



U-DRILL

UNIVERSAL SEED DRILL

WHEN FARMING MEANS BUSINESS

Realising the full potential of farming is about growing and developing your business, not only your crop or livestock, but also your profit. Improve productivity and profitability by focusing on the positives and minimising disadvantageous aspects, through strong, dedicated management.

Success springs from determination and clear targets, from laying down the appropriate strategy and allocating correct investments for the future. Quality results require the right ideas and equipment. When there is work to be done, you need the optimal setup and smart solutions that support you towards an easier, more profitable way of working. You need solutions that make tough and demanding conditions less complicated.





The iM Farming logo appears when the implement can be connected to our smart farming systems and accessories, essential for managing your business.



Effective sowing means speeding up when the soil is exactly right, in order to give your crop a head start.



YOUR KVERNELAND

INTELLIGENT FARMING SOLUTIONS

Choose the best farming solution for you and your land. Combine the highest possible yields with sustainability. This will start with the correct tillage. The choices you make depend on various factors and should match your specific circumstances, like soil structure, crop rotation, residue management, economic and ecological viabilities.

The choice is yours!

You must consider environmental and legal issues. From conventional methods to conservation tillage: the balance of operations at the right time has to be found to achieve high yields with the best soil condition (air, moisture, biological activity, etc.) with a minimum amount of energy, time and investment. For this, Kverneland offers a full range of intelligent farming solutions.

CONVENTIONAL TILLAGE

Conventional Tillage

- **Intensive** method of cultivation
- Complete soil inversion e.g. by a plough
- Less than 15-30% crop residues left on soil surface
- Seedbed preparation done by an active tool or special seedbed harrow
- High phytosanitary effect by reduced pressure of weed and fungi diseases - fewer herbicides and fungicides needed
- Better dry-off and faster increase of soil temperature for better nutrients absorption

CONSERVATION TILLAGE

Mulch Tillage




























- **Reduced** intensity in terms of depth and frequency
- More than 30% of residues are left on soil surface
- Extended repose period of the soil
- Cultivator and/or discs incorporate the crop residues within the top 10cm of soil for stable bearing soil
- Full-width tillage - seedbed preparation and seeding in one pass
- Protection against soil erosion; reduce soil loss by run-off and improve water storage capacity.
- Improvement of soil moisture retention

Strip Tillage

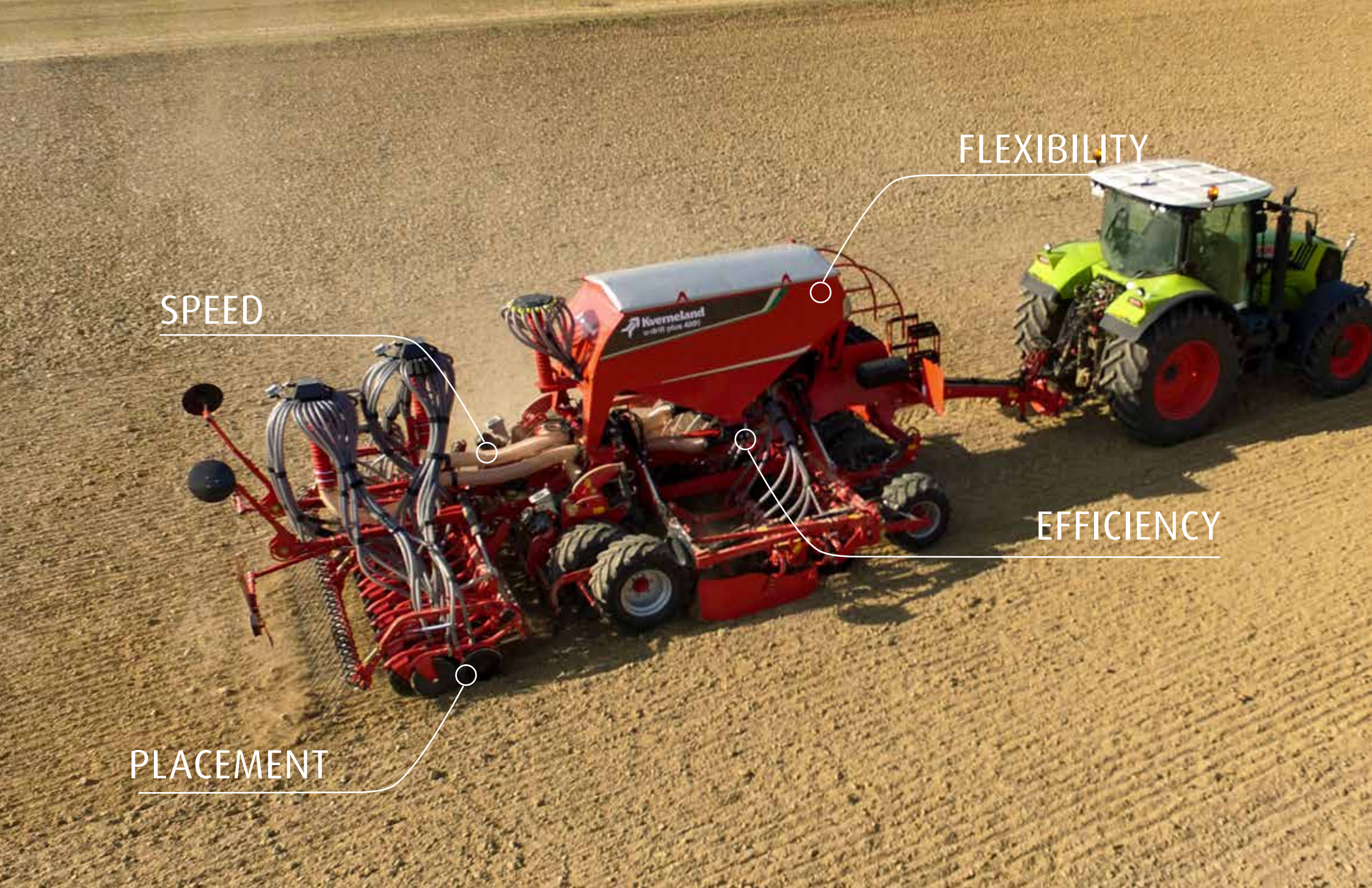
- **Zonal strip loosening** before or during seeding of up to 1/3 of the row width (Loibl, 2006). Up to 70% of the soil surface remains untouched
- Strip-till combines the soil drying and warming benefits of conventional tillage with the soil-protecting advantages of no-till by disturbing only the area of the soil where the seeds are placed
- Exact fertilising deposit
- Soil protection against erosion and drought

Vertical Tillage / No-Till

- **Extensive** method
- Working soil vertically avoids additional horizontal layers or density changes
- Increasing water infiltration, root development and nutrient take-up
- Plants' roots dictate the overall health of the plant, as they deliver nutrients and water throughout the season, contributing to a higher yield
- A strong set of roots make plants more resistant to wind and drought.
- Lower energy input required

KVERNELAND'S INTELLIGENT FARMING SOLUTION													
CROP ESTABLISHMENT SYSTEMS		CONVENTIONAL		CONSERVATION		CONVENTIONAL		CONSERVATION					
		intensive		extensive									
Method		Deep Tillage (not a must)		Basic Tillage		Seedbed Preparation		Seeding		Spreading		Spraying	
Soil coverage after Seeding	up to 15%	Conventional with soil inversion											
				15 - 30%	Reduced Till without soil inversion								
						> 30%	Strip Tillage stripwise loosening						
	Vertical Tillage shallow tillage	Conventional with soil inversion											

CLASSIFICATION OF TILLAGE METHODS KVERNELAND (Source: adapted from KTBL)



SPEED

FLEXIBILITY

EFFICIENCY

PLACEMENT

An aerial photograph of a vast, golden-brown tilled field, showing the texture of the soil and the long shadows cast by the furrows.

EFFECTIVE SOWING TO GIVE YOUR CROP A HEAD START

Speed

When the time is right, you want to drill immediately. Only one day is the best. Tomorrow conditions may be worse. Speed is important. You need a machine that has the right capacity to finish the job in time.

Flexibility

You want your machine to be flexible. Each field has its own soil structure and specific working conditions. So you need a seed drill that is easy to adjust, preferably from the tractor cab. You don't want to lose valuable time.

Efficiency

This seed drill has been designed with the lowest weight possible and requires relatively low pulling force. The u-drill offers high performance and operator convenience, to achieve consistently good results - even at high speeds.

Placement

You want to rely on perfect execution: levelling the soil, preparing the seedbed, re-compacting, placing the seeds accurately and smooth closing in one single pass. The Kverneland u-drill universal seed drill combines capacity, easy adjustment and a perfect seed placement.

The highest possible efficiency in sowing.



OVERVIEW

5 STEPS IN ONE SINGLE PASS

With its modular design, the u-drill combines proven Kverneland components. Perfect preparation, levelling and recompaction of the seedbed, placing and pressing the seeds is done in one single pass.

Saving time and money.

1

Levelling the soil

For the best possible preparation, the front tyre packer levels the soil, crushes large clods and thus paves the way for the optimum depth control of the following tools. The front tyre packer has a diameter of 800mm and can be lifted hydraulically when it is not needed.

2

Preparing the seedbed

Two rows with short disc harrows ensure a nice and uniform seedbed over the entire working width. An important feature is the proven disc harrow section with its conical disc shape and the individual suspension. Due to the hydraulic system, the disc harrow can be adjusted with continuous variability from the tractor cab.

3

Recompacting before sowing

The loosened soil is recompacted by large tyre packers. Perfect depth control of the coulters and an optimum seed-to-soil contact ensure an excellent capillary action. The large tyre diameter of 900mm significantly reduces the required tractive power.

4

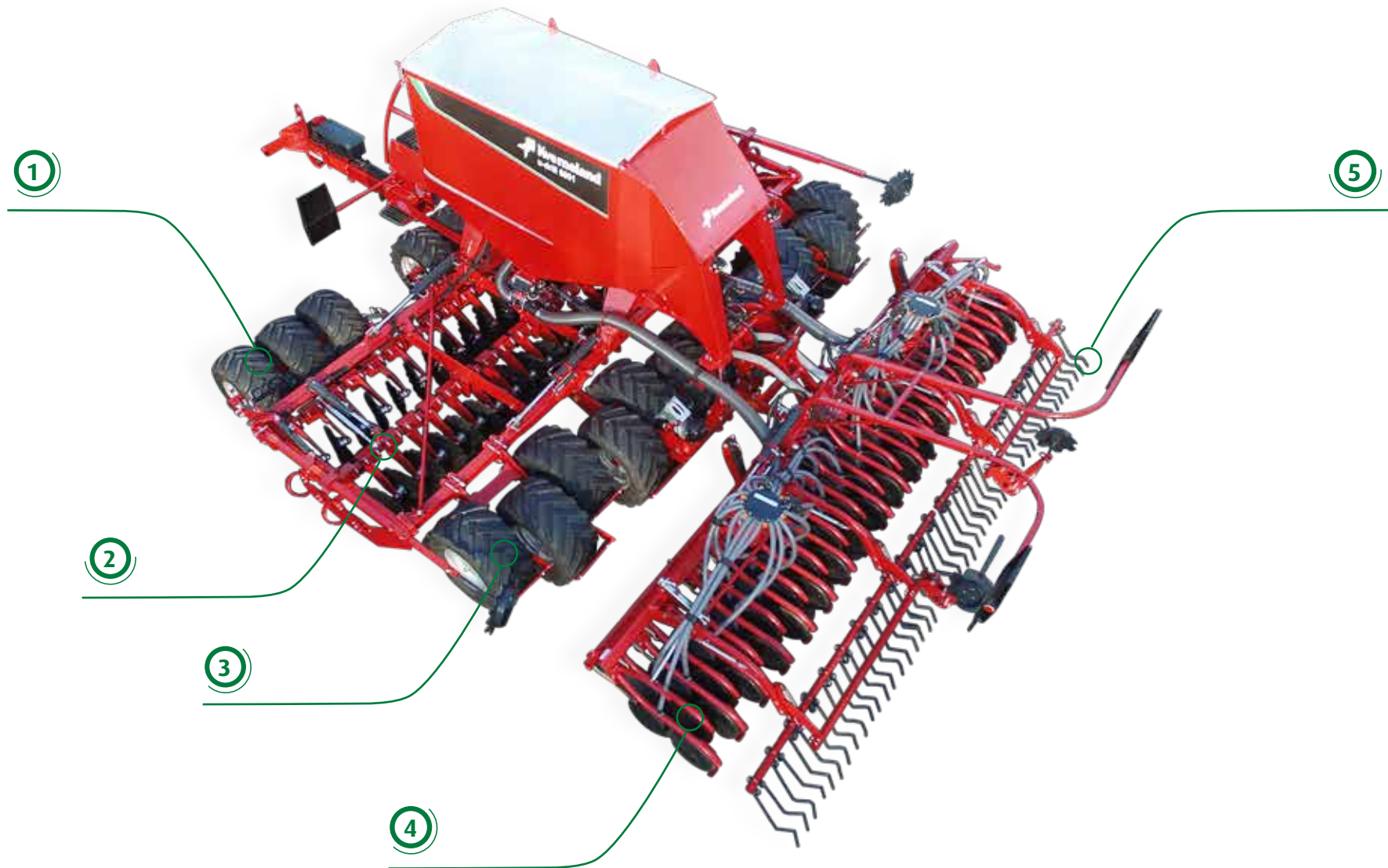
Sowing at uniform depth

The heart of the machine is its coulters. The narrow profile of the coulters with their slightly offset steel discs allows easy penetration into the soil. Nearly all the coulter pressure (as much as 100kg) can be used on the integrated press wheels. The result: uniform seeding depth even at high working speeds.

5

Covering the seeds

Harrowing the soil completes the seeding. S-shaped or finger harrows ensure an optimum covering of the seeds. The working intensity can be set by the stepless pressure adjustment and at three different angles. To prevent damage to the harrow when reversing, it is equipped with an effective reversing device.





PRECISE SEED METERING WITH ELDOS AUTOMATIC AND SAFE

ELDOS is the **electric driven metering device** for Kverneland pneumatic seed drills. It is state-of-the-art technology for perfect seed placement.

ELDOS is steered by Kverneland e-com software, which is fully **ISOBUS compatible**. By the automatic section control, GEOCONTROL, the metering device stops/starts automatically. Double and/or missed seeding on headlands or odd-shaped fields is avoided. Special sensors ensure complete functionality from the tractor cab.

Calibration is automatic, and a range of interchangeable seed metering rotors can be swapped - even when the hopper is full - without the need for tools. Sensors monitor the metering rotors, and give a warning if the wrong metering rotors are accidentally installed.



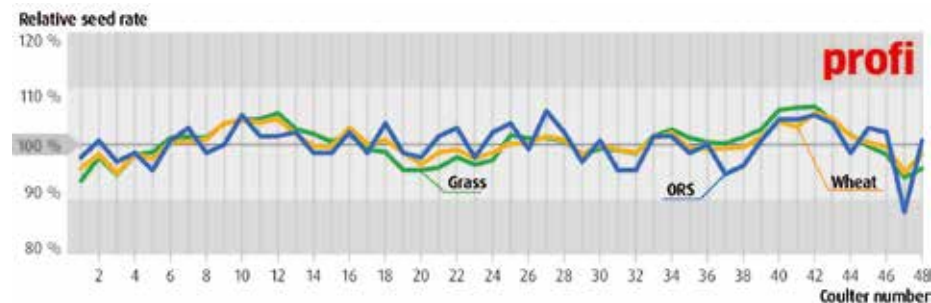
For even more precision, connect implement with an **ISOBUS terminal**.

Good results of seed rate variation across the drill.

According to the test from magazine Profi, the coefficients of variation of seed rate across the drill (i.e. the spread around the average) were 2.7% for wheat, 3.3% for grass and 3.7% for OSR.

Seed rate is pretty consistent across the width of the drill, showing maximum errors of 12% (OSR), 7% (wheat) and 7% (grass). Graph: ST.

Source: Magazine Profi





SHUT-OFF
VALVE

- Easy exchange of rotors
- Five rotors for all sorts of seeds and fertiliser
- Self-monitoring system
- Application rates from 1-400kg/ha
(depending on working width and speed)
- Simple and automatic calibration

40 : 60

Division of hopper capacity
u-drill plus is 40 : 60

400 kg/ha

High capacity, high speed:
application rates up to
400kg/ha depending on
working width and speed.

12%

Up to 12% yield increase
with precision fertilisation.

u-drill AND u-drill plus

HIGH SPEED AND MAXIMUM PERFORMANCE

Powerful and efficient performance - that is what the u-drill offers. The machine can operate at high forward speeds of up to 18km/h, whilst maintaining a consistent working depth. The seeding depth and the coulter pressure can be centrally controlled by the push of a button from the tractor.

The u-drill is quickly set up for operation: All important settings can be controlled from the **in-cab display**, starting from the simple calibration up to any adjustments in field. Being adjustable on the go as to seeding depth, coulter pressure and automatic headland management, the u-drill offers operator comfort and safe application.

A plus for the combined application.

The u-drill is available either as **standard drill** (u-drill) or as **grain and fertiliser version**, u-drill plus. Both versions have a lightweight, yet robust structure, allowing the deployment of the u-drill on all kinds of sites. They come in working widths of 3.0, 4.0 and 6.0m. Depending on the working width, the hopper capacity is either 3,000l (3.0m and 4.0m) or 4,350l (6.0m u-drill) and 4,200l (6.0m u-drill plus).

The hopper of the u-drill plus is divided lengthwise. The proportion is 40 : 60. The two metering devices are accordingly positioned on either side.

FERTILISER PLACEMENT IN OR BETWEEN THE ROWS

Model	No. of metering devices ELDOS	Application rate
u-drill 3001/4001/6001	1/1/2	32kg/min/ELDOS
u-drill plus 3001/4001	2/2	45kg/min/ELDOS
u-drill plus 6001	2	65kg/min/ELDOS

The u-drill plus has been designed for precise fertiliser placement during sowing. It is able to apply fertiliser rates up to 400kg/ha (depending on speed and width). The pressurised hopper system of the 6.0m version ensures these rates are maintained even under the most difficult conditions. The hydraulic fan drive is powered from the tractor hydraulics.

1. Fertiliser placement within the disc harrow section

The outlets within the second row of the disc harrow section apply the fertiliser exactly in between two seeding rows. All plants have exactly the same access to the incorporated fertiliser deposit. By adjusting the working depth of the disc harrow, the depth of the fertiliser placement is determined.

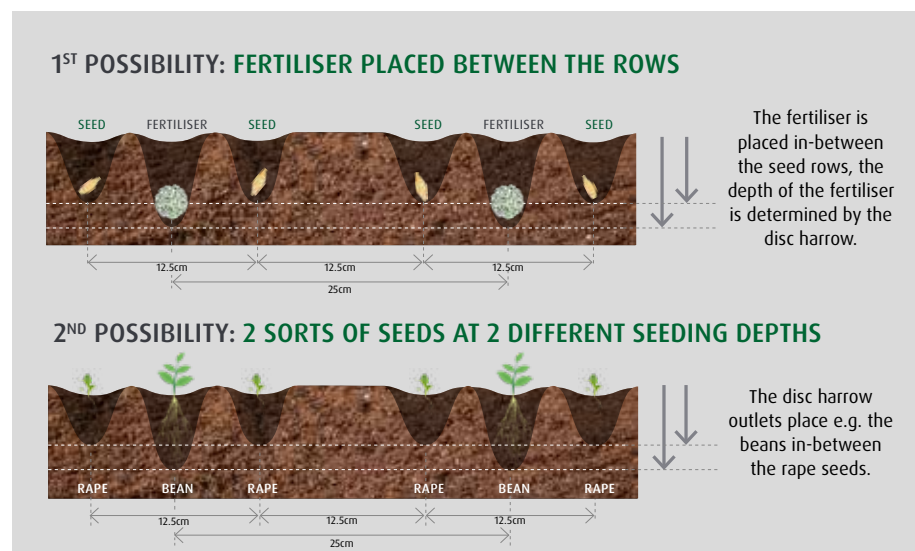
2. Fertiliser application within the seeding row

The fertiliser application within the seeding row is done by the double-entry CD-coulter. The fertiliser is placed together with the seeds. This is especially suitable for phosphoric fertiliser to support the initial germination and development of the plants in the most efficient way. The special design of the double-entry coulter with two exits also allows the seeding of two different crops in just one working pass.

Up to 12% increase in yield.

In trials of spring sown crops, yields have shown **increases up to 12%** compared to crops where the fertiliser (here: NPK) has been applied by other methods.
(Source: Landsforsøgene 2012, DK)

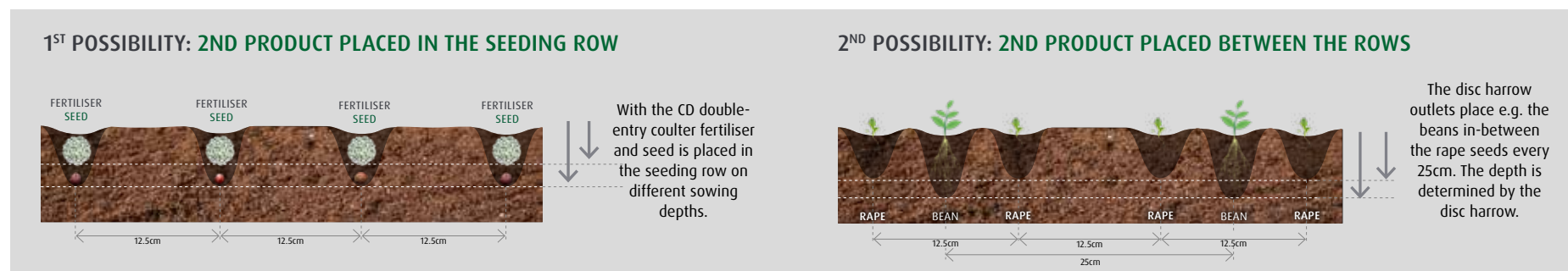
① PLACEMENT WITH DISC HARROW & CD COULTER (2 DISTRIBUTION HEADS)



② PLACEMENT WITH CD DOUBLE-ENTRY COULTER (2 DISTRIBUTION HEADS)



③ PLACEMENT EITHER WITH CD DOUBLE-ENTRY COULTER OR DISC HARROW & COULTER (3 DISTRIBUTION HEADS)





12 times longer lifetime

Fully integrated maintenance-free disc bearings provide an easy flow, thanks to durable bushes, exclusively designed for Kverneland.

Self-cleaning press wheels

The press wheels (Ø 380mm) are made of special rubber with a self-cleaning effect.

Centrally steered seed depth

The seed depth adjustment is steered centrally via the ISOBUS terminal.

Just one sort of coulter

Clear overview and simplified maintenance.

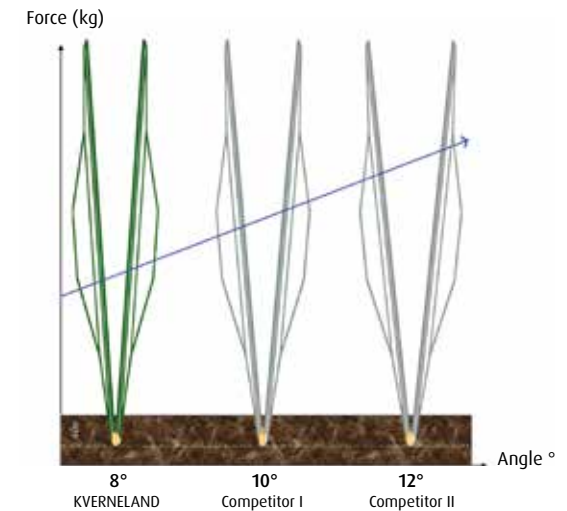
CD COULTER

FOR PERFECT SEED PLACEMENT



Thanks to the very slim design of the **CD coulters**, there is only a small amount of soil being moved. Therefore you need less pressure to achieve the right seeding depth. Thus, more of the available coulters pressure can be led to the press wheels. The result is a very even seed application.

Up to 25% less penetration force needed.



Lower fuel consumption with narrow profile of CD coulters

The CD coulters of the u-drill has an extremely narrow profile design, with an angle of only **8°**.

There is a clear relation between the angle of the seed cutting disc and power requirement: the smallest angle requires less power and less fuel.

TWO SEED ROW SPACINGS

12.5 OR 16.7CM

The distance of the sowing rows is often philosophy. Each farmer has to decide by himself and has to consider local yield potential and the harvest utilisation of the crop. With our Kverneland proven CD-coulter both spacings are possible due to the narrow profile design.

A distance of **12.5cm** offers for high seed rate the best distribution of seeds in the field because rows are quickly closed, weed pressure is reduced and a good use of nutrients, water and sun is achieved.

You have the choice!

The wider distance of **16.7cm** has the advantage that the microclimate of the standing crop is better against fungal infestation. New type of seeds (Hybrid) achieve higher yields per spike. Therefore, less seeds are needed per m². This is important on fields where water is a limited factor. In addition, less coulters per metre reduce the pulling force requirement and have a better clearance especially in wet conditions.







PROFESSIONAL SOIL PREPARATION

FOR A PERFECT SEEDBED AND MAXIMUM GROWTH

①

Front wheel packer – larger footprint reduces compaction

For a perfect result in all seeding conditions, Kverneland recommends the fully equipped u-drill with front tyre packer in order to distribute the load on a larger tyre surface. As a result the contact pressure and the rolling resistance decreases and less power gets lost in soil compaction. Furthermore, due to the improved tire-ground toothing, the soil can support higher driving forces.

②

Disc harrow

The disc harrow consists of two rows of aggressively pitched conical discs. The discs are 5mm thick and hardened for long life. Thanks to their conical shape, the cutting angle remains constant. The high rotation speed ensures an excellent cutting quality.

Less traction needed.

③

Offset wheel packer

For perfect depth control of the coulters, an optimum seed-to-soil contact and excellent capillary action, the loosened soil is re-compacted by a large tyre packer. The large tyre diameter of 900mm together with the off-set position significantly reduces the tractive power required by the machine and thus ensures a consistently good work result.



HEADLAND MANAGEMENT FOR UTMOST PRODUCTIVITY

The u-drill comes with a fully automated **headland management system**. This saves the driver lots of time and eases the operation.

Extremely operator-friendly.

Using just one button, the u-drill operator can initiate a headland sequence with wheels, discs and coulter bar all capable of automatic operation in timed stages. The lifting sequence starting with the disc section ensures a constant depth control until the headland.

As the headland sequence starts, the metering device stops automatically - avoiding double seeding. The seed hoses are empty at the headland. This saves up to 5% of seed.

The driver can concentrate on steering the machine and the correct operation. In addition, double and/or missed seeding is prevented. With headland management the job can be done more quickly, precisely and efficiently. The drill requires only one double-acting spool to operate.

Feature	u-drill	Competitor I	Competitor II
in cab depth control disc harrow unit	●	●	●
in cab depth control seeding depth	●	-	●
in cab coulter pressure adjustment	●	-	-
Headland Management	●	-	-







iM CALCULATOR APP

FREE TO DOWNLOAD

With GPS it is possible for the farmer to accurately seed, spread and spray without any overlap. The iM Calculator app calculates the cost saving by using those GPS functionalities.

Save seeds and money!

After filling in the required data, the calculator clearly shows what you can save in terms of money.

The amount of seeds saved depends on the size and shape of the field and may amount to more than 5%.

The iM Calculator app for tablets is free to download from the App Store or Google Play.

Please find the online calculator on our homepage:

<http://imcalculator.kvernelandgroup.com/#/>



A man with short grey hair, wearing a blue quilted jacket over a black shirt and blue jeans, stands next to a large red Kverneland U-Drill machine. The machine has large black tires and a red and white striped safety sign. The Kverneland logo is visible on the machine's body. The background is dark, suggesting an indoor setting like a warehouse or showroom.

Impressed by low pulling force and perfect seed placement

"I had two Optima precision seeders when I wanted to buy a new seed drill. As I was very satisfied with my Optima, the Kverneland u-drill was the first choice to look at. I'm a mechanical engineer, so I checked the machine thoroughly from the technical point of view. That was so convincing that I tried a demo machine in my field. After the first 10 hectares I decided that this machine is what I was looking for. I was impressed by the low pulling force and the seed placement. That was the reason I did not let this machine go. I bought it right away and I am still happy."

Szűcs Zoltán, Hungary
1,200 ha, Crops: Corn, hybrid corn, wheat,
phacelia, poppy, Climate: Continental



MANAGE YOUR FARM AS A BUSINESS WITH OUR ISOMATCH PRECISION FARMING OFFERING

Our precision farming offering is essential in managing your farming business with success. Applying electronics, software, satellite-technology, online tools and Big Data enables you to use your farming equipment more effectively and reach higher profitability of your crops.



*iM FARMING - smart,
efficient, easy farming*

*Speed up on the path towards
connected agriculture.
We offer you numerous options
and solutions for how to produce
more with less; utilise inputs
more efficiently and thereby
increase profits and
sustainability.*

Enhance your success with e-learning

IsoMatch Simulator is a free downloadable virtual training program. It simulates all functions of the IsoMatch Universal Terminals and Kverneland ISOBUS machines. Train yourself and make yourself familiar with your machine to avoid errors and enhance your machine performance.

The best overview in farm management

IsoMatch FarmCentre is the first of a series of telematics solutions. This fleet management solution is applicable for your ISOBUS machines in combination with an IsoMatch Tellus PRO. Whether you wish to control your fleet, manage tasks remotely or analyse machine performance data, IsoMatch FarmCentre provides this in an efficient web application, linking implements, tractors, terminals and the cloud in one continuous flow of data and connectivity.





*Improve your performance
Maximum efficiency, minimum waste*



Be a PRO in increasing productivity

The **IsoMatch Tellus PRO** 12-inch terminal provides you with the optimal solution for an all-in-one control system inside the tractor cab. It is the centre for connecting all ISOBUS machines, running precision farming applications and Farm Management Systems. It offers everything you need to get the maximum out of your machines and crop, as well as cost savings in fertiliser, chemicals and seeds by using automatic section control and variable rate control. With the unique dual screen functionality it gives you the

opportunity to view and manage two machines and/or processes simultaneously.

Easy control management

The **IsoMatch Tellus GO+** is a cost-efficient 7-inch terminal, especially developed for managing the machine in a simple way. Easily set up the machine with the soft keys and simply use the hard keys and rotary switch for optimal control while driving.



**Reduce overlap and save up
to 15% on input costs with
IsoMatch GEOCONTROL**

Maximum savings!

*The **IsoMatch GEOCONTROL®** precision farming application includes Manual Guidance and Data Management free of charge. It is possible to expand this application with Section Control and/or Variable Rate Control.*



IsoMatch Grip

This ISOBUS auxiliary device is made for maximum machine control and efficient farming. Operate up to 44 implement functions from one device.



NEW

IsoMatch Global 2

GPS antenna enabling satellite navigation for site-specific section control, variable rate application, manual guidance and field registration.



IsoMatch InLine

Light bar for manual guidance including section status information. Manage the distance from the A-B line and steer for the ideal position.



IsoMatch (Multi)Eye

Connect up to 4 cameras to the IsoMatch Universal Terminals. It gives you full control and overview of the entire machine operation.

ORIGINAL PARTS & SERVICE

LET'S FOCUS ON YOUR BUSINESS

ORIGINAL
PARTS

- 
- ① LONG LASTING - HIGH QUALITY SPARE PARTS
 - ② OVER 100 YEARS OF PARTS KNOWLEDGE
 - ③ SUPPORT FROM A WIDE NETWORK OF DEALERS
 - ④ 24/7 SPARE PARTS SERVICE
 - ⑤ HIGHLY SKILLED DEALER TECHNICIANS

MYKVERNELAND

SMARTER FARMING ON THE GO

A personalised online platform tailored to your machine needs

With MYKVERNELAND you will benefit from easy access to Kverneland's online service tools.

First hand access to information on future developments and updates, Operator and spare parts manuals, FAQs and local VIP offers. All info gathered in one place.



REGISTER YOUR PRODUCT NOW:
MY.KVERNELAND.COM

TECHNICAL DATA

Model u-drill / u-drill plus	3001	4001	4001	6001
Working width (m) - frame version	3.0 rigid	4.0 rigid	4.0 fold	6.0 fold
Transport width (m)	3.0	4.0	3.0	3.0
No. of metering devices u-drill / u-drill plus	1 / 2	1 / 2	1 / 2	2 / 2
Hopper capacity (l) u-drill / u-drill plus	3,000	3,000	3,000	4,350 / 4,200 pressured
Required oil volume	> 90l/min			
Single-acting hydraulic valve + zero-pressure return for fan drive	●	●	●	●
1 x double-acting hydraulic valve for machine control	●	●	●	●
Power requirement 12 V > 70 A	●	●	●	●
No of CD double disc coulters (16.7/12.5cm)	● (18/24)	● (24/32)	● (24/32)	● (36/48)
CD double entry seed outlet u-drill / u-drill plus	- / ○	- / ○	- / ○	- / ○
Coulter pressure up to 100kg	●	●	●	●
Electro-hydraulic adjustment of the seed placement depth via ISOBUS terminal	●	●	●	●
Press wheels (Ø 380 x 50mm)	●	●	●	●
Row spacing	12.5cm or 16.7cm	12.5cm or 16.7cm	12.5cm or 16.7cm	12.5cm or 16.7cm
Coulter staggering (17.5cm)	●	●	●	●
Electronic adjustment of the seed quantity with radar	●	●	●	●
Filling level sensors in the seed hopper (no. u-drill/u-drill plus)	● (1)	● (1)	● (1/2)	● (2)
Fan speed sensor	●	●	●	●
Metering device monitoring	●	●	●	●
Electronic half-width shut-off	-	-	-	●
Mid-mounted front packer (Ø 800mm)	○	○	○	○
Complete front packer (Ø 800mm)	-	○	○	○
Electro-hydraulic adjustment of the disc harrow depth via ISOBUS terminal	●	●	●	●
Disc harrow (Ø 460mm)	●	●	●	●
Disc harrow (Ø 460mm) with application tube u-drill / u-drill plus	- / ●	- / ●	- / ●	- / ●
Offset tyre packer (Ø 900mm)	●	●	●	●
Maintenance platform, road transport lights, in-hopper light	●	●	●	●
Hydraulic fan drive	●	●	●	●
Lower link suspension Cat. 3N (825mm)	●	●	●	○
Lower link suspension Cat. 3 (965mm)	○	○	○	●
Lower link suspension Cat. 4 (965mm)	-	-	-	○

Model u-drill / u-drill plus	3001	4001	4001	6001
Working width (m) - frame version	3.0 rigid	4.0 rigid	4.0 fold	6.0 fold
Hydr. Clod board	○	○	○	○
S-shaped seed harrow 10mm	●	●	●	●
Finger harrow 12mm	○	○	○	○
Calibration set	●	●	●	●
Filling auger u-drill / u-drill plus	-	-	-	○ / -
Hydraulical folding track marker with notched discs	○	○	○	○
Track eradicators (2 times per track)	○	○	○	○
Pneumatic brakes	○	○	○	○
Hydraulic brakes	○	○	○	○
Extended drawbar for tractors with twin tires up to 4.5m	○	○	○	○
Pre-emergence marker (centre marking)	○	○	○	○
Soil flow harrow	○	○	○	○
LED work lights	○	○	○	○
iM Tellus PRO / Tellus GO+ for non-ISOBUS-capable tractors	○	○	○	○
iM Tellus PRO / Tellus GO+ for ISOBUS tractors	○	○	○	○
Hopper volume weighing system with separate monitor	○	○	○	○
Headland management	●	●	●	●
Weight (kg) (with front packer + track eradicators) u-drill / u-drill plus	4,600 / 4800	5,400 / 5,600	5,600 / 5,800	8,120 / 8,400
Min. power requirement (HP)	95	120	150	190



Rotor 1
for high rate cereals



Rotor 2
for grass or similar



Rotor 3
for rape and small seeds



Rotor 4
for low rate cereals



Rotor 5
for maize, sunflowers and
greening seeds

- Standard equipment
- Option
- Not available

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WHEN FARMING MEANS BUSINESS

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