

## DISC CULTIVATORS

**BEDNAR**

# ATLAS AN\_PROFI, AO\_PROFI, AE\_PROFI

Atlas: the Universal Machine  
for Your Farm



**JOY**  
OF FARMING



## How to Deal with Crop Residue

The growing yield of most crops is as a result of new methods of soil cultivation, plant protection, plant nutrition, and also new efficient hybrids. The amount of crop residue is also increasing with the growing yield and it has to be processed. Therefore, we developed the ATLAS machine, capable of dealing with a large quantity of crop residue in a single pass. In addition to traditional stubble cultivation, the machine can also be used for other operations on your farm. Universality is the synonym of ATLAS. Jan Bednar

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## The ATLAS Machine

The BEDNAR ATLAS machines are short compact disc cultivators with a robust frame, suitable both for minimisation systems of soil cultivation (incorporation of a large quantity of crop residue) and for the traditional method of farming, using plough.

The size of the discs, 620 × 6 mm, enables deep stubble cultivation with intense mixing.

The robustness of the machine, the aggressive position of the discs, the spring protection of the discs, the size and shape of the discs allow ATLAS to easily process very heavy soil with a large quantity of crop residue.



ATLAS AO\_PROFI

## Why ATLAS?

### TECHNICAL ADVANTAGES

- A solid, robust frame enabling deeper stubble cultivation.
- Horizontal maintenance-free spring-loaded auto-reset system.
- 2 rows of discs 620 × 6 mm with precise, non-changing disc guidance in the soil.
- Maintenance-free placement of Flexi-Box discs.
- Serrated discs, or A-discs with a higher capability of cutting and mixing residue.
- Hydraulic machine control.
- The semi-mounted models have an integrated axle (AO\_PROFI). The pulled models have an axle in front of the working sections (AE\_PROFI).

### AGRONOMIC ADVANTAGES

- A universal disc stubble cultivator designed for various types of stubble cultivation.
- Other uses, such as seedbed cultivation, incorporation of cover crop, incorporation of manure etc.
- Work without clogging, even with high amounts of crop residue, including maize.
- Works also in very dry conditions thanks to the aggressive positioning of the discs against soil. The disc spacing allows for work in moist conditions.

### BENEFITS THAT MEAN SAVINGS

- Good-quality cultivation in a single pass = one pass instead of several, good-quality cutting and incorporation of crop residue in a single pass, even in cases of large quantities.
- High working speeds = reduction in the required time, easy adherence to agronomic deadlines, better preparation for seed drills.
- Possibility to work in difficult conditions as well = the technical design of the machine enables working in extreme conditions, such as high moisture or drought.
- Reduction in the number of passes = it helps eliminate soil compaction and thus supports the observance of the principles of sustainable agriculture.

### USE ATLAS FOR

- Traditional stubble cultivation, even with large quantities of crop residue, including maize.
- Basic seedbed cultivation.
- Incorporation of cover crop as well as establishment of the cover crop using the Alfa Drill unit.
- Incorporation of barnyard manure.
- Incorporation of digestate from biogas stations.

And many more uses...

# CROP MANAGEMENT RESIDUE

## – Cereals and Oilseed Rape, Sunflower



### HIGHER YIELD, WIDER CUTTING PLATFORMS OF COMBINES

In addition to higher yield, we should not forget to mention the increasing outputs of combines. Combines today often have 9 metre long cutting platforms, or even 12 metre long cutting platforms. Chaff spreaders are not able to spread the cut crop residue along the entire width of the cutting

platforms at high output. The combines leaves strips with higher concentration of crop residue, which affects the result of stubble cultivation and uneven emergence of future crop. The robust ATLAS disc cultivator with larger discs of 620 mm is perfect for use in such cases.

### THE VOLUME OF CROP RESIDUE GROWS WITH THE YIELD

If we harvested 5.5 t/ha (cereals) five years ago and now we often harvest 8.5 t/ha, and even more, then as a ratio:

work with 4.4 t/ha of crop residue. When the yield is 8.5 t/ha, we work with 6.8 t/ha of crop residue. We have to process and incorporate 2.4 t/ha of crop residue more.

# 0.8 : 1

crop residue : yield (grains)

**When the quantity of the crop residue is large, the stubble field needs to be cultivated with large diameter discs, at least 620 mm! Also, the force applied to the discs is very important. The ATLAS PROFI model uses the weight of the machine, plus the force of the spring protection (200 kg).**

**we need to manage crop residue differently** to what we have been doing when the yield was only 5.5 t/ha. The ratio does not change. When the yield is 5.5 t/ha of grains, we

#### EXAMPLE OF WORK AFTER WINTER WHEAT



ATLAS AO\_PROFI  
Yield: 11.2/t  
Number of passes: 1  
Working speed: 14 km/h  
Fuel consumption: 6 L/ha

#### EXAMPLE OF WORK AFTER INCORPORATION OF COVER CROP



ATLAS AN\_PROFI  
Yield: 4.8 t/ha  
Working speed: 15 km/h  
Fuel consumption: 6 L/ha

#### EXAMPLE OF WORK AFTER MAIZE



ATLAS AE\_PROFI  
Number of passes: 1  
Working speed: 12 km/h  
Fuel consumption: 7 L/ha



ATLAS is capable of working in very dry conditions as well.

### THE MAIN ADVANTAGES OF ATLAS DISC CULTIVATORS ARE:

- enormous daily output
- high quality of work
- comfort and continuity during use
- high work speeds
- and lastly, easy operation with a low number of lubrication points.

The large serrated concave discs with a six-millimetre-thick wall, mounted in a maintenance-free axial ball bearing, working on maintenance-free spring protection, make the foundation of the excellent quality of work and long service life.

# Important Working Parts



## HORIZONTAL SPRING-LOADED AUTO-RESET SYSTEM

ATLAS PROFI is equipped with horizontal spring-loaded auto-reset system of disc arms. The spring protection is preloaded to 200 kg. The preloaded springs provide an ideal pressure on the soil. The offset arm with auto-reset system provide for precise guidance of each disc. This model is especially designed for heavier and dry soils.



## FLEXI-BOX

Maintenance-free tine-to-frame mounting design. Each pin is fixated in a case with special segments. This design requires no maintenance (no lubrication) and it also absorbs micro-vibrations transferred from the discs to the frames.



## MAINTENANCE-FREE MASSIVE DISC BEARINGS

The discs are placed in maintenance-free ball bearings with lifelong charge. The tightness of the bearing is ensured by a cartridge git seal.



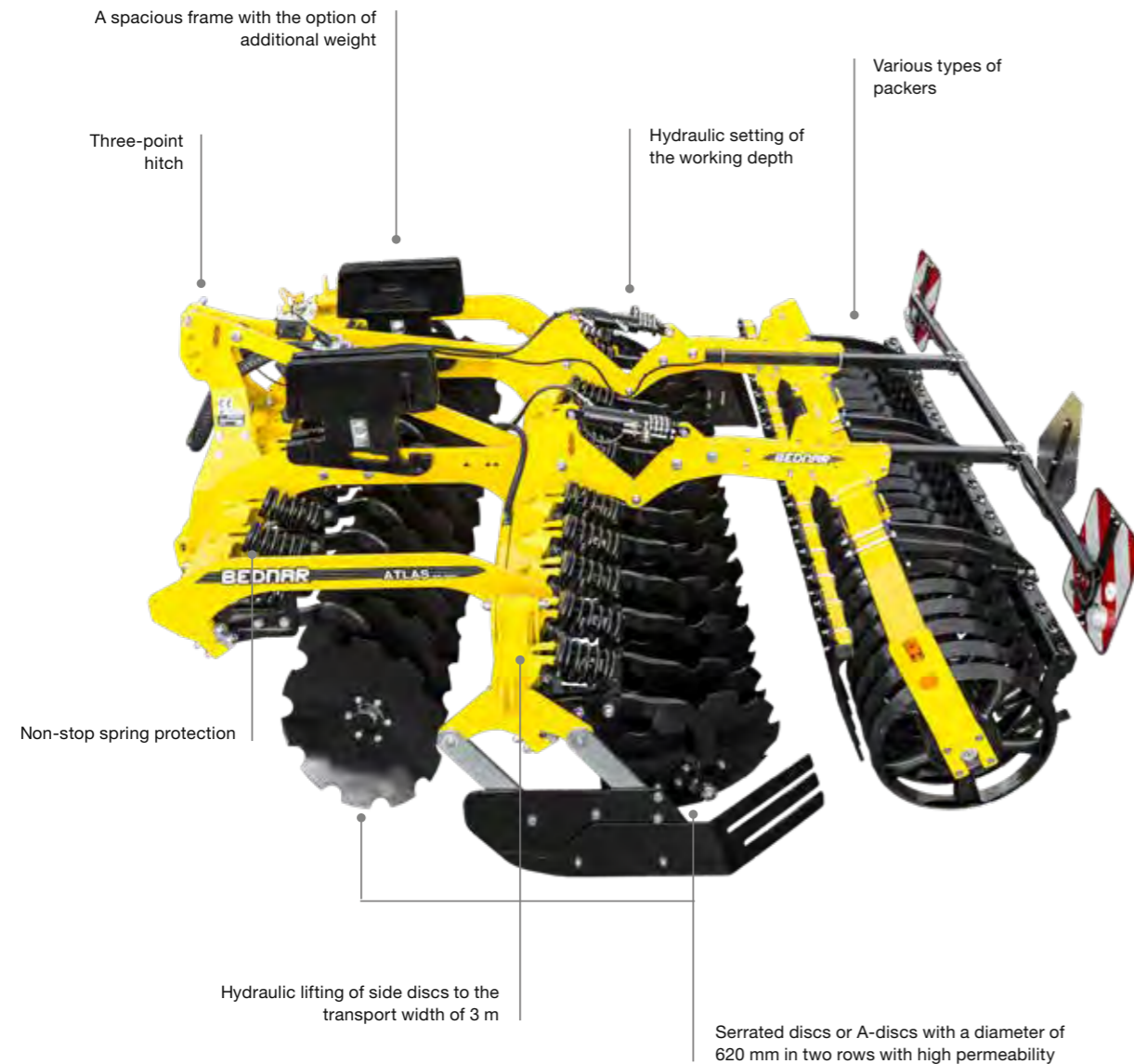
## A-DISCS: A NEW DIMENSION OF WORK QUALITY

All ATLAS models can be equipped with specially shaped discs that have a significantly greater cutting and mixing effect when compared with standard serrated discs. The A-discs have a lot of cutting edges along the circumference for easy incorporation of a large quantity of crop residue.

The sharp blades efficiently cut crop residue. Moreover, the sectioned shape allows picking up a large quantity of soil than standard serrated discs. Each protrusion of the disc picks up soil and carries it towards the plant mulch where it is mixed. The result is excellent.



# ATLAS AN\_PROFI



**BEDNAR ATLAS AN\_PROFI are mounted disc cultivators with discs with a diameter of 620 mm.** These compact cultivators are designed for smaller farms.

The versatility and good transportability between several smaller plots of land are great advantages of these cultivators.

The versatility is achieved by the size of the discs and excellent permeability of the machine. Farmers will appreciate the option of hydraulically folded side discs.

Customers can choose from a whole series of compacting and crumbling rollers based on the soil type, corresponding to the specific conditions.

## HYDRAULIC SIDE DISC FOLDING



The 3metre model has mechanically folding discs, or hydraulic folding is available for an extra charge. Hydraulic folding is very comfortable, especially when the farmer needs to work with the machine at various plots of land several times a day. Thanks to the design, the machine meets the terms and conditions of operation on roads. Transport width of up to 3 m. When side discs are folded, the machine has a working width of 3 metres.

## MACHINE SETTINGS



Setting the depth of the machine is easy and comfortable using the tipping hydraulic clips located on the rear hydraulic cylinders that connect the frame of the machine with the frame of compacting and crumbling rollers.

## DEFLECTOR



The machine may be equipped with deflectors that knock down soil so that the machine can work without any difficulties and without getting clogged.



“We purchased ATLAS AN\_PROFI to replace an old stubble cultivator. We were convinced by the discs with a diameter of 620 mm, the spring protection, but above all, the hydraulically folding side discs and the hydraulic control of the depth. We do not need to get out of the tractor with this small cultivator.”

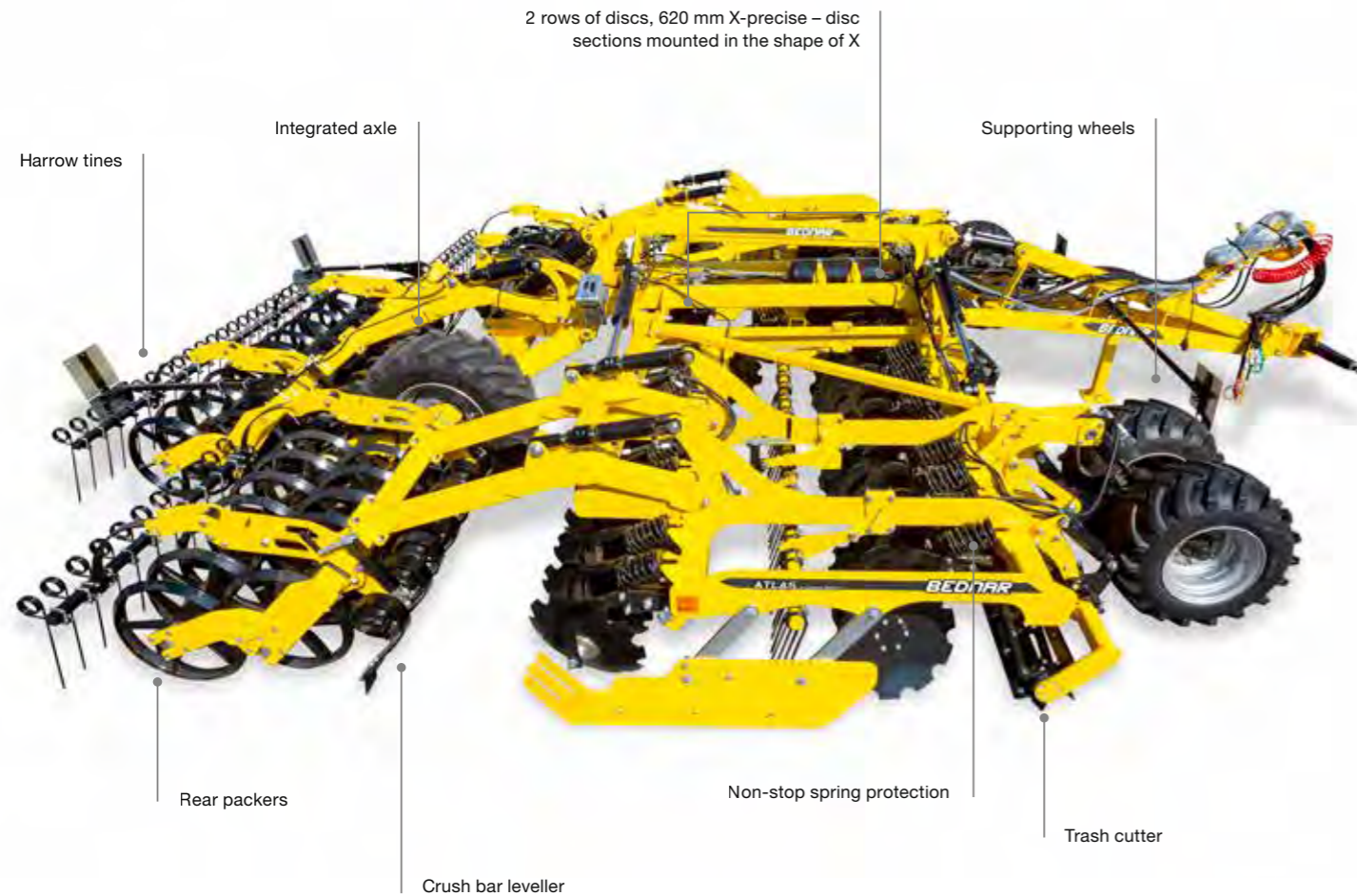
ETA SELVA PATRICK  
(France)  
ATLAS AN 3500  
200 ha

### ATLAS AN PROFÍ

		AN 3000 PROFÍ	AN 3500 PROFÍ
Working width	m	3	3,5
Transport width	m	3	3,5
Transport length	m	3	3,3
Working depth*	cm	6–16	6–16
Number of discs	pcs	24	28
Total weight**	kg	2 600–2 800	2 800–3 350
Recommended output*	HP	150–240	170–260

\* depends on soil conditions \*\* acc. to the equipment

# ATLAS AO\_PROF1



## QUALITY WORK IN ALL CONDITIONS

The discs arranged in two rows in an aggressive position open the soil and provide intense, quality mixing of crop residue with the soil. ATLAS is able to mix soil with a large quantity of crop residue or barnyard manure thanks to the weight of the machine and the aggressive angle of the discs. This allows for the most suitable soil penetration with maximum turning and mixing of soil with the surface material, even in very moist conditions. The discs penetrate soil easily in extremely dry conditions thanks to the overall weight of the machine.

**BEDNAR ATLAS AO\_PROF1 are semi-mounted, compact disc cultivators with discs with a size of 620 mm.** This robust machine is suitable for minimisation systems of soil cultivation (incorporation of large quantities of crop residue) as well as the traditional way of farming using ploughs. The disc sections are mounted in the shape of an X, which guides the machine precisely behind the tractor, allowing the tractor navigation to be used fully and preventing side drifting.

The main advantages of the ATLAS disc cultivators include enormous daily output, high quality of work, comfort and continuity during use, high working speeds and easy operation with a low number of lubrication points.

## DISC SPACING OF 25 cm



The disc spacing of 25 cm provides for continuous work without clogging, even in cases of wet conditions and a large quantity of material left on the surface of the field.

## HIGH PERMEABILITY



The high frame clearance in combination with suitable disc arrangement allows you to cultivate soil with high quality even in difficult conditions, also in cases of incorporating vegetation for green fertilisation.

## ELECTRICAL-HYDRAULIC MACHINE CONTROL



ATLAS can be completely controlled hydraulically from the tractor cabin. The working depth can be set from the tractor using a simple display.



# Important Working Parts



## TRASH CUTTER

The ATLAS AO\_PROFI model can be equipped with the front trash cutter roller. The roller is fitted with spiral cutting edges. The cutting effect is enormous. The roller is mainly suitable for those who grow oilseed rape, corn and sunflower.



“The new ATLAS disc cultivator is better than its predecessor, which we used for 7 seasons. The new ATLAS has discs arranged in the shape of an X so the machine does not drift. Thanks to the integrated axle, the machine sits on the ground better and does not drift. The depth adjustment is also excellent. The machine has everything we wanted.” **Milan Višek, a private farmer**

Private farmer Milan Višek  
Lipina (Czech Republic) | 200 ha  
ATLAS AO 6000 PROFÍ



## X-PRECISE – PRECISE TRACKING

Precise tracking of the tractor by the cultivator is very important. Drifting (movement of the machine outside the tractor tracks) is the largest drawback of short disc cultivators. Generally, the higher the diameter of the discs, the more obvious the problem is. The first row of the discs cultivates the soil to such an extent that the second row does not have a sufficient support in the soil profile. This causes the machine to move out of the tractor tracks. The disc cultivator overlaps soil that has already been processed and does not work in accordance with GPS.

## X-PRECISE IS THE SOLUTION

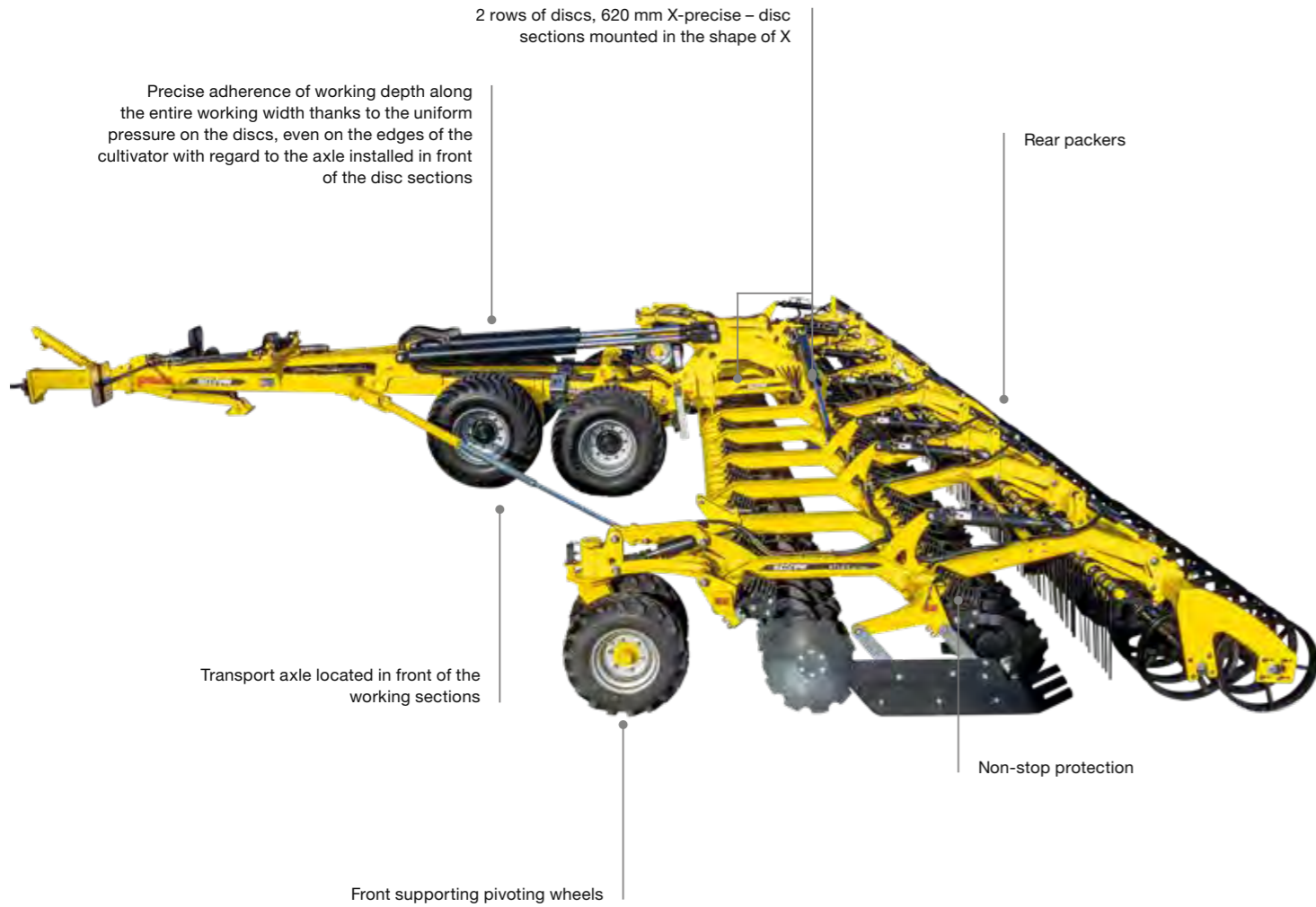
The semi-mounted and pulled ATLAS models have disc sections mounted in the shape of an X. This position balances the forces and helps the cultivator track the tractor, or GPS precisely. No need to spend hours adjusting the cultivator – X-precise is the solution.

## ATLAS AO PROFÍ

		AO 5000 PROFÍ	AO 6000 PROFÍ
Working width	m	4,9	5,9
Transport width	m	2,95	2,95
Transport length	m	9,1	9,1
Working depth*	cm	6–16	6–16
Number of discs	pcs	40	48
Total weight**	kg	6000–7400	6800–8550
Recommended output*	HP	200–300	250–350

\* depends on soil conditions \*\* acc. to the equipment

# ATLAS AE\_PROFI



**BEDNAR ATLAS AE\_PROFI is a heavy pulled and wide disc cultivator of a robust design for stubble cultivation with a large quantity of crop residue.** The overall design of the machine allows working at high speeds and the working width of the machine helps achieve enormous daily outputs.

The new series of the ATLAS AE\_PROFI disc cultivators is a solution for farms that need to increase the output to meet the agronomic deadlines more easily. The simple construction of the side frames, the easy and simple folding of the machine into the transport position, the ideal spacing between discs, the disc rows and rollers and the easy setting of the machine were the main objectives of our design engineers.

## EASY AND FAST MACHINE FOLDING AND UNFOLDING. SAFE TRANSPORT ON ROADS



The ATLAS AE\_PROFI machine is folded forward to the drawbar. In the transport position, the machine has a width of 3 m and height of 4 m, including the double V-ring or U-ring rollers. ATLAS AE\_PROFI is stable when in the transport position and it can be easily transported between the individual plots of land.

## TURNING AT HEADLAND USING REAR ROLLERS



The ATLAS AE\_PROFI cultivator is a wide cultivator that is very manoeuvrable thanks to its construction, even at headlands. The machine turns on the rear rollers and the front supporting pivoting wheels. This solution eliminates the negative load on the hitch and unloads the tractor when the machine is in the headland position.

# BEDNAR Precision Control



## CTF (CONTROLLED TRAFFIC FARMING)

BEDNAR designed the working width of the machines so that they can be used in the modern CTF system, which consists of a smaller number of passes across the field and less soil compaction.



## ELECTRICAL-HYDRAULIC CONTROL

This is a method of precise machine control where it is possible to do all the machine settings from the driver's cabin, without having to get out (depth, front disc recessing, edge disc lowering, or drawbar angle). When driving the machine, it is possible to change the depth of processing, but above all, it is possible to fold and unfold the machine, no matter how complicated, by pressing a single button, which makes the operation much easier. Moreover, the machine has indicators of speed, output and the current processed depth, detailed statistics of worked daily and total hectares/hours/performance. The main advantages include easy operation and settings. The BEDNAR ATLAS AE\_PROFI cultivators are equipped with this system.

## LOAD SENSING

The ATLAS AE\_PROFI disc cultivator is equipped with the Load Sensing system. Load Sensing is a hydraulic system that saves energy – the tractor pump does not need to run fully at all times as in systems without Load Sensing. The advantage is that only 3 hydraulic hoses are required for the connection to the tractor.



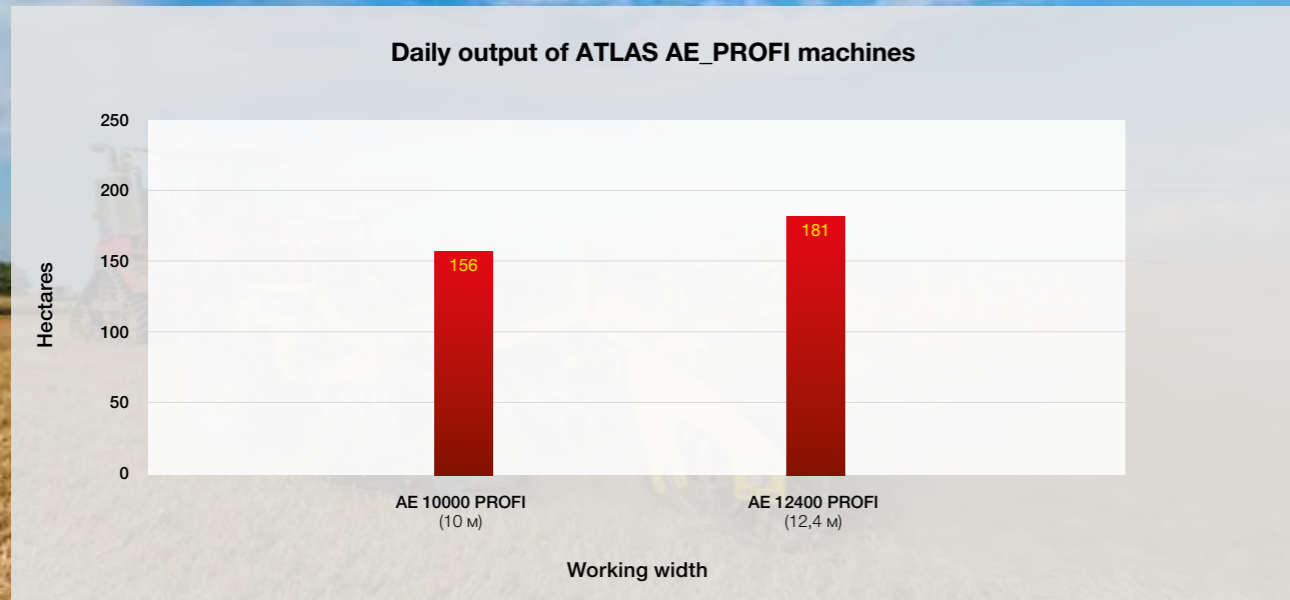
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# Output



“We decided to purchase the AE\_PROFI 12 400 disc cultivator with a width of 12 m based on our previous experience with SWIFTERDISC XE 12 000. The large width provides for higher work efficiency, which is important today. We are able to work up to 110 ha daily with the machine according to the soil conditions and the area of the field. ATLAS AE\_PROFI perfectly cuts soil and then mixes crop residue during the pass. A single pass is all you need to cultivate the field along the entire width. The complete automatic control via ISOBUS is a great advantage. It's perfect. The machine operator does not have to leave the tractor cabin at all. He can even change the settings and the working depth from the tractor cabin, as needed.”

Jiří Novák, Head of Technical Services

ZAS Bečváry, a. s. | Bečváry (Czech Republic)  
4 300 ha | ATLAS AE\_PROFI 12 400

## OUTPUT AS AN IMPORTANT PART OF STUBBLE CULTIVATION

Output is very important in a hectic period, usually after harvesting cereals and establishing the crop of winter oilseed rape. The ATLAS machines offer high quality work, above all, but their structural design allows them to work at high speed.

## ATLAS AE PROFI

		AE 10000 PROFI	AE 12400 PROFI
Working width	m	10	12
Transport width	m	3	3
Transport length	m	11,7	12,7
Working depth*	cm	6–16	6–16
Number of discs	pcs	80	100
Total weight**	kg	12 900–14 100	15 200–16 600
Recommended output*	HP	450–550	550–600

\* depends on soil conditions \*\* acc. to the equipment

# ALFA DRILL



**ALFA DRILL** is a seeding unit designed for establishing cover crop, additional grasses, or for an all-area application of fertilisers. It can be installed into various BEDNAR machines.

The dispensing area below the hopper contains the time-proven robust stainless metering system from the OMEGA seed drills.

Even dispensing, even for large working widths, is provided by an efficient fan, driven by a hydraulic motor.

Easy control from the tractor cabin via an ISOBUS terminal. It is possible to install end sensors, making operation easier.



# Packers and Rollers

Typ	ATLAS			
	AN	AO_PROFI	AO_L	AE_PROFI
Tube Packer	1	•	•	•
Steel Ring Packer	2	•	•	•
Road Packer	3	•	•	•
V-ring Packer 630 mm	4	•	•	•
Double V-Ring 630 mm	5		•	•
U-ring Packer 500 mm	6	•*		
Double U-ring Packer 600 mm	7		•	•
Double Roller	8	•	•	
Cutpack Packer	9		•	•

\* váha 130 kg/m (včetně systému stěrek), průměr 500 mm

Tube Packer **1**



A traditional packer with massive steel rods that provide standard crumbling effect.

weight: 121 kg/m  
diameter: 635 mm

Steel Ring Packer **2**



A packer with massive steel parts for superb compaction suitable for all soil types.

weight: 202 kg/m (including the scraper system)  
diameter: 525 mm

Road Packer **3**



A packer from hard natural rubber suitable for all soil conditions with very low tack.

weight: 217 kg/m (including the scraper system)  
diameter: 590 mm

V-ring Packer 630 mm **4**



A heavy steel packer for all soil types for intensive crumbling and compaction of the soil.

weight: 169 kg/m (including the scraper system)  
diameter: 630 mm

Double V-Ring 630 mm **5**



A dual-row heavy steel packer for all types of soil for intense crumbling and compaction of soil.

weight: 162 kg/m  
diameter: 630 mm

U-ring Packer 500 mm **6**



A steel packer for all soil types with quality crumbling and low stickiness thanks to the "U" rim profile.

weight: 122 kg/m (including the scraper system)  
diameter: 500 mm

Double U-ring Packer 600 mm **7**



A dual-row steel packer with self-cleaning effect, excellent crumbling and low tack thanks to the "U" rim profile.

weight: 230 kg/m  
diameter: 600 mm

Double Roller **8**



An ideal roller for quality two-step cultivation of medium and light soils in drier conditions.

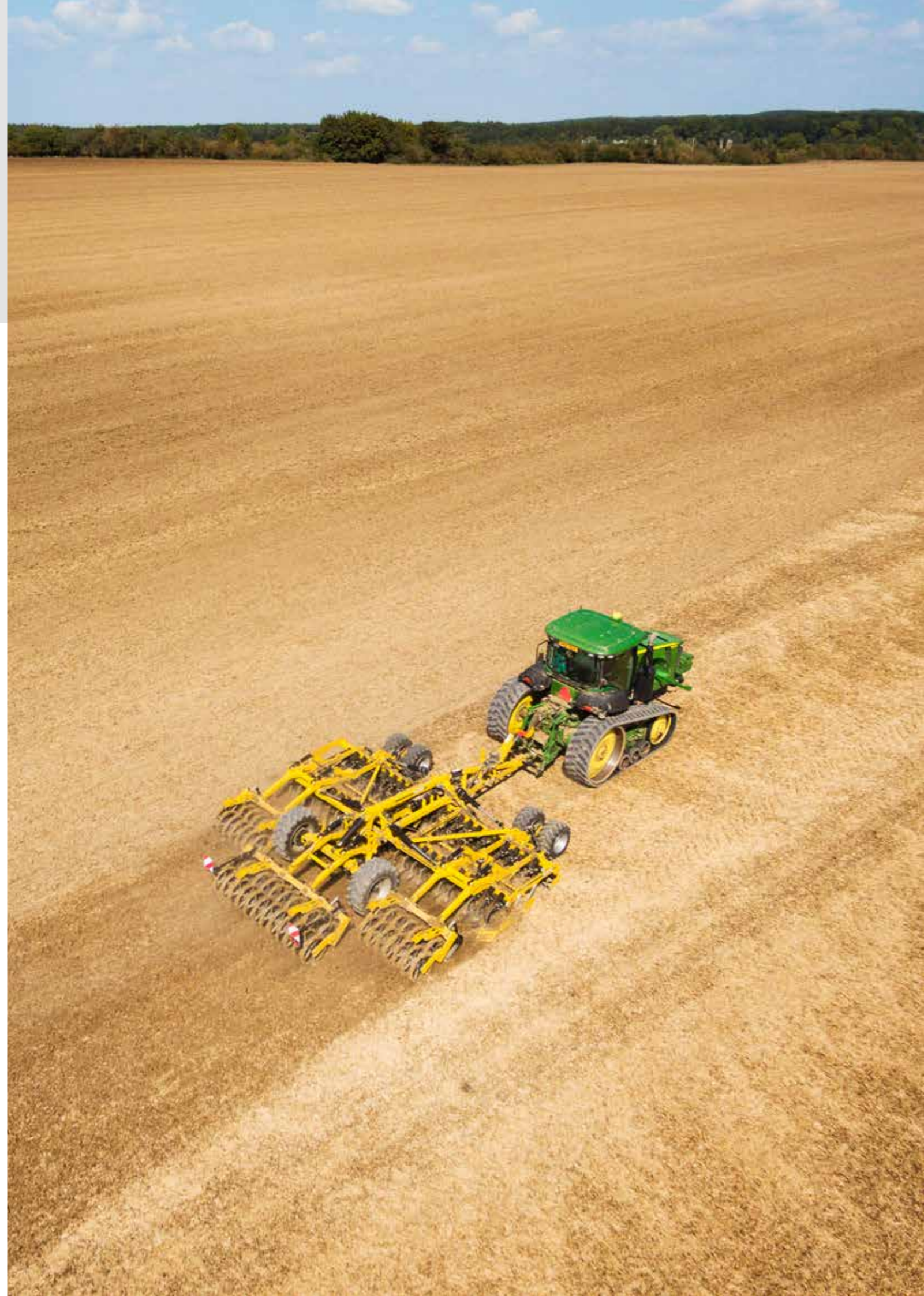
weight: 132 kg/m  
diameter: 470+370 mm

Cutpack Packer **9**



A heavy steel packer with high cutting capability suitable for heavy soils.

weight: 222 kg/m (including the scraper system)  
diameter: 630 mm



# I did maximum for more yield this year

## soil cultivation



**STRIEGEL-PRO**  
Harrows



**SWIFTERDISC**  
Disc Cultivators



**ATLAS**  
Disc Cultivators



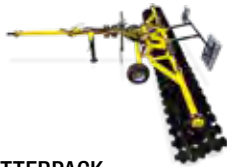
**SWIFTER**  
Seedbed Cultivators



**FENIX**  
Versatile Cultivators



**TERRALAND**  
Chisel Ploughs



**CUTTERPACK**  
Trailed Packers



**PRESSPACK**  
Trailed Packers



**TERRALAND DO**  
Combined Chisel Plough

## seeding and fertilizing



**OMEGA**  
Seed Drills



**FERTI-BOX**  
Hopper for Fertilizer



**ALFA DRILL**  
Seed Hopper

## inter-row cultivation mulching



**ROW-MASTER**  
Inter-row Cultivator



**MULCHER**  
Rotary Cutters

**BEDNAR FMT, s. r. o.**  
Lohenicka 607  
190 17 Praha-Vinor  
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