors. They can tell the difference between seeds and dust or debris, and count only the seeds. You get accurate counts, so you can plant what you plan. Your yield improves.



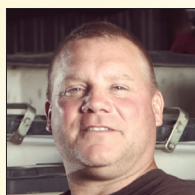
To get better counts that add up to better yield, just replace your current tubes and sensors with WaveVision.

It's easy to do.

## Just need replacement seed tubes?



BullsEye® delivers better spacing and longer life. Their sensor offsets won't snag seeds like other tubes can. And with their tungsten carbide tips, they last far longer than other tubes so your replacement costs will plummet. BullsEye works with 1/2" or 3/4" sensor eyes.



"WaveVision is what sold me on the Precision Planting technology, because of the fact it only counts the seed and doesn't count any dirt or any other particles going through, which we had a problem with for years."

Rick Franta  
Lafayette, MN



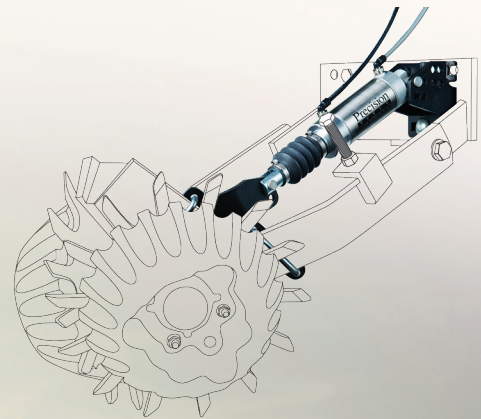


# CLEAN ROWS. EFFORTLESSLY.



Uniform germination and higher plant counts depend on clean rows. Clean rows are the work of row cleaners. But, until now, row cleaners have been hard work themselves, because they need to be set precisely and changed frequently.

But now, CleanSweep® does all that hard work for you. It puts row cleaners right where they need to be – where they move the residue but not the soil – and continuously adjusts them as field conditions change. All you need to do is move the cab-mounted controller. You can even raise the row cleaners up and out of the way when you're not using them.



The CleanSweep controller is connected to dual air cylinders on each row. The air pressure comes from a robust compressor or tank, or you can use AirForce® as an air source.



“I would not want to go into the field without the CleanSweep. I think that CleanSweep is one of the most valuable tools that Precision makes...it does it all from the cab, and it works extremely well.”

Todd Yackley  
Onida, SD



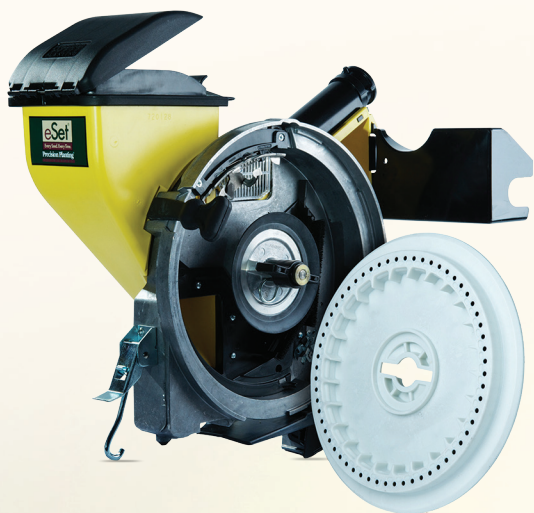


# SPACE PRECISELY. HARVEST MORE.



Yield starts with your meter. Skips and multiples reduce yield. Accurate singulation — seeds planted one at a time, evenly spaced — increase yield.

eSet® and vSet® are the best singulators — the best meters — you can buy. They'll quickly pay for themselves in increased yields. And then you can pocket the difference every season thereafter.



Both feature a flat disk with a single vac setting. Both release seeds down the center of the tube — critical to optimum spacing. Both boast a floating, 5-lobed singulator that makes sure no two seeds of any kind can occupy the same hole. One seed locks in and one seed drops. Every time.

These champion singulators are also stars of simplicity. They handle any seed size or shape without finicky tweaks to vac pressure, disk or singulator settings. Just pour in the seed and go. Then get ready for your best possible yield.

eSet is a simple replacement for OEM vacuum disks on John Deere planters. You get the disk, baffle, singulator, brushes and seed extractor. Everything mounts to your existing meter housing (1991 or later).

When you add eSets to your John Deere Pro-Series™ planter, add the Precision ProFlow hopper, too. It enhances precision by speeding seed delivery to the mini-hopper. The vented lid relieves excess air pressure.

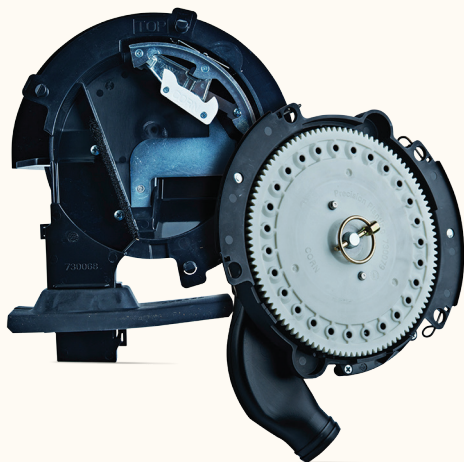


“With the eSet, I can dump in any seed variety that I want and multiple seed varieties in a planter and don’t have to mess with changing disks all the time or changing vacuum pressures and having concerns about singulation and spacing, the eSet meter eliminates all of those worries and drops about any seed size perfectly.”

Leon Adams  
Bonnie, IL







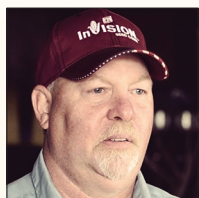
vSet was designed to work on both finger and vac meter planters. It comes with a durable housing, corn disk, singulator, seed extractor, drive connection and vacuum seal. Need vac? Your Precision Planting Premier dealer will set you up with a turn-key system.



Working with high vac pressure and a flat disk surface, the spring-loaded singulator moves seeds from both top and bottom, making it nearly impossible for two seeds to occupy the same hole. A single seed locks in and drops.



With ordinary vac disks, seeds can settle at the bottom of the meter, wedge together and resist loading into the cells. The fins on eSet and vSet churn constantly to keep seeds loose and ready to flow to the vacuum holes. You get fewer skips and better singulation.



“vSet is one of the best buys we’ve had because it really cleaned up our singulation and our planter and we just have the most tremendous stands we have ever had – we’ve been using it for two years with the variable rate. That paid for itself within the first year.”

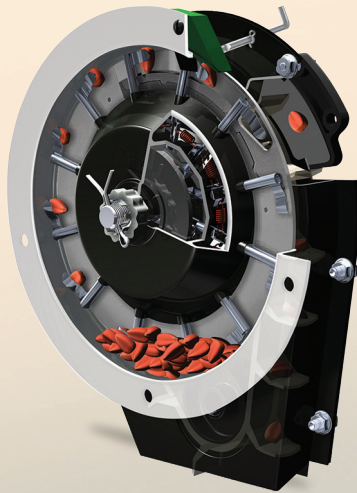
Scott Thompson  
Avon, NY





# CATCH AND RELEASE. AGAIN AND AGAIN.

Ordinary finger meters have a hard time singulating, especially with a wide variety of seeds. They'll miss one, then grab two, resulting in skips and doubles. That not only wastes seeds, it cuts your yield.



Because the components all mesh perfectly, Precision Meters hold one seed at a time, then release it. They're engineered and built to do it again and again. You'll see fewer skips and doubles — and higher yield.

If you don't need a whole new meter, you can still improve your spacing with Precision Meter belts, backing plates or finger sets. Your Precision Planting dealer can test your meters and recommend upgrades.

## TUNE UP. ADD UP.

The math is simple. Every additional percentage of meter accuracy adds a bushel or two more per acre.



While they should run at 98% or better, many meters only deliver 92%-97% accuracy. That's why — no matter who made them, no matter their type — every meter should be calibrated every year.

Drawing on the unmatched precision of 20/20 SeedSense®, MeterMax® Ultra calibrates your meters to your seeds, speed, spacing and population. So take your seeds and meters to your Precision Planting dealer, then watch for the added ears, yield and profit.



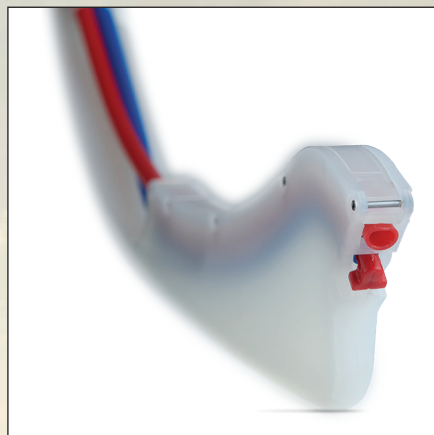
# FIRMER IS BETTER. AFTER ALL THESE YEARS.

Precision Planting – the company – started by making Keeton® Seed Firmers.

The technologies we've developed since have taken precision planting – the process – to then-unimaginable levels. But this simple, ingenious device still makes a major contribution to yield.

Seeds don't always land right in the bottom of the trench, where they belong. But, with its unique, in-the-trench design, the Keeton Seed Firmer is the only thing that gently firms those seeds to the bottom of the V. So the depth is even. The seed-to-soil contact is correct. The germination is uniform. The yield is optimum.

There's a Firmer for virtually every planter or drill, with single or dual applicator tubes. Put one on each of your row units and watch your seeds do their very best.

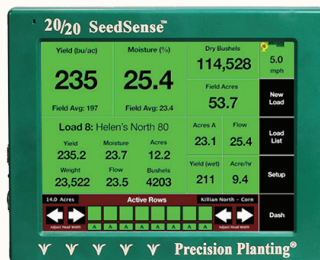
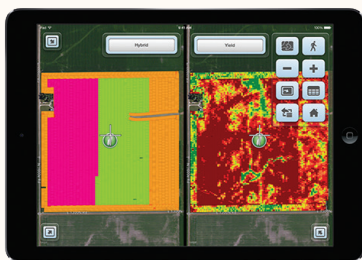




# FROM DATA TO DECISIONS. EASY DOES IT.

Instead of time consuming re-calibrations, YieldSense™ delivers simplicity. Instead of isolated information, it brings you instant connectivity and sharing. Instead of raw data, it shows you how what you planted compares to yield. Instead of only whole-field results, you can see zone-by-zone yield.

Unlike any other yield monitor, YieldSense helps you make sense of your yield data. And that helps you make better decisions for your operation.



## Easier – and smarter, too

The ease with which YieldSense delivers truly useful yield data is driven by the precision of the 20/20 SeedSense® system. Along with FieldView® Plus, they give you the means to optimize production, make decisions and gain a high-definition view of performance available on all your equipment and devices. You'll make the decisions that make every acre work harder, all season long.

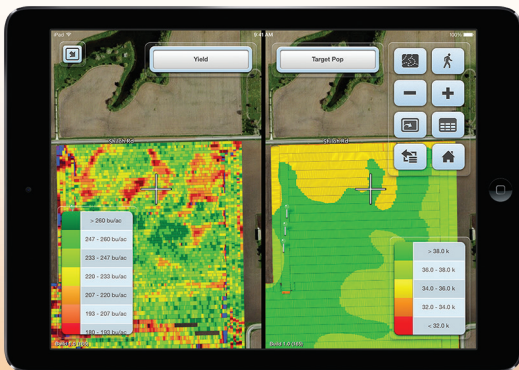




**Easy to use**  
YieldSense sets up quickly and intuitively. On your Apple iPad® tablet, it makes it easy to maneuver among various screens. And it requires no time-consuming re-calibrations. You'll work faster, simpler, with more confidence.



**Easy to view and share – from anywhere**  
Stop wasting time – and risking confusion – with USBs and downloads and uploads and emails and all that. With YieldSense, you can see yield data, as it happens, from anywhere. Share it across multiple combines. Watch it from the truck. See it in your office. Send it to advisors you trust. Right now, or anytime.



**Easy to compare – and decide**  
Raw yield data doesn't help you make decisions. YieldSense does. It can show you side-by-side maps – yield and as-planted – as you move across the field. You can make meaningful comparisons across yield zones, hybrids, fertilizer levels and more. That allows you to make better decisions for the future.



**Easy to zero in**  
You can get average bu/a for the whole field from just about any yield monitor. But only YieldSense will tell you yield by hybrid. So you can confidently plan changes based on soil type or other variables.



# SYSTEM COMPATIBILITY



SYSTEM COMPATIBILITY

Precision Planting Equipment	SeedSense	FieldView	AirForce	DeltaForce	RowFlow	vDrive
<b>Planter Model</b>						
JD 7000/7100				4		
JD 7200/7300/17xx/DB						
JD 17X5	*	*	*5	*	*	*
Kinze 2000 series				4		
Kinze 3000 series						
Kinze 4900	6					
Case IH 1200 series						
Case IH 12X5 series						
White 5000						
White 6000						
White 8000						
White 9000	*	*	*7	*	*8	*
Great Plains						
Monosem			2			

Precision Planting Equipment	YieldSense**			
<b>Combine Model</b>				
JD 50/60/70/S series	8 Tooth	9X50/9X60	9570/9670	S550/S660/S670
	10 Tooth	9770/9870	S670/S680	
	11 Tooth/Hi Cap	S690		
Case IH 010/120/130/230 series	9 Tooth	X010	X120	X230

\*\*CAN based moisture sensor required





	WaveVision	BullsEye	CleanSweep	eSet	vSet	Precision Meter	Keeton
			1				
			1				
			*1	*	*		*
			1				
			1				
	*	*	*1				
			1		3		
			1				
			1				
			1				
			1				
			*1				
			1				
			1				2

- 1. Please refer to CleanSweep Compatibility Guide
- 2. Some modification is required
- 3. Only compatible with vDrive motors
- 4. Requires additional OEM components
- 5. Replacement brackets not compatible with Pro Drive insecticide

- 6. Requires row unit replacement of planter harness and sensors
- 7. OEM down force only
- 8. Control of White flexible drives available for order this fall
- \* Available for order this fall



# SPECIFICATIONS

SPECIFICATIONS

## Precision Planting Equipment Specifications

AirForce	Down Pressure Bags	Lift Pressure Bags	Tank Pressure	Duty Cycle	Flow
<b>12V</b>	8 to 120 psi	8 to 120 psi	0 to 150 psi	0-80%	N/A
<b>Hydraulic</b>	8 to 120 psi	8 to 120 psi	0 to 150 psi	0-100%	3.5 gpm

DeltaForce	Power Req	Hydraulic	Power Req with vDrive	
	1 amp/row	1/4 gpm/row max	2.25 amps/row	more than

RowFlow	Power Req		Flow	
	2 amp/motor	clutches 1/2 amp/row	4 gpm/motor	

vDrive	Power Req	Power Req with DeltaForce	
	1.25 amps/row	2.25 amps/row	more than

CleanSweep	Power Req	Pressure	Capacity	
<b>Compressor</b>	18 amps	150 psi	2 gal	

vSet Blower	Flow			
	7 gpm case drain required			

NOTES:

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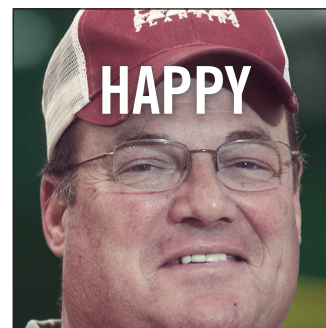
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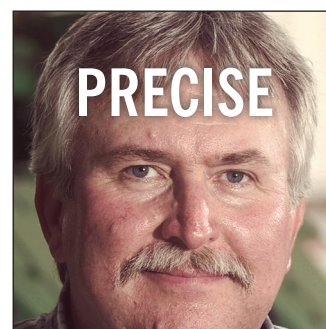




# And, now, a few words from the folks who use Precision Planting tools.



*my precision story.com*



See more words from these and other growers – see their complete stories about how they solved their challenges and increased their yields.

