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ACCIDENTS WITH TRACTORS AND AGRICULTURAL MACHINERY IN PUBLIC TRANSPORT OF REPUBLIC OF SERBIA WITHOUT PROVINCES

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Tractors and agricultural machinery has a high risk factor in causing accidents and injuries of various degrees of participants in public transport. Between years 1990-2009, in Republic of Serbia public transport, 72 agricultural machinery operators died and 157 operators were seriously injured, on annual average basis. The material damage is enormous. The most influential factor in causing accidents is a man-handler agricultural machinery, primarily tractor driver behaviour, that is reflected through his psycho-physical condition, observance of traffic rules and other road users and of course expertise.
The most common causes of accidents in agricultural production and public transport, with involved tractors and other self-propelled agricultural machines are:

- Inattention of machine operators,
- Insufficient level of training for work,
- Non-compliance with traffic regulations,
- Lack of safety measures, and
- the use of technically obsolete or faulty machines.
The public transport in the Republic of Serbia, excluding the provinces, the research period from 1990-2009, the total of 9693 persons were casualties in accidents that are caused by operators of tractors and other agricultural machinery, of which 14.8% or 1438 people tragically lost their lives, while more minor injuries and heavy injured 8255 persons or 85.2%. Of the total number of injured, 61.8% or 5106 persons received minor injuries, while 38.2% or 3149 persons sustained heavy injuries that often result in permanent disability.

Statistical analysis showed that during the research period, average per year 484.6 persons experienced accident, of which 71.9 persons tragically, and 412.7 people is injured (255.3 with minor injuries and 177.4 with heavy injuries).
The analysis of time series for different types of injuries it can be concluded that the trend of the total number of casualties decrease, along with the trend of heavy injuries and the tragic trend in the number of casualties. In contrast to these indicators, the trend in the number of casualties with minor physical injuries, as well as the trend of the total number of injured, tend to increase.

Fig. 2. The trend and graphic view of injuries and their types for the period 1999-2009
Authors consider, the accidents that occur due lack of permanent vocational training and professional courses for the proper use and the maintenance of tractors and machines, that have to be organized and the coordinated and implemented seriously, including above all the institutions of society (Ministry of Agriculture, Ministry of Infrastructure and the Transport, the Ministry of the Interior, educational institutions, farmers, and the other relevant institutions and individuals).
Analyses show that traffic accidents and accidents with tractors and other agricultural machines in the Republic of Serbia (without provinces) and in public transport period 1990-2009, are characterized by:

- tragically killed tractor drivers or participants (deaths), there were approximately 72,
- severely injured participants (later of severe disability and the welfare cases) 157,
- easily injured participants was 255,
- average annual number of casualties in accidents was the 484,
- the trend of the total number of casualties decrease, along with the trend of heavy injuries and the tragic trend in the number of casualties, and
- trend in the number of casualties with minor physical injuries, as well as the trend of the total number of injured, tend to increase.

CONCLUSION