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Investigations on engines in the internal combustion chain saws

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Abstract: *Investigations on engines in the internal combustion chain saws.* Results of investigations on determination of external engine characteristics for two chain saw models H357XP and H372XP are presented. They will enable to point out the optimal operational conditions of chain saws, providing the maximal output of wood cutting.

Key words: engine external characteristic, specific fuel consumption and per hour, power and torque of engine

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Effect of initial processing methods used in convectional drying process on the rate of getting equilibrium state in rehydrated dried parsley root

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Abstract : *Effect of initial processing methods used in convectional drying process on the rate of getting equilibrium state in rehydrated dried parsley root*. There was analyzed the effect of breaking-up methods (raw material slices of various thickness) and blanching of parsley root prior to its convectional drying on the rate of getting equilibrium state of rehydrated dried material. In the analysis there were used empirical formulas for approximation of the obtained results in four repetitions of multiplication factor for an increase in rehydrated dried material mass in time. As it is evident from the obtained results, the applied methods of initial processing influence the rate of getting equilibrium state of rehydrated dried parsley root.

Key words: blanching, parsley, rehydration, breaking-up, drying

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Effect of carrot drying method on dried material quality

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Abstract: *Effect of carrot drying method on dried material quality.* Results of investigations on the effect of various carrot drying methods on its colour changes are presented. The colour was measured in L^*, a^*, b^* system and dried material quality was evaluated basing on the changes in discriminant values.

Key words: carrot, drying, colour, quality

Faultability evaluation of repaired fuel injection equipment in the warranty period

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Abstract: *Faultability evaluation of repaired fuel injection equipment in the warranty period.* There is presented a model of injection pump faultability developed on the basis of operations on elementary events. The injection pump faultability in the warranty period was analyzed with the use of reliability functional characteristics.

Key words: reliability, warranty period, injection pumps, faultability

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Application of neuron net and fuzzy logic in diagnostics of agricultural tractor fuel systems

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Abstract: *Application of neuron net and fuzzy logic in diagnostics of agricultural tractor fuel systems.* There are presented the methods and results of investigations on changes in fuel pressure in Diesel engine injection system and the developed algorithm of diagnostic method with the use of neuron net and fuzzy logic. The operational speed of the obtained numerical forms for diagnostic method algorithms were investigated.

Key words: self-ignition, diagnostics, neuron nets, fuzzy logic, injection systems

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Effect of drying medium temperature on drying time of rowan berries

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Abstract: *Effect of drying medium temperature on drying time of rowan berries.* Investigations aimed at determination of the effect of drying medium temperature on the time of fluidization drying of rowan berries. Experiments were carried out at three drying medium temperatures: 50, 60 and 70 °C and at three layer heights: 2, 4 and 6 cm. The results of investigations are presented graphically.

Key words: rowan, water content, fluidization drying

Effect of operational organization on effectiveness of logging with the harvester

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Abstract: *Effect of operational organization on effectiveness of logging with the harvester.* The effect of task arrangement on the investigated site on effectiveness of multi-operational machine operations was analyzed. There was also investigated the interdependence between selected factors of operational organization (sequence of task realization) on the time structure and exploitation productivity of the machine. The specification of tasks and its influence on particular harvester effectiveness indices was also considered in calculations.

Key words: logging, operational organization, harvester

Analysis of effectiveness of long timber loading and unloading with the use of logging truck crane

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Abstract. *Analysis of effectiveness of long timber loading and unloading with the use of logging truck crane.* Exploitation investigations were carried out at the end of 2004 and beginning of 2005 in north-eastern Poland on the logging truck MAN 26.463 equipped with the crane Loglift F 249 SL and the pole trailer without drawbar Kramer 2848. The ratio of loading and unloading times in the vehicle working cycle amounted to 23.8 and 9.8, respectively, in total 33.6%. The times of trailer hauling on the track and taking off, specific for such vehicle type, amounted to 1.5 and 1% of entire working cycle, respectively. Proper preparation of piles by the haulage tracks can increase the truck productivity to 7.79 m^3/h (by 4.1%) and transport specific work to 508.8 m^3·km/h. The application of unloading machines

of bigger capacity at the customer (loaders, overhead cranes, tipplers) can increase the productivity to 8.15 m^3/h (by 8.9%) and transport specific work to 532.5 m^3·km/h.

Key words: transport, timber, truck, loading, effectiveness