



SEEDMASTER

SEEDER

YOUR PRECISION SEEDING NEWSLETTER

WINTER 2016

SEEDMASTER 101

THE SEEDMASTER ADVANTAGE STARTED WITH A REVOLUTIONARY OPENER

Over 20 years ago, Norbert Beaujot, SeedMaster™ founder and president, professional engineer and farmer, developed a revolutionary opener. It not only changed the way farmers put the crop in the ground, but helped move agriculture onto a more sustainable path of reduced and no-till farming systems. Seeing the destruction that tillage caused on his own farm, Norbert designed an opener that allowed one-pass seeding, precise seed and fertilizer placement, and optimal stand establishment.

"I'm proud that SeedMaster has been a driver of that change with the development of the first active-hydraulic, ground-following, individual row opener that revolutionized no-till seeding in 1992," says Beaujot.

The dual knife system on the opener ensures accurate seed and fertilizer placement with optimum seed and fertilizer separation. Fertilizer is always 1.5 inches to the side and 0.75 inches deeper than the seed. The seed is factory-set at 0.75 inch depth. Side banding fertilizer provides effective seed/fertilizer separation and efficiently applies all the fertilizer at the time of seeding, without risk of germination damage due to fertilizer salt burn. On rolling hills, uneven fields, or maneuvering around sloughs, SeedMaster openers maintain precise seeding accuracy for optimum stand establishment and a high-yielding crop.

Since the development of the revolutionary opener, SeedMaster has continued its legacy of innovation and new product development with successive technology improvements. The company is a leader in inter-row seeding, with its patented Smart Hitch™ and TruLine™ drill design to eliminate skew. Research has shown that seeding between rows of tall standing stubble results in improved stand establishment and a change in the microclimate between the stubble rows. This allows for reduced evaporation and shelter for seedlings from wind and frost. Ultimately, higher crop yields can be achieved—up to 15 percent in crops like canola.

SUPERSEED. GUARANTEED.

Two subsequent innovations have led to SeedMaster's SuperSeed Guarantee—a guarantee that farmers will achieve higher profits with a SeedMaster seeding system compared to any other new hoe or disc drill and air cart/seed combination.*



SEEDMASTER'S ULTRAPRO

SeedMaster's UltraPro™ on-frame tank and distribution system provides near-singulated seed delivery. Individual distribution lines lead directly from the UltraPro roller to the seed and fertilizer knives. Low pressure fans move the seed and fertilizer to the openers and eliminate the seed damage common with bulk metering systems and manifold distribution heads. More accurate seed distribution allows growers to cut seeding rates without sacrificing yield.

Along with precise metering and seed placement, the near-singulation of canola seed brings other benefits. Uniformly spaced plants have equal access to moisture, nutrients and sunlight, reducing inter-plant competition for these resources, and promoting more uniform crop growth and maturity.

OVERLAP CONTROL TECHNOLOGY

Another innovation that is saving farmers money is SeedMaster's Overlap Control technology. Overlap Control is standard on all SeedMaster tanks—granular and liquid/NH₃—and generates considerable cost savings of five to 15 percent on many farms. Overlap Control works automatically with GPS and autosteer. When the drill encounters a previously seeded area, Auto Zone Command™

will automatically turn off product flow in each subsequent zone on the drill, and AutoLift™ will lift the openers out of the ground. The reverse happens when the drill returns to unseeded ground.

"In irregular fields, the savings can be substantial," says Beaujot. "The wider the drill, the more irregular the fields, and the more zones you have on the drill, the more you'll save."

SeedMaster has calculated that the combined savings of using the UltraPro and Overlap Control on 2,500 acres of canola on a 5,000 acre farm could be \$105,100 CDN per year.**

SeedMaster's focus on improving farmer profitability is grounded in a firm understanding of agronomics and what farmers need in seeding equipment.

"We guarantee greater profitability, or we'll buy back your SeedMaster seeding unit," says Beaujot.

*Only new purchases of Leader SPEC™ Nova™ Ready SXX 345 toolbars (equipped with an on-frame UltraPro and specific Nova air cart combinations) qualify. Qualifying widths include 50-, 60-, 70-, or 80-foot with 12-inch row spacings. Nova XP models include Nova 520 or 780 (single or double shoot). Conveyor optional.

**\$105,100 CDN per year crop savings = UltraPro cost savings + Overlap Control cost savings. UltraPro yearly cost savings = lbs/ac seed saved (2.25) x \$12.40 per pound cost of canola seed x 2,500 acres. Overlap Control yearly crop savings = 8.1% input savings x average seed and fertilizer cost/acre (\$87.31) x 5,000 acres. Canola seed cost of \$12.40 per pound, common canola seeding rate of five pounds per acre and average seed and fertilizer costs of \$87.31 per acre from Saskatchewan Ministry of Agriculture Crop Planning.

TWO YEARS OF MORE PROFITABLE CROPS – IN THE BANK



Tony and Amy Fast with their children (left to right) Aleah, Maycie, and Natalie.

IMPROVED CROPPING SYSTEMS WITH SEEDMASTER

After three seasons of running a Case IH precision hoe drill, Tony Fast of Frazer, Montana, was looking for a better way to get his crop in the ground. He wasn't satisfied with his hoe drill's depth control, and found that maintenance was an ongoing issue with worn out bushings.

"We couldn't get consistent depth control, and had experienced some fertilizer seed burn in canola. Without a separate knife for fertilizer, we were impacting germination," says Fast.

Fast's search for an accurate way to place seed and fertilizer led him to the SeedMaster™ dual knife system. Seed is placed accurately at a factory-set 0.75-inch depth, and fertilizer is applied with a separate knife 1.5 inches to the side and 0.75 inches deeper than the seed.

This precise seed and fertilizer placement convinced Fast to purchase his SeedMaster seeding system—an 80-foot toolbar, on 12-inch spacing, with a 300-bushel on-frame UltraPro™ seed tank and a double shoot Nova™ 780 air cart with a conveyor. Fast has planted two crops with the SeedMaster air drill.

"I would say the SeedMaster works very well. This year, we had a 42-bushel per acre canola crop. That yield was quite a ways ahead of other canola crops in the area," says Fast, who also grows durum and spring wheat, yellow peas, and sometimes winter wheat.

Fast is pleased with the 300-bushel on-board seed tank with its UltraPro canola metering roller and individual row metering. Each seed and fertilizer opener has an individual distribution line leading directly from the roller to each opener without going through manifolds. The UltraPro canola roller features a ¼ inch roller for every opener distribution line. This combination provides near-singulation with less seed damage and more uniform stand establishment.

With his new SeedMaster system, Fast has been able to cut his canola seeding rate from 4 to 3.5 pounds per acre.

"The crop is super even when it comes out of the ground. Every plant is the same size at the start. We straight combine every acre, and the crop

always is really uniform, even the low spots. That's a big benefit at harvest," says Fast.

SAVINGS WITH OVERLAP CONTROL

Another big benefit of the SeedMaster system is the Overlap Control found on every SeedMaster toolbar/Nova air cart combination. Fast has seen savings on some fields of up to 15 percent on input costs with Overlap Control, comparing mapped acres versus monitor acres. On average, he has less than 3 percent overlap on each field, regardless of if he seeds straight up and down or on an angle.

"With Overlap Control and input savings with the UltraPro metering system, we are saving about \$60,000 on the 10,000 acres that we seed," says Fast. "The drill will pay for itself."

Fast also has high praise for SeedMaster as a company. He says the company is very approachable and always willing to answer questions, as well as staying on top of providing updates for hardware and software.

"They have a lot of new innovations coming out that are incredible. I see no reason to buy any other drill, really," says Fast.

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Tony Fast, Grower—Frazer, Montana

TECHNOLOGY UPDATE

The SeedMaster™ seeding system is loaded with technology to make seeding easier and more profitable. With constant innovation a focus for the company, and a unique viewpoint from being farmers, too, SeedMaster technology continues to evolve.

TAKE COMMAND WITH AXIS TABLET

The new SeedMaster Axis tablet is loaded with apps to put you in control of the entire seeding operation, from bin to field to the seed in the ground. The Axis is an eight-inch, touch-screen, PC tablet that helps the operator control many different technology features already found on SeedMaster air drills and Nova™ carts.

"The tablet is fully SeedMaster customized. As simple as the Axis is to use, we can still perform remote support to help train or assist the

operator," says Tim Ottenbreit, SeedMaster Product Development Specialist.

The SeedMaster Axis tablet apps will include:

- Direct link to the SeedMaster website
- Seed Rate Calculator – rapidly and effectively calculates a seed rate to achieve a desired plant population within a given field, and calculates how many pounds of seed are required and the associated total cost
- SeedMaster Calibration Estimator – provides an estimated calibration number for a specific product being metered, meter type used, and drill width
- Remote Support – allows your dealer or SeedMaster to view the tablet screen in real time from a remote location for troubleshooting and software updates
- Cameras – allows viewing of up to eight wireless cameras at one time; system comes standard with five cameras
- SeedMaster how-to videos
- Operator & Parts Manuals – Forgot your manual in the shop? The Axis has a library of SeedMaster manuals
- BinMaster™, a fertilizer bin inventory management app; as granular product is filled into the Nova tank, the farmyard inventory is adjusted (Available September 2016)



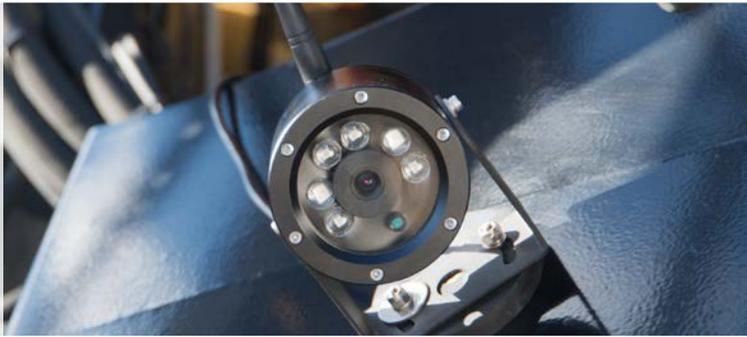
The Axis tablet and apps will give customers a mobile, convenient and highly functional interface for all things SeedMaster and beyond.

- SmartFill™ – saves on time (Available September 2016)
 - Automatically closes gate control on truck or trailer when tank is full or has reached a specific weight
 - Moves conveyor to pre-fill location
- Wireless Conveyor Controls – replaces wired remote control of conveyor on/off, tilt and in/out (Available September 2016)

"SmartFill connects your SeedMaster conveyor and your semi-trailer gates or your truck chute to the SeedMaster Axis tablet. SmartFill reduces the time spent to position the conveyor and reduces fill times by automating gates, chutes, and conveyor belts."

Tim Ottenbreit, SeedMaster Product Development Specialist

The Axis 360° Mobile Monitoring system allows farmers to view up to eight cameras, all from the comfort of the cab.



TECHNOLOGY UPDATE continued

GREATER CONTROL

Ottenbreit says Axis provides even greater control over some of the technology found on SeedMaster drills. An example is SmartFill. The app calculates the entire volume of fertilizer required for a field, which may be 4.25 fills. Rather than filling four complete tanks and then ¼ tank to finish off the field, SmartFill, working in conjunction with Real-Time Product Weighing™, would calculate that each of five tank fills should be 85 percent full. The advantage is less product weight in each fill, making more efficient use of fuel, and reducing compaction and possibly even tire slippage in wet conditions.

EYES ON YOUR EQUIPMENT

Working in conjunction with the Axis tablet, SeedMaster is also launching their 360° Mobile Monitoring system. The camera system comes standard with five wireless, magnetic camera monitors that can be attached to any machine or area that requires improved visibility or monitoring by the operator. Additional individual cameras can be added to a total of eight. The cameras are sturdy, waterproof, and can be used at night with their infrared night vision mode.

“The user interface was designed by SeedMaster with you in mind. We kept the buttons to a minimum while still having maximum functionality,” says Ottenbreit.

ISOBUS READY

New for 2016, SeedMaster TXB and SXX models are ISOBUS capable. ISOBUS allows the operator to use an existing ISOBUS in-cab tractor monitor, no matter the make or model of tractor, and hook

it up to a SeedMaster ISOBUS-compatible toolbar. The existing in-cab monitor can be used to control a SeedMaster air drill and a single product.

“The benefits are huge. Today, you jump into the cab and there is a stack of monitors. The value added is that you can learn one monitor and use it to manipulate different implements,” explains Ottenbreit. “All our TXB models will go out equipped with ISOBUS functionality. Additionally, ISOBUS functionality can exist on new purchases of SeedMaster technology with single-product metering, so you can pair it with your existing metering solutions—SXX models, XXL models, and TXB models with tow-behind liquid distribution.

The ISOBUS technology will allow control of toolbar functions such as Smart Hitch™, Auto Adjust Packing Force Sensor™, and Matrix™ hydraulic block wing-lock feature.

DEPTH ADJUSTMENTS – SIMPLE AND EASY

SeedMaster has also worked to improve on their simple, effective machinery designs. A new Quick Depth Change tool has been developed to make adjustments faster and easier. The tool simplifies the adjustment by eliminating the need for a pin adjustment on each opener. Simply hang the tool on the opener at the desired depth point, loosen the retaining nut with a wrench, adjust, and retighten.

MORE ACCURATE PRODUCT PLACEMENT

Another innovation is the new dual shoot seed boot. It can deliver two air streams to the seed row, allowing the placement of seed and starter fertilizer in the seed row, or peas and inoculants in

the seed row. It was designed to place the packer tire slightly closer to the seed knife, allowing better seed placement without sacrificing mud clearance. The dual shoot seed boot provides more accurate product placement and the increased product release area allows more airflow with reduced backfeed.

OPTIMIZING PRODUCT DELIVERY

SeedMaster has also developed a new seed manifold that optimizes product delivery and is resistant to large-seed blockages. The cone-shaped inserts optimize seed separation and provide uniform distribution even at low seeding rates. Manifolds are available with six, eight or ten outlets, allowing new spacing options on larger drill sizes. A 90-foot drill can now be built on 12-inch row spacing, as a result.

Ottenbreit says that SeedMaster’s continual innovation and refinement is based on the company’s philosophy of helping farmers grow better crops more profitably. Part of that drive for success is to help farmers get the crop in the ground more quickly and efficiently without sacrificing seed and fertilizer placement. And equally important, the new technologies for 2016 will also help farmers get the crop in the ground more easily and safely. He encourages farmers to talk to their local SeedMaster dealer to find out how these new innovations can help them farm more profitably.

TALK TO YOUR LOCAL SEEDMASTER DEALER TO FIND OUT HOW THESE NEW INNOVATIONS CAN HELP YOU.

NEW RESEARCH PLOT DRILL

There is a great demand in the research community for a high performance plot drill that has the same functionality as a full-scale air drill. SeedMaster has achieved this with their newest plot drill.

“When you look at the research agencies, there is equipment of varying ages, conditions and value. Trials are typically conducted on multiple site locations within a given year. It is vital that similar practices and seeding technologies be used across all sites to help limit the coefficient of variation of data across locations,” says Owen Kinch, SeedMaster’s Research Farm Manager.

With input from several researchers, Kinch set about to design a dream plot seeder. He looked at both hardware and software that could be harnessed to make seeding plots accurate, easy and efficient. The drill is based on SeedMaster’s toolbar technology, utilizing the active-hydraulic, ground-following, individual row opener.



SeedMaster’s plot drill gives researchers a simple, ideal way to establish plots using real-world equipment.

NEW RESEARCH PLOT DRILL continued

A DREAM MACHINE

The SeedMaster™ plot drill was designed with flexibility and ease of use in mind. With four, four-bushel UltraPro™ tanks and a cone-style metering system that is capable of metering any combination to either the seed or fertilizer knife, it is extremely adaptable. A quad boot was developed with an adjustable air release chamber to allow up to four products to be delivered to a single knife opener.

At the heart of the drill is technology that drives variable-rate application and as-applied mapping. The drill also incorporates SeedMaster's in-cab hydraulic opener pressure adjustment with an on-screen pressure indicator. A remote calibration monitor allows for one person to calibrate all the tank meters.

Kinch also recognized the need for remote support from SeedMaster, and he incorporated Raven's Slingshot® wireless modem to allow remote support staff to view the in-cab monitor

screen in real time for set-up support and troubleshooting.

GAME-CHANGER

Kinch focused on two areas in particular when developing the plot drill. The first was ensuring it could handle very high application rates of up to four products delivered to one knife. The quad boot with adjustable air release chamber proved this, performing very well in 2015 trials.

"The adjustable air release chamber allows the air to release before it hits the furrow so product placement isn't compromised," says Kinch. "We had no issues with the drill's performance."

The second area of focus was Variable Rate (VR) Mapping to improve seeding efficiencies.

"The VR project speeds up plot seeding significantly because there is much less set-up involved, potentially allowing the researcher to complete more small-scale agronomy plot work in a season," says Kinch. "The potential to increase efficiency in small-plot work is important. Researchers can get more work done in a more

timely manner, which helps produce better research results." Kinch's work with the Northeast Agriculture Research Foundation Manager Stu Brandt validates this.

Kinch is also currently working with Chris Holzapfel at the Indian Head Agricultural Research Foundation (IHARF), analyzing his research data to compare the VR approach with conventional hunt-and-peck methods to prove the concept. Additionally, Kinch has replicated one IHARF conventional hunt-and-peck trial but involving VR application. The goal is to analyze the two trials to ensure that the results are similar between the two methods of application.

The new 2016 SeedMaster plot drill will be launched early January. Kinch plans to sell several plot drills to researchers, just in time for spring seeding.

"This has the potential to be a game-changer for small-plot agronomy researchers and all the farmers who directly benefit from their well-respected research," says Kinch.

REGIONAL UPDATES

A roundup of busy summer, fall, and winter activities, events, and new faces at SeedMaster™.

MASTER SEEDERS CONFERENCE 2015

Over 50 farmers, researchers, and industry participants gathered in Minot, North Dakota, on October 23, to hear about the latest in seeding technology. Attendees were treated to a packed schedule with updates from SeedMaster on new engineering and technology, the unveiling of their new small-plot research drill, a SeedMaster Research Farm update, and a Master Seeders Panel featuring SeedMaster farmers in a question-and-answer forum.

Norbert Beaujot, president and founder of SeedMaster, talked about the SuperSeed Guaranteed program, and why the company believes so strongly in their equipment that they can offer a guarantee of higher profits with a SeedMaster seeding system.

The Master Seeders conference has become a popular event for farmers and other ag-industry professionals to come together to share their information and knowledge.

NEW FACES AT SEEDMASTER

Jake Hatley is the newest ACE Advisor for SeedMaster, covering the northern parts of the

US. He was born and raised in northeast Oregon and currently lives there with his wife and three children. All of them enjoy camping in the summer and are outdoors almost year round.

Rochelle Beaujot, SeedMaster's Manager of Sales and Dealer Relations, is excited to have Jake onboard. "Jake has a huge background in making a territory into an established territory. He is hands-on and loves to learn the technical side of equipment," she says.

Jake is no stranger to the farmers in the northern US as he has been representing ag equipment and precision ag for hundreds of farms in the past ten years. Jake grew up in a welding and fabrication shop where he gained much of his love for equipment and earned much of his mechanical experience.

"I am really excited to grow with SeedMaster and expand the product in the US. I was attracted to SeedMaster because they are a small, family-owned business that cares about and listens to the growers and their needs," says Jake.

Also joining SeedMaster are Duane and Diane Ingerson, as Independent Business Development Specialists. Their business backgrounds include corporate finance work in the energy industry, and loads of experience in the manufacturing world. One of their first priorities is to ensure that current SeedMaster owners in North Dakota have a solid service and parts solution, helping these valued

customers to keep their wheels turning during the seeding season.

"They're a husband-and-wife duo who have been running businesses for years, and have tight links to the North Dakota agricultural market," says Cory Beaujot, SeedMaster's Marketing Manager. "They have already started many growth initiatives to help kickstart SeedMaster's US presence."

For the last 20 years, Duane has owned and operated a manufacturing company in Kenmare, ND, which produced and distributed a variety of patented aluminum toolbox designs through a nationwide truck accessory dealer network. He also operated two truck accessory retail outlets in North Dakota.

"My appreciation of the challenges associated with the manufacturing and distribution of high-quality, innovative products is what drew me to SeedMaster. Their obvious commitment to quality, when combined with a stream of continuously flowing product innovations, provides a solid foundation for further expansion into US markets, which is very exciting," Duane says.

VISIT SEEDMASTER THIS WINTER

Look for SeedMaster at these upcoming trade shows and let us show you why our air drill and carts are the way to go.

Montana Agricultural and Industrial Expo (MAGIE)

Jan 21–23, Great Falls, MT

KMOT Ag Expo

Jan 27–29, Minot, ND

Spokane Ag Expo

Feb 3–5, Spokane, WA

Montana Agri-Trade Expo

Feb 18–20, Billings, MT



Jake Hatley
ACE Advisor



Duane and Diane Ingerson
Independent Business Development Specialists

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