

▶▶▶ **The Forage Harvester**



BIG X

▶▶▶ **KRONE – Passion is our Drive**

KRONE



1. Lesen Sie die Bedienungsanleitung.
2. Arbeiten Sie niemals mit nassen Händen.
3. Beachten Sie die Krone des Produkts, die nicht abgerundet ist.
4. Verwenden Sie das Produkt nur für den vorgesehenen Zweck.
5. Beachten Sie die Schutzmaßnahmen für den Fall eines Stromausfalls.
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BiG X	4
EasyFlow	6
XDisc	8
EasyCollect	10
The Magic 6	14
Making the Right Cut	16
Corn Conditioner	18
Chopper That Means the Business	20
The X-Factor	22
Another Pair of Eyes	24
Self-Thinking	26
Your Favorite Place	28
Productivity	30
VariStream	31
Fuel Consumption	32
Daily Business	34
Time is on Your Side	36
Facts & Figures	38





BiG X – Chopping in a New Dimension



A family enterprise serving your business



Your needs are at the heart of our work



Our focus is always on the customer



We commit to the product

KRONE has been building Forage Harvesters since 1977. At that time due to lower horsepower tractors, KRONE started with towed and hitched Forage Harvesters. The industrialization of Agriculture has advanced in leaps and bounds and the farmers began to specialize more and more. KRONE anticipated in many trends and brought out new machines to the market, long before the majority of Farmers asked for them. With the row-independent Corn Harvester MC 16 B with 5' working width, KRONE took the first step in higher productivity machines in the mid 1980s. Today we have taken leadership in, not only in Horsepower, Productivity, but more importantly Chop Quality – As what comes out the machine is what counts. We welcome you to the new dimension of Forage Giants.



A single-row disc wheel Corn Harvester for the three-point hitch was introduced under the name “Corn Chopper” back in 1977. **More than 5000 of these machines** were sold throughout the world. This was only the start of something BiG. We are proud of our History. But we do not lie on our laurels – our focus is the future not the past!

Although KRONE had forever impressed many Farmers and Contractors – and also many Competitors – with the introduction of the BiG M Self-Propelled Mower Conditioner. But the first prototypes of the BiG X shocked the industry. Our critics never thought it would work, but just like life - you have drove us on even more and today **we are the ones to beat not to compete**. And thanks to you, you are the ones driving us on.



“The best compliment an Engineer can give is to copy your idea.”
(Henry Ford, 1863-1947)

“When KRONE previewed the BiG X, it presented a fully new Forage Harvester concept. The innovative features, for example – from to 1000 hp level or 14 rows that means more than a 10 meter (34'5") working width, and as standard, road travel at 40 km/h (25 mph). Thanks to the innovative transmission with fully automatic adaptive engine-transmission control allowing maximum speed on the road with the minimum engine rpm – Eco mode, saving time and fuel up to 25%. Or think about the hydraulically driven feed rollers that enable the chop length to be adjusted directly from the cab and also on-the-move. The KRONE BiG X is innovative, comfortable and does not forget the basis for the best possible Chop Quality. The latest example of leadership is the synchronization of two differing horsepower rated engines, that is within the heart of the BiG X 800.

These are just some examples that KRONE has been for many years leading the pack and heading in the right direction. The basis for our innovation force is our highly qualified employees and our precious Customers. Your demand is our duty, not for nothing I have called our BiG X as the “Listening Harvester” from day one. And that is not going to be different in future either. The name KRONE stands for closeness to Customers and this is the milestone for real innovation”.


Dr. Bernard Krone





On the market for only seven years and **already distinguished several times** for its innovations. Awards are nice to have, but the goal is to satisfy and bring solutions to our Customers as this is the real endorsement. BiG KRONE thinking that is revolutionizing the Forage industry: the BiG X from KRONE.




EasyFlow – The Ultimate Pick-up

 **EasyFlow – the world's first uncontrolled pick-up**

 **30 % higher speed for higher throughputs**

 **Automatic speed adjustment to ground speed**

 **Pivoting frame for perfect ground contour following**

With the all-new EasyFlow Pick-up, KRONE is the first manufacturer Worldwide to offer a Cam-Less Pick-up for harvesting equipment, operating completely without a cam-track. The tine carriers are welded directly to the rotor discs on the left and right-hand side of the Pick-up.

The traditional wear-intensive cam-tracks are now eliminated with EasyFlow. Thanks to the increased speed and outstanding crop lifting of Pick-up the throughput increases even more on the Forager. More innovation and benefits that you can use to increase your profitability – More throughput and lower operating costs, a win-win situation.



Two working widths of the Pick-up are available either the 3 or the 3.8 m (9'8" - 12'5"). We only build Heavy-Duty Pick-up's, as normally this head takes the most abuse, rough ground or operating in heavy Winter Forage conditions. That's why they come standard with 6 tine rows and a tight tine spacing of 55 mm (2 1/4") guarantees not only high Pick-up capacity but also very clean pick-up. No crop remains on the ground even at high working speeds!

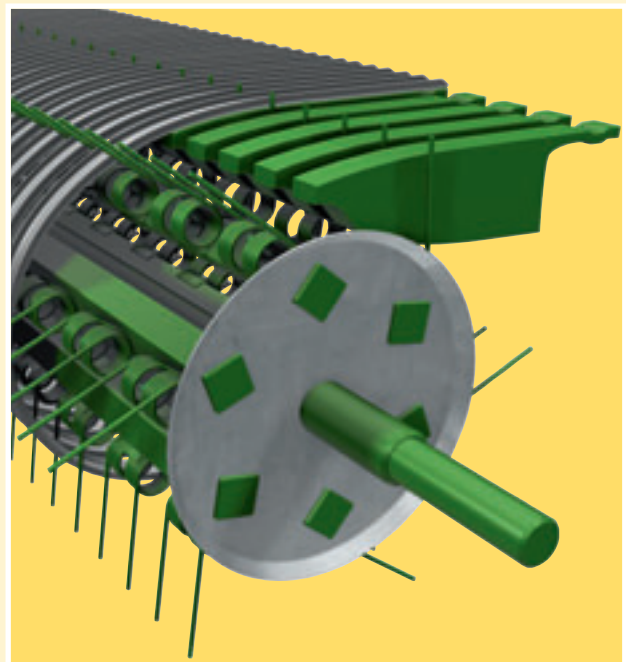
The little things make the difference. With the **pendulum suspended frame**, all harvesting attachments adapt to the ground contours. As standard, all the heads can be carried or pushed down by simply dialing in the value desired into the control terminal, select the pressure or connection angle and it automatically adjusts in milliseconds. Peace of mind, sit back and enjoy the ride. When moving from field to field, the lateral guide wheels are swung in hydraulically from the cab – more time saving ideas.



- • • **Another KRONE Exclusive:** The Cam-Less EasyFlow Pick-up, forever eliminating the mechanism of the wear intensive cam-track control. With six rows of tines mounted on supported tine carriers it is a high performance attachment for a high performance machine.

More Outstanding Features as Standard:

- Adaptive speed matching of the head to the ground speed, thanks to the hydraulic drive.
- Reversing after metal detection, the head reverses first then the feed rolls – the benefit is easier and quicker to find the metal.
- Two separate safety systems for the driveline: More Safety, More Security & More Speed.








Hydraulic drive with **infinitely variable speed control** for faster or slower running, it has a very wide spectrum of 300 - 750 rpm, or just activate the automatic speed matching – sit back and be amazed at what it can eat. The crop-flow starts at the front and the better it feeds the better the Harvester operates.

Increase the daily output by 10 % – Crop press rollers with an integrated deflection plate are standard: the continuous crop-flow is always guaranteed and crop jamming is prevented, even at fast ground speeds. As it pushes the windrow down and flicks the crop on to the tines helping to take out the lumps. Plus, the full automatic management system lifts it out when reversing and it lowers itself down when you start moving forward again – There are no buttons to press, only press the stick forward – making life easier.



XDisc – Do Two Jobs in One

-  6.2 m (20') Working Width
-  Direct Harvesting for Whole-Crop Silage or Biomass
-  A Fully welded One-Piece Cutterbar
-  Massive Auger Diameter for high Throughput without Plugging
-  SafeCut – maximum impact protection for the cutterbar

Whole-Crop Silage is gaining more and more importance in Agriculture, as animal feed and as raw material in the bio-energy industry.

The XDisc direct cutting system, which has a working width of 6.2 m (20'), has been developed for high throughput direct harvesting. Working with the XDisc can guarantee high performance harvesting without any crop losses and outstanding cutting quality. These are just some points that distinguish this KRONE development from the rest.



This is the heart of the head, a clean cut ensures that the crop quickly re-establishes and guarantees more output from the field. The **XDisc has a one-piece Cutterbar** that is fully welded for maximum durability and the wedge shaped edge of the Cutterbar protects the Sward/ Stubble from damage. The large cross-sectional profile of the Cutterbar reduces the ground pressure and compaction, helping a quicker regeneration of the crop.

The **massive intake auger guarantees efficient feed** of the crop to the feed rolls. With a diameter of 90 cm (35"), the XDisc works without plugging even in very tall crops. Another plus is that the head is fully enclosed to reduce crop losses but access to the head is made in seconds by the easy-to-open protective covers.



SafeCut INSIDE

- • • The satellite driveline throughout the Cutterbar was a KRONE invention – imitated by many. The advantage is a smoother operation and a cleaner cut, as the discs are further forward and have more area and time to cut the crop. More safety and money saving features are built into the cutting discs. For example, the blades can rotate 360° to help protect them from rocks or foreign objects, if they hit anything they can simply swing out of action. Also, the blade holders can be individually exchanged instead of the complete disc assembly. The XDisc has Brawn & Brains.



No time is wasted hooking on this head. **Just one driveshaft** and the machine is good-to-go. The beauty of this head is the drive-line; it is straightforward, strong and has safety built-in, the Cutterbar has an overrunning clutch and the auger has a star ratchet – period!

The transport trailer has a long wheelbase and runs on two axles. This enables **simple and fast coupling** and uncoupling of the XDisc cutting system for transport. There are no axles under the frame that are prone to damage when unloading and loading. The specially developed transport trailer ensures safe transport even at 40 km/h (25 mph) with an integrated braking system.



EasyCollect – The Name of Success



Row-independent Harvesting:
6 to 10.5 m (20' - 34'6")



Exclusive Collector Principle for Better Forage Quality



Low Weight & Power Requirement



Up to 75% More Area Covered per Pass*

KRONE offers a completely new Corn head design that is truly row-independent, working widths from 6 to 10.5 m (20' - 34'6") or 8, 10, 12 and 14 rows. Use the advantages of a harvesting head with a larger working width, you can increase your productivity by at least 5% day for day*. Not only will you increase your throughput but more importantly sink your fuel consumption per harvested ton up to 18%*. How is that possible? With a wider header your forward speed is reduced and you utilize the engine power for cutting, not for propelled the machine over the ground. Also you get other positive effects like less tire tracks and a higher degree of maneuverability, plus less time at the headlands.

* "KRONE Maize Workshop 2006": EasyCollect 6000 Vs. EasyCollect 1053



Stalk Control: The stalks are cut in a simple scissor-type manner. The continuous rotation of cutting knives on the Collector, pulls the Corn plants against the serrated stationary knives for a quick and clean cut. The specially shaped tines of the Collector grasp the plants and transport them to the feed rolls. The **"Pick & Place" tines** ensure a trouble-free feed and also provide additional support for the plants, which is very important when harvesting tall Corn.

Compact on the Road – Wide in the Field: These heads can be simply folded hydraulically into transport position within seconds. Another KRONE first, all the heads are rated to a transport speed of 40 km/h (25 mph) getting you from field to field or location to location faster. We keep you out in front.



• • • Who wishes to break frontiers needs courage and foresight! By using a 14 row Corn head compared to an 8 row Corn head, you harvest 75% more ground in one pass! This is a technology break-through helping to break down your bottom-line. Getting more done and better done this is our goal at KRONE. Expand your Horizons with the widest Corns heads in the industry.







The heads are row-independent on the EasyCollect Corn heads, **they are also yield independent**, and it doesn't matter if its tall or small Corn, it will harvest everything. Even in the toughest conditions or in laid crop you are guaranteed to harvest it. That is dependability you can rely on with the EasyCollect heads.

Amazing! **Try picking one row**, and even better the outside row. Here is the proof of the outstanding feeding. We are cutting and moving the plant over 5 m (16') and it has not fallen over or touched the ground. Stalks first, the deflection roller pushes the plant bundle forward so that the stalks are guaranteed they are being fed "Feet First". The "Rolling Change-Over" guaranteeing a continuous crop-flow.



EasyCollect – details that make a difference

-  **Row-independent**
-  **In-line crop delivery**
-  **Consistent quality of chop**
-  **Self-sharpening knives**

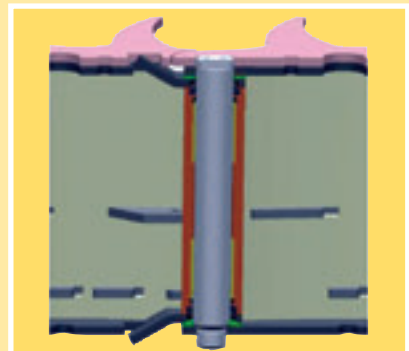
EasyCollect 6000 FP goes into the crop irrespective of row spacings, giving the flexibility you need in different applications and harvesting across rows or at varying row spacings. It's easy for EasyCollect! The system also gives you the edge in lodged crops, where it guarantees clean cuts no matter whether it works across rows or in rows.



In-built flexibility is a standard. Irrespective of the level of specification of the base machine, every header tilts +/- 5° to the side – courtesy of the integral BiG X pivoting frame. This frame allows every header to follow all ground undulations, thus cutting the stubble at consistent lengths. An active ground contour following system is available for 6 m and 10.5 m wide headers. The system consists of two sensor arms that are fitted under either header end and which determine the cutting height dependably. As these sensor arms detect an undulation, a hydraulic ram that is integrated in the pivoting frame adjusts the height instantly and thus ensures a consistent cutting height.



Model	Work width	No. of folds	Comments
6000 FP	6.0 m	Two	For JD. CNH. Claas
6000	6.0 m	Two	–
7500	7.5 m	Two	–
753	7.5 m	Two	–
903	9.0 m	Three	–
1053	10.5 m	Three	–



Pulling the crop over the cutting edges: Rigid multi-section knives and endlessly moving knives cut the crop like scissors. The tungsten carbide coated knives are easy to replace and self-sharpening.

Uniform chops. Biogas installations and farmers who look for **quality silage** do not desire coarse chops. EasyCollect and an in-line crop delivery eliminate coarse chops and guarantee uniform chop lengths.

Maintenance-free! The individual Collector elements are linked by hard-chromed pins in greased tin-bronze bushes. High-pressure seals guarantee permanent lubrication and offer protection from contamination.



Feed Rolls: The Magic 6

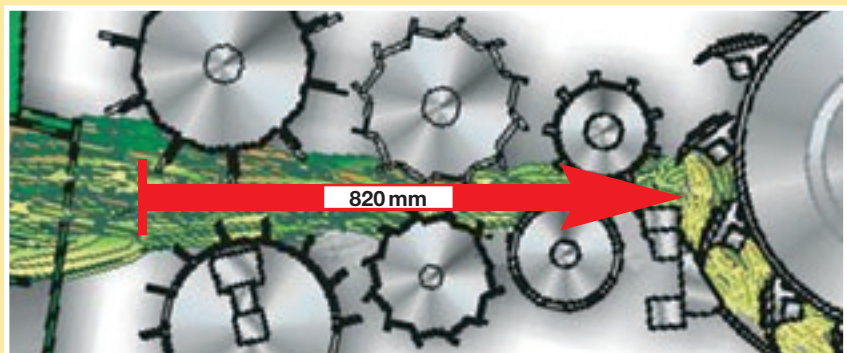
6 Pre-Compression Rollers for Better Forage Quality

Largest in the Industry – a Throat Volume of 158 l

Longest in the Industry – Metal Detector 820 mm (32") to Shearbar

4.6 tons of Pre-Compression

On Forage harvesters the chop quality has been already decided by the crop intake. Therefore the feed rollers play a critical and influential factor. Higher the pre-compression – higher the chop quality. That's why the KRONE design is very unique within this area. Six large-diameter pre-compression rolls – instead of the customary four – provides higher levels of compression. This means that the crop is cut more easily and is precisely delivered to the Cutterhead. Due to the infinite variable hydraulic drive, the chop length can be adjusted remotely from the driver's cab and on-the-move. These feed rollers give you more control on what's going on, either it be the length-of-cut, metal detection or stone detection the color EasyTouch board computer keeps you up to speed in milliseconds.



The two outer pre-compression rollers are stainless steel and are both covered with replaceable teeth. Also within the housing there are **wear liners that cover every part that the crop will ever touch**, this reduces maintenance costs again. In fact the complete machine is covered from head to toe with wear liners, this is the small but BiG difference of the BiG X.

Peace-of-mind! The metal detector is integrated in the front lower roller. **Six magnets** ensure precise location of metal even at the outer edges of the intake throat; the sensing range can be adjusted to meet your requirements and is continuously self-calibrating for 100% reliability. The distance from the metal detector up to the Cutterhead is a huge 820 mm (32"). This provides more safety even at maximum chop length. With this long distance metal objects cannot reach the Cutterhead!



- • • Baring our teeth – the vice grip. Once in, there is no way back. This massive throat opening ensures the BiG X never goes hungry. With the largest in the industry, a throat volume of 158 l. We are guaranteeing throughput and chop quality straight from the start. These six feed rolls are HD – High Definition!





With over **4.6 tons of compression force** on the six rolls ensure the crop is delivered as requested to the Cutterhead. This gives the exact chop length you have dialed up, you select 18.8 mm you get 18.8 mm. As showed above this is the in-line crop feed within the feed roll cabinet which is only delivered by the EasyCollect Corn Heads.


Chop length adjustment the on-the-move. You can quickly dial up the chop length via the “SpeedDial” on the color EasyTouch terminal or save two pre-sets on the small joystick for touch-and-go. Further optimizing forage quality within crops of mixed maturity.


Cutterhead – Making the Right Cut

 Wide 800 mm drum width

 660 mm diameter drum for smoothest operation

 There is always one knife in mesh with the opposite knife – for clean cuts

 The biogas drum – short lengths of cut yet fuel-efficient

 'VariStream' variable crop flow system

How do you get the best possible forage quality and highest possible throughput into one operation? A simple answer: Design the best possible Cutterhead to include a large, efficient cutting process with an effective knife configuration. Here the BiG X sets new standards: With a effective cutting width of 800 mm (31.5") plus a weight of over 500kgs (1,200lbs) and a cutting frequency of your choice: 11,000, 15,400, 22,000, 16,800 or 24,000 cuts/min. But lets talk about the angles, the approach angle of the knives to shearbar is a massive 11° and the departure angle of the crop under the knife carrier is optimized for exact crop flow. This means the Cutterhead has Brawn & Brains. These details lower power consumption and increase productivity levels, which stack up for your daily operation. It has IQ built-in.

**VariStream
INSIDE**



BiG X offers the perfect knife for every application. The grass cutting knife has a cross section that is thicker behind the cutting edge to suit professional grass cuts whereas the maize knife has a hard faced edge for optimum cuts in maize. These options make BiG X the perfect all-round machine.

The knives are arranged in a chevron pattern, which has two large advantages, 1st the crop is cut easier, 2nd it starts bundling the crop together and thus improving the crop-flow. **The 11° approach angle of the knives** to the shearbar guarantees to cut the crop easier – just like a pair of scissors. Another advantage for you on the 28 and 40 knife Cutterheads you always have a knife that runs behind the shearbar = pure safety & pure smooth operation.

The floor beneath the chopping cylinder has a major effect on the quality of cut as well. The floor on the new 'VariStream' system is spring-loaded so it can give way when large amounts crop are passing the system. This way, the machine is not struggling and operation is smooth at all times.

The design of the Cutterhead within the BiG X have a large significance on forage quality, crop-flow, low power requirement and low fuel consumption. For example, the perfect departure angle of the crop from the knife to the kernel processor or to the discharge accelerator ensures the crop is not carried around again, but it is been ejected at the right time, decreasing wear and increasing throughput. The heavy knives are each fastened with five bolts to the knife holders – for maximum durability, we cut crop NOT corners. The knives have elongated holes for quicker, faster and precise fitment. This considerably reduces the time required for adjusting or changing knives. The fastening bars are design to take the wear NOT the knife, after all the job of the knife is cut the crop.



The **20-knife drum** on BiG X delivers long chop lengths, which are desired in some countries. This drum is available as an option.



The **28-knife chopping drum** is standard specification on all BiG X models. Use half this number of knives and the drum cuts grass to the proper lengths.



The **40 knife Cutterhead** is known as the BioGas Drum within the BiG X 650, 800 or in the 1000. The BioGas drum can guarantee you higher throughput and lower fuel consumption of up to 16%* when operating at 5 mm (1/4"). Chop length range of 3.5 to 17 mm. This short chop increases the output of the BioGas power plants as the crop converts quicker into energy.

* "KRONE Maize Workshop 2006" held for leading international Agricultural Press.



K.P. – The Whole Truth



**250 mm (10") diameter:
One of Industry Largest
Frictional Surfaces**



**5 Different Rolls to Choose
From**



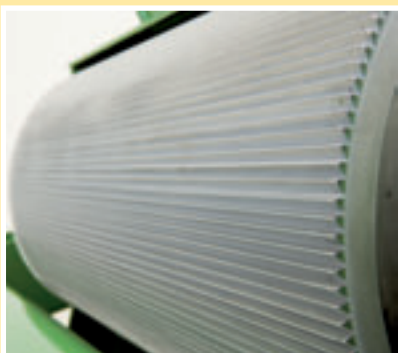
**The K.P. is Fast & Easy to
Exchange**



In-cab Roll Gap Adjustment

The highest digestibility of the forage is a standard requirement. For this purpose every kernel must be cracked, even with long chop lengths. KRONE has the solution.

The K.P. in the BiG X has a larger surface friction area, which means it can operate with a larger roll gap when compared to competitors, but it still achieves the same quality of conditioning. Your advantage is that the K.P. takes less power to drive, which equates to less fuel consumption plus it can handle throughputs up and over 400 t/h mark. The Corn Silage made from the BiG X provides optimal digestive qualities, improving your forage utilization. Cutting Corn NOT Corners!



The one-piece K.P. rolls found in the BiG X are an improvement over assembled rollers found in conventional harvesters. Each roller is balanced to run quieter and smoother this considerably increases the service life. Due to their large surface, wear rates are lower compared to rolls with smaller diameters.

The roll gap can be **adjusted stepless by a electric motor from the cab**. The gap can be varied from 0.5 mm up to 10 mm. The color EasyTouch terminal always displays your current roll gap.

Heavy-duty double-row roller bearings that have proud diameter of 110 mm (4.3") guarantee the highest reliability under large shock loading. The bearings are supplied continuously with grease through the Auto-lube system, a standard feature on the BiG X.



- • • The kernel processor is driven by a hydraulically tensioned 6-groove laminated V-belt. The standard differential speed is 20%. It is also possible to run optionally with 40% differential speed for special conditions. Only a few minutes are required to install or remove the K.P.: Simply loosen two bolts, the unit is lowered onto the service cart (delivered as standard equipment) with the aid of the electric winch and you are finished. Since this process is so simple, the K.P. does not remain installed when harvesting grass. This protects the bearings against high frequency vibrations, extending the life of the K.P.



For long chop a K.P. roller with **123 teeth** is recommended, improving performance in Corn Silage that has chop length from 16 mm. Also available are these 123 tooth rolls with a Saw-toothed profile to aid their aggressiveness plus are chromed faced.

The standard rollers are equipped with **144 teeth** for chop lengths up to 16 mm, optimum for nearly all European conditions. Thanks to the large diameter all kernels are fractured. These can be requested with a Saw-toothed profile and chromed faced.

As a further option KRONE offers a roll with **166 teeth** with a saw-toothed profile. This is desirable for cereal Whole-Crop Silage. Even after the milk-ripe stage each kernel is fractured. The rolls can also be operated with a differential speed of 40 %.



Synchronized: Chopper That Means the Business



Either 836 hp or 1020 hp engine power



Powered by one or two engines as required



Synchronisation via gearbox



Up to 50 % savings in fuel*

Madness or Method? The worldwide structural change in Agriculture is happening very fast and is following in a trend called “Economies of Scale”. That is why KRONE was the first on the market with a Forage harvester over 1000 hp, as our Customers want to cut costs and increase their output even more. KRONE has answered this demand by innovative technology: the BiG X 800 & 1000 have two engines built-in and are fully synchronized. What are the advantages? You can either operate with one or both engines making you more flexible in your operating conditions, cutting in low yielding Grass or in tall heavy Corn. You can simply select the power you wish. In transport mode only one engine is operated making a big saving on fuel consumption.



Twin-Engine Power: Above is the power plant for the BiGX 800, it has two engines, engine number one has 510 hp and engine number two has a proud 316 hp. When the engines are synchronized they develop a massive horsepower of 836 hp. Or you can simply harvest with the 510 hp unit and then activate engine number two for a power boost of 316 hp.

The key to true synchronization, KRONE has patented this synchronization masterpiece of two engines working together, not against each other. Via the massive drive gearbox that transmits this **harmonized power to the Cutterhead**, for power beyond.

We give you the power that you need, With one engine* only running while in transportation mode and also for light yields in grass. This **saves you up to 50% fuel** consumption. The second engine for maximal power in heavy crops.

- • • Here we find the power plant for the BiG X 1000, these two identical engines produce a synchronized power of 1,020 hp. You have flexibility built-in, harvest with one or two engines. For light Grass the engine number one engine has more than enough power with its 510 hp or start the second engine for the full power in tall Corn to harvest over 400 tons/h.



These engines are transversely mounted for optimal power transfer to the Cutterhead and aid its excellent weight distribution. Not alone is the power levels of the BiG X huge, so is the cooling package, design to handle **outside temperatures of over 50° C (+120°F)**.

With the **KRONE patented engine synchronization** enables both engines to harmonize exactly. They both adapt to each other to give uniform torque loading and guaranteeing uniform power delivery. This is all done within milliseconds digitally. The KRONE system is a fully self-monitoring; the operator can monitor the synchronization via the color EasyTouch terminal.



The X-Factor – Quality in Quantity



Chop Quality in Quantity



Very low Rates of Over-Length Fractions



More Output from the Crop



Exceptionally Structured and Uniform Forage Quality

What is important is what comes out! Every Customer wants to work with the greatest possible cost effectiveness and to achieve the highest possible productivity. KRONE listens to Farmers and Contractors and that's why chop quality is a design criterion of the BiG X, Quality in Quantity! This is our philosophy at KRONE, to listen closely on the market requirements and then letting these requirements flow quickly into the design of our products. That why the BiG X is called the "Listening Forage Harvester". Chop quality is something we are very proud of – the BiG X has proved it over and over again with its uniform chop. And not to forget it's massive output too.

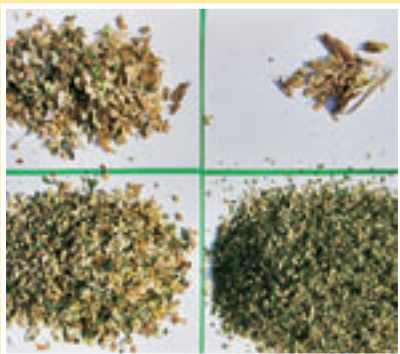


Chop quality starts at the front: The chopping quality of a Forage harvester depends on its harvesting head and feed of the crop into it. If stalks are fed offset to the Cutterhead, this will only deviate the selected chop length considerably. If the stalks are fed to the Cutterhead in a longitudinal direction, the defined cutting length can be maintained. These are facts, which speak in favor of the longitudinal, inline flow of the EasyCollect.

You can tell the BiG X has an **outstanding chop quality with the uniform flow** out of the Spout. As there is no leaves or over-length fractions that normally deviate from the discharge. Also if you watch the discharge you can see a rainbow color spectrum (yellow-green-yellow) the Corn stalks are being exactly cut longitudinally.



- • • Hundreds of shakeout tests have shown the BiG X is capable of achieving its claims. A very low rate of over-length fractions with exceptionally structured and uniform forage quality. Only one equation applies for professional Farmers here:
 Better chopping quality
 => better Silage compaction
 => less secondary fermentation
 => better forage quality
 => more output from the crop.



A typical KRONE BiG X sieve sample: Only 0.1 % of over-length fractions (> 20mm) for a set chop length of 9 mm. Even when the chop length is set to 14 mm the over-length fractions remains at only 0.6 %, far below the customary 2 - 2.5 %. With KRONE you **obtain more structure in the forage but without excess over-length fractions.**

Secondary fermentation should also be prevented even with long chop lengths. The key is that the chopped fractions are as **uniform as possible** without any over-length fractions. But what is more

important is to **focus on the chop quality instead on the conventional thinking of theoretical chop length.** The BiG X delivers Precision Chopping.



Another Pair of Eyes – The AutoScan System



Always the Optimum Chop Length



Optimum Stack Compaction



Increased Feed Value



Increase your Customers Bottom-line

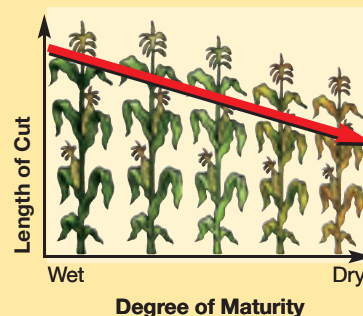


Less fuel consumption



Higher throughput

The degree and stage of maturity is not always uniform within the field. You know that too, it's very easy to see in Corn. When the Corn has a brown color it means it's more mature than the green colored plants. Once again KRONE has developed a unique system to measure the maturity on-the-go. Because your Customers want a uniform chop quality in the stack. The AutoScan system measures the maturity of the plant and automatically adjusts the length of cut to achieve a uniform chop quality. The AutoScan system eases the duties of the operator and gives you more uniformity. AutoScan is standard equipment to make your chopped forage more than standard.



The **AutoScan sensor** is an optoelectronic photocell integrated in the EasyCollect Corn head. The harvested Corn plants pass over the self-cleaning AutoScan sensor and their degree of maturity is detected automatically. AutoScan system received an innovation medal from the German Society of Agriculture – it is not only practical but helps you to get more out of the crop.

Depending on the maturity of the crop the AutoScan sensor converts this data into information. The system **automatically determines the optimal length of cut** for the crop and adjusts the length of cut on-the-go. To obtain an excellent Forage structure, green Corn is chopped longer, brown, dry Corn is chopped shorter this achieves improved compaction in the stack. Optimum chop length is always guaranteed.



Daily practice during the Corn harvest:

Degree of Maturity	Normal Chop length	Target
Green (high moisture content)	12-20 mm	Good structure in the forage No pulp in the forage
Brown-Yellow (low moisture content) > 35% dry matter	5-9 mm	Good compaction in the stack Low percentage of over length fractions



The harvesting conditions fluctuate in every field. KRONE AutoScan detects the degree of maturity within the plants and automatically adjusts to the optimal chop length. This guarantees you optimum forage structure at all times, allowing optimum stack compaction without secondary fermentation.





The driver pre-selects a minimum and maximum chop length before starting work. Then AutoScan varies the chop length within this range. The actual chop length is shown in the color EasyTouch terminal. The driver only has to select the maximum and minimum length of chop and the **AutoScan then sets to work in automated chop length mode**. Perfect forage quality is achieved in every crop condition. Only consistently good chopping quality guarantees the high quality from the Corn Silage and assures an exceptionally high feed value.

The cows digest the high quality feed with higher nutrition values better. This leads to the animals eating more per day and increasing their output either it be Milk or Meat. The perfect situation, **satisfied cows and happy Farmers.**



Self-Thinking – Brains & Brawn

-  **Intelligent Equipment**
-  **Increase its Awesome Output Even More**
-  **Self Protection Built-in**
-  **Active Ground Contouring**

At KRONER we do not only build BiG machines we also build intelligent machines. To achieve high productivity or chop quality not only do you require horsepower but also user-friendly intelligent technology. For example to get the maximum output on the Forager we have developed leading edge technology called “ConstantPower” where the machine automatically adjusts its ground speed to the engine loading. This relieves the operator of constantly adjusting the ground speed – allowing the operator to relax and increasing the output of the machine even more. Built into every BiG X is a self-diagnostic system that monitors everything and flags up problems before they turn into real problems. This gives you more reliability and durability especially in peak season, as time waits for nobody.



Yield measurement can be equipped optionally. The “CropControl” system measures the volume of crop harvested by the machine. This is instantly stored on the onboard computer and if required can be printed out, giving you more documentation. Also the inoculant been applied can be controlled by the CropControl system.

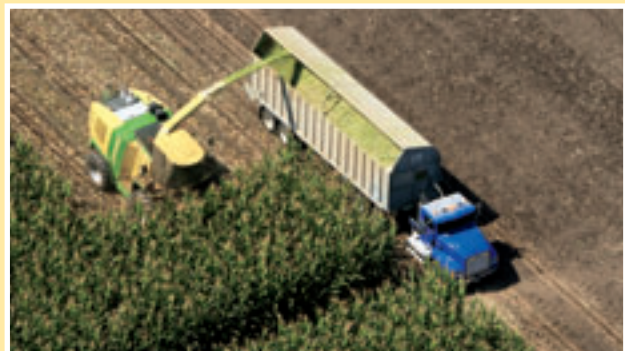
Moisture measurement is also available for the BiG X. This gives you highly accurate, real-time readings of the moisture value of the chopped crop as it flows through the spout. This can be accurately used in various crops like Corn, Whole-crop, Grass or Alfalfa.



• • • **ConstantPower** keeps your output constant and gives more power to the operator. Simply dial in the wished loading on the engine and the ground speed adapts automatically. Giving you maximal output hour-for-hour, day-for-day. Especially useful for those long days, let this intelligent system work for you. Let this advanced machine advance even more. Specifying the machine with the Auto-Scan crop maturity detection system will boost output even further and save more fuel.



A unique system: ConstantPower + AutoScan
 = more throughput
 = higher fuel economy
 = better chopping quality



Only what is good for you come in. The BiG X feed rollers are strong and have strength but are also sensitive. The optional **Rock-Protect system** protects the Forager from stone damage. When a rock is detected it stops the drive to the feed rolls within milliseconds. More safety. The sensitivity can be adjusted directly via the color EasyTouch terminal.

Get hands-free steering and contouring: Let the BiG X take control of steering and ground contouring. On all BiG X's you can request AutoPilot and Active ground contouring. The feelers on the EasyCollect Corn heads sense where the Corn stalks are and transmit this information to the steering system where is actively steers the machine along the field for you. Or another first, the active ground contouring dial in your wished cutting height and EasyCollect adjusts to every contour either it be left-to-right or up-and-down.



Your Favorite Place – Command Center



Full 7" Color Display



More Than 20 Functions in your Hand



Excellent Visibility



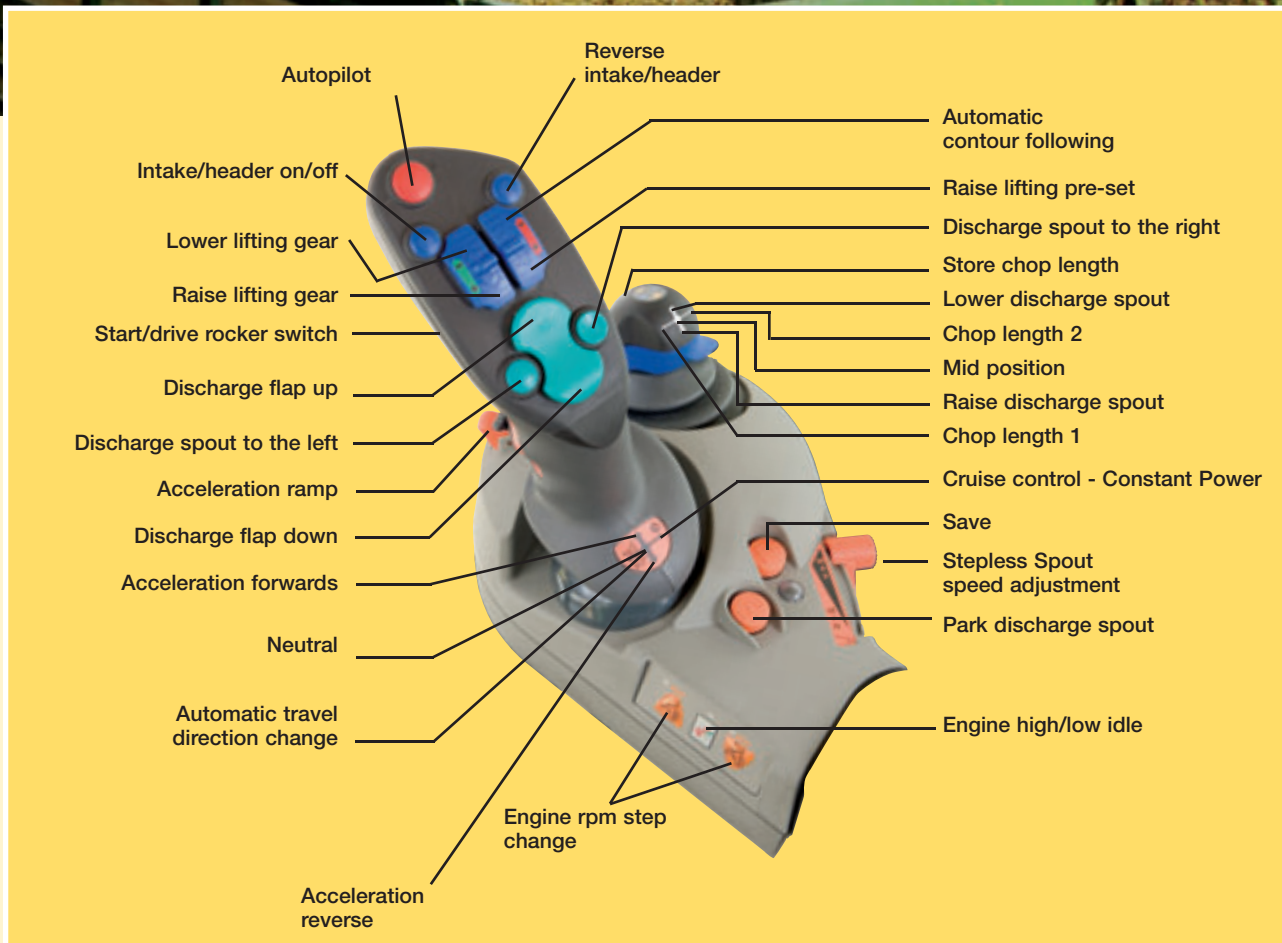
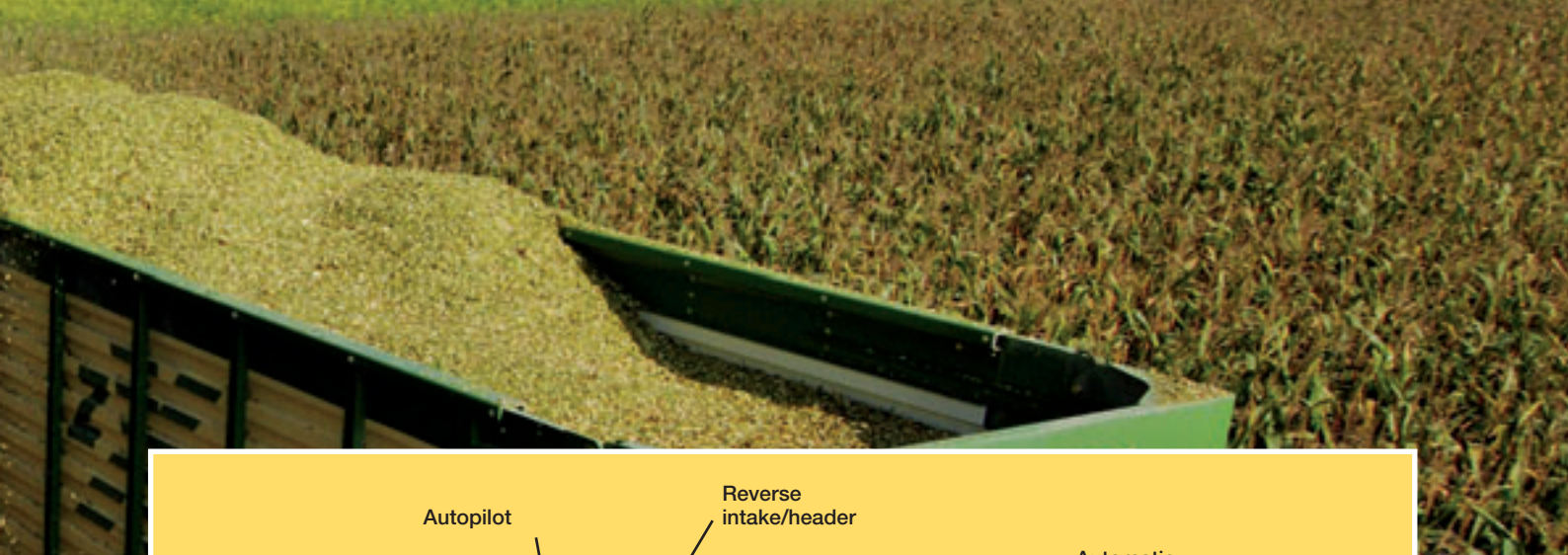
Climate Control

Long working days, sometimes extending long into the night, require endurance and concentration from the operator. With the Command Vision cab, KRONE has developed a large-dimensioned cab incorporating all the latest ergonomic factors. Comfort, safety, efficiency and productivity for example the largest leg area in its class. It is spaciouly designed, you have more area to work and more area to relax. Climate-control, air-ride seat, cool box and buddy seat are all standard features. Long days are now shorter, after all the entire job should be finished not you. The operator has all major working and operating functions directly in his field of vision and at his fingertips, see more – do more. Not forgetting the exclusive rear axle suspension on the BiG X makes the ride even smoother.



The perfect all-round view: The driver has everything in view with the Command-Vision-Cab. And other attention to detail is **the tall side windows**, even when the spout is fully raised to its 6 m (20') working height the operator has excellent visibility of it, without having to stoop over. This results in additional comfort and increased productivity.

Rightly positioned: all controls are arranged on the right-hand side where they should be. The operator has everything within grasp and insight. What's special about the joystick, there is over **20 functions programmed in** – that means when chopping you never have to take your hand off to adjust anything. Attention to detail again. Also the arm rest is connected to the seat so it moves with you, not against you.







Color EasyTouch terminal is a **full 7" high definition display** that can either be navigated via "SpeedDial" or direct on the screen. All important machine functions are displayed on the terminal, there is three regions, Engine, Transmission and Chopping info – all these can be called up for more detail information if required. The user-friendly adjustment of the roll gap for the K.P. can be directly carried out via the terminal.

The switches for working lights, windshield wiper, heating and air conditioning are located directly in front of the driver. Also when keying off at night, the **automatic "Follow Home Function"** activates, letting you get down from the cab safely. For the final touch of convenience, the cab equipment includes an integrated refrigerated cool box for water, soft drinks and lunch sandwiches.

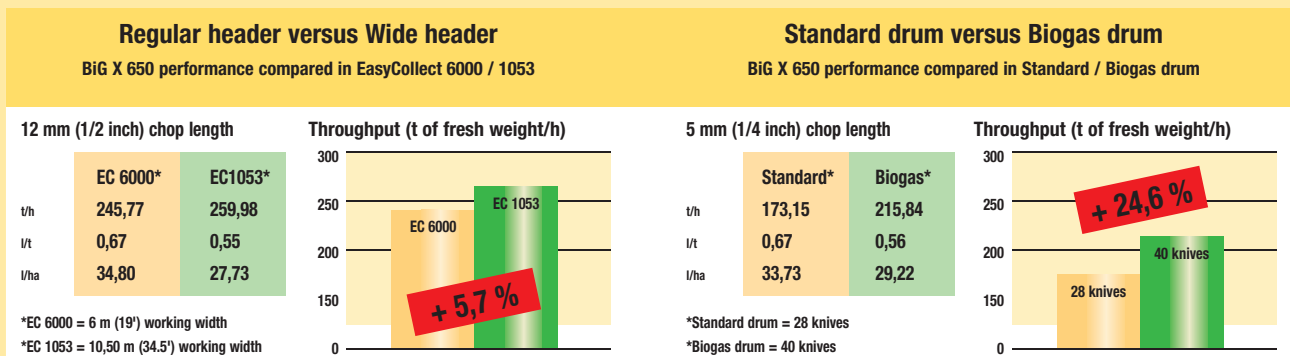


Productivity – A Passion to Succeed

-  **Increase Your Productivity by over 5 % with a Larger Header**
-  **Increase Your Productivity by almost 25 % with the BioGas Cutterhead**
-  **Increase Your Customers Gas Output by 15 %**
-  **Size Does Matter**

Allegations are easy to make and proving them is harder, we at KRONE do it the hard and the honest way. Even more the “DLG” (German Society of Agriculture) have tested the BiG X, the facts and figures are available for everybody to see*. For example in throughput and acreage covered by the BiG X. Maybe that’s is why no other competitor wants to publish the official test findings that compare them to the BiG X. Whoever is looking to increase their productivity and in the most efficient manner wants to invest in a BiG X.

* The DLG Focus Test 5432 F is available at www.dlg.org/de/landwirtschaft/testzentrum/pruefberichte abrufbar.



In September 2006, KRONE hosted a press workshop, where we invited the leading International Agricultural press to witness the tests carried out. The results of these tests confirmed the findings of independent tests that had previously been conducted by DLG: **The BiG X delivers more!** The hungry feed rolls and Cutterheads

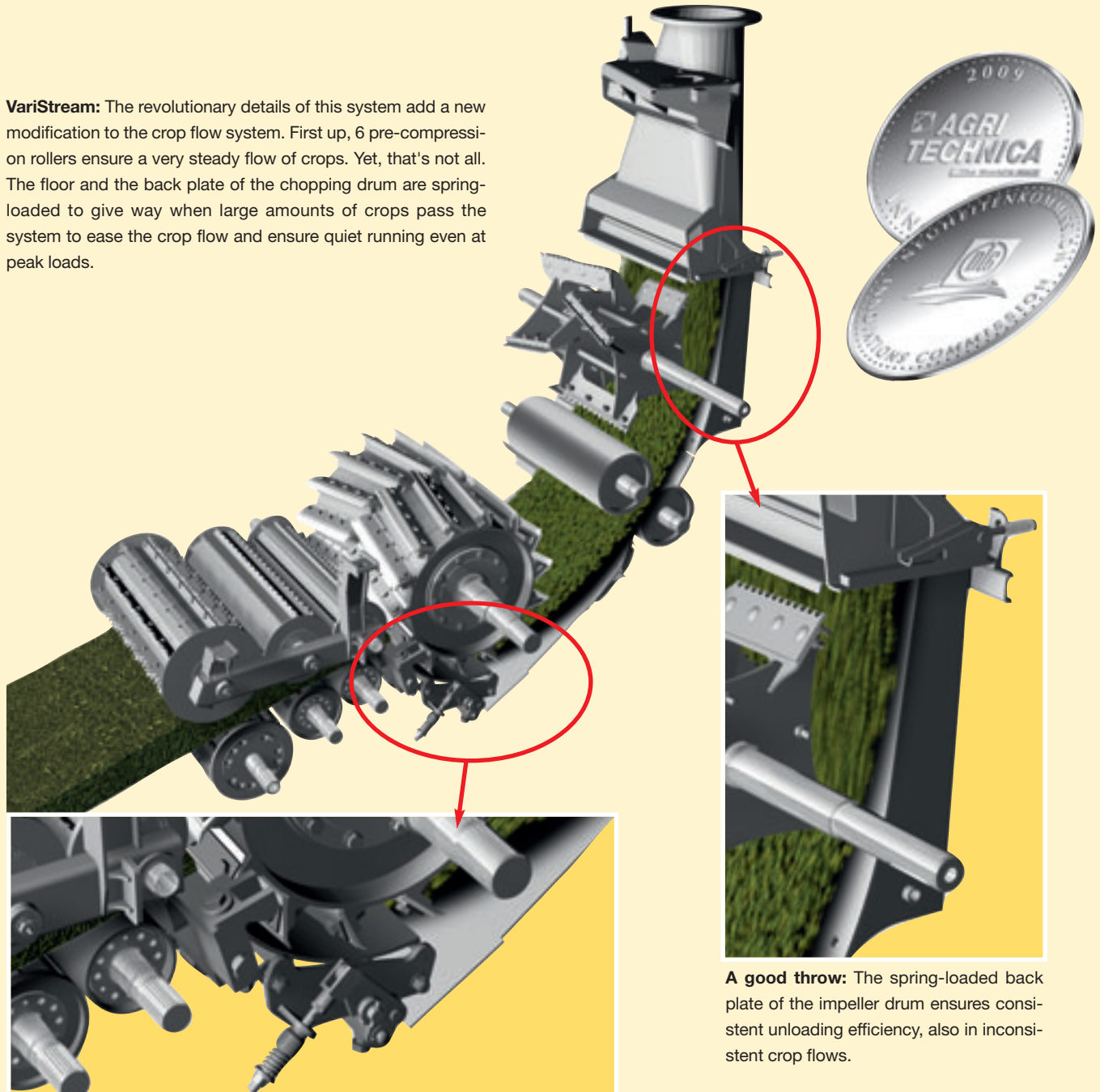
in combination with the wide Corn headers increase the machines throughput even more. When chopping in short lengths of cut, the KRONE “BioGas” Cutterhead with 40 knives increased the **throughput by almost 25%!** (All test runs were timed excluding the time taken for headland turns, stops, etc.).



**VariStream
INSIDE**

VariStream – The new crop flow system

VariStream: The revolutionary details of this system add a new modification to the crop flow system. First up, 6 pre-compression rollers ensure a very steady flow of crops. Yet, that's not all. The floor and the back plate of the chopping drum are spring-loaded to give way when large amounts of crops pass through the system to ease the crop flow and ensure quiet running even at peak loads.



A good throw: The spring-loaded back plate of the impeller drum ensures consistent unloading efficiency, also in inconsistent crop flows.

A clever system: The floor beneath the chopping drum is linked to the anvil of the opposite knife. This way, the clearance between any one knife and drum floor is always constant, because the floor is adjusted when the opposite knife is adjusted.



Fuel Consumption – Less is More



Save up to 30 % Fuel Consumption per Chopped Ton*



Save up to 16 % Fuel Consumption with the BioGas Cutterhead at 5 mm



Wider the Head, Bigger the Savings



Autoscan chop length control plus ConstantPower engine load limit sensing for more throughput and less fuel consumption

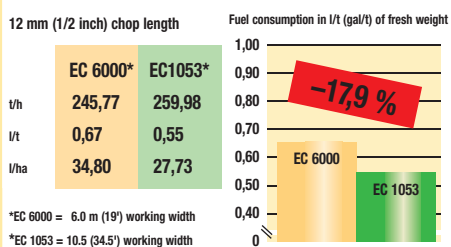
Experience enormous power, combined with reduced fuel consumption. Seize the opportunity to be more profitable when facing the realities of high fuel prices. The basis for this quantum leap is the innovative and power-saving Collector principle of the Corn header. Lower consumption by higher innovation. Official tests shows, that using a 9.0 m (30') Corn head instead of a 6 m (20') Corn head saves up to 30% fuel per ton of chopped crop.

(DLG* Focus Test 5432 F).

* The DLG Focus Test 5432 F is available at www.dlg.org/de/landwirtschaft/testzentrum/pruefberichte/abruflbar.

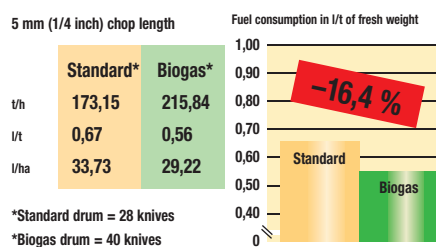
Regular header versus Wide header

BiG X 650 performance compared in EasyCollect 6000 / 1053



Standard drum versus Biogas drum

BiG X 650 performance compared in Standard / Biogas drum



Read the facts - The KRONE **BiG X Maize workshop 2006**, which was attended by the leading international Agricultural press, delivered impressive results in fuel consumption figures. (All test runs were timed excluding headland turns, stops, etc.):

- 1.) The wider the header, lower the fuel consumption is.
- 2.) Chopping at short lengths (5mm), the KRONE BioGas Cutterhead leads to a **16% cut in fuel consumption per ton of chopped crop.**

The exciting side effect was the BiG X 650 had an increased throughput of nearly 25%. Most important of all - the system enhances the quality of chop.

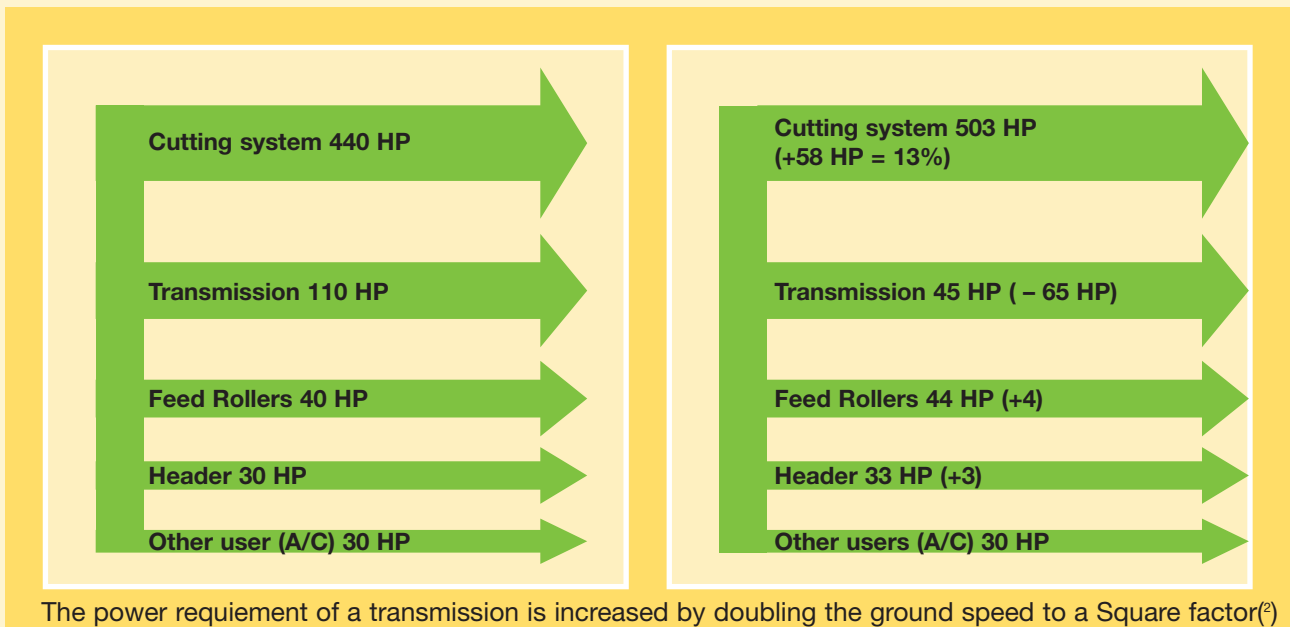
Technology that pays a BiG return: The larger the chopping system, the more throughput can be achieved with the same engine power. The fuel consumption per acre or per ton of chopped crop decreases. If chopping the crop shorter than 8 mm it pays to use the KRONE BioGas Cutterhead.



• • • Why a wide Corn Header

Power distribution:
Example 10 km/h: 100% = 650 HP

Power distribution: Example 5 km/h
Example 5 km/h: 100% = 650 HP



As shown above is an example of using power efficiently. If comparing an 8 row to a 14 row Corn head you can increase your efficiency dramatically, and especially fuel consumption per chopped ton of crop can be decreased. By using a wider header you reduce your forward speed by this **you have more available power**

for the chopping system instead of using the power to propel the machine across the ground. There are also more positive effects of wider headers. 1). Opening up the field is easier, 2). Reduced headland turns, more time chopping, 3). Reduced tire tracks - compaction, 4). Faster turns.



Daily Business – Maintenance to a Minimum



Auto-Lube as Standard



Air Compressor as Standard

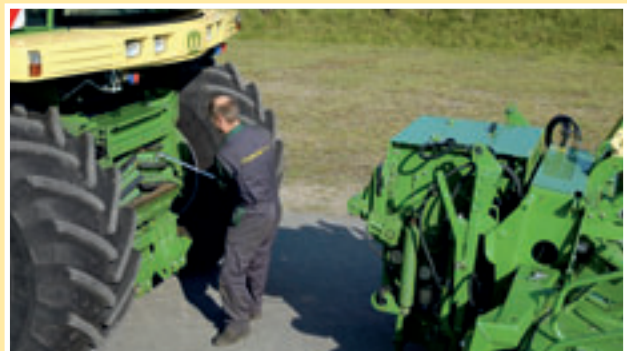


Quick & Easy Access to the Cutterhead



Fast Daily Maintenance

We understand that! Especially in the normal hectic harvesting season, the Forage harvester must work continuously. Therefore KRONE has kept daily maintenance to a minimum. That's why the BiG X comes standard with Auto-lube that greases over 50 points automatically on the machine, this saves you precious time. An air compressor and a large air tank is standard on the BiG X allowing both cleaning and service work to be performed directly in the field. Access to all working components like the feed rolls, Cutterhead, K.P. and the accelerator is quick and easy.



What can you do in **two minutes?** With a BiG X 1000 you can harvest **14 tons of Corn** or simply open out the feed roll cabinet, giving you the easiest access available for knife and shearbar inspection. Sharpening can either be activated from the cab or externally. Plus you have sharpening stone counter letting you know when it should be readjusted. This is real operating comfort for the driver. For your convenience there is a working light positioned above the unit that aids sharpening in darkness.

The feed roll cabinet can be removed easily in minutes, two possibilities: on their own or with any head attached. This exposes the Cutterhead and makes all components directly accessible. This **makes service work a pleasure**, especially when changing knives or the shearbar. A service cart is available either for the feed roll cabinet or Cutterhead this allows you to remove the unit safely and then maneuver the unit around the workshop.



- ● ● As standard equipment is an integrated air compressor with a large tank. It can be used for blowing down the machine before sharpening or for maintenance work. It will even drive 1/2" drive air wrenches thanks to its large onboard air tank. This will be appreciated for all types of fieldwork.



The engine is installed transversely over the rear axle allowing all components to be directly driven, reducing power losses. Along with the benefits of **better weight distribution** this also provides optimum accessibility for maintenance. By opening the large access doors reveals the entire engine compartment.

Installing and removing the Kernel Processor is a quick process and can be done with both feet on the ground. An electric winch is standard on the BiG X to aid this process, in 15 minutes you have the grass chute out and the K.P. in. For further convenience the cooling fan and the radiators are accessible from the left and right-hand side.



BiG X – Time is on Your Side

Your advantages

- Large Scale Productivity & Power package
- Outstanding Cab & Controls
- Innovative Technology that Guarantees Your Success
- Large Cooling Package
- Header to fit Every Condition
- Maintenance Friendly is now Redefined
- BioGas CutterHead – Get More Done
- Corn Conditioner, Quickly Removed
- Durability Built-in
- Productivity & On the Road
- More Customer Satisfaction

Your Customers advantages

- Outstanding Silage Quality – 6 Feed Rolls
- Reduced Ground Compaction – Wide Heads
- A Harvester for Every Operation
- Maximum efficiency and optimum fuel economy
- More Energy from the Crop



• • • Here You Will Find Your Wish Combination of HP, Nm & IQ





▶▶▶ BiG X: The Facts & Figures

Model	units	BiG X 500	BiG X 650	BiG X 800	BiG X 1000
Engine Model		Mercedes-Benz OM 460 LA	Mercedes-Benz OM 502 LA	M-B OM 460 LA + OM 926 LA	Mercedes-Benz 2xOM 460 LA
No of cylinders / Aspiration / Emission Level		6/TI/Euro 3A-Tier III	8/TI/Euro 3A-Tier III	6/TI/Euro 3A-Tier III	6/TI/Euro 3A-Tier III
Displacement	l (ci in)	12.8 (781)	16.0 (1098)	12.8 (781) + 7.2 (439)	12.8 (781) + 12.8 (781)
Synchronized max. power ECE R120 at 1800 rpm	kW/hp	375/510	480/653	607/826	750/1020
Synchronized max. power ECE R24 at 1800 rpm	kW/hp	357/486	459/624	351/477 + (240/313)	351/477 + (375/510)
Max. torque ECE R24 at 1300 rpm	Nm (lb.ft)	2150 (1585)	2800 (2065)	2150 (1585) + 1300 (959)	2150 (1585) + 2150 (1585)
Fuel tank capacity/Additional fuel - Inoculant tank	l (us gal.)	960 (254) / 250 (66)	960 (254) / 330 (85)	1150 (304) / 400 (105)	1150 (304) / 400 (105)
Ground Drive					
Type		Infinite Variable Transmission with Wheel Motors			
Speed in field mode	km/h (mph)	0-22 (0-14)			
Speed in road mode	km/h (mph)	0-40 (0-25)			
4WD & Center differential		Standard			
Axles					
Steering angle	Degrees °	53	53	50	50
Rear axle suspension		Standard - Hydraulic			
Drive-Lines					
Header		Infinite Variable			
Feed Rolls		Infinite Variable			
Feed Rolls					
Feed roll cabinet opening / Service access		V-Sandwich / Quick attach (also with Heads attach)			
Total number / Metal detector / Number of Magnets		6 / Standard / 6			
Metal detector to Shearbar distance	mm (in)	820 (32)			
Clamping force / Throat Opening Volume	kg (lb)/l	4600 (10141) / 158			
Chop length adjustment		Stepless from the cab (0.1 mm steps)			
Cutterhead					
Cutterhead: Width / Diameter / Arrangement	mm (in)	800 / 600 (31.5 / 26.4) / Chevron arranged with 11° - Knife to Shearbar			
Number of knives		20, 28, 40	20, 28, 40	20, 28, 40	20, 28, 40
Chop length range	mm (in)	5-29/4-21/2,5-15	5-29/4-21/2,5-15	5-29/4-21/2,5-15	6,5-29/4,5-21/3,5-15
Cuts / min	rpm	11.000/15.400/22.000	11.000/15.400/22.000	11.000/15.400/22.000	12.000/16.800/24.000
Stepless adjustment of the drum concave		Standard			
Kernel Processor					
123 tooth - Straight tooth or Chromed Saw tooth profile / tooth spacing	mm (in)	Optional / 6.38 (0.25)			
144 tooth - Straight tooth or Chromed Saw tooth profile / tooth spacing	mm (in)	Optional / 5.45 (0.21)			
166 tooth - Saw tooth profile / tooth spacing	mm (in)	Optional / 4.72 (0.18)			
Roll speed differential	%	20, (40 on request)			
In-cab roll gap adjustment & Automatic Auto-lube system		Standard			
Roll diameter / Roll gap adjustment range	mm (in)	250 (9.8) / 0.5 - 10			



Model		BiG X 500	BiG X 650	BiG X 800	BiG X 1000
Crop Accelerator					
Rotor diameter / Width / Number of paddles	mm (in)	560 (22) / 660 (26) / 8			
Speed at rated engine speed / Arrangement of paddles	rpm	2188 / Chevron arranged to the Center	2188 / Chevron arranged to the Center	2188 / Chevron arranged to the Center	2420 / Chevron arranged to the Center
Stepless adjustment of the back plate		Standard			
Spout					
Rotation / Overhead unloading height / Cross section	° mm (in)	210 / 6000 (20') / 340 x 230 (13 x 9)			
Automatic rotation & parking function/ Step-less speed adjustment		Standard			
Drive for rotation / Fully covered with wear liners		Gearbox / Standard			
Maintenance					
Auto-lube system with 10 tank & Air compressor 30 l tank		Standard			
Electronic Self-Diagnostic system		Standard			
Cab					
Air suspension seat / Buddy seat		Standard			
Auto climate control with cool box		Standard			
Windscreen wiper / Side window wipers		Standard			
Base Dimensions					
Length / Transport width * / Height *	mm (ft in)	7200 (23'1") / 3000-3460 (9'8"-11'3") / 3940-4000 (12'9"-13'1")		7600 (25'3") / 3000-3460 (9'8"-11'3") / 3940-4000 (12'9"-13'1")	
Base unit weight without header**	Approx. kg (lb)	13000 (28660)	14200 (31305)	14800 (32628)	14900 (32848)
Weight distribution with EasyFlow 3001 Pick-up*	F / R %	55 - 45			
Weight distribution/with EasyCollect 903 Corn Head (12 Row)	F / R %	60 - 40			
Tires					
Drive axles	Standard***	650/75 R32	650/75 R32	650/75 R32	650/75 R32
	Optional	710/75 R34	710/75 R34	710/75 R34	710/75 R34
	Optional	800/65 R32	800/65 R32	800/65 R32	800/65 R32
	Optional	900/60 R32	900/60 R32	900/60 R32	900/60 R32
	Optional	800/70 R38	800/70 R38		
Steering axles	Standard***	18.4 R30		18.4 R34	
	Optional	600/70 R28			
	Optional	710/55-34			
Crop Harvesting Units					
EasyFlow: Grass Pick-up's	mm (ft in)	3000-3800 (9'8"-12'5")			
EasyCollect: Corn Heads	mm (ft in)	6.000/7.500	6.000/7.500/9.000	7.500/9.000/10.500	7.500/9.000/10.500
AutoPilot & Active ground contouring for Corn Head		Optional			
XDisc: Direct Cut Head	mm (ft in)	6200 (20')			

* Dependant on tire configurations ECE R24 ratings are taken with cooling fan and alternator

** Dependant on options

*** Use depends on header used

KRONE continually strives to adapt all its products to better meet practical requirements. We therefore reserve the right to change technical specifications. Please refer to the technical equipment price list of your KRONE sales partner. On some photos, protective devices have been removed in part to illustrate specifications. Data and illustrations are to be considered approximate and also include special accessories that are not part of the scope of standard supply. This brochure has been printed for world-wide use.

▶▶▶ The Hay & Forage Product Program:



-  Disc Mowers
-  Rotary Tedders
-  Rotary Rakes
-  Forage Wagons
-  Combi Wagons
-  Round Balers
-  Integrated Baler Wrappers
-  Large Square Balers
-  Self-Propelled Mower Conditioner
-  Self-Propelled Forage Harvester

Rights reserved to make technical changes.
Illustrations are shown in part with optional equipment.

Your distributor

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