Explore iT – real forage quality

Self propelled forage harvesters 7080 series

JOHN DEERE

Discover the exceptional new **KernelStar!**

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Making the right choice

You are about to make an important decision. A decision that will affect your business for the next 3 - 4 years.

It's easy to focus on facts and figures like engine horsepower, header width and top speed but don't forget about the issues that really matter.

A forage harvester is not just a machine. It is a powerful business tool which strongly influences the level of silage quality, customer service and, ultimately, your profitability.

This book is about answering the questions that really matter and helping you to make the right choice.

7 reasons to choose John Deere ...

Forage perfection

The 7080 Series is the result of more than 40 years forage harvester experience. Now, with the combination of HarvestLab technology and AutoLOC system, length-of-cut is automatically set by the dry matter content, so silage compaction in the clamp and its quality are significantly improved. Add to this real-time constituent measurement and you have unrivalled control over silage production.

Excellent crop versatility

You need a machine that's a good all-rounder for high utilisation. Some machines are good in grass, others in maize. With our world-wide testing programme we've tested and developed a machine that can easily be optimised for a wide variety of crops. This is matched to a full range of headers for grass, green crops, maize and bio fuel coppice – so you have 4 season versatility.

Low running costs

We have reduced wear costs by introducing additional liners in key areas. Now you can reduce wear costs even further with our new Dura Line liners which last more than 4 times longer.

Add to this the new Engine/Speed Management System which reduces fuel consumption by up to 18,9% in field use and you have a highly cost effective package.

Easy to operate

The 7080 Series brings together our vast experience of agricultural equipment control with logical instrument displays and ergonomic controls for easier operation. We've also introduced a wide range of intelligent features which helps you and your operators get consistently the best out of your investment.

World-class support

We have an extensive dealer network with John Deere trained technicians who are capable of servicing and maintaining the whole machine – engine, transmission and electrical systems. Add to this Service ADVISOR Remote computer diagnostics and 24 hour parts delivery and you can be confident that we'll be there if you need us.

Powerful business management tools

We know that today's forage operators have to manage the business as well. Invoicing, record keeping, harvest analysis, equipment monitoring and maintenance can all be done faster and more efficiently than ever through powerful software and management systems such as Harvest Doc and JDLink.

The John Deere brand

John Deere has focused on quality ever since 1837. We understand contractors, farmers, biogas producers and their business. We've stood by our customers through the good times and the bad times. It's what's earned our world-wide reputation and loyal customer following.

The exceptional new KernelStar processor is redefining forage quality. Exclusive to John Deere, its patented bevel edge discs produce an aggressive crushing action which smashes maize kernels, releasing more energy.

"Everybody has their own reasons for buying. I was only interested in what it would do for my profitability."

"Thinking beyond the machine ... in the forage business it's the total package that counts."

Explore and experience

When someone's business is dependent on the quality of silage you cut, it's essential you have the right machine for the job. John Deere has been in the forage harvester business for more than 40 years and the hay business for 140 years. This gives us a broad base of experience and understanding of our customers needs on which to develop forage harvesters especially for their requirements.

Your customer's business rests on a

Buying a forage harvester is a major investment, so it's important to make sure it's going to be in demand from your customers.

Customers want their forage harvested as quickly and efficiently as possible. They want it done for the best possible price. But above all, they want high quality silage.

The quality of the silage you harvest can have a big effect on milk production, livestock growth rates and biogas production. Get it right and you can make a positive impact on the profitability of your customer's business.

John Deere works closely with some of the leading agricultural organisations and universities in the world to continuously develop and refine our forage harvesters and ensure they deliver the best quality silage. Silage that produces better quality milk. Silage that delivers high energy for livestock growth and silage that generates the maximum amount of biogas.

"My silage is cut in a single day but it affects my milk production for the whole year."

knife edge

Quality silage for livestock

The quality of silage has a direct relationship to the value of milk production. The more dry matter, the higher the nutrient value and that means savings on feed supplements. The length of cut is crucial as well. Too long and the cow will ruminate for longer and produce less milk. Too short and the risk of acidosis increases. With innovations such as our HarvestLab real-time moisture monitoring you know exactly how much dry matter is in the silage and with Infinitely Variable Length-Of-Cut control (IVLOC) you can get the perfect length of cut to maximise your milk production. This is automatically monitored with the AutoLOC system.

Quality silage for biogas

It doesn't matter what crop you process – maize, whole crop or grass – to produce the maximum quantity of biogas you need high quality silage. Harvesting for biogas means you need to chop shorter for closer packing (typically 5 – 7 mm) which increases fuel consumption and reduces throughput. That's why you specifically benefit from the highly efficient crop flow channel (unique on John Deere SPFH) and the engine-speed management gives you extra fuel saving at full throughput capacity.

Experience you can put your trust in

We've been building forage harvesters since 1966 when the first large-scale demand for winter forage began. Today you benefit from that heritage with over 40 years of continuous evolution and innovations built into the latest 7080 Series.

1966

34 Pull Type Forage Harvester

This was our first forage harvester. Built in North America it was soon adapted to the more difficult to cut European grass and its popular design helped build a strong reputation.

1971

3760 Pull Type

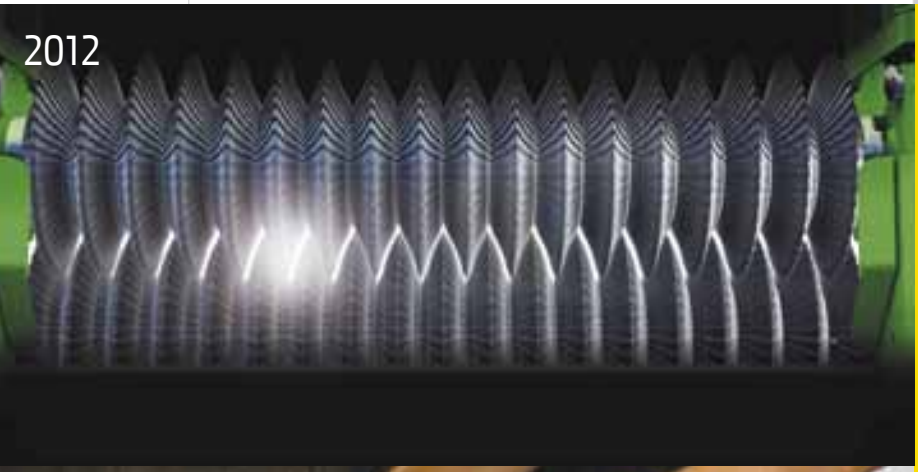
A forerunner of today's SPFH machines. The completely enclosed rotor provided better movement of the crop through the spout and the multi-knife drum design allowed the harvester to continue working even if a knife was damaged.

1972

5200 – 5400 Series

Our first Self Propelled Forage Harvester. There were two models in the range (175 hp and 212 hp) and a choice of interchangeable headers. Innovations included reverse grinding of the cutterhead – a feature of today's 7080 Series.

"You want to know you're buying from a company that knows what they are talking about."



2012

KernelStar + constituent measurement

A new bevelled edge disc processor is introduced. It doesn't just crush kernels, it smashes them, unlocking more energy from the forage.

Real time constituent measurement is added to HarvestLab. Winning a medal at Agritechnica it provides dairy farmers and biogas producers with a new level of business information.

2010

7950 + 9 metre header

The launch of the new 812 hp 7950/7950*i* and the 390*plus*, a 9 m row independent header, sets a new benchmark in John Deere SPFH productivity.

2006

The *i*-Series

The award winning HarvestLab, real-time moisture measurement and Harvest Doc software are linked up to IVLOC to provide automatically adjusted length-of-cut. It sets a new level of operator control, accuracy and business management.

2003

IVLOC

Infinitely **V**ariable **L**ength-**O**f-**C**ut gives the operator the flexibility to precisely set the length-of-cut through a unique mechanical transmission.

1998

GPS

Our new Agricultural Management Systems (AMS) Division offers satellite guidance – with an accuracy of 1 – 2 metres! Within 5 years this is lowered to just 10 cm.

1997

Kemper

John Deere acquires Kemper, the inventor of the revolutionary row independent rotary header. Low in maintenance, their high throughput brings new levels of productivity.

1992

6010

Worldwide production moves to our Zweibrucken factory in Germany and the quest for greater power increases with a choice of four models up to 410 hp – more than double 20 years earlier.

1981

5720 – 5820 SPFH

The demand for power pushed output to 290 hp and these were the first harvesters to feature the SoundGard cab which set new standards in operator comfort and noise levels.

More than 175 years in the making

In today's uncertain times it's reassuring to know there is a name you can depend on – John Deere. We've been around since 1837. In that time we've been through more economic downturns than we'd care to remember.

Throughout all this, John Deere has remained as one, because we've never compromised our founder's values. Speak to anyone at John Deere and it won't be long before you hear them talk about quality. Quality is part of our DNA. It's one of our four values: Quality, Integrity, Commitment and Innovation.

We're proud of our name too and we take our reputation very seriously. When people see the John Deere badge they put their trust in us and we have a duty to meet their expectations.

"I will not put my name on a product that does not have in it the best that is in me."

John Deere

Quality

You rely on quality and reliable equipment to get the job done and make a living for your families. Agricultural equipment is deceptively complex. There are more than two million lines of computer software code on an SPFH, more than in the first space shuttle. Our challenge is to strive for zero-defect quality and reduce equipment failure.

Integrity

Integrity is about always telling the truth, keeping our word and treating others with fairness and respect. For the second year running, John Deere has been chosen by the Ethisphere Institute for its annual list of the World's 100 Most Ethical Companies, recognising our commitment to ethical leadership and corporate social responsibility.

Commitment

John Deere demonstrates its commitment to you by offering more than quality products. Through our employees and dealers, we strive to build strong relationships with you, understand your challenges and provide the products and services that will make you successful.

Innovation

Innovation means inventing, designing and developing breakthrough products and services that are relevant to our customer's needs. Our machine guidance system, AutoTrac steering, is a good example of this. It virtually eliminates overlap, saving fuel, time and costs, as well as wear and tear on the machinery. Operator fatigue is reduced and productivity is increased.

100% green and yellow

Our forage harvesters are designed, tested and built by John Deere engineers. We manufacture all the core components ourselves: engines, transmissions, cabs, electrical components and crop headers. It's what earns our outstanding reputation for quality.

Instead of buying components designed for other commercial applications, we build our own components which are exclusively designed to withstand the unique stresses and strains of chopping crop hour after hour. Take our award winning PowerTech Plus engines. These are built at our own factory at Waterloo in USA, where we've made more than 1 million engines since 1975.

By retaining all the core component capabilities 'in house', we're able to perfectly balance all the components in the 7080 Series from the header right through to the spout for optimum efficiency.

Claus Vogelgesang – Design
"We worked hard to ensure the design makes the 7080 Series easy to operate and easy to service."

Dr. Martin Bueermann – Head of Production
"Our goal is best-in-class product and manufacturing quality. That goal is captured very well in our 'Reliability Is Our Strength' motto."

Worldwide test programme

We test our forage harvester prototypes on a rolling worldwide programme from the North American prairie to the plains of central Europe and the fertile valleys of New Zealand. This allows for all-year round testing and accelerated product development, so we can be sure we bring the latest innovations to our customers in the shortest possible time. It also gives us the widest possible test conditions from abrasive, sandy soils to soft clay and steep inclines. That means you can be sure that whatever conditions you encounter, your 7080 Series is more than up to the task.

Forage harvesters are assembled at Zweibrucken in Germany using the Deere Product Quality System. More than 10,000 have been built here since 1992.

Harald Freyer – Testing

"We test all year round, right across the world in completely different conditions to deliver the best possible performance and reliability."

2

Explore real business

In designing the new 7080 Series we've looked at the whole production cycle from harvesting high quality, high output silage, to ease of operation, information management and fleet logistics. In the new 7080 Series you'll find a forage harvester that will guarantee premium quality silage no matter who is driving or what crop you are cutting. Highly fuel efficient with real-time intelligent systems, it lets you manage your business with a new level of precision.

Unrivalled choice

No other manufacturer gives you the choice of standard or wide bodied forage harvesters – we give you the optimum balance between harvesting capacity and engine power. The 7080 Series covers the full spectrum of forage applications with a choice of six high efficiency models from 380 to 812 hp so you can find the perfect match for your business.

Choosing your exact model of forage harvester is a complex mixture of hectares harvested ... crop types ... length of working day ... trailer fleet logistics ... size of customer's silo ... and the amount of road transport between jobs. For many operators the choice is down to experience and the size of their existing harvester but with changing customer demand and a drive for high productivity, there is a trend towards higher horsepower and greater harvesting capacity.

7480i

7980i

Model	Maximum Power/HP	Crop Channel
7180	380	Standard
7280	440	Standard
7380	490	Standard
7480	560	Standard
7580	625	Standard
7780	625	Wide
7980	812	Wide

Optimum capacity crop throughput

The higher the horsepower, the more throughput and the wider the crop channel needs to be. The truth is, most manufacturers compromise the capacity or the performance with one channel size. That means it's often too wide for their lower horsepower machines and not wide enough for their high horsepower models. So if you're harvesting at extremely slow feed rate for very fine chop you're not using the harvester to its optimum capacity with a higher horsepower engine. Or, if you're harvesting maize with a lower horsepower machine you simply can't get enough throughput to enjoy the productivity gains of a wide header and the machine will simply choke. Either way, it seriously affects the machine's efficiency and fuel consumption.

John Deere offers two size crop channels so you can get the perfect balance between power and capacity. Each crop channel spans a range of around 200 horsepower, so it doesn't matter what the crop density, you're always harvesting at close to the optimum horsepower to crop channel size.

Our wide body crop channel is available on two models and will give you the throughput you need for high capacity headers like the new 9 metre Kemper header 390*plus*. To give you some idea of its capability, in field tests with the smaller 7.5 metre Kemper header 375, the top-of-the-range 7980 cut more than 300 tonnes of maize per hour (enough to fill 25 x 40 m³ trailers) and the only real limit was the logistical management of support vehicles and the speed of silo compaction.

Standard crop channel

Wide crop channel

"A wide body machine gives me the extra capacity I need for biogas customers."

Today's intelligent forage harvester

Modern intelligent technology makes farming machines such as John Deere's 7080 and 7080i Series forage harvesters more efficient and cost effective.

The 7080i models also feature John Deere's i-solutions. These include a mass-flow sensor in the feedrolls, the AutoLOC system, a GPS-based StarFire receiver for satellite positioning and the DLG-certified HarvestLab system. Together with the Harvest Monitor analysis system and the Harvest Doc yield documentation system, the Harvest Lab system forms the *i*package. With the *i*package the operator can monitor and record all harvest data and use it to optimise compaction and silage quality.

1 ***Harvest Doc system:*** *Automatically records all harvest data such as yield, dry matter content, cut length, throughput, fuel consumption, silage additives and constituents.*

2 ***CommandARM:*** *Ergonomically placed controls with single lever control for one-handed operation.*

3 ***Row-Trak II automatic guidance system:*** *Automatic row guidance system that does not rely on satellite signals. Ideal for corn crops and 75 cm distance between rows, it increases operating speed both day and night.*

4 ***AutoTrac automatic steering system:*** *Satellite steering system for harvesting in both parallel lines and curves. Full header utilisation and stress-free driving in corn and whole crop silage.*

5 ***Automatic Spout Positioning:*** *For spill-free and stress-free high speed trailer loading.*

6 ***HarvestLab:*** *Measures dry matter content and constituents every few seconds, with up to 3,600 measurements per hour to automatically adapt cut length and silage additive dosage depending on yield and moisture.*

7 ***Engine/speed management system:*** *Automatically regulates engine speed based on field conditions. Clearly saves on fuel through reduced fuel consumption during idle running phases.*

8 ***ProDrive System:*** *Automatic transmission for infinitely variable speed adjustments of up to 20 km/h in the field and 40 km/h on the road. 4-wheel drive and anti-slip regulation (ASR) ensure excellent power transfer to the ground and traction.*

9 ***AutoLOC:*** *Infinitely variable Length Of Cut – sets cut length to match dry matter content for increased machine productivity and efficiency, higher cutting quality and lower fuel consumption.*

"The more your machine can do for you, the more time you've got to focus on your business."

Perfectly balanced control centre

Comfort

Panoramic view
4 square metres of glass gives you excellent all-round visibility for confident handling of wide headers and accurate spout positioning for spill-free loading.

Spacious interior
The spacious cab is almost 1.6 m wide, giving you the freedom to move around and includes an instruction seat for easy operator training.

Excellent air quality
Whatever the weather you can perfectly control the temperature to suit your working style with the easy to use and responsive heating and air management controls which include our ClimaTrak air conditioning system.

The interior is also pressurised with filtered air to prevent pollen, inoculants and other materials from entering the cab so you'll enjoy a high quality, clean air environment all day long.

The perfect driving position
Our Super Comfort Seat is designed to smooth out the bumps when you're harvesting over the roughest terrain or driving at high speed on roads. The air suspension system features low frequency technology to soak up vibrations and you can set it to perfectly match your body weight.

Add to this a tilt and telescope steering wheel and you'll find it easy to get the optimum position to suit your driving style.

Thoughtful features
Our cabs are more than just functional working environments they're designed to make life easy with lots of handy features such as additional power sockets for charging your mobile phone or MP3 player. There's even a cool box to keep refreshments and snacks cool for when you need a break.

Sound-proofed

The cab's laser welded unibody structure gives it enormous torsional rigidity. Add to this 4 rubber mounts and sound absorbing insulation and you have a quiet working environment so you can concentrate on maximising your harvesting efficiency.

Control

Clear instrumentation
The corner-post monitor is cleverly designed with all your key information available at a glance without obstructing your view of the header. The information is logically arranged into 3 blocks so you instantly know where to look for what you want. It's all designed to make driving much easier.

Smart control command
The CommandARM control panel places all the critical controls in one place. Ergonomically designed, all the switchgear is in its logical position so even if you're not familiar with a John Deere SPFH, you'll find it's easy to master.

You can choose your preferred settings for the throttle, spout rotation speed and up/down adjustment, header drive speed – and then control them using the single multi-function lever. There are also spare programmable positions so you can control additional equipment and customise the 7080 Series to suit your specific harvesting requirements.

Single lever operation
The multi-function lever puts all the essential controls in the palm of your hand:

- Quick stop button that shuts off the header and feed rolls
- Vertical and lateral header adjustment
- Header engage/disengagement and feedroll reverser
- Spout control
- Row guidance and AutoTrac system activation
- 3 programmable buttons allowing you to select pre-set functions such as header position, hydraulic ground pressure or automatic spout positioning

Work into the night
Your forage harvester is equipped with a wide range of lights for harvesting and on-road driving. You can also supplement the standard lighting configuration with additional lighting including powerful new xenon lights for extended visibility. With AutoTrac guidance and the right lighting package it's now possible to harvest as efficiently at night as you can in the day, so you can extend your harvesting hours to get the job done faster.

"I practically live in the cab during the harvest season, it's a great place to work."

Four season, all crop capability

The 7080 Series is designed for maximum versatility and all-year round utilisation. Spring grass ... summer green crop ... autumn maize and winter willow ... now you can meet the needs of more customers than ever and run your forager for longer. Our new range of 14 headers covers every crop type, giving you greater throughput and efficiency.

CROP	MODEL	WORKING WIDTH/M	TYPE
Whole Crop	ProfiCut 620	6.2	Discs
	300plus	6 – 9.0	Small drum
Wood biomass	CRL	3.0	Discs
Grass/Hay	630C	3.0	Finger/ Paddle auger
	640C	4.0	
	645C	4.5	
Maize	345	4.5	Small drums
	360*plus*	6.0	
	375*plus*	7.5	
	390*plus*	9.0	
	445	4.5	Big drums
	460*plus*	6.0	
	475	7.5	

Whole-crop performance: ProfiCut 620

The ProfiCut 620 header is a new, high efficiency header that's the perfect solution when you want whole crop silage with clean, low-cut stubble. It has approximately twice the capacity of a traditional combine header and a low profile design that gives the operator excellent forward visibility.

Developed exclusively for John Deere foragers it is robustly designed with a single drive shaft and just two drive chains for minimal maintenance and low power loss. The header pivots so it hugs the ground for a clean cut and the auger is close to the feedrolls for optimum crop flow. The ProfiCut 620 header not only delivers excellent chopping quality, it also saves fuel. So now operators have even greater harvesting versatility with this high efficiency and robust header.

640C

ProfiCut 620

360*plus*, 375*plus* and 390*plus*

"Choosing the right header is essential for maximising your harvesting capacity."

Whole-crop performance: 300*plus* – the Multicrop header range
With the 300*plus* header you don't have just a maize solution! It gives you the opportunity to optimise your return on investment by extending use into whole crop. Just imagine up to 9 metres working width in almost all standing crops, a smooth crop flow to the forager and a unique transport solution which can be installed without leaving the cab! This is another innovative John Deere business solution.

Light work of wood

Our new wood chipper header has been designed to help you take advantage of the growth in short rotation coppice willow and other biomass crops. Unlike modified sugar cane headers the CRL has been developed from the ground-up specifically to cut wood efficiently and with a high throughput. Now you can extend your harvester's working time through into the winter with high capacity harvesting of biomass.

460*plus*

CRL

Masters in grass

John Deere 600C windrow pick-ups are based on a solid tried and tested design and now feature simplified drives and further optimised crop feeding for truly high speed performance in all conditions. The secret to the design is the combination of a small-diameter pick-up reel and a large diameter auger which provides excellent crop feeding.

The small diameter pick-up reel delivers close, clean raking which keeps crop loss to the absolute minimum. A compressor sheet increases its effectiveness further, holding the crop against the tines as it moves up to the auger so feeding of difficult, light crops is more even. The large diameter auger tube increases the tangential flow speed and reduces the risk of the crop wrapping. Add to this a flotation system which is adjustable on both sides and the auger can manage a huge crop mat in all conditions.

The 600C pick-ups receive a series of major design revisions which take performance to a new level. These include less but significantly reinforced chains which reduce maintenance, but more importantly, provide stronger power transmission for the high horsepower 7980 harvester. All pick-ups are also available with a pivoting frame so the pick-up follows the ground contours on uneven fields.

There's also a choice of two types of auger: finger or paddle. The retractable fingers on the finger auger push the crop as close as possible to the feedroll housing for perfect feeding, even in very light, late grass. The paddle auger is a low maintenance alternative with adjustable paddles so you can optimise the feeding for different types of crop.

Whatever pick-up you choose you can customise it to exactly meet your specific harvesting requirements. Options include hard wearing ball bearings on the auger pick-up reel for harvesting in sandy soils, a roller compressor to improve feeding of light crops and automatically folding hydraulic wheels for easier road transport.

"You need a header that can perform in all conditions including light, dry grass."

Maize perfection

Built by Kemper, a John Deere company, our row independent headers are legendary for their high capacity, reliability and low maintenance requirements. There's a wide choice of small or large drum models to match different crop heights and different capacity machines.

The 300 rotary headers give exceptional performance in a short and compact design thanks to small drum concept. The crop is quickly secured on the head. In addition the new **300*plus*** sets the benchmark in harvesting productivity. These maize headers deliver superb handling even in fallen crops and unmatched throughput for high horsepower machines.

The 400 rotary headers are the ideal solution for high and strong maize (>4 m).

A new centre transport wheel is available for wide headers which allow the header to be set closer to the ground during road transport. Apart from better visibility for driving, it has the added advantage of reducing bounce, so there's less need for extra weights to stabilise the harvester at speed. The wheel also takes some of the load off the front axle so tyre pressures can be reduced, helping to minimise compaction in softer soils.

Rotary headers also require very little maintenance which is another big advantage. Apart from a regular oil check on the gearboxes and daily greasing of the PTO shaft, most maintenance is only required once a year. The tungsten carbide coated saw type blades are extremely hard wearing and the only wear part that needs checking on a regular basis.

Whole crop capability

Small disc rotary heads also perform well in standing thin stemmed crops. This capability is unique to John Deere and if you don't regularly cut whole crops it makes a rotary header a very cost effective investment.

Folding to within 3.3 m width limit, even the **390*plus*** is easy to transport with its centre support wheel.

Header 460 in action

"Rotary maize headers are highly versatile. I use mine for whole crop as well as maize."

Maize Header Compatibility

Header	Width/m	7180	7280	7380	7480	7580	7780	7980
445*	4.5	■	■	■	■			
460*plus**	6.0			■	■	■	■	■
475*	7.5					(■)	■	■
330	3.0	■	■	■				
345	4.5	■	■	■	■			
360plus	6.0	(■)	■	■	■	■	■	
375plus	7.5				■	■	■	■
390plus	9.0						■	■

*These are large drum models which are generally used in tall maize > 4 m

Bio-mass versatility

The drive for renewable energy is changing the face of agriculture as many farmers are diversifying from growing food to supplementing their income with bio-mass products for either biogas production or direct electricity generation.

Nobody quite knows what the future will hold with increasing food prices and changing government policies on subsidies for alternative renewable fuels. What's important is a machine that gives you the flexibility to meet your customers changing business requirements. That's why the new 7080 Series is available with an unprecedented number of options for harvesting different bio-mass products.

The new ProfiCut 620 header cuts a wide variety of whole crops very close to the ground. The new 300*plus* multicrop headers offer versatility in 9 m working width and compact design for transport or for willow and other short-rotation bio-energy crops, there's the CRL disc head. All are field proven designs and give you the capacity and efficiency you need to meet the demands of this expanding market.

Willow and other short rotation bio-energy crops are often grown on marginal soil that's unfit for regular food production. So you don't just need a high efficiency header to harvest crop, you also need a machine that will handle steep gradients and poor soils. Here the ProDrive system really comes into its own. This unique propulsion system has the traction to handle steep inclines and soft soils with ease – as well as offering high fuel efficiency for lower cost harvesting.

Machine capacity is also an important requirement in bio-mass harvesting. Once again the 7080 Series offers a clear advantage with wide bodied machines with a more efficient, higher capacity crop channel.

"Flexibility is essential as the needs of my customers are changing every season."

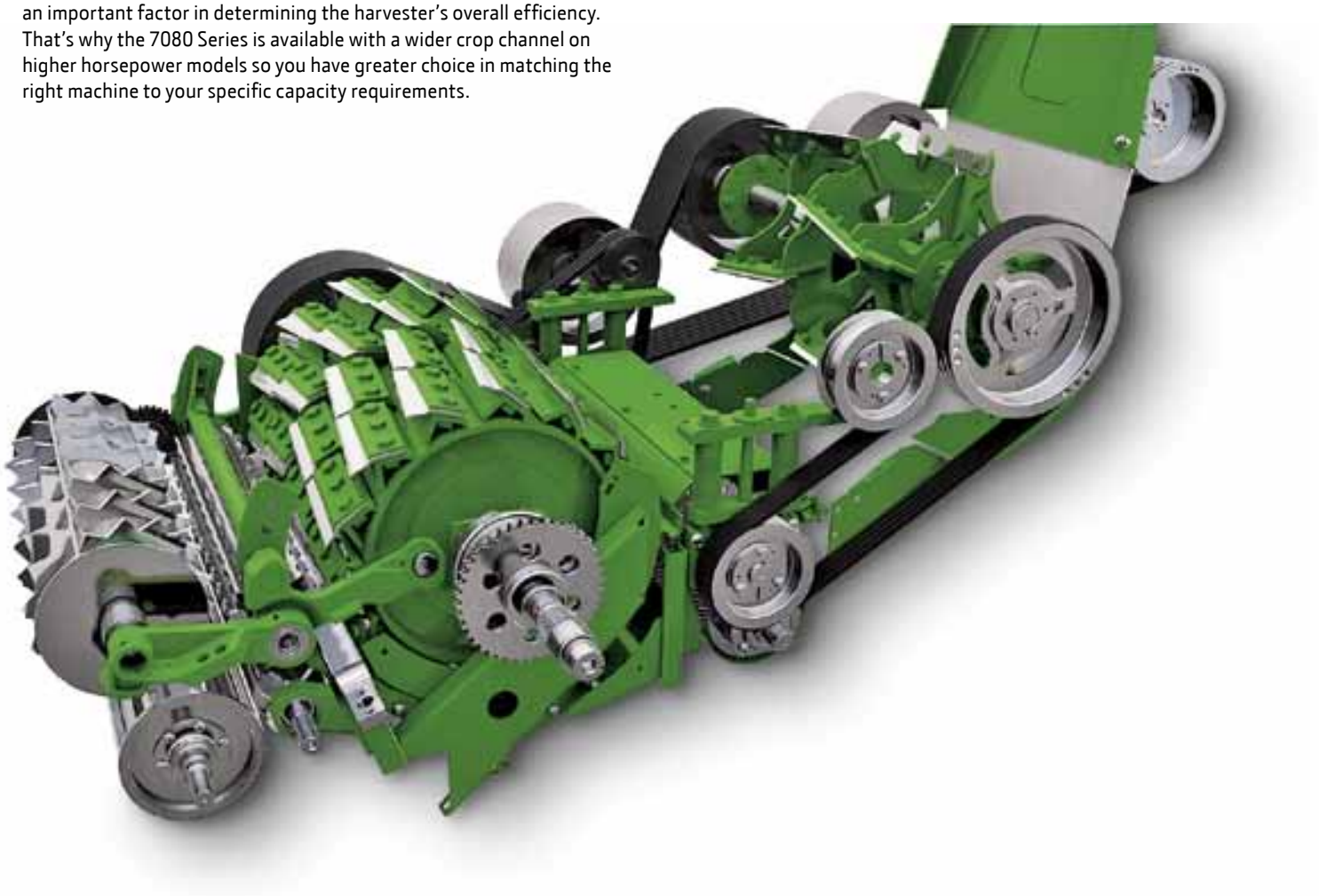
Smooth & efficient crop flow

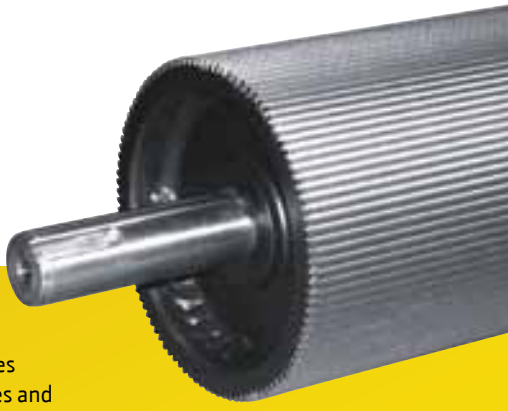
The crop flow is vitally important in determining the harvester's operating efficiency and quality of silage. The 7080 Series has a smooth, uninterrupted path that feeds the crop in an even mat across the cutterhead and then gently funnels the cut crop into a column which passes at high speed through the chute and into the spout for fast and accurate trailer filling. Unlike some forage harvesters which use larger cutterhead knives in a 'V' configuration which channel the cut crop into the centre of the channel, the multi-knife Dura-Drum cutterhead on the 7080 Series is designed to evenly distribute the cut crop across the full width of the crop channel. This not only ensures utilisation of the full width of the kernel processor in maize, it also allows the crop to gradually merge into a column as it passes up through the chute. This is one of the many reasons why John Deere forage harvesters are so fuel efficient.

The balance between engine horsepower and crop throughput is also an important factor in determining the harvester's overall efficiency. That's why the 7080 Series is available with a wider crop channel on higher horsepower models so you have greater choice in matching the right machine to your specific capacity requirements.

Crop Channel Options

Crop flow component	7180, 7280, 7380, 7480 & 7580 standard	7780 & 7980 wide body
Feedroll	660 mm	780 mm (+18%)
Cutterhead	710 mm	830 mm (+17%)
Kernel Processor diameter	216 mm	240 mm (+10%)
Kernel Processor roll width	610 mm	720 mm (+18%)
Crop accelerator	506 mm	632 mm (+23%)





Extra tough, longer lasting crop flow components

Even though it's designed with a smooth flowing path, the crop channel takes an enormous amount of punishment with huge amounts of material passing through at high speed. The 7980, for example, will harvest more than 300 tonnes of maize per hour. At this volume even if the harvester picks up relatively small amounts of abrasive materials per tonne it can cause significant wear to the crop channel over time. That's why we've developed a new range of hardened crop flow parts for machines operating in conditions such as sandy soils.

Made using a revolutionary hardening process developed and produced for John Deere by Busatis, our new Dura Line crop guides set a new standard for wear resistance. Dura Line crop guides typically last up to 4 times longer than their steel equivalent parts. In a test with profi magazine a John Deere 7750*i* cut over 160,000 tonnes of forage and only five crop flow plates had to be replaced. Another benefit of Dura Line crop guides is they are less resistant to crop flow than steel and help improve fuel efficiency even further.

Dura Line part lifetimes from profi magazine test

Part	Total hours	Hectares	Tonnage
Grass knives[1]	413.7	2,024.7	31,892
Corn knives[2]	799.1	2,043.5	96,526
Plate above crop accelerator Part No: AZ102719	1,145	4,293	104,695
Spout wear plate Part No: AZ1033813[3]	726	2,341	68, 602
	642	2,368	57,792
Spout wear plate Part No: Z65657	1,368	4,709	126,394
Spout wear plate Part No: AZ54609	1,406	4,808	131,062

[1] Even though the knives were replaced, they still had 4-5 mm of wear left
[2] The corn knives had 1-2 mm of wear left at the end of the test
[3] This plate was replaced twice during the test. Once after 68,602 tonnes and again after a further 57,792 tonnes.

The Dura Line family includes knives, shearbar, crop guides and chromed processor rolls. These are available as either a factory fit option or can be retro-fitted to existing machines.

Dura Line components are available for the whole crop flow pathway as well as knives, shearbars and the kernel processor.

The hardened coating is bonded to the steel component at high temperature

Precision cutting

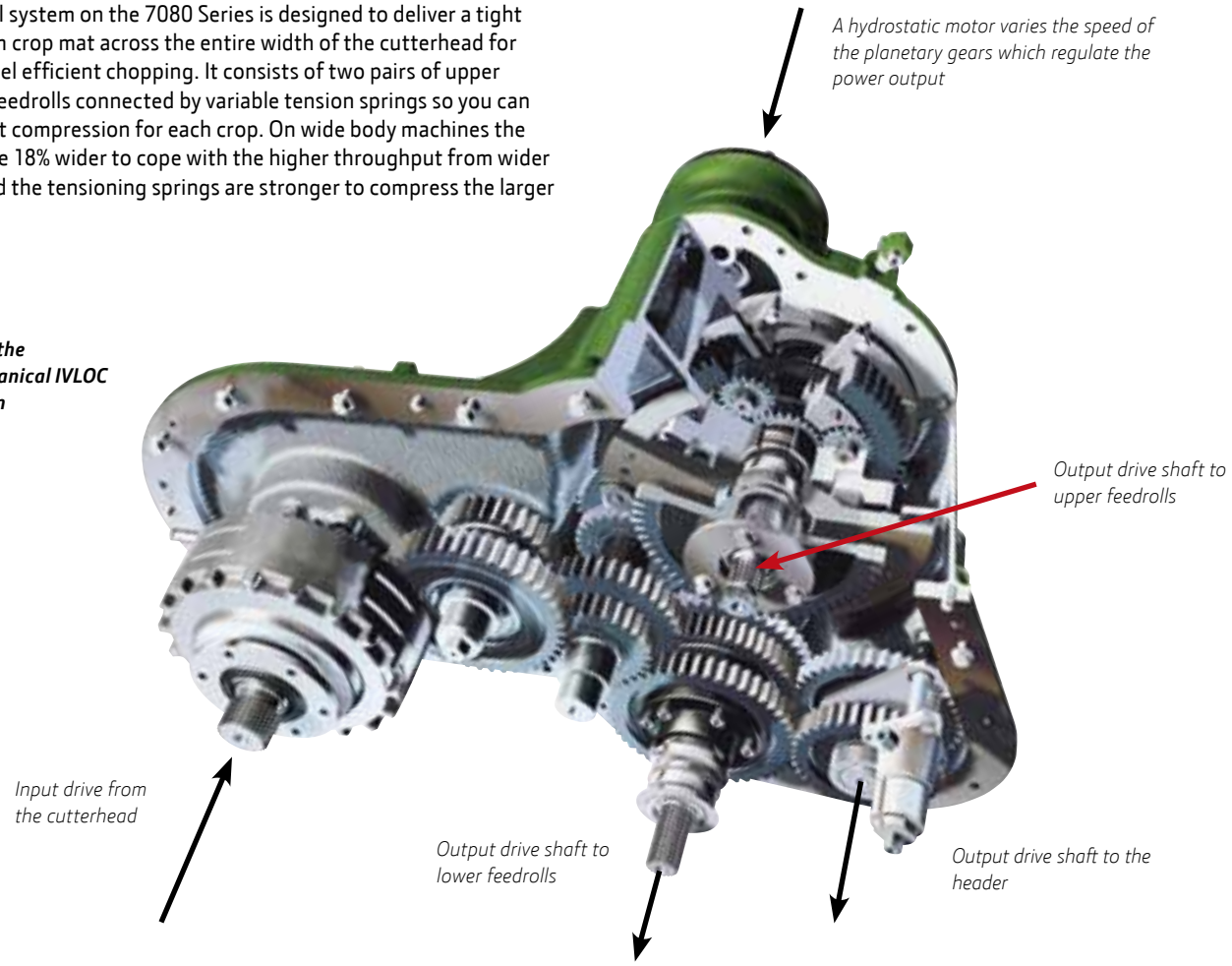
Precision cutting is vitally important as it affects both the quality of the silage and fuel consumption. Our crop flow utilises a well-proven feedroll system which is designed to handle high crop volumes and deliver an even and consistent flow to the cutterhead. The speed of the feedrolls is controlled by our revolutionary Infinitely Variable Length-Of-Cut (IVLOC) gear system which gives operators unprecedented real-time control over the length of cut.

Delivering an even crop mat

The feedroll system on the 7080 Series is designed to deliver a tight and uniform crop mat across the entire width of the cutterhead for even and fuel efficient chopping. It consists of two pairs of upper and lower feedrolls connected by variable tension springs so you can set the right compression for each crop. On wide body machines the feedrolls are 18% wider to cope with the higher throughput from wider headers and the tensioning springs are stronger to compress the larger crop mat.

The upper front feedroll is positioned as far forward as possible to catch the crop as it passes from the header, while the upper rear feedroll has a special tangential movement which positions it very close to the cutterhead for better cutting quality. The whole housing is designed to prevent crop building up around the rotating shafts, which reduces maintenance during the harvest season.

Different feedrolls are also available for harvesting in different soil conditions and the whole housing is hinged so it can be swung open in just a few minutes for easy maintenance of the feedrolls, cutterhead, shearbar and knife sharpening system.



Cutaway of the hydro-mechanical IVLOC transmission

"IVLOC makes it so much easier to give the customer exactly what they want."

There's a choice of feedrolls for different crops including replaceable smooth or toothed bars which are perfect for harvesting in abrasive soils. The feedroll housing swings open for easy servicing and cleaning.

Intelligent metal detection

The feedroll housing also features an intelligent metal detection system which prevents ferrous materials from entering the cutterhead and potentially damaging the machine and contaminating the silage. Located in the demagnetised lower front feedroll, the system deep scans the crop so even metal passing through the centre of the crop mat is detected. As soon as any metal is detected the feedroll drive is disengaged instantly and all the operator has to do is reverse the feedrolls and header to eject the item from the crop.

Infinitely Variable Length-Of-Cut (IVLOC)

IVLOC is an outstanding John Deere innovation which lets you precisely control the length of cut while you're harvesting by simply turning a knob on the CommandARM control panel in the cab. This mechanical transmission uses planetary gears driven directly by the cutterhead and controlled by a hydrostatic motor to monitor the speed of the feed rolls. The relative speed differential between the crop feed and the cutterhead speed determines the length of cut.

IVLOC features two header drive speeds selectable from the cab for convenient and quick header optimisation.

A fully automatic solution, AutoLOC system is also available as part of the *i*-Series package.

5 Speed LOC

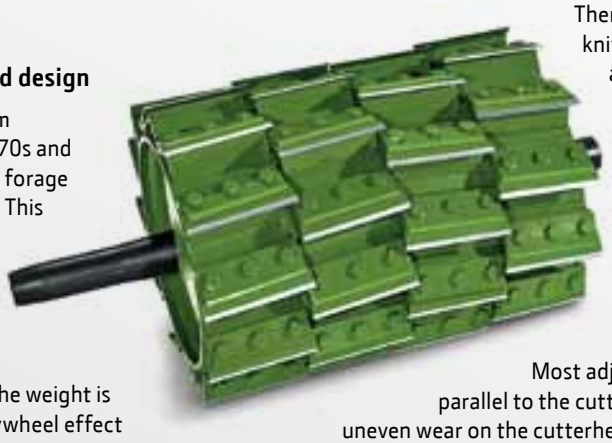
The 7180 and 7280 are also available with a 5 speed LOC transmission for easy set up. Depending on the knife configuration you can set cut length between 4 and 46 mm in easy steps for excellent harvesting flexibility.

Lower power chopping

The choice of knives and shearbar is crucial when it comes to chopping efficiency. Our high quality parts are designed to stay sharper for longer, minimising fuel consumption.

Flexible and well-proven cutterhead design

The origins of the multi-knife Dura-Drum cutterhead can be traced back to the 1970s and the 3760 which was the first John Deere forage harvester to utilise a multi-knife design. This tried and tested configuration has been used on more than 10,000 forage harvesters delivered from our Zweibrucken factory and provides a highly efficient chopping action.



The design of the drum means most of the weight is on the circumference which creates a flywheel effect and a constant rotation speed. The use of individual knives also makes it easy to replace a knife if it's damaged (just loosen the bolts!) and the knife configuration can be changed for different crops giving you greater flexibility.

Long-lasting knives and shearbars

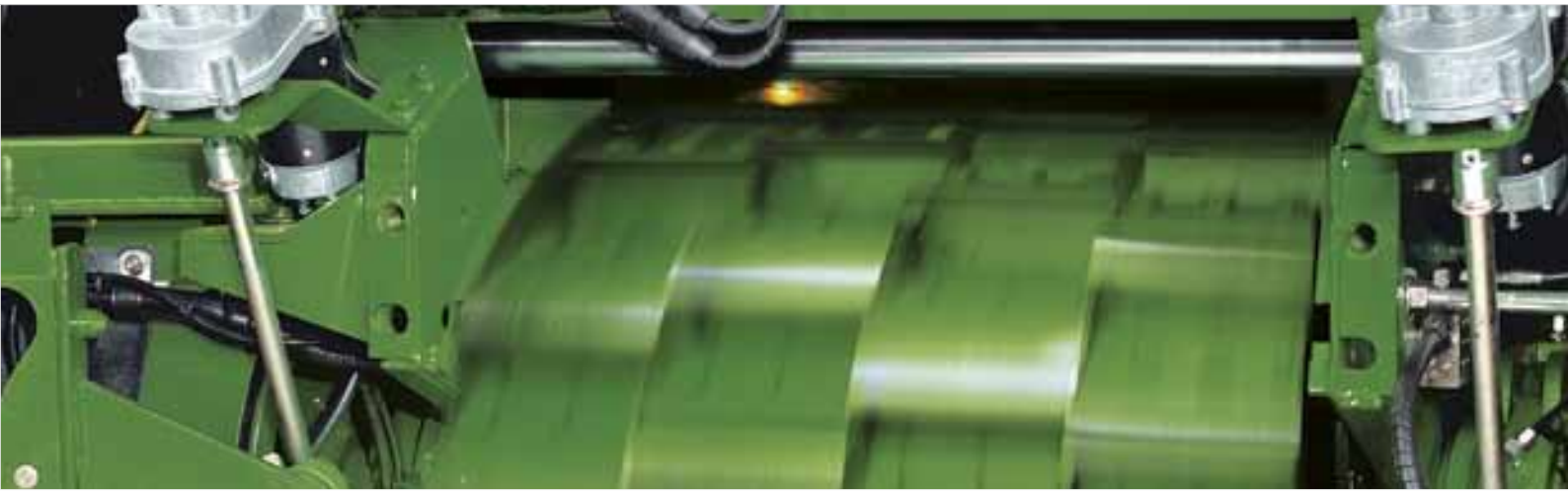
There's a wide range of knives and shearbars to suit all harvesting conditions and crops. Genuine John Deere knives are tungsten carbide coated around the edge which makes them stay sharper for longer. There are also specially hardened Dura Line knives and shearbars for harvesting in abrasive conditions such as sandy soils.

Automatic shearbar adjustment

For the most efficient cutting, automatic shearbar adjustment combined with cutterhead reverse motion is a must as it sets the perfect gap between the knife tips and the shearbar. All at the push of a button. Most adjustment systems move the shearbar parallel to the cutterhead but this fails to take into account uneven wear on the cutterhead which is never perfectly symmetrical – whatever the knife configuration or design. The John Deere system adjusts the shearbar one side at a time, so you get the perfect gap across the full width of the cutterhead for a more consistent quality cut.

Dura-Drum knife combinations

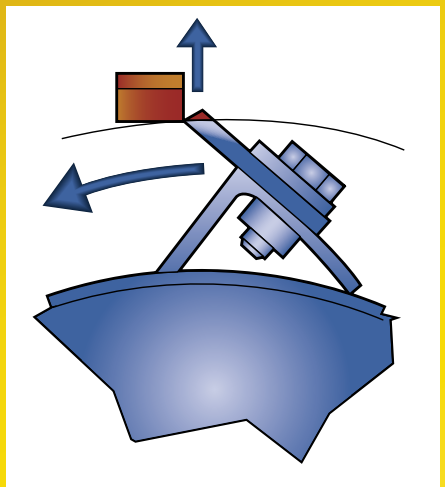
Knife	Grass knife	Grass knife	Grass knife	Maize knife	Angled maize knife
Drum configuration	Full drum 	½ drum 	¾ drum 	Full drum 	Full drum 
Crop	Grass – last cuts, whole crop, winter forage, changing conditions	Grass – first cuts, sugar cane trash	Grass – all cuts	Maize	Maize, biogas
Benefits	Short length of cut, universal solution	Long length of cut, reduced parts wear cost	Mixed length of cut, lower shearbar wear	Constant cutting quality, easy adjustment	Excellent cutting quality, less grinding effort, smoother operating, lower power consumption



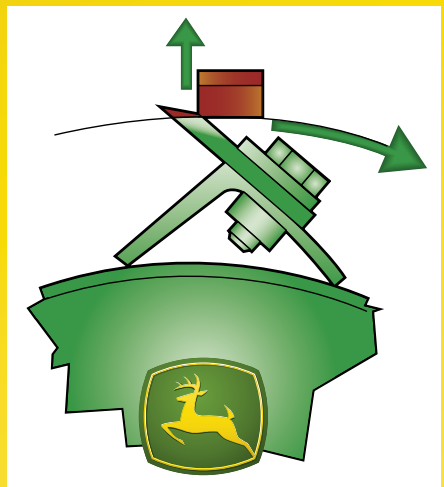
Low energy reverse sharpening

Keeping your knives sharp is important not just because of the quality of the silage, but sharp knives also cut the crop with less effort, saving fuel. The reverse sharpening system was pioneered by John Deere and is fully automatic with the grindstone moving across the cutterhead while it's reversing. The advantages of this design mean that the trailing edge of the knife strikes the stone first, creating a slimmer and sharper cutting edge. It's also more efficient, requiring less energy and saving fuel.

The sharpening cycle can also be interrupted at any time and you can return to work. So if you find the harvesting conditions are very abrasive and the knives are blunting faster than usual, you can carry out a shorter sharpening cycle at more regular intervals to maintain peak performance.



Other harvesters use forward sharpening which deflects the sharpening stone upwards away from the knife. This leaves a heel on the knife that protrudes above the cutting edge and affects the quality of cut.



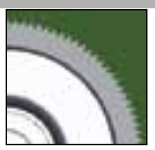
John Deere reverse sharpening strikes the heel of the knife first, drawing the stone across the face toward the edge. This hones the edge into a fine cutting point. Shearbar adjustment uses the reverse cutterhead motion for accurate gap setting to knife edges.

"The knife/shearbar combination is crucial in getting the quality of cut I need."

Roller kernel processors

Our tried and tested roller type kernel processor designs offer excellent crushing action in a variety of crop types and conditions and feature our Kernel Processing Labyrinth Sealing system, which prevents moisture entering the bearing chamber, increasing the life-time of a bearing by up to five times. There's also the option of a hard-chrome plated Dura Line version for even longer working hours.

Roller processors for every crop type

	Triangle Standard	Saw Tooth Standard	Saw Tooth Dura Line	Saw Tooth Whole Crop
				
Crop applications	For standard Maize condition	For Corn – provides higher aggressiveness	For Corn – provides increased lifetime due to the hard chroming	For all whole crop application
Gap recommendation:	2.5 – 3 mm	2.5 – 3 mm	2.5 – 3 mm	0.5 – 1 mm
Speed differential:	21%	21%	21%	32%
Roll type Standard Wide	 107 teeth 118 teeth	 107 teeth 118 teeth	 107 teeth 118 teeth	 160 teeth

If you need to switch to another crop, the kernel processor can be raised to a standby position (standby on the machine) or completely removed and the replacement grass chute installed in just a few minutes. An optional electric winch makes it even faster. When on the ground, it can then be easily pulled to the front of the harvester using the steel rollers located on each corner.

"Kernel cracking is essential for high quality, digestible silage."

Accurate trailer filling

A new, upgraded crop accelerator and spout with hard wearing carbon and stainless steel liners makes trailer filling easier.

Working with wider headers at higher speeds increases productivity but it makes accurate trailer filling challenging. An automatic spout positioning system is your perfect answer. You can programme up to 8 different spout positions which can be activated simply by double clicking the programmable buttons on the master control lever. It also has an audio safety system which warns you if the spout isn't in its home position, parallel to the harvester, when you switch to transport mode.

Exklusive to John Deere

Exceptional new KernelStar

KernelStar is a new design of kernel processor that doesn't just crack maize kernels, it smashes them. The patented design is unique to John Deere and features a series of bevelled discs which produce a more aggressive, tearing action which smashes the kernels. That means more energy released for milk production and biogas fermentation.

The larger surface area means KernelStar has the added benefit of increasing throughput with lower power consumption. And, unlike traditional roller processors, both discs rotate at the same speed, which reduces blockages and avoids unnecessary hold-ups even in high yielding maize.

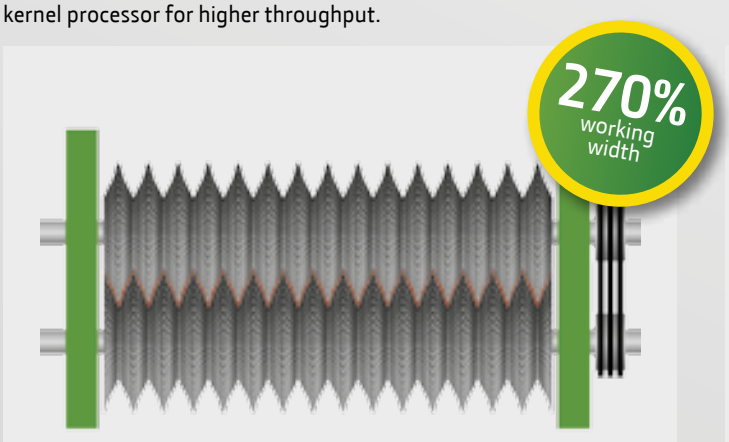
Extensive pre-season testing in New Zealand demonstrated the efficiency of KernelStar even when chopping maize at 22 mm. Kernels were completely smashed, providing more exposure to enzymes for better digestion and improved milk production.

KernelStar can also be used in whole crop, giving you maximum harvesting flexibility.

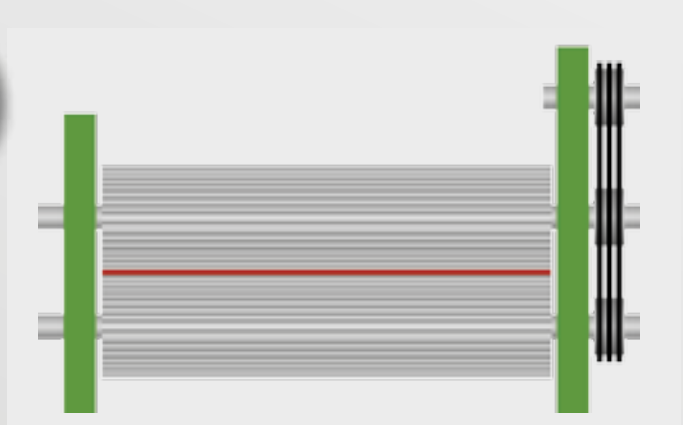
"KernelStar should increase milk production and our overall profitability."

Steven Bates, New Zealand

KernelStar has 270% of the working width of a traditional roller type kernel processor for higher throughput.



KernelStar
Working width, 1755 mm – 270% working width



Traditional roller type kernel processor
Working width, 650 mm

"Smashes every kernel. Releases more value."

"It was really impressive when we started doing 40 percent corn high yielding, high grain yield. And so when you get these harder kernels it didn't seem to make a lot of difference to the processing; they were completely smashed and split open.

When we got to 22 millimetres we were still completely smashing the kernels and the same with the shorter cut."

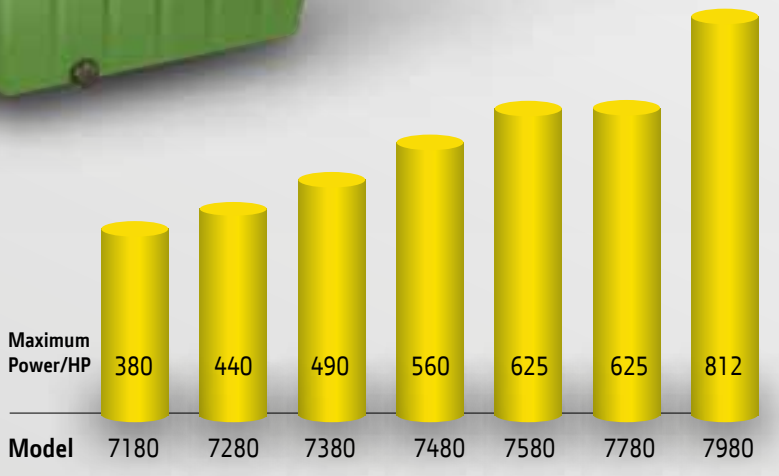
John Austin
Contractor, New Zealand

More power choices. Diesel only

The introduction of the 7280 into the model line-up gives you a wide choice of options with even power step-ups from 380 right up to 812 HP.

But it's not just about raw power. It's about how you use that power. Our engines are controlled by clever management systems which help maintain the optimum power for the task at hand. So it doesn't matter if you're on the road, cutting crop or turning at a headland, your engine is operating at peak efficiency. It's one of the reasons why you'll find John Deere forage harvesters are so fuel efficient.

You also get the added convenience of tried and tested 'diesel only' power. So no additive storage tanks to worry about and no extra costs.



Efficient drive line *– engine power is mechanically transmitted via a bevel gear to all crop components up to the header: this direct drive is a uniquely efficient solution. Made of Kevlar-reinforced material it is automatically tensioned and easy to maintain and service. As the belt tensioning load is not transmitted to the engine crankshaft, this places less stress on the engine for a longer life.*

Advanced PowerTech Plus engines

The new PowerTech Plus engines were completely re-designed from the ground up to meet the latest stringent Stage III B emissions standard. This gives you a real performance advantage as all the components have been optimised, so there is no deterioration in power output from additional emission controls.

The new engines include a Variable Geometry Turbocharger – VGT and Exhaust Gas Recirculation – EGR. The VGT ensures the precise amount of air is fed through to the EGR by adjusting the angle of the turbo vanes in relation to the engine speed. The EGR cools and mixes exhaust gas with incoming fresh air to lower peak combustion temperature and reduce NOx emissions. The combination of EGR and VGT and the multi-valve intake has also meant that John Deere engineers have been able to maintain, or even increase, the power density from each engine platform, so you don't have to trade-up to a larger displacement engine to get the power you need. The net result is you enjoy better fuel economy without sacrificing power output.

Cummins QSK

The top-of-the-range 7980 features a 19 litre 812 HP Cummins QSK diesel engine. This has similar performance characteristics to the PowerTech Plus engines and is the result of a long association between John Deere and Cummins. Featuring twin overhead cams, a high pressure injection system and electronic control, it's a highly reliable and proven design.

Designed for easy servicing with vertically mounted filters for quick replacement. John Deere technicians are fully trained to service this new QSK engine.

Designed for business

Large fuel tank –
The 1,100 litre fuel tank is sufficient for a complete day's harvesting so you won't waste time stopping to refuel.

Easy service access –
The side and rear panels lift up vertically and thanks to the longitudinal engine configuration you've got clear access to all engine components.

Long service intervals –
Oil and filter changes are only every 500 hours so you can get through the peak harvest without having to stop.

Good rear visibility –
The longitudinal engine layout results in a narrower harvester body, allowing excellent rear vision for improved safety and better manoeuvrability.

"The engine is the heart of the machine – power and reliability are essential."

ProDrive propulsion delivers maximum traction

With forage often grown on lower quality, softer soils and steep slopes, getting traction can be a real test for some harvesters. As headers become wider and heavier and horsepower increases it's becoming even more of a challenge.

Fortunately John Deere has solved the problem with ProDrive propulsion. This revolutionary hydrostatic transmission is unique to John Deere and offers vastly superior control over conventional unsynchronised transmissions. ProDrive propulsion gives you maximum traction under all conditions thanks to independent hydraulic motors on each axle. It's easy to operate too. Its intelligent control system lets you set your harvesting speed and ProDrive propulsion will automatically keep the same constant speed uphill or downhill.

The differential lock is hydraulically controlled and has manual or automatic modes.

ProDrive propulsion has two hydraulically activated and software controlled wet disc brake units for maximum stopping power.

The Hi/Lo torque range module automatically adjusts the ground drive to the driving conditions.

"I'm often harvesting at speed on slopes, so I need to be confident I've got plenty of grip."

Automatic shifting

ProDrive propulsion combines a powerful hydrostatic transmission with a 2-speed automatic shifting mechanical gearbox. It lets you continuously adjust the harvester's speed at high torque up to 20 km/h in the field and up to 40 km/h on the road.

It's so easy to operate. No gear lever. No parking brake. You just push the master control lever forward and ProDrive propulsion infinitely adjusts the speed.

Even today, many forage harvesters still have unsynchronised transmissions so you need to stop to change a gear which is an unnecessary time-wasting inconvenience. There's no such delay with ProDrive propulsion. It automatically disengages the rear axle, so you can drive straight from the field and on to the road without having to switch to neutral. Once you have tried it, you will never want to go back to a manual transmission.

Intelligent Control

ProDrive propulsion offers similar control to a cruise control on a car – although it works on a very different principle. In automatic mode the operator simply selects the speed they want to harvest at and pushes the master control lever forward. The forage harvester then sticks to that same constant speed while harvesting. It doesn't slow down if you're going uphill because the ProDrive transmission applies more engine power as necessary. If you're going downhill it doesn't accelerate either, because ProDrive propulsion automatically applies the brakes to maintain the constant speed. This means you can precisely set your ground speed to match your header width and crop throughput, so you always operate your harvester at maximum efficiency. A constant speed also makes it easier for trailer operators – they can speed match to the harvester for accurate spill-free loading.

If you need to stop quickly – no problem. Just push the lever back to zero and the 2 brake units – each with 4 discs – will stop the harvester immediately. Just make sure you've wearing a seat belt!

Anti Slippage Regulation (ASR)

The secret to ProDrive propulsion's grip is the combination of a new differential lock and the Anti Slippage Regulation system. Drive to the individual wheels is provided by variable displacement motors on the front and rear axles. As soon as one wheel starts to lose traction and slip, a variable displacement pump shifts the hydraulic flow to the remaining wheels which still have traction. This maintains the harvester's traction by transmitting all the available power to the ground even in the toughest conditions.

Easy on soft soils

Many four wheel drive systems have a fixed shaft between the front and rear axles. This means both axles have the same speed during headland turns which can churn up soft and wet soils causing compaction and ridging. Because ProDrive propulsion has independent front and rear axle drives there is a speed differential between the two when turning, so the wheels do not disturb the soil.

ProDrive propulsion saves you valuable harvest time. Travel between fields at up to 40 km/h

Independent axle speeds prevent sensitive soils from damage during headland turns

Lower consumption, higher return on investment

Anyone who wishes to ensure their farm's profitability must keep an eye on fuel costs, as the cost of fuel has risen dramatically over the past few years. It now makes up about 70% of a forage harvester's running costs.

So any savings made on fuel will directly improve profitability. This increases considerably with savings of up to 19% (l/h) achieved with John Deere's 7050 forage harvester series. Measurements taken by the magazine profi in conjunction with the DLG during the 2009 corn harvest (profi 12/2009) on a 7550i with a 10 row maize head prove the vehicle's enormous potential. The savings are down to the forage harvester's engine/speed management system. This system optimises fuel consumption during all major operations by drawing on the machine's engine technology and ProDrive automatic transmission. The results are remarkable: according to profi and DLG, fuel savings in Field Mode 1 amounted to a very good 14.3% and in Field Mode 2 they even reached 18.9% (l/h). In l/ha, fuel savings in Field Mode 2 were an impressive 14.7%.

Thanks to its electronically adjustable hydraulic pump with an electronically-adjustable hydraulic motor which drives the wheels, the ProDrive automatic transmission provides an engine speed which is independent of the forage harvester's driving speed.

With John Deere's engine/speed management system, fuel consumption can be reduced by up to 19% according to measurements carried out by the magazine profi and the DLG.

Depending on the task, the driver has a choice of one of three modes:

Field Mode 1
During headland turns when the header is raised, the engine speed automatically drops to the most fuel-efficient setting, and adapts to the driving speed. When the header is lowered to start the next lane, the engine speed increases again and the driving speed is adjusted.

Field Mode 2
The system maintains the machine's feed speed at its lowest fuel consumption. ProDrive then automatically adjusts the driving speed. As in Field Mode 1, engine speed is also reduced to a lower, more fuel-efficient setting during headland turns.

Road mode
The ProDrive transmission regulates the driving speed according to road conditions. It maintains maximum speed on the flat but slows down to save fuel on hills.

Return on investment

In conjunction with the DLG, the magazine profi tested the fuel consumption of a 7550i forage harvester in tough field conditions, and came to some remarkable conclusions. Due to the engine/speed management system, significant fuel savings could be achieved with the 7550i.

John Deere's ProDrive transmission is fully automatic which can automatically adjust driving speed in the field or on the road to match working conditions without increasing engine speed.

The 7080 Series forage harvester's John Deere PowerTech Plus™ engine which meets Stage III B emissions regulations, feature a variable geometry turbocharger that reduces consumption and boosts torque at low engine speeds. As a result, the forage harvester is less sensitive to sudden changes in field conditions or crop density.

"The cost of fuel has a huge impact on the profitability of my business."

The *i*-Series package: Intelligent Harvesting Support

Everyone knows the dry matter content of their crop can vary from one part of the field to another but only a few samples are taken before harvesting begins. For many farmers and contractors it's 'experience' that counts, basing their decision on length to cut to previous harvests. With maize silage some farmers even resort to a visual inspection but with more and more varieties coming on to the market in which the stalks and leaves ripen later, this is no longer a useful indicator.

Now John Deere has taken the guesswork out of producing high quality silage with the *i*-Series package – a unique and powerful combination of real-time moisture measurement and automatically adjusting length-of-cut which guarantees you cutting the best quality of silage all the time.

The integrated printer lets you give the customer an instant receipt of all the key harvesting information: area harvested, yield, total tonnage, harvest time, productivity – hectares per hour, throughput – tonnes per hour and fuel consumption – litres per hectare/load/field

The *i*-Series package includes three key components:

- Harvest Monitor
- Harvest Doc
- HarvestLab.

All the operator has to do is choose the required LOC setting for a particular dry matter content and then set upper and lower ranges on the Harvest Monitor display inside the cab. AutoLOC system then adjusts the IVLOC system to ensure that the perfect length of cut is automatically set using the dry matter content data from the HarvestLab system. It means that no matter who is driving the machine, they will always cut consistently high quality silage, good news if you have to change your operator at short notice.

A step change in harvesting precision

HarvestLab system is an award-winning sensor that's unique to John Deere which measures the precise moisture content of the cut crop in real-time. This gives you the flexibility to select the optimum length of cut, choose the dose rate of any inoculants and precisely measure the amount of crop harvested. What's more, HarvestLab is factory calibrated and requires no set-up, will work in any crop and provides accurate readings even at high throughput.

Award winning technology

- Real-time measurements
- No calibration required
- Accurate to ±2%
- Ready for grass, alfalfa, whole crop and maize
- Detachable

NEW: Constituent measurement

It's well known that the quality of silage can have a dramatic effect on the well being and productivity of your herd. But how do you know you're giving them the optimum feed?

Now with the introduction of the new John Deere **HarvestLab** you can make accurate real-time constituent measurement for precise feedstock management at the time of harvest.

For farmers and biogas producers HarvestLab gives much greater control over the use of inoculants, inhibitors and supplementary concentrates for high quality silage, greater productivity and cost control.

Measuring harvested crop 17 times every second it provides a clear and accurate picture of all your essential crop constituents:

On-the-go constituents measurement	Stationary unit
Freshly harvested	**Ensiled**
■ Protein	■ Protein
■ NDF	■ NDF
■ ADF	■ ADF
■ Starch	■ Starch
■ + Moisture	■ + Moisture

Only by choosing John Deere HarvestLab do you get the knowledge and capability to optimise your feeding costs and your choice of seed for better profitability.

"Knowing the dry matter content I'm harvesting gives my customers real confidence."

Achieving the best silage online and in real time

With the real-time HarvestLab moisture sensor, crop quality can be analysed on-the-go during actual harvesting.

It is well known that crop dry matter content varies in different parts of the field. Even in homogenous fields, dry matter variations of 16% and above are often measured. Individual testing on each trailer and even visual inspections cannot provide reliable information and are therefore not a suitable basis for invoicing. Given the increasing shortage of land and growing pressure to produce higher energy yield per hectare, a precise and reliable working area measurement can enhance efficiency in biogas silage production.

Silage quality as part of the package

The *i*package includes the three main components: Harvest Monitor, Harvest Doc and HarvestLab. The operator simply selects the required cut length for a specific dry matter content and sets the upper and lower limit values. Using the dry matter content data provided by HarvestLab, the cut length is then automatically set for optimum silage quality.

The DLG-certified HavestLab Near-Infrared (NIR) moisture sensor constantly measures the crop's exact dry matter content 17 times per second. This enables the individually adjusted cut lengths to be set, the correct silage additive dosage to be selected and the exact crop yield to be calculated. The Harvest Monitor system analyses data from the mass flow sensor on the front feed rolls and the harvester's central computer and displays all key performance data on one monitor. Harvest Doc permanently records all harvest data and key machine information such as fuel consumption and yield data.

Paying attention to cut length

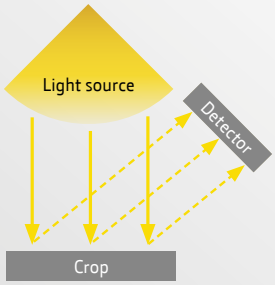
With shorter cut lengths, particularly with dry matter content of < 30%, there is a greater risk of silage effluent formation. A higher dry matter content means that it is more difficult to compact the material which could result in increased instability.

Protein	7 %
Starch	35 %
Dry matter	35 %
NDF	45 %
ADF	30 %

**Currently possible for corn, the data provided is based on representative values for corn.*

How NIR technology works

The heart of the design is a highly sensitive sensor located behind a glass lens which measures Near-Infrared Light (NIR) reflected off the surface of the crop. As crops with different dry matter content reflect NIR with different intensities, the difference between the light falling on the crop and the amount reflected gives an instant measurement of the crop's moisture content, thus enabling the dry matter content to be calculated.



Intelligent harvesting control

Machine guidance is essential for high volume harvesting operations. It gives you a full header width with every pass, saves fuel by eliminating missed or skipped sections of the field and lets you harvest at higher speeds. Importantly it means the operator has one less task to worry about so they can concentrate on optimising the harvester and ensuring the spout is accurately positioned for spill-free trailer loading.

There's a choice of two guidance systems – Row-Trak II and AutoTrac system.

- Row-Trak II system is exclusively designed for harvesting maize
- AutoTrac system is a satellite based guidance system which works in all crop types

Choice of 3 levels of accuracy – each shown at actual size

RTK

± 2 cm

SF2

± 10 cm

SF1

± 30 cm

"AutoTrac steering system takes the stress out of harvesting and helps me cut the maximum crop per day."

RowTrak II

Row-Trak II system is a very reliable guidance system which uses feelers mounted on the maize header to follow the position of the maize stalks. The signal from the feelers is fed back to a wheel angle sensor and the rear wheels are automatically adjusted to align the harvester precisely in the direction of the crop.

Controlled via a single button on the multi-function control lever, Row-Trak II system is easy to use and takes the stress out of harvesting in tall maize. Because it follows the direction of the stalks, it also ensures the harvester automatically compensates for any uneven planting or field contours.

Row guidance control is adapted to the ground speed of the harvester. Steering response becomes quicker with increasing machine speed. Automatic steering will be deactivated when the ground speed exceeds a certain limit or if no crop is sensed for a certain period of time or it can be manually overridden by turning the steering wheel.

AutoTrac

AutoTrac hands-free guidance works in all crops, saving time, reducing overlap and cutting fuel consumption. There's a choice of two modes depending on the field conditions. Straight Track guides the machine along perfect parallel lines. Curve Track allows you to drive back and forth along contoured fields.

RowSense

Combine the perfect AutoTrac system with our new Row-Trak system and explore a unique driving comfort on slopes, little rowspacing or missing rows. The system automatically keeps the SPFH on its track even in curves and at higher speed.

AutoTrac and RowSense set up is also fast and simple via the in-cab GreenStar display 2630 and the information can be stored for re-use next season making set up even faster

Manage your business in real-time

JDLink system is a remote machine monitoring and management system which gives you valuable information on machine location, machine performance and maintenance data in real-time.

It really comes into its own if you're operating multiple vehicle fleets with forage harvesters, tractors and combines. Keeping track of several machines can take a lot of time and means maintenance people are often on the road all day, driving from one machine to another topping up fuel and carrying out servicing and repairs. With JDLink system you can monitor everything via the internet so you can keep tabs on all your machines wherever you are – in the office or out in the field.

Pinpoint the location of your machine

"JDLink system means I can manage everything from the office, so I'm using my time more productively."

Simple to use graphics – this shows the time spent harvesting, idling and road transport.

Apart from monitoring all of the machine's performance, we've now added a new condition monitoring system which relays data on all your harvester's main wear components for better preventative maintenance and reduced downtime. The John Deere condition monitoring system was awarded with an Agritechnica Silver medal 2009.

Monitor your harvester via the internet

While your operator focuses on harvesting, you can be remotely managing your forager via the internet or on your mobile phone. Sensors relay information wirelessly to a John Deere web interface. You simply log on and view your equipment's performance.

- Control running costs – document and analyse fuel consumption and machine performance
- Maintain accurate records – keep a permanent record of maintenance data
- Maximise machine utilisation – squeeze every last drop of productivity from your forage harvester by analysing how it's being used at different load levels
- Get machine alerts – sent through to your mobile or via email, these can warn you of low fuel, upcoming maintenance and engine performance e.g. overheating
- Monitor machine location – know exactly where your machine is and what's it doing. If it goes outside a pre-set area, you'll get an automatic alert
- Optimise fleet logistics – make sure you've got the right machines in the right place

JDLink system gives you valuable insights into how you're operating your machine which can help you improve profitability. For instance, our analysis of the tractor fleet of several operators showed that machines typically spent more than 50% of their running time with the engine idling! This data allowed them to change the operator's working style and significantly reduce fuel consumption.

Avoid breakdowns before they happen

The huge stresses and strains of harvesting thousands of tonnes of forage a day means parts failure is inevitable from time to time. The difficulty has been knowing when it's going to happen. Until now.

Our unique conditioning monitoring system gives you advance warning of potential component failure before it actually happens so you can take preventative action and avoid costly emergency repairs and unnecessary downtime. The system relays data from sensors placed on all the machine's key stress points from the feedrolls to cutterhead, kernel processor and crop accelerator allowing you to remotely monitor performance.

3

Explore it yourself!

Contractors ... large farms ... machine co-operatives. You are as diverse as our machine, that's why you won't find a 'one size fits all' approach from John Deere. Buying the 7080 Series is just the beginning of a relationship that is hugely important to us.

We have developed a range of support services to keep your machine operating in peak condition throughout its long working life.

Customer experiences

Christophe Leroy's testimonial was recorded on the occasion of the demonstration of the EuroTour 7950 / 12 row header unit at the dealer ETS MILLAMON. A contractor, he farms land in a 60 km radius around Coulogne (62), France and owns two John Deere self-propelled forage harvesters: a 2004 John Deere 7500/360 and a 2007 John Deere 7450/460.

"Cut quality is flawless – you've seen that for yourself today – dairy inspectors measured 17 glasses between 1 and 2 cm, that's more than the required 15 glasses when cutting to 15 mm".

"Cut quality produced by my 7000 machines is straight and regular and the grain is broken not crushed. No customer will disagree with me. I've got nothing to be ashamed of with regards to other machines ... quite the contrary".

When asked "why did you buy the 7450 in 2007?", he replies, *"I'm happy with the service provided by the two forage harvester experts from ETS MILLAMON and with the speed at which John Deere replacement parts are delivered."*

John Austin is a contractor in the Waikato region in the North Island of New Zealand. He cuts between three and five thousand hectares of grass silage and between two and a half thousand and three thousand hectares of maize silage

"We were very impressed with the performance of the 7750. It seems to handle the 10 row Kemper head really well.

We use the HarvestLab to see what the dry matter is and help us with managing the right time to harvest our maize crops for our customers. I believe in the future that farmers will become more and more aware of forage quality; that becomes very important when you start having high yielding dairy cows.

I see for our customers in the future that HarvestLab with ingredients is going to be a good thing. I don't think it'll be long before that's just a standard ... they won't want us to harvest without it."

Tiny v.d. Tillaar and his son own an agricultural contracting company in Someren-Heide in The Netherlands. They are situated in a mainly dairy farming district and harvest around 500 hectares of maize and 1,500 hectares of grass.

"We own a John Deere 7450 ProDrive, before that we had a John Deere 6910. The machine is very reliable and even more reliable is the service given by the John Deere dealer. I chose the ProDrive option because I can drive at 40 km/h instead of at 32 km/h and even at a lower engine rpm, which results in lower fuel consumption. Cab comfort is great and the sound level is very low. Switches and controls are easy to read and logically placed, everything can be done with one hand. I can easily read out the cutting length and kernel processing adjustments. The capacity of the 7450 ProDrive, depending on the circumstances, can be between 300/400 m³ per hour and that's about 20% more than the former John Deere 6910."

Agrofarm 2000, Gerhard Feustel, Production Manager

"Our farm of 1,300 cows generates an output of around 10,000 litres of milk per cow. For us, premium quality silage and high yield fodder are key factors and it all comes down to a high quality cut. Since using our 7550i with its precise moisture-dependent, variable AutoLOC system in conjunction with the cutterhead, we've made significant improvements in both silage quality and compression. Of course, herd productivity really depends on the feed quality, i.e. the feed ingredients. Adding NIR HarvestLab Sensor to ingredients has given us new opportunities to further improve feed quality and grade selection."

Hartmut Brockmann, Germany

"We purchased our first John Deere 7950i for our 2010 harvest and used it to chop, non-stop, just under 1,000 hectares of corn. With the 7750i's expert machinery we were also able to operate at full capacity for 24 hours straight. Based on previous experience trying this with our other machines we had estimated maximum output at 70 hectares for the 7750i. However, we were soon shown otherwise. With just under 100 hectares covered in 10 drives and a total volume of nearly 4,000 tons of fresh crop, it was easy to see the potential of this 625 hp 7750i machine. In addition, the truly superb guidance system took some of the pressure off our operators. But most of all, we were impressed by the machine's surprisingly low fuel consumption of just 0.5 l/t including turnaround and downtime, despite a relatively low yield. We've never seen results like these before and that's why we've decided to purchase a second John Deere forage harvester (7750i) for our 2011 harvest and another 7950i for the 2012 harvest."

Colin Jackson, New Zealand

"The farm's a mixed farm, dairy, cropping, maize cropping and dry stock. We milk around 850 cows, grow 200 hectares of maize and of that about 50 hectares we use for ourselves and 150 we sell as maize silage or grain.

If we can get the crop kernels to be better processed and utilise all the starch, then that has a significant impact on our milk yield. All that white starch that we see going through the cow, onto the cow yard and down the drain is effectively milk production that we're not capturing.

We found that the grain was very well broken and the chop length was longer than we've had previously, which suits us better. So I would highly recommend this kernel processor [KernelStar] or this machine to other farmers."

Anthony Dales, UK

"We were able to test the 7750i profi machine in the grass season 2011. This year especially we had only few days to get the jobs done in time. What we realised very soon was the impressive low fuel consumption thanks to the engine/speed management. We were able to reach less than 0.55 l/t – which is really impressive. But that was also due to the overall performance of up to 180 t/h – including idling time."

Marco and Valerio Nota, Italy

"We run 5 John Deere foragers. For us it is important to use reliable and high performing machines, as we work up to 1,000 hours per year and machine. Therefore it was quite interesting to see the new 7750i profi machine working with the 375plus in corn with more than 4 m height. We were surprised how well this machine performed, as we usually run machines in this hp segment with 8 rows. But the performance of the 7750i with the wide body and the 10row head was really impressive while delivering a very homogeneous chopping quality at the same time. We think this could be realised thanks to the variable LOC depending on the dry matter. One real highlight was the new blower and the RowSense system. Both systems worked really well."

Tailor-made support to fit your business

Every SPFH customer is different. Some want a total service and maintenance solution. Others want parts only. You simply choose what you want and we'll tailor our support to suit your business needs best.

Whatever you choose, you'll always get professional people who are dedicated to maintaining the legendary reputation of John Deere. Our dealers will go out of their way to ensure you get the best possible customer service.

"I need people who understand my business and can give me what I want, when I need it."

Quality parts that last longer

Genuine John Deere parts are better made and last longer than other cheaper look-alike parts – it's what we call the Genuine Advantage. Take our Plus-50 oil. When used with a John Deere filter in a John Deere engine, drain intervals increase by up to 50 percent. That means you'll use less oil and fewer filters. And you'll reduce your maintenance cost and downtime.

Service packages that help you budget better

After fuel, servicing and maintenance are the next highest running costs for your SPFH, which is why we've designed a range of PowerGard packages that let you control your operating costs throughout the lifetime of your machine.

PowerGard Maintenance	Get maximum uptime from a comprehensive preventative maintenance and inspection plan.
PowerGard Protection	Financial protection from repair costs on all key engine and transmission components
PowerGard Protection+	Ultimate financial peace-of-mind and protection against repair costs on all key machine components.

24 hour parts ordering and overnight delivery

You can order parts online through JDParts warehouse at a time that suits you. Our parts warehouse stocks over 168,000 lines with 99% fulfilment of emergency orders by the next day thanks to our advanced logistics and delivery system. So you can be sure we'll get you the part you need, when you need it.

Professionally accredited technicians

We've introduced a certification programme with technicians graded according to their training, so you can be sure that the technician working on your machine is properly trained for the job. All our technicians are also trained in root cause analysis which helps them solve any technical problems in a consistent and logical way. That means they are not only able to service your machine but if you have any non-John Deere equipment they'll be able to fix it, too.

Faster diagnosis and repair

The 7080 Series is equipped with a sophisticated CanBus electrical system which uses fewer connectors and is more reliable than conventional wiring harnesses. It is also easier to diagnose and faster to make repairs. A technician simply plugs our powerful diagnostic tool, Service ADVISOR diagnosis system into your machine and they can get to the source of the problem in a matter of minutes.

All the latest technical and maintenance information is included on Service ADVISOR diagnosis system and because it is so portable, diagnosis and repairs can be performed in the field, minimising downtime. It also means your machine can be easily updated with the latest software upgrades to ensure it's working at peak performance.

Automatic greasing

The 7080 Series can be equipped with an automatic greasing system which cuts down on maintenance and improves machine reliability because greasing is carried out on a regular basis. The unit supplies grease to up to 51 points including the kernel processor bearings and the header. Because greasing is carried out while the machine is running, the grease is distributed around the full circumference of the part or bearing for more effective coverage.

Heavy duty wear parts

If you harvest in tough conditions it's worth fitting Dura Line crop flow components which last up to 4 times longer than conventional parts.

"Buying cheaper look-alike parts can prove a false economy."

Quality parts that last longer

A forage harvester takes an enormous amount of punishment, harvesting thousands of tonnes of crop every day. Some parts like knives and shearbars will inevitably wear and will need replacing from time to time.

It might be tempting to buy cheaper alternatives that look the same but you'll soon find they might not last as long and that the saving can be eroded by increased machine downtime, more service labour and poorer performance. John Deere parts are built to higher standards than the look-alike parts and last longer. It's what we call the 'genuine advantage. Here are two examples of why John Deere parts deliver superior performance for longer. You'll find that same attention to detail on every last nut and bolt on a John Deere forage harvester.

Cutterhead Knives

The cutterhead is a critical component for the performance of your forage harvester and it's important you always fit the right knives. Our high quality tungsten carbide coated knives stay sharp longer, cut higher quality silage and minimise fuel consumption.

The Genuine Advantage

A – Sandblasted surface ensures even and strong clamping

B – Induction hardened cutting zone provides longer life, precision cutting

C – Tough construction reduces risk of breaking

D – Extended knife body allows retraction in the event of impact with foreign material

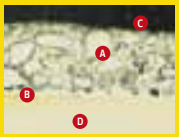
E – The John Deere stamp of quality

See for yourself the importance of the tungsten carbide coating ...

Our knives are tungsten carbide coated which makes them stay sharper for longer. See the difference between a genuine knife and a non-coated look-alike which suffers bonding failures leading to rapid blunting of the knife, poorer quality cutting and higher fuel consumption.

Genuine

Microscopic cross-section



A – High particle content

B – Low porosity

C – Uniform hard-facing

D – No bonding failures

Look-alike

Microscopic cross-section

A – Low particle content

B – High porosity

C – Irregular hard-facing

D – Bonding failures

Genuine

Worn genuine knife

Knife is ¾ worn, but coating remains intact

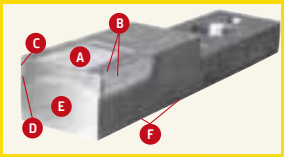
Look-alike

Worn look-alike

Bonding failure is causing the coating to flake off

Shearbars

A shearbar may look a simple part but a lot of design and care goes into the manufacturing process. The knife and the shearbar are the most critical components of your forage harvester as they determine the precision of cut and silage quality. Look-alikes may appear similar but might not give you the same performance and advantages as John Deere genuine parts.



The Genuine Advantage

A – Additional top coating on heavy duty grass models provides longer wear life for tough grass harvesting conditions.

B – Ground edges and top surfaces provide precise gap adjustment for precision cutting.

C – Tungsten carbide inlay with high carbide content gives you longer wear life and optimum cutting quality.

D – Pore-free coating eliminates the risk of flaking.

E – Manufactured from ultra-low-impurity, high-tensile steel for greater durability.

F – 2 mm pre-tension for vibration-free installation.

The Proof – Grass shearbars

The demands on grass shearbars are higher than maize shearbars because grass is picked up from the ground and so there is inevitable contamination by stones and soil which are very abrasive to the cutting edge. Over time the edge-radius becomes rounded. This larger radius requires more horsepower to cut against, increases fuel consumption and reduces knife wear life. Tests have shown a large radius can increase fuel consumption from 2 to 3 litres per hour. Imagine how much that would cost you if you harvest for 200 hours on grass a season. Genuine John Deere shearbars are designed to maintain a specific radius, providing a good balance between useful service life, cutting performance and fuel consumption.

Genuine

Thanks to the self-sharpening effect, the radius is only 1.25 mm after 53 hours!

Look-alike

After the same time the radius on the look-alike is more than double the genuine shearbar – 3 mm! This drains horsepower and increases fuel consumption.

The Proof – Maize shearbars

Here we tested two look-alike maize shearbars on a customer's forage harvester – the result? Take a look!

Genuine

Thanks to the self-sharpening effect and quality coating, the cutting edge is in excellent condition after 800 hectares, giving it a much longer life than the look-alike shearbars

Look-alikes

After just 60 hectares the edges of this look-alike shearbar are completely rounded making it virtually unusable. Clearly the coating was vastly inferior.

After 178 hectares the cutting edge has clearly become rounded as it has no self-sharpening effect.

4 Explore your specifications

Flat plains ... rolling hills ... sandy soils ... soft soils ... small mixed farms ... large single crop farms – every forage harvester has its own unique working environment. That's why there's a wide choice of different capacity harvesters, headers and accessories.

Now you can get the right harvester for you. And if your business ever changes, you can easily adapt and update your machine to meet new customer requirements.

Accessories to make operating easier

These accessories take the stress out of high capacity harvesting and let you customise your harvester to suit your exact operational style.

Additional xenon or halogen work lights

There's a choice of two types of additional lighting: xenon and halogen. Xenon lights are extremely powerful and their long reach makes them ideal for harvesting in grass or other low crops as they give the operator an excellent view of the field boundaries. For harvesting in tall crops like maize, too much light is reflected back into the operator's face, so it's better to use a softer, halogen light.

Check with your dealer for the full range of light packages which cover everything from roof mounted cab and row finder lights to spout, step and rotary beacons.

Video camera system

This high quality Motec camera system is built specifically to withstand the tough working environment of agricultural vehicles such as resistance to shock, vibration and extreme temperatures.

The TFT colour display takes up to 4 camera inputs and has a strong backlit display so you can still see what's on screen even in bright sunlight. Cameras can be mounted at the rear of the harvester for a good reversing and on the spout for spill free trailer loading – or both. Trailer drivers can also have monitors fitted in their cabs with a wireless link so they can see the view from the spout when loading and evenly fill their trailer.

Easier trailer loading

Spout extensions

Working with wider headers at higher speeds increases productivity but it makes accurate trailer filling challenging. 75, 150 and 210 mm extensions are available and also include an added rear warning light.

Two speed spout rotation

At the touch of a button you can select a choice of two different spout rotation speeds. It's perfect for fast changing between trailers.

Automatic spout positioning

This allows the operator to store up to 8 pre-set positions for the spout which include the rotation angle, height and angle of the flap. Each position is selected by double clicking the programmable buttons on the master control lever. It also has a useful safety system which sounds an audible warning if the operator engages road mode without repositioning the spout in the home position.

Wagon tilt hydraulics

An additional high capacity service reservoir gives you the extra capacity to make trailer unloading fast and easy.

Accessories to improve harvesting flexibility

We've a comprehensive range of accessories which make harvesting different crops in different conditions that much easier.

Hydraulics and drives

Single acting front hydraulics
These give you the convenience of automatic crop compressor lifting.

Dual acting front hydraulics
A useful addition when you want to carry out dual direction automatic functions on your headers such folding and unfolding.

Cross drive
Cross drive adds an additional drive on the right-hand side for headers which require dual drive.

Chassis reinforcement

Added strengtheners
Added strength for travelling over rougher ground and bumpy roads with large headers.

Grass pick-ups

Roller compressor and automatically folding hydraulic wheels
A roller compressor is available to improve feeding of light crops. The hydraulic gauge wheel folding significantly reduces road-to-field setup time.

Trash net
This helps minimise residue build-up on the front of the machine and around the sharpening area.

Rotary heads

Mechanical ground adaption
This helps deliver even stubble length when harvesting on slopes and uneven ground. For 300 Series model only.

Advanced Header Control
This prevents the header from touching the ground and minimises soil intake, even when working on extreme slopes and ensures excellent cutting in downed crops. The SPFH has to be Advanced Header Control ready.

Wear plates
Bolt on wear plates prevent wear to the frame and allow you to set the header very low without damaging the drive. For 300 Series models only.

Liquid cooled friction clutch
This has a longer service life than standard clutches and is recommended for heavy duty harvesting.

Two speed transmission
Helps you optimise the speed of crop intake and is especially useful for matching crop intake with vehicle ground speed.

Whole crop conversion kits
Short tips are available for improved crop transport when harvesting whole crop.

Crop Conditioning

Recutter spiral floor
Easy to install the recutter fits into the floor of the cutterhead housing and re-cuts the crop before it passes into the crop channel. A useful addition with crops like dry maize or earlage when the leaves around the cob may be hard to cut

Recutter screens
Recutter screens are also useful in dry maize and earlage. They fit at the end of the cutterhead housing and screen the crop to an homogeneous sample.

Crop specific kernel processors
For standard machines additional kernel processors are available for maize, multicrop, wholecrop and sorghum. For wide bodied machines just the standard maize kernel processor and heavy duty version for abrasive soils are available

Electric kernel processor adjustment
For total control electric kernel processor adjustment lets you adjust the roller gap from the cab.

Electric kernel processor lift
If you're regularly switching between grass and whole crops like maize, this electric winch makes removing or installing the kernel process that much faster.

	7980	7780	7580	7480	7380	7280	7180
Power	**SAE J1995**			**ECE R120**			
Maximum power @ 1900 rpm [kW (hp)] (metric)	597 (812)	458 (625)	458 (625)	409 (560)	360 (490)	324 (440)	281 (380)
Rated power @ 2100 rpm [kW (hp)] (metric)		428 (582)	428 (582)	383 (521)	334 (454)	301 (409)	261 (355)
Engine							
Manufacturer	Cummins	John Deere	John Deere	John Deere	John Deere	John Deere	John Deere
Type	QSK	PowerTech PSX	PowerTech PSX	PowerTech PSX	PowerTech PSX	PowerTech PSX	PowerTech Plus
Model	QSK 19800	6135HZ	6135HZ	6135HZ	6135HZ	6135HZ	6090HZ
Displacement [L]	19	13.5	13.5	13.5	13.5	13.5	9
Cylinders	In line 6	In line 6	In line 6	In line 6	In line 6	In line 6	In line 6
Speed on road [rpm]	1250 - 2100	1250 - 2100/1650	1250 - 2100/1650	1250 - 2100/1650	1250 - 2100/1650	1250 - 2100/1650	1650
Engine/Speed Management Field Mode	Standard	Option	Option	Option	Option	Option	Option
Fuel system	Common Rail + 4 valves	Unit injectors + 4 valves + EGR + Serial TC + D.O.C. + D.P.F.	Unit injectors + 4 valves + EGR + Serial TC + D.O.C. + D.P.F.	Unit injectors + 4 valves + EGR + Serial TC + D.O.C. + D.P.F.	Unit injectors + 4 valves + EGR + Serial TC + D.O.C. + D.P.F.	Unit injectors + 4 valves + EGR + Serial TC + D.O.C. + D.P.F.	Common Rail + 4 valves + EGR + VGT
Fuel consumption [g/kWh]	210	206	206	210	213	215	199
Cooling fan drive	Direct	VariCool	VariCool	VariCool	VariCool	VariCool	Direct
Driveline							
Main clutch	Multi-disc	Multi-disc	Multi-disc	Multi-disc	Multi-disc	Multi-disc	Multi-disc
Number of discs	5 inner and 6 outer – 10 engag. faces	5 inner and 6 outer – 10 engag. faces	5 inner and 6 outer – 10 engag. faces	4 inner and 5 outer – 8 engag. faces	4 inner and 5 outer – 8 engag. faces	4 inner and 5 outer – 8 engag. faces	4 inner and 5 outer – 8 engag. faces
Main driveband	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts	Re-inforced with kevlar inserts
Belt tensioning	Active, hydraulic pressure	Active, hydraulic pressure	Active, hydraulic pressure	Active, hydraulic pressure	Active, hydraulic pressure	Active, hydraulic pressure	Active, hydraulic pressure
Main driveband – polybelt: no. of belts	7	7	7	6	5	5	4
Ground drive							
Type – Hydrostatic, 3 speed – electric shift, helical gears, Engine rpm on road 1650	**N/A**	**Optional**	**Optional**	**Optional**	**Optional**	**Optional**	**Standard**
Drive range (20 km/h) [km/h]	–	0 – 6.9	0 – 6.9	0 – 6.9	0 – 6.9	0 – 6.9	0 – 6.9
	–	0 – 13	0 – 13	0 – 13	0 – 13	0 – 13	0 – 13
	–	0 – 20	0 – 20	0 – 20	0 – 20	0 – 20	0 – 20
Drive range (25 km/h) [km/h]	–	0 – 8.6	0 – 8.6	0 – 8.6	0 – 8.6	0 – 8.6	0 – 8.6
	–	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6
	–	0 – 25	0 – 25	0 – 25	0 – 25	0 – 25	0 – 25
Drive range (30 km/h) [km/h]	–	0 – 10.2	0 – 10.2	0 – 10.2	0 – 10.2	0 – 10.2	0 – 10.2
	–	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6	0 – 19.6
	–	0 – 30	0 – 30	0 – 30	0 – 30	0 – 30	0 – 30
Hydro-mechanical rear axle + Full ASR	–	Optional	Optional	Optional	Optional	Optional	Optional
Prodrive, Autoshift transmission, differential lock, (automatic and manual), Automatic wet brake system, Engine rpm – Management 1250 – 2100	**Standard**	**Optional**	**Optional**	**Optional**	**Optional**	**Optional**	**N/A**
Drive range (20 km/h) [km/h]	0 – 20 (Field) / 0 – 20 (Road)	0 – 20 (Field) / 0 – 20 (Road)	0 – 20 (Field) / 0 – 20 (Road)	0 – 20 (Field) / 0 – 20 (Road)	0 – 20 (Field) / 0 – 20 (Road)	0 – 20 (Field) / 0 – 20 (Road)	–
Drive range (25 km/h) [km/h]	0 – 20 (Field) / 0 – 25 (Road)	0 – 20 (Field) / 0 – 25 (Road)	0 – 20 (Field) / 0 – 25 (Road)	0 – 20 (Field) / 0 – 25 (Road)	0 – 20 (Field) / 0 – 25 (Road)	0 – 20 (Field) / 0 – 25 (Road)	–
Drive range (30 km/h) [km/h]	0 – 20 (Field) / 0 – 30 (Road)	0 – 20 (Field) / 0 – 30 (Road)	0 – 20 (Field) / 0 – 30 (Road)	0 – 20 (Field) / 0 – 30 (Road)	0 – 20 (Field) / 0 – 30 (Road)	0 – 20 (Field) / 0 – 30 (Road)	–
Drive range (40 km/h) [km/h]	0 – 20 (Field) / 0 – 40 (Road)	0 – 20 (Field) / 0 – 40 (Road)	0 – 20 (Field) / 0 – 40 (Road)	0 – 20 (Field) / 0 – 40 (Road)	0 – 20 (Field) / 0 – 40 (Road)	0 – 20 (Field) / 0 – 40 (Road)	–
Hydro-mechanical rear axle + Full ASR	Standard	Optional	Optional	Optional	Optional	Optional	–
Crop Harvesting Units							
Grass pick-ups [m]	4.5, 4.0, 3.0	4.5, 4.0, 3.0	4.5, 4.0, 3.0	4.5, 4.0, 3.0	4.5, 4.0, 3.0	4.5, 4.0, 3.0	4.5, 4.0, 3.0
Kemper Rotary Header, Rows/Width [m]	12/9, 10/7.5	10/7.5, 8/6	10/7.5, 8/6	10/7.5, 8/6, 6/4.5	8/6, 6/4.5	8/6, 6/4.6	6/4.5, 4/3
Automatic steering for maize	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Advanced Header Control	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Harvest Channel	Wide	Wide	Standard	Standard	Standard	Standard	Standard
Feed Rolls							
Feed roll frame opening	Swing away,	Swing away,	Swing away,	Swing away,	Swing away,	Swing away,	Swing away,
Number	4	4	4	4	4	4	4
Metal detector	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Width, front [mm]	780	780	660	660	660	660	660
Feed roll drive IVLOC	Standard	Standard	Standard	Standard	Standartd	Option	Option
Feed roll drive 5-Speed LOC	–	–	–	–	–	Standard	Standard
Number of front end drive speeds	2	2	2	2	2	2	2
Cutterhead							
Cutterhead housing width [mm]	830	830	710	710	710	710	710
Cutterhead: width/diameter [mm]	805/610	805/610	683/610	683/610	683/610	683/610	683/610
Weight [kg]	398	398	348	348	348	348	348
Number of knives	56, 48 or 40	56, 48 or 40	56, 48 or 40	56, 48 or 40	56, 48 or 40	56, 48 or 40	56, 48 or 40
Speed at rated engine speed [rpm]	1200	1200	1150	1150/1000	1150/1000	1150/1000	1150/1000
Knife types available (crop)	Straight (grass) Curved (maize)	Straight (grass) Curved (maize)	Straight (grass) Curved (maize) Angled (maize)	Straight (grass) Curved (maize) Angled (maize)	Straight (grass) Curved (maize) Angled (maize)	Straight (grass) Curved (maize) Angled (maize)	Straight (grass) Curved (maize) Angled (maize)
Sharpening system – Control	Reverse rotation remote from cab	Reverse rotation remote from cab	Reverse rotation remote from cab	Reverse rotation remote from cab	Reverse rotation remote from cab	Reverse rotation remote from cab	Reverse rotation remote from cab
Shear bar, reversible	Standard	Standard	Standard	Standard	Standard	Standard	Standard

	7980	7780	7580	7480	7380	7280	7180
Kernel Processor							
Type	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove	Serrated roller/ KernelStar Quick change and remove
Serrated roller KP							
Maize, roll teeth number (speed differential)	118 (21%)	118 (21%)	107 (21%)	107 (21%)	107 (21%)	107 (21%)	107 (21%)
Wholecrop, roll teeth number (speed differential)	–	–	160 (32%)	160 (32%)	160 (32%)	160 (32%)	160 (32%)
Sorghum, roll teeth number (speed differential)	–	–	214 (32%)	214 (32%)	214 (32%)	214 (32%)	214 (32%)
Roll diameter (mm)	240	240	216	216	216	216	216
KernelStar KP							
Number of disks (top/bottom)	18/17 + 2*1/2	18/17 + 2*1/2	15/14 + 2*1/2	15/14 + 2*1/2	15/14 + 2*1/2	15/14 + 2*1/2	15/14 + 2*1/2
Dia. Of disks [mm]	200	200	200	200	200	200	200
Crop Accelerator							
Rotor Diameter / Housing Width (mm)	560 / 632	560 / 632	405 / 506	405 / 506	405 / 506	405 / 506	405 / 506
Number of blades	10	10	12	12	12	12	12
Speed (option)	1603 (–)	1603 (–)	1800 (2000)	1800 (2000)	1800 (2000)	1800 (2000)	1800 (2000)
Accelerator band	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change	8 mm Hardox 500, Quick change
Spout							
Rotation	200°	200°	200°	200°	200°	200°	200°
Reach from centre line [m] (optional) [m]	3.75 (4.55)	3.75 (4.55)	3.75 (4.55)	3.75 (4.55)	3.75 (4.55)	3.75 (4.55)	3.75 (4.55)
Hydraulic raise and lower	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Double cap	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Automatic Spout Positioning	Option	Option	Option	Option	Option	Option	Option
Length of Cut							
40 knives [mm]	6 ... 26 1 mm Steps	6 ... 26 1 mm Steps	6 ... 26 1 mm Steps	6 ... 26 1 mm Steps	6 ... 26 1 mm Steps	6.5, 9.2, 13.8, 19.4	6.5, 9.2, 13.8, 19.4
48 knives [mm]	5 ... 22 1 mm Steps	5 ... 22 1 mm Steps	5 ... 22 1 mm Steps	5 ... 22 1 mm Steps	5 ... 22 1 mm Steps	5.4, 9.2, 11.5, 16.2	5.4, 9.2, 11.5, 16.2
56 knives [mm]	4 ... 19 1 mm Steps	4 ... 19 1 mm Steps	4 ... 19 1 mm Steps	4 ... 19 1 mm Steps	4 ... 19 1 mm Steps	4.7, 6.6, 9.9, 13.9	4.7, 6.6, 9.9, 13.9
Electrical System							
Voltage [V]	12/24	12	12	12	12	12	12
Batteries (numbers) x Capacity [AH]	(3) x 174	(1) x 174	(1) x 174	(1) x 174	(1) x 174	(1) x 174	(1) x 174
Alternator [A]	200 (12V) + 70 (24V)	150	150	150	150	150	150
Tank Capacities							
Fuel [L]	1100	1100	1100	1100	1100	1100	1100
Hydraulic system [L]	46	46	46	46	46	46	46
Maintenance							
Rotary radiator screen cleaner	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Automatic lubrication system	Standard	Optional	Optional	Optional	Optional	Optional	Optional
Engine oil and filter change after [h]	250	500 (JD+50TM II) 250 (other oil)	500 (JD+50TM II) 250 (other oil)	500 (JD+50TM II) 250 (other oil)	500 (JD+50TM II) 250 (other oil)	500 (JD+50TM II) 250 (other oil)	500 (JD+50TM II) 250 (other oil)
Cab							
Tilt and extend steering column	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Air conditioning and heater (ClimaTrak)	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Cool box	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Trainee seat	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Hectare counter	Standard on cab A-post	Standard on cab A-post	Standard on cab A-post	Standard on cab A-post	Standard on cab A-post	Standard on cab A-post	Standard on cab A-post
Operator information system	Cab A-post monitors	Cab A-post monitors	Cab A-post monitors	Cab A-post monitors	Cab A-post monitors	Cab A-post monitors	Cab A-post monitors
CAN-BUS electronics	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Air suspension seat	Standard	Optional	Optional	Optional	Optional	Optional	Optional
Windscreen wiper	Parallel type	Parallel type	Parallel type	Parallel type	Parallel type	Parallel type	Parallel type
Side window wiper	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Electric adjust and heated rear view mirrors	Optional	Optional	Optional	Optional	Optional	Optional	Optional
AMS Solution							
Harvest Monitor	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Harvest Doc	Optional	Optional	Optional	Optional	Optional	Optional	Optional
HarvestLab	Optional	Optional	Optional	Optional	Optional	Optional	Optional
AutoLOC	Optional	Optional	Optional	Optional	Optional	N/A	N/A
AutoTrac	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Vehicle							
With front tyres	800/650 R32	800/650 R32	800/650 R32	800/650 R32	650/75 R32	620/75 R34	620/75 R34
With rear tyres	480/80 R26	540/65 R26	540/65 R27	540/65 R28	480/80 R26	480/80 R26	480/80 R26
Transport length (w/o header) [m]	6.62	6.62	6.62	6.62	6.62	6.62	6.62
Transport width (w/o header) [m]	3.30/3.45**	3.30/3.45**	3.30/3.45**	3.30/3.45 **	2.95/3.16**	2.95	2.95
Transport height (to cab roof) [m]	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Working height (max) [m]	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Approx. weight (without header) [kg]	14550	12680	11580	11580	11280	11280	9755

** Depending on tyre brand. Specification and design subject to change without notice.

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