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NUEVOS TRABAJOS PUBLICADOS

1. ANNALS OF AGRICULTURAL AND ENVIRONMENTAL MEDICINE

TÍTULO DEL TRABAJO	
Bioaerosol exposure by farm type in Korea (Exposición a bioaerosoles por tipo de granja en Corea)	
PUBLICADO EN:	Annals of Agricultural and Environmental Medicine, 2022, Volumen 29, Número 1, pp. 38-43
AUTORES:	Eun Young Kim; Jiyoung Han; Yun-Keun Lee; Won Kim; Soo-Jin Lee
DOI:	10.26444/aaem/144759
RESUMEN:	<p>Introduction and objective: Bioaerosols exist in almost every environment and are known to be risk factors for a variety of diseases. Agricultural work involves high exposure to bioaerosols and its workplace concentrations affect the surrounding areas. The study evaluates bioaerosol concentrations in agricultural workplaces and residential areas according to farm type.</p> <p>Material and methods: In 2013–2015, a total of 381 samples were collected for endotoxin and microbial testing from three farm types: open field, greenhouse, and livestock facilities. Endotoxins were measured using a 37-mm glass fire filter connected to an air pump calibrated to 2 LPM. Microorganisms were measured using a gelatin filter and impaction (single-stage Andersen sampler).</p> <p>Results: The concentration of endotoxins and microorganisms at the livestock facilities was significantly higher than in the open fields and greenhouses ($p < 0.05$). Among the livestock farms, the concentrations of endotoxins and gram-negative bacteria were highest at hog farms, and the concentrations of total bacteria and fungi were the highest in poultry houses. In both greenhouses and livestock facilities, the concentrations of bioaerosols were higher in the workplace than in a nearby residential area, and the difference in concentration was significantly greater in the case of livestock facilities.</p> <p>Conclusions: The concentrations of bioaerosols in agricultural workplaces and nearby residential areas were higher than in the control and general areas. Therefore, measures should be taken to prevent exposure to bioaerosols at agricultural workplaces and their vicinities.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizó la concentración de bioaerosoles en zonas de trabajo agrícola y en superficies residenciales cercanas. Se recogieron 381 muestras en invernaderos, campos e instalaciones de ganado. En estas tres zonas de trabajo agrícola la concentración de bioaerosoles fue superior que en la parte residencial. Se concluyó la necesidad de llevar a cabo medidas de prevención contra estas exposiciones.
TEMÁTICA	Exposición; Bioaerosoles

TÍTULO DEL TRABAJO	
Exposure to dust, endotoxins and microbes in Finnish vegetable greenhouses (<i>Exposición al polvo, endotoxinas y microbios en invernaderos de hortalizas finlandesas</i>)	
PUBLICADO EN:	Annals of Agricultural and Environmental Medicine, 2022, Volumen 29, Número 1, pp. 56-62
AUTORES:	Katri Suuronen; Pirjo Hölttä; Mika Korva; Milja Koponen
DOI:	10.26444/aaem/146725
RESUMEN:	<p>Introduction and objective: In Finland and other northern countries, vegetable greenhouse workers are exposed to airborne dust and microbes all year round. The aim of the study was to assess respiratory exposure to dust, endotoxins and microbes, and to identify the risk phases of respiratory and skin exposure to promote safe working methods.</p> <p>Material and methods: Work in greenhouses was observed and recorded in a structured form. 23 personal samples and eight stationary samples of dust, endotoxins and viable microbes were collected from eight tomato or cucumber greenhouses in Finland. Dust samples were analysed gravimetrically. Endotoxins were analysed on filters by chromogenic Limulus amoebocyte lysate assay. Microbes were collected on filters, incubated and counted in three different culture media. Eight additional stationary samples of microbes were collected on a six-phase impactor.</p> <p>Results: The greenhouses were generally clean and well organised, but skin protection was deficient. The median of personal dust exposure was 0.24 mg/m³: 0.21 mg/m³ in the tomatohouses and 0.62 mg/m³ in the cucumber greenhouses. The mean level of bacteria in the tomato houses was 2.7 × 10³ and in the cucumber houses 1.6×10⁴. Those of fungi were 3.6 × 10⁵ and 1.7 × 10⁵ on Hagem and 8.1 × 10⁵ and 1.9 × 10⁵ on DG-18, respectively. The microbes made up about 1/10 of these values in the stationary samples. Very low concentrations of endotoxins were found in 5/23 air samples.</p> <p>Conclusions: The clean appearance of the greenhouses was reflected in the low to moderate levels of dust. Risk phases of high exposure, such as lifting leaf debris, were identified. The microbe species were typical of this climate, and their levels were comparable to other greenhouse studies, but lower than in farming. Prevention among the foreign workforce is challenging due to the lack of a common language.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio evaluó la exposición a polvo, microbios y endotoxinas de trabajadores de invernaderos de Finlandia, dedicados al cultivo de tomate o pepino. Para ello, se tomaron muestras en trabajadores y muestras estacionarias, que fueron posteriormente analizadas. Los resultados mostraron que la piel no estaba bien protegida, pero los invernaderos en general estaban limpios, con niveles de polvo bajos y

	moderados. Labores como la recogida de hojas presentaban mayor riesgo.
TEMÁTICA	Exposición; Polvo, microbios y endotoxinas

TÍTULO DEL TRABAJO	
Assessment of hospitalizations of patients after intoxication with organophosphates used in agriculture (<i>Valoración de hospitalizaciones de pacientes tras intoxicación con organofosforados utilizados en la agricultura</i>)	
PUBLICADO EN:	Annals of Agricultural and Environmental Medicine, 2022, Volumen 29, Número 1, pp. 143-148
AUTORES:	Anna Katarzyna Orzeł; Wojciech Flieger; Dominika Szlichta; Barbara Terpiłowska; Michał Terpiłowski; Zbigniew Orzeł; Michał Tchórz; Jarosław Szponar
DOI:	10.26444/aaem/145769
RESUMEN:	<p>Introduction: Clinical manifestation of organophosphates toxicity may be differentiated and include cholinergic toxidrome, intermediate syndrome, OP-induced delayed polyneuropathy to chronic OP-induced neuropsychiatric disorder (OPIDN). Patients symptoms, along with decrease in cholinesterase serum level, determines the possible diagnosis of organophosphate poisoning.</p> <p>Objective: The aim of the study was to present the clinical manifestation and cholinesterase level changes in intoxication with organophosphorus compounds in patients.</p> <p>Material and methods: A data base was created by analysis of the hospital documents of 34 patients hospitalized due to organophosphate intoxication. Statistical analysis involved frequency tables with percentage values, the application of non-parametric Chi-square test and parametric t-Student test (with homogeneity of variance Levine test). The level of static significance was set to $p=0.05$.</p> <p>Results: In fatal hospitalizations (20.6%), cholinesterase level was significantly lower (265.87 U/l) than in other patients (4254.78 U/l; $p<0.05$). Similarly, levels of cholinesterase were decreased in group of patients with acute respiratory failure (999.79 U/l vs 4943.86 U/l in other patients; $p<0.05$), patients with multi-organ dysfunction syndrome (244.13 U/l vs 4914.89 U/l in other patients; $p<0.05$) and those with cardiac arrest (547 U/l vs 4636.25 U/l in other patients). A statistically significant difference was also observed in cholinesterase level of patients who required mechanical ventilation (548.17 U/l vs 5219.71 U/l in other group). The study revealed that 29.4% of poisonings were suicidal.</p> <p>Conclusions: The management of a patient with organophosphate poisoning remains challenging and requires continuous control. A significant step in the</p>

	diagnostic process is the assessment changes in both the clinical picture and cholinesterase level.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizaron los síntomas de pacientes por intoxicaciones con organofosforados utilizados en la agricultura. Se realizó una base de datos de 34 pacientes intoxicados y se analizaron los datos mediante estadística. Se concluyó que tratar a este tipo de pacientes sigue siendo complicado, por lo que es necesario un control constante.
TEMÁTICA	Exposición; Plaguicidas

2. ANNALS OF WORK EXPOSURES AND HEALTH

TÍTULO DEL TRABAJO	
Personal Solar Ultraviolet Radiation Exposure of Farmworkers: Seasonal and Anatomical Differences Suggest Prevention Measures Are Required <i>(Exposición personal a la radiación solar ultravioleta de los trabajadores agrícolas: las diferencias estacionales y anatómicas sugieren que son requeridas medidas de prevención)</i>	
PUBLICADO EN:	Annals of Work Exposures and Health, Enero 2022, Volumen 66, Número 1, pp. 41-51
AUTORES:	Karlien Linde; Caradee Yael Wright; Johannes Lodewykus du Plessis
DOI:	10.1093/annweh/wxab049
RESUMEN:	<p>Introduction Farmworkers are at risk of excess exposure to solar ultraviolet radiation (UVR) during their work activities, especially if they work in geographical areas with high ambient solar UVR levels such as in South Africa. Excess exposure to solar UVR may lead to several negative health effects such as certain cataracts and skin cancer. This study evaluated personal solar UVR exposure of a group of farmworkers to determine if they were at risk of health-related problems due to excess solar UVR exposure.</p> <p>Methods Polysulphone film (PSF) badges were placed on the shoulder, arm, and top of the head of outdoor and indoor farmworkers on a macadamia nut and avocado farm in the Limpopo province for the duration of their daily work shift to evaluate their total daily solar UVR exposure. Sixteen days were assessed for each of the three, high solar UVR seasons, i.e. autumn, spring, and summer.</p> <p>Results During autumn, farmworkers' arms received the highest solar UVR exposures (geometric mean (GM) = 7.8 SED, where 1 standard erythemal dose (SED) = 100 J/m², 95% CI 6.1–9.8 SED) while the highest exposures were on the top of the head during spring (GM = 11.6 SED, 95% CI 7.3–17.4 SED) and summer (GM = 13.9, 95% CI 10.4–17.9 SED). Statistically significant differences in solar UVR exposure were found between the body sites during spring and summer but not autumn.</p> <p>Conclusions The relatively high daily solar UVR exposure levels of farmworkers suggest this occupational group is at risk of excess solar UVR exposure and preventive measures with awareness information to safeguard health is necessary for employers and employees.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizó la exposición a la radiación solar ultravioleta en agricultores. Se empleó película de polisulfona colocada en diferentes partes del cuerpo del trabajador (hombro, brazo y cabeza) mientras realizaba su turno de trabajo completo. El estudio se realizó tanto al aire libre como en fincas con techo, dedicadas al aguacate y a la nuez de macadamia. Se realizó durante varios días en otoño, primavera y verano. Los resultados mostraron que la exposición solar más alta fue en los brazos en otoño y

	en la parte superior de la cabeza en primavera y verano. Las diferencias más importantes entre las zonas del cuerpo se encontraron en primavera y en verano. Se concluyó que esto es un riesgo para los trabajadores y que es necesario adoptar medidas preventivas.
TEMÁTICA	Exposición; Radiación solar ultravioleta

TÍTULO DEL TRABAJO	
Risk Estimates of Agricultural Injuries and Fatalities in Central India (<i>Estimaciones de riesgo de lesiones y muertes agrícolas en la India central</i>)	
PUBLICADO EN:	Annals of Work Exposures and Health, Marzo 2022, Volumen 66, Número 2, pp. 216-223
AUTORES:	Abhijit Khadatkar; Lokendra Singh Kot
DOI:	10.1093/annweh/wxab059
RESUMEN:	The purpose of the study was to describe the nature, magnitude, causes, and economic impact, and also to evaluate risk estimates of agricultural incidents occurring during 2012–2013 in Madhya Pradesh, India. The study was carried out in 360 villages in 9 districts of Madhya Pradesh namely Datia, Shivpuri, Balaghat, Barwani, Indore, Jhabua, Narshigpur, Satna, and Bhopal. A total of 92 793 agricultural workers participated in a survey of agricultural incidents. Of 21 agricultural incidents, 14% were fatal and 86% non-fatal in nature. The agricultural incident rates were 0.23/1000 agricultural worker per year and 0.2/1000 agricultural machines per year. The annual monetary loss due to deaths in agricultural incidents in Madhya Pradesh was estimated to be Rs. 16 935.4 lakhs. The economic loss due to agricultural incidents is more severe that resulted in significant loss to the workers due to absence from work. Hence, it is important to map down the cause and taking preventive measures to reduce the losses.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio tuvo como objetivo determinar el origen, importancia, causas, consecuencias económicos y riesgos de incidentes en la agricultura en Madhya Pradesh (India) entre 2012 y 2013. Se analizaron 360 aldeas y 92793 agricultores fueron encuestados. El 14% de los incidentes ocurridos fueron fatales, además de concluirse otros aspectos. Por tanto, se justificó la necesidad de identificar causas y adoptar medidas.
TEMÁTICA	Riesgos; Incidentes agrícolas

TÍTULO DEL TRABAJO	
The TRACTOR Project: TRACking and MoniToring Occupational Risks in Agriculture Using French Insurance Health Data (MSA) <i>(El proyecto TRACTOR: seguimiento y monitoreo de riesgos laborales en la agricultura utilizando datos médicos de seguros franceses)</i>	
PUBLICADO EN:	Annals of Work Exposures and Health, Abril 2022, Volumen 66, Número 3, pp. 402-411
AUTORES:	Pascal Petit; Delphine Bosson-Rieutort; Charlotte Maugard; Elise Gondard, Damien Ozenfant; Nadia Joubert; Olivier François; Vincent Bonneterre
DOI:	10.1093/annweh/wxab083
RESUMEN:	<p>Objectives A vast data mining project called 'TRACking and moniToring Occupational Risks in agriculture' (TRACTOR) was initiated in 2017 to investigate work-related health events among the entire French agricultural workforce. The goal of this work is to present the TRACTOR project, the challenges faced during its implementation, to discuss its strengths and limitations and to address its potential impact for health surveillance.</p> <p>Methods Three routinely collected administrative health databases from the National Health Insurance Fund for Agricultural Workers and Farmers (MSA) were made available for the TRACTOR project. Data management was required to properly clean and prepare the data before linking together all available databases.</p> <p>Results After removing few missing and aberrant data (4.6% values), all available databases were fully linked together. The TRACTOR project is an exhaustive database of agricultural workforce (active and retired) from 2002 to 2016, with around 10.5 million individuals including seasonal workers and farm managers. From 2012 to 2016, a total of 6 906 290 individuals were recorded. Half of these individuals were active and 46% had at least one health event (e.g. declared chronic disease, reimbursed drug prescription) during this 5-year period.</p> <p>Conclusions The assembled MSA databases available in the TRACTOR project are regularly updated and represent a promising and unprecedented dataset for data mining analysis dedicated to the early identification of current and emerging work-related illnesses and hypothesis generation. As a result, this project could help building a prospective integrated health surveillance system for the benefit of agricultural workers.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	El proyecto TRACTOR se desarrolló para evaluar la salud de los trabajadores del sector de la agricultura en Francia. Se vincularon a este proyecto bases de datos de los seguros de salud franceses de agricultores y se analizaron los datos para eliminar los que no eran útiles. De las personas registradas, la mitad estaban en activo y un 46% había tenido algún problema de salud. Se concluyó que con los datos que proporciona este proyecto de forma actualizada es posible investigar las enfermedades laborales para detectarlas antes y crear un sistema de vigilancia de la salud de los agricultores.
TEMÁTICA	Seguridad y salud en el trabajo

3. APPLIED ERGONOMICS

TÍTULO DEL TRABAJO	
Prediction of slaughterhouse workers' RULA scores and knife edge using low-cost inertial measurement sensor units and machine learning algorithms (<i>Predicción de las puntuaciones de RULA de los trabajadores del matadero utilizando unidades de sensor de medición inercial de bajo coste y algoritmos de aprendizaje automático</i>)	
PUBLICADO EN:	Applied Ergonomics, Enero 2022, Volumen 98, Número de artículo 103556
AUTORES:	Adolfo Villalobos; Alejandro Mac Cawley
DOI:	10.1016/j.apergo.2021.103556
RESUMEN:	The high prevalence of work-related musculoskeletal disorders (WRMSDs) has been a concern in the meat-processing industry, owing to the manual nature of the work and the high upper-limb and neck exposure to movements that can lead to WRMSD. The ability to perform an accurate and fast assessment of WRMSDs remains a challenge in industrial environments. Most assessment methodologies rely on standard survey-based methods, which are time- and labor-intensive. In this paper, we present an application of inertial measurement units (IMUs) to measure human activity, and the use of artificial intelligence and machine learning techniques to perform task classification and ergonomic assessments in workplace settings. We present the results obtained by using simple low-cost IMUs worn on slaughterhouse worker wrists to capture information on their movements. We describe the use of this information to detect the risk factors of the wrists/hands that can lead to WRMSDs. The results indicate that by using low-cost IMU-based sensors on the wrists of slaughterhouse workers, we can accurately classify the sharpness of the knife and predict the worker RULA score.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	En el procesamiento de carne es frecuente que los trabajadores sufran trastornos musculoesqueléticos. Este estudio utilizó unidades de medición inercial de bajo coste colocadas en las muñecas de los trabajadores de esta industria para obtener información de los movimientos que realizaban y así conocer los factores de riesgo que conducían a dichos trastornos.
TEMÁTICA	Trastornos musculoesqueléticos

TÍTULO DEL TRABAJO	
Development and evaluation of attachable anti-vibration handle (<i>Desarrollo y evaluación de un mango antivibración acoplable</i>)	
PUBLICADO EN:	Applied Ergonomics, Enero 2022, Volumen 98, Número de artículo 103571
AUTORES:	Jashwant Thota; Eunsik Kim; Andris Freivalds; Kyongwon Kim
DOI:	10.1016/j.apergo.2021.103571
RESUMEN:	Blueberry production has skyrocketed in the past two decades due to an exponential increase in consumer demand around the world. Hand harvesters are used, avoiding damage to the fruit and increasing harvesting efficiency multifold when compared with that of hand-picking. The downside of these hand harvesters is their high Hand Arm Vibration (HAV), which is very dangerous for the worker and can cause hand-arm vibration syndrome (HAVS). The aim of this study is to propose a spring-based anti-vibration handle that can be attached to vibrating equipment (blueberry hand harvester). Four different parameters were measured for the developed spring-based handles: hand arm vibration, wrist posture, muscle activity, and subjective discomfort rating. Results have shown that the use of a spring-based handle can reduce HAV by 61.1%, which is within the exposure limit values (ELV) defined by the European Union.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	En el cultivo de arándanos se emplean cosechadoras manuales que provocan una gran vibración mano-brazo y que por tanto suponen un peligro para el trabajador. En este estudio se desarrolló un mango antivibración formado por un resorte que es posible acoplar en dicha cosechadora. Se midieron varios parámetros (posición de la muñeca, actividad muscular, etc.) empleando este tipo de mangos. Los resultados mostraron que se reducía en un 61,1% la vibración mano-brazo.
TEMÁTICA	Mejoras en el trabajo; Mango antivibración

TÍTULO DEL TRABAJO	
Machine learning methods for electromyography error detection in field research: An application in full-shift field assessment of shoulder muscle activity in apple harvesting workers <i>(Métodos de aprendizaje automático para la detección de errores de electromiografía en la investigación de campo: una aplicación en la evaluación de campo de turno completo de la actividad muscular del hombro en trabajadores de la cosecha de manzanas)</i>	
PUBLICADO EN:	Applied Ergonomics, Enero 2022, Volumen 98, Número de artículo 103607
AUTORES:	Ornwipa Thamsuwan; Peter W. Johnson
DOI:	10.1016/j.apergo.2021.103607
RESUMEN:	This study presented an alternative technique for processing electromyography (EMG) data with sporadic errors due to challenges associated with the field collection of EMG data. The application of this technique was used to detect errors, clean and optimize EMG data in order to characterize and compare shoulder muscular load in farmworkers during apple harvesting in a trellised orchard. Surface EMG was used to take measurements from twenty-four participants in an actual field work environment. Anomalies in the EMG data were detected and removed with a customized algorithm using principal component analysis, interquartile range cut-off and unsupervised cluster analysis. This study found significantly greater upper trapezius muscle activity in farmworkers who used a ladder as compared to the alternative platform-based method where a team of mobile platform workers harvested apples from the tree tops and a second separate team of ground workers harvested apples from the tree bottoms. By comparing the unprocessed and the processed, anomaly-free EMG data, the robustness of our proposed method was demonstrated.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se desarrolló una técnica para el procesamiento de datos de electromiografía basada en detectar errores y mejorarlos. En concreto se aplicó para analizar la carga muscular del hombro de agricultores dedicados a la cosecha de manzana. Se tomaron datos de 24 trabajadores. Los resultados indicaron que la carga muscular era mayor en agricultores que empleaban una escalera que en los que utilizaban una plataforma móvil. Además, se compararon los datos procesados con esta técnica con los que no lo estaban, demostrando los beneficios de su aplicación.
TEMÁTICA	Electromiografía; Procesamiento de datos

4. AUSTRALIAN JOURNAL OF RURAL HEALTH

TÍTULO DEL TRABAJO	
Understanding and addressing psychological distress experienced by farmers, from the perspective of rural financial counsellors <i>(Comprender y abordar la angustia psicológica experimentada por los agricultores, desde la perspectiva de los asesores financieros rurales)</i>	
PUBLICADO EN:	Australian Journal of Rural Health, Febrero 2022, Volumen 30, pp. 34-43
AUTORES:	Kate M. Gunn; Donna Hughes-Barton
DOI:	10.1111/ajr.12815
RESUMEN:	<p>Objective To explore rural financial counsellors' experiences interacting with psychologically distressed farmers and identify contextually appropriate methods to maintain their own well-being and link farmers to psychological supports, within their existing roles.</p> <p>Setting Rural, regional and remote Australia.</p> <p>Participants Fifty rural financial counsellors participated. They worked across 6 Australian states/territories.</p> <p>Design Individual semi-structured telephone interviews were audio-recorded with consent. Qualitative data were analysed using thematic analysis. Themes were identified using an essentialist, bottom-up approach.</p> <p>Results Forty-six themes emerged relating to the 5 topics explored: (a) how to recognise distress in farmers (eg inability to focus/make decisions, deterioration in presentation/organisation, anger, blaming); (b) impact of farmers' psychological distress on the financial case management process (eg slows, disrupts or stops it, negatively impacts counsellor well-being); (c) strategies for working effectively with distressed farmers (eg flexibility, open-ended questions, listening to story, simplicity, instilling hope); (d) referral of distressed farmers to psychological support (eg willing if tried themselves/positive reports, lack of local rural face-to-face services, stigma and lack of understanding of importance challenging, a farming focus and support from family/ community assists); and (e) strategies to maintain their own well-being (eg compartmentalising, exercise, supervision).</p> <p>Conclusion Rural financial counsellors play an important role by recognising signs of distress in farmers and referring them to appropriate psychological supports. However, this is a demanding role and ensuring counsellors have appropriate services to refer farmers to, and support with their own well-being, is imperative.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizó la experiencia de los asesores financieros rurales en contacto con agricultores que no se encontraban bien psicológicamente. Participaron 50 asesores en 6 territorios diferentes y emplearon entrevistas por teléfono. Se identificaron 46 temas relacionados con los 5 investigados: reconocer su malestar psicológico, determinar cómo afecta al proceso de gestión financiera, cómo trabajar con estos agricultores, derivar a apoyo psicológico en caso necesario y buscar formas de lograr su bienestar. Se concluyó que los asesores tienen un papel relevante al identificar el malestar en los trabajadores y derivarlos a ayuda psicológica.
TEMÁTICA	Bienestar trabajadores; Malestar psicológico

5. ERGONOMICS

TÍTULO DEL TRABAJO	
Work exposures and mental and musculoskeletal symptoms in organic farming (<i>Exposiciones laborales y síntomas mentales y musculoesqueléticos en la agricultura ecológica</i>)	
PUBLICADO EN:	Ergonomics, Febrero 2022, Volumen 65, Número 2, pp. 242-252
AUTORES:	Tiina E. A. Mattila; Merja Perkiö-Mäkelä; Maria Hirvonen; Birgitta Kinnunen; Minna Väre; Risto H. Rautiainen
DOI:	10.1080/00140139.2021.1974102
RESUMEN:	This study focussed on harmful exposures and mental and musculoskeletal symptoms in organic and conventional farming using interview data of Finnish farmers over the winter of 2014–2015. The data consisted of 2,169 full-time farmers, out of whom 231 (11%) practiced organic farming and 1,938 (89%) conventional farming. Exposure to poisonous and irritating substances was less frequent while exposures to vibration and mould ('smell of root cellar') were more frequent on organic farms. Mental and musculoskeletal symptoms were slightly more common among organic farmers, but the associations were not statistically significant in regression modelling. Risk factors for mental symptoms included animal production, hired labour, female gender, constant hurry, working alone, economic uncertainty, and inadequate recovery from workdays. Risk factors for musculoskeletal symptoms included older age, female gender, constant hurry, economic uncertainty, difficult working postures, heavy lifting and carrying, and inadequate recovery. Workload and recovery, managing the transition period and better follow-up of the occupational well-being were identified as concerns among organic farmers.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se realizaron entrevistas a agricultores de Finlandia en el invierno de 2014-2015. Participaron 2169 trabajadores, dedicándose el 11% a la agricultura orgánica y el porcentaje restante a la agricultura convencional. El objetivo era estudiar las exposiciones perjudiciales, los trastornos musculoesqueléticos y mentales en trabajadores de ambos tipos de agricultura. Los resultados mostraron, entre otros aspectos, que las exposiciones a vibraciones y moho y el desarrollo de trastornos musculoesqueléticos y mentales eran más comunes en los trabajadores de agricultura orgánica. Además, se identificaron los factores de riesgo para los dos tipos de trastornos.
TEMÁTICA	Seguridad y salud en el trabajo; Trastornos musculoesqueléticos y mentales

6. INDUSTRIAL HEALTH

TÍTULO DEL TRABAJO	
Work strain and thermophysiological responses in Norwegian fish farming — a field study (<i>Tensión laboral y respuestas termofisiológicas en la piscicultura noruega: un estudio de campo</i>)	
PUBLICADO EN:	Industrial Health, 2022, Volumen 60, pp. 79-85
AUTORES:	Mariann Sandsund; Øystein Wiggen; Ingunn M. Holmen; Trine Thorvaldsen
DOI:	10.2486/indhealth.202
RESUMEN:	Abstract: Fish farming is considered as a physical demanding occupation, including work operations with high workloads and awkward work positions for prolonged periods of time. Combined with potential challenging environmental conditions, these factors may negatively affect work performance, comfort and health. This study aimed to explore work strain and thermophysiological responses in Norwegian fish farming. Fourteen workers (age 35 ± 15 yrs) from four fish farms participated in the field studies, and measurements of heart rate (HR), core- and skin temperatures were registered continuously during a work shift. Questions about subjective thermal sensation and comfort were answered. This study has shown that workers at fish farms are periodically exposed to high or low levels of work strain, where the high workloads are manifested as increased core temperature and HR when working. The results are expected to give a better understanding of work strain and environmental challenges during fish farm operations.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizó la tensión laboral y respuestas termofisiológicas de 14 trabajadores de piscifactorías en Noruega. Había trabajadores con edades comprendidas entre los 15 y 35 años, de 4 piscifactorías diferentes. Se hizo un seguimiento de su frecuencia cardíaca y de sus temperaturas en un turno de trabajo. Se realizaron algunas preguntas sobre el confort y la sensación térmica. Los resultados mostraron que estos trabajadores tenían niveles altos y bajos de tensión laboral de forma periódica. Las cargas de trabajo elevadas les provocaban mayor temperatura y frecuencia cardíaca.
TEMÁTICA	Seguridad y salud en el trabajo; Tensión laboral

7. INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY AND ERGONOMICS

TÍTULO DEL TRABAJO	
Chainsaw operators' exposure to occupational risk factors and incidence of professional diseases specific to the forestry field (<i>Exposición de los operadores de motosierras a factores de riesgo laboral e incidencia de enfermedades profesionales propias del campo forestal</i>)	
PUBLICADO EN:	International Journal of Occupational Safety and Ergonomics, 2022, Volumen 28, Número 1, pp. 8-19
AUTORES:	Marius D. Iftime; Adela-Eliza Dumitrascu; Valentina D. Ciobanu
DOI:	10.1080/10803548.2019.1703336
RESUMEN:	<p>Purpose. This article focuses on detailed studies regarding the analysis of occupational risk factors on health and occupational disease, namely, the influence of noise, hand–arm vibration, wet bulb globe temperature (WBGT) index and exposure to particulates. Methods. This study measured the equivalent acoustic level (LAeq), daily vibration exposure (A(8)), WBGT index and particulate concentration in the respirable area of the worker. The inferential analysis consisted of the application of specific statistical methods: a probability plot with 95% confidence interval, the Anderson–Darling statistic and 87th percentile estimation. A sample of 107 chainsaw operators was medically evaluated, out of which 30 workers were suspected of having professional pathologies and were hospitalized in the university clinic. Results. The measurements highlight: exceeding the legal limit for noise exposure; 13% of cases exceeding the limit of 2.5 m/s² for hand–arm vibration; dust exposure generally within legal limits; WBGT shows the thermal stress of the workers. Following the medical evaluation, osteomusculoskeletal disorders (25.23%), Raynaud's syndrome (0.93%) and bilateral hearing loss (3.74%) were identified. Conclusions. Analysis of the levels of exposure to the risk factors, the typology and the incidence of occupational diseases requires the need to adopt new preventive measures.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizaron factores de riesgo laboral como el ruido, vibración mano-brazo, exposición a partículas y temperaturas mediante mediciones y un posterior análisis estadístico. Participaron 107 trabajadores de motosierras, contando 30 de ellos con una posible enfermedad profesional. Los resultados mostraron, entre otras cosas, que se superaba el nivel de ruido legal, que los trabajadores sufrían estrés térmico, que el 13% de los trabajadores superaban un cierto límite de vibración y que la exposición a polvo estaba dentro de los niveles permitidos. Era necesario desarrollar medidas de prevención,
TEMÁTICA	Riesgos

8. JOURNAL OF AGROMEDICINE

TÍTULO DEL TRABAJO	
Health Behavior Resources Available to Farmers in Rural Ohio (<i>Recursos de comportamiento de salud disponibles para los agricultores en las zonas rurales de Ohio</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 7-14
AUTORES:	Emilee A. Drerup; Jill F. Kilanowski; S. Dee Jepsen; Patricia Brinkman; Sonia Duffy
DOI:	10.1080/1059924X.2021.1893882
RESUMEN:	Poor health habits correlate with morbidity and mortality. Rural communities often have decreased access to prevention programs and health care. As a state highly dependent on agriculture, this study identifies rural health services for Ohio farmers. This cross-sectional, descriptive study surveys key informants in Ohio at rural health clinics, critical access hospitals, health departments, Ohio State University (OSU) Extension offices, migrant clinics, and Federally Qualified Health Centers about the types of services available to address eight health behaviors. Key informants were invited via email and U.S. Postal Service to complete an electronic survey. After service types were identified, additional information to describe format, barriers to delivery and perceived importance of the service was asked. Of Ohio's 75 rural counties, 51 counties are represented in the data by at least one participating organization. Nutrition/healthy eating-related health services are provided most often by organizations (95.8%) and sleep services were least often reported (49.5%). The other health behaviors services (sun/UV exposure, physical activity, mental health, tobacco cessation, alcohol/substance abuse, and opioid abuse) fell in-between. Organizations are most likely to offer health education resources in print or web-based format across all health behaviors except for sleep, where social media promotion are the most common. The largest barrier to providing any type of health service is a lack of personnel. Providing health behavior services to farmers and farm families is important for improving their overall health. Documenting available services will assist the rural health community in future collaborative wellness projects.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Esta investigación se basó en identificar los servicios de salud disponibles para agricultores en Ohio. Para ello, se realizaron encuestas sobre los servicios existentes en clínicas, hospitales, centros de salud, etc. También se recogió otra información. Se concluyeron diferentes aspectos, entre ellos que el mayor inconveniente para ofrecer servicio de salud es la escasez de trabajadores. Estos servicios son necesarios para la mejora de la salud de los agricultores.
TEMÁTICA	Seguridad y salud en el trabajo; Información

TÍTULO DEL TRABAJO	
Farmer Mental Health in the US Midwest: Key Informant Perspectives (<i>Salud mental de agricultores en el medio oeste de EE. UU.: Perspectivas de informantes clave</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 15-24
AUTORES:	Carrie Henning-Smith; Andrew Alberth; Andrea Bjornestad; Florence Becot; Shoshanah Inwood
DOI:	10.1080/1059924X.2021.1893881
RESUMEN:	In this study, we seek to illuminate: (1) the ways farm service providers and mental health professionals understand the drivers of farm stress, (2) the strategies, challenges, and opportunities farm service providers and mental health professionals identify for supporting the mental health needs of farm families, and; (3) opportunities for future research and outreach to improve the mental health of farmers in the U.S. Midwest region. We obtained qualitative data from a series of semi-structured key informant interviews with 19 subject matter experts, using content analysis to identify themes across four domains: main challenges, unique impacts by subpopulation, coping strategies, and interventions and recommendations. The key informants we interviewed identified a variety of acute and chronic stressors, including several that are structural, rather than individual and interpersonal, and which lie outside of the control of farmers themselves. They also highlighted diversity within farm populations by socio-demographic and farm characteristics as well as positive and negative coping strategies, with negative being more common. For interventions and recommendations, they stressed the importance of education on mental health, improving access to care, and addressing root causes of stress. While farmer stress is well-documented, less is known about the perspectives of farm service professionals and mental health providers who care for them. The insights from this study add important information on how to best support the immediate and long-term mental health needs of farmers and farm families in the U.S. Midwest and beyond.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio se centró en analizar el estrés y la salud mental de agricultores de una región de Estados Unidos. Se realizaron entrevistas a 19 personas expertas en el tema y se determinaron numerosos factores de estrés, algunos de ellos no controlables por los trabajadores. Se concluyó la necesidad de la formación sobre salud mental, la mejora de la atención y la identificación de las causas que provocaban el estrés.
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

TÍTULO DEL TRABAJO	
A Qualitative Approach to Understanding Grain Bin Entry Decisions by Youth (Un enfoque cualitativo para comprender las decisiones de entrada a los contenedores de granos por parte de los jóvenes)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 25-34
AUTORES:	Kayla N. Walls; Gretchen A. Mosher
DOI:	10.1080/1059924X.2021.1895014
RESUMEN:	<p>Youths – defined as children under the age of 18 – are frequently involved in agricultural work. Parental assignment, briefing, and supervision of hazardous farm tasks have an influence on youth safety, yet many youths are injured or killed performing these tasks. This research utilized a qualitative approach to analyze why youths choose to make hazardous decisions regarding grain bin entry and factors that played a role in youths’ decisions. Because we know that youth are working on the farm, the study’s objective was to examine the parent-youth relationship to determine the conditions under which youth would follow or refuse their parents’ orders. Ten students who attended a Midwestern land-grant institution were interviewed. Interviewees had experience working inside grain bins, were highly involved in their family farming operations while under 18 years old, and worked under frequent parental supervision. Interviewees shared conditions where they followed their parents’ orders even when they knew the task was unsafe. Moreover, participants indicated when they would refuse orders from parents. Findings showed that the primary source of agricultural safety knowledge came from the interviewees’ parents. Interviewees did not necessarily demonstrate a “blind trust” in their parents, as they were not willing to follow all orders they were asked to complete. However, all interviewees indicated that their parents would not ask them to do anything unsafe. Many barriers to farm safety were emphasized by the interviewees, which may contribute to youths choosing to make hazardous decisions regarding grain bin entry under some conditions. The research implications are emphasized relative to youth safety outcomes on family farms.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Hay jóvenes (menores de 18 años) que suelen trabajar en el sector agrícola y pueden estar expuestos a riesgos para su seguridad. Este estudio quiso analizar el motivo por el que los jóvenes toman decisiones peligrosas al realizar una tarea concreta, entrada a contenedores de grano en granjas, y cuáles son las causas que influyen en esas decisiones. Para ello, se entrevistó a jóvenes con experiencia en este tipo de trabajo y que lo realizaban siendo supervisados por sus padres. Se concluyó que los jóvenes seguían las recomendaciones de sus padres, aunque la tarea no fuera segura y que en otras ocasiones no hacían caso a estas. Aunque indicaron que nunca les ordenaban tareas inseguras. La principal vía de información sobre seguridad en agricultura venía de los padres de estos jóvenes. Por otra parte, resaltaron muchos inconvenientes en la seguridad de la granja, lo que tenía como consecuencia que a veces se tomaran decisiones peligrosas para la tarea.</p>
TEMÁTICA	Seguridad y salud en el trabajo; Jóvenes

TÍTULO DEL TRABAJO	
Nonfatal Agricultural Injuries Treated in Emergency Departments: 2015-2019 (<i>Lesiones agrícolas no fatales tratadas en departamentos de emergencia: 2015-2019</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 41-50
AUTORES:	Serap Gorucu; Judd Michael; Kelly Chege
DOI:	10.1080/1059924X.2021.1913271
RESUMEN:	<p>Utilizing emergency department admissions to estimate and describe agricultural injuries in the United States (U.S.) provides a unique view of one of the country's most dangerous occupations. This study characterizes and provides nationally representative estimates of persons with non-fatal agricultural-related injuries treated in emergency departments in the U.S.</p> <p>We conducted a cross-sectional study using U.S. Consumer Product Safety Commission, National Electronic Injury Surveillance System (NEISS) data for patients treated in emergency departments from January 1, 2015 to December 31, 2019. We queried all cases in the NEISS database using the location code "farm" and with a narrative search using relevant key words.</p> <p>An estimated 62,079 people were treated in an emergency department for agricultural related injuries. The mean age estimate in this population was 39 years-old, with ages ranging from 1 to 95. Almost two-thirds of patients were male, and almost 80% were white. Approximately 30% and 22% of those injured were youth and elderly patients, respectively. The majority of injuries occurred from April through September. The most common injury was fracture, followed by open wound or amputation. There were significant differences between the body parts injured in youth versus adult patients. The primary source of injury was in the vehicles category, with tractors being the dominant vehicle type. Agricultural vehicles remain a major source of injuries that require treatment in emergency departments. Previous methods of quantifying severe ag-related injuries were limited; our research utilized NEISS data to portray injury statistics more accurately.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se realizó un estudio en el que se utilizaron los datos del NEISS (National Electronic Injury Surveillance System) de Estados Unidos para estimar las personas que habían sufrido lesiones en el sector de la agricultura y que habían sido tratadas en departamentos de emergencia (desde 2015 hasta 2019). En total 62079 personas tuvieron lesiones en este sector que se atendieron de emergencia. Se obtuvieron muchas conclusiones con este estudio, siendo algunas de ellas que las fracturas fueron las consecuencias más comunes y que la mayoría de lesiones se producían por el uso de tractores.</p>
TEMÁTICA	Accidentes o lesiones laborales; Vehículos agrícolas

TÍTULO DEL TRABAJO	
A Scoping Review of Safety and Health Interventions in the High-Risk Dairy Industry: Gaps in Evidence Point to Future Directions in Research <i>(Una revisión de alcance de las intervenciones de seguridad y salud en la industria láctea de alto riesgo: las brechas en la evidencia apuntan a direcciones futuras en la investigación)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 51-63
AUTORES:	Maryellen Driscoll; Deborah Dalton; Paul Jenkins; Pamela Tinc; Dennis Murphy; David I. Douphrate; Peter Lundqvist; Michael Pate; Cecilia Lindahl; Anna Meyerhoff; Erika Scott; James Carrabba; G. Robert Hagevoort; Julie Sorensen
DOI:	10.1080/1059924X.2020.1837703
RESUMEN:	The occupational injury rate of the dairy industry (6.6 per 100 full-time workers) is twice that of the national average across all industries (3.3 per 100 full-time workers). While dairy farms are becoming larger in size and fewer in number, this rate has not changed. A scoping review was conducted to identify published reports of occupational safety interventions in the dairy industry. An additional criterion was that the study included an evaluation of the intervention. Out of 22 articles that met the first criterion (discussion of interventions specific to the dairy industry), 19 met the second of having an evaluative component. These 19 articles corresponded to 16 unique studies, because 4 articles corresponded to the same study. Of the 16 unique studies, only 3 had a comparison of treatment vs. control effects, and none measured the impact of the intervention on injuries and fatalities. Of the 16 interventions, 6 were focused on training or informational campaigns in which the evaluations primarily measured knowledge acquisition. Additionally, none of these studies had a sufficient sample size to compare injury rates as an outcome. Our study demonstrates that the literature lacks any rigorous evaluation of whether dairy safety interventions are making an impact on injury prevention. Given this, it is not possible to determine how work-related injuries and deaths can be prevented in the dairy industry. Recommendations for future research include incorporating rigorous evaluation into research designs and attempting to develop low-cost, unobtrusive methods for collecting data on intermediate and final outcomes.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Las lesiones en trabajadores de la industria láctea son muy comunes. Se realizó una revisión bibliográfica en la que se seleccionaron publicaciones sobre intervenciones de seguridad en el trabajo y la evaluación de estas, llevadas a cabo en este tipo de industrias. Se encontraron 16 estudios únicamente, de los cuales 6 por ejemplo se centraban solamente en formación. Por tanto, se concluyó que existe una escasez de información para determinar si las intervenciones que se han desarrollado previenen la aparición de lesiones.
TEMÁTICA	Accidentes o lesiones laborales; Industria láctea

TÍTULO DEL TRABAJO	
Occupational Safety and Health Education Experience and Prevention Service Needs among South Korean Farmers: A National Survey <i>(Experiencia en educación sobre seguridad y salud en el trabajo y necesidades de servicios de prevención entre los agricultores de Corea del Sur: una encuesta nacional)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 64-74
AUTORES:	Kyungsu Kim; Hyocher Kim; Dongphil Choi; Hyeongyeong Lee; Insoo Kim; Wonjong Choi
DOI:	10.1080/1059924X.2021.1879700
RESUMEN:	<p>Objective Objective data on farmers' awareness of occupational safety and health are needed for the development of national policy measures. Yet, relevant research is lacking in South Korea.</p> <p>Methods This study investigated occupational safety and health education experience, perceived needs for prevention services, and factors affecting these among South Korean farmers. The data are from a personal-visit survey conducted on 9,970 sample farms nationwide.</p> <p>Results While 69.9% of the farmers felt the need for agricultural health and safety education and 60.6% were willing to receive it, only 30.3% had at least one educational experience. A total of 51.9% felt the need for professional on-farm services. By group, education experience and perceived need for prevention services were consistently low among women, people aged 70 or older, low-income individuals, or farmers with a farming career duration of less than five years. Experience of safety and health education increased the desire for other prevention services: people who had received safety and health education were 6.4 times more likely to feel the need for education, 5.5 times more willing to participate in education, 2.0 times more likely to feel the need to improve their work environments, and 1.7 times more likely to feel the need for professional on-farm services.</p> <p>Conclusion Despite the high desire for injury prevention services, farmers have had very limited opportunities to receive safety education; measures are also needed for groups whose safety education has been neglected. Further studies on education methods and on-farm services tailored to South Korean farmers are needed.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizó la formación relacionada con seguridad y salud de los agricultores en Corea del Sur, la necesidad de servicios de prevención y los factores que afectaban. Para ello, se encuestó a agricultores de 9970 granjas del país. Algunos resultados mostraron que el 69,9% de los trabajadores necesitaban formación en seguridad y salud en agricultura y que más de la mitad necesitaban servicios de prevención.
TEMÁTICA	Seguridad y salud en el trabajo

TÍTULO DEL TRABAJO	
<p>A Cross-Sectional Analysis of Physical Activity Patterns, Aerobic Capacity and Perceptions about Exercise among Male Farmers in the Mid-West Region of Ireland <i>(Un análisis transversal de los patrones de actividad física, la capacidad aeróbica y las percepciones sobre el ejercicio entre agricultores masculinos en la región del medio oeste de Irlanda)</i></p>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 87-97
AUTORES:	Trisha M. Loughman; Gerard T Flaherty; Ailish Houlihan; Denise Dunne
DOI:	10.1080/1059924X.2021.1879699
RESUMEN:	<p>In Ireland, farmers have been identified as a high-risk population, with higher rates of cardiovascular disease (CVD) and overall mortality, compared with the general population. Farming has always been considered a physically active lifestyle. However, in recent times, with the increased use of technology and machinery, farmers may not be completing as much physical activity as before. There is a lack of research on physical activity patterns, fitness, and perception about exercise among farmers. Physical activity patterns were assessed using ActivPAL₃ micro monitors for a duration of 7 consecutive days. Aerobic capacity was measured using a validated sub-maximal exercise test to calculate Metabolic Equivalent Task (MET) levels. The Exercise Benefits and Barriers Scale (EBBS) questionnaire was used to explore perceived benefits and barriers towards exercise. Farmers completed a mean (standard deviation) of 16,452 (5,170) steps and 124 (43) minutes of moderate-vigorous intensity physical activity (MVPA) daily. The volume of weekly MVPA was largely accumulated in bouts lasting <10 minutes, with only 17.89% completing bouts of ≥10 minutes. Daily sitting time was 8.26 hours. Farmers are fit, have positive perceptions about exercise, and complete large quantities of physical activity, but not in a CVD protective pattern. CVD risk can be reduced in this population by encouraging them to sit less and engage in MVPA in bouts of ≥10 minutes, in line with current guidelines.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Las tareas de los agricultores siempre han demandado trabajo físico, aunque con los avances en tecnología y el uso de maquinaria es posible que esta actividad física esté disminuyendo. En este estudio se analizó la actividad física, capacidad aeróbica y la percepción sobre el ejercicio de agricultores en Irlanda mediante mediciones y un cuestionario. Se concluyó que los agricultores están en forma, tienen buenas percepciones acerca del ejercicio y siguen realizando actividad física frecuentemente, aunque todo esto no lo protege de sufrir enfermedades cardiovasculares, por lo que se establecen algunas recomendaciones.</p>
TEMÁTICA	Seguridad y salud en el trabajo; Trabajo físico

TÍTULO DEL TRABAJO	
Work-related Symptoms and Asthma among Fish Processing Workers (<i>Síntomas relacionados con el trabajo y asma entre trabajadores de procesamiento de pescado</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 98-105
AUTORES:	Anna Dahlman-Höglund; Eva Andersson
DOI:	10.1080/1059924X.2020.1834481
RESUMEN:	<p>After observing several clinical patients with respiratory symptoms, we initiated a questionnaire survey to assess prevalence of and predictors for asthma and work-related symptoms among workers in fish processing plants. A questionnaire with items on work conditions, work-related symptoms, and respiratory symptoms/diseases was sent to 916 fish processing workers, the 1836 licenced fishermen in Sweden, and 1965 controls; of those, 43%, 57%, and 53%, respectively, responded. Risks, hazard ratios (HRs), and prevalence ratios (PRs) were calculated with Cox regression, and 95% confidence intervals (CIs) were computed. The risk of asthma among fish filleting workers was increased during the years working in the fish processing industry when compared to the other fish processing workers and controls (HR 3.6, 95% CI 1.6–8.1, adjusted for atopy, gender, and ever smoking). The filleters had an increased PR for most of the work-related respiratory symptoms investigated. All fish processing workers had a higher PR for flu-like symptoms. Use of a pressure sprayer was identified as a risk for asthma and respiratory symptoms among both fish processing workers and controls. Filleters had changed work tasks because of respiratory symptoms more often (Fisher's exact test, $p = 0.02$) than other fish processing workers. In conclusion the fish filleters and pressure sprayer users reported more adult asthma and cough with phlegm compared to the other fish processing workers and controls. The use of pressure sprayers must be reduced and machinery should be completely encased to reduce workers' exposure to bioaerosols and its effects on the respiratory tract.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se realizó un cuestionario sobre enfermedades respiratorias, condiciones y síntomas derivados del trabajo a varios grupos de trabajadores relacionados con el sector pequero. Algunas conclusiones fueron la necesidad de disminuir la utilización de rociadores a presión en la planta de procesamiento de pescado, por ser un riesgo de desarrollar asma y enfermedades respiratorias. Además, la maquinaria debía estar cubierta para disminuir la exposición a bioaerosoles por parte de los trabajadores.</p>
TEMÁTICA	Exposición; Enfermedades respiratorias

TÍTULO DEL TRABAJO	
Socio-Demography, Working Conditions, and Musculoskeletal Ailments among Pineapple Farmers in Northeast India <i>(Sociodemografía, condiciones de trabajo y enfermedades musculoesqueléticas entre los productores de piña en el noreste de India)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 245-257
AUTORES:	Hijam Jiten Singh; Sougata Karmakar
DOI:	10.1080/1059924X.2021.1920529
RESUMEN:	<p>This study was conducted to examine the socio-demography, working conditions, and consequential musculoskeletal ailments of pineapple farmers in northeast India. A total of 152 pineapple farmers (92 males and 60 females) participated in the study. Data were collected using a pre-tested structured schedule and a standard Nordic questionnaire through personal interviews followed by direct observation. Chi-square (χ^2) analysis and multiple logistic regression were conducted using SPSS software 16.0 to explore the association of various independent factors and their influences on the musculoskeletal symptoms (MSS) scores. The study revealed that a majority (>85%) of the pineapple farmers in northeast India had low to medium annual income, with more than 95% of the farmers belonging to small and marginal categories. Moreover, MSS were highly prevalent among the farmers (79.61%), and the low-back (76.32%) was the most affected body part. The results of the Chi-square (χ^2) analysis highlighted that age, education level, and farming experience were significantly associated ($p < 0.05$) with the prevalence of overall MSS among the pineapple farmers. Among the factors, only age and gender significantly influenced the risk of complaints for the farmers' neck (OR = 6.62, 95% CI: 1.29–34.02, $p \leq 0.05$) and low back (OR = 2.54, 95% CI: 1.00–6.47, $p \leq 0.05$). This study's findings demonstrated the need for the urgent exploration of sustainable and innovative interventions to reduce the occurrence of MSS and improve the working conditions of the pineapple farmers in northeast India.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se investigó la sociodemografía, los trastornos musculoesqueléticos y condiciones de trabajo de productores de piña en India. Para ello, se recogieron datos mediante observación, cuestionario, etc. a un total de 152 trabajadores. La mayoría de ellos contaban con ingresos bajos o medios al año y más del 95% provenían de categorías marginales. Los trastornos musculoesqueléticos eran muy frecuentes en estos trabajadores, siendo la zona lumbar la más perjudicada. Se requerían medidas para disminuir el desarrollo de trastornos musculoesqueléticos y para la mejora de las condiciones de trabajo.</p>
TEMÁTICA	Trastornos musculoesqueléticos

TÍTULO DEL TRABAJO	
Factors Associated with Musculoskeletal Discomfort in Farmers and Ranchers in the U.S. Central States <i>(Factores asociados con molestias musculoesqueléticas en agricultores y ganaderos en los estados centrales de EE. UU.)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 232-244
AUTORES:	Yi Du; Lorena Baccaglini; Anthony Johnson; Jagadeesh Puvvula; Risto H Rautiainen
DOI:	10.1080/1059924X.2021.1893880
RESUMEN:	Agricultural work involves ergonomic and psychosocial strain, which contribute to musculoskeletal conditions. The aim of this study was to assess if specific ergonomic, psychosocial, and preventive factors are linked to musculoskeletal pain or discomfort symptoms (MSS) in farmers and ranchers. We analyzed data from the Central States Center for Agricultural Safety and Health survey that was conducted in 2018 in a seven-state region of the central United States. MSS were assessed with questions from the Standardized Nordic Questionnaire. The survey included questions on demographic, ergonomic, psychosocial and preventive factors. Farm production variables were added from the Farm Market iD database. We analyzed the data using Generalized Estimating Equations. The overall prevalence of MSS for all body sites combined was 59% among 4,354 farmers and ranchers who responded (19% response rate). After controlling for age, sex, and operator status, three factors (high stress level, sleep deprivation, and exhaustion/fatigue) showed the strongest associations with MSS in any body site, with adjusted odds ratios (OR) ranging from 4.8 to 5.6. Forceful exertions, repetitive tasks, awkward postures, frequent manual labor, and vibration were also significantly associated with MSS, with adjusted ORs ranging from 1.8 to 3.3. Recommended preventive techniques were not protective for MSS. New effective strategies are needed to reduce the high burden of musculoskeletal outcomes among farmers and agricultural workers.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	El objetivo de este estudio consistió en determinar si los factores psicosociales, ergonómicos y preventivos tenían relación con los trastornos musculoesqueléticos en trabajadores de la agricultura y ganadería. Se utilizó el cuestionario nórdico estandarizado y se analizaron datos existentes de seguridad y salud en agricultura. Un 59% de los trabajadores sufrían trastornos musculoesqueléticos. Factores como un elevado nivel de estrés, falta de sueño y fatiga entre otros fueron los más relacionados con la aparición de estos trastornos. Se concluyó la necesidad de adoptar medidas preventivas.
TEMÁTICA	Trastornos musculoesqueléticos

TÍTULO DEL TRABAJO	
Outcomes of Participatory Ergonomics and Self-management in Commercial Clam Farmers with Chronic Low Back Pain: A Feasibility Study <i>(Resultados de la ergonomía participativa y el autocontrol en criadores comerciales de almejas con dolor lumbar crónico: estudios de viabilidad)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 217-231
AUTORES:	Kim Dunleavy; Andrew Kane; Ashleigh Coffman; Jacob Reidy; Mark D. Bishop
DOI:	10.1080/1059924X.2021.2004961
RESUMEN:	<p>Purpose: Participatory ergonomics engages workers in the development of strategies to reduce workplace-related pain, offering a flexible and practical option to create individualized context-specific strategies. This paper describes the outcomes of a feasibility study using a participatory approach for self-management of low back pain in clam farmers. Methods: A within-subject time-control design with repeated baseline and post-intervention assessment was used. After refining individual and team-based strategies, stakeholder interviews, and rapid prototyping, workers selected three strategies to use for 8 weeks. Frequency and ease of use for strategies are described. Pre-post paired t-tests were used for analysis of pain-related disability, difficulty and pain with work tasks, pain-related fear, self-efficacy, and coping. Analysis of improvements exceeding published and individual variability was calculated. Results: Participants chose both team and individual strategies, most using strategies 5 days a week >50% of the time. Significant improvements in pain-related disability, pain during specific tasks, pain-related anxiety, and coping were seen after 8 weeks of implementing strategies. No changes in task difficulty, fear, self-efficacy and average resting pain were reported. Pain improvements > MDC95 were reported by 74% with 56–64% > personalized MDC95 for lifting tasks. Conclusions: Pain-related disability, work activity pain ratings and related pain anxiety and coping improved beyond individual variability in this feasibility study. Multiple strategies allowed workers to choose relevant self-management options. Introduction of work-related changes in the workplace, visual demonstration, review of team videos and reminders were helpful. Further studies of this approach are needed.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se realizó un estudio mediante ergonomía participativa para el autocontrol del malestar lumbar en trabajadores de criaderos de almejas. Tras entrevistas y otra serie de procedimientos, los trabajadores escogieron tres estrategias para utilizar en 8 semanas. Se eligieron tanto estrategias individuales como en equipo. Se determinaron mejoras en el dolor que sufrían tras el período de tiempo en el que se llevaron a cabo.
TEMÁTICA	Seguridad y salud en el trabajo; Estrategias

TÍTULO DEL TRABAJO	
Designing a Model via Grounded Theory to Reduce Agricultural Work Injury among Orchardists in Ilam Province <i>(Diseño de un modelo a través de la teoría fundamentada para reducir las lesiones laborales agrícolas entre los horticultores en la provincia de Ilam)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 207-216
AUTORES:	Farideh Parak; Alireza Poursaeed; Roya Eshraghi-Samani; Hamed Chaharsoughi-Amin
DOI:	10.1080/1059924X.2021.1900971
RESUMEN:	The present study aimed to design a model to reduce agricultural work injury among orchardists in Ilam Province, Iran. This was a qualitative research study that used grounded theory to analyze data. The study included 25 specialists, managers, and experts of horticulture in Ilam Province who were selected through purposive sampling. Field observations and interviews in the form of focus groups were used for collecting data. The results were extracted from the research data through the coding process (open, axial, and selective) in the form of concepts, subcategories, and categories using MAXqda12. The paradigm model included causal, contextual and intervening conditions, strategy, and consequences. The results indicated that several causal conditions can affect work injury in agriculture. These were identified as vulnerability level, personal characteristics of orchardists, subsistence level, general health, climatic conditions, and academic qualifications. Contextual conditions also included categories like trends, occupational safety and health principles, infrastructure, government support, and government incentives. Meanwhile, intervening conditions were identified as structural, educational-research factors, economic criteria, regulation and development of marketing horticultural and greenhouse products, type of exploitation system, and orchardists' motivation. Finally, reducing agricultural work injuries among orchardists involved the multi-faceted identification of various aspects of production and education, along with technical, operational, executive, and supervisory management strategies. Reducing the number of agricultural work injuries among orchardists would lead to regional, economic, individual, and social benefits. The results helped researchers to identify what areas to address and mitigate safety issues of horticultural activities in Ilam.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	El objetivo de este estudio fue el diseño de un modelo para disminuir las lesiones en los trabajadores de la horticultura en Ilam, Irán. Se recogió información mediante observación y entrevistas. Los resultados mostraron la existencia de varios grupos de condiciones que podían influir en el desarrollo de lesiones en trabajadores del sector de la agricultura. Algunos ejemplos fueron sus características personales, formación académica, apoyo gubernamental, motivación de los agricultores, etc. Los resultados podían ser útiles para saber que problemas investigar para evitar estas lesiones.
TEMÁTICA	Accidentes o lesiones laborales; Horticultura

TÍTULO DEL TRABAJO	
Coccidioidomycosis Knowledge and Behaviors of California Hispanic Farm Workers (<i>Conocimiento de la coccidioidomycosis y comportamiento de los trabajadores agrícolas hispanos de California</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 197-206
AUTORES:	Carol L Sipan; Catherine Portillo-Silva; Heejung Bang; Stephen McCurdy
DOI:	10.1080/1059924X.2021.2002223
RESUMEN:	(1) Describe knowledge, attitudes, beliefs, and behaviors related to coccidioidomycosis (Valley fever, VF) reported by farm workers in a highly endemic area to design and evaluate prevention messages and (2) identify health information sources preferred by farm workers to disseminate VF prevention messages. There were 119 primarily Mexican-born residents of two migrant farm labor housing centers in Kern County, who completed an interviewer-administered survey on VF knowledge, attitudes, beliefs, and behaviors in 2017. The 73% of participants aware of VF demonstrated a knowledge score of 53%. Over 90% erroneously believed VF was associated with pesticide exposure; approximately two-thirds believed that wearing a bandana mask was protective. Over half of respondents believed that VF was contagious, could be contracted from contaminated food or water, and caused gastrointestinal symptoms. Of those aware of VF, 75% expressed concern about becoming infected because of where they lived and working outdoors. Working outdoors in dusty conditions was the most commonly reported risk-associated work practice. Among 67 participants reporting use of respiratory protection, 94% indicated they wear a bandana; most male participants did not wear face coverings in dusty conditions. The most frequent protective work practice was wetting soil. Preferred sources of health information included television; family, friend, or co-worker; healthcare provider; and radio. Farm workers reported multiple risk factors for VF. Results identified several areas of poor knowledge, risk behavior, and preferred channels of prevention messages. Important protective behaviors are not under the control of farm workers; engagement with employers is essential.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	El objetivo de esta investigación fue analizar el conocimiento de los agricultores sobre la coccidioidomycosis (fiebre del valle) y conocer las fuentes de información sobre salud más empleadas por estos trabajadores con el fin de informar sobre la prevención de esta infección. Se encuestó a 119 personas sobre este tema. Los resultados indicaron muchos aspectos diferentes, entre ellos que más del 90% pensaban incorrectamente que la fiebre del valle se debía a la exposición a pesticidas. El trabajo con polvo al aire libre fue determinado como un riesgo principal de esta infección. Lo más común como medida protectora era mojar el suelo. Los canales de información más empleados fueron la televisión, la radio, la familia, etc.
TEMÁTICA	Exposición; Polvo

TÍTULO DEL TRABAJO	
Heat Stress and Kidney Function in Farmworkers in the US: A Scoping Review (Estrés por calor y función renal en trabajadores agrícolas en los EE. UU.: una revisión de alcance)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 183-192
AUTORES:	Daniel J Smith; Lisa M Pius; Laura C Plantinga; Lisa M Thompson; Valerie Mac; Vicki S Hertzberg
DOI:	10.1080/1059924X.2021.1893883
RESUMEN:	Chronic kidney disease of unknown etiology (CKDu) has been well described in farmworkers in Latin America. Agricultural workers in the United States (US) are exposed to similar hot and humid working conditions, but CKDu in the US is under-described. This review aims to better understand the current literature describing the connection between heat stress and kidney function in farmworkers in the United States. Utilizing a scoping review methodology, we searched CINAHL, Embase, PubMed, and Web of Science databases to better understand the current state of the heat stress and kidney function research in farmworkers within the United States. In this review, 229 pieces of literature were screened. Ultimately, 4 articles were chosen to be included in the scoping review. Common themes within the articles were variations in study protocol lengths and type of heat stress measurement. Additionally, the majority of the work completed was quantitative to date, with only one study providing a critical social lens for analysis of CKDu in the United States. We found evidence that more work is needed within the US to understand the relationship between working in the heat and kidney function in agricultural and other workers who experience high heat conditions at work and are susceptible to the deleterious effects of working in said conditions.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio se trata de una revisión de la bibliografía para conocer la relación entre el estrés por calor y la función renal de agricultores de Estados Unidos. Se utilizaron las bases de datos CINAHL, Embase, PubMed y Web of Science. Se revisaron 229 publicaciones y se seleccionaron 4. Se concluyó que era necesaria más información para determinar la relación anteriormente mencionada.
TEMÁTICA	Seguridad y salud en el trabajo

TÍTULO DEL TRABAJO	
Latino/a Farmworkers' Concerns about Safety and Health in the Pennsylvania Mushroom Industry <i>(Preocupaciones de los trabajadores agrícolas latinos sobre la seguridad y la salud en la industria de hongos de Pensilvania)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 169-182
AUTORES:	Kathleen Sexsmith; Effie E. Palacios; Maria Gorgo-Gourovitch; Ilse A. Huerta Arredondo
DOI:	10.1080/1059924X.2021.1935374
RESUMEN:	<p>The purposes of this study were to analyze Latino/a immigrant mushroom workers' perceptions of how the workplace environment shapes occupational safety and health, examine whether and how those perceptions differ by gender, and identify future areas for research on occupational safety and health in the mushroom industry. Researchers conducted structured interviews with 15 women and 45 men on 6 Pennsylvania mushroom farms to obtain their descriptions and perspectives of safety and health risk factors in their workplaces. Approximately one third of respondents had suffered an injury at work, and nearly half felt that there are workplace factors that affect their health and safety. The study found that Latino/a mushroom farmworkers perceive risks that are posed by the indoor infrastructure of mushroom production houses, including poorly maintained wooden walkways and cool indoor temperatures, and by the organization of mushroom production work, including the application of chemicals including pesticides, physical demands of the job, use of small knives, contact with compost, and the piece rate payment system. Workers commonly discussed back pain and believed it was associated with the organization of work. Women in the sample were more likely to be concerned about slips and falls than men and less likely to be concerned about aches and pains. Mushroom farm infrastructure and the specific demands of the jobs pose occupational safety and health risks to Latino/a farmworkers that merit further study to develop adequate public health interventions. Future research should obtain gender-disaggregated objective reports of injury, aches and pains, and discomfort and test for relationships between these reports and the indoor infrastructure and conditions of mushroom production work.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se llevaron a cabo entrevistas a varios trabajadores (45 hombres y 15 mujeres) de seis granjas de hongos en Pensilvania, con el fin de conocer sus percepciones sobre los riesgos de seguridad y salud en el trabajo. Prácticamente un tercio de los participantes habían desarrollado alguna lesión causada por el trabajo y cerca de la mitad percibían la existencia de riesgos como temperaturas bajas, organización del trabajo, uso de pesticidas, exigencias físicas, etc. Además, los resultados mostraron que en las mujeres era más frecuente la preocupación por caídas o resbalones y en los hombres por molestias o dolores. Eran necesarias más investigaciones para nuevas intervenciones en el ámbito de la seguridad y salud.</p>
TEMÁTICA	Seguridad y salud en el trabajo

TÍTULO DEL TRABAJO	
Economic Stress, Family Distress, and Work-Family Conflict among Farm Couples (<i>Estrés económico, angustia familiar y conflicto trabajo-familia entre parejas campesinas</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 154-168
AUTORES:	Justin M. Sprung
DOI:	10.1080/1059924X.2021.1944417
RESUMEN:	Despite recognition that farming has substantial economic uncertainty, few recent studies have investigated how economic stress may impact the family dynamic among family farmers. This study sought to address this gap in the literature by examining both personal and global economic stress as a predictor of family distress and work-family conflict among a sample of farm couples. Participating in the study were 217 husband-wife dyads (434 individuals) in which farming was the primary occupation of the husband. A cross-sectional survey design was used to assess economic stress, family distress, and work-family conflict. Spouses completed separate online surveys to ensure independent responding. Both individual (spillover) and dyadic (crossover) effects were examined. Results demonstrated farmers' personal economic stress was positively related to individual and spousal family distress. Furthermore, family distress was a mediator of the relationship between personal economic stress and work-family conflict for both farmers and their spouses. In sum, economic stress is an important variable to consider when examining the work-family interface of farm couples. Moreover, personal economic stress had a larger impact on family distress and work-family conflict than global economic stress. By providing a better understanding of the family mechanisms by which economic stress may impact farm couples, it is hoped the current results can be used to assist in the development and application of mental health resources for farm families.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio analizó el estrés económico personal y global para determinar la angustia familiar y el conflicto entre el trabajo y la familia. Los participantes fueron 217 parejas, siendo la agricultura el trabajo principal del marido. Se utilizó una encuesta que cada miembro de la pareja rellenaba de forma independiente. Se concluyó que el estrés económico podía afectar a estas parejas y que sería conveniente promover la salud mental entre las familias del sector de la agricultura.
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

TÍTULO DEL TRABAJO	
Agricultural Cooperatives in Mental Health: Farmers' Perspectives on Potential Influence (<i>Cooperativas agrícolas en salud mental: perspectivas de los agricultores sobre la Influencia potencial</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 143-153
AUTORES:	Yanni Liang; Brandi Janssen; Carri Casteel; Matthew Nonnenmann; Diane S. Rohlman
DOI:	10.1080/1059924X.2021.2004962
RESUMEN:	Agricultural cooperatives are formed to promote farmers' economic, social, and legislative interests. Their role in influencing mental health is less known. We characterized farmers' experiences with cooperatives and identified the potential impact of cooperatives in promoting mental health. Semi-structured interviews were conducted in Wisconsin with 12 participants, including farmers, cooperative professionals, and agricultural extension educators. Participants were asked about stress among farmers; cooperative structures and services provided to farmers, and farmers' interactions with the cooperatives; and the role cooperatives play in reducing stress among farmers. Three main themes were developed: stress farmers were experiencing, available resources from cooperatives, and the role of cooperatives in promoting farmers' mental health. Stress farmers were experiencing was elucidated through the subthemes: increased stress, depression, and suicide and stressors involving finances, occupational pressure, relationships, isolation, and loneliness. Available resources from cooperatives were described in subthemes: cooperative characteristics, services, and engagement activities. The role of cooperatives in promoting farmers' mental health was discussed through subthemes: responder, community, facilitator, and divergent views on whether co-ops can protect farmers' mental health. Cooperatives provide members market stability, services, and opportunities for decision-making, social interaction, and civic engagement. These resources create a community where farmers feel a sense of belonging and retain a level of control. As rural communities continue to struggle with mental health resource shortages, identifying and evaluating community-based resources such as those offered by the cooperatives is imperative.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	El objetivo de este estudio fue analizar las cooperativas agrícolas y su papel en la promoción de la salud mental. Se llevaron a cabo entrevistas a 12 personas, algunos agricultores, otros profesionales de cooperativas y otros educadores relacionados con la agricultura. Las preguntas se basaban en el estrés sufrido por agricultores, función de las cooperativas, etc. Se concluyó que las cooperativas proporcionaban a los trabajadores recursos como: oportunidades para tomar decisiones, estabilidad en el mercado, etc.
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

TÍTULO DEL TRABAJO	
Weather, Workload and Money: Determining and Evaluating Sources of Stress for Farmers in Ireland <i>(Clima, carga de trabajo y dinero: determinación y evaluación de las fuentes de estrés para los agricultores en Irlanda)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 132-142
AUTORES:	Mary Brennan; Thia Hennessy; David Meredith; Emma Dillon
DOI:	10.1080/1059924X.2021.1988020
RESUMEN:	The demands of modern farming can place substantial stress upon the farmer, adversely impacting their wellbeing. This study identifies both the prevalence of stress and assesses the demographic, farm, and social characteristics that impact the incidence of stress. We report the results of a survey of a nationally representative sample of farm enterprises in Ireland undertaken in association with the Teagasc National Farm Survey (NFS) in 2018, which saw 736 questionnaires completed by farm operators. Frequency analysis is used to report the primary sources and prevalence of stress. A probit model is developed identifying and quantifying the factors that impact the incidence of stress. There were 57% of farmers who reported experiencing stress resulting from their farm work. Key sources of stress included “poor weather”, (47%), “workload” (32%) and “financial” concerns (28%). The results of the probit model establish that the effect of age on the incidence of stress is significant, positive, and non-linear, indicating as farmers get older they are more likely to experience stress but at a declining rate. Operating a sheep farm system, as opposed to any other type of farm system, reduces the probability of stress. Working off-farm also reduces the probability of stress by 0.097, other things being equal. The findings highlight variance in the levels of stress reported by farmers by age and farm system, and consequently, the need to develop targeted supports that take consideration of differences within the population of farmers and farm enterprises.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Esta investigación se basa en determinar el estrés y las características que afectan a este en los agricultores. Se pasó una encuesta a 736 agricultores. El 57% de los trabajadores informaron que sufrían estrés debido a su trabajo. Los factores de estrés más relevantes fueron el mal tiempo, la carga de trabajo y las preocupaciones de origen financiero. También se demostró que el estrés variaba en función de la edad de los agricultores y del tipo de sistema agrícola.
TEMÁTICA	Seguridad y salud en el trabajo; Tensión laboral

TÍTULO DEL TRABAJO	
Addressing Farm Stress through Extension Mental Health Literacy Programs (Abordar el estrés agrícola a través de programas de extensión de alfabetización en salud mental)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 124-131
AUTORES:	Courtney Cuthbertson; Cheryl Eschbach; Gwyn Shelle
DOI:	10.1080/1059924X.2021.1950590
RESUMEN:	Agricultural producers have worse mental health than the general population, and often have limited access to mental health providers. Educational programs can strengthen knowledge of mental health including warning signs of stress and suicide, as well as assist individuals in developing communication skills and help-seeking behaviors. Cooperative Extension, the nation's academic outreach unit provided by land-grant universities, has a long history of providing agricultural education programs in the United States; this article describes the expansion of such programs to include mental health education for farmers and agricultural stakeholders in Michigan. Evaluation results of two programs developed by Michigan State University Extension demonstrate the programs are effective in improving understanding of agricultural economic trends, impacts of stress on the body, and warning signs of suicide among agricultural producers and stakeholders. Community-based education increases the capacity for mental health literacy programs to reach distressed farmers.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Los problemas de salud mental en agricultores son frecuentes, sin embargo, apenas cuentan con recursos en este ámbito. Los programas educativos agrícolas aportan conocimientos sobre la salud mental, advierten sobre problemas como el estrés y el suicidio, promueven la forma de buscar ayuda y proporcionan habilidades para la comunicación de las personas. Este estudio expuso la extensión de programas de este tipo en Michigan destinados a agricultores y partes interesadas. Se realizó un análisis de dos programas desarrollados y se demostró la efectividad de estos.
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

TÍTULO DEL TRABAJO	
<p>“Farmers Aren’t into the Emotions and Things, Right?”: A Qualitative Exploration of Motivations and Barriers for Mental Health Help-Seeking among Canadian Farmers <i>("A los agricultores no les gustan las emociones y las cosas, ¿verdad?": Una exploración cualitativa de las motivaciones y las barreras para la búsqueda de ayuda en salud mental entre los agricultores canadienses)</i></p>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 2, pp. 113-123
AUTORES:	Briana N. M. Hagen; Alex Sawatzky; Sherilee L. Harper; Terri L. O’Sullivan; Andria Jones-Bitton
DOI:	10.1080/1059924X.2021.1893884
RESUMEN:	<p>Working in agriculture has been associated with an increased prevalence of psychological distress and mental health concerns. Farmers are also less likely than non-farmers to seek-help for their mental health. Previous research examining help-seeking among farmers has focused predominantly on male farmers, and has not included many of the Canadian agricultural commodity groups or provinces. The goal of this study was to explore perceptions of farmer help-seeking for mental health amongst farmers and people who work with farmers. The study objectives were to characterize the motivations and barriers to help-seeking behaviours. Semi-structured interviews were conducted with 75 farmers and individuals who work with farmers in Ontario, Canada, between 2017 and 2018. Interviews were conducted in person, and by telephone when needed. Topics of discussion included farming stresses and their impacts; personal well-being; agricultural crises and mental health help-seeking; use of mental health supports; motivators and barriers to help-seeking; and perceived ideals for mental health supports. Thematic analysis was conducted collaboratively by three authors using inductive and deductive coding. Our analysis resulted in five themes around help-seeking motivations and barriers: 1) Accessibility of mental health supports and services; 2) Stigma around mental health in the agricultural community; 3) Anonymity and/or lack of anonymity in seeking support; 4) Farm credibility; and 5) Recommendations for implementing mental health services for the agricultural community. This study provides insights around how farming culture and the accessibility and delivery of services may influence help-seeking for mental health, and proposes strategies to break down barriers to help-seeking in this population.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se analizaron las motivaciones y los obstáculos en la búsqueda de ayuda para salud mental de los agricultores y otras personas que trabajaban con ellos. Se entrevistaron en total a 75 personas en Canadá, en los años 2017 y 2018. Los ámbitos tratados en estas entrevistas eran el estrés en agricultura, el bienestar del trabajador, las crisis en agricultura y varios aspectos relacionados con la búsqueda de ayuda en salud mental. Se propusieron medidas para acabar con los obstáculos que impedían la búsqueda de ayuda a estos trabajadores.</p>
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

9. JOURNAL OF SAFETY RESEARCH

TÍTULO DEL TRABAJO	
Promoting farming sustainability: The effects of age, training, history of accidents and social-psychological variables on the adoption of on-farm safety behaviors <i>(Promoviendo la sostenibilidad agrícola: Los efectos de la edad, formación, historial de accidentes y variables socio-psicológicas en la adopción de comportamientos de seguridad en la finca)</i>	
PUBLICADO EN:	Journal of Safety Research, Febrero 2022, Volumen 80, pp. 371-379
AUTORES:	Federica Caffaro; Michele Roccato; Giulia de Paolis; Margherita Micheletti Cremasco; Eugenio Cavallo
DOI:	10.1016/j.jsr.2021.12.018
RESUMEN:	<p>Introduction: Occupational safety and health (OSH) have a remarkable impact on the sustainability of firms and organizations. However, the sustainability perspective has often focused primarily on environmental and economic concerns, leaving key social and workplace aspects, such as OSH, underemphasized. The link between all these aspects is particularly relevant in agriculture. Method: In the present study we analyzed the paths by which the worker's age, participation in safety training, and previous history of accidents and near misses can influence the adoption of safety behaviors in agriculture through the mediation of attitudes towards safety and perceived behavioral control. Three hundred and ten Italian agricultural operators were administered an ad-hoc questionnaire. Results: Having attended safety training courses, having been exposed to previous accidents and near misses, and age showed a positive association with the adoption of on-farm safety behaviors, through the mediation of perceived behavioral control. In more detail, participation in training courses and age showed a positive association with perceived behavioral control, while the previous history of accidents and near misses showed a negative association with behavioral control. In turn, perceived behavioral control was positively associated with the adoption of safety behaviors. Conclusions: The present study focused on the chain of events leading to the adoption of on-farm safety behaviors, which can prevent an accidents, pointing out the more critical variables and the level at which they intervene, identifying possible areas of targeted interventions. Practical applications: Implications for the development of targeted interventions may deal with: (a) training activities increasing farm operators' sense of control over their safety, (b) older farmers involvement in mentoring initiatives, and (c) systematic recording and use of previous history of accidents and near misses as inputs for training activities to discuss their implications for on-farm safety.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se investigó cómo diferentes características de los agricultores afectaban a la hora tomar medidas relacionadas con la seguridad durante sus trabajos. Se realizó un cuestionario a 310 agricultores de Italia. La edad, la realización de formaciones y haber sufrido algún accidente estaban asociados con la adopción de medidas de seguridad en este sector.
TEMÁTICA	Seguridad en el trabajo; Factores

10. SAFETY SCIENCE

TÍTULO DEL TRABAJO	
Facilitators and barriers to implementing occupational safety interventions in the fishing industry: A scoping review (<i>Facilidades y obstáculos para implementar intervenciones de seguridad en el trabajo en la industria pesquera: una revisión de alcance</i>)	
PUBLICADO EN:	Safety Science, Enero 2022, Volumen 145, Número de artículo 105512
AUTORES:	Sheila Siame; Despena Andrioti Bygvraa; Olaf Chresten Jensen
DOI:	10.1016/j.ssci.2021.105512
RESUMEN:	<p>Background High fatality rates among fishermen have characterized the fishing industry for decades. Several safety interventions have been implemented, with considerable decline in fatalities in some countries. However, statistics suggest that global rates are still high. In addition, little is known regarding factors that support or hinder the implementation of these interventions.</p> <p>Objective To explore, synthesize and analyze factors influencing the implementation of safety interventions in the fishing industry.</p> <p>Methods In accordance with the scoping review methodology, an extensive search of articles reporting on factors influencing implementation of safety interventions was conducted in PubMed, CINAHL, Embase, Scopus and grey literature. The Social Ecological Model was used as a guiding framework for mapping and analysis of results.</p> <p>Results The search identified 618 articles with 12 meeting the inclusion criteria. The key facilitators included knowledge, management commitment, collaborative practices, supportive policies and enforcement of regulation. The key barriers included low risk perception, lack of time, inadequate skills, cultural and social norms, lack of support, high compliance cost, lack of harmonization of regulations, inadequate enforcement guidelines, lack of funding and weak coordination.</p> <p>Conclusion The review highlighted that there is limited literature on factors affecting the implementation of safety interventions on most of the levels of the Social Ecological Model. There is need for extensive global research to fully understand what enables and impedes the implementation of safety interventions, as lack of attention to exploring these factors will result in non-reduction of fatalities. An effort to meet the UN's 17 global goals for sustainable development in fishing will be impossible. Furthermore, future knowledge translation should focus on the identified facilitators and barriers.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se estudiaron y analizaron los factores que afectaban en la aplicación de prácticas de seguridad en la industria pesquera. Se hizo una revisión de la bibliografía buscando publicaciones en diversas bases de datos centradas en este tema. Se encontraron 618 artículos, pero solamente 12 cumplieron las condiciones establecidas. Se identificaron algunas facilidades para implementar intervenciones de seguridad en el trabajo como el conocimiento, políticas de apoyo, prácticas de colaboración, etc. Como obstáculos destacaron una baja percepción del riesgo, escasez de tiempo, poco apoyo, etc. Se concluyó que se necesita más investigación sobre estos factores debido a que la información existente no es muy extensa.
TEMÁTICA	Seguridad en el trabajo; Factores

11. SAFETY AND HEALTH AT WORK

TÍTULO DEL TRABAJO	
Health Risk of Potato Farmers Exposed to Overuse of Chemical Pesticides in Iran (<i>Riesgo para la salud de los productores de patata expuestos al uso excesivo de plaguicidas químicos en Irán</i>)	
PUBLICADO EN:	Safety and Health at Work, Marzo 2022, Volumen 13, Número 1, pp. 23-31
AUTORES:	Mojtaba Sookhtanlou; Mohammad Sadegh Allahyari; Jhalukpreya Surujlal
DOI:	10.1016/j.shaw.2021.09.004
RESUMEN:	<p>Background Potato is the main crop of Ardabil Plain (accounting for one-fifth of potato production in Iran). Its health hazard risk to farmers is rising due to the increasing rate of pesticide use. The present study analyzes potato farmers' health hazard risk in the use of chemical pesticides.</p> <p>Methods The rate of pesticide use by farmers (n = 370) was first compared with the recommended dosage (on pesticide label). Then, a composite index was employed to estimate the health hazard risk of farmers during pesticide use, and the variables accounting for pesticide overuse and nonoveruse were analyzed. Safety behavior was examined in four steps, namely of pesticide purchase and storage, preparation, application, and postapplication.</p> <p>Results It was found that 74.6 percent of potato farmers used pesticides in higher concentrations than the recommended dosage. The higher average rate of pesticide use versus recommendation (label instruction) was related to Chlorpyrifos and Trifluralin, and the highest average health hazard risk among farmers was related to the use of Chlorpyrifos and Metribuzin. Farmers with a higher risk of health hazard displayed much lower safety behavior than the other farmers at all steps of pesticide use.</p> <p>Conclusion The most important variables discriminating the health hazard risk of farmers' overuse included health behavior identity, attitude, knowledge and awareness, and cues to action. Therefore, using social media, holding local exhibitions, and engaging local leaders and skilled farmers in the region to improve farmers' attitudes and health behavior identity toward the dangers of chemical pesticides can play a significant role in motivating farmers' display of overuse preventive behaviors.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>El objetivo de este estudio fue determinar el riesgo del uso de plaguicidas para la salud de los agricultores de patata. Se estudió si estos trabajadores empleaban estos productos según la recomendación proporcionada por la etiqueta. Se estimó también el riesgo para la salud del trabajador durante la utilización de este. Se analizó la seguridad en todo el proceso con el producto: compra, almacenamiento, preparación y aplicación. Los resultados mostraron que un 74,6% de los agricultores utilizaban plaguicidas con concentraciones más elevadas a las recomendadas. Los trabajadores que tenían más riesgos para su salud realizaban menos prácticas de seguridad en relación al uso de plaguicidas. Se determinó que era necesario promover medidas preventivas para estos agricultores.</p>
TEMÁTICA	Exposición; Plaguicidas