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 FOR  
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# **Expert group for Occupational Accidents 2024**

Summary

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In January 2024, the Minister of Employment established the Expert Group for Occupational Accidents. From 2024-2026, the Expert Group will investigate, analyze and gather new knowledge on selected topics and provide recommendations that can help prevent serious occupational accidents regarding the topics.

In 2024, the expert group worked on the topic "working with machinery in agriculture". The agricultural sector is one of the most injury-prone sectors, and is one of the sectors with the most fatal accidents in Denmark. In the period 2014-2023, 6,779 work accidents were reported in the agricultural sector. In the same period, there were 49 fatal accidents in agriculture, 24 of which involved working with machinery.

## The expert group's investigations

In 2024, the expert group investigated 17 accidents involving machinery in agriculture. The investigated accidents involved machines such as skid steer loaders or combine harvesters.

The expert group's investigators investigated the accidents using the AcciMap method, which is a systematic approach to investigating and analyzing occupational accidents. It is based on the principle that accidents are rarely the result of single errors or incidents, but rather a complex interplay of factors in society and at government, sector and company levels. The expert group subsequently used the PreventiMap method as part of the process of moving from accident investigation to the proposal of preventive measures and recommendations.

The companies' participation in the investigations was voluntary, and 57% of the companies that were asked to participate said yes. The expert group's investigators investigated the accidents by visiting the accident site and talking to relevant people at the company, such as the injured party and management.

## The expert group's results

In continuation of the investigations, the secretariat of the expert group prepared data analyses of recurring patterns in the 17 accidents that could form the basis for the proposal of recommendations.

The analyses showed that the factors that were most often considered to have contributed to triggering the accidents were machine design, employees' and managers' knowledge of and interest in using a suitable machine for the task and using it safely, and a culture in agriculture that is solution-oriented and where safety is not highly prioritized.

The analyses showed that 76% of the machines included in the study did not fully comply with legal requirements, and that 65% of the machines were not used according to the manufacturer's instructions at the time of the accident.

## The expert group's recommendations

The expert group's recommendations are based on issues related to culture, machine safety and machine use. Agriculture is characterized by an organizational culture where it is accepted that there is a risk associated with working with machinery, as the focus is on operations. Accidents are generally only considered serious if the injured person dies or loses a limb. This approach is reflected in many small and large decisions in daily work. This happens even though there is no desire for anyone to get hurt. At the same time, agricultural machinery contain hazards by not complying with legal requirements, and users of the machines do not use them safely.

In its work to develop recommendations, the expert group chose to base its recommendations on recognized prevention principles such as the prevention ladder and the hierarchy of prevention. The hierarchy reflects how some prevention measures are more effective than others, e.g. it is more effective to remove the hazard or replace it rather something less hazardous than just changing work routines or using personal protective equipment.

The expert group has chosen the following five criteria to characterize the recommendations:

1. Measures that can contribute to an immediate and long-term effect
2. Measures that are based on well-known practices
3. Actions that are both voluntary and mandatory
4. Measures that can be focused on, so that they target the places where there are challenges, e.g., selected machines
5. Contain elements that likely could have prevented the 17 investigated accidents from occurring - either completely or partially

The expert group has chosen to focus on a select number of recommendations to make it clear which challenges in agriculture it finds most important to address.

Based on the five criteria and the above-mentioned issues, the expert group provides three main recommendations, each containing several actions.

The expert group believes that it is crucial to create a change in the safety culture in the agricultural sector. Over the past several years, there has been an average of five fatal accidents in agriculture per year in Denmark. Cultural change is considered necessary, even though it is a difficult task that requires all partners in the sector to join forces and hold each other accountable to not compromise on safety.



**The expert group recommends that:**

1) Industry players enter into a binding partnership to strengthen the safety culture in the agricultural sector. This will lay the foundation for a change towards a higher level of safety and prevent workplace accidents

2) Improve the level of safety of agricultural machinery

- Introduction of a mandatory scheme to ensure that selected machines with particular hazards are upgraded in terms of safety or phased out
- Stricter requirements for or more effective control of selected machines with known safety challenges, including at least skid steer loaders. This will support that agricultural machines are designed to be safer to use

3) Continuously upskill agricultural managers, employees and trainees in machine safety

- Introducing mandatory machine safety training for farmers and agricultural employees with management responsibilities. This will ensure ongoing knowledge and training in the safe use and maintenance of machinery
- Strengthen agricultural education to increase students' knowledge, training and practical understanding of machine safety
- Specific instruction when purchasing selected machine types with inherent hazards. This will ensure that farms have the necessary knowledge of the functions of new machines

The three recommendations should be seen as an overall package that aims to:

- 1) Create a safety culture in the agricultural sector where stable operation is achieved without compromising safety
- 2) Make agricultural machinery safer to use through the physical design of the machine
- 3) Provide managers and employees with the necessary skills to use agricultural machinery in a safe manner

The recommendations contain a mix of initiatives that make machines safer to use through technical solutions, initiatives that aim for greater safety through better health and safety management, and initiatives that aim for safer actions from individual agricultural workers.

The expert group recommends that the Minister of Employment takes the initiative to invite partners in the agricultural sector to come together to ensure the successful implementation of the expert group's recommendations.

## More about the three recommendations

[Recommendation 1](#) addresses the safety culture in the agriculture sector

The purpose of this recommendation is to create a necessary cultural change in the agricultural sector. Farmers and sector partners must have a common understanding of what good safety behavior and occupational health and safety management in agriculture is, and must work together to create the desired culture based on concrete objectives for a stronger safety culture. This will create the right conditions for implementing recommendations 2 and 3.

[Recommendation 2](#) addresses selected agricultural machines with safety challenges

The recommendation contains initiatives aimed at ensuring that machines with particular hazards meet safety standards that match an accepted safety level today. This will be achieved through a mandatory scheme to ensure that old machines are either phased out or upgraded.

For newer machines, the purpose of the recommendation is to ensure that standards on selected new machines have a sufficiently high level of safety, and that selected new machines on the market meet these requirements. The expert group recommends initially focusing on skid steer loaders, which are involved in many accidents.

[Recommendation 3](#) addresses competencies in relation to the safe use of agricultural machinery

The purpose of this recommendation is to equip employers, employees with managerial responsibility and other employees to work safely with machinery. This is to be achieved by sector partners developing a mandatory training program for employers and employees with management responsibilities that includes knowledge and training in machine safety, while strengthening the teaching of machine safety in agricultural education.

Another aim is to ensure that users of new machinery have a thorough understanding of the machine's functions and limitations during use, maintenance and repair. This should be supported by an increased focus on machinery dealers providing thorough instruction in the use of machines that have inherent hazards that can be triggered by use in environments and situations that the machine is not suitable for.

## Economy in recommendations

The expert group has not been given a financial framework for the recommendations, and has not calculated what implementing the recommendations will cost. The group is aware that implementation of the recommendations is associated with immediate financial costs for among others, companies in the sector, and that ensuring that fewer people are seriously injured or lose their lives in workplace accidents comes at a price. Conversely, the group also sees a potential in reduced costs for sick leave and

rehabilitation, which should also be seen in the context of reduced human costs from fewer workplace accidents.

### **Other perspectives from the expert group**

The expert group has discussed several issues that have not been included in the recommendations, but which may still be relevant to pay attention to.

The expert group points to increased awareness in relation to:

- Insufficient requirements for and control of machine inspections
- Instruction manuals for machinery often not being available and/or not read
- That it requires a great deal of technical knowledge to understand the functions of all machines, including among consultants etc.
- That incentive structures, including financial ones, can be a way to change behavior

The expert group hopes that the other perspectives can also inspire authorities, sector partners and suppliers of agricultural machinery etc.

