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Demonstrated XPower ™ efficacy of inter-row post emergence weed control

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- **High post-emergence weed control efficacy, with up to 95% weed reduction.**
- **Decreased herbicide usage of up to 75% compared with conventional chemical weeding methods.**
- **The XPower electric weeding technology can be a valuable tool to help achieve the European Green Deal's target of 50% pesticides reduction by 2030.**

Zasso reported today, at 30th German Conference on Weed Biology and Weed Control, the successful efficacy of electrical inter-row applications on the example of sugar beets. Row crops, such as sugar beets, are an important pillar of agricultural food production. In the juvenile stage, row crops are characterised by wide row spacings and often by low competitive strength against simultaneously emerging weeds. Yield losses due to inadequate or delayed weed control can be prevented with adapted management approaches.

Results

In 2020, together with the "University of Applied Sciences Süd Westfalen", field experiments were conducted to compare the effectiveness of chemical, mechanical and electrical weed control methods of inter-row weeding in sugar beets. For all methods, chemical herbicides were used for intra-row weed control (see Fig. 1).

The results were presented online at the 30th German Conference on Weed Biology and Weed Control in Braunschweig, to a broad audience of research scientists and industry stakeholders.

As an outcome of the study, it can be concluded that the XPower ™ electrical weeding technology can achieve comparable or higher efficiencies as established chemical and mechanical weeding methods. Weeding efficiencies of up to 95% can be achieved even with a reduced number of passages per season, based on the 2020 weather conditions.

The study also showed that, for sugar beet production, an herbicide reduction of up to 75% can be achieved.

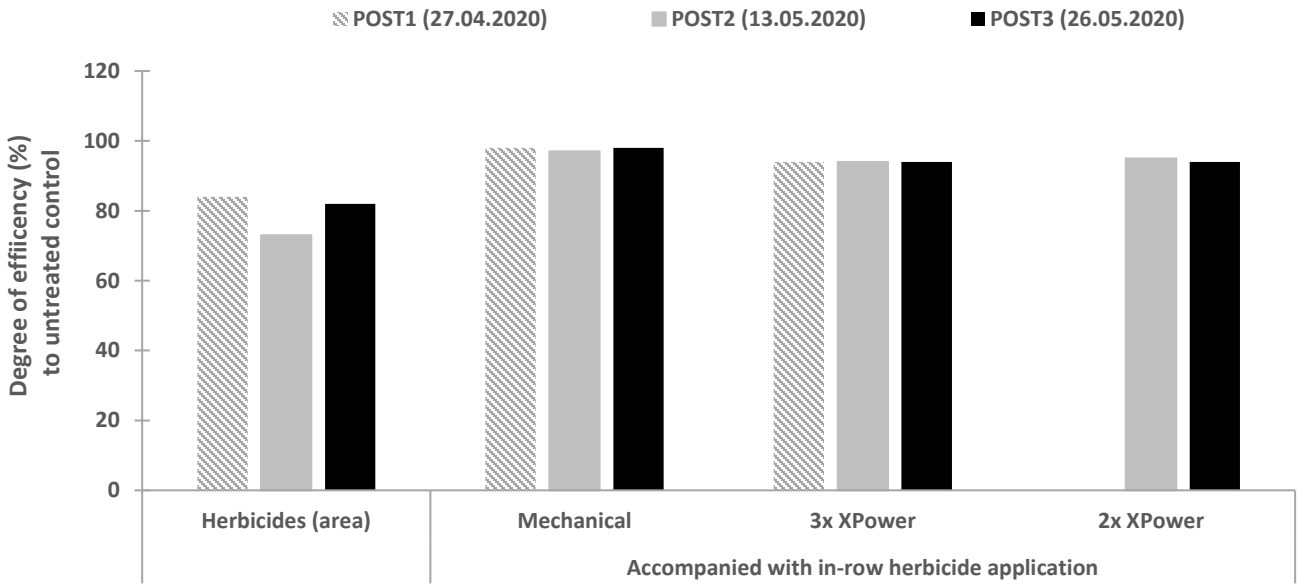

Fig. 1: Relative weeding efficiency [%] of chemical, mechanical and electrical weed control variants as delta to untreated control.

Conclusion

Over 90% of the weed management market still relies on the use of herbicides, in which glyphosate is still an active ingredient. Alternatives (e.g., mechanical, thermal) are beginning to appear but do not address the roots of the problem or generate unwanted issues of soil disturbance, stimulation of new seeds and erosion risks.

New solutions are required to resolve challenges of efficiency, costs and productivity, and to address the health concerns and regulatory constraints increasingly faced by herbicides.

This study shows that electric weeding has established itself as the 21st century response to weeding. The on-going development of the inter-row solution guarantees safe and effective weed management in row crops, with less negative impact on the environment, providing a better planning reliability to farmers. It also helps achieve the European Green Deal's target of 50% pesticides reduction by 2030.

For the experiment, the prototype of an inter-row applicator from AGXTEND's family of XPower™ electric weeding solutions was used to demonstrate the clear competitive advantages of electric weeding versus common mechanical and chemical weeding methods.

The XPower™ products are sold exclusively through AGXTEND's innovation platform. AGXTEND is an aftermarket brand of CNH Industrial which brings to market innovative, disruptive technologies into the agricultural sector, and commercializes Zasso's tractor-based electric weeding solutions under the XPower ™ product name.

Fig. 2: Weed-free sugar beet development after XPower inter-row application.

***Zasso** is an innovative Swiss-based company specialized in non-chemical weed management solutions using advanced power electronics. Originally developed in Brazil, the patented technology targets both the shoots and the even more critical roots of undesired plants systemically by employing advanced lightweight high-voltage methods. The solution is commercialized under the name of Electroherb™ or XPower™. Its flexible, interchangeable applicators allow the system to be used in a range of surfaces and segments including agriculture, consumer market, and urban areas. In the context of dwindling number of available methods for environmentally friendly plant control, Zasso's mission is to develop the necessary control and power modules that will help make the world herbicide-free, for a better future. With offices in Zug (Switzerland), Indaiatuba (Brazil), Aachen (Germany) and Paris (France), Zasso strives to demonstrate leadership in the electric weed control technology in all the markets it serves.*

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