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ONLINE ISSN : 1883-2261

PRINT ISSN : 0389-1763

Japanese Journal of Farm Work Research

Vol. 44 (2009) , No. 4 pp.225-232

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Analysis of the Effects of Safety Equipments for Riding-Type Tractors through Farmer Survey

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(Received May 11, 2009)

(Accepted November 14, 2009)

Abstract

An analysis of the effects of safety equipment for riding-type tractors was conducted. Roll-over protective structure (ROPS) and seatbelts could be the most important safety equipment because overturn has occupied about 70% of all accidents on riding-type tractors. The diffusion and results of accidents of those were investigated through questionnaire survey, in which, 2618 farmers in 26 Japanese prefectures were sampled, 1428 of which participated in the survey.

It was found that 69% of tractors were equipped with ROPS and 50% of tractors had a seatbelt, although 55% of owners of these tractors did not use the seatbelts at all. In all, 289 accidents including 57 deaths were reported. 72% of all accidents and 68% of all deaths were due to overturning. In accidents due to overturning, the degree of injury with and without ROPS varied considerably : 25% of accidents without ROPS resulted in death but this rate decreased to 3% with ROPS. For accidents other than overturning, 42% of accidents and 61% of deaths were caused by being caught in or crushed by farming implements.

The effects of ROPS on overturning were quantified, and the use of seatbelts and safety equipment for farming implements were shown to reduce the number and severity of accidents.

Key words

[Riding-type Tractor](#), [Safety](#), [Accident](#), [Overturn](#), [Roll-over protective structure](#)

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To cite this article:

Muneki TOMITA, Tomomichi MIZUKAMI, Masamitsu TAKAHASHI and Shigeyoshi TSUKAMOTO (2009): Analysis of the Effects of Safety Equipments for Riding-Type Tractors through Farmer Survey . Japanese Journal of Farm Work Research 44: 4 225-232 .

doi:10.4035/jsfwr.44.225

JOI JST.JSTAGE/jsfwr/44.225

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