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Junta de Andalucía
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NUEVOS TRABAJOS PUBLICADOS

1. ANNALS OF WORK EXPOSURES AND HEALTH

TÍTULO DEL TRABAJO	
Recall of exposure in UK farmers and pesticide applicators: trends with follow-up time (<i>Reevaluación de la exposición en agricultores y aplicadores de pesticidas del Reino Unido: tendencias con el paso del tiempo</i>)	
PUBLICADO EN:	Annals of Work Exposures and Health, Enero 2022, Volumen 66, Número 1, pp. 41-51
AUTORES:	William Mueller; Kate Jones; Hani Mohamed; Neil Bennett; Anne-Helen Harding; Gillian Frost; Andrew Povey; Ioannis Basinas; Hans Kromhout; Martie van Tongeren; Samuel Fuhrmann; Karen S Galea
DOI:	10.1093/annweh/wxac002
RESUMEN:	<p>Background Occupational epidemiological studies on pesticide use commonly rely on self-reported questionnaire or interview data to assess exposure. Insight into recall accuracy is important, as misclassification of exposures due to imperfect recall can bias risk estimates.</p> <p>Methods We assessed the ability of workers in three UK cohorts (Prospective Investigation of Pesticide Applicators' Health [PIPAH], Pesticide Users' Health Study [PUHS], and Study of Health in Agricultural Work [SHAW]) to remember their working history related to pesticide exposure over time periods ranging from 3 to 14 years prior. During 2019–2020, cohort participants were re-surveyed using a similar questionnaire to that used previously. We compared recall of responses at follow-up to those reported at baseline related to crops/areas of work, use of personal protective equipment (PPE) items, hygiene habits, frequency of pesticide use, and application method. To assess the extent of recall, we used sensitivity, specificity, the percentage of overall agreement, and area under the curve (AUC) values. We also examined the presence of over or underestimation of recalled years, and days and hours per year, of working with pesticides using geometric mean ratios (GMR) and regression analysis to investigate any trends based on demographic characteristics.</p> <p>Results There were 643 individuals who completed both the baseline and follow-up surveys in the three cohorts with response rates ranging from 17 to 46%. There was a strong correlation ($\rho = 0.77$) between the baseline and recalled years working with pesticides, though higher values were reported at follow-up (GMR = 1.18 [95% confidence interval: 1.07–1.30]) with no consistent differences by demographic characteristics. There was stronger agreement in the recalled days compared to hours per year in two of the cohorts. Recall for a number of exposure determinants</p>

	<p>across short and longer periods entailed overall agreement of >70%, though with some differences: for example, sensitivity for long-term recall of crops was poor (<43% in PUHS), whereas short-term recall of hygiene practices was good (AUC range = 0.65–1.00 in PIPAH).</p> <p>Conclusion Results indicate that recall ability may deteriorate over a longer period. Although low-response rates may require these findings to be interpreted with caution, recall for a number of exposure determinants appeared reliable, such as crops and hygiene practices within 3 years, as well as days per year working with pesticides.</p>
<p>RESUMEN DE CONCLUSIONES EN ESPAÑOL:</p>	<p>Normalmente, en estudios de exposición a pesticidas se realizan cuestionarios o entrevistas a los trabajadores. Sin embargo, es importante tener en cuenta si recuerdan o no para contestar, ya que esto puede variar los resultados. En esta investigación se evaluó la capacidad de trabajadores del Reino Unido para recordar su exposición a pesticidas durante un período de tiempo. En 2019-2020 se realizó otra evaluación. En ambos casos se utilizó un cuestionario parecido. Se concluyó que la capacidad para recordar podía disminuir en un período de tiempo más extenso. En este estudio fue baja la tasa de respuesta.</p>
<p>TEMÁTICA</p>	<p>Exposición; Plaguicidas</p>

2. INTERNATIONAL JOURNAL OF INDUSTRIAL ERGONOMICS

TÍTULO DEL TRABAJO	
Machines used in little olive groves: The hidden hand-arm vibration risk (<i>Máquinas utilizadas en pequeños olivares: El riesgo oculto de vibraciones mano-brazo</i>)	
PUBLICADO EN:	International Journal of Industrial Ergonomics, Julio 2022, Volumen 90, 103326
AUTORES:	Angela Calvo; Roberto Deboli; Christian Preti
DOI:	10.1016/j.ergon.2022.103326
RESUMEN:	<p>Many olive groves are located in steep terrains of the Mediterranean Region, where it is not possible the use of tractors and self-propelled machines. A light mechanization is necessary to perform the olive cultivation in these areas, but unfortunately these machines are responsible of hand-arm vibrations (HAV) risks onset for the operators. This study considered two olive groves located in North Italy. Vibration data were acquired by the portable machines used in these groves (hand-tractors, chainsaws, mistblowers and beaters). The acquisition of the accelerations along the three directions (X, Y and Z) on the handles of each machine was performed in different moments during the field operations. Vibration are usually weighted using the <i>Wh</i> (ISO 5349-1 standard) weighting curve to detect the HAV risk (as requested by the European Directive, 2002/44), but this curve may underestimate the vascular risk (main cause of the Reynaud's syndrome) when frequencies are in the range 40–400 Hz. For this reason, the signals were frequency weighted using both the weighting curves <i>Wh</i> and <i>Wp</i> (ISO/TR 18570 standard).</p> <p>Hand-tractors, chainsaws and beaters had the highest <i>Wh</i> vibration values, but the <i>Wp</i> weighted accelerations were always very high, regardless of the machine type and model. High differences between machines of the same type were observed, to demonstrate that what it happens in field is different from the laboratory studies and from the values declared by the manufacturers.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>En algunos terrenos no es posible la utilización de tractores o máquinas para trabajar en los olivares. En estas zonas se emplean otro tipo de máquinas que conducen a riesgos de vibraciones mano-brazo para el trabajador.</p> <p>En este estudio se evaluaron las vibraciones de máquinas portátiles empleadas por trabajadores en dos olivares del norte de Italia. Se demostró que lo que ocurre en el campo no coincide con lo que se estudia en laboratorio o con los datos de los fabricantes.</p>
TEMÁTICA	Exposición; Vibraciones

3. INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY AND ERGONOMICS

TÍTULO DEL TRABAJO	
A systematic review of methodologies and techniques for integrating ergonomics into development and assessment of manually operated equipment <i>(Una revisión de metodologías y técnicas para integrar la ergonomía en el desarrollo y evaluación de equipos utilizados manualmente)</i>	
PUBLICADO EN:	International Journal of Occupational Safety and Ergonomics, 2022, Volumen 28, Número 2, pp. 1053-1065
AUTORES:	Neelesh K. Sharma; Mayank Tiwari; Atul Thakur; Anindya K. Ganguli
DOI:	10.1080/10803548.2020.1862552
RESUMEN:	Objective. Humans have limited power and require mechanization, to meet high energy demand, through equipment. We initiated this study to accumulate data from previous research to identify critical issues and approaches in implementing ergonomic principles into the design, intervention, development and assessment of manually operated equipment. Method. The literature search was carried out in scientific databases: Scopus and PubMed. Fifty-three research articles, meeting the inclusion criteria, were selected for this review. Results. The study indicated a propensity of countries with lower-middle-income and high-income groups, and of the agricultural and manufacturing sector toward research and development of manually operated equipment. A thorough study of the equipment design process revealed that health and safety was the prime motivator in the pre-design phase, an experimental prototype approach was most utilized in the design phase and a direct measurement technique was most frequently used in the post-design phase. Conclusion. The study highlights the scarcity of research in the integration of ergonomics into the design of manually operated equipment among countries with the low-income group. This study also promotes the use of virtual design and assessment techniques for cost-effectiveness.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se realizó una revisión sobre la aplicación de la ergonomía en el diseño, intervención, desarrollo y evaluación de equipos manuales. Se emplearon dos bases de datos y se seleccionaron 53 artículos. Los resultados mostraron que países con ingresos medios-bajos y altos estaban desarrollando investigaciones relacionadas con este tema para el sector de la agricultura e industria.
TEMÁTICA	Ergonomía

TÍTULO DEL TRABAJO	
Chronic lower back pain in aquaculture clam farmers: adoption and feasibility of self-management strategies introduced using a rapid prototype participatory ergonomic approach (<i>Dolor lumbar crónico en acuicultores de almejas: adopción y viabilidad de estrategias de autogestión introducidas utilizando parámetros ergonómicos</i>)	
PUBLICADO EN:	International Journal of Occupational Safety and Ergonomics, 2022, Volumen 28, Número 3, pp. 1829-1839
AUTORES:	Kim Dunleavy; Mark Bishop; Ashleigh Coffman; Jacob Reidy; Andrew Kane
DOI:	10.1080/10803548.2021.1935543
RESUMEN:	Objectives. Lower back pain (LBP) is extremely prevalent in seafood harvesters who often have limited or no access to ergonomic consultation, occupational health support and rehabilitation services. This pilot study aimed to describe a participatory ergonomic approach and determine the feasibility and extent of adoption of self-management strategies in clam farmers with LBP. Methods. A rapid prototype participatory ergonomic approach was used to develop context-specific self-management strategies. Options to adjust lifting and repetitive stress were introduced using video clips, demonstrations and discussions in the workplace. Workers chose and implemented three strategies for 8 weeks with weekly reminders. Survey and qualitative data from focus groups were analyzed. Results. Team strategies were the most popular, but individual options were used more often. Strategies were considered feasible, acceptable and relatively easy to use. Strategies were implemented relatively consistently, and most improved productivity with decreased pain. Challenges for uptake included changing habit, culture and team dynamics. Conclusions. Participatory rapid prototyping provided a feasible and efficient option to introduce strategies for clam farmers with small teams, variable work processes and workloads, and time restrictions. Strategies were considered acceptable and easy to use, and most increased productivity. These methods show potential for future research.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Debido a que los pescadores de marisco con frecuencia sufren lumbalgia, se llevó a cabo un estudio ergonómico y participativo con el fin de desarrollar estrategias para su prevención. Se hicieron demostraciones, se utilizaron vídeos y se realizaron debates en el lugar de trabajo para prevenir el estrés repetitivo y el levantamiento de cargas. Los trabajadores adoptaron tres estrategias en un período de ocho semanas. Se realizaron encuestas y se estudiaron otros datos. Los resultados mostraron que las estrategias adoptadas mejoraron el dolor lumbar y la productividad. Además, eran fáciles de adoptar por los trabajadores.
TEMÁTICA	Seguridad y salud en el trabajo; Estrategias

4. JOURNAL OF AGROMEDICINE

TÍTULO DEL TRABAJO	
Watch Out for the Bull! Farmer Risk Perception and Decision-Making in Livestock Handling Scenarios <i>(¡Cuidado con el toro! Percepción del riesgo de los ganaderos y toma de decisiones en escenarios de manejo de ganado)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 3, pp. 259-271
AUTORES:	Ilinca Tone; Amy Irwin
DOI:	10.1080/1059924X.2021.1920528
RESUMEN:	<p>Livestock cause many fatal and non-fatal agricultural accidents. It is crucial to understand how farmers perceive and manage different risks associated with livestock handling to devise better solutions for accident reduction. The current study investigated farmers' perception and management of four types of livestock handling risks related to self, animal, environment, and equipment. Additionally, farmers' and agricultural stakeholders' perspectives were compared.</p> <p>Two samples comprising 56 farmers and 55 stakeholders from the UK and Ireland completed the online study. Participants were presented with eight short livestock handling vignettes, two per risk type, and were asked to decide whether they would proceed with the task, to report their reasoning, and to detail their risk management strategies. Likert-scale responses across scenarios were compared. Thematic analysis was used to identify qualitative data patterns.</p> <p>Stress and fatigue were perceived as low risk by both samples based on quantitative and qualitative results. The thematic analysis revealed that risk was evaluated in terms of broader aspects, including animal welfare and duty. Participants reported the use of cognitive non-technical skills when mitigating risks associated with handling livestock alone.</p> <p>By changing safety messages to capture farmer priorities, agricultural organisations could encourage risk avoidance, especially in situations involving stress or fatigue. Furthermore, the cognitive non-technical skills identified could be trained within existing courses for farmers.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se investigó la percepción y actuación de los agricultores ante cuatro riesgos diferentes derivados del manejo de ganado. Se compararon las percepciones de los agricultores y de las partes interesadas. El estudio contó con 111 participantes, aproximadamente la mitad de cada grupo, procedentes de Reino Unido e Irlanda. A cada uno de ellos les mostraron dos viñetas relacionadas con los cuatro tipos de riesgos. Se les preguntó si seguirían realizando la tarea y se les pidió que detallaran las estrategias para gestionar los riesgos, entre otras cosas.</p> <p>Para los dos grupos de participantes del estudio, la fatiga y el estrés eran percibidos con riesgo bajo. Entre otros resultados, se demostró que los participantes no empleaban técnicas para evitar los riesgos durante este trabajo, sino que empleaban habilidades cognitivas. Se establecieron algunas medidas para evitar los riesgos a los que se exponían estos trabajadores.</p>
TEMÁTICA	Seguridad y salud en el trabajo; Estrategias

TÍTULO DEL TRABAJO	
Do Cialdini's "Principles of Influence" Motivate Safe Practices on Farms? (¿Los "Principios de Influencia" de Cialdini motivan prácticas seguras en las explotaciones?)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 3, pp. 272-283
AUTORES:	Pamela J. Tinc; Julie A. Sorensen; Megan M. Goodspeed; Paul L. Jenkins
DOI:	10.1080/1059924X.2021.1950591
RESUMEN:	On farms, power take-off (PTO) drivelines pose serious risks in terms of both fatal and non-fatal injuries. PTO shielding can prevent such injuries; however, is often underutilized by the farm population. This study aims assesses seven influence campaigns and their ability to change attitudes toward PTO shielding in order to encourage sustainable behavior change. Seven strategies based on common principles of influence (liking, social proof, authority, consistency, reciprocity, and scarcity) were implemented in seven agricultural counties in upstate New York. Pre- and post- tests focused on shielding behaviors and attitudes, as well as the presence of the influence strategies, were used to assess changes resulting from these interventions. Little change in the presence of influence strategies was noted from baseline to follow-up. Additionally, there were no significant changes in behavior or attitude toward PTO shielding in the same time period, indicating the failure of the interventions to create change. The findings of this study support the challenges identified in past efforts to increase the use of PTO shields on farms and highlight the need for more intensive, focused interventions. Future studies can use these lessons to develop more robust interventions for improved outcomes.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	En las explotaciones, el blindaje de tomas de fuerza puede ayudar a la prevención de riesgos que provocan graves consecuencias para los trabajadores. Sin embargo, esto no se realiza y son utilizadas por los agricultores. El objetivo de este estudio fue analizar la implementación de siete principios de influencia y su efectividad para modificar los comportamientos ante el blindaje de las tomas de fuerza. En el estudio se aplicaron estos principios en siete condados agrícolas de Nueva York, sin embargo, no se detectaron cambios en el comportamiento tras esta intervención.
TEMÁTICA	Accidentes o lesiones laborales; Gravedad

TÍTULO DEL TRABAJO	
Impact of COVID-19 Pandemic on California Farmworkers' Mental Health and Food Security (<i>Impacto de la pandemia del COVID-19 en la salud mental y la seguridad alimentaria de los trabajadores agrícolas de California</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 3, pp. 292-302
AUTORES:	Ana M. Mora; Joseph A. Lewnard; Stephen Rauch; Katherine Kogut; Nicholas Jewell; Maximiliano Cuevas; Brenda Eskenazi
DOI:	10.1080/1059924X.2022.2058664
RESUMEN:	<p>Objectives: To examine the mental health and economic impact of the COVID-19 pandemic on Latino farmworkers in California. Methods: We conducted a cross-sectional study of adult farmworkers (n = 1,115) between July 16 and November 30, 2020. We collected information via phone interviews. We used the Patient Health Questionnaire-2 and the Generalized Anxiety Disorder-2 scales to assess depression and anxiety symptoms. We adapted the U.S. Department of Agriculture six-question scale to assess household food insecurity. Results: Nearly 20% of study participants reported symptoms of depression and 15% reported symptoms of anxiety. Six percent reported increasing an increase in their substance use and 37% experienced food insecurity during the pandemic. Depression and anxiety symptoms were more frequent among women or those who had experienced ≥ 1 recent COVID-19 related symptom, but less frequent among those who were married and/or worked in the fields. Increased substance use was more common among farmworkers who had ≥ 1 COVID-19 related symptom, but less common among women and those who spoke a language other than English at home, were born outside the U.S., or lived in crowded housing. Food insecurity was common among those who were born outside the U.S. or lived with children <18 years, but less common among those with more education, a higher income, or who had lived longer in the U.S. Conclusions: The pandemic has exacerbated challenges affecting mental health and and food security among farmworkers. Interventions and prevention efforts, led by respected and trusted members of the community, should include on-the-spot supplemental income, increased mental health services, and food support services.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>El objetivo de este estudio fue analizar la salud mental de trabajadores agrícolas en California por la pandemia del COVID-19. Se realizaron entrevistas por teléfono a 1115 trabajadores utilizando herramientas concretas. Entre otros resultados, aproximadamente el 20% y el 15% de los trabajadores tenían síntomas de depresión y ansiedad, respectivamente. Se concluyó la necesidad de aumentar las intervenciones para la prevención de problemas relacionados con la salud mental.</p>
TEMÁTICA	Seguridad y salud en el trabajo; Salud mental

TÍTULO DEL TRABAJO	
The Impact of COVID-19 on Northeast and Appalachian Loggers (<i>El impacto del COVID-19 en los madereros del noreste y los Apalaches</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 3, pp. 329-338
AUTORES:	Erika Scott; Liane Hirabayashi; Judy Graham; Cristina Hansen-Ruiz; Kevin Luschen; Julie Sorensen
DOI:	10.1080/1059924X.2022.2068717
RESUMEN:	<p>Objective: The Northeast Center for Occupational Health and Safety conducted a survey in December 2020 to understand the impact of the coronavirus disease 2019 (COVID-19) and the Androscoggin Mill explosion among loggers in six states: Maine, New Hampshire, Vermont, New York, Pennsylvania, and West Virginia.</p> <p>Methods: Logger mailing addresses were aggregated with the assistance of state logging organizations. A paper survey, including a self-addressed return envelope was mailed to the loggers in December 2020.</p> <p>Results: The mailed survey had a response rate of 13.3% and captured data on 484 loggers. The majority knew someone (including themselves) who tested positive for COVID-19 (71.9%). Less than half (43%) received employer training about COVID-19 prevention measures, though 73% received some form of COVID-19 personal protective equipment from their employers. The health department, Centers for Disease Control and Prevention (CDC), and health care providers were the most trusted sources of health information. Nearly half acknowledged significant change in their home lives and work responsibilities due to the pandemic. The explosion of the Androscoggin Mill affected the business of 80% of Maine loggers, and 18% of loggers that resided outside Maine.</p> <p>Conclusion: The lessons learned can be used to enhance trust in public health institutions and future public health response to this unique occupational group.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se llevó a cabo un estudio en el que una parte correspondió a la realización de una encuesta para estudiar la exposición al COVID-19 en madereros. La encuesta se realizó en papel y tuvo un porcentaje de respuesta del 13,3%. La mayor parte de los trabajadores se habían contagiado o tenían conocidos que habían sufrido la enfermedad. Un 43% fue informado de las medidas de prevención y el 73% recibió equipos de protección personal en el trabajo.
TEMÁTICA	Seguridad en el trabajo; COVID-19

TÍTULO DEL TRABAJO	
Social Network Analysis of an Agricultural Center: Stakeholders and the Transfer of Information <i>(Análisis del entorno social de un centro agropecuario: partes interesadas y transferencia de información)</i>	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 1, pp. 75-86
AUTORES:	Mary E. Cramer; Patrick Habecker; Mary Wendl; Harlan Sayles; Risto Rautiainen; Kirk Dombrowski
DOI:	10.1080/1059924X.2020.1850383
RESUMEN:	We conducted a social network analysis (SNA) of Central States Center for Agricultural Safety and Health (CS-CASH) to describe stakeholder networks for agricultural Research and Education/Outreach. This was a two-phase study. First, the Leader Survey went to N = 9 CS-CASH leaders to identify their key stakeholders. Next, the Stakeholder Survey was sent to these stakeholders to learn about their stakeholder collaborations, interactions, and communications. The Pajek Network Analysis measured SNA metrics for density, centrality, betweenness, k-core, and created the sociograms. The Leader Survey had a 100% response rate and generated N = 337 unique stakeholders. Most were researchers (44%) and educators (20%), with a primary sphere of influence in Nebraska-only (40%). The Stakeholder Survey had 46% response rate, and generated N = 199 names in the extended Education/Outreach network and N = 140 in the extended Research network. Stakeholders in both networks were employed mostly in universities/schools (61%) or non-profits (15%). Both networks had a single main component and 7/9 CS-CASH leaders had central roles in these components. CS-CASH is well positioned in the extended stakeholder networks based on SNA metrics. Stakeholders utilize CS-CASH resources, and they seek and exchange information with its leaders. To strengthen knowledge transfer, it will be useful to build on connections with stakeholders outside academia.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se realizó un análisis de las relaciones del "Central States Center for Agricultural Safety and Health", con el fin de determinar las redes de contacto para investigación y educación agrícola. Se llevó a cabo una encuesta a varios líderes de este centro para conocer a sus partes interesadas. Posteriormente, se realizó una encuesta a estas partes interesadas para determinar su colaboración o comunicación. La mayoría eran investigadores y educadores de universidades y escuelas o de organizaciones sin fines de lucro. Se concluyó que también serían importantes las relaciones fuera del entorno académico.
TEMÁTICA	Seguridad y salud en el trabajo; Información

TÍTULO DEL TRABAJO	
Experiences of Marshallese Food Processing Workers during the COVID-19 Pandemic (<i>Experiencias de los trabajadores de procesamiento de alimentos de Marshallese durante la pandemia de COVID-19</i>)	
PUBLICADO EN:	Journal of Agromedicine, 2022, Volumen 27, Número 3, pp. 292-302
AUTORES:	Brett Rowland; Cari A. Bogulski; Don E. Willis; Aaron J. Scott; Erin E. Gloster; Jennifer A. Andersen
DOI:	10.1080/1059924X.2021.2002222
RESUMEN:	<p>The goal of this study was to conduct an exploratory assessment of COVID-19 mitigation steps and compare workplace experiences during the COVID-19 pandemic with Marshallese workers in other occupations. Marshallese adults residing in the continental United States (US) and Hawaii took part in an online survey. The sample was divided into two categories: food processing workers and workers in all other occupations. To examine differences between food processing workers and workers from all other occupations, we used Wilcoxon-Mann-Whitney U tests and Fisher's Exact tests. Of those employed at the time of the survey (n = 113), 31 were employed in food processing plants, and 82 were employed in another occupation. Food processing workers and workers in other occupations differed significantly on level of education, length of residence in the US, English-speaking ability, and health literacy. More food processing workers reported that their employers installed barriers or provided shields (45%), provided temperature screenings (71%), and tested for COVID-19 (61%) compared with those in other occupations. A larger proportion of food processing workers reported having no sick leave compared with workers in other occupations, although they reported COVID-19 testing and being insured at similar rates. This is the first study to examine Marshallese food processing workers' experiences during the COVID-19 pandemic. Our findings show that while some food processing employers implemented government-recommended guidelines to prevent the spread of COVID-19, preventative and protective measures were not comprehensively applied across the food processing industry, despite efforts by public health agencies and community partners.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se analizó la aplicación de medidas contra el COVID-19 durante la pandemia en trabajadores encargados del procesamiento de alimentos. Para ello se realizó una encuesta online. Participaron 131 trabajadores, de los cuales 31 pertenecían a este sector y 82 a otras ocupaciones. Los trabajadores de procesamiento de alimentos expusieron: que en sus puestos de trabajo se adoptaron medidas (45%), se medía la temperatura (71%) y se hacían test del COVID-19 (61%), en comparación con otras ocupaciones. El estudio concluyó que, aunque se aplicaron medidas de prevención, estas no se llevaron a cabo en toda la industria de procesamiento de alimentos.</p>
TEMÁTICA	Seguridad en el trabajo; COVID-19

5. SPANISH JOURNAL OF AGRICULTURAL RESEARCH

TÍTULO DEL TRABAJO	
Immigration and occupational accidents: A comparative study of accident severity among foreign and Spanish citizens in the agricultural sector (<i>Inmigración y accidentes de trabajo: un estudio comparativo de la gravedad de accidentes entre ciudadanos extranjeros y españoles en el sector agrario</i>)	
PUBLICADO EN:	Spanish Journal of Agricultural Research, 2022, Volumen 20, Número 3, e0105
AUTORES:	Xavier Baraza; Natàlia Cugueró-Escofet
DOI:	10.5424/sjar/2022203-18792
RESUMEN:	<p><i>Aim of study:</i> The objective of this paper was to understand the differences between immigrants and Spanish workers in terms of duration of sick leave, for work accidents in Spain's agricultural sector, to propose possible action plans and improve the sector's future accident rates, with equal conditions for immigrants and Spanish workers.</p> <p><i>Area of study:</i> The analysis was based in a total of 158,166 accidents in Spain from 2013 to 2018</p> <p><i>Material and methods:</i> The average number of working days lost per group (Spanish and immigrants) has been calculated for the different variables. For each case, a mean comparison analysis was performed using Student's t-test to independently compare nationals and immigrants for each variable.</p> <p><i>Main results:</i> The agricultural sector produces a high level of severe accident rates compared to other sectors, as incident rates of death are 59.36% higher in agriculture compared to other sectors. It has the highest level of accidents for foreign workers, as immigrants presented 91.36% more accidents than Spaniards, even if accidents for immigrants are under reported, as regarding workdays lost due to injuries reported, these are statistically higher for Spanish workers. This meaning that this sector is more precarious, and this is worse for immigrants, therefore is a compelling matter of social justice that deserve the establishment of policies for government and companies to equate work conditions between immigrants and Spaniards.</p> <p><i>Research highlights:</i> A comparative analysis of the severity of occupational accidents between Spanish and foreign workers in Spain's agricultural sector.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se analizaron las diferencias en la duración de bajas debidas a accidentes laborales en el sector de la agricultura entre trabajadores inmigrantes y españoles. El estudio se basó en 158166 accidentes comprendidos entre 2013 y 2018. Se calculó la media de jornadas de trabajo perdidas por inmigrantes y por españoles y se emplearon herramientas estadísticas. Los resultados mostraron que en la agricultura los accidentes graves son elevados en comparación con otras ocupaciones. Los trabajadores extranjeros mostraron un 91,36% más de accidentes que los

	trabajadores españoles. Sin embargo, muchos no eran notificados, ya que las jornadas perdidas por accidentes informados son superiores para los trabajadores españoles. Se concluye la necesidad de equiparar las condiciones laborales entre ambos grupos de trabajadores.
TEMÁTICA	Accidentes o lesiones laborales; Gravedad

6. JOURNAL OF SAFETY RESEARCH

TÍTULO DEL TRABAJO	
<p>'No-one else wears one:' Exploring farmer attitudes towards All-Terrain Vehicle helmets using the COM-B model ('Nadie más lleva uno:' Explorando las actitudes de los agricultores hacia los cascos de vehículos todo terreno usando el modelo COM-B)</p>	
PUBLICADO EN:	Journal of Safety Research, Junio 2022, Volumen 81, pp. 123-133
AUTORES:	Amy Irwin; Jana Mihulkova; Stephanie Berkeley; linca-RuxandraTone
DOI:	10.1016/j.jsr.2022.02.004
RESUMEN:	<p>All-Terrain Vehicles (ATV) are a popular piece of farming machinery but are linked to many fatalities and injuries every year. Despite evidence that ATV helmets reduce the risk of serious or fatal injury, research suggests that few farmers wear them. The aim of this study was to explore farmer attitudes toward ATV helmets, using the COM-B model as a framework to identify key barriers and enablers of helmet use and suggest potential interventions to increase helmet use in agriculture.</p> <p><i>Methods:</i> A mixed-methods online survey featuring quantitative and qualitative questions was used to explore key attitudinal factors relevant to farmer helmet wearing. A total of 211 UK and Irish farmers were recruited, including farm owners, managers, workers, and contractors.</p> <p><i>Results:</i> Personal exemption from risk, emotional benefits, cognitive barriers, and guideline prompts were all found to be significant predictors of farmer helmet wearing. Key categories within the qualitative data indicated that helmet properties, risk perception, farming culture, and the farming environment could all function as barriers to helmet wearing. Suggested enablers of helmet use included increasing helmet availability and enhancing awareness of the consequences of ATV accidents.</p> <p><i>Conclusions:</i> The key barriers and enablers presented within this paper highlight the relevance of capability (helmet design, time pressure), opportunity (social norms), and motivation (perceived control of risk) when considering farmer helmet wearing behaviors. In order to encourage farmers to wear helmets it will be necessary to design specific interventions using the behavior change wheel.</p> <p><i>Practical applications:</i> Key interventions to prompt helmet use include the inclusion of more cues to prompt helmet wearing (e.g., stickers on the ATV), enhanced training and education, and modelling (e.g., key farming figures shown to wear helmets in the media).</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	<p>Se estudiaron las actitudes de los trabajadores de la agricultura en el uso de cascos para vehículos todoterreno, empleando el modelo COM-B. El fin era sugerir intervenciones para promover el uso del casco. Se realizó una encuesta online y participaron 211 trabajadores del sector de la agricultura, incluyendo propietarios de granjas, gerentes, etc. Algunos resultados indicaron que la cultura agrícola, el entorno, la percepción del</p>

	riesgo, etc. podrían ser causas para no utilizar casco. Una mayor disponibilidad de cascos y concienciar a los trabajadores sobre las consecuencias de accidentes con este tipo de vehículos podrían fomentar su utilización.
TEMÁTICA	Accidentes o lesiones laborales; Vehículos agrícolas

7. SAFETY AND HEALTH AT WORK

TÍTULO DEL TRABAJO	
Developing the Vulnerability Factor Structure Affecting Injuries and Health Problems Among Migrant Seafood Processing Industry Workers <i>(Factor de vulnerabilidad entre los trabajadores migrantes de la industria procesadora marina: lesiones y problemas de salud)</i>	
PUBLICADO EN:	Safety and Health at Work, Junio 2022, Volumen 13, Número 2, pp. 170-179
AUTORES:	Itchaya Jiaranai; Preeda Sansakorn; Junjira Mahaboon
DOI:	10.1016/j.shaw.2022.03.002
RESUMEN:	<p>Background The vulnerability of international migrant workers is on the rise, affecting the frequency of occupational accidents at workplaces worldwide. If migrant workers are managed in the same way as native workers, the consequences on safety assurance and risk management will be significant. This study aimed to develop the vulnerability factor model for migrant workers in seafood processing industries because of significant risk-laden labor of Thailand, which could be a solution to control the risk effectively.</p> <p>Methods A total of 569 migrant workers were surveyed (432 Burmese and 137 Cambodian), beginning with 40 initial vulnerability factors identified in the questionnaire established from experts. The data were analyzed through descriptive analysis; exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to ascertain the model.</p> <p>Results The result of content validity >0.67 and the Cronbach's alpha of 0.957 specified the high reliability of 40 factors. The EFA indicated a total variance of 65.49%. The final CFA validated the model and had an empirical fitting; chi-square = 85.34, Adjust Goodness-of-Fit Index = 0.96, and root mean square error of approximation = 0.016. The structure concluded with three dimensions and 18 factors. Dimension 1 of the structure, "multicultural safety operation," contained 12 factors; Dimension 2, "well-being," contained four factors; and Dimension 3, "communication technology," contained two factors.</p> <p>Conclusion The vulnerability factor structure developed in this study included three dimensions and 18 factors that were significantly empirical. The knowledge enhanced safety management in the context of vulnerability factor structure for migrant workers at the workplace.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Los accidentes de trabajo aumentan debido a la vulnerabilidad de los trabajadores migrantes. Se desarrolló el modelo de factor de vulnerabilidad para trabajadores migrantes encargados del procesamiento de productos del mar. Se encuestaron a 569 trabajadores y los datos se analizaron estadísticamente. 18 fueron los factores de vulnerabilidad. La información mejoró la seguridad y salud en los trabajadores migrantes.
TEMÁTICA	Seguridad y salud en el trabajo

TÍTULO DEL TRABAJO	
Comparison of Overall Immunity Levels among Workers at Grape Orchard, Rose Greenhouse, and Open-Field Onion Farm <i>(Estudio del estado inmunológico de trabajadores de uvas, cebollas y rosas bajo invernadero)</i>	
PUBLICADO EN:	Safety and Health at Work, Junio 2022, Volumen 13, Número 2, pp. 248-254
AUTORES:	Anju Maharjan; Ravi Gautam; JiHun Jo; Manju Acharya; DaEun Lee; Pramod Bahadur K C; Jin Gim; Sojung Sin; Hyocher Kim; ChangYul Kim; SooYeon Lee; SooJin Lee; Yong Heo; HyoungAh Kim
DOI:	10.1016/j.shaw.2021.12.002
RESUMEN:	<p>Background Occupational hazards in crop farms vary diversely based on different field operations as soil management, harvesting processes, pesticide, or fertilizer application. We aimed at evaluating the immunological status of crop farmers, as limited systematic investigations on immune alteration involved with crop farming have been reported yet.</p> <p>Methods Immunological parameters including plasma immunoglobulin level, major peripheral immune cells distribution, and level of cytokine production from activated T cell were conducted. Nineteen grape orchard, 48 onion open-field, and 21 rose greenhouse farmers were participated.</p> <p>Results Significantly low proportion of natural killer (NK) cell, a core cell for innate immunity, was revealed in the grape farmers ($19.8 \pm 3.3\%$) in comparison to the onion farmers ($26.4 \pm 3.1\%$) and the rose farmers ($26.9 \pm 2.5\%$), whereas cytotoxic T lymphocyte proportion was lower in the grape and the onion farmers than the rose farmers. The proportion of NKT cell, an immune cell implicated with allergic response, was significantly higher in the grape ($2.3 \pm 0.3\%$) and the onion ($1.6 \pm 0.8\%$) farmers compared with the rose farmers ($1.0 \pm 0.4\%$). A significantly decreased interferon-gamma:interleukin-13 ratio was observed from <i>ex vivo</i> stimulated peripheral blood mononuclear cells of grape farmers compared with the other two groups. The grape farmers revealed the lowest levels of plasma IgG1 and IgG4, and their plasma IgE level was not significantly different from that of the onion or the rose farmers.</p> <p>Conclusion Our finding suggests the high vulnerability of workplace-mediated allergic immunity in grape orchard farmers followed by open-field onion farmers and then the rose greenhouse farmers.</p>

RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se realizó un estudio para analizar el estado inmunológico de los trabajadores de la agricultura. Participaron 19 agricultores de uva, 48 de cebolla en campo abierto y 21 de invernaderos de rosas y se analizaron parámetros inmunológicos obteniendo diferentes resultados para los agricultores según su ocupación.
TEMÁTICA	Seguridad y salud en el trabajo

8. AGRICULTURE-BASEL

TÍTULO DEL TRABAJO	
How Perceived Stress Affects Farmers' Continual Adoption of Farmland Quality Improvement Practices <i>(Estrés causado en agricultores por la mejora continua de la calidad de explotaciones agrícolas)</i>	
PUBLICADO EN:	Agriculture-Basel, Junio 2022, Volumen 12, Número 6, Número de artículo 876
AUTORES:	Na Li; Caixia Xue
DOI:	10.3390/agriculture12060876
RESUMEN:	Regarding the fact that smallholder farmers form the main part of agriculture, actively guiding smallholder farmers to continually adopt the farmland quality improvement practice in their agricultural production process is considered as the critical path to improve farmland sustainability for the agricultural sector in China especially smallholder farmers planting economic crops, such as tea, that have long relied on heavy inputs of chemical fertilizers that seriously undermine the quality of farmland. However, the state efforts towards the promotion of farmers' adoption of farmland quality improvement practices for years have not obtained remarkable results. In this context, based on expectation confirmation theory and conservation of resources theory, the study classified farmers' perceived stress towards continual adoption of farmland quality improvement practice into three categories: stress from uselessness perception, difficulty perception, and in-adaptability perception. A structural equation model was utilized to explore the impact of perceived stress on farmers' continual adoption of the practice in a sample of 494 tea farmers from Qinba Mountain Area in China. Additionally, the mediating effect of self-efficacy and moderating effect of social support are discussed theoretically and empirically in the paper. The research findings show that the stress from in-adaptability perception has the strongest inhibitory effect of the three on farmers' continual behavior while the stress from difficulty perception is the weakest. Further, the mediating effect of self-efficacy in the relationship between perceived stress and farmers' continual adoption behaviors was confirmed. Additionally, the study indicated that social support can buffer the negative impact of perceived stress from uselessness perception and difficulty perception on farmers' continual adoption behaviors. Therefore, fully considering farmers' perceived stress, providing farmers with support in a targeted manner, would strengthen the coordination between the government and the household on farmland improvement practices, accelerating the achievement of farmland sustainability.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio evaluó el estrés percibido por pequeños agricultores debido a la adopción de prácticas de mejora de la calidad en las explotaciones agrícolas. Se analizó el estrés por percepción de "no utilidad", de dificultad y de inadaptabilidad. El estudio se realizó a 494 trabajadores del sector agrícola en China. Entre otras cosas, los resultados mostraron que el estrés por inadaptabilidad era el que más se producía. Tener en

	cuenta el estrés percibido por estos trabajadores y apoyarlos, mejoraría la coordinación entre el gobierno y la adopción de las prácticas de mejora de las tierras por estos trabajadores, mejorando la sostenibilidad de dichas tierras.
TEMÁTICA	Seguridad y salud en el trabajo; Tensión laboral

TÍTULO DEL TRABAJO	
Rollover Safety and Workable Boundary Suggestion of an Agricultural Platform with Different Attachments <i>(Sugerencia de límite de trabajo y seguridad en caso de vuelco de una plataforma agrícola con diferentes accesorios)</i>	
PUBLICADO EN:	Agriculture-Basel, Agosto 2022, Volumen 12, Número 8, Número de artículo 1148
AUTORES:	Seokho Kang; Yeongsu Kim; Hyunggyu Park; Yonggik Kim; Seungmin Woo; Daniel Dooyum Uyeh; Yushin Ha
DOI:	10.3390/agriculture12081148
RESUMEN:	Overturning accidents in agriculture offroad vehicles have been reported annually around the world. Safety structures, such as rollover prevention, have been adopted to mitigate these accidents. Despite this, accidents remain persistent but less fatal. This study investigated the safe driving boundary for a multi-purpose platform with attachments (cargo, pepper harvester). Mathematical formulations of the roll and pitch motions for multi-purpose platforms were created. The critical overturning angle, at five load levels for each machine (0, 50, 100, 150, 200 kg), was determined using Recurdyn, a dynamic analysis software. Regression analysis of each coordinate of the center of gravity was conducted to verify the most critical coordinate against gaining loads. The critical overturning angle for the X and Y directions was found. The cargo and pepper harvester had 28.64° and 21.04° of critical overturning angles in the Y direction, respectively, with a full loading state while climbing a steep hill. The regression model of the X, Y, and Z coordinates of CoG suggested that the most critical coordinate of the CoG against the loads was in the Y coordinate for the pepper harvester and the X direction for cargo. This study could be applied to develop an awareness safety system that warns the operator of the risk of a fatal accident.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Son frecuentes los accidentes debidos a vuelco de vehículos agrícolas. Se estudió el límite de conducción segura y los casos de vuelco para una plataforma de usos múltiples empleada en el sector de la agricultura. El estudio podía permitir el desarrollo de un sistema de seguridad que prevenga el riesgo de accidente.
TEMÁTICA	Accidentes o lesiones laborales; Vehículos agrícolas

9. JOURNAL OF AGRICULTURAL ENGINEERING

TÍTULO DEL TRABAJO	
Development and performance evaluation of an oil palm harvesting robot for the elimination of ergonomic risks associated with oil palm harvesting <i>(Desarrollo y evaluación del desempeño de un robot cosechador de palma aceitera para la eliminación de riesgos ergonómicos asociados a la recolección de palma aceitera)</i>	
PUBLICADO EN:	Journal of Agricultural Engineering, 2022, Volumen 53, Número 3
AUTORES:	Ayodeji Nathaniel Oyedeji; Umar Ali Umar; Laminu Shettima Kuburi; Albright Abu Edet; Yau Mukhtar
DOI:	10.4081/jae.2022.1388
RESUMEN:	This study was aimed at developing and evaluating the performance of an oil palm fresh fruit bunch harvesting robot that will eliminate the possible risks associated with oil palm harvesting. The result of this study showed that the average height of oil palm trees in the study area was 5.531 m, which shows the unsuitability of the existing traditional methods in the harvesting process. This study also used a geared DC motor to develop an oil palm harvester, solving the stability issue encountered by previous researchers during the harvesting process without necessarily reducing the climbing speed by a wide margin. In addition, the use of geared DC motor help in the production of high torque for the climbing process, and due to this high torque, instability during the harvesting process was reduced.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se llevó a cabo un estudio para desarrollar y analizar un robot destinado a la cosecha de racimos de palma aceitera, con el fin de eliminar los riesgos ergonómicos derivados de esta tarea. Los resultados indicaron que la altura de los árboles (5,531 m) suponía un riesgo para la recolección por el método tradicional. También se empleó una máquina que redujo la inestabilidad durante la recolección.
TEMÁTICA	Seguridad y salud en el trabajo; Trabajo físico

10. GACETA SANITARIA

TÍTULO DEL TRABAJO	
Health risk behaviors by occupation in working population in Spain (<i>Conductas de riesgo para la salud según la ocupación de la población trabajadora en España</i>)	
PUBLICADO EN:	Gaceta Sanitaria, Julio-Agosto 2022, Volumen 36, Número 4, pp. 301-308
AUTORES:	Alba de Juan; Gregorio Barrio Anta; Pablo Caballero; María Teresa Gea; Elena Ronda-Pérez
DOI:	10.1016/j.gaceta.2021.10.006
RESUMEN:	<p>Objective This study aims to analyze the variations in the prevalence of different health risk behaviors according to occupation in working population in Spain.</p> <p>Method Cross-sectional study with data from the Spanish National Health Survey of 2017. The analysis includes adults between 18 and 65 years with employment at the time of the survey. Health risk behaviors are obesity, physical inactivity in free time, tobacco consumption and excessive alcohol consumption. The primary explanatory variable is the occupation, using the National Classification of Occupations of 2011. Sociodemographic characteristics are gender, age, country of birth and educational level. The prevalences (P) of risk behaviors have been calculated, as well as the odd and adjusted odds ratios (aOR).</p> <p>Results The highest figures of obesity are observed in operators of installations and machinery and assemblers (P: 20.0%; ORa: 1.26; A95%CI: 1.04–1.52). The higher level of physical inactivity during free time appears in elementary occupations (P: 83.4%; ORa: 1.70; A95%CI: 1.45–1.99). Tobacco consumption is higher in operators of installations and machinery and assemblies (P: 37.4%; ORa: 1.22; A95%CI: 1.05–1.43). Excessive alcohol consumption appears to a greater extent on skilled workers in the agricultural sector, livestock, forestry and fisheries (P: 3.9%; ORa: 1.51; A95%CI: 0.83–2.75).</p> <p>Conclusions The results indicate a greater relationship between risk behaviors for health and manual or lower-skilled occupations.</p>
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Se evaluaron diferentes riesgos (obesidad, inactividad física, tabaco y alcohol) según la ocupación de la población en España. Se emplearon datos de la Encuesta Nacional de Salud española de 2017. Los resultados mostraron que el consumo de alcohol en exceso se daba principalmente en trabajadores del sector de la agricultura, ganadería, forestal y pesquero.
TEMÁTICA	Seguridad en el trabajo; Factores

11. AGRONOMY-BASEL

TÍTULO DEL TRABAJO	
Fatal Tractor Accidents in the Agricultural Sector in Spain during the Past Decade (<i>Accidentes mortales de tractores en el sector agrario en España durante la última década</i>)	
PUBLICADO EN:	Agronomy-Basel, Julio 2022, Volumen 12, Número 7, Número de artículo 1694
AUTORES:	Carmen Jarén; Alicia Ibarrola; Txuma Mangado; Aritz Adin; Pedro Arnal; Ainara López-Maestresalas; Alonso Ríos; Silvia Arazuri
DOI:	10.3390/agronomy12071694
RESUMEN:	Currently, there is a discrepancy between the number of occupational accidents in the agricultural sector reported by Spanish governmental sources and those actually occurring in general. This is mainly due to the official definition of 'occupational accident' in the current regulations. In order to be able to analyse all fatal accidents involving tractors, other sources of information must therefore be used. In this study, we have collected the news published in different media during the period 2010–2019. Statistical models that take into account the spatial and temporal dependence of the data were used to estimate the rates of fatal accidents in the provinces of Spain using the Bayesian inference technique INLA (Integrated Nested Laplace Approximation). The results obtained showed that the total number of fatal accidents in that period was 644. The crude rates of fatal accidents per province ranged from 0 to 223.5 fatal accidents per 100,000 registered tractors. In addition, the overall rate for Spain as a whole was 6.87 fatal accidents per 100,000 tractors. As in other EU countries, it was found that the regions with the highest number of accidents were also related to steep terrain, to an older tractor fleet and to horticultural crops and vineyards.
RESUMEN DE CONCLUSIONES EN ESPAÑOL:	Este estudio se centró en analizar los accidentes mortales provocados por tractores agrícolas. Para ello, se recopilaron noticias de diferentes medios comprendidas entre el año 2010 y 2019. Se emplearon herramientas estadísticas para estimar estos accidentes en las provincias españolas. Según los resultados, el número de accidentes mortales durante estos años fue de 644. En España se produjeron 6,87 accidentes de este tipo por cada 100000 tractores. La zona con mayor número de accidentes se relacionaba con peores terrenos, tractores más antiguos y con cultivos hortícolas y viñedos.
TEMÁTICA	Accidentes o lesiones laborales; Vehículos agrícolas