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THE POTENTIALS AND RISKS OF USING GPS/RTK GUIDED ROW CLEANERS IN SUGAR BEET

ABSTRACT

The latest GPS-RTK/camera guided system for mechanical weeding in combination with different levels of chemical weed control was evaluated as an IPM tool to decrease the use of chemical herbicides. The research questions were focused on the efficiency of weed control, but also on the impact of mechanical weeding on beet growth under weed free conditions. The treatments included different share distances to the row (2, 4 & 6 cm), different weeding intensities and different driving velocities. The treatments were conducted under different intensities of chemical weed control. The results show that mechanical weeding alone cannot control weeds sufficiently in sugar beets. It is possible to mechanically control weeds as close as 2 cm from the row but weeds within the rows are not sufficiently controlled. As weed intensity increases, the benefits of weeding close to the row increases. Mechanical weeding may, in weed free conditions, significantly decrease sugar yield. Yield penalties increase with decreasing distance to the row, increasing amounts of passes and the later the weeding is conducted.
