

## Revealed: 5 major factors causing more than 80% of on-road accidents with farm machines

*Swiss data provides new evidence on why accidents occur & which measures should be prioritized to prevent & reduce them*

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**Brussels, 12 June 2017** – Four out of five accidents that happen on public roads with farm machines can be attributed to just five major factors. This is the result of an analysis of accident data from Switzerland from the past six years (2011-2016).

The analysis provides new evidence on why such accidents occur and gives helpful indications on which measures should be pursued with priority to prevent and reduce them. This is particularly important since solid, comparable data for on-road accidents involving farm machines is still largely missing in Europe.

In order of importance, the five major causes of on-road accidents with farm machines are: roll-over of the machine (24% of analyzed on-road accidents with farm machines), behaviour of other road users (20%), operator visibility (15%), machine maintenance (13%), and driver behaviour (11%).

To address these causes in an effective and efficient way, the following priority actions should be pursued with priority in the future:

- retro-fitting older farm machines with roll-over protection structures and with appropriate lighting and signalling panels;
- boost driver training to ensure greater awareness & alertness of drivers as well as public awareness campaigns on characteristics and traffic behaviour of farm vehicles;
- voluntary installation of mirrors or cameras to improve visibility (range of vision);
- improving maintenance of older farm machines.

As all modern farm machines already have roll-over protection structures and seatbelts installed, 'old' vehicles appear to be responsible for the high share (24%) of **roll-over-related accidents** many of which are fatal (they represent 39% of all fatal on-road accidents with farm machinery). One major focus for accident prevention should therefore be to provide incentives to **retro-fit older machines** with such features. This seems particularly urgent as roll overs are also by far the highest factor (51%) of accidents happening with machines on the farm or in the field.

Regarding the high share of accidents caused by the **behaviour of other road users**, it will be important to enable other road users to see farm vehicles as early as possible and make users more aware of the vehicles' special characteristics in terms of slow speed and dimensions (length & width). To do this, **fixing appropriate lighting and signalling panels** has proven to be a most

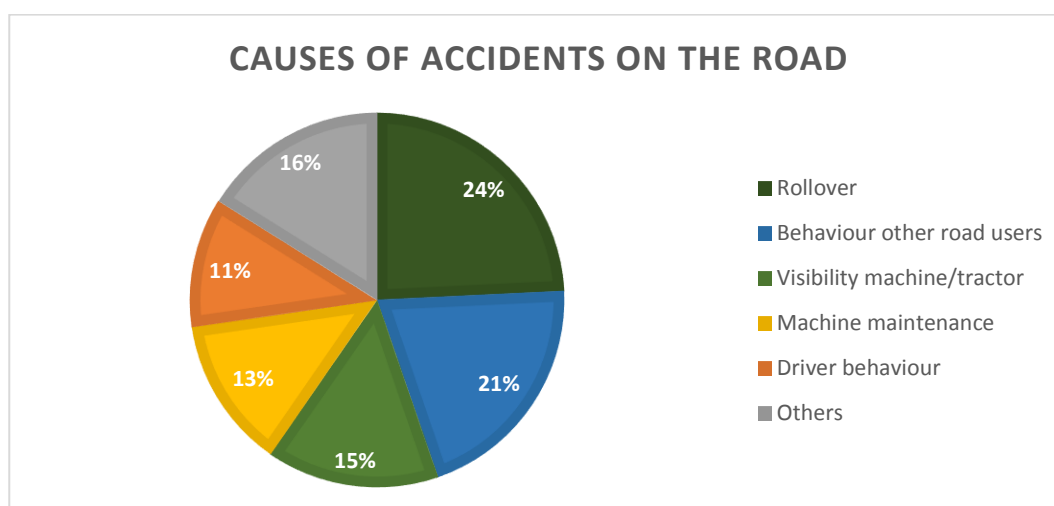
effective and cost-efficient tool. New EU rules will ensure this for all new farm machines as of 2018, hence retrofitting actions should be devised for old machines.

To further reduce accidents resulting from the behaviour of other road users, public **awareness campaigns** would appear to be another suitable tool. When road users are made more aware of common on-road situations involving farm machines accident-prone situations can effectively be avoided. Oftentimes, road users do not assess the behaviour of a farm machine in the right way, thus risking an accident. The most dangerous and frequently underestimated situation is the proper overtaking of a farm vehicle on a road.

The category **visibility (range of vision) of the driver** lists accidents that were triggered by the fact that the driver of the farm machine failed to see the other traffic participant(s) in time to prevent an accident. In this context, the attachment of appropriate mirrors or cameras could be a suitable way forward to reduce such accidents in the future.

Insufficient **machine maintenance** is another contributing factor for on-road accidents. This category relates to a situation in which, for instance, broken lights on a machine were the prime reason for the accident or brakes that did not perform properly due to insufficient maintenance. As these situations are often related to older machines, improving maintenance of such machines will be an important action to reduce accidents further.

Another factor is the **behaviour of the driver or operator** of the machine. This category includes cases in which the principal cause was an inappropriate use of the machine. These accidents could best be addressed by a renewed focus on **driver training**, to prepare drivers for particular accident-prone situations and familiarize them with the vehicle's (or vehicle combination's) characteristics in terms of braking, steering and stability.



**Figure 1: Major factors of on-road accidents with farm machinery in Switzerland, 2011-2016**

## ***About the analysis***

The analysis was based on the online database on accidents in agriculture provided by the *Swiss Advisory Centre for Accident Prevention in Agriculture (Beratungsstelle für Unfallverhütung in der Landwirtschaft/BUL)*.

Each accident is listed with a brief description of what happened. A total of 276 accidents in agriculture between 2011 and 2016 were analysed.

It is notable to see that the vast majority of 79% (218) of the recorded accidents in agriculture happened on the farm or in the field, 60% (131) of which involved some sort of machine. Only 21% (58) of the recorded accidents happened on public roads.

Each of the accidents was checked in detail to establish the main cause based on the available description of the accident dynamics. In so doing, it was possible to identify measures that could have prevented an accident or could have prevented it from becoming a fatal accident. In some cases, BUL already added its own preliminary assessment and advice as to what could have prevented the accident.

**ENDS**

For further information, please contact:

CEMA Secretariat

Tel. 0032 2 706 81 73

[secretariat@cema-agri.org](mailto:secretariat@cema-agri.org)