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MACDON'S RIGID AND FLEX DRAPERS GET THE 5 SERIES TREATMENT WITH MORE THAN 30 IMPROVEMENTS BETWEEN THEM.



ave you visited your MacDon dealer lately? If you have you likely noticed that new editions of MacDon's rigid and FlexDraper® headers – D65 and FD75 respectively – are now available. What might have been less easy to notice are the many improvements that have been made under their respective hoods, so to speak.

"The upgrades and changes that have been made on our 5 Series draper headers are evolutionary, rather than revolutionary," said MacDon Product Manager Jason Strobbe. "Our goal from the outset was to take two best-in-class draper platforms and make them even better."

To that end, MacDon sought input from all parties who could contribute.

"We not only received ideas from a number of MacDon departments including manufacturing, parts, shipping and engineering, but also from growers and our dealers. We basically took a

Between the two headers and the CA25 Combine Adapter, which is common to both, there are up to 30 improvements that have been made, affecting everything from draper and reel performance to overall crop retention. Strobbe says the guiding principle behind many of the improvements was making things

"OUR GOAL FROM THE OUTSET WAS TO TAKE TWO BEST-IN-CLASS DRAPER PLATFORMS AND MAKE THEM EVEN BETTER."

look at just about everything on our rigid and FlexDraper® products and asked ourselves, 'can this be done better?'"

simpler; simpler to manufacture, simpler to service and simpler to operate.



"Our rigid and flex headers now share even more in common than before, and many of the parts are interchangeable. Additionally, we've standardized many features making buying and configuring a header easier. The result for growers, in most cases, is a header that is easier to maintain and performs better in a wider range of conditions and crops."

Strobbe points to a number of innovations that have been brought to the draper, to demonstrate one example of how field performance has been improved for the grower. First, components in the draper drive have been strengthened for improved handling under the heaviest crop loads.

Next, tungsten carbide ribs have been added to the steel drive rollers and the draper guides have been lengthened on the header legs. The result is reduced slippage and longer draper life overall.

increases the reel's side to side stability under extreme terrain conditions as well as helps ensure optimal position of the fingers throughout the entire range of the reel's fore and aft positions. The

"WE'VE STANDARDIZED MANY FEATURES MAKING BUYING AND CONFIGURING A HEADER EASIER."

Another performance improvement on both headers can be found in the adjustments that have been made to the reel. Here the reel arms have gone to a straight design from the curved design they had previously. This simple change

reel's end shields have also been redesigned to increase clearance between the reel and header end sheets, improving crop flow and reducing carryover accordingly.



Some of the biggest performance enhancements to both headers can be found in combine applications thanks to improvements that have been made to the CA25 Combine Adapter. Operators familiar with the CA20 will find the newer version easier to install thanks to the replacement of the trim springs with rockers. This one change also reduces the number of parts and components on the adapter – always a good thing.

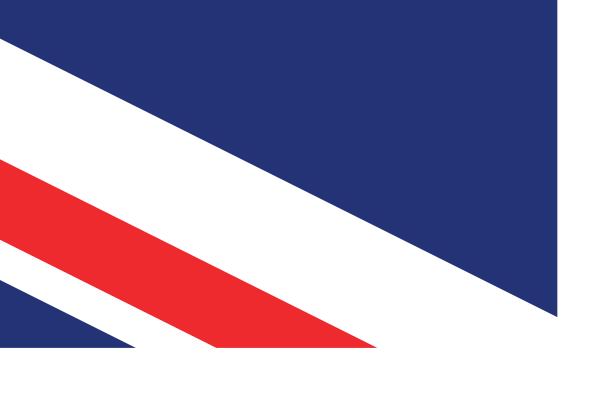
The CA25 also features improved hydraulics that are easier to service with fewer fittings and connection points. Additionally, the hydraulic knife reverser feature is now standard

and draper speed is easier to control thanks to an improved draper speed dial equipped with a position indicator. Even controlling the header's float and tilt has been made easier by mounting the tilt indicator directly on the cylinder, making it easier for the operator to see, and simplifying its overall design, making it easier to service and less sensitive to chaff build-up.

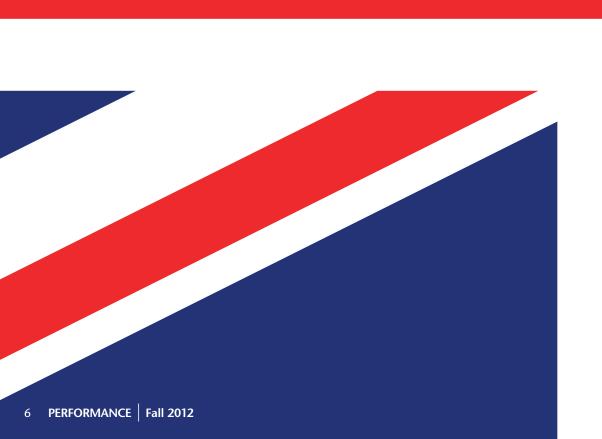
Seed growers will appreciate the improved feed deck sealing design, which provide a better seal between the draper and the front rock sump and poly pan area, have become standard on all adapters. As such, they should experience even less seed loss than before;

notable that MacDon drapers have always been considered top performers in this regard.

"I think producers overall will be very pleased with what we've done with these two headers," said Strobbe. "In our opinion, both platforms already offered best-in-class performance, but the improvements we've made on their 5 Series versions should bode well for some time to come."



WRITTEN BY MARTIN RICKATSON FOR ROYAL SHELBOURNE REYNOLDS ENGINEERING LTD. INTRODUCTION.



he first 12.2 m (40 ft.) MacDon draper header to be delivered to a UK combine user has impressed both its owner and its operator in the unit's first season, despite a harvest hampered by bad weather, and a cropping spread that covered a wide range of types.

"While draper headers have become popular in much of the rest of the world, in Europe they remain relatively uncommon," says Neil Smith of Shelbourne Reynolds, MacDon's UK importer.

"But as more farmers become aware of the benefits of positive feed to the centre of the header and up into the elevator, and cutterbar developments become one of the last areas in which it's possible to significantly improve the performance of a standard combine, we think that's beginning to change.

"The amount of crop needed to keep today's high-capacity combines at full operating efficiency means positive feed is highly beneficial, and being able to angle the header to get under low crops also aids output."



"I had seen them working elsewhere, and was particularly impressed by the positive feed, and the lighter overall weight from the lack of an auger, and the wider range of header adjustment, all of which I hoped would give us more output from the combine than with a standard header.

THE UNITED KINGDOM'S FIRST 40' (12.2 m) DRAPER HEADER PERFORMS WELL DESPITE POOR WEATHER CONDITIONS.





Jes Hansen contract farms the
Tyneholme Estate, near Halesworth,
Suffolk, in eastern England, on behalf
of farming business Antas, using two
combines to harvest 1,600 hectares
(3,954 acres) of wheat, barley, oilseed
rape (canola), combining peas and
grass seed. This season, as part of
a rolling replacement cycle, the
higher-houred of the two Case IH
Axial-Flow 9010 combines he was
running was replaced with one of

the first 9230 models to be sold in the UK. In place of the usual Case IH 10.7 m (35 ft.) conventional header specified for this model, local dealer Ernest Doe Power supplied a 12.2 m (40 ft.) MacDon D60-D Draper.

"At the time, Case IH could only offer header widths up to 10.7 m (35 ft.)," Mr Hansen says. "I felt that the combine could handle a 12.2 m (40 ft.) unit, but I was keen to try a draper header rather than a conventional unit.

"We tried a 10.7 m (35 ft.) unit on demonstration with our old combine, but felt that it wasn't quite what we wanted, the single knife design being one of the issues for us. But the 12.2 m (40 ft.) D60-D unit uses a split knife driven from each end, and the design looked robust enough for our conditions. The price was around twice that of a conventional unit, but I hoped that the output and other benefits would justify the investment."

"I WAS KEEN TO TRY A DRAPER HEADER RATHER THAN A CONVENTIONAL UNIT."

With only the reel and the side knife (vertical knife) being driven directly from the combine, and all other functions being powered from the header's own hydraulic system, Mr Hansen's farm manager Daniel Hald, who operates the combine, says one of the features he was most impressed by in the first season with the new header was the far greater range of movement this makes possible.

ROYAL INTRODUCTION.



"Being able to hydraulically adjust the reel positioning fore and aft means I can virtually lift peas onto the knife with the reel tines, and as they are made of nylon, they are flexible enough to work close to the ground with little risk of them digging in," he says.

"THE POSITIVE FEED MEANT THAT OUR OUTPUTS IN OILSEED RAPE, PEAS AND GRASS WERE 5% TO 10% HIGHER."

"And the ability to pivot the header independently of the feeder housing means I can point the knife downwards to get under peas and laid grass crops without the risk of bulldozing. Because of this, there's no need for lifters, which is a real bonus."

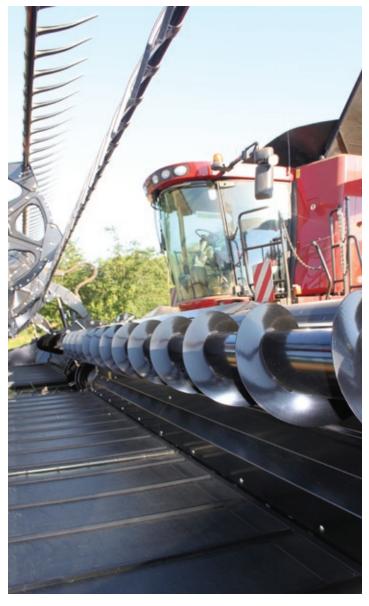
Also given the thumbs-up is the way in which, independently of the combine, the header is able to float mechanically.

"This makes travel across the field with the header raised much smoother. If one of the combine wheels drops into a hole or a tramline, the shock isn't transferred to the header. And at just over 2.5t, which is about the same as a 9.1 m (30 ft.) conventional header, the MacDon draper is also very light when compared to the 10.7 m (35 ft.) standard unit on our old combine, much of that being due to the absence of the auger. In addition, the belts are much gentler on crops such as oilseed rape, where an auger on a conventional header can shatter the pods.

"This and the positive feed meant that our outputs in oilseed rape, peas and grass were 5% to 10% higher during this past harvest, and at least 5% up in cereals."

The business's land is spread out over a fair distance, but the general layout of each farm unit means it's generally possible to cut blocks of 80-100 hectares (197.7-247.1 acres) without having to remove the header or travel on the road, says Daniel.

"But even though the size of our field entrances means we have to remove the header fairly regularly, it's no more difficult to remove and move than a smaller unit," he reckons. "And there's very little maintenance to do on the header itself each day. In three seasons of working with this draper and the ones we've had on test, I've only once needed to adjust belt tension."





WITH 92 YEARS
OF SERVICE
BETWEEN THEM,
TWO MACDON
EMPLOYEES HAVE
BEEN WITNESS
TO MUCH OF
THE COMPANY'S
GROWTH.

you borrow a tool at the MacDon Industries Ltd. factory and forget to bring it back at the end of your shift, you'll soon be paid a visit by a big fellow named Randy Chaikowski. At six foot-two and 280 pounds (1.9 m, 127 kg), Randy "the tool cop" makes an imposing sight as he hulks down the aisles of the factory floor, his head darting back and forth as he searches for his man. "I've been with the company for 47 years and for 25 of those years I've been the Tool Crib Attendant," he explains. "It's my job to make sure the company's tools don't disappear for days on end. Most of the employees are pretty good about bringing the tools back on time, but sometimes I feel like a dad chasing

after one of his kids – 'What the heck did you do with that grinder?'"

Like a lot of burly men, Randy Chaikowski looks more intimidating than he really is.

"I'd be terrible in a fight because I'm too good-natured," he says. "I don't like conflict. I'd rather solve problems with a man-to-man conversation and maybe a joke or two."

Randy's tool crib is a storage room along a wall of the factory with a service window where employees come up and sign for tools. "It used to have bars on the window," he says. "So of course guys were always leaving notes on the bars, like 'Warning: Don't feed the bear,' that sort of thing."

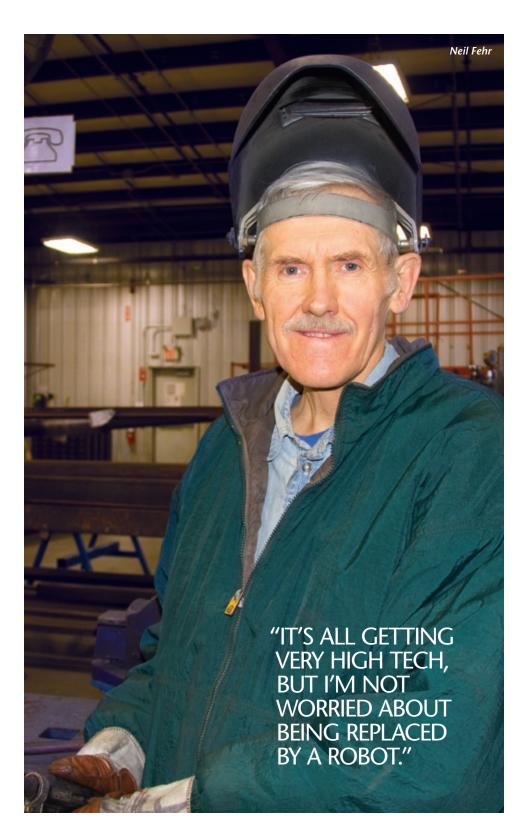
HISTORY MAJORS.

Randy grew up in Winnipeg, raised by parents who were both deaf. "My dad had a pot of hot coffee spilled on him when he was four years old, and his ear drums were damaged. My mom had genetic deafness, so I was the only one in the house who could hear. My dad loved listening to football games on the radio, except he couldn't hear the play-by-play, so I'd draw diagrams and tell him what was going on. I'd do whatever was necessary to help around the house, like answer the phone and do the talking for both of them. Maybe that's why I talk so much."

"Doing the talking" for his parents helped him develop good verbal skills, and for 30 years he represented MacDon hourly employees on the Executive of the Employees' Association. "My main job was negotiating with the company on behalf of the employees. It's a very satisfying role because I like interacting with people."

During his tenure on the Association, Randy and the other two members met weekly with MacDon senior managers to talk about how things were going on the factory floor. "Anybody in the plant who had a problem knew they could take it to Randy," says Neil Fehr, a lifelong welding ace who now works as an experimental mechanic, developing prototypes. He knows something about employee loyalty, having been with the company for 45 years. "Randy is well liked by both management and the employees, and thanks to the cooperation between the company and the Employees' Association we have an employee benefits package that I'm sure is one of the best in Manitoba. We get 100% coverage on dental and vision care, and there's even travel insurance. I think the benefits package and the cooperation between the two sides really helps to retain employees."

Neil Fehr says he "became intrigued" with welding when he was a kid growing up near Gretna, Manitoba, and joined MacDon back in 1967, when it was still called Killbery



Industries Ltd. "I really took to the work, because I always enjoyed tinkering with welding equipment and machinery. But things were rocky in those days because the market for harvesting equipment was poor."

When Killbery started off in Winnipeg in 1949, it was just a small auto repair shop that fabricated trailer frames and agricultural parts on the side. But that all changed in 1951, when the company invented a "self propelled swather" that allowed farmers to lay their crop on the ground for a few

days to dry it before combining it, and the Killbery swather soon became a hit across North America. The swather became the company's main money-earner, but by the late 1960s, the world market was glutted with surplus grain and hard-pressed farmers weren't buying equipment. "We got laid off regularly because of the weakness in the market," says Neil Fehr. "The company was in bad shape until Joe MacDonald came along. He was experienced in the agricultural implements business, and when

the city.) Bruce Kidd was in those days a young MacDon engineer, and he says the ability to "walk downstairs" and talk casually with an expert welder/fabricator like Neil Fehr made the process of developing prototypes much faster and more efficient. "We've never been big on formality, so there are no walls between departments," he says. "You'd sketch a part on the drafting table, walk downstairs, give it to Neil and he'd make it for you."

shop supplies he can swipe a card and pop out they come. It's all getting very high tech, but I'm not worried about being replaced by a robot. A machine will never be able to discuss ideas."

"YOU'D SKETCH A PART ON THE DRAFTING TABLE, WALK DOWNSTAIRS, GIVE IT TO NEIL

he invested money in Killbery things began to turn around for the better."

AND HE'D MAKE IT FOR YOU."

Joe MacDonald became the driving force in the company and it was soon renamed MacDon Industries Ltd. Neil Fehr says Joe MacDonald was not only an excellent businessman, but "a fine, caring gentleman." He says MacDonald was respected by the Killbery brothers and by everyone else who knew him. "He'd never drive past an employee at the bus stop, and I remember days he'd drive the ianitor to work. He knew everyone by name and he'd come through the factory and shake our hands and ask us how we were doing. He established the character of MacDon Industries Ltd. as a supportive, family-style company, and in my opinion that's a major reason it became so successful. The employees are very loyal, and they give it their best effort."

The company had only 47 employees when Neil Fehr was hired in 1967, but under Joe MacDonald's ownership it grew steadily throughout the 1970s. Fehr says the "family atmosphere" of the company fostered a collaborative approach to product development, in which design engineers, fabricators, and welders all worked as a team to build prototypes and test them in the field, (which was literally a farm field right outside

The company became adept at identifying opportunities in the North American farm equipment market. By the 1980s, farms were getting larger, and there was a growing demand for larger, wider harvesting machines. The width of farm machinery, however, was constrained by the width of rural roads and highways, (and by the patience of motorists.) MacDon design engineers "broke the width barrier" by creating a super-wide windrower that was also easy to transport on public roads. In less than a minute, the farmer could adjust the wheels and tow the machine down the highway length-wise. Like most brilliant designs, it was a simple, elegant innovation that no one had considered before, and it took the market by storm. From 1986 to the early 2000s, the MacDon pull-type windrower was the company's leading product. (Nowadays the company's lead seller is the patented FlexDraper® header.) "I loved working on those early designs," says Neil Fehr. "And I still do, though a lot of things in the factory have changed. We don't weld with those dirty old stick welders anymore, and our shop is as clean as a whistle. Our engineers don't use drafting tables and pencil sketches anymore. It's all computerized. I can look at the computer next to my welding station and examine any component in three dimensions, rotating it or whatever. If an employee needs ear plugs or

After 45 years as a MacDon welder, Neil Fehr is approaching retirement age and Randy Chaikowski will be retiring as well. He says he used to know every one of the company's 400 employees "by name and clock number" but now, with over 1,400 employees, he's given up trying to memorize their names. The company has grown steadily, developing new markets around the world for its own products and launching into major manufacturing agreements with world leading OEM (Original Equipment Manufacturer) companies. But, according to Randy Chaikowski, MacDon is still very much a "family type" business where each employee is encouraged to stay for life and develop their career to the utmost. "Our CEO Allan MacDonald is a really decent guy, just like his dad. One time, for example, we negotiated this wage agreement and a few months later, Allan called me into his office for a meeting. It was during vacation, a very unusual time to get called in, and all the way to the office I was real nervous, thinking, what's going on? When I got there he said the economy was in trouble, and he was worried about inflation, which was rising to unheard of levels, and interest rates were in the 20% range.' I didn't like the sound of that, and assumed he wanted to renegotiate our settlement. Then he said, 'I don't think this deal is fair to the employees. Would you be upset if we offered them another two percent?""

Randy Chaikowski says he has many happy memories of working at MacDon, and that's one of them. "I'll miss working there. It's a great company."





t was his frustration harvesting peas that prompted Mike Wagner - a Mississippi rice and soybean farmer and recent President of the Mississippi Rice Growers Association to first buy a MacDon draper header back in the mid '90s. Chemical restrictions set by the USDA, often meant that his peas often grew up in a carpet of morning glories, barnyard grass, brachiaria, broadleaf weeds and "who knows what else."

"Sometimes, there was literally a four inch (101.6 mm) layer of morning glories over top of the peas," said Wagner whose 4,000 acre (1,618.7 hectares) farm is located near Sumner, Mississippi, in the Mississippi Delta. "You might be able to drive five feet (1.5 m), 50 feet (15.2 m) or 500 feet (152.4 m), but sooner or later you would soon choke your auger up and have to get out with a hookbill knife and cut all that refuse off to get going again."

But Wagner knew there must be a better way.

"I would look at the old drapers made by Case IH or International Harvester and knew that a draper was the answer. I had dreamed of a machine like that for years, and was busy trying to invent one."

"I HAD DREAMED OF A MACHINE LIKE THAT FOR YEARS, AND WAS BUSY TRYING TO **INVENT ONE."**

But then he heard of a MacDon draper header being sold in Arkansas so he traveled there to investigate. What he found pleased him greatly.

"MacDon had beaten me to it, and I was glad because what I saw was definitely a lot better than I could have done. I didn't care what they charged for the header; I bought it on the spot."

TRAILBLAZER.

Wagner says the draper immediately proved its worth, not just in peas but also rice and soybeans. Because of the way it cut and fed so evenly, it eliminated a significant portion of the slugging that had been causing him so much grief, particularly in rice. Gone were the days of having to frequently stop to cut material from the header.

"It brought my blood pressure down. I wasn't getting so frustrated anymore."

He also noticed another significant benefit when the crop was damp.

"We have such heavy dews here. The extra moisture won't allow the crop to slide against the metal on the table easily, so it just piles up. But with these MacDon drapers the backside of the cutterbar is literally four or five inches away from the belt so that when you cut that

"IT ALLOWED US TO START EARLIER IN THE MORNING AND CUT AN EXTRA 30 MINUTES A NIGHT."

head off it just topples back onto the belt; it can't help but feed evenly. Extra moisture wasn't a problem. Once we were able to figure out what it could do, it allowed us to start earlier in the morning and cut an extra 30 minutes at night – you could just keep cutting if you wanted to."

The benefits of his new header were so dramatic Wagner couldn't keep the secret to himself.

"There were a lot of people who came from across Mississippi to ride with me to see that header over the next five years. They noticed how it almost eliminated the slugging and allowed us to harvest quicker, 20% to 30% more a day - sometimes 100% more under the right conditions."



The draper concept began to take hold and Wagner started seeing a lot of them in Arkansas and Mississippi - all of them MacDons. But there were still holdouts committed to their augers. It would take an event as big as Hurricane Katrina to convert the rest.

"It was a horror story in 2005. Five days before Katrina we had a storm with several inches of rain and straight line which blew most of the rice over. Then Katrina hit dumping I don't know how many inches of rain on us. That finished laying the rest of the rice down in the water, completely lodging it and causing some of it to sprout. Two and a half weeks later Hurricane Rita come through."

For most producers still harvesting with augers, the crop was lost. But for those like Wagner, lucky enough to have MacDon drapers, the experience was different.

"The rice was flat on the ground with the heads layered on top of the mat of straw just above the water table. It was a mess but we were able to set our MacDon headers at water height and get most of those heads."

"TODAY I CAN NOT THINK OF A SINGLE PERSON WITHIN A 30 MILE (48.3 km) RADIUS THAT USES AN AUGER HEADER."

"That experience turned many non-believers into believers and many people who felt that they didn't have the finances to purchase a new MacDon draper, found the money to buy them after those two hurricanes. Today I can not think of a single person within a 30 mile (48.3 km) radius that uses an auger header on a combine in rice, soybeans or wheat. There's iust none left."

Wagner says that one of the most noticeable effects of Mississippi's draper revolution has been a reduction of the number of pieces of machinery on most farms. Wider drapers have made possible the use of larger combines, "I had places where we had \$200 of beans an acre already popped on the ground. We were cutting beans that were popped out, and we were still throwing green beans into the hopper. If we'd had a flex auger header out

"IT'S AS GOOD A PIECE OF MACHINERY THAT I'VE EVER BOUGHT IN MY LIFE, I KID YOU NOT."

and now most producers require just one combine for their harvest, whereas two used to be the norm for a 1,000 acre (404 hectares) operation. The multi-crop versatility of a MacDon draper has also had an impact.

"At one time two headers for each combine was standard operating procedure. We had a rigid rice header, and we had a flex header. Now, no one uses two headers; we've all cut back to one header."

With 4,000 acres (1,618.7 hectares) of rice and soybeans to cut, Wagner still uses two combines for his harvest. One of them is equipped with MacDon's 40' (12.2 m) FD70 FlexDraper®. Between it's enormous width and advanced harvesting capabilities, Wagner says that it is truly a machine to marvel at.

"The combination of width, flex, ground sensitivity, even feeding and gentle crop handling; no one else is able to do that. Its the way MacDon is able to bring all the features together in one machine that makes the FD70 so great. It's also why MacDon has sold so many headers in Mississippi."

He says the gentle harvesting abilities of the FD70 (which can result in significantly reduced shatter) were demonstrated well in this year's soybean crop, the result of one of the "weirdest" growing seasons he can remember.

there trying to do what we were doing we would have left a lot on the ground. The difference may have been two, three even four - bushels an acre. "

Another thing that he really likes about MacDon's FlexDraper® concept is the way it reduces dust in an extra dry crop like his soybeans this year.

"The MacDon draper cuts down on dust by 60% or 70%. That's because there's less crop bumping around up against that auger all of the time."

Given Wagner's love for his new FD70 you can be forgiven if you are a little bit shocked to discover that the header on his other combine is going into its 17th year of service with his operation. Purchased in 1997, this 25' (7.6 m) MacDon 972 Draper is now mounted on its fourth combine, with no sign of slowing down.

"It's as good a piece of machinery that I've ever bought in my life, I kid you not. It just keeps going on and on and on. I'd like to buy a new one but I don't see any compelling reason to change, it's still doing the job I need it to do. If you're interested in a new MacDon header, I can certainly tell you how long it's going to last."

