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Res. Agr. Eng.

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Impact induced

Agria potato tubers cultivated in different regimes

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The Agria potato tubers were grown in 2005 in cultivation regimes involving different irrigation and fertilisation levels and forms. The impact induced tuber damage was simulated dynamically by an impact pendulum test and studied with the aim to detect some relationship between the cultivation regimes and the type and extent of the damage. The usual bruising presented as black spots is in many cases masked by other mechanisms of damage, e.g. by tuber cracking and/or crushing. The highest degree of tuber cracking and at the same time the least frequent bruising were observed for tubers cultivated in the regime with irrigation and without fertilising. The bruising was more pronounced in the narrower tuber side in comparison to the wider flat side in all cultivation regimes. Some results could be compared with similar previous

measurements performed on tubers from the same field experiment organised during three successive years 2003–2005. The flatter side parts of the Agria tubers are more sensitive to bruising than the more oblique ones. The bruise spot shape depends mainly on its dimension. The role of different cultivation regimes can be interpreted in this way.

Keywords:

potato; density; stem; bud; cultivation regime; impact; bruising; cracking; crushing; irrigation; fertilisation

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