



## ΕΛΛΗΝΙΚΟ ΙΝΣΤΙΤΟΥΤΟ ΥΓΙΕΙΝΗΣ ΚΑΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΕΡΓΑΣΙΑΣ

ΚΕΝΤΡΟ ΤΕΚΜΗΡΙΩΣΗΣ ΠΛΗΡΟΦΟΡΗΣΗΣ - ΒΙΒΛΙΟΘΗΚΗ

### Υγεία και ασφάλεια στη γεωργία, κτηνοτροφία, αλιεία



Θεματικό  
βιβλιογραφικό δελτίο

ΣΕΙΡΑ : Τεκμηρίωση ΥΑΕ ; 26

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## ΕΙΣΑΓΩΓΙΚΟ ΣΗΜΕΙΩΜΑ

Η Βιβλιοθήκη του ΕΛ.ΙΝ.Υ.ΑΕ στα πλαίσια παροχής υπηρεσιών πληροφόρησης, αναπτύσσει σειρά θεματικών δελτίων με τίτλο : **Τεκμηρίωση ΥΑΕ**, με στόχο τη βιβλιογραφική ενημέρωση σε θέματα Υγείας και Ασφάλειας της Εργασίας.

Το παρόν βιβλιογραφικό θεματικό δελτίο είναι το εικοστό έκτο στη σειρά αυτή και περιλαμβάνει όλες τις μονογραφίες και τα άρθρα που αφορούν τη γεωργία, κτηνοτροφία, αλιεία και αποτελούν μέρος της συλλογής της Βιβλιοθήκης του Κέντρου Τεκμηρίωσης Πληροφόρησης του ΕΛΙΝΥΑΕ. Το δελτίο αυτό υπάρχει και σε ηλεκτρονική μορφή στην ιστοθέση του ΕΛΙΝΥΑΕ <http://www.elinyae.gr>

Η συλλογή, επεξεργασία και επιμέλεια του υλικού έγινε από τις βιβλιοθηκονόμους Φανή Θωμαδάκη και Κωνσταντίνα Καψάλη.

Αθήνα, 2012

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**Agricultural medicine : occupational and environmental health for the health professions** / Kelley J. Donham, Anders Thelin.- Iowa, USA : Blackwell, c2006.- xvi, 429 σ. ISBN 978-0-8138-1803-0 (6683)

Agricultural employment is plagued with one of the highest levels of mortality among occupational groups in the United States, making the health and safety of farmers, farm workers, and farm residents a leading priority for epidemiologists, occupational health and safety professionals, rural health providers, public health practitioners, and extension agents and educators.

**Agricultural safety** / Keith E. Barenklau.- Boca Raton : Lewis Publishers, c2001.- 135 σ. ISBN 1-56670-487-1 (4887)

Lack of accidents does not necessarily mean safe operation. You may have been lucky. You may have had near misses, but fortune smiled and you had few accidents. Measuring accidents provides one segment of the safety picture, but it is a far cry from evaluating and creating overall safety. Rather than giving you accident statistics and the admonition "you need a program," Agricultural Safety shows you how to "do" safety. The book sets forth the steps you need to take to make safety a part of your everyday farming operation, such as:- Identification of key safety activities that will lead to better control of losses - Setting standards and guidelines for doing that work - Measurement of the effectiveness of the work being done in accordance with the standards and guidelines- Evaluating program progress based upon measurements taken - Correcting deficiencies based on the evaluation(s). The author covers topics such as machinery operation, maintenance and repair techniques, fire loss control techniques, the safe handling of agrochemicals, and techniques involving the handling of animals. He provides you with a step-by-step manual for the procurement, handling, and storage of agrochemicals and pesticides as well as a guide to personal protective equipment and reviews safety for "third parties" and the posting of property and public warnings. To achieve safety, the work of safety must be done, measured for efficiency, evaluated in real-world terms, and corrective action taken, as needed, in a timely manner. Many books on safety provide a list of dos and don'ts. Agricultural Safety discusses the ways and means of managing and controlling accidental loss and shows you how to build safety into your operation.

**Agrochemical and pesticide safety handbook** / Michael F. Waxman.- Boca Raton : Lewis Publishers, c 1998 616 σ. ISBN 1-56670-296-8 (4886, 5940)

Worldwide, there are a vast array of agricultural pesticides and chemicals used to eliminate pests and to protect health, food, and fiber. The safe handling, usage, and disposal of these chemicals and pesticides is of vital

importance. The Agrochemical and Pesticides Safety Handbook serves as a field resource on the hazards of these pesticides and chemicals.

Providing information on more than 500 pesticides and 100 agricultural chemicals, this informative handbook guides the reader in selecting proper respiratory protection, chemical protective clothing, and storage methods. The text also instructs users on proper response procedures for fires, spills, and other incidents involving these chemicals.

**Agrochemicals : composition, production, toxicology, applications** / Franz Muller (ed.) Weinheim : Wiley-VCH, c2000 xv, 1031 σ. ISBN 3-527-29852-5 (6737)

The high standard of today's agricultural practices in western countries can be attributed to the great advances achieved in agricultural sciences since the second world war. This has led to a better understanding of plant physiology and the interaction between plants and their natural cohabitants, the latter of which can be direct competitors for the available nutrients and space, or pathogenic intruders of plants (fungi, nematodes, insects, rodents). This book presents an overview of all aspects of modern agricultural practices. Beginning with a concise historic overview of modern trends in agriculture, it leads into chapters dealing with fertilizers, herbicides, fungicides, insecticides, acaricides, nematocides, rodenticides, molluscicides, plant growth regulators, and biological control agents. In each chapter, corresponding practical and theoretical aspects are discussed, and each entry is accompanied by its chemical structure, physical properties, synthesis, agricultural use, trade names, toxicology, and its ecological significance. The book is a valuable source of information for those involved in modern agricultural practices. The reader will find not only fast answers to both general and specific questions, but also access to the broader literature.

**An analysis of occupational health in pork production** / Terrance M. Hurley, James B. Kliebenstein and Peter F. Orazem, American journal of agricultural economics, 2000, 82(2), σ. 323-333

Data on attendees at the World Pork Expo from 1991-95 are used to evaluate the impact of farming generally, and hog farming and confinement operations more specifically, on the measured health outcomes of participants. Hog farming is found to increase risk of reduced hand strength and respiratory symptoms. To the extent these health risks are known, hog farmers will require a compensating differential to reward them for accepting a greater risk, an outcome consistent with higher long-term returns for hog production relative to cash-grain production

<http://econ2.econ.iastate.edu/faculty/orazem/occhealth.pdf>

**Are you a teen working in agriculture? : protect your health! know your rights!** /Labor Occupational Health Program (LOHP).- Berkeley : University of California, c2001.- 4 σ. (Ειδική συλλογή άρθρων 448)

Every year over 100 teens die from agricultural work injuries in the United States. Another 2,000 get hurt badly enough that they stay home from work. What are their rights on the job? What hazards should they watch out for?

<http://www.youngworkers.org/downloads/pdf/agfacten.pdf>

**Chemical thermodynamics estimation of hazardous materials release in pesticides and other chemicals fires** / N. Πιτσινης, Φώτης Ρήγας.- 11 σ. (Proceedings of the 1st International fire safety Conference - Santorini - Greece 24-25 May 1996) (222)

Oversimplification in estimating combustion products in the case of chemicals containing in addition to carbon and hydrogen other elements like nitrogen, oxygen, phosphorous, sulphur and chlorine, leads to stoichiometric release of simple compounds such as carbon monoxide and dioxide, nitrogen oxides, ammonia, hydrogen cyanide, sulphur dioxide and hydrochloric acid. Yet, in fact numerous other more complex products are released, a lot of them being very toxic. It is necessary for safety reasons concerning fire fighting, land-use planning and emergency planning to be able to predict quantitatively these toxic products in a fire. Such a prediction is possible by use of chemical thermodynamics, provides that the combustion products are known. In our laboratory various calculational codes have been developed covering certain types of fire/explosion scenarios, namely combustion, decomposition, deflagration and detonation. Validation of these models has been accomplished via experimentally determined combustion products. The use of these codes in toxic chemicals fires is examined in this work for some pesticides largely used in agriculture. Thus in addition to the common combustion products mentioned above compounds having been already identified in published experimental works are also taken into account in our chemical thermodynamics calculations. Estimated concentrations of products are the equilibrium concentrations of all initial and final compounds engaged in decomposition and/or oxidation processes. Among these up to now not encountered combustion products the toxic ones may considerably increase the area of probable damage to humans around an installation handling or storing chemicals. Consequently, companies, authorities and emergency response organizations are all of concern with this new approach in estimating hazardous materials release.

**Code of practice on safety and health in agriculture : meeting of experts to adopt a code of practice on safety and health in agriculture (Geneva, 25-29 October 2010).**- Geneva : ILO, 2010.- xii, 203 σ.

This code of practice is devoted to improving OSH in agriculture and complements the safety and health in agriculture convention 2001 (No.184), and its supplementing recommendation (No.192), and provides further guidance for their application in practice. It provides guidance on appropriate strategies to address the range of OSH risks encountered in agriculture in order to prevent - as far as is reasonably possible - accidents and diseases for all those engaged in this sector. It also provides guidance on the roles of the competent authorities, employers, workers and their organizations in promoting OSH within this sector. Its provisions are based on principles contained in convention No.184 and many other ILO conventions and recommendations, all of which are listed in the bibliography at the end of the code.

**Ergonomic checkpoints in agriculture : practical and easy-to-implement solutions for improving safety, health and working conditions in agriculture** / International Labor Office, International Ergonomics Association.- Geneva : ILO, 2012.- xxvi, 234 σ. ISBN 978-92-2-125449-2

Studies have shown the feasibility and effectiveness of ergonomic innovations for improving working and living conditions in rural and agricultural settings. This manual presents practical and concrete guidance on easy-to-implement ergonomic improvements, particularly in developing countries. The result of long-term collaboration between the ILO and the International Ergonomics Association, the book compiles one hundred illustrated examples of practical ergonomic improvements that can be achieved at little or no cost. The checkpoints each describe an action, indicate why it is necessary and how to carry it out, and provide further hints and points to remember. They focus on ergonomically designed tools, best techniques for handling materials, arranging workstations, physical environments, welfare facilities, teamwork methods, and community cooperation.

[http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms\\_168042.pdf](http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_168042.pdf)

**Evidence for genotoxicity of pesticides in pesticide applicators : a review** / S. Bull, ...[et.al.], Mutagenesis / United Kingdom Environmental Mutagen Society (UKEMS), 2006, 21(2), σ. 93-103

A systematic review of the literature has been conducted and studies reporting investigations of genotoxicity biomarkers in pesticide workers have been assessed with view to establishing whether there was evidence for any risk to those using pesticides approved in the United Kingdom. Each of the studies was evaluated using a set of criteria drawn up by members of the UK Committee of Mutagenicity based upon the guidelines proposed by the International Programme on Chemical Safety (IPCS) working group [R. J. Albertini, D. Anderson, G. R. Douglas, L. Hagmar, K. Hemminki, F. Merlo, A. T. Natarajan, H. Norppa, D. E. Shuker, R. Tice, M. D. Waters and A. Aitio

(2000) *Mutat. Res.*, 463, 111-172]; 24 out of 70 studies met the criteria for inclusion in the substantive evaluation. Positive findings were compared with occupational practices and evidence of exposure to specific pesticides with view to developing hypotheses for further consideration. Seventeen of the 24 studies reported positive findings, although in the majority of these the magnitude of increase was small. There was some limited evidence that the use of benzimidazoles was more consistently associated with positive findings. However, limitations in the data, particularly evidence of exposure, did not allow definitive conclusions to be drawn. Also, it was noted that the use (or not) of personal protective equipment (PPE) was not well documented and in the few studies in which its use was reported, the findings were more likely to be positive in the absence of PPE usage. An independent epidemiological review concluded that all studies were of limited design, particularly with regards to study size, the assessment of subject selection and potential recruitment bias. Variance in genotoxicity indices in the control population and a lack of understanding of the factors influencing this variability complicate attempts to characterize positive responses. More substantive data are needed in this respect so that the significance of relatively small increases in biomonitoring indices can be accurately assessed. Once these data are available, a study in workers using benzimidazoles would be appropriate.

<http://mutage.oxfordjournals.org/content/21/2/93.full.pdf+html>

**Guidance on the safe handling of cattle on farms** .- Dublin : Health and Safety Authority, c2011.- 35 σ. ISBN 978-1-84496-147-4

Any work with cattle involves some level of risk. This publication has been prepared to provide general advice and guidance to all persons handling cattle on farms.

<http://www.ifa.ie/LinkClick.aspx?fileticket=2OSYZKgrGeg%3D&tabid=1077>

**The guide to health and safety in agriculture / HSENI.**- Sudbury, Suffolk : HSE, 2001.- 47 σ. ISBN 1-902-885-046

In the last 15 years a total of 135 people in Northern Ireland have been killed because of agricultural and horticultural work activities. Many more have been seriously injured or made ill by their work. The first seven sections of this booklet are aimed at those responsible for running the farming or horticultural business – partners, directors and sole traders – but will also be of interest to others. The rest of the book is relevant to everyone working on farms, whether employer, employee or self-employed, and will help you identify the causes of injuries and ill health, eliminate hazards and control risks.



[http://www.healthandsafetyworksni.gov.uk/the\\_guide\\_to\\_health\\_and\\_safety\\_in\\_agriculture-2.pdf](http://www.healthandsafetyworksni.gov.uk/the_guide_to_health_and_safety_in_agriculture-2.pdf)

**Health and safety around honeybees** / Edinburgh and Midlothian Beekeeper's Association, 2010, 3 σ.

Health and safety in beekeeping should be approached, like any other activity, by using your common sense to think about what's involved in the job before starting. In health and safety terms this is known as carrying out a risk assessment, the purpose of which is to identify any hazards and the likelihood of something or someone being injured by those hazards. Once these have been identified a plan of action can be devised for minimizing the risk of accident or injury, and what action should be taken in the event of such an occurrence. The most common hazards connected with beekeeping are from procedures and products used in normal hive manipulations such as slips trips and falls, stings, back strains, fire, burning, poisoning and asphyxiation. It all sounds very dangerous when put like this but in reality accidents don't happen very often, all you have to do is apply just a little common sense!

<http://www.edinburghbeekeepers.org.uk/downloads/H&S.pdf>

**The health and safety of western Australian farmers, farm families and farm workers** / Richard Franklin, Lyn Fragar; Australian Centre for Agricultural Health and Safety and Rural Industries Research and Development Corporation.- Moree : ACAHS, 2002.- 112 σ. ISBN 0-642-58404-4

This is an overview report of the health and safety of Western Australian farmers, farm workers, and farm families. This report presents the most up to date information about the farming community in Western Australia that was available at the time of publication.

[http://www.aghealth.org.au/tinymce\\_fm/uploaded/Research%20Reports/health\\_safety\\_wa\\_farmers\\_families\\_workers.pdf](http://www.aghealth.org.au/tinymce_fm/uploaded/Research%20Reports/health_safety_wa_farmers_families_workers.pdf)

**Health and safety on fishing boats** / Commission de la santé et de la securite du travail du Quebec.- Quebec : CSST, 2008.- 47 σ. ISBN 978-2-550-53732-8

This guide contains information on the risks and prevention measures associated with fishing. The first part deals with general safety on board while the second part presents the safety rules related to specific fishing methods. The risks and means of prevention are first presented briefly in table form, after which the prevention measures are explained in detail. The Act respecting occupational health and safety requires that employers assume responsibility for the health and safety of their workers. This document, while not exhaustive, will help employers meet this requirement.

[http://www.csst.qc.ca/en/publications/Pages/DC\\_200\\_6251A.aspx](http://www.csst.qc.ca/en/publications/Pages/DC_200_6251A.aspx)

**Health and safety practices among farmers and other workers : a needs assessment** / A. Hope, ...[et.al.], Occupational medicine 1999, 49(4), σ. 231-235

The development of appropriate health and safety interventions for farmers and agri-workers is important world-wide but data on present practices and attitudes to change are lacking. A representative quota sample (n = 1,938) of the Irish population was surveyed on lifestyle practices and workplace risk assessment and control measures, in relation to chemical exposure, manual handling and machinery. Focus group discussions were conducted also with 47 representatives of national farming organizations. As compared with the general workforce, farmers had a significantly (p < 0.01) lower level of assessment of risk hazards associated with manual handling and machinery. Both farmers and employees in workplaces with less than 20 employees reported a significantly lower level of safety training. Male farmers had a particularly negative health profile with only 18% reporting regular dental checks, 26% practising skin protection and 29% taking regular exercise. Discussions indicated that barriers to change included low perceived susceptibility, lack of time and resources. Mental health issues were particularly highlighted. We conclude farmers differ significantly in many instances from the rest of the workforce in regard to occupational health and safety issues and specific interventions in key areas are required for the agri-sector.

<http://occm.oxfordjournals.org/content/49/4/231.long>

**The health of fishermen in the catching sector of the fishing industry : a gap analysis** / C. Matheson, ...[et.al.], Occupational medicine, 2001, 51(5), σ. 305-311

Offshore fishing is a sizeable industry in the UK and it is one of the most dangerous occupations. Long hours, extreme weather and working with heavy machinery contribute to a high mortality rate in fishermen. Despite a long-standing acknowledgement of the dangers and high mortality associated with fishing, there has been little research in this field. Although there have been developments within the industry in terms of safety, there has been little emphasis on the relationship between health, the environment and performance at work. This paper reviews the international literature on the health of fishermen, and describes the main findings and highlights gaps in current evidence. Areas for further research that would inform the future development of an evidence-based occupational health service for the offshore fishing industry are discussed.

<http://occmmed.oxfordjournals.org/content/51/5/305.full.pdf+html>

**Health of workers in agriculture** / Mostafa A. El Batawi.- Cairo : WHO. Regional Office for the Eastern Mediterranean, c2004.- 104 σ. ISBN 92-9021-329-9 (5152)

Agriculture ranks among the most hazardous industries. Many new techniques and processes that are being used in agricultural production can give rise to health problems that are not readily recognized either by health professionals or the workers themselves. Agricultural workers are at high risk for fatal and nonfatal injuries, work-related lung diseases, noise-induced hearing loss, skin diseases and certain types of cancer associated with chemical use and prolonged sun exposure. Agriculture is also one of the few industries in which the families of workers, who often share the work and live on the premises, are also at risk for injuries, illness and death. This publication is intended for workers and health personnel in both industrialized and developing countries. Its purpose is to provide rural health practitioners (occupational health personnel, other health care specialists and practitioners working in parasitology, toxicology, accident prevention and primary health care) and public health officials with information related to the major problems facing agricultural workers in health practice. Fundamental principles in the development of an occupational health service are presented, with emphasis on the importance of the primary health care approach.

<http://applications.emro.who.int/dsaf/dsa226.pdf>

**Hearing loss as a risk factor for agricultural injuries** / Seong-Woo Choi, ...[et.al.], American journal of industrial medicine, 2005, 48(4), σ. 293-301

Background: Previous studies suggested that hearing impairment based on self-report might increase the risk of agricultural injuries. However, self-reported hearing measures may be subject to inaccuracy and subjective perception. We assessed the association of agricultural injuries with hearing loss and other hearing characteristics using measured hearing. Methods: Study subjects were 150 farmers who participated in the Iowa Certified Safe Farm study. Injury information was collected by telephone interviews at 2-5 month intervals from September 1999 to October 2002. Hearing levels were measured annually using the pure tone audiometry from 1998 to 2002. Adjusted rate ratios of injuries were calculated using the multivariate Poisson regression model. Results: Hearing loss in the better ear (RR = 1.62), hearing asymmetry (RR = 1.67), and fair/poor self-reported hearing (RR = 1.96) were significantly associated with the risk of agricultural injuries. It is notable that self-reported hearing might be a stronger predictor of injuries than pure tone audiometry (PTA). Exposure to noise elevated the risk of injuries in those farmers with hearing loss or hearing asymmetry. The occasional use of hearing protection was significantly associated with agricultural injuries.

Conclusions: This study adds substantial evidence that hearing loss acts as a risk for agricultural injuries. Prevention of hearing loss and noise exposure may be important in reducing the burden of agricultural injuries.

**Managing health and safety in zoos** / HSE.- Sudbury, Suffolk : HSE, 2006.- 62 σ.

This guidance has been produced to replace the 1985 Approved Code of Practice: Zoos. Safety, health and welfare standards for employers and persons at work. While this guidance covers a large number of topics of importance at zoos, each zoo is different, and so the operator and zoo staff are best placed to say which are the most important topics that need attention. Clearly, at all zoos, the health and safety of people when they work with animals is a key area to consider. However, it is important to remember that most of the accidents at zoos result from slips and trips, manual handling and vehicle movements, and a third of these accidents are to visiting members of the public. Therefore, when thinking about health and safety at zoos, it is important that these common issues are considered, as well as those directly related to working with animals.

[http://www.microkat.gr/index2.php?option=com\\_docman&task=doc\\_view&gid=331&Itemid=83](http://www.microkat.gr/index2.php?option=com_docman&task=doc_view&gid=331&Itemid=83)

**Managing health and safety in zoos** / HSE.- Sudbury, Suffolk : HSE, 2012.- 64 σ. ISBN 978-0-7176-2058-6

This guidance contains practical advice for those responsible for the operation of zoos, such as zoo operators, safety representatives and managers. It applies to establishments of any size where wild animals are kept for exhibition to the public including aquariums, sanctuaries, bird gardens and safari parks. Specific hazards and risks associated with zoos are covered, as well as common issues such as slips and trips, manual handling and vehicle movements. The guidance contains recommendations on how to ensure effective arrangements for the safety, health and welfare of employees and others who might be affected by zoo work activities (eg volunteers, veterinary surgeons, contractors, the general public etc). Previously published as Web15, this guidance has been revised to take into account changes to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. References have also been updated.

<http://www.hse.gov.uk/pubns/priced/hsg219.pdf>

**Maintenance in Agriculture - A Safety and Health Guide** / Monica Aguila Martinez-Casariago, ...[et.al.].- Λουξεμβούργο : YEEEEK, 2011.- 57 σ. ISBN 978-92-9191-667-2

Agricultural workers suffer 1.7 times the average rate of non-fatal occupational accidents and 3 times the rate of fatal accidents, making the sector particularly hazardous. This guide describes the main hazards and risks associated with maintenance activities in agriculture and the most common causes of accidents and ill health. The guide also provides advice on risk management, examples of good practice in accident prevention and policies and campaigns at national level. Finally, it includes examples of checklists for safe maintenance in agriculture.

<http://osha.europa.eu/en/publications/reports/maintenance-in-agriculture-a-safety-and-health-guide/>

**Meta-analysis of Hodgkin's disease among farmers** / Sadik Khuder, ...[et.al.] Scandinavian journal of work environment and health, 1999, 25(5), σ. 436-441

Objectives: This study examined the association between Hodgkin's disease and farming. Methods: A series of meta-analyses of peer-reviewed studies was performed, using 30 studies published between 1981 and 1998. Prior to the meta-analyses, all the studies were reviewed and evaluated for heterogeneity and publication bias. Combined relative risks (RR) were calculated using the random effect model. Results: The combined RR was 1.25 [95% confidence interval (95% CI) 1.11-1.42] for all the studies, and 1.08 (95% CI 0.91-1.29) for the studies involving female farmers. Significant heterogeneity among the studies was detected, and a stratified analysis was carried out by study design, country of study, and time of publication. Significantly elevated RR values were obtained for the case-referent studies (odds ratio 1.53, 95% CI 1.18-1.98) and proportionate mortality studies (PMR)(PMR 1.18, 95% CI 1.02-1.36). A decrease in risk was eminent in the more recent studies. Conclusions: The findings suggest that male farmers have a slightly elevated risk of developing Hodgkin's disease. No specific etiologic exposure was identified, but exposures commonly experienced by farmers (infectious microorganisms, herbicides and insecticides) may contribute to the occurrence of the disease.

[http://www.sjweh.fi/show\\_abstract.php?abstract\\_id=457](http://www.sjweh.fi/show_abstract.php?abstract_id=457)

**Occupational and residential exposure assessment for pesticides** / Claire A. Franklin, John Worgan (eds.).- Chichester, West Sussex : John Wiley & Sons, c2005.- xii, 421 σ. (Wiley Series in Agrochemicals and Plant Protection) 0-471-48989-1 (4821, 4839, 4840, 4841, 4842, 4843, 6392)

Pesticides are a class of products essential for sustainable agriculture and good public health, especially in light of the increase in vector borne diseases

such as West Nile Virus and the ongoing challenge of malaria control. Public anxiety regarding the impact of exposure to pesticides on their health and that of their children underscores the importance of generating accurate and reliable exposure data to allow appropriate decisions to be made on registration and use of pesticides. This book documents the current state of knowledge in occupational and residential exposure assessment and outlines ways exposure data are used in assessing the risks of pesticides to humans. The importance of developing standardized methods for measuring exposure, building mathematical models and interpreting data to foster internationally harmonized, scientifically sound decisions is discussed. An Exposure Guidelines Reference List, including web sites, provides the reader quick access to primary international data sources from which more detailed information may be obtained. A Glossary of Terms that have international acceptance is also included to facilitate consistent understanding of the broad subject matter in this book. This book critically reviews the current state of knowledge of pesticide exposure assessment and recommends ways to advance our ability to fully characterize and accurately assess potential exposure and risks. Many of the principles used in pesticide exposure assessment are applicable to other classes of chemicals, and it is hoped that this book will encourage cross-fertilization among disciplines. In particular, continued international cooperation and harmonization will be essential to ensure the protection of workers and the general public from adverse effects of pesticides.

**Occupational health and safety in small animal veterinary practice : part I – Nonparasitic zoonotic diseases** / J. S. Weese, A.S. Peregrine, J. Armstrong, Canadian veterinary journal 2002, 43(8), σ. 631-636

Zoonotic diseases are an ever-present concern in small animal veterinary practice and are often overlooked. A variety of nonparasitic zoonotic diseases may be encountered in small animal practice, including cat scratch disease (bartonellosis), cat bite abscesses, rabies, leptospirosis, methicillin-resistant *Staphylococcus aureus*, *Clostridium difficile*-associated diarrhea, salmonellosis, avian chlamydiosis, campylobacteriosis, dermatophytosis, and blastomycosis. These may cause human disease ranging from mild and self-limiting to fatal. The risk of development of a zoonotic disease can be lessened by early recognition of infected animals, proper animal handling, basic biosecurity precautions, and, most importantly, personal hygiene.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC339409/pdf/20020800s00035p631.pdf>

**Our farmers at risk : behaviour and belief system in pesticide safety** / Florencia G. Palis, ...[et.al.], Journal of public health, 2006, 28(1), σ. 43-48 (Ειδική συλλογή άρθρων 429)

Background: The study was done in three villages in Nueva Ecija, Philippines. It surveys farmers' belief system and pesticide practices relative to health and safety. Methods: Initially it used a simulated market study on willingness to pay for personal protective equipment in the form of gloves and masks. Then a combination of semi-structured, formal, informal, and key-informant interviews, as well as focus groups, and field observations was done intermittently in a span of approximately 12 years. Results: The farmers perceive illness in terms of inability to function. Pesticide to them may not be a threat because (i) they are immune, (ii) it is regarded as a medicine that is needed by the plants rather than poison, and (iii) exposure is only through inhalation and ingestion not through dermal contact. Added to that, they put value on pasma, and try to prevent it at the cost of exposure to pesticides. These perceptions lead to their practices showing inadequate protection. Conclusion: There is the need for more health education programs that tap farmers' belief system and cognitive categories to stress the need for precautions.

<http://jpubhealth.oxfordjournals.org/content/28/1/43.long>

**Parkinsonism and occupational exposure to pesticides** / L. S. Engel ...[et.al.], *Occupational and environmental medicine*, 2001, 58(9), σ. 582-589

Objective: To examine the risk of parkinsonism related to lifetime occupational exposure to pesticides among a cohort of men, mostly orchardists, in Washington State. Methods: All 310 subjects in this study had previously participated in a cohort study of men occupationally exposed to pesticides. Subjects were given a structured neurological examination and completed a self administered questionnaire which elicited detailed information on pesticide (insecticide, herbicide, and fungicide) use throughout their working careers. Demographic characteristics were also sought. Subjects had a mean age of 69.6 years (range 49-96, SD 8.1). There were 238 (76.8%) subjects who reported some occupational exposure to pesticides, whereas 72 (23.2%) reported none. Parkinsonism was defined by the presence of two or more of rest tremor, rigidity, bradykinesia, and impairment of postural reflexes in subjects not on antiparkinsonian medication, or the presence of at least one sign if they were on such medication. Parkinson's disease was not studied explicitly because of the difficulty in distinguishing it from other parkinsonian syndromes. A generalised linear model was used to estimate prevalence ratios (PRs) for parkinsonism relative to history of farming, pesticide use, and use of well water. Results : A PR of 2.0 (95% confidence interval (95% CI) 1.0 to 4.2) was found for subjects in the highest tertile of years of exposure to pesticides; a similarly increased, non-significant, PR was found for the middle tertile (1.9 (95% CI 0.9 to 4.0)), although a trend test did not show a significant exposure-response relation. No increased risks were found associated with specific pesticides or pesticide classes, nor with a history of farming or use of

well water. Conclusion : Parkinsonism may be associated with long term occupational exposure to pesticides, although no associations with specific pesticides could be detected. This finding is consistent with most of the publications on this topic.

<http://oem.bmj.com/content/58/9/582.full.pdf+html>

**Pesticide chemistry : crop protection, public health, environmental safety**

/ Hideo Ohkawa, Hisashi Miyagawa, Philip W. Lee (eds.).- Weinheim : Wiley VCH, c2007.- xl, 497 σ. ISBN 978-3-527-31663-2 (5322, 5964, 5983)

While intensive agriculture is critically dependent on pest control, the chemical agents used may be harmful to humans eating the crop, such that pest control must always be accompanied by measures to ensure environmental and health protection. This integrated view on modern crop protection -- covering science, technology, regulation and economical issues -- contains the proceedings of the 11th IUPAC International Congress of Pesticide Chemistry held in Kobe, in 2006. 50 contributions selected from this premier forum for pesticide development and use cover key aspects in modern pesticide chemistry and technology, including agriculture, agrochemicals, and environmental health aspects, as well as global issues, such as food quality and safety. This comprehensive volume even captures such emerging technologies as crop protection and production, genomics, proteomics, and metabolomics. Invaluable reading for organic, environmental and food chemists, as well as chemists in industry, agricultural scientists, and those working in the chemical industry.

**Pesticides : an international guide to 1800 pest control chemicals** / G.W.A. Milne.- 2η εκδ.- England : Ashgate, c2004 xx, 609 σ. ISBN 978-0-471-72334-9 (5599, 5962)

Chemicals are used worldwide to protect crops and structures, manage pests, and prevent the spread of disease. While beneficial to society, these pesticides can pose human health and environmental risks. Pesticides provides a comprehensive and international collection of data concerning the substances used to repel or mitigate pests ranging from insects, animals and weeds to microorganisms. A valuable feature of this reference is its organization by functional category. The 1,844 chemical entities are divided into the following 17 functional categories: Acaricides, Algicides, Animal Repellants, Bactericides, Bird Repellants, Fungicides, Herbicides, Insecticides, Molluscicides, Nematicides, Piscicides, Plant Growth Regulators, Rodenticides, Safeners, Slimicides, Termiticides and Miscellaneous Chemicals. This compilation provides important chemical and toxicity data for the 1800 substances registered by the US Environmental Protection Agency and used largely in the agricultural environment. The chemical,



physical and bioactivity properties of each agent are recorded along with a comprehensive listing of product trade names and synonyms as well as manufacturers. The EPA status of each agent is given and each record carries the appropriate CAS Registry Number and the associated EINECS Number where available. The Merck Index number is provided for all chemicals in this edition which also appear in the 13th edition of the Merck Index. Wherever possible, the following information is also displayed for each entry: melting point, boiling point, density or specific gravity, refractive index, optical rotation, ultraviolet absorption, and solubility as well as chronic and acute toxicities. A key strength of this new reference is the extensive coverage of synonyms. The book includes an index of 28,000 chemical synonyms and trade names with a cross-reference to their main entry. This extraordinarily comprehensive view of trade name and generic synonyms makes *Pesticides* one of the world's most exhaustive references for agricultural chemical synonyms.

**Pesticides : health, safety and the environment** / G. A. Matthews.- Oxford, UK : Blackwell, c2006 viii, 235 σ. ISBN 1-4051-3091-2 ; 978-1-4051-3091-2 (5328)

Over the last five decades pesticides have undoubtedly helped to increase agricultural production and control vectors of disease, however the environmental impact of long term agro-chemical use has been cause for concern along with the effects on human health. In *Pesticides*, Graham Matthews begins by looking at the developmental history of pesticides, and how crop protection was achieved before they were in use, how pesticides are registered for use and what happens to pesticides in food and the environment. Pesticide application and operator safety is investigated and the future of pesticides in light of the development of genetically modified crops is explored. Provides commercially important information for the agro-chemical industry. Collecting together the most recent research in the area in a single volume, this book is a vital resource for agricultural scientists, agronomists, plant scientists, plant pathologists, entomologists, environmental scientists, public health personnel, toxicologists, crop protection personnel and all those involved in the agrochemical industry and government pesticide registration and legislation.

**Worker exposure to agrochemicals : methods for monitoring and assessment** / R. C. Honeycutt, Edgar W. Day.- Boca Raton : Lewis Pub., c2001 169 σ. ISBN 1-56670-455-3 (4893)

Methods for determining exposure of pesticides to agricultural workers have been developing for over thirty years. You may ask: what more do we need to know? *Worker Exposure to Agrochemicals* provides the answer. It contains a compilation of research papers that examine this issue from every angle. Even with all the information available, there still remains an intense debate

over what method - dermal deposition or biological monitoring - provides better results when measuring worker exposure. Researchers almost never realize the same results in concurrent experiments using both methods. The question is: which process is more accurate? Worker Exposure to Agrochemicals examines the effectiveness of both procedures. Two chapters describe the simultaneous use of both methods and their outcome. The remaining chapters cover risk assessment, protective clothing, Canadian dosimetry, "Jazzercise," a tiered approach to exposure estimation, modeling reentry exposure, performing a dislodgeable residue study, and GLP requirements.

**Ασφαλείς εργασίες συντήρησης στη γεωργία /** Ευρωπαϊκός Οργανισμός για την Ασφάλεια και την Υγεία στην Εργασία, Factsheet 99, 2011

Οι εργαζόμενοι στη γεωργία είναι θύματα μη θανατηφόρων εργατικών ατυχημάτων κατά 1,7 φορές περισσότερο από τον μέσο όρο και θύματα θανατηφόρων εργατικών ατυχημάτων κατά 3 φορές περισσότερο από τον μέσο όρο, γεγονός το οποίο καθιστά τον γεωργικό τομέα εξαιρετικά επικίνδυνο. Πέραν των υπαρκτών και πιθανών κινδύνων που συνήθως παρατηρούνται στις γεωργικές εκμεταλλεύσεις, οι εργασίες συντήρησης ενέχουν ορισμένους ειδικούς κινδύνους. Η αυτοαπασχόληση και το γεγονός ότι η γεωργική καλλιέργεια είναι συχνά οικογενειακή επιχείρηση αποτελούν επιπλέον πρόκληση για την επαγγελματική ασφάλεια και υγεία στη γεωργία. Το παρόν θεματικό δελτίο παρέχει συνοπτικές πληροφορίες για τους τρόπους ασφαλούς εκτέλεσης των εργασιών συντήρησης.

<http://osha.europa.eu/el/publications/factsheets/99>

**Διερεύνηση παραγόντων κινδύνου για την υγεία και την ασφάλεια στους εργαζόμενους στην αλιεία στην Ελλάδα /** Ε. Φραντζέσκου, ...[κ.ά.]- 7ο. (Ανακοίνωση στο 1<sup>ο</sup> Πανελλήνιο συνέδριο για την υγεία και την ασφάλεια της εργασίας, 29-30 Νοεμβρίου 2010, Athens Hilton)

Το υπερβολικό βάρος, η συχνή κατανάλωση κόκκινου κρέατος και λιπαρών γευμάτων, η υπερβολική κατανάλωση αλκοόλ, το κάπνισμα, και η έλλειψη άσκησης φαίνεται να ευνοούνται από τις συνθήκες εργασίας και την κουλτούρα των εργαζομένων στην αλιεία μικρής κλίμακας (small scale fishing) και συνιστούν τους κυριότερους παράγοντες όπου αποδίδεται η επιβάρυνση της υγείας των εργαζομένων στην αλιεία στην Ελλάδα σε επίπεδο καρδιαγγειακών νοσημάτων. Σε επίπεδο ασφάλειας, η παράκτια αλιεία με τα κατ' εξοχήν μικρά αλιευτικά σκάφη και την χειρωνακτική αλιεία αποδεικνύεται με σαφώς μεγαλύτερη επικινδυνότητα ως προς την πρόκληση ατυχήματος συγκριτικά με τη μέση ή την υπερπόντια αλιεία. Η μελέτη αυτή αποτελεί την πρώτη μελέτη για την επαγγελματική υγεία και ασφάλεια στην ελληνική αλιεία. Το μικρό μέγεθος του δείγματος συνιστά σαφώς αδυναμία της μελέτης, ωστόσο είναι ενδεικτικό των τάσεων που αποτυπώνουν τα

κυριότερα προβλήματα κατά την άσκηση της επαγγελματικής αλιευτικής δραστηριότητας. Αποδίδεται έτσι μια πρώτη εκτίμηση τεκμηρίωσης της ανάγκης για καλύτερη υγεία και συνθήκες εργασίας των εργαζομένων στην αλιεία στην Ελλάδα, καθώς της ανάγκης δημιουργίας προγραμμάτων πρόληψης σε αυτό το επίπεδο ενώ δημιουργείται μια τρέχουσα βάση αναφοράς για περαιτέρω ερευνητική εργασία στο μέλλον.

[http://www.ituniontt.gr/cd\\_files/02.proforikes/pa071.pdf](http://www.ituniontt.gr/cd_files/02.proforikes/pa071.pdf)

**Η κατάρτιση στον τομέα της ασφάλειας και της υγείας στην αλιεία : η Ευρώπη για την ασφάλεια και την υγεία στην εργασία /** Ευρωπαϊκή Κοινότητα. Επιτροπή.- Λουξεμβούργο : ΥΕΕΕΚ, 1993.- 66 σ. ISBN 92-826-5013-8 (363.1196392 ΕΠΙ)

Τα αποτελέσματα της έρευνας του ευρωβαρομέτρου το 1991 για τον αλιευτικό κλάδο ήταν πράγματι ανησυχητικά : Οι εργαζόμενοι του κλάδου αγνοούν την ύπαρξη του υπεύθυνου ασφάλειας στο πλοίο ή στην επιχείρησή τους και δηλώνουν ότι λαμβάνουν μηδενική κατάρτιση. Με βάση τα στοιχεία αυτά η Επιτροπή, στα πλαίσια του Ευρωπαϊκού έτους για την ασφάλεια, την υγιεινή και την υγεία στο χώρο εργασίας, ενθαρρύνει την εκπόνηση μελετών όπως η παρούσα, που στοχεύουν να αποτελέσουν ένα απλό και χρήσιμο εργαλείο για την κατάρτιση των ναυτικών στον τομέα της υγείας και της ασφάλειας.

**Οδηγός υγιεινής και ασφάλειας της εργασίας στις υδατοκαλλιέργειες /** Πανελλήνιος Σύλλογος Τεχνολόγων Ιχθυολόγων.- Πειραιάς : ΠΑΣΤΙ, 2003.- 35 σ. ISBN 960-87795-0-2

Περιέχει σε μορφή οδηγιών, τους βασικούς κανόνες για τα μέτρα τα οποία πρέπει να λαμβάνονται για την Υγιεινή και Ασφάλεια της Εργασίας σε όλες τις δραστηριότητες των Θαλασσοκαλλιεργειών στην Ελλάδα. Μπορεί επίσης να εφαρμοσθεί και στις υπόλοιπες Ιχθυο- και Χελο-καλλιέργειες καθώς και στις καλλιέργειες ασπόνδυλων (π.χ. Οστρακοκαλλιέργειες) και την Αλιεία.

**Πρόληψη επαγγελματικών ασθενειών & ατυχημάτων στη γεωργία-κτηνοτροφία- αλιεία /** Α. Δ. Λινού, Π. Α. Παπαδόπουλος, Χ. Κ. Χατζής.- Αθήνα : Ινστιτούτο Προληπτικής Περιβαλλοντικής και Εργασιακής Ιατρικής, 1995.- 225 σ. ISBN 960-85761-0-5 (1542, 4253)

Με την έκδοση αυτού του εγχειριδίου, γίνεται μια πρώτη προσπάθεια :

1.- Συμβολής στην κάλυψη ενός ομολογημένου ελλείματος που αφορά την προστασία της υγείας και ασφάλειας, την πρόληψη γενικότερα των επαγγελματικών - για την υγεία - κινδύνων. Κινδύνων που συνδέονται με την έκθεση των αγροτών, κτηνοτρόφων και αλιέων σε μια σειρά από παλιούς και νέους - φυσικούς, χημικούς, βιολογικούς - βλαπτικούς παράγοντες λόγω της πολυτιμότητας για όλη την κοινωνία - επαγγελματικής τους δραστηριότητας. 2.- Συμβολής στη σμίκρυνση της απόστασης που υπάρχει

ανάμεσα στα όσα έχουν γίνει στον τομέα της ΥΑΕ σε θεσμούς, κανονισμούς πληροφόρησης κλπ. στους άλλους κλάδους της παραγωγικής δραστηριότητας και την υστέρηση που παρατηρείται στα θέματα αυτά, στο χώρο της γεωργικής παραγωγής και της αλιείας. 3.- Συμβολής τέλος στην διεπιστημονική προσέγγιση και προληπτική αντιμετώπιση των θεμάτων αυτών με κύριους επιστημονικούς άξονες την ιατρική της εργασίας, την ασφάλεια της εργασίας και την επιδημιολογία.

**Υγεία και ασφάλεια των εργαζομένων στη γεωργία, Δράση για υγιεινή και ασφάλεια της εργασίας, προστασία περιβάλλοντος, 2010, 201, σ.2**

Σύμφωνα με τον Ευρωπαϊκό Οργανισμό για την Υγεία και Ασφάλεια στην Εργασία περισσότεροι από 10 εκατομμύρια άνθρωποι απασχολούνται στη γεωργία. Παρόλο που οι αριθμοί των εργαζομένων και των γεωργικών εκμεταλλεύσεων τείνουν να μειώνονται, η γεωργία εξακολουθεί να συνιστά έναν ζωτικά σημαντικό τομέα. Πρόκειται συνάμα όμως και για έναν τομέα όπου πολλοί εργαζόμενοι έχουν χάσει τη ζωή τους, έχουν τραυματιστεί σε ατυχήματα στον χώρο εργασίας, ή υποφέρουν από επαγγελματικές ασθένειες.

**Υγιεινή και ασφάλεια της εργασίας στη γεωργία και τα τρόφιμα (Παρασκευή 26 Μαΐου 1995) : ημερίδα / Γεωπονικό Πανεπιστήμιο Αθηνών Ελληνικό Ινστιτούτο Υγιεινής και Ασφάλειας της Εργασίας (1761)**

Στις 26 Μαΐου του 1995 πραγματοποιήθηκε ημερίδα με θέμα την υγιεινή και ασφάλεια της εργασίας στη γεωργία και τα τρόφιμα την οποία διοργάνωσαν το Γεωπονικό Πανεπιστήμιο Αθηνών και το ΕΛΙΝΥΑΕ. Οι τίτλοι των εισηγήσεων που παρουσιάστηκαν είναι : Απασχόληση στη γεωργία και στα τρόφιμα / Ν. Μαραβέγιας, Υγιεινή και ασφάλεια των εργαζομένων / Δ. Πολίτης, Θεσμικό πλαίσιο υγιεινής και ασφάλειας / Α. Καφετζοπούλου, Μέτρα προστασίας κατά τη χρήση των γεωργικών φαρμάκων / Π. Γ. Μπαλαγιάννης, Επικινδυνότητα κατά την εργασία στον τομέα της ζωικής παραγωγής / Σ. Δεληγεώργης, Κίνδυνοι από βιοτεχνολογικές εφαρμογές στη γεωπονία / Σπ. Τσάκας, Ασφάλεια κατά την εργασία στον τομέα τεχνικών έργων και εξοπλισμού / Ν. Συγγιμής, Υγιεινή και ασφάλεια της εργασίας στη γεωργία και τα τρόφιμα / Μ. Πολυσιού, Βλάβες από τη χρήση φυτοφαρμάκων / Γεώργιος Παπαναγιώτου, Ο ρόλος του γεωπόνου ως τεχνικού ασφαλείας στη γεωργία και τα τρόφιμα / Π. Ε. Καλδής, Χ.Ι. Γαρδέλη

**Φυτοπροστατευτικά προϊόντα και ασφάλεια εργαζομένων στη γεωργία / Κυριακή Μαχαίρα, Ευάγγελος Καπετανάκης, Υγιεινή και ασφάλεια της εργασίας, 2001, (6), σ. 10-12**

Τα φυτοπροστατευτικά προϊόντα (φ.π.) για να επιτύχουν το σκοπό για τον οποίο έχουν δημιουργηθεί, δηλαδή την καταπολέμηση οργανισμών-στόχων, αποτελούνται από ουσίες με έντονη βιολογική δράση. Ένα από τα πρωταρχικά κριτήρια ανάπτυξής τους είναι η εκλεκτικότητα ως προς τον

οργανισμό που προορίζονται να καταπολεμήσουν. Όπως είναι προφανές, δεν είναι πρακτικά εφικτή η ανάπτυξη απόλυτα εκλεκτικών μορίων, ιδιαίτερα όσον αφορά τις χρόνιες δράσεις τους, με αποτέλεσμα να μην μπορεί να αποκλεισθεί η πιθανότητα πρόκλησης μακροχρόνιων επιδράσεων σε οργανισμούς που δεν αποτελούν στόχο, συμπεριλαμβανομένου του ανθρώπου. Οι κίνδυνοι που αξιολογούνται στην περίπτωση των φ.π. αφορούν την πιθανότητα καρκινογόνου δράσης, άλλες χρόνιες βλάβες, επιδράσεις στο νευρικό σύστημα, επιδράσεις στην αναπαραγωγική ικανότητα και στη φυσιολογική ανάπτυξη του εμβρύου, πρόκληση ενδοκρινολογικών διαταραχών, βλάβες στο γενετικό υλικό κ.ά.

**Φυτοφάρμακα και κακοήθη νοσήματα του αιμοποιητικού συστήματος / Χ. Κιαμούρης, Α. Λινού, Ιατρική, 1989, (55), σ. 554-559**

Η εργασία αυτή αποτελεί ανασκόπηση της διεθνούς βιβλιογραφίας που αφορά την πιθανή δράση των φυτοφαρμάκων στην ανάπτυξη κακοήθων νόσων του αιμοποιητικού συστήματος (λευχαιμία, λέμφωμα). Γίνεται λεπτομερής αναφορά σε μελέτες περιγραφικού τύπου (στατιστικές θνησιμότητας και επίπτωσης) και αναλυτικού τύπου (προοπτικές και αναδρομικές έρευνες). Συμπεραίνεται ότι υπάρχουν επαρκή στοιχεία, σύμφωνα με τα οποία ορισμένα τουλάχιστον φυτοφάρμακα όπως το 2,4D και 2,4T όταν χρησιμοποιηθούν επί μακρό χρονικό διάστημα, είναι δυνατόν να προκαλέσουν ορισμένες μορφές λεμφώματος (κυρίως Non-Hodgkin) και λευχαιμίας (κυρίως λεμφογενούς). Επισημαίνεται ότι τα ευρήματα πρέπει να επιβεβαιωθούν στον ελληνικό πληθυσμό και να δοθεί ιδιαίτερη έμφαση στην επίδραση των φυτοφαρμάκων στις γυναίκες και τα παιδιά.