COMBINED POWERS

Press Release

Alpen and Spelle, March 2024

KRONE and LEMKEN are focussing on autonomy

The 2024 season will see significant expansions in the area of autonomous agricultural technology. The agricultural technology specialists KRONE and LEMKEN are significantly expanding the range of applications for their autonomous process unit by utilising the front attachment space.

With their joint "Combined Powers" project, KRONE and LEMKEN are endeavouring to advance and bring into focus not only the development of autonomous process units, but also the associated work processes by carrying out additional practical deployments at home and abroad. The findings and results of the field trials in 2022 and 2023 were incorporated into the optimisation and further development of various features of the process units.

The functionality of the autonomous process unit has been significantly enhanced by the integration of a front linkage with PTO shaft; this means that two separate, intelligent attachment spaces are now available. This combination can be used profitably in both grassland and arable farming. For grassland specialist KRONE, for example, the use of a front-rear combination significantly improves mowing efficiency. Initial experience was successfully gained using the KRONE EasyCut F 320 front mounted mower in combination with the Butterfly EasyCut B 950 Collect. LEMKEN, on the other hand, utilises the additional function particularly in the areas of stubble cultivation and sowing where rollers and front hoppers can now be easily carried and used.

The VTEs (autonomous process units) were further developed, taking into account ease of maintenance, practicality and optimisation of the sensor carriers. Another highlight is the improvement in the diesel-electric drive. The new generation of machines retains its power output of 170 kW / 230 hp and continues to feature 4-wheel steering with large tyres for maximum tractive power and minimum ground pressure. The transport solution presented at Agritechnica 2023, using a drawbar (VTS = Vehicle Transport System), is possible even in combination with front-mounted implements. The new

tractor units are characterised by their uniform paintwork in dynamic platinum grey.

The "Combined Powers" project marks a decisive step towards efficiency and innovation in modern agriculture. The advanced autonomous tractor units from KRONE and LEMKEN enable large-scale practical trials and significantly improve the reliability of autonomous processes. The test deployments take place on various farms in Germany and neighbouring European countries in order to test the functionality and communication of the autonomous process units (VTE) using various implements under real conditions.

KRONE and LEMKEN rely on open interfaces and are in lively dialogue with other implement manufacturers in order to exploit synergies and create added value for the customer. Both companies are endeavouring to further develop the product in close cooperation with practising farmers and to make it marketable as quickly as possible. This will create forward-looking solutions to the impending shortage of skilled agricultural labour by enabling farmers to act as system operators of autonomously operating machines in the future and to focus more closely on arable farming issues and farm management tasks.

https://combined-powers.com/

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Press contact

Katrin Fischer
Press relations
Phone +49 2802 81 - 240
k.fischer@lemken.com
www.lemken.com

Markus Steinwendner
Head of Marketing KRONE Agriculture
+49 5977 935 188 20
markus.steinwendner@krone.de
www.krone-agriculture.com

Fig. 1 : *At KRONE, the mowing process – here featuring the KRONE Triple combination EasyCut B 950 and EasyCut F 320 – is the best way to utilise the new front attachment space.*

Fig. 2 : *At LEMKEN, stubble processing, using the Karat 10 mounted cultivator, is constantly being optimised and further developed.*