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Res. Agr. Eng.

P. Kroupa

The outer quality loss during grain post-

handling

Res. Agr. Eng., 49 (2003): 91-102

In the paper are presented results of grain outer quality loss investigation during its post-harvest treatment. Objective was to determine the grain damage during its transport by bucket elevators of type " SANFON" at bucket peripheral velocity 2.0 m/s and 2.8 m/s of capacity 40 t/h and 80 t/h, respectively. The damage was investigated at counter-flow and parallel-flow bucket filling. From the measured results resulted the conclusion, that the bucket elevators tend rather to grain crushing, i.e. fraction creation than to smaller damage. On basis of partial knowledge chain elevators have no significant tendency to fraction generation, but incline considerably to the transported grain total mechanical damage at performance significantly lower than is the nominal one. In that case total mechanical damage ranged from 1.78 to 1.98%. Auger conveyers tend rather to total mechanical damage of transported grain than to the fraction creation. This is caused mainly by the friction between the transported grain and transporting " trough" . Total mechanical damage is in range from 1.36 to 1.73%. Belt elevators are friendly to transported grain and therefore are evitable for grain horizontal transport in lines for reception, treatment and storage of food grain crops.

Keywords:

outer quality; bucket elevator; chain elevator; auger elevator; belt elevator; fraction; total mechanical damage; grain

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