AMAZONE

Primera DMC

Primera DMC large area seed drill

Precision and speed when Direct sowing, Mulch sowing and Conventional sowing

Primera DMC, 9 m working width

Primera DMC

With the new generation of seed drills – Primera DMC in working widths of 3 m, 4.5 m, 6 m, 9 m and 12 m – AMAZONE is offering an outstanding machine for cost-effective crop establishment over large areas. This versatilel arge area seed drill with its unique coulter unit is ideally suited, not only for mulch and direct sowing, however, but also for sowing following the plough.

Primera DMC

Watch it on TV:
www.amazone.tv

Primera DMC:

Direct sowing – Mulch sowing – Conventional sowing

The Primera DMC large area seed drill is the result of the uncompromising consideration of demands and desires from farmers themselves.

- 6 m working width, folds to 3,225 mm for transport (optional 3,000 mm), suitable from 180 HP tractor horsepower
- 9 m working width, folds to 4,725 mm for transport (optional 4,500 mm), suitable from 270 HP tractor horsepower
- 12 m working width, folds to 4,725 mm for transport (optional 4,500 mm), suitable from 350 HP tractor horsepower
- Fertilising at choice with the optional seed & fertiliser kit (standard in 12 m working width, optional at 3 m to 9 m working width)

Advantages of the Primera DMC:

- Profitable crop production in times of increasing production costs and changing farm sizes
- Fulfils all environmental considerations and reduces nitrate leaching
- Reduces machinery and operating costs
- Conservation and soil saving cultivation system
- Reduces soil erosion
- Reduces soil water losses
- Stabilises soil structure
- Higher straw degradation and drainage ability

Primera DMC, 12 m working width

The versatile large area seed drill Primera DMC

Primera DMC, 12 m working width

For flexible arable farming: Primera DMC in working widths of 3 m, 4.5 m, 6 m, 9 m and 12 m

No matter which arable farming system is utilised, the Primera DMC performs excellently under all conditions. With its unique chisel opener it achieves, on pre-cultivated land or when direct sowing, the highest quality regarding placement accuracy and seed embedment. Sometimes, especially on areas not ploughed, the large amounts of organic residues from the previous crop or on fallow land can cause problems when sowing. Also poor soil tillage, insufficient incorporation of organic matter or a bad levelling of the fields can have a negative impact on placement quality and the subsequent embedment of the seed.

The Primera DMC manages all these challenges perfectly. The chisel opener safely clears the seed furrow from organic matter, excellently follows uneven soils and always provides the right coulter pressure, making for the best performance in seed placement and seed embedding. The simultaneous application of fertiliser is available on the Primera DMC as an option. The targeted placement of mineral fertiliser directly into the seed furrow may help young crops to develop quickly and healthily to reach deeper soil water resources and, in this way, they are more robust to face heavy drought.

Even germination

Direct sowing winter wheat following sugar beet

Conventionally established crop

The high output seed drill – especially for low rainfall regions and large acreages

The parallelogram guided sowing openers of the AMAZONE Primera DMC with their 'on-grip' DURA chisel tips ensure a clean seed furrow for better soil contact and the most accurate maintenance of the placement depth. The following double roller provides good re-coverage of the seed furrow. Optimum seed/soil contact and accurate sowing depth are preconditions for uniform crop establishment. The REVOMAT overload safety device ensures a damage-free sowing operation even in stony soils.

Seed coverage is optimised by the hoop ring rollers and the Exact following harrow or the Roller exact harrow. The combined application of seed and fertiliser is available as an option.

Under some conditions the plough still cannot be completely abandoned but even under this conventional cultivation regime and after a secondary seedbed preparation the Primera DMC can be used as effectively.

Primera DMC, 12 m working width

System procedure for areas of low rainfall

With the Primera DMC a large farm is able to carry out all these systems at random.

At harvest

1. Direct sowing

2. Mulch sowing

3. Mulch sowing

Stubble cultivation

No soil tillage

Catros compact disc harrow

1st pass: Working depth approx. 5 cm

Cenius mulch cultivator

2nd pass: Working depth approx. 10 cm

Harvesting the previous crop

Targets for the combine harvester:

- Ideally, the chopped straw should be distributed across the entire cutting width of the combine (or example with the use of a chaff spreader)
- Even stubble length
- Avoidance of wheel marks, soil structural damage and compaction

1st pass (shallow stubble cultivation)

Targets for stubble cultivation:

- Reduction of soil water loss by interrupting the capillary water draw from the top soil
- Creation of the optimum conditions for a quick and even germination of volunteer grains and weed residues
- Hasten the straw rotting process

Operational speeds 8 – 15 km/h

– Catros compact disc harrow

– Cenius or Centaur mulch cultivator

Advantages of direct and mulch sowing

- Savings in operational time
- Savings in fuel costs
- Better practicality
- Reduced water evaporation
- Improved soil structure
- Reduced soil erosion
- Reduction in operating costs

Combating weed control (chemical/mechanical)

Chemical weed control

Catros compact disc harrow

1st pass: Working depth approx. 5 cm

Cenius mulch cultivator

2nd pass: Working depth approx. 15 cm

Sowing

Primera DMC

Primera DMC

Primera DMC

Seed placement depth approx. 3 – 7 cm

2nd pass (weed control)

Targets for soil tillage

- Intensive and even incorporation of straw residues
- Hasten the straw rotting process
- Mechanical weed control

Operational speeds 8 – 15 km/h
– Catros compact disc harrow
– Cenius or Centaur mulch cultivator

3rd pass sowing (Primera DMC)

Targets for the sowing operation:

- An even seed spacing within the row and an even planting depth
- Placement of the seed into a clean, straw-free furrow with sufficient water draw
- Safe closing of the seed furrow and sufficient coverage of the seed with fine soil particles
- Combined application of seed/fertiliser if requested

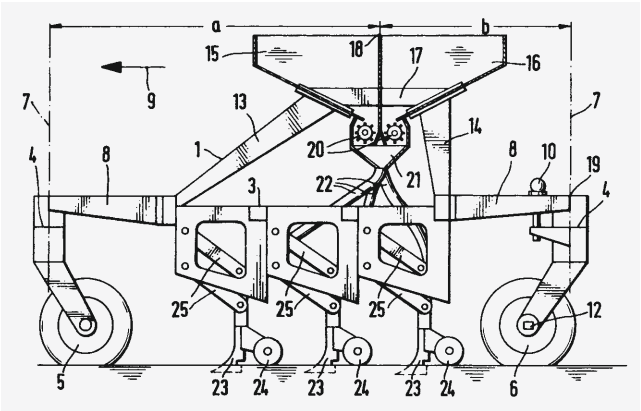
Operational speeds Primera DMC 10 – 18 km/h

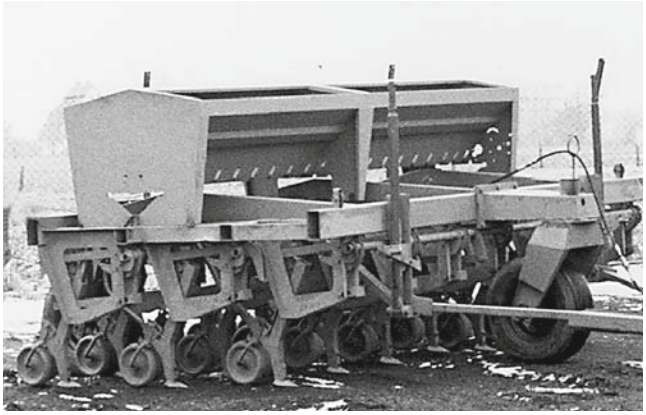
The AMAZONE chisel opener

The development

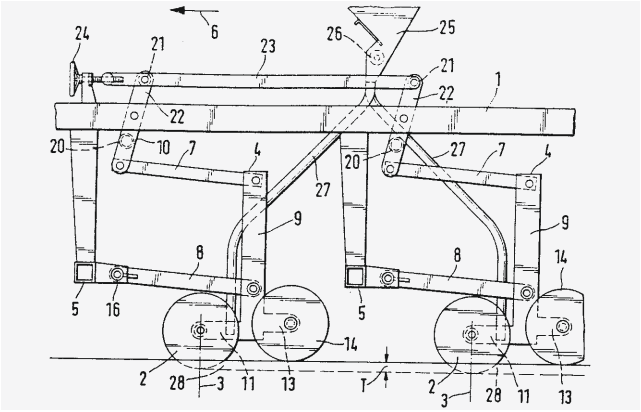
The beginnings of a good idea

Parallelogram-guided openers with v-shaped tools and a depth gauge roller ensure an accurate seed placement into the soil.





Patent drawings from 1975; chisel opener



Patent drawings from 1978; disc coulter

The coulter, so they say, is the most important, the most sophisticated and the most heavily-used part of a seed drill – especially in the case of a “multi-purpose seed drill”, such as the DMC. The initial impression of operation with the prototypes in the years 1975/76, and so as to act as a safeguard to accompany the new system, we had developed a disc coulter. This unit was also guided for depth via a following press roller.

⊕ The results from these disc opener units were not satisfactory enough to meet the AMAZONE standards and so the onward development of the AMAZONE chisel opener was progressed.

Benefits of the chisel opener over disc coulters

However, these initial trials already underlined the disadvantages of using disc coulters in a direct sowing operation and these points are still valid today:

⊖ Necessary coulter pressure of approx. 200 kg per disc = high machine weight.

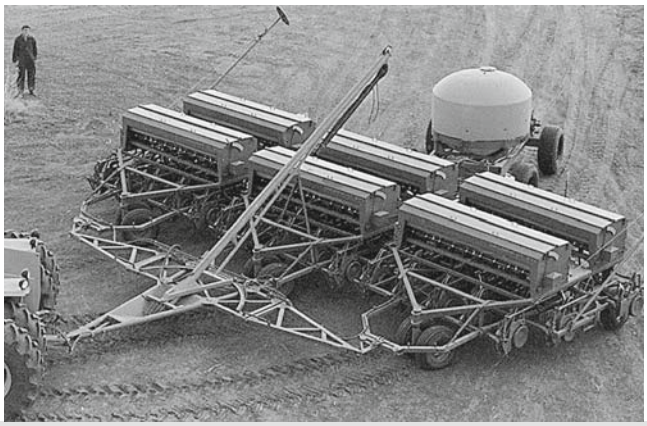
⊖ Straw will be pressed uncut into the sowing furrow: formation of pockets – risk of infection.

⊖ Shape of the seed furrow: Smooth cut edges – partial seed coverage.

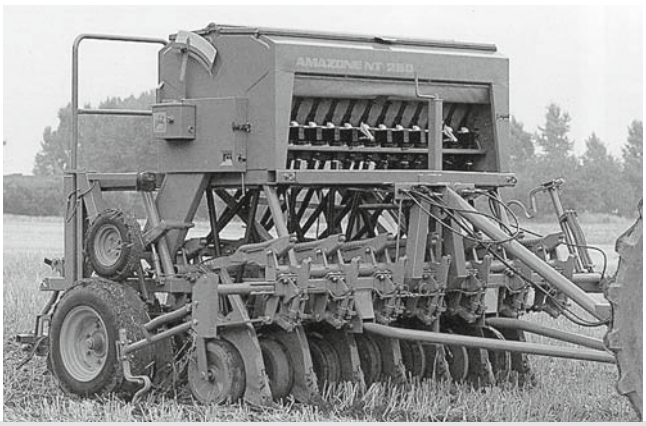
⊖ Dry soil from the soil surface drops into the seed furrow – lower emergence.

The direct sowing system as a new rational system for crop production was introduced to large farms across Europe.

Many farmers have quickly recognised the advantage of the AMAZONE chisel opener system and achieve outstanding yields. The uniform seed placement depth, the clean, post seed placement closing of that furrow are important pre-conditions for successful direct sowing and are optimally fulfilled under virtually all operational conditions.



⊕ The combination of the AMAZONE chisel opener with the proven metering units from the conventional seed drills led to the AMAZONE NT. This direct seed drill, after several years of hard usage in Canada and the USA, was adapted to meet European conditions.



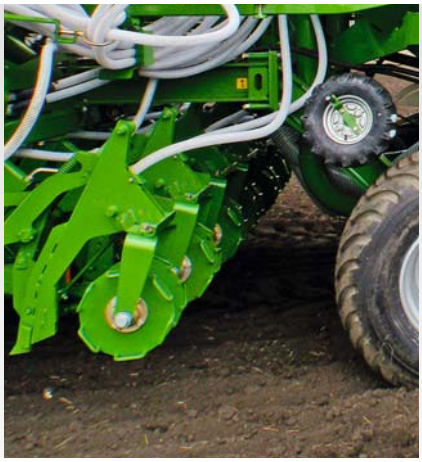
⊕ For Southern Europe and in the Middle East, the NT 250 and 300 met the requirements of many farmers but after the opening of the “Eastern markets” implements with wider working widths were required.

The AMAZONE chisel opener system

The benefits

1. All the chisel openers are suspended on parallelogram linkages. Of course this is relatively complex but ensures, in varying or changing (uphill – downhill, on the headland, under different soil consolidations, etc.) forward speeds, and in addition any soil undulations, that the desired sowing depth is being precisely maintained.
2. The coulters are arranged, in four rows with a row spacing of 18.75 cm, in such a way, that diagonally, “tip to tip”, distances of approx. 75 cm exist between coulters. This principle allows a relatively narrow row spacing (18.75 cm) for the quick coverage of the crop (a full canopy) and at the same time reduces the danger of blockage by any large volumes of straw.

The coulter units are arranged on longitudinal cross members in 4-stagger which results in a large distance from one to the other, and thus good straw passage.



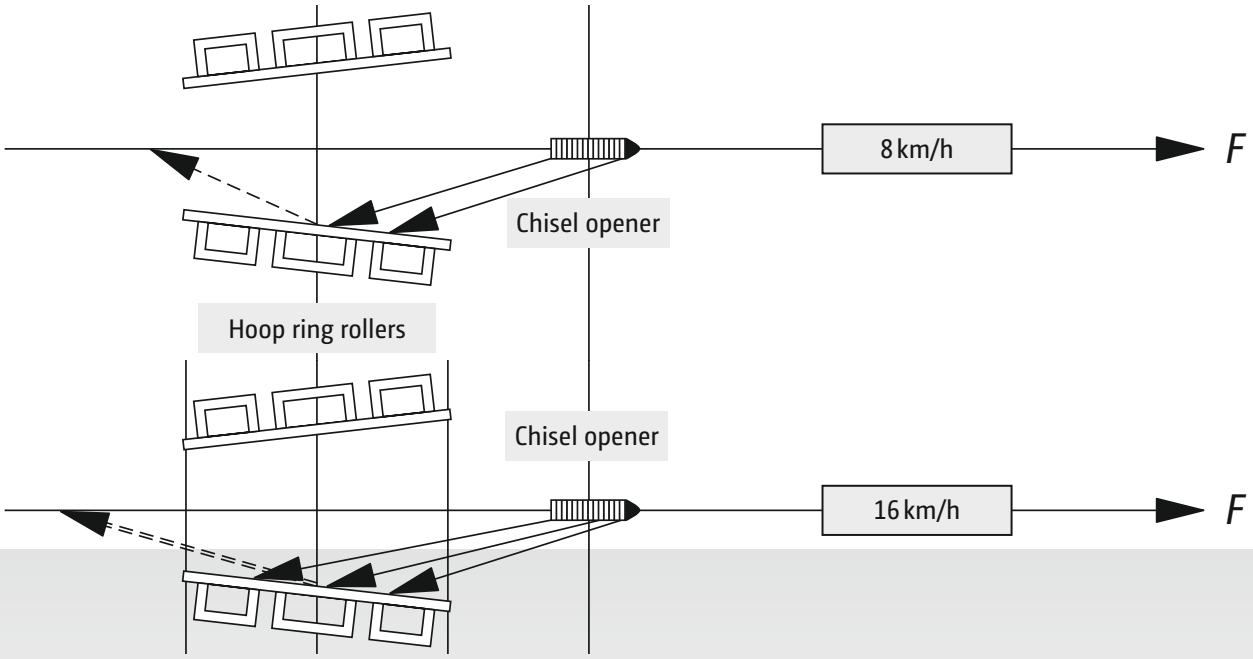
The AMAZONE chisel opener in the transport position (more than 400 mm clearance to the ground)

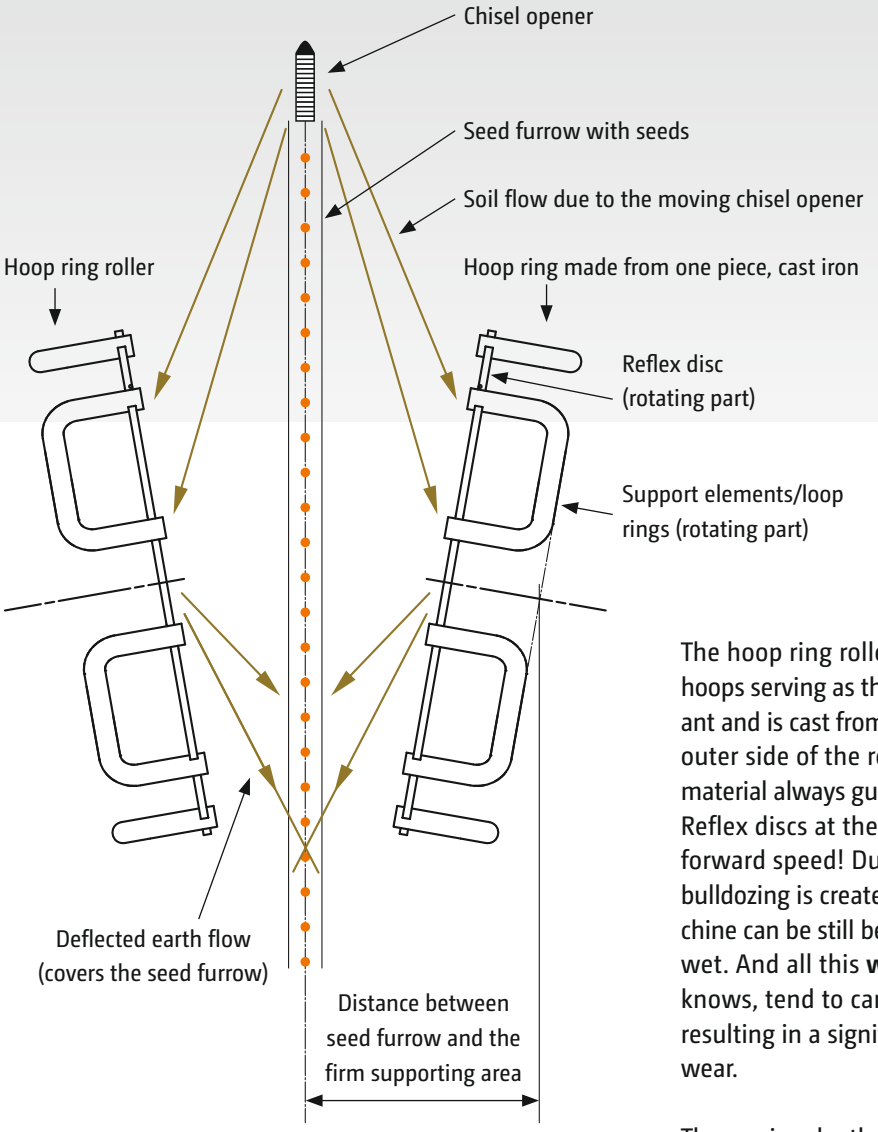
3. AMAZONE moved a huge step forward with the so-called hoop ring rollers on every coulter mounted in pairs on either side of the seed furrow created by the chisel. In this way every coulter is individually and reliably guided for depth and, in addition, the individual seed furrows are safely recovered with loose or crumbled soil, even in very moist soils or wet spots. And all this even at completely differing forward speeds of up to 18 km/h.

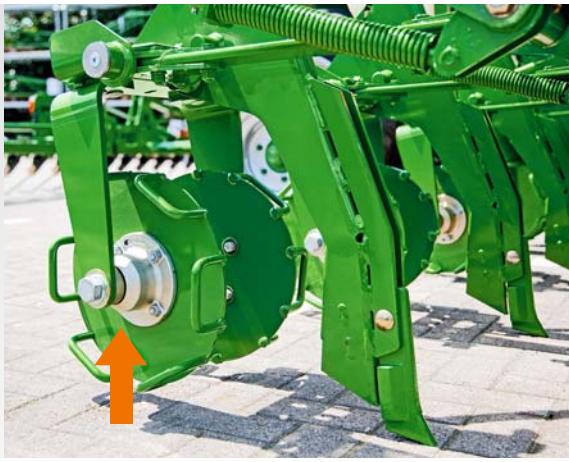
   That means: how much or how little soil is thrown to the side by the chisel opener "driving" through the soil – the two round discs deflect this soil again over the seed furrow. In addition a slight pressure from both sides is applied and a slight pressurising by the exact harrow or the roller exact harrow. In this way the seed is properly covered and the surface above the seed grains is maintained a little open.

   a. relatively loose and this allows
   b. a quicker soil warming around the seed.

   This, however, only works properly if the entire seed is delivered to the moist bottom of the furrow (right at the bottom).
   This functions on the chisel openers due to the long-travel, precise seed guidance system located very close behind the chisel opener.







The hoop ring rollers are equipped with extremely durable and maintenance-free bearings, which are also utilised on the Catros.

The hoop ring roller consists of the Reflex discs with the hoops serving as the supporting elements. It is wear-resistant and is cast from one piece. The hoop rings fitted to the outer side of the reflex discs, which is made from **thin** material always guide both the chisel opener and also the Reflex discs at the desired depth – irrespective of their forward speed! Due to their especially narrow shape no bulldozing is created, even in **moist soil** – so that the machine can be still be utilised even when the soil is still very wet. And all this **without** scrapers, which, as every one knows, tend to carry along a mixture of straw and soil, resulting in a significant braking effect and the relevant wear.

The sowing depth is easily adjusted in groups via crank handles mounted centrally on each coulter module – very simple and quick.

Hoop ring roller for mulch and direct sowing

4. The REVOMAT overload safety device:
   if the chisel opener hits an obstacle, e.g. heavy stones or compacted headlands, the upper link abruptly gives way at an exactly pre-set pressure. The coulter jumps upwards and immediately returns into the work position. Automatically, super! With obstacles that are just hit on the angle in the direction of travel, the coulter just moves to the side – because the entire lower link is not rigid but a one-piece long spring plate. Also again automatic, super.

5. After the pass, the DMC openers leave an even finish (no grooves or ridges), resulting in, apart from an even field emergence, also practical driving advantages – e.g. for a smooth ride of the combine, the crop protection-sprayer (no boom bounce!) and the fertiliser spreader. This applies especially to the two field ends (headland).

6. The coulter tip or the “chisel” is protected against wear using a tungsten carbide metal plate – meaning this coulter tip lasts for eternity, well many thousands of hectares at least! This is yet another AMAZONE invention which is often “imitated”. It is easily recognisable: the AMAZONE chisel opener is the result of years of experience and is simply very, very good.

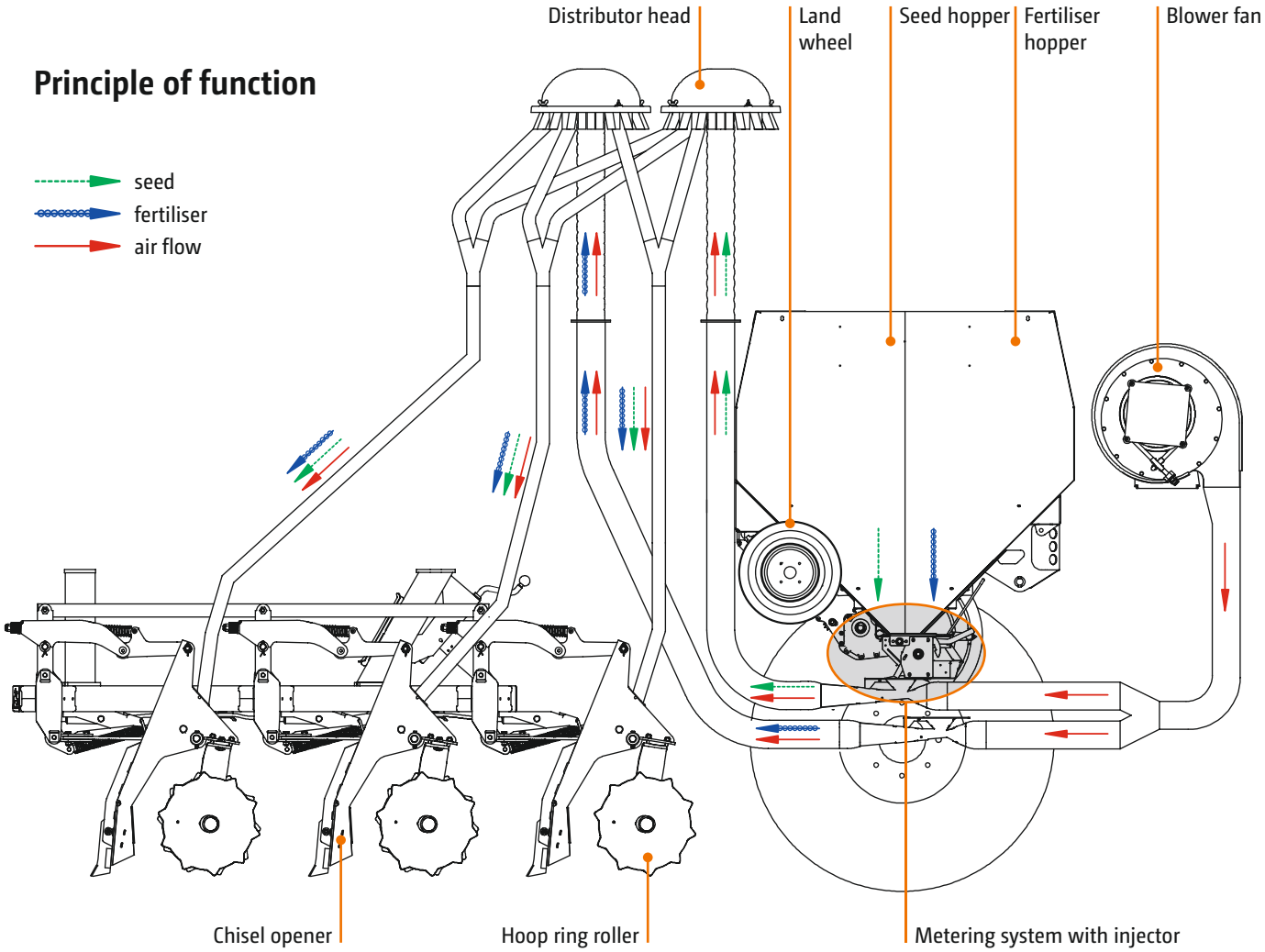
Top link straight (1) chisel opener in operational position
Top link cranked (2) chisel opener “deflected” after hitting an obstacle in the soil

AMAZONE DURA chisel tip

The AMAZONE pneumatic metering system

Precise, reliable and flexible!

Principle of function



Example: cassettes for individual metering units:

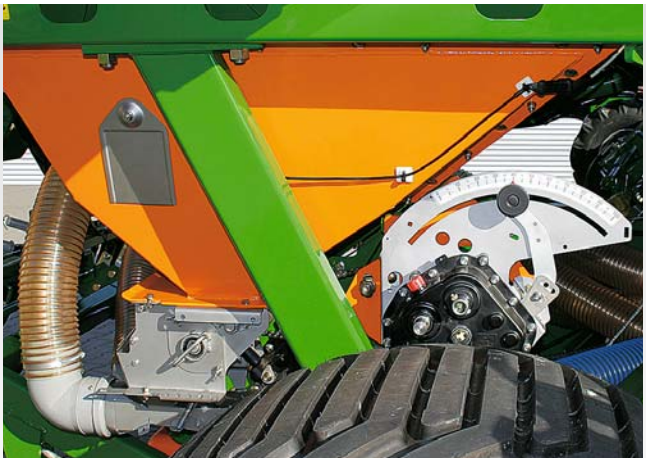
⊕ Metering cassettes for different seed types

20 ccm: e.g. for phacelia, rape, stubble turnips
210 ccm: e.g. for barley, lupins, rye
600 ccm: e.g. for spelt, oats, wheat

⊕ Optional metering cassettes

7.5 ccm: e.g. for poppies
40 ccm: e.g. for flax, lucerne, oil radish, red clover
120 ccm: e.g. for millet, maize, mustard, sunflowers
350 ccm: e.g. for grass seed, wheat
660 ccm: e.g. for beans, peas, fertiliser
700 ccm: e.g. for beans, peas, soya, fertiliser (not for 12 m)

Seed metering

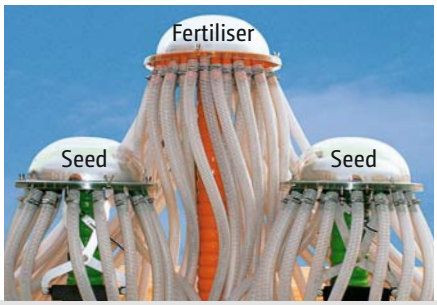


Fertiliser metering

The metering system

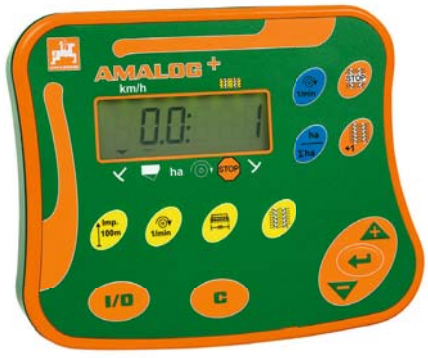
- Three different metering rollers (large, medium, fine) ensure, as standard, the exact application rates of different kinds of seed and fertiliser.
- Optionally available: metering cassettes for green manure, maize, sunflowers and for peas and beans.
- Quick exchange of the metering rollers without tools.
- Precise sealing of the metering housing by a slide.
- Easy to monitor – metering rollers are visibly well arranged.
- The seed rate setting is done on the infinitely variable Vario gearbox (maintenance-free) – proven by more than 150,000 – seed rates possible from 2 to 400 kg/ha.
- Tool-less set up of the metering units for calibration.
- Complete emptying of the hopper residues by the opening of a spring loaded flap.
- Sowing all kinds of seeds – including vegetable – without the cumbersome conversion possible.
- All components are maintenance-friendly and arranged with good accessibly.
- On-board hydraulic system for the blower fan drive – (3 m, 4.5 m, 5 m and 6 m with integrated oil cooler), 9 m optional, 12 m has a directly-driven blower fan off the tractor.
- Optionally available: additional mounting kit for maize and sunflower seeds at other row spacings (37.5 cm and 75 cm).

Distributor heads and optional equipment for seed monitoring



Advantages of the distributor heads:
outside of the seed hopper in view of the tractor driver. Seed hopper clutter-free and easily accessible. Monitoring the seed-fertiliser flow in the transparent distributor head cover. Optional with seed monitoring.

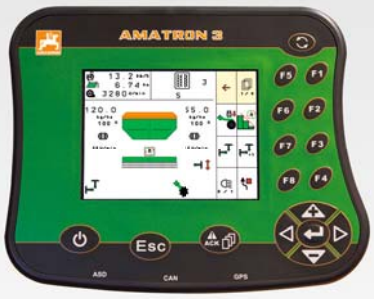
AMALOG^{+} terminal



For Primera 9 m and 12 m working width:
the AMALOG^{+} in-cab terminal offers an electronic control and regulation system with electric tramline regulation, electronic fill level indicator, hectare meter, monitoring of the tramline function.

DMC 3000, 4500 and 6000-2 with ISOBUS control

Primera DMC 6000-2



AMAZONE AMATRON 3
5.6" size screen

AMAZONE CCI 100
large 8.4" touchcreen

AMAZONE AMAPAD
large 12.1" touchscreen

From now on AMAZONE offers the Primera DMC tine coulter seed drill in 3 m, 4.5 m and 6 m working widths with fully electronic metering and the most up-to-date ISOBUS control.

When equipped with the TwinTerminal 3.0, the calibration of the Primera DMC is done in no time and the cumbersome climbing up and down from the tractor cab is no longer necessary. The automatic headland control via Section Control (GPS-Switch) or the automatic seed rate matching can be specified as optional equipment, as can automatic track marker control, tramlining control and a water hole function for sowing with lifted coulters in wet hollows.

The basic documentation of the work done is stored directly on the machine. For further processing via a farm management information system, the job data can be made available in an ISO-XML format. The Primera DMC, in a 3 m to 6 m working width, can be operated via the AMAZONE ISOBUS terminals AMATRON 3, CCI 100 or AMAPAD. However, any other ISOBUS compatible ISOBUS terminal can be utilised for machine operation.

Primera DMC with electric drive

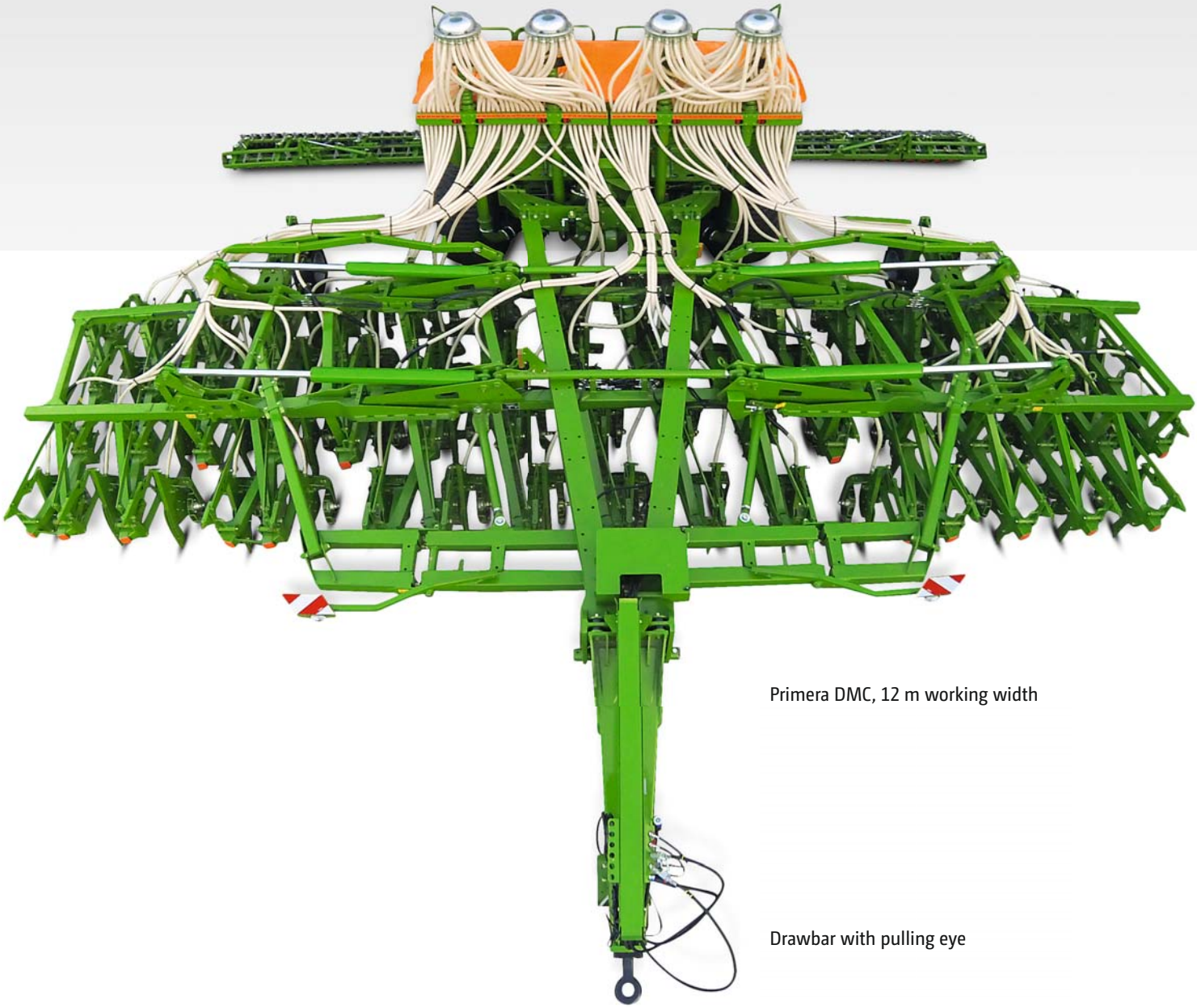
Frame and drawbar

Bout markers

Fully-hydraulic actuation of the track markers.

The braking system

Depending on individual needs, either a hydraulic braking system or a twin-circuit air braking system is available.



Primera DMC, 12 m working width

Drawbar with pulling eye

Frame design

The frame has been constructed with strength in mind so that the coulter modules with their parallelogram guided chisel opener units, together with the AMAZONE seed-fertiliser hopper, the pneumatic metering system, the Exact harrow and the Roller exact harrow can be combined into an absolutely reliable large area seed drill.

Drawbar

The narrow drawbar allows the operator to turn the machine on the spot, without the rear tractor wheels coming into contact with the drawbar. Optionally available: drawbars with different pulling eyes and a linkage drawbar with different cross shafts.

Hopper

Primera DMC 9000 Super

Wide hopper opening for filling by front end loaders and filling augers.

Hopper system

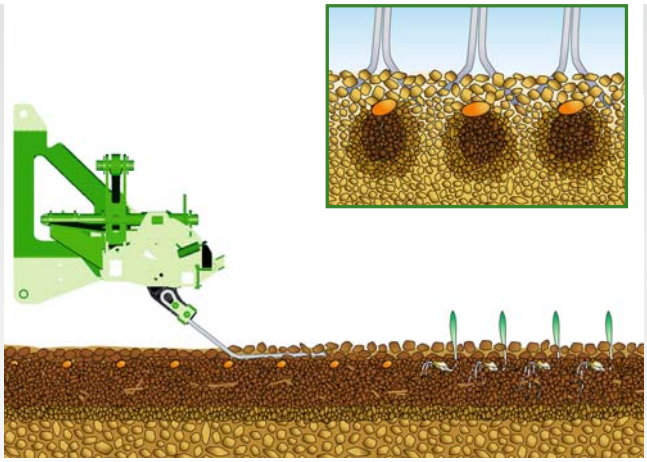
- Hopper sizes from 4,200 l at working widths of 3 m to 9 m and 6.000 l for 9 m and 12 m working width.
- Extensions (optional):

  Primera DMC 3000, 4500, 6000 and 9000:
  800 l and 1,600 l (max. capacity 5,800 l)

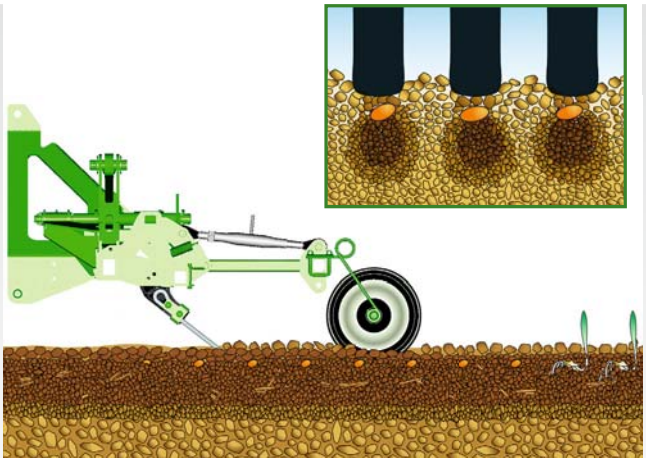
  Primera DMC 9000 Super and 12000:
  1,200 l and 2,400 l (max. capacity 8,400 l)
- Possible splitting of the hopper with a dividing wall for seed and fertiliser in a ratio of 3:1.
- Quick change over from the seed version to seed/fertiliser application and vice versa.
- Spacious, accessible protective sieve against foreign objects. The hopper cover protects against dust and moisture.

Exact harrow and Roller exact harrow

Primera DMC, 6 m working width with optional Roller exact harrow.
Large-dimensioned Terra tyres reduce soil compaction.



Exact harrow



Roller exact harrow

Seed coverage with the Exact harrow

The Exact harrow levels the soil surface, working blockage-free, even where there are large quantities of straw. The individually-pivoting, harrow elements follow the ground contours, creating a uniform seed covering, straw-free, even in areas where copious amounts of straw prevail.

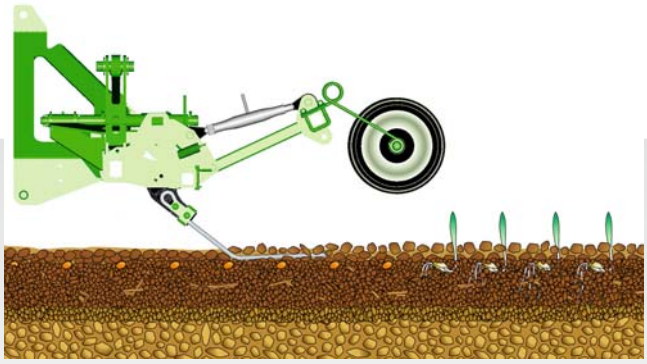
Additional consolidation with the Roller exact harrow

The press rollers on the Roller exact harrow give additional consolidation to the ground directly above the seed furrows. This is especially recommended when drilling spring crops, or rape, in dry, lightish soil conditions. The AMAZONE Roller bar can be centrally lifted up to quickly take it out of operation if necessary.

Press roller in damp, sticky conditions

Caution: on today's seed drills with press or depth control rollers, it is recommended by end users, that in moist,sticky soil conditions, to disconnect or remove these rollers, or maybe to lift them up out of the way. This is only possible, however, if it is not also providing the depth control.

This is the crucial disadvantage of other systems, but with AMAZONE this problem is well solved!



Quotation from profi Practical Test, sowing combinations, 7/2011

⊕ "AMAZONE makes a point using these discs rather than wheels to set the drilling depth. This, along with the drill's 310 mm row clearance, should be an advantage in wet and/or difficult going."

Evaluation of machines from other manufacturers:

"The optional, 4 cm wide press rollers provide a good depth control for the seed coulter, however, if it is damp then these should be removed."

"If the ground is moist and heavy, then one should dismantle the 4 cm wide press rollers in spite of the big coulter clearance of 31 cm."

"We would decide ourselves in favour of the alternatively available wider press rollers, because the narrow rollers tested, when in very moisture conditions, can lift the seed back out of the furrow again."

(Quotation from profi Practical Test, Seed drill combinations, 7/2011)

The filling auger

In order to be able to fill the Primera DMC with both seed and fertiliser, AMAZONE offers a hydraulically-driven filling auger. Using this system the filling time is kept down to just 8 minutes meaning that the output of the drill is even further extended. The filling auger is available for all Primera DMC 6000-2/6000-2C and 9000-2/9000-2C.

The two-piece filling auger is fixed to the back of the machine and, between the working position and transport, the bottom section of the auger, which includes the filling hopper, can be quickly and easily folded up. Thanks to the swivelling chute at the top end of the auger, the seed corn can be optimally distributed over the full width of the seed hopper.

Due to the filling height of just 70 cm, the filling auger can be used to fill also from a simple tipping trailer. The trailer just needs to be equipped with a slide and a chute so that the filling operation can be optimally regulated. AMAZONE offers, as an option, a trough for lorry trailers.

Drive and operation of the filling auger is carried out via the hydraulic system on the tractor. The tractor should have a hydraulic output of at least 50 l/min and requires a pressure-free return.

Technical data

Length	5,100 mm
Filling height of the filling auger	700 mm
Hopper dimensions	L x W x H: 800 x 1,000 x 500 mm
Filling height of the seed hopper	max. 3,000 mm
Weight	450 kg
Throughput	30 t/h

Judgement from practice ...

Gennadij Klimov from Rostow on Don

"The Primera DMC is especially easy to pull, leaves a good placement quality and also the fuel consumption at 5 l/ha is low. The costs for spare parts and repairs are also low", reports Gennadij Klimov, director and owner of an agricultural estate from the Rostow region in South Russia. This estate farms more than 12,069 ha in total, 9,605 of it in arable crops. The crop rotation is divided into approximately 55 % winter wheat, approximately 7 % each of spring barley, maize and grass and 25 % bare fallow.

Since 2009 the estate has utilised AMAZONE machinery. Whereas initially in total eight track-laying tractors with seed drills were required for the sowing work, so since then only one Primera DMC 9000 and one Citan 12000 are required. Gennadij Klimov was especially satisfied by the high operational performance and work rates of the Primera DMC 9000, which is pulled by a Fendt 936 Vario. In 2013, this combination managed to sow an area of 2,500 ha, 1,924 ha of it direct sown at daily outputs of approximately 180 ha.

According to his opinion no other seed drill allows this degree of flexible operation for all sowing systems from conventional sowing via mulch sowing up to direct sowing.

Alexander Retinskiy, manager crop cultivation at the "Trio" group of companies

"Our farms are located in the Lipzek Oblast in the South of Central Russia. Our group of companies includes the agricultural business 'Trio' with an area of 20,000 ha and a dairy farm with 3,000 cows and the management company 'Tschernosemje' with 65,000 ha. The prevailing soil types are black soils, grey soils (Porsol) and pale soils. The annual rainfall exceeds 400 mm and the average field size is about 100 ha. Our estates specialise in the cultivation of sugar beet (more than 15,000 ha), grain maize, sunflowers, soya, wheat, malting barley and rye for bread-making quality. In addition 'Trio' farms 600 ha of chipping potatoes.

For more than 12 years now we have only used seed drills from AMAZONE, I got to know the Primera DMC for the first time in 2001. In the meantime we have purchased around 30 Primera DMC all with differing levels of equipment and in working widths of between 6 and 12 m, and even today, I do not regret it. Currently we work in total with 15 Primera DMC – mainly with the DMC in 9 m working width which we operate behind 8000 series John Deere tractors.

Why did we just decide in favour for this seed drill? It has many advantages: These are, on the one hand, the high work rates, the very good sowing performance and the easy pulling. This enables us to sow quick at up to 18 km/h even with smaller tractors. The wide operational range and the high working effectiveness also speak in favour of the Primera DMC.

Primera DMC, 9 m working width, “RL Brjansk” farm

Primera DMC, 12 m working width, Agricultural estate “Junost”

The Primera DMC is ideally suited for direct sowing. The soil pressure is low and the following of the ground contours is perfect. The machine performs very well, even in crop residues and safely clears the seed furrow from organic matter.

We sow all kinds of crops with the Primera DMC – from grain and fine seeds up to perennial grasses – because the seed rates can be adjusted from 2 to 400 kg/ha. We achieve quick and even field emergences, ensuring our good and stable yields. They amount to 45 dt/ha wheat, 40 dt/ha barley, 20 dt/ha sunflowers, 18 dt/ha soya and 70 dt/ha maize.

Per machine and per day we manage a work rate of 200 ha. The potential of the Primera DMC, however, is significantly higher, because it also depends on the operational organisation and on the field side logistics. If the seed supply and the refuelling of the tractor are organised appropriately, the down times in the field are minimised and if one can utilise an automatic steering system instead of the track markers, then the capacity of the Primera DMC can be significantly increased still.”

Director-General S. N. Dorofeev, “Agro-cooperative Junost” AG

“Many factors require the selection of new crop establishment systems which avoid water loss in the ground and which reduce the cost of production. Our choice fell to the Primera DMC 601, Primera DMC 9000 and Primera DMC 12000 seed drills from AMAZONE. These seed drills have proven themselves in the following strengths: robustness, efficiency, precise sowing operation, operator-friendliness: the entire sowing procedure is monitored via computer.”

Today ‘Junost’ AG owns 42,000 ha growing the following field crops: winter wheat, winter rye, spring wheat, barley, grain maize, rape, beet seed, sunflowers and soya beans. Up to 85 % of the seed and soya sowing is done with these seed drills.

The question whether to utilise these seed drills for sowing grain maize and sunflowers is of great importance for us, we have already achieved good results in silage maize after the No-Till system.

The ‘Junost’ AG runs ten direct mulch sowing machines, 7 x Primera DMC 601 from 2001 – 2002, two Primera DMC 9000 and one Primera DMC 12000 from 2009.

The number of seed drills available enables us to fully accomplish the sowing operation in the ideal agronomical period. With the right organisation of work and quick seed filling the Primera DMC seed drill in 6 m working width, together with the John Deere 7830 tractor, is able to sow 100 to 120 ha per day.

The Primera DMC 9000 seed drill with a John Deere 8420 tractor enables sowing of up to 200 ha per day, the Primera DMC 12000 with the tractor of the new series up to 270 ha – and in work with even lower seed rates than ever.”

The realisation of a good idea

Mulch or direct sowing

Continuously dropping profits result in many farmers thinking seriously about costs, especially those relating to crop establishment. Cost favourable production systems now require even more radical thinking in view of the extremely efficient techniques already implemented. Quite often the necessary profits from farming can only be maintained or increased by means of continuing or increasing rationalisation measures.

In modern crop establishment mulch and direct sowing systems can no longer be disregarded as it creates the most cost favourable crop production.

The state of preparation to introduce either a mulch or direct sowing system depends mainly on the following factors:

- Soil conditions
- Crop rotation
- Management
- Economical situation of agriculture

At least one third of all arable land in Europe is capable of being directly sown and thus, in arable areas where traditional crop rotations are utilised most crops can be produced by mulch or direct sowing.

Project leader:
Prof. h.c. (SAA Samara) R A S Dr. Dr. h.c. Heinz Dreyer

Science confirms our practical experience that mulch or direct sowing should start within the crop rotation following a root crop or pulses. Many practical comparisons have also led to this conclusion as the optimum time to introduce direct sowing.

Mulch and direct sowing of winter wheat following sugar beet, rape or maize is one of the best examples of the success that can be achieved in these early years. Without any change to fertiliser and crop protection measures in the first year repeatedly higher yields are noticeable with this sowing system. In the following years, occasional appearance of grass weeds and other weeds can be observed but, where necessary, these can be combated by way of matching the crop rotation or by control through specific plant protection agents.

Mulch and direct sowing – no ideology, but a consequence of an economic and ecological decision process which can be influenced by you yourself.

Sales management Russia:	Dr. Viktor Buxmann
DMC design engineer:	Dipl. Eng. Viktor Schwamm, Dipl. Eng. Michael Tröbner
Technical drawings:	Petra Brünen
Product manager:	Christian Gall
Head of the experimental department:	Hubert Vollmer
Responsible for the product line and project leader:	Prof. h.c. (SAA Samara) R A S Dr. Dr. h.c. Heinz Dreyer
Technical director:	Dr. Justus Dreyer

Research in Russia

For several years now AMAZONE has been researching and developing in situ in Russia. Especially in cooperation with the government agency Agrarian Academy Samara and some of the larger estates in this region comprehensive trials regarding procedures, higher outputs and the strengths and weaknesses of machines and specific machine components were carried out and analysed. These trials results have now been incorporated into the technical development of, for example, the new Primera DMC and have made a considerable contribution towards its huge productivity and excellent reliability. Machines made by AMAZONE to cope with huge outputs have to be and indeed are tested and evaluated on these large-scale farms.

Heinz Dreyer
Prof. h.c. of the Samara State Agricultural Academy
Member of the International Agricultural Academy Moscow
Dipl. Eng. Technical University of Munich (1956)
Dr. agr. of the Justus Liebig University Gießen
Dipl. Eng. Univ. Technical University Munich (1985)
Dr. h.c. of the University of Hohenheim
May 2008: Awarded silver order of merit from the Russian ministry of agriculture
May 2009: Awarded the (golden) VDI medal of honour (Association of German Engineers)
February 2012: Selected to be "Foreign team member at the Russian Academy for Agriculture RAAS"
May 2012: Holder of the Order of GORYACHKIN Moscow State University of Agriculture
Member of the management board and shareholder of AMAZONEN-WERKE H. Dreyer GmbH & Co. KG

Technical data: Primera DMC in basic specification

Model	Primera DMC 3000/3000-C	Primera DMC 4500/4500-C	Primera DMC 6000-2/6000-2C	Primera DMC 9000-2/9000-2C	Primera DMC 9000-2C Super	Primera DMC 12000-2C
Working width (m)	3.00	4.50	6.00	9.00	9.00	12.00
Transport width (mm) Optional with transport kit	3,225 3,000	4,725 4,500	3,225 3,000	4,725 4,500	4,725 4,500	4,725 4,500
Capacity of seed/fertiliser hoppers (l) (3/4 seed – 1/4 fertiliser) Seed and fertiliser hopper (l) – with extension 800 l – with extension 1,200 l	4,200 5,000 5,800	4,200 5,000 5,800	4,200 5,000 5,800	4,200 5,000 5,800	6,000 7,200 8,400	6,000 7,200 8,400
Total weight (empty) (kg)	4,800	5,600	6,400	10,600	11,000	15,000
Weight (full) (kg) – without extension – with extension 800 l – with extension 1,200 l	8,200 8,800 9,400	9,000 9,600 10,200	9,800 10,400 11,000	14,300 14,500 15,500	19,000 19,900 20,800	20,100 21,000 21,900
Linkage	trailed	trailed	trailed	trailed	trailed	trailed
Number of openers	16	24	32	48	48	64
Number of opener modules	4	6	8	12	12	16
Spacing between the coulter (mm)	840	840	840	840	840	840
Row spacing (cm)	18.75	18.75	18.75	18.75	18.75	18.75
Spacing of openers in one row (cm)	75	75	75	75	75	75
Ground clearance at the openers (mm)	500	500	500	500	500	500
Central depth control for ea. coulter module	yes	yes	yes	yes	yes	yes
Coulter pressure (constant) (kg/coulter)	52	52	52	52	52	52
Operational speed (km/h)	15–18	15–18	10–18	10–15	10–15	10–15
Tractor pulling power requirement from (kW/HP)	60/80	95/130	133/180	200/270	235/320	260/350
Recommended tyre size	700/45-22.5 PR	700/45-22.5 PR	700/45-22.5 PR	700/45-22.5 PR	800/45-26.5 PR	800/45-26.5 PR

Illustrations, content and technical data are not binding! Technical data may deviate according to the level of equipment. Machine illustrations can vary due to country-specific traffic legislation.

AMAZONEN-WERKE H. DREYER GmbH & Co. KG
P. O. Box 51 · 49202 Hasbergen-Gaste/Germany
Phone +49 (0)5405 501-0 · Fax +49 (0)5405 501-193

MI6625 (en_GB) 10.17 Printed in Germany www.amazone.de www.amazone.co.uk E-Mail: amazone@amazone.de