Table of Contents

Res. Agr. Eng.

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Research of sugar-beet tubers mechanical

Res. Agr. Eng., 49 (2003): 80-84

Approach to the problems of sugar-beet tubers surface damage dependence on harvesting technology. Investigation of sugar-beet tubers damage when falling on wood and iron surfaces and in the next case tuber damage caused by their fall on the tuber heap. Research of damage rate dependence on the fall height. Evaluation of damage rate was carried by the I.I.R.B. method (method used by all sugar-beet growing countries of Western Europe). The results refer that no considerable differences in damage rate after the fall on the wood or iron bottoms have been ascertained. The height of 1.5 m can be considered in all cases as the limit value of the tubers fall, when share of heavily damaged tubers reached acceptable values of 10 – 15%, but that the share increases significantly at higher falling height. The lifting bodies construction requires also a knowledge of dependence between root depth and force for tuber release from soil in relation to the tuber weight. Medium force needed for tubers lifting ranges from 17 to 27 kp, maximum value 50 kp was found out for tubers of weight above 3 kg.

Keywords:

sugar-beet; tuber damage; fall height; root depth; force for tuber release

[fulltext]