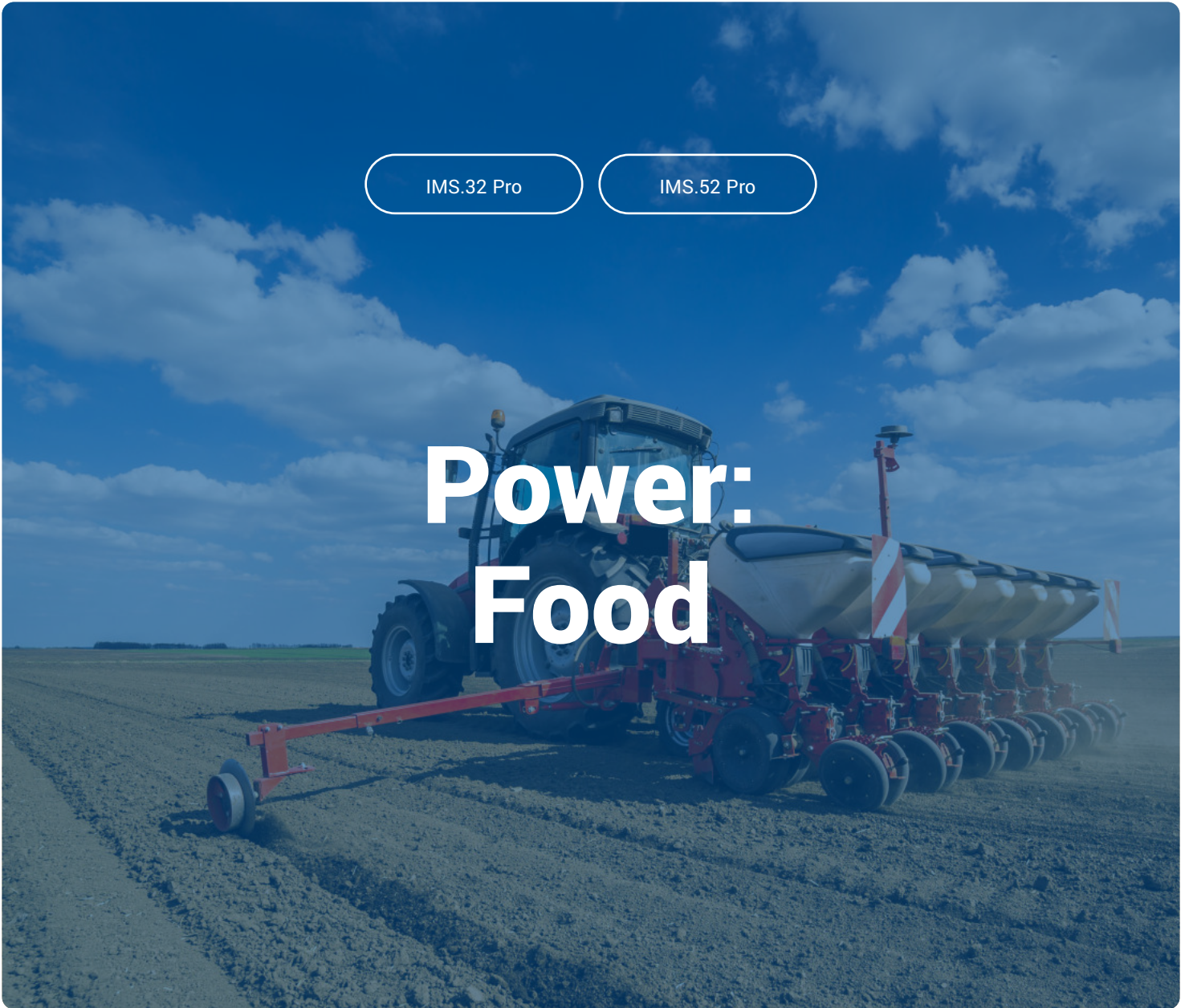


IMS.32 Pro

IMS.52 Pro

Power: Food





Agricultural Technology / Sowing & Fertilizing

Power: Food

In recent years, agriculture has become more and more **technologically advanced**. After all, the efficient growing of food, but also of crop plants for energy production, is one of the central global challenges. In this context, powerful drive solutions from IMS Gear are an important element, e.g. in the field of sowing and fertilizing. Our planetary gears convince by:

- Compact design
- High power density
- Robust processing
- High flexibility & wide range of applications

With its modular system, IMS Gear's spectrum ranges from quick quality solutions to customer-specific adaptations and sophisticated special gear configurations. This also applies to our solutions for modern agricultural technology.

“The everyday routine on farms can be quite tough: Long working hours and demanding ambient conditions. At the same time, machine downtimes involve high costs - and are not an option. In this situation, our robust planetary gears are the perfect choice.”

Dominik Bea, Sales Engineer with IMS Gear



No picnic!

Agricultural work is often hard and demanding: **Vibrations and shocks, extreme temperature fluctuations, aggressive environments** such as ammonia are some of the keywords. For this reason, applications in agricultural technology require **robust gear drives**, as both in fields and stables the machines are exposed to high stresses.

IMS Gear has gained many years of experience to harness the compact design and high power density of planetary gears for demanding purposes. This shows in a wealth of successful applications in agricultural technology.

Field Work as High Tech

Modern farms use sophisticated technology along the complete production chain. Crop production involves **high exposure to dust, dirt, and humidity**. In addition, there are shocks and vibrations. “Many works are taken over by so-called subcontractors.

This means long working hours and therefore **high demands to the stability of the gear drives**”, explains Dominik Bea, Sales Engineer with IMS Gear.

Precision Planting: Our Solution

This is illustrated by the example of precision planting: The seeds run through a funnel to a rotary plate with matching cavities for single grains. They are planted in a defined distance from each other. As up to 12 rows are placed side by side, the installation **space is strictly limited**. "For this reason, our precision planting customer uses the planetary gear IMS.32 Pro to drive the rotary plate", Bea explains.

The gear must feature **power reserves**, e.g. if a pebble gets into the mechanical system. In order to meet the **torque requirements** the gear has two stages. The first stage is equipped with plastic planetary wheels, the second stage with metal planets that can bear high torque loads. At the output side, **special sealing requirements** can be realized with shaft sealings or sealed ball bearings.

"Whether this takes place at IMS Gear or at the customer is assessed in every single case", Bea adds. Only if the rotary plate runs smoothly, the desired singling precision can be ensured even at high operating speeds. Precise planting benefits the plant growth and therefore the yield. Optimum light conditions are created. And if the seed is clearly defined, the optimum amount of fertilizer can be determined. In these modern systems, individual seed rows, e.g. on wedge surfaces, can be individually switched off to further increase efficiency.

IMS Gear in Fertilizer Spreaders

The reliable planetary gears from IMS Gear are widespread in fertilizer spreaders. In this application, the gear drives the agitator so that the fertilizer to be spread is evenly fed to the rotary plate. As there are **substantial torque requirements** - the agitator has to overcome peak loads in case of clumping due to wetness - the two-step planetary gear IMS.52 Pro is used here. Its planets are completely made of metal. The shaft has a ground surface and consists of stainless steel. As fertilizers are highly aggressive media, it is heat-treated and coated against corrosion at the edges.

The spreading of fertilizers has to be precisely documented by the farms. In order to prevent groundwater contamination, the fertilization ordinance provides for harsh penalties in case of overfertilization. The precise spreading of the fertilizer is therefore an **important contribution to environmental protection**.

Summary

If individual planetary gears become standard solutions, IMS Gear has once again accomplished its role as facilitator. "The recourse to our modular system opens up many advantages for the user", Bea sums up. "It has the variability to combine a great variety of metal and plastic parts and so achieve the gear reduction desired. The quality and durability of all these parts was verified in numerous test runs and series applications. IMS Gear provides design and production knowledge from large series also for smaller series. This allows to implement numerous further applications in agricultural technology.

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