



Bulletin de veille du réseau d'écotoxicologie terrestre et aquatique



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Edito

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L'équipe vous souhaite une bonne lecture de ce bulletin !

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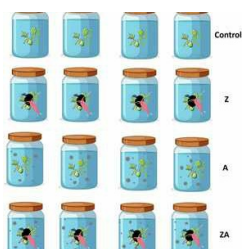
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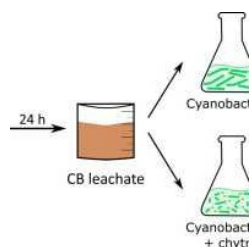
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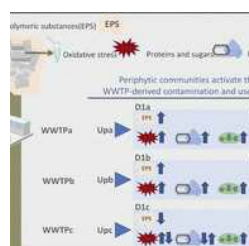
The role of predation and pesticides in shaping phytoplankton dynamics in a short microcosms experiment

Authors: Zaky SK, Gutierrez MF, Frau D. Source: ECOTOXICOLOGY 33: 1161–1170, 2024, DOI 10.1007/s10646-024-02805-4 Abstract: Aquatic organisms are subject to various forcing factors that affect their structure, some of which are natural, while others result from human activities, both having variable effects. This study aimed to determine the importance of a natural stressor (zooplankton) and an herbicide (atrazine) on phytoplankton density and morphological composition in a microcosm experiment. A natural phytoplankton assemblage was exposed to two zooplankton predators: a copepod (*Argyrodiaptomus falcifer*) and a cladoceran (*Ceriodaphnia dubia*), and to atrazine (27 µg/L), in three combinations of factors (zooplankton treatments (Z), atrazine treatment (A), the combination of both (ZA)) plus a Control...



Cigarette butts enable toxigenic cyanobacteria growth by inhibiting their lethal fungal infections

Authors: Guttman N, Wolinska J, Spahr S, Martínez-Ruiz E. Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 286:117149, 2024, DOI 10.1016/j.ecoenv.2024.117149 Abstract: Cigarette butts (CBs), of which around 4.5 trillion are discarded annually, are one of the most common types of litter worldwide. CBs contain various chemicals, including metals, nicotine, and polycyclic aromatic hydrocarbons, which can leach into water and pose a threat to aquatic organisms such as cyanobacteria and chytrid fungi. Chytrids, zoosporic fungi that parasitize cyanobacteria lethally, play a crucial role in regulating cyanobacteria blooms by delaying or suppressing bloom formation. Despite the prevalence of CBs in the environment, the impact of their leachates on cyanobacteria-chytrid interactions is not well understood. We assessed the effects of CB leachate on the interaction between the toxigenic cyanobacterium *Planktothrix agardhii* and its chytrid parasite *Rhizophyidium megarrhizum*...



Assessment of extracellular polymeric substances production and antioxidant defences in periphytic communities exposed to effluent contaminants

Authors: Silva C, Figueira E, Matos D et al. Source: ENVIRONMENTAL SCIENCE-PROCESSES & IMPACTS Early Access, DOI 10.1039/d4em00446a Abstract: Periphyton is frequently used in the evaluation of the ecological status of aquatic ecosystems using diatoms as a proxy. However, periphyton has a particularity, the production of extracellular polymeric substances (EPS), which might play a protective role against exposure to harmful environmental contaminants. Effluents originating in wastewater treatment plants (WWTPs) constitute some of the most complex mixtures of contaminants, to which aquatic ecosystems are frequently exposed, often containing tens to hundreds of different chemicals. In such challenging scenarios, a putative protective role of EPS may obscure the bioindicator value of diatoms. To address this problem, we sampled periphyton upstream and downstream of the effluent outfall from three different WWTPs, quantifying EPS production and simultaneously evaluating general stress responses in the community...

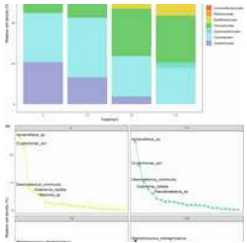


Response of bacterial and fungal communities in natural biofilms to bioavailable heavy metals in a mining-affected river

Authors: Li CY, Zhong M, Guo ED et al. Source: WATER RESEARCH 267:122470, 2024, DOI 10.1016/j.watres.2024.122470 Abstract: Biofilms, known as "microbial skin" in rivers, respond to rapid and sensitive environmental changes. However, the ecological response mechanisms of bacterial and fungal communities in river biofilms toward heavy metal pollution remains poorly understood. This study focused on the key driving factors of bacterial and fungal community diversity and composition and their ecological response mechanisms within periphytic biofilms of Asia's largest Pb-Zn mining area...

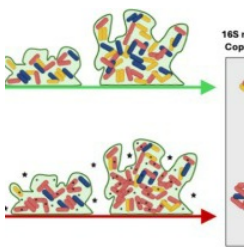
Exploring the Effect of Salinity as a Primary Cause of Teratology in Freshwater Diatoms

Authors: Nouné F, Chaib N, Metallaoui S et al. Source: GLOBAL NEST JOURNAL 26:05586, 2024, DOI 10.30955/gnj.005586 Abstract: Increased water conductivity levels have been proposed as a key factor to explain the occurrence of teratological forms in freshwater diatom assemblages. The current study aimed to carry out an experiment on a laboratory scale to assess the response of periphytic diatoms to artificially increased salinity levels...



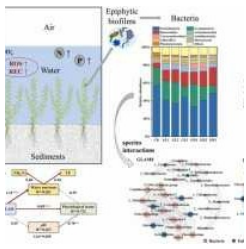
Negative effects of cigarette butt leachate on freshwater phytoplankton communities

Authors: Popiurek dos Santos N, Rodrigues Maciel MG, Santos Guimarães P et al. Source: ECOTOXICOLOGY 33:884–892, 2024, DOI 10.1007/s10646-024-02787-3 Abstract: We experimentally tested the effects of different concentrations of cigarette butt leachate on freshwater phytoplankton chlorophyll-a, species richness, cell density, and community composition. For this, we sampled the phytoplankton from a eutrophic lake and acclimated it for 24 h in microcosms. We then conducted the experiment in microcosms maintained for 96 h. The experiment consisted of four treatments: control and leachate from 1 butt/L (T1), 5 butts/L (T5), and 10 butts/L (T10), which were prepared by diluting a stock solution of leachate from 50 butts/L...



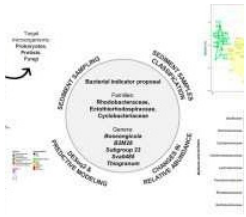
Cobalt effects on prokaryotic communities of river biofilms: Impact on their colonization kinetics, structure and functions

Authors: Gourgues S, Goñi-Urriza M, Milhe-Poutingon M et al. Source: SCIENCE OF THE TOTAL ENVIRONMENT 951:175713, 2024, DOI 10.1016/j.scitotenv.2024.175713 Abstract: Although cobalt (Co) plays a significant role in the transition to low-carbon technologies, its environmental impact remains largely unknown. This study examines Co impacts on the prokaryotic communities within river biofilms to evaluate their potential use as bioindicators of Co contamination. To this end, biofilms were cultivated in artificial streams enriched with different environmental Co concentrations (0.1, 0.5, and 1 μM Co) over 28 days and examined for prokaryotic abundance and diversity via quantitative PCR and DNA-metabarcoding every 7 days. The prokaryotic community's resilience was further investigated after an additional 35 days without Co contamination...



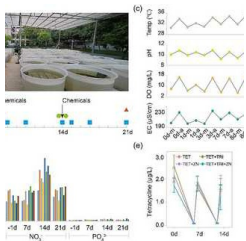
Glufosinate-ammonium increased nitrogen and phosphorus content in water and shaped microbial community in epiphytic biofilm of *Hydrilla verticillata*

Authors: Duan RF, Zhang SH, Jiang SJ et al. Source: JOURNAL OF HAZARDOUS MATERIALS 479:135674, 2024, DOI 10.1016/j.jhazmat.2024.135674 Abstract: Glufosinate-ammonium (GLAM) can be released into adjacent water bodies with rainfall runoff and return water from farmland irrigation. However, impacts of GLAM on aquatic organisms remain unclear. In this study, changes in water quality, plant physiological parameters and epiphytic microbial community were investigated in wetlands with *Hydrilla verticillata* exposed to GLAM for 24 days...



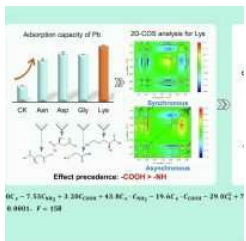
Microbial communities as indicators of marine ecosystem health: Insights from coastal sediments in the eastern Adriatic Sea

Authors: Ramljak A, Zucko J, Lucic M et al. Source: MARINE POLLUTION BULLETIN 205:116649, 2024, DOI 10.1016/j.marpolbul.2024.116649 Abstract: Considering the adaptability and responsiveness of microorganisms to environmental changes, their indicator potential is still not acknowledged in European directives. This comprehensive study examined the changes of microbial communities in sediments and a range of geochemical parameters from pristine and anthropogenically impacted coastal areas in the eastern Adriatic Sea...



Single-/Co-Driving of Tetracycline, Triclocarban and Zinc on Microbial Community, Resistome and Function in the Cyanobacteria-Blooming Freshwater Ecosystem

Authors: Gao FZ, Yao KS, Tan LJ et al. Source: BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY 113:19, 2024, DOI 10.1007/s00128-024-03928-4 Abstract: Environmental concentrations of antimicrobials can inhibit Cyanobacteria, but little is known about their effects on Cyanobacteria-blooming freshwater ecosystem. Here, a 21 days' outdoor freshwater mesocosm experiment was established to study effects of single and combined tetracycline, triclocarban and zinc at environmental concentrations on microbial community, microbial function and antimicrobial resistance using amplicon- and metagenomic-based methods...

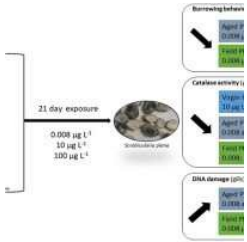


The role of amino acids in facilitating lead accumulation in microalgae: A quantitative analysis of functional group effects

Authors: Fang JJ, Chen SY, Leng YL et al. Source: JOURNAL OF MOLECULAR LIQUIDS 399:124465, 2024, DOI 10.1016/j.molliq.2024.124465 Abstract: In aquatic ecosystems, dissolved organic matter (DOM) enhances the adsorption of heavy metals onto microalgae by participating in the formation of algae-heavy metal-DOM ternary complexes, thereby increasing environmental risks. The functional groups in the DOM play a crucial role. However, a quantitative description based on these groups is lacking. This study investigates the effects of amino acids (AAs) with varying functional group ratios on the accumulation of lead in *Chlorella pyrenoidosa* using batch experiments...

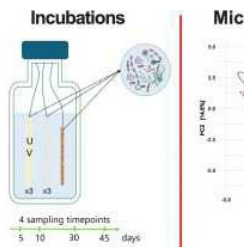
Retention of microplastics by biofilms and their ingestion by protists in rivers

Authors: Hamann L, Werner J, Haase FJ et al. Source: ENVIRONMENTAL MICROBIOLOGY REPORTS 16:e70016, 2024, DOI 10.1111/1758-2229.70016 Abstract: Microplastics (MPs) are released into the environment through human activities and are transported by rivers from land to sea. Biofilms, which are ubiquitous in aquatic ecosystems such as rivers, may play an essential role in the fate of MPs and their ingestion by biofilm protists. To assess this, biofilms were naturally grown on clay tiles in the River Rhin...



Effect of aging on the toxicity of polyethylene microplastics on the estuarine bivalve *Scrobicularia plana*

Authors: Labbe C, Metais I, Perrein-Ettajani H et al. Source: ENVIRONMENTAL POLLUTION 361:124805, 2024, DOI 10.1016/j.envpol.2024.124805 Abstract: Microplastics (MP) are now present in all ecosystems and undergo weathering processes, including physical or chemical degradation. Although most studies have been carried out on MP toxicity in the marine ecosystem, interest is growing for the terrestrial and entire aquatic compartments. However, the interface between both environments, also known as the ...

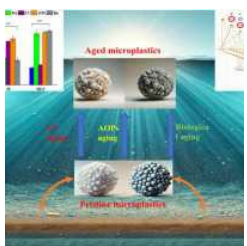


Environmental factors control microbial colonization of plastics in the North Sea

Authors: Zeghal E, Vaksmaa A, van Bleijswijk J, Niemann H Source: MARINE POLLUTION BULLETIN 208:116964, 2024, DOI 10.1016/j.marpolbul.2024.116964 Abstract: Large quantities of plastic enter the oceans each year providing extensive attachment surfaces for marine microbes yet understanding their interactions and colonization of plastic debris remains limited. We investigated microbial colonization of various plastic types (polyethylene, polystyrene, polyethylene-terephthalate, and nylon) in ex-situ i...

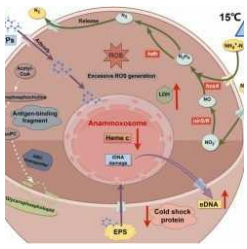
Microbial bioremediation techniques of microplastics and nanoplastics in the marine environment

Authors: Zhou JL, Chen MY, Li Y et al. Source: TRAC-TRENDS IN ANALYTICAL CHEMISTRY 180:117971, 2024, DOI: 10.1016/j.trac.2024.117971 Abstract: Marine microplastics and nanoplastics (MNPs) have garnered increasing concern worldwide. To deal with the persistent ecological threat of MNPs, microbial bioremediation is developing rapidly as a promising solution. Here, we analyzed recent studies on biofilms of marine MNPs and diverse marine plastic-degrading microorganisms, such as fungi, bacteria, protis...



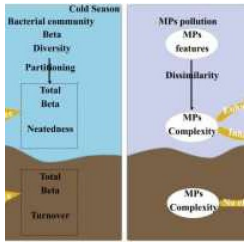
Impacts of conventional and biodegradable microplastics on greenhouse gas emissions and microbial communities in lake sediment under diverse aging methods

Authors: Fan ZQ, Jiang CL, Muhammad T et al. Source: JOURNAL OF CLEANER PRODUCTION 467:142834, 2024, DOI 10.1016/j.jclepro.2024.142834 Abstract: Microplastics (MPs) are crucial in regulating microbial communities, thereby influencing greenhouse gas (GHG) emissions in freshwater ecosystems. MPs' presence in lake sediment has been confirmed to be aged, necessitating a reassessment of their influence on GHG emissions. This study aims to investigate the impacts of MPs with various aging methods on orga...



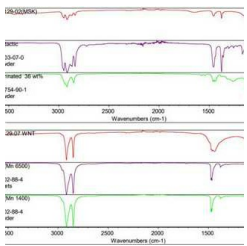
Polystyrene nanoparticles regulate microbial stress response and cold adaptation in mainstream anammox process at low temperature

Authors: Han NN, Jin JA, Yang JH et al. Source: JOURNAL OF HAZARDOUS MATERIALS 480:135860, 2024, DOI 10.1016/j.jhazmat.2024.135860 Abstract: Nanoplastic pollution has become one of the most pressing environmental issues, and its bioaccumulation in aquatic environment also causes a great difficulty in treatment. Therefore, this work investigated the microbial dynamics of mainstream anaerobic ammonia oxidizing (anammox) process to treat the wastewater containing typical nanoplastics, as well as the f...



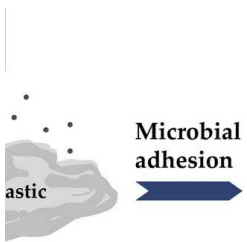
Complex microplastics significantly influence the assembly process of lake bacterial communities

Authors: Li MJ, Xu XH, Wang JJ et al. Source: JOURNAL OF HAZARDOUS MATERIALS 480:135867, 2024, DOI 10.1016/j.jhazmat.2024.135867 Abstract: Environmental microplastics (MPs) vary in abundance, shape, size, color, and polymer type in freshwater ecosystems, yet their impact on bacterial community assembly in natural lakes is unclear. Here, we examined MPs and bacterial compositions in water and sediments of Taihu Lake, China, to reveal the influence of complex MPs on the bacterial community assembly...



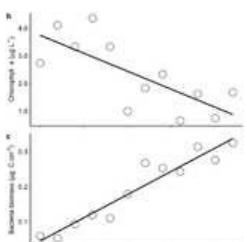
Plastic Debris in the Aquatic Environment: An Emerging Substratum for Antimicrobial Resistant (AMR) Biofilms

Authors: Suresh S, Ambily SKA, Chandran P Source: ARCHIVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY Early Access, DOI 10.1007/s00244-024-01086-6 Abstract: Plastic pollution has quadrupled over the past years and has become a global concern due to its direct impact on life forms. The present study analysed whether the plastic debris in aquatic environments could act as the substratum for the antimicrobial-resistant (AMR) bacteria to form biofilm for survival. We have collected various plastic d...



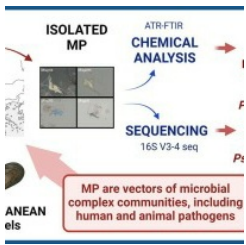
Biofilms on microplastic surfaces and their effect on pollutant adsorption in the aquatic environment

Authors: Qin Y, Tu YP, Chen CC et al. Source: JOURNAL OF MATERIAL CYCLES AND WASTE MANAGEMENT Early Access, DOI 10.1007/s10163-024-02066-7 Abstract: The extensive use of plastics has led to the widespread presence of a new type of pollutant called "microplastics (MPs)" in aquatic environments. MPs have large specific surface areas and strong hydrophobicity. In particular, MPs provide a new ecological niche for microorganisms in aquatic environments, which attach to and subsequently form biofilms on...



The entrainment of polyester microfibrils modifies the structure and function of periphytic biofilms

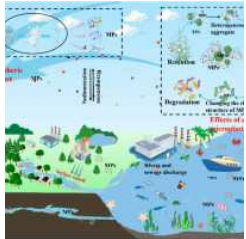
Authors: Liddick MJ, Rier ST Source: HYDROBIOLOGIA Early Access, DOI 10.1007/s10750-024-05678-0 Abstract: As plastics undergo degradation, they give rise to microplastics (MPs), such as polyester microfibrils (PMFs), which are increasingly recognized for their potential impact on microbial communities. Despite a growing body of the literature on MP effects, there is a gap in understanding prolonged PMF exposure (≥ 1 month) on stream periphyton across an extensive concentration gradient. This stu...



Microbial communities on microplastics from seawater and mussels: Insights from the northern Adriatic Sea

Authors: Kolenc Z, Virsek MK, Klančnik A, Janecko N
Source: SCIENCE OF THE TOTAL ENVIRONMENT 949:175130, 2024, DOI 10.1016/j.scitotenv.2024.175130

Abstract: Microplastics, synthetic solid particles of different sizes (< 5 mm), pose a major challenge to marine ecosystems. Introducing microplastics into the marine environment leads to the formation of complex microbial communities, a topic of growing interest in environmental research. For this study, we selected an area in the northern Adriatic S...



The role of algae in regulating the fate of microplastics: A review for processes, mechanisms, and influencing factors

Authors: Jiang Y, Niu SP, Wu J
Source: SCIENCE OF THE TOTAL ENVIRONMENT 949:175227, 2024, DOI 10.1016/j.scitotenv.2024.175227

Abstract: As an important emerging pollutant, the fate of microplastics (MPs) in ecosystems is of growing global concern. In addition to hydrodynamics and animals, algae can also affect the transport of MPs in aquatic environments, which could potentially remove MPs from the water column. Although researchers have conducted many studies on the sink of MPs regulated by algae ...

Nascently generated microplastics in freshwater stream are colonized by bacterial communities from stream and riparian sources

Authors: Hossain MR, Eagar AC, Blackwood CB, Leff LG
Source: JOURNAL OF ENVIRONMENTAL QUALITY Early Access, DOI 10.1002/jeq2.20602

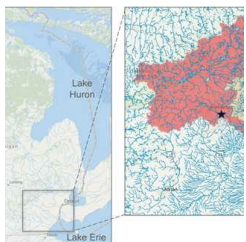
Abstract: The purpose of this study was to examine bacterial colonization of different types of microplastics through time in a freshwater ecosystem. Microplastics are persistent pollutants in aquatic ecosystems. Bacteria readily colonize microplastic surfaces and may contribute to their degradation, but the taxa involved, and their degradative abilities, differ based o...



In-depth analysis of microplastics reported from animal and algae seafood species: Implications for consumers and environmental health

Authors: Bilbao-Kareaga A, Calvache D, Sargsyan R et al.
Source: MARINE POLLUTION BULLETIN 206:116742, 2024, DOI 10.1016/j.marpolbul.2024.116742

Abstract: Macroalgae are able to retain environmental microplastics (MPs). The potential ingestion of MP through Atlantic agar Gelidium corneum and different animal species (hake, glass eels, mussels, topshells, anemones, sea cucumbers) that are seafood resources in Spain, was estimated from published MPs data calculating daily dose and annual ingestion rate...



Point and nonpoint sources of microplastics to two Southeast Michigan rivers and reduced biofilm function on plastic substrata

Authors: Troost JL, Baker SM, Chaudry MH, Judd KE
Source: AQUATIC SCIENCES 86:94, 2024, DOI 10.1007/s00027-024-01112-8

Abstract: Plastic pollution is an emergent global issue in freshwater and marine ecosystems. Microplastics enter waterways from a variety of sources, although the relative importance of point and nonpoint sources for a given watershed is not well understood. To determine whether medium-sized wastewater treatment plants are significant sources of microplastics to rivers draining int...

Characterization of pesticide exposures and their associations with asthma morbidity in a predominantly low-income urban pediatric cohort in Baltimore City

Authors: Fandiño-Del-Rio M, Tore G, Peng RD, Meeker JD et al. Source: ENVIRONMENTAL RESEARCH 263(2):120096, 2024, DOI 10.1016/j.envres.2024.120096 Abstract: Pesticides may impact respiratory health, yet evidence of their impact on pediatric asthma morbidity is limited, particularly among urban children. To characterize pesticide biomarker concentrations and evaluate their associations with pediatric asthma morbidity among predominantly low-income, Black children in Baltimore City, USA. We measured ...

Health status of Italian children living close to cultivations sprayed with pesticides

Authors: Sarno G, Maio S, Baldacci S, Stanisci I et al. Source: INTERNATIONAL JOURNAL OF TUBERCULOSIS AND LUNG DISEASE 28(10):0104, 2024, DOI 10.5588/ijtld.24.0104 Abstract: Pesticides are used to control pests, but they are toxic and may severely harm children's health. We assessed health outcomes in Italian children living close to cultivations sprayed with pesticides. In 2011-2012, 2,367 schoolchildren (6-14 years) living in eight Italian cities participated in the Indoor-School observational st...

Overview of human health effects related to glyphosate exposure

Authors: Galli FS, Mollari M, Tassinari V, Alimonti C et al. Source: FRONTIERS IN TOXICOLOGY 6: 1474792, 2024, DOI 10.3389/ftox.2024.1474792 Abstract: Glyphosate is a chemical compound derived from glycine, marketed as a broad-spectrum herbicide, and represents one of the most widely used pesticides in the world. For a long time, it was assumed that glyphosate was harmless, either due to its selective enzymatic acting method on plants, and because commercial formulations were believed to contain on...

The Study of Environmental Exposure of Mothers and Infants Impacted by Large-Scale Agriculture (SEMILLA): Description of the Aims and Methods of a Community-Based Birth Cohort Study

Authors: Handal AJ, Orozco F, Montenegro S, Cadena N et al. Source: CHILDREN-BASEL 11(9): 1045, 2024, DOI 10.3390/children11091045 Abstract: Women of childbearing age not only reside in agricultural communities but also form an integral part of the agricultural labor force. Limited research investigates the impact of prenatal fungicide exposure on infant health, specifically ethylenebisdithiocarbamates and their toxic by-product, ethylenethiourea (ETU), particularly in occupational settings. This p...

Residential proximity to agricultural pesticide use and cardiovascular disease risk factors among adult Latina women in California's Salinas Valley

Authors: Calderon L, Warner M, Gunier RB, Rauch S et al. Source: AMERICAN JOURNAL OF EPIDEMIOLOGY, kwae118, 2024, DOI 10.1093/aje/kwae118 Abstract: Cardiovascular disease is a leading cause of death worldwide. There is limited evidence that exposure to current-use pesticides may contribute to cardiovascular disease risk. We examined the association between residential proximity to the application of agricultural pesticides and cardiovascular risk factors among 484 adult women in the Center for the ...

Prenatal exposure to persistent organic pollutants and its impact on the ovarian reserve at 12 years old in the PELAGIE mother-child cohort

Authors: Génard-Walton M, Angot E, Monfort C, Rouget F et al. Source: ENVIRONMENTAL RESEARCH 262(2): 119959, 2024, DOI 10.1016/j.envres.2024.119959 Abstract: Although the ovarian reserve is constituted in utero, the literature on the effects of persistent organic pollutants (POPs) during this vulnerable period on the ovarian reserve later in life is limited. We investigated whether cord blood concentrations of POPs were associated with decreased anti-M & uuml;llerian hormone (AMH, a marker of t...

Pesticide exposure and spontaneous abortion risk: A comprehensive systematic review and meta-analysis

Authors: Albadrani MS, Aljassim MT, El-Tokhy A
Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 284: 117000, 2024, DOI 10.1016/j.ecoenv.2024.117000
Abstract: Exposure to pesticides has been proposed as a potential contributor to adverse pregnancy outcomes, possibly through the induction of inflammation, oxidative stress, and disruption of endocrine functions. Nevertheless, the definitive link between prenatal pesticide exposure and the risk of Spontaneous Abortion (SAB) remains uncertain. The object...

Spray drift in viticulture: A dataset to analyse the influence of spray application techniques, hedges and their combination on the reduction of sedimentary drift, aerial drift and exposure of bystanders

Authors: Vergès A, Codis S, Trinquier E, Perriot B et al.
Source: DATA IN BRIEF 57: 110819, 2024, DOI 110.1016/j.dib.2024.110819
Abstract: In 2021 and 2022, the national and cross-sector project CAPRIV funded by the French Ministry of Agriculture, made it possible to assess the influence of application techniques associated or not with a hedge or an anti-drift net on spray drift and bystander exposure. The acronym CAPRIV stands for "Concilier l'application des PPP et la protection des riverains" (R...

Chemical exposome and children health: Identification of dose-response relationships from meta-analyses and epidemiological studies

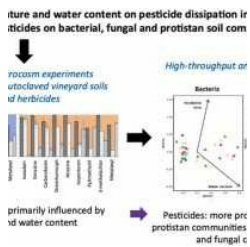
Authors: Rocabois A, Sanchez M, Philippat C, Crépet A et al.
Source: ENVIRONMENTAL RESEARCH 262(1): 119811, 2024, DOI 110.1016/j.envres.2024.119811
Abstract: Health impact assessment studies quantifying the impact of the chemical exposome on children's health generally consider a small fraction of the exposome. Synthetizing available dose-response relationships is an essential step to fill this gap. We reviewed the literature for dose-response relationships relating the chemical exposome with child...

Daily exposure to chlordecone, an organochlorine pesticide, increases cardiac fibrosis and atrial fibrillation vulnerability

Source: JOURNAL OF HAZARDOUS MATERIALS 478 (), 17 DOI: 10.1016/j.jhazmat.2024.135533
Abstract: Context: Chlordecone (CLD) is a carcinogenic organochlorine pesticide. CLD was shown to disturb the activity of cardiac Na⁺-K⁺-ATPase and Ca²⁺-Mg²⁺-ATPase. Conditions affecting these transmembrane pumps are often associated with cardiac arrhythmias (CA). However, little is known about the role of CLD on atrial fibrillation (AF) incidence, the most common type of CA. Hypotheses:...

Longitudinal Exposomics in a Multiomic Wellness Cohort Reveals Distinctive and Dynamic Environmental Chemical Mixtures in Blood

Authors: Sdougkou K, Papazian S, Bonnefille B, Xie HY et al.
Source: ENVIRONMENTAL SCIENCE & TECHNOLOGY 58(37): 16302-16315, 2024, DOI 10.1021/acs.est.4c05235
Abstract: Chemical exposomes can now be comprehensively measured in human blood, but knowledge of their variability and longitudinal stability is required for robust application in cohort studies. Here, we applied high-resolution chemical exposomics to plasma of 46 adults, each sampled 6 times over 2 years in a multiomic cohort, resulting...



Dissipation of pesticides and responses of bacterial, fungal and protistan communities in a multi-contaminated vineyard soil

Authors: Imfeld G, Meite F, Ehrhart L, Fournier B et al. Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 284: 116994, 2024, DOI 10.1016/j.ecoenv.2024.116994 Abstract: The effect of pesticide residues on non-target microorganisms in multi-contaminated soils remains poorly understood. In this study, we examined the dissipation of commonly used pesticides in a multi-contaminated vineyard soil and its effect on bacterial, fungal, and protistan communities. We conducted laboratory soil microcosm experime...

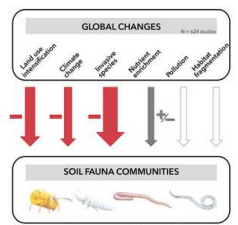
Bottom-up effects of reduced fertilization on natural enemies and biocontrol efficacy

Authors: Ma RH, Lavoit AV, Jaworski CC, Amiens-Desneux E et al. Source: ENTOMOLOGIA GENERALIS 44(4): 873-882, 2024, DOI 10.1127/entomologia/2024/2536 Abstract: In agroecosystems, arthropod communities may be influenced by bottom-up forces induced by environmental variations (e.g., fertilization) through the modification of plant traits. The way bottom-up forces affect the second trophic level is well documented, but how these effects cascade to the third trophic level is less understood. We aimed ...



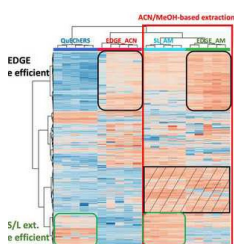
Spray drift in viticulture: A dataset to analyse the influence of spray application techniques, hedges and their combination on the reduction of sedimentary drift, aerial drift and exposure of bystanders

Authors: Vergès A, Codis S, Trinquier E, Perriot B et al. Source: DATA IN BRIEF 57: 110819, 2024, DOI 10.1016/j.dib.2024.110819 Abstract: In 2021 and 2022, the national and cross-sector project CAPRIV funded by the French Ministry of Agriculture, made it possible to assess the influence of application techniques associated or not with a hedge or an anti-drift net on spray drift and bystander exposure. The acronym CAPRIV stands for "Concilier l'application des PPP et la protection des riverains" (Re...



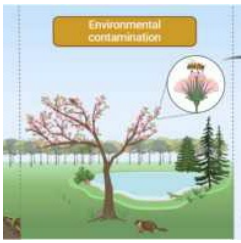
Global changes and their environmental stressors have a significant impact on soil biodiversity—A meta-analysis

Authors: Phillips HRP, Cameron EK, Eisenhauer N, Burton VJ et al. Source: ISCIENCE 27(9): 110540, 2024, DOI 10.1016/j.isci.2024.110540 Abstract: Identifying the main threats to soil biodiversity is crucial as soils harbor '60% of global biodiversity. Many previous meta-analyses investigating the impact of different global changes (GCs) on biodiversity have omitted soil fauna or are limited by the GCs studied. We conducted a broad-scale meta-analysis focused on soil fauna communities, analyzing 3,16...



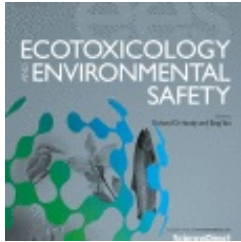
Validation of the Chemical and Biological Steps Required Implementing an Advanced Multi-Omics Approach for Assessing the Fate and Impact of Contaminants in Lagoon Sediments

Authors: Mejait A, Fildier A, Giroud B, Daniele G et al. Source: METABOLITES 14(8): 454, 2024, DOI 10.3390/metabo14080454 Abstract: The increasing use of chemicals requires a better understanding of their presence and dynamics in the environment, as well as their impact on ecosystems. The aim of this study was to validate the first steps of an innovative multi-omics approach based on metabolomics and 16S metabarcoding data for analyses of the fate and impact of contaminants in Mediterranean lagoons...



Pesticide immunotoxicity on insects – Are agroecosystems at risk?

Authors: Lisi F, Amichot M, Desneux N, Gatti JL et al. Source: SCIENCE OF THE TOTAL ENVIRONMENT 951: 175467, 2024, DOI 10.1016/j.scitotenv.2024.175467 Abstract: Recent years have witnessed heightened scrutiny of the non-target sublethal effects of pesticides on behavioural and physiological traits of insects. Traditionally, attention has focused on investigating pesticides' primary modes of action, often overlooking the potential secondary mechanisms. This review brings forth the nuanced impacts of...



Investigating the interaction of uranium(VI) with diatoms and their bacterial community: A microscopic and spectroscopic study

Authors: He YH, Wei STS, Kluge S, Flemming Ket al. Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 284: 116893, 2024, DOI 10.1016/j.ecoenv.2024.116893 Abstract: Diatoms and bacteria play a vital role in investigating the ecological effects of heavy metals in the environment. Despite separate studies on metal interactions with diatoms and bacteria, there is a significant gap in research regarding heavy metal interactions within a diatom-bacterium system, which closely mirrors natural conditions. In t...

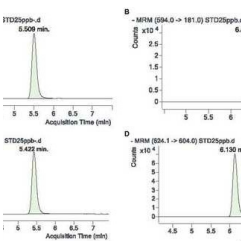


A critical review of pollution active biomonitoring using sentinel fish: Challenges and opportunities

Authors: Bancel S, Cachot J, Bon C, Rochard É et al. Source: ENVIRONMENTAL POLLUTION 360: 124661, 2024, DOI 10.1016/j.envpol.2024.124661 Abstract: Water pollution is a significant threat to aquatic ecosystems. Various methods of monitoring, such as in situ approaches, are currently available to assess its impact. In this paper we examine the use of fish in active biomonitoring to study contamination and toxicity of surface waters. We analysed 148 previous studies conducted between 2005 and 2022, inc...

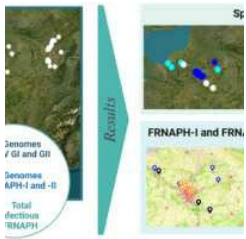
Metabolic disrupting chemicals in the intestine: the need for biologically relevant models

Authors: Erradhouani C, Bortoli S, Aït-Aïssa S, Coumoul X et al. Source: FEBS OPEN BIO Early Access, 2024, DOI 10.1002/2211-5463.13878 Abstract: Although the concept of endocrine disruptors first appeared almost 30 years ago, the relatively recent involvement of these substances in the etiology of metabolic pathologies (obesity, diabetes, hepatic steatosis, etc.) has given rise to the concept of Metabolic Disrupting Chemicals (MDCs). Organs such as the liver and adipose tissue have been well studie...



Fecal elimination of fluralaner in different carnivore species after oral administration

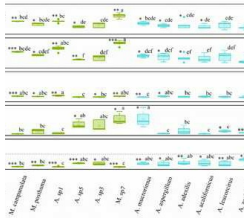
IAuthors: Berny PJ, Belhadj D, España B, Lécu A Source: FRONTIERS IN VETERINARY SCIENCE 11: 1279844, 2024, DOI 10.3389/fvets.2024.1279844 Abstract: Fluralaner is a recent external parasiticide, first of a new class of drugs (isoxazoline parasiticides). It is widely used in companion animals both for its wide spectrum (fleas, ticks and other mites) but also for its ease of use (oral tablets given once for 1 to three months). It is known to be eliminated primarily via the feces (>90%) as the unch...



Assessment of the viral contamination of fecal origin over a wide geographical area using an active approach with *Dreissena polymorpha*

Authors: Lortholarie M, Do Nascimento J, Bonnard I, Catteau A et al. Source: JOURNAL OF ENVIRONMENTAL MANAGEMENT 368: 122122, 2024, DOI

10.1016/j.jenvman.2024.122122 Abstract: Biomonitoring appears to be a key approach to assess chemical or microbiological contaminations. The freshwater mussel, *Dreissena polymorpha* (*D. polymorpha*) is a suitable tool already used to monitor chemical and, more recently, microbiological pollution. In the present study, we used this sentinel species to monitor viral co...



N₂O production is influenced by the abundance of nitrite-reducers and N₂O-reducers in casts produced by a large variety of tropical earthworm species

Authors: Zi YCB, Van Pham Q, Bottinelli N, Capowiez Y et al. Source: BIOLOGY AND FERTILITY OF SOILS 60(8): 1111-1125, 2024, DOI 10.1007/s00374-024-01858-1 Abstract:

We investigated the potential of earthworm casts to emit N₂O, hypothesizing that emission levels are influenced by the species of earthworm and their ecological category. This study examined casts a broad taxonomic and ecological coverage of tropical earthworms, i.e., 16 different species across four ecological categories. We quantified...

OUVRAGES / RAPPORTS / ACTES DE CONGRES

{Changement climatique et pesticides}

L'ancien élève du Centre Ecotox Micha Wehrli vient de publier son travail de master sur l'influence du stress thermique sur l'évaluation des risques des pesticides, qui montre que des adaptations sont indiquées - félicitations Micha !

www.centreecotox.ch



Le bilan de la qualité de l'air 2023 est publié

A l'occasion de la Journée nationale de la qualité de l'air, le Service des données et études statistiques du ministère en charge de l'environnement publie le bilan annuel 2023 sur la qualité de l'air en France. Ce bilan confirme que la qualité de l'air s'améliore globalement, en lien avec la réduction des émissions de polluants, même si des dépassements de normes réglementaires persistent en certains endroits.

www.ineris.fr

Straight to your hormones: 59 endocrine-disrupting pesticides detected in Spanish food

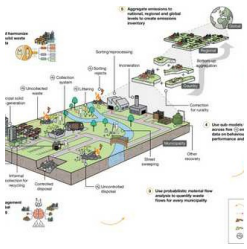
According to the study "Straight to Your Hormones" by our member, Ecologistas en Acción, food sold in Spain in 2022, both imported and state-produced, had residues of 106 pesticides. The study analyses the latest official data from the Spanish Agency for Food Safety and Nutrition (AESAN).

www.pan-europe.info

{PFAS dans les sédiments près d'un terrain d'exercice pour pompiers à Lausanne}

Tant les biotests que l'évaluation des risques indiquent un risque important pour les organismes benthiques.

www.centreecotox.ch



A local-to-global emissions inventory of macroplastic pollution

A global macroplastic pollution emissions inventory and methodology is developed using machine learning and probabilistic material flow analysis, to identify hotspots across more than 50,000 municipalities worldwide from five land-based plastic waste emission sources.

www.nature.com



Environnement et risques santé en France à l'horizon 2040

Cet ouvrage [Quentin Bisalli, François Bourse, Environnement et risques santé en France à l'horizon 2040, Futuribles International, 2024, 118 pages] publié en juillet 2024, restitue les travaux menés depuis deux ans par un forum prospectif réunissant des organisations professionnelles de la santé, à l'instigation de Futuribles International. Il traite de la place croissante du facteur environnemental dans la dégradation de la santé humaine.

www.veillecep.fr

Strategic Dialogue on the Future of EU Agriculture : A shared prospect for farming and food in Europe

This document explores the vital role of food production in modern societies, addresses the changing contexts that impact agriculture, and presents a shared vision for the future of farming and food in Europe. It also outlines guiding political principles and offers recommendations for fostering a sustainable and competitive agricultural landscape. (Résumé avec chatpdf)

agriculture.ec.europa.eu

REGLEMENTATION

LMR de thiaclopride présents dans ou sur certains produit : annexes du règlement (CE) n° 396/2005 modifiées

RÈGLEMENT (UE) 2024/2711 DE LA COMMISSION du 22 octobre 2024 modifiant les annexes II et V du règlement (CE) n° 396/2005 du Parlement EUROPÉEN et du Conseil en ce qui concerne les limites maximales applicables aux résidus de thiaclopride présents dans ou sur certains produit. Numéro officiel : UE/2024/2711 ; date de signature : 22/10/2024 Liens juridiques : Modification le 12/05/2025 Règlement CE/396/2005 23/02/2005

Approbation de 2,2-diméthyl-3-(2-méthylprop- -ényl)cyclopropanecarboxylate de 2-méthyl-4-oxo-3-(prop-2-ynyl)cyclopent-2-én-1-yle (pralléthrine) en tant que substance active existante destinée à être utilisée dans les produits biocides (type de produits 18)

RÈGLEMENT D'EXÉCUTION (UE) 2024/2576 DE LA COMMISSION du 2 octobre 2024 approuvant la substance active 2,2-diméthyl-3-(2-méthylprop- -ényl)cyclopropanecarboxylate de 2-méthyl-4-oxo-3-(prop-2-ynyl)cyclopent-2-én-1-yle (pralléthrine) en tant que substance active existante destinée à être utilisée dans les produits biocides relevant du type de produits 18 conformément au règlement (UE) n° 528/2012 du Parlement européen et du Conseil. Numéro officiel : UE/2024/2576 Date de signature : 02/10/2

Approbation de la zéolite d'argent et de zinc en tant que substance active existante destinée à être utilisée dans des produits biocides (types de produits 2, 7 et 9)

RÈGLEMENT D'EXÉCUTION (UE) 2024/2635 DE LA COMMISSION du 3 octobre 2024 approuvant la zéolite d'argent et de zinc en tant que substance active existante destinée à être utilisée dans des produits biocides relevant des types de produits 2, 7 et 9, conformément au règlement (UE) n° 528/2012 du Parlement européen et du Conseil. Numéro officiel : UE/2024/2635 Date de signature : 03/10/2024

Report de la date d'expiration de l'approbation de la métofluthrine en vue de son utilisation dans les produits biocides relevant du type de produits 18

DÉCISION D'EXÉCUTION (UE) 2024/2460 DE LA COMMISSION du 16 septembre 2024 reportant la date d'expiration de l'approbation de la métofluthrine en vue de son utilisation dans les produits biocides relevant du type de produits 18, conformément au règlement (UE) n° 528/2012 du Parlement européen et du Conseil. Numéro officiel : UE/2024/2460 Date de signature : 16/09/2024

Autorisation de l'Union pour le produit biocide unique dénommé «EuLA Ca(OH)₂ template»

RÈGLEMENT D'EXÉCUTION (UE) 2024/2430 DE LA COMMISSION du 16 septembre 2024 accordant une autorisation de l'Union pour le produit biocide unique dénommé «EuLA Ca(OH)₂ template» conformément au règlement (UE) n° 528/2012 du Parlement européen et du Conseil. Numéro officiel : UE/2024/2430 Date de signature : 16/09/2024

Acide undécafluorohexanoïque (PFHxA), ses sels et les substances apparentées au PFHxA : annexe XVII modifiée du règlement n°1907/2006

RÈGLEMENT (UE) 2024/2462 DE LA COMMISSION du 19 septembre 2024 modifiant l'annexe XVII du règlement (CE) n°1907/2006 du Parlement européen et du Conseil en ce qui concerne l'acide undécafluorohexanoïque (PFHxA), ses sels et les substances apparentées au PFHxA. Numéro officiel : UE/2024/2462 Date de signature : 19/09/2024 Liens juridiques : Modification Règlement CE/1907/2006 18/12/2006

AVIS / EXPERTISES / NORMES

Trees' own beneficial microbiome could lead to discovery of new treatments to fight citrus greening disease

The promising compounds were discovered on an organic farm.

theconversation.com

DROIT ET POLITIQUE DE L'ENVIRONNEMENT

Nouvelle directive européenne sur la surveillance de la qualité de l'air : une mobilisation de tous les instants pour les experts du LCSQA

La nouvelle directive européenne relative à la qualité de l'air ambiant a officiellement été adoptée lundi 14 octobre 2024 par le Conseil de l'Union européenne dans la continuité de son adoption par le Parlement européen en septembre. Le Laboratoire central de surveillance de la qualité de l'air (LCSQA) a mobilisé l'expertise de ses trois membres (IMT-Nord Europe, Ineris, LNE), pour appuyer le bureau de la qualité de l'air du ministère en charge de la transition énergétique dans les processus d...

www.ineris.fr



Deux appels à projets de recherche pour mieux connaître les risques sanitaires liés à l'environnement et au travail

Dans le cadre du Programme National de Recherche Environnement-Santé-Travail (PNR EST), l'Anses lance deux appels à projets de recherche. L'enjeu : mieux appréhender des questions encore peu étudiées mais considérées comme d'importance majeure pour la santé humaine et les écosystèmes.

www.anses.fr



Santé des populations : Santé publique France et l'Anses lancent la première phase de l'enquête Albane

Santé publique France et l'Anses lancent le 16 septembre 2024 la première phase de l'enquête Albane qui permettra d'évaluer en continu la santé de la population française, l'exposition aux substances chimiques et de mieux connaître leurs liens avec l'alimentation et l'environnement.

www.anses.fr

REVUE DE PRESSE

Victoire juridique définitive pour Générations Futures : Condamnation d'exploitations agricoles pour usage d'herbicide ne respectant pas les zones de non-traitement (ZNT) à proximité des cours d'eau !

Le 14 octobre 2024, le tribunal judiciaire de Valence a rendu trois ordonnances en faveur de Générations Futures contre des exploitants agricoles n'ayant pas respecté des zones de non-traitement près de cours d'eau alors qu'ils épandaient des herbicides de synthèse à base de glyphosate. Ces décisions sont désormais définitives, aucune des parties condamnées n'ayant interjeté appel [1].

www.generations-futures.fr

Glyphosate et principe de précaution : le Conseil d'État confirme l'annulation d'une autorisation du Roundup

L'annulation de l'autorisation de mise sur le marché de l'herbicide Roundup Pro 360 à base de glyphosate, à la suite d'une requête du Comité de recherche et d'information indépendantes sur le génie génétique (Criigen), ne sera pas remise en cause. Par une décision du 23 octobre 2024, le Conseil d'État a en effet rejeté le pourvoi de la société Bayer Seeds contre la décision de la cour administrative d'appel de Lyon [...]

www.actu-environnement.com

[] L'État sommé d'assurer la traçabilité de variétés tolérantes aux herbicides

La justice a de nouveau enjoint à l'État d'assurer la traçabilité de variétés de végétaux agricoles rendues tolérantes aux herbicides, constatant l'inaction gouvernementale sur ce point en dépit d'une injonction remontant à février 2020.

www.terre-net.fr

Produits phytosanitaires : une proposition de loi veut revoir les prérogatives de l'Anses

Une proposition de loi transpartisane vient d'être déposée à l'Assemblée nationale. Elle vise l'Anses et a pour objectif d'éviter des « situations de surtransposition réglementaire et des distorsions de concurrence avec les autres États membres de l'Union européenne ».

www.reussir.fr



The EU drags its feet on addressing water pollution

Today marks two years since the European Commission published its proposal to update the lists of EU priority pollutants that should be monitored and regulated in [...]

eeb.org

[Tribune] Appel des 1055 femmes touchées par un cancer du sein avant 50 ans

Pourquoi moi ? Pourquoi nous ? Il est urgent d'agir collectivement contre les causes environnementales du cancer du sein. Le RES diffuse ici la version intégrale de l'appel, publié par le Monde le 20 octobre 2024, des 1055 femmes touchées par un cancer du sein avant 50 ans.

www.reseau-environnement-sante.fr

71% des métabolites de pesticides à risque pour l'eau potable n'ont fait l'objet d'aucun suivi dans les eaux souterraines ou l'eau potable !

Génération Futures révèle, dans un rapport exclusif publié ce jour, une surveillance de l'eau très insuffisante et une sous-estimation importante de la pollution des eaux en France.

www.generations-futures.fr



Les enjeux de la future politique agricole commune (2023-2027) : Green Deal, Farm to Fork, Biodiversité

La future politique agricole commune (PAC), actuellement en débat, propose des objectifs ambitieux visant à réussir la transition agroécologique et climatique de l'agriculture européenne. Avec quelle stratégie et quels moyens ?

www.agri-mutuel.com

Protéger les cultures grâce aux algues rouges marines, une alternative aux pesticides ?

Une étude menée sur des tomates et des vignes montre que ces algues, déjà connues pour leur richesse en agar-agar, ont une capacité de biocontrôle prometteuse.

theconversation.com



Appâts empoisonnés : des oiseaux protégés victimes de pesticides

En mai 2024, un cadavre de pygargue à queue blanche était découvert près d'un étang des Ardennes. Plusieurs oiseaux protégés ont été victimes d'empoisonnements au moyen d'appâts au carbofuran. Des dizaines de kilos de pesticides interdits ont été saisis chez un pisciculteur.

fne.asso.fr

Actualité - Polluants éternels - Un nouveau PFAS bientôt réglementé dans l'Union européenne

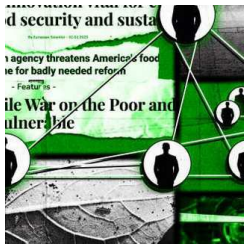
L'Allemagne le demandait depuis décembre 2019... La Commission européenne vient d'adopter la restriction dans l'UE d'une nouvelle famille de PFAS, ces polluants éternels. Mais pas sans bémols.

www.quechoisir.org

La PAC ne permet pas d'atteindre les objectifs du pacte vert, selon la Cour des comptes européenne

Dans un rapport publié lundi 30 septembre, l'institution déplore un « fossé » entre les « plans stratégiques nationaux », élaborés par chaque Etat pour attribuer certaines aides européennes, et les objectifs climatiques et environnementaux que s'est fixés l'UE.

www.lemonde.fr



Plongée dans la boîte noire de la propagande mondiale en faveur des pesticides

« Bonus Eventus files (2/3) ». La plate-forme privée Bonus Eventus fournit à ses membres cooptés des renseignements personnels sur des personnalités "critiques" et une vaste base d'arguments favorables à l'agrochimie destinés à influencer le débat public, révèlent « Le Monde » et un collectif de médias.

www.lemonde.fr

[] OFB : des sénateurs veulent un accent sur la « prévention »

Les missions de l'Office français de la biodiversité (OFB), critiqué par des syndicats agricoles, doivent faire l'objet d'un « rééquilibrage entre prévention et répression », selon un rapport sénatorial publié mercredi, qui suggère même de « dépenaliser certaines infractions environnementales ».

www.terre-net.fr

[] Des pesticides interdits en Europe toujours exportés depuis la France

Une faille juridique qui permet aux industriels d'exporter des pesticides produits en France pourtant interdits en Europe : c'est ce que met en avant l'enquête de l'émission « Vert de rage », diffusée sur France 5 dans les prochaines semaines.

www.terre-net.fr



Pesticides : le Parlement européen ne veut pas de résidus de produits interdits par l'UE dans les aliments importés

Deux décisions de la Commission européenne autorisant certains niveaux de résidus de plusieurs pesticides interdits dans l'UE dans des denrées alimentaires importées viennent d'être rejetées par le Parlement européen.

www.reussir.fr



Enquête : l'eau du robinet contaminée par des polluants éternels

L'enquête a fait analyser 89 échantillons de l'eau du robinet en France métropolitaine pour détecter la présence de PFAS dangereux pour la santé. Une dizaine de communes atteignent des niveaux préoccupants. Les PFAS sont présents dans un grand nombre de produits industriels ou d'usage courant, et peuvent être retrouvés dans les sols, les eaux et contaminer des produits alimentaires. En France les seuils tolérés par la réglementation sont par ailleurs élevés : moins de 100 ng/l pour la somme de 20...

www.radiofrance.fr

Pesticides : une première action collective pour les victimes non professionnelles lancée par Corinne Lepage

Le cabinet d'avocats dont fait partie Corinne Lepage a lancé le 16 septembre dernier la première action collective de France pour obtenir l'indemnisation de riverains victimes des épandages de pesticides.

www.reussir.fr

L'exposition aux pesticides et aux PFAS des Français va être étudiée par l'Anses et Santé Publique France

L'Anses et Santé publique France ont lancé, le 16 septembre, l'enquête Albane visant à étudier l'état de santé de la population française. L'exposition à des pesticides et à des PFAS y sera notamment étudiée.

www.reussir.fr



Brochure « Riverains victimes des pesticides », édition 2024

Génération Futures publie l'édition 2024 de sa brochure « Riverains de parcelles agricoles, exposés aux pesticides de synthèse », destinée à ceux qui résident près d'une parcelle traitée par des pesticides de synthèse ou veulent connaître les règles que doit respecter l'agriculteur lorsqu'il épand des pesticides.

www.generations-futures.fr

Antibiotic resistance forecast to kill 39 million people by 2050

The number of people worldwide directly killed by antibiotic resistance will rise to 1.9 million a year by 2050, according to the most comprehensive study so far

www.newscientist.com



La Médiatrice européenne presse la Commission de substituer en priorité les pesticides les plus dangereux

La stratégie "De la ferme à la table" (F2F – Farm to Fork) prévoit une réduction de 50% de l'utilisation des pesticides et des pesticides les plus dangereux. Cependant, la Commission européenne et les Etats membres prennent du retard concernant la substitution des substances qui doivent l'être aux termes du règlement EC sur les pesticides n°1107/2009. La Médiatrice européenne a été saisie par PAN Europe et a pointé des anomalies permettant aux substances de rester sur le marché.

www.generations-futures.fr

Pesticide industry objects to disclosing secret pesticide ingredients

Is the Dutch pesticide authority CTGB allowed to disclose information on secret pesticide co-formulants to PAN Europe? That is the gist of the hearing taking place today in the Netherlands as a result of our Access to Document request. The CTGB concluded that the law obliges them to disclose the documents, but the pesticide industry objected. They asked the court to block disclosure. Similar discussions take place in Germany. Spain objected to our request. We think farmers, institutions, independ...

www.pan-europe.info

Glyphosate autorisé jusqu'en 2033 : des ONG saisissent la justice de l'UE

Des associations françaises ont saisi le 1er août la justice européenne contre la décision de la Commission de reconduire jusqu'en 2033 l'autorisation dans l'UE du glyphosate, a-t-on appris auprès de leur avocate et de source judiciaire.

www.terre-net.fr



PFAS dans l'eau potable : la campagne de détection de Veolia rassurante mais insuffisante

Veolia, qui gère la production et la distribution d'eau potable pour le compte de 1 400 collectivités en France, a mené une vaste campagne de détection de 20 PFAS dans l'eau potable. Ses 2 400 puits de production ont été testés, 99 % seraient aux normes. Que Choisir pointe que des milliers de PFAS ne sont pas recherchés dans ces analyses, en particulier le TFA, un dégradé de pesticides fluorés.

www.quechoisir.org