

ANNUAL REVIEW 2024

Machine safety and new technologies





INTERNATIONAL SECTION OF THE ISSA ON PREVENTION IN AGRICULTURE

International Section of the Issa on Prevention in Agriculture is a specialized, technical body in the area of prevention of the International Social Security Association (ISSA), set up by decision of the ISSA Bureau. It is one of the fourteen sections of the Special Commission on Prevention. It was founded in 1968 and currently operates under Standing Orders adopted on 30th April 2013 in Erding, Germany. The section comprises ordinary and corresponding members. Majority of members have their representatives in the Advisory Board.

Its objectives are to promote prevention, in particular the prevention of occupational accidents and diseases in agriculture, livestock farming, horticulture and forestry through international cooperation. The Section is non-profit oriented.

The role of the Section on Prevention in Agriculture is to undertake a wide range of preventive actions aiming at occupational safety improvement, to prevent accidents at work and to protect health of farmers and persons employed in agriculture and forestry and their families.

The Section is composed of two executive bodies: the Bureau and the General Assembly, which is composed of a Chairperson, two Vice Chairpersons and a Secretary General. The Bureau is assisted by the International Advisory Board composed of experts from various countries. It deliberates about the Section's future activities and defines the tasks and objectives of the international accident prevention in agriculture on a long-term basis.



Chairperson Ad Interim

Dariusz Rohde, President of Agriculture
Social Insurance Fund (KRUS), Poland



Vice Chairperson

Päivi Wallin, Director of Farm Relief and
Work Ability Support Services, Farmers' Social
Insurance Institution (Mela), Finland



Vice Chairperson Ad Interim

Cédric Cappy, member of MSA's Central
Office Board of Governors, Caisse Centrale de la
Mutualité Sociale Agricole (MSA), France



Secretary General Ad Interim

Katarzyna Kamizelich-Sroka, Director of the
President's Office of KRUS, Poland





SAFETY OF MACHINERY AND NEW TECHNOLOGIES IN AGRICULTURE IN 2024

Statistics on Agricultural Work Accidents Involving Agricultural Machinery and Equipment

In 2024, a total of 9,930 accidents were reported to KRUS, which was 779 fewer (a decrease of 7.3%) compared to 2023. Of these, 9,378 incidents were recognized as agricultural work accidents within the meaning of the Act on Farmers' Social Insurance, representing a decrease of 733 cases (7.3%) year on year. The highest number of injured persons resulted from accidents in the following categories: *falls of persons* – 4,087 cases (52.2% of all compensation payments); *being struck, crushed or bitten by animals* – 940 injured persons (12.0% accidents); *entanglement or impact by moving parts of machinery and equipment* – 817 injured persons (10.4% of accidents).

The number of fatal accidents resulting in the payment of lump-sum compensation amounted to 38 in 2024, including:

- 8 deaths in the group ***being run over, hit, caught by a means of transport in motion***; 2 cases of crushing by an agricultural tractor and a combine harvester were recorded, where the cause of these events was performing activities without removing the hazard, including failure to switch off the machine and staying in the danger zone; 4 traffic accidents, where the cause of the events was non-compliance with road traffic laws; 2 run-overs by improperly secured machines (manure spreader and fertiliser spreader) during standstill or in motion;
- 8 deaths in the category of ***falls of objects***; the most common causes of these accidents were: improper technical condition of machinery, equipment and tools; lack of appropriate means of work; improper securing of machinery, equipment and tools during standstill and in motion; improper handling of machinery, equipment and tools; faulty installation, fastening, suspension of tools, processed material and other work objects and improper conduct of the farmer, i.e., walking, driving or staying in prohibited places or in the danger zone;
- 7 deaths in the group ***being caught and hit by moving parts of machinery and equipment***; in most cases, the cause of the accident was: improper handling of machinery, equipment and tools, including use of machinery, equipment and tools contrary to their intended use; lack of or improper guards and safety devices of moving elements of agricultural machinery and equipment; improper work technique during tree felling; presence of the injured person in a prohibited place in the danger zone and improper conduct of the farmer including performing activities without removing the hazard (e.g., not switching off the machine or power supply).

Fatal accidents constituted 0.5% of all accidents resulting in the payment of benefits in 2024. Compared to 2023, an increase was recorded in the number of fatal accidents in the category *entanglement and impact by moving parts of machinery and equipment* (by 3), and a decrease in the categories *being run over, struck or caught by a moving means of transport* (by 7) and *impact of objects* (by 2).

Analysis of the Causes and Circumstances of Accidents Involving Machinery and Equipment Used in Agricultural Activities in 2024

Among the accidents recorded and analyzed during the reporting period, 3,503 incidents, i.e. 38.5% of all accidents, involved agricultural machinery and equipment, which was 170 fewer than in 2023. Most took place during the operation of:

- agricultural tractors – 835 accidents, i.e., 23.8% of analysed accidents involving machinery and equipment for agricultural production;
- means of transport, including trailers, horse-drawn wagons, delivery vans, etc. – 526 accidents, i.e., 15.0%;
- machinery, equipment for harvesting and processing timber – 523 accidents, i.e., 14.9%, including the most involving: circular saws – 231 accidents, chainsaws – 196 accidents.

Involving machinery and equipment, the most frequent were events from the groups:

- *falls of persons* – 1,170 accidents, i.e., 33.4% of all accidents involving agricultural machinery and equipment;
- *being caught, hit by moving parts of machinery and equipment* – 951 accidents, i.e., 27.1%;
- *other events* – 405, i.e., 11.6%.

Circumstances And Causes Of Accidents In The Group *Being Caught And Hit By Moving Parts Of Machinery And Equipment*

In 2024, 962 agricultural work accidents were recorded in the accident category *entanglement or impact by moving parts of machinery and equipment*, accounting for 10.6% of all incidents analysed during the reporting period. Among cases of being caught and hit by moving parts of machinery and equipment, we distinguish, inter alia, the following subcategories of accidents:

- being caught and hit by saws and other cutting machines – 352 incidents (36.6%);
- other catches and hits by moving elements of machinery and equipment – 213 incidents (22.1%);
- being caught and hit by machinery for field production – 171 incidents (17.8%);
- being caught and hit by moving elements of handheld power tools (drills, grinders, etc.) – 166 incidents (17.3%);
- being caught and hit by machinery for animal handling (preparing and feeding fodder, removing manure, etc.) – 45 incidents (4.7%);
- entanglement or impact by articulated telescopic shafts (PTO shafts) – 15 incidents (1.5%).

Most incidents occurred during: harvesting and processing of timber (345 accidents); operation and use of agricultural machinery and equipment (269 accidents) and renovation and repair of agricultural machinery (135 accidents).

The causes of these accidents were:

- improper use of limbs in the danger zone – 260 accidents;
- improper gripping, holding of tools, agents and work objects – 163 accidents;
- lack of or improper guards and safety devices of moving elements of agricultural machinery and equipment – 80 accidents.

Circumstances and Causes of Accidents in the Accident Category: *Falling Objects*

In 2024, 601 accidents were recorded in the falling objects category, representing 6.6% of all analysed incidents. They occurred during the operation and use of agricultural machinery and equipment (204 accidents); renovation and repair of agricultural machinery and equipment (90 accidents); harvesting and processing of timber (72 accidents) and manual transport works (69 accidents).

The causes of these accidents are:

- improper gripping, holding of tools, agents and work objects – 74 accidents;
- improper use of limbs in the danger zone – 57 accidents;
- improper operation and use of agricultural machinery and equipment (adjustment, repairs, aggregating, etc.) – 57 accidents;
- improper positioning of the load, failure to secure the load against sliding and falling – 47 accidents;
- improper securing of machinery, equipment and tools during standstill and in motion – 46 accidents.

Circumstances and Causes of Accidents in the Accident Category: *Being Run Over, Hit, Caught by a Means of Transport in Motion*

In 2024, 100 incidents (1.1%) were recorded in the accident category *being run over, hit, caught by a means of transport in motion*. They occurred most often during the operation and use of agricultural machinery and equipment (40 accidents); handling official matters, purchase of means of production, etc. (13 accidents); mechanical transport of animals, agricultural produce and means of production (11 accidents) and moving without a load (10 accidents). Accidents most often occurred outside the seat of the agricultural holding, including in places of production and storage in the agricultural holding as well as on roads, fields, car parks, in means of collective transport, etc.

The cause of these accidents was:

- non-compliance with road traffic laws by other users – 24 accidents;
- improper securing of machinery and equipment as well as tools during standstill and in motion – 17 accidents;
- non-compliance with road traffic laws – 9 accidents;
- improper operation and use of agricultural machinery and equipment (adjustment, repairs, aggregating, etc.) – 9 accidents;

KRUS Preventive Activities in the Field of Safe Use of Machinery in Agriculture in 2024

The Fund's prevention activity involves analysing the causes and circumstances of accidents at work and disseminating knowledge of accident hazards in the agricultural work environment and the *Principles of the protection of health and life on a farm* established by the President of the Agricultural Social Insurance Fund. This document contains recommendations on handling farm equipment, safeguarding those working on the farm and the manner in which farming activities should be performed, including those related to the use of machinery and equipment. The rules are disseminated to the insured farmers, for example, in the form of a brochure and outreach materials, as well as during training, lectures, competitions, inspections of accident sites, demonstrations of safe work, via the media and during other preventive activities. In 2024, a total of 3,398 training meetings were conducted, attended by nearly 100,000 participants. In order to promote the rules of safe work on a farm, the Fund issued a range of outreach materials, including: films, brochures, leaflets, posters, roll-ups and prevention calendars, and for children: jigsaw puzzles, a "memory" game, a family board game and an e-learning course. As part of non-training activities, KRUS organizes various competitions, contests and occupational health and safety knowledge quizzes, as well as competitions for the safest farms. An important element of these initiatives is education on the safe use of machinery, equipment and tools applied in agricultural holdings. The flagship initiative of KRUS is the Nationwide *Safe Farm* Competition, in which approximately 1,000 individual farms participate each year. Its purpose is to promote the rules of health and life protection on farms, as well as to promote good practices related to occupational health and safety in rural areas. Farms participating in the competition are assessed, among other criteria, with regard to the equipment and technical condition of machinery, equipment and tools used in agricultural production.

In 2024, the preventive campaign ***Act with care and you'll never cause a scare*** dedicated to safe work with agricultural machinery was continued. The campaign forms part of the KRUS project *Safe Farmer, Safe Countryside*, which brings together all forms of preventive action by KRUS relating to the most common accident categories and groups of occupational diseases in agriculture.

In addition, KRUS representatives take an active part in agricultural fairs, exhibitions, seminars and scientific and training conferences as well as in other similar mass events, during which they organize information and preventive stands, as well as exhibitions and demonstrations of safe work for farmers.

KRUS Influence on the Proper Production and Distribution of Agents Used in Agriculture as Well as Protective Equipment and Clothing

Within the framework of actions for the prevention of accidents at work and occupational diseases of farmers, the Agricultural Social Insurance Fund makes efforts for the proper production and distribution of safe agents used in agriculture as well as protective equipment and clothing for farmers. Products with the above-average level of safety are awarded by the President of KRUS the *Safety Mark of the Agricultural Social Insurance Fund*, and those which improve safety at work are awarded the fair distinction *Product Increasing Work Safety on a Farm*. The prestige of this distinction is emphasized by the *DOBROŚLAW* statuette, symbolizing care for farmers' health and lives.

The *KRUS Safety Mark* is granted to machinery and equipment with a high level of occupational safety in agricultural holdings in the form of an authorization allowing the manufacturer to permanently mark a specific product with the KRUS graphic symbol and to use it in marketing activities.

The *Safety Mark* may be awarded upon application by the manufacturer or its representative, as well as at the initiative of farmers, their organizations and trade unions, or the Director of a KRUS Regional Branch.

A supplier (manufacturer, importer or seller) applying for the *KRUS Safety Mark* voluntarily submits its product for certification, both in terms of compliance with passive safety requirements (design – laboratory testing) and active safety (occurrence of accidents involving the given product in the past – residual risk), as confirmed in practice.

By the end of 2024, 241 products were entitled to use the *KRUS Safety Mark*, and 79 products were awarded the fair distinction. In 2024, three products were awarded the distinction *Product increasing work safety in an agricultural holding*.

Safe products marked with the *KRUS Safety Mark* and possessing the Trade Fair Distinction *Product increasing work safety in an agricultural holding* were promoted during fairs and meetings with farmers. A list of all products was made available on the Fund's website.

In addition, KRUS conducts recourse and preventive proceedings. Under recourse proceedings, KRUS seeks reimbursement from manufacturers or distributors of defective products for benefits paid in connection with accidents caused by defects in production means. Under preventive proceedings, KRUS requires manufacturers to modify design solutions whose products may contribute to work accidents, to amend operating instructions, or to introduce additional pictogram labelling.



Contact: Magdalena Szewczyk
T: +48 22 592 65 12, M: +48 519 319 066, E: agro.issa@krus.gov.pl
www.krus.gov.pl



THE FARMERS' SOCIAL INSURANCE INSTITUTION MELA, FINLAND

Statistical Information on Occupational Accidents Caused by Machinery and Equipment in 2024

According to accident statistics collected by Mela, approximately 32% of all accidents in 2024 were caused by machinery or equipment. Therefore, the proportion of accidents attributable to machinery and equipment is significant. In 2024, there were no fatal occupational accidents caused by machinery or equipment. However, three farmers insured by Mela died in traffic-related accidents, two of which involved tractor accidents. In one case, a tractor veered off the road, and in the other, a passenger car collided with the rear of a tractor on a roadway, causing the tractor to run off the road.

In 2024, we initiated preparatory measures for a new occupational safety law, which came into force on January 1, 2025. The law applies to both employees and agricultural entrepreneurs. Purpose of the law is to investigate work-related fatalities or extremely serious accidents.

The aim of workplace accident investigations, known as TOT investigations, is to enhance the prevention and investigation of occupational accidents and diseases by identifying the events and causal factors that led to the incidents and the severity of their consequences. Based on these findings, recommendations are made to improve occupational safety. The purpose of TOT investigations is to examine the causes of accidents and thereby prevent future incidents. The investigations provide recommendations for developing safer working conditions.

Occupational safety card course for farmers

The Centre for Occupational Safety in Finland has long been implementing occupational safety card training, which helps make workplaces safer to work in. The program has been running for approximately 25 years. To date, nearly three million Occupational Safety Cards have been issued.

Recognizing the unique risks present in agriculture, Mela, in partnership with the Centre for Occupational Safety, has launched 2023 a tailored version of the training specifically for farmers. Agriculture is a high-risk industry with a high incidence of serious accidents, and farms often serve as shared workplaces with agricultural entrepreneurs, employees, relief workers, and service providers all working together.



The course is delivered by Mela's occupational safety specialists and covers essential topics such as legal responsibilities, hazard identification and risk management, workplace safety practices including machine safety, and stress management. Agricultural entrepreneurs can access the training free of charge, either online or in-person. The course spans three days and includes lectures, interactive discussions, practical exercises, personal protective equipment evaluation, and a final assessment. Successful participants receive an Occupational Safety Card issued by the Centre for Occupational Safety, valid for five years.

To date, more than 100 farmers have completed the training. Based on feedback participants find the course highly beneficial in understanding safety responsibilities and improving risk management practices.

Materials and e-learning

Mela provides various materials to improve machinery safety. These materials include for instance fact sheets on topics such as safety in tractor work, protection against machinery exhaust fumes, traffic safety, and investing in safe machinery (what safety aspects should be taken into account when trading machinery).

In addition, Mela offers an online Personal Protective Equipment (PPE) training, where farmers can learn about PPE's for various risks. Machinery safety is also addressed as part of this PPE training.

New innovations: Exoskeletons

Musculoskeletal disorders and injuries are the leading causes of occupational accidents, occupational diseases, and disability pensions among farmers. They also account for the majority of work disability years and related compensation costs in the agricultural sector. For that reason it is important to consider solutions for preventing musculoskeletal disorders. Exoskeletons, which means wearable devices that reduces the strain on the musculoskeletal system, may offer one such solution.

Mela funded an occupational safety project aimed at studying the usability of exoskeletons in agriculture. According to user experiences, exoskeletons reduced physical strain, were comfortable to wear, and suitable for various tasks in the sector, such as dairy milking, using hand tools, pressure washing, and fishing—though with some limitations. The conclusion was that exoskeletons are, with certain limitations, suitable for reducing physical workload in a range of agricultural task.

In 2024 Mela organized well-being days and other events, where exoskeletons were also showcased and farmers had the opportunity to try them out. In addition, participants had the opportunity to try virtual reality (VR) glasses, allowing them to experience and explore agricultural hazards in a virtual environment.



Contact: Paivi Wallin

T: + 358 29 435 2343, M: + 358 40 740 4728, E: paivi.wallin@mela.fi

www.mela.fi



AGRICULTURAL MACHINERY AND TRACTOR SAFETY

The **National Institute for Occupational Safety and Health (INSST)** is actively involved in promoting agricultural machinery and tractor safety. Our key initiatives include fostering safe design, encouraging safe operational practices, raising awareness about tractor rollover risks, and thoroughly investigating accident causes to prevent future occurrences.

Safe Design of Machinery

INSST plays a significant role in ensuring the safe design of agricultural machinery. We actively participate in the **ADCO Agricultural Machinery Task Force**, a specialized group within ADCO that monitors compliance with the Machinery Directive. This involvement helps us identify dangerous machines and address imperfections in harmonized standards. Furthermore, INSST contributes to European standardization working groups like **CEN/TC 144/WG 1 "General safety requirements"** and **CEN/TC 354/WG 2 "All Terrain Vehicles (ATVs - quads)"**. Our aim here is to ensure that harmonized standards are updated to reflect the latest safety advancements in agricultural machinery design.

In addition, INSST conducts specific research projects on the safety of various types of in-use agricultural machinery, including sprayers, front loaders, soil-working machines, seed drills, fertilizer distributors, slurry tankers, and wood chippers. Based on these studies, and aligned with the requirements of Directive 2006/42/EC and relevant harmonized standards (particularly regarding safety specifications, instruction manuals, and marking), INSST publishes technical notes on the safety of agricultural and forestry machinery [1]. These resources are also integrated into the **SEMA (Safety of Agricultural Machinery) App** [2], which allows users to assess the safety conditions of different agricultural machinery categories through a questionnaire.

Finally, it's worth noting that INSST has published a specialized study on the design, construction, inspection, and calibration of trolleys used for applying plant protection products in greenhouses [3]. This study was even referenced in the "Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment of plant protection products" (EFSA Journal 2022;20(1):7032).



Preventing Tractor Rollovers

To reduce accidents and minimize injuries from tractor rollovers, INSST has implemented the **“Your life, without rollovers” campaign** [4] and its associated plan [5]. This initiative also addresses the risk of entanglement with the power take-off drive shaft between the tractor and the machine. We utilize **Seguttractor** [5], a tractor driving simulator, to train operators in safe driving practices for rollover scenarios and proper use of safety measures like ROPS and seat belts. This helps reinforce safe behaviour and raises crucial awareness about rollover risks.

Improving Accident Data Collection

The agricultural sector experiences numerous accidents involving tractors and agricultural and forestry machinery. Unfortunately, the current accident reporting system often lacks sufficiently detailed information on the specific equipment involved or the underlying causes. To tackle this, INSST has developed a new methodology for analyzing and recording data on these accidents [6]. This methodology is based on the European standard **EN 16831:2016 “Tractors and machinery for agriculture and forestry - Safety - Format for reporting accidents.”** Implementing this approach and subsequently processing the recorded accident data will enable us to formulate specific and highly effective measures to improve working conditions when using this equipment.

1. Notes on the safety of agricultural and forestry machinery:
<https://www.insst.es/materias/sectores-de-actividad/agrario/maquinaria-agricola-y-forestal/documentacion?category=95261>
2. SEMA (Safety of Agricultural Machinery) App:
<https://www.insst.es/documentacion/herramientas-de-prl/cuestionarios/seguridad-maquinas-agricolas-2020>
3. Recommendations guide for the design, construction, inspection and calibration of trolley sprayers for the application of plant protection products in greenhouses:
<https://www.insst.es/documentacion/material-tecnico/documentos-tecnicos/recommendations-guide-for-trolley-sprayers-year-2020>
4. «Your life, without rollovers» campaign:
<https://www.insst.es/documentacion/espacio-monotematico/tu-vida-sin-vuelcos>
5. SEGUTRACTOR Simulator:
<https://www.insst.es/documentacion/herramientas-de-prl/app/seguttractor-2020>
6. Methodology for recording data from accidents involving tractors and agricultural and forestry machinery:
<https://www.insst.es/documentacion/material-tecnico/documentos-tecnicos/analisis-accidentes-de-tractores-y-maquinaria-agricola-y-forestal-2024>



Contact: Isaac Abril Muñoz
T: +34 954 268 373, M: +34 607 589 375, E: isaac.abril@insst.mites.gob.es
www.insst.es



AGRICULTURAL ROBOTICS



Sebastian Dittmar is a technical supervisor and industry expert for agriculture in the prevention department of the Social Insurance for Agriculture, Forestry and Horticulture (SVLFG), Germany. He has an MBA in agricultural engineering and he has been working in this field since 2008.

Agriculture is undergoing change. In 2024, SVLFG focused in new technologies such as highly automated, driverless mobile machines. From an occupational safety perspective, these machines have potentially positive effects on safety and health protection. Highly automated, driverless mobile machines reduce hazards caused by dust, heat, hazardous substances (pesticides), vibrations and stress reactions due to psychological strain for operators of agricultural machinery. In addition, the current accident hotspot for agricultural machinery with operators could be significantly reduced: Getting on and off the machine currently accounts for at least 50 % of all accidents in Germany. Nevertheless, hazards can still occur. The aim is to reduce the risks associated with highly automated, driverless mobile machines for employees and third parties in the agricultural sector.

In 2024, KAN and SVLFG engaged in intensive discussions on the topic of robotics. The aim was to define guidelines for the safe use. The following requirements resulted from the discussion:

The **danger zones** of highly automated, driverless mobile agricultural machinery must be comprehensively defined. It should be noted that these danger zones are usually accessible to the public. Furthermore, dynamic factors in the hazard scenario must be taken into account. For example, if another mobile machine enters the area of the driverless machine.

Person detection must be carried out with sufficient reliability taking all hazards into account. It applies to employees and must also include third parties, in particular children, persons with limited mobility, etc. The sensor technology must meet the state of the art in terms of safety-related functions and applications. Person detection is part of the protective measures to ensure compliance with European legislation on machine safety. The safety level of current assistance systems is not sufficient for this purpose.



These framework conditions apply both to the individual machine and to the **combination of tractor and attachment**. The term “attachment” includes all mounted, towed, or drawn equipment. Since technical measures generally take precedence over organizational measures, the attachment must be detected with sufficient certainty by the tractor’s protective system. If necessary, the attachment must be supplemented by additional systems, which are then integrated into the tractor’s protective system. For example, the tractor’s protective system can be responsible for monitoring the attachment. If the combination is not recognized as safe, the tractor will not start.

For the purpose of testing person detection, the **test bodies** must be suitable for detecting persons in a standing, lying, or kneeling position, among other things.

SVLFG | Fachkolloquium Robotik



The introduction of highly automated systems in agriculture offers great potential for opportunities and possibilities.



Contact: Sebastian Dittmar
T: 0049/561 785 16911 , E: sebastian.dittmar@svlfg.de
www.svlfg.de



MACHINERY SAFETY AND NEW TECHNOLOGIES

Robotics and artificial intelligence are already widely used in industry. The agricultural sector is no exception, with computerisation already finding its place in tractor cabs and for monitoring livestock or crops. Now it is the turn of robots and exoskeletons to come into play. At first glance, the development of these new technologies for the agricultural sector appears to be conducive to reducing risks such as musculoskeletal disorders. However, these new tools can generate new risks and organisational constraints. If these are not anticipated prior to the installation of the new technology, they can become problematic for the company and its workers.

The introduction of new technologies in companies is therefore an ideal opportunity to question the work-as-done (WAD), as opposed to the work-as-imagined (WAI), so that they meet both the objectives of improving working conditions and those of company performance.

These technologies bring about real changes in work and how it is organised, in workers' jobs and skills, and in the conditions under which work is carried out, which need to be supported.

However, it has been observed that only the technical aspect is usually taken into account when companies choose new technologies. Since 2018, the French agricultural social protection system MSA has been involved in several studies and experiments on the impact of new technologies on agricultural work. It participated in a study on the impact of robotic milking on the quality of working life for farmers and their employees.

This study shows that one of the main motivations for purchasing a milking robot is to reduce the physical strain of the work or to keep people working. While the robot frees the farmer from milking duties, it creates other types of organisational and technological constraints. It can also increase mental stress, for example due to alerts received 24 hours a day or the difficulty of calmly interpreting the large amount of data generated by the robot.

Experiments conducted on the use of exoskeletons during milking have reached the same conclusion: while the tool can sometimes reduce physical strain, it increases the mental load associated with heightened vigilance when moving around and interacting with animals.



The appearance of harmful effects on workers' health necessitated the termination of the experiment. Between 2022 and 2024, MSA conducted several studies among farmers using exoskeletons (in viticulture, dairy cattle farming, etc.) and developed several tools for occupational health and safety services to support requests for exoskeletons from employees or farmers, in particular an institutional position paper on exoskeletons, a support process for their integration, with some key elements and warning points, and documentation for members. The approach is based on the current literature, professional practices in occupational health and safety and the specific characteristics of the agricultural sector. With a view to primary prevention, this methodology re-examines the acquisition project in terms of actual needs and desired objectives, and is based on a participatory approach involving the decision-maker and the end user, as well as sufficiently long tests in real working conditions. This work was presented in 2024 at the National Occupational Health Congress, at conferences at trade shows, and in webinars for partners in the agricultural sector.

These experimental support programmes show that it is necessary to take into account all aspects of the work: organisational, technical, human, financial, etc.

These studies and support programmes also provide opportunities for MSA to gain a better understanding of the complexity of agricultural activity, in order to design appropriate prevention measures.

In parallel with this initiative to introduce new technologies, in 2024, the MSA continued its awareness-raising activities on a risk that is far from new but shows no sign of abating. This risk is ejection and crushing in tractor accidents. In particular, since the sale of tractors capable of travelling at 50 km/h or more (since 2018), tractor accidents involving rollovers or collisions have claimed many victims, and it is essential to change practices and attitudes regarding a preventive measure as simple as fastening one's seat belt. It protects in the event of an impact and keeps the driver in the cab. It prevents him from being violently thrown against the steering column, as demonstrated in a crash test carried out four years earlier. This test showed that a head-on collision at 30 km/h in a tractor can be fatal for an unrestrained driver.

MSA's occupational health and safety services raise awareness (through press articles, videos, podcasts featuring testimonials, etc.) and support farmers and agricultural employers by studying the best technical solutions or seeking prevention solutions tailored to the business, in order to improve working conditions and prevent risks.

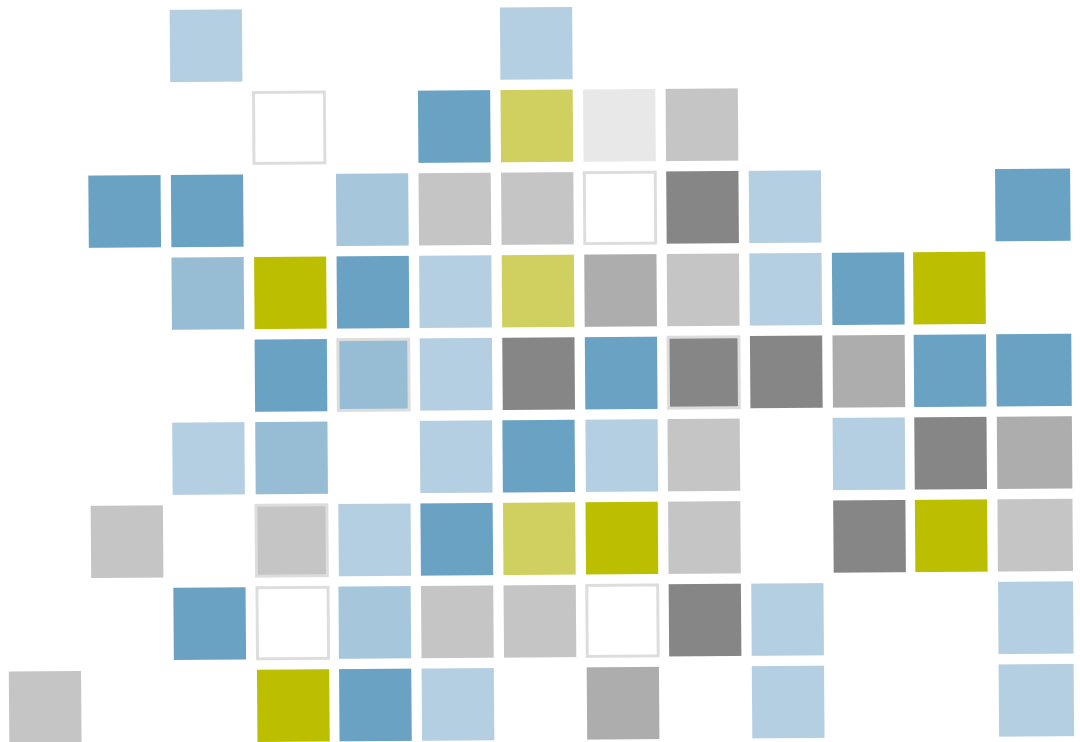
More information at: <https://ssa.msa.fr/a-propos/je-mattache-je-me-protège/>



Contact: Anne Roudot
T: +33 1 41 63 73 65, E: roudot.anne@ccmsa.msa.fr
www.msa.fr

ARE YOU INTERESTED IN PREVENTION IN AGRICULTURE?

JOIN OUR AGRICULTURE FAMILY!



The International Section of the ISSA on Prevention in Agriculture comprises ordinary and corresponding members.

The following entities may become **ordinary members** of the Section:

- affiliate and associate members of the International Social Security Association, as defined in Articles 5 and 6 of the ISSA Constitution;
- an institution, is part of a federation of institutions, government department, agency or other entity that is an affiliate or associate member of the ISSA;
- all organizations whose objectives are consistent with those described in Article 2 (of the Section's Standing Orders) and which are not qualified to become a member of the ISSA.

The following may become **corresponding members** of the Section:

- individuals as well as other interest groups, who are experts in occupational safety and health protection in agriculture, livestock farming, horticulture and forestry.

more information: www.issa.int/prevention-agriculture

INFORMATION

The International Section of the ISSA on Prevention in Agriculture brings together institutions and individuals who are engaged in the promotion of occupational safety and health in agriculture. It gives its members opportunities to exchange information and experience and seeks to provide practical solutions to specific issues.

www.issa.int/prevention-agriculture

Contact:

Agricultural Social Insurance Fund (KRUS),
al. Niepodległości 190, 00–608 Warszawa, Poland

Secretary General Ad Interim

Katarzyna Kamizelich-Sroka,

T: +48 22 592 65 92, E: agro.issa@krus.gov.pl

Secretariat

Ms Magda Wieczorkiewicz, T: +48 22 592 66 25, M: +48 519 319 054,

Ms Magdalena Szewczyk, T: +48 22 592 66 12, M: +48 519 319 066,

E: agro.issa@krus.gov.pl