



Bulletin de veille du réseau d'écotoxicologie terrestre et aquatique



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Edito

Voici, avec un peu de retard, notre 58ème bulletin de veille, qui nous espérons toujours informatif !

Nous ne vous proposons pas de tribune dans ce bulletin, elle sera jointe au prochain bulletin.

Nous vous rappelons notre PCI pour la soumission de vos preprints : <https://ecotoxenvchem.peercommunityin.org/> Notre PCI monte en puissance.

N'oubliez pas de nous transmettre les informations que vous souhaitez diffuser, notamment vos publications que nous pourrions avoir oubliées.

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

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ERA / PUBLICATIONS SCIENTIFIQUES / PLASTIQUES

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- Future climate change enhances the complexity of plastisphere microbial co-occurrence networks, but does not significantly affect the community assembly
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- The role of microplastics in altering arsenic fractionation and microbial community structures in arsenic-contaminated riverine sediments
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PESTICIDES ET SANTE DES AGRICULTEURS

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- The environmental and occupational influence of pesticides on male fertility: A systematic review of human studies
- Maternal and child biomonitoring strategies and levels of exposure in western Canada during the past seventeen years: The Alberta Biomonitoring Program: 2005-2021
- Association of Prenatal Exposure to Endocrine-Disrupting Chemicals With Liver Injury in Children
- Respiratory and allergic health effects in children living near agriculture: A review

- Maternal pesticide exposure and its relation to childhood cancer: an umbrella review of meta-analyses: International Journal of Environmental Health Research: Vol 32, No 7

PUBLICATIONS DU RESEAU ECOTOX

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- Interactions between microplastics and benthic biofilms in fluvial ecosystems: Knowledge gaps and future trends
- Multi-elemental compound-specific isotope analysis of pesticides for source identification and monitoring of degradation in soil: a review
- Do pesticides degrade in surface water receiving runoff from agricultural catchments? Combining passive samplers (POCIS) and compound-specific isotope analysis
- Re-designing environmentally persistent pharmaceutical pollutant through programmed inactivation: The case of methotrexate
- Expression Patterns of *Drosophila Melanogaster* Glutathione Transferases
- Improvements in Estimating Bioaccumulation Metrics in the Light of Toxicokinetic Models and Bayesian Inference
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- Producing sugar beets without neonicotinoids: An evaluation of alternatives for the management of viruses-transmitting aphids
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- The effects of dissolved petroleum hydrocarbons on benthic organisms: Chironomids and amphipods
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- Metabolism of the aquatic pollutant diclofenac in the *Lymnaea stagnalis* freshwater gastropod.
- Metabolism of the aquatic pollutant diclofenac in the *Lymnaea stagnalis* freshwater gastropod
- Development and calibration of an integrative passive sampler for monitoring vinyl chloride monomer in drinking water networks
- Multigenerational Insecticide Hormesis Enhances Fitness Traits in a Key Egg Parasitoid, *Trichogramma chilonis* Ishiif Science

- Exposure of *Anopheles gambiae* larvae to a sub-lethal dose of an agrochemical mixture induces tolerance to adulticides used in vector control management
- Implications of speciation on rare earth element toxicity: A focus on organic matter influence in *Daphnia magna* standard test Web of Science

REGLEMENTATION

- Produits phytopharmaceutiques contenant des micro-organismes
- LMR de cyprodinil présents dans ou sur certains produits
- LMR de méthoxyfénoside, de propoxur, de spinosad et de thirame
- LMR de benzovindiflupyr, de boscalid, de fenazaquine, de fluazifop-P, de flupyradifurone, de fluxapyroxad, de fosétyl-Al, d'isofétamide, de métaflumizone, de pyraclostrobine, de spirotétramate, de thiabendazole et de tolclofos-méthyl
- LMR d'ion fluorure, d'oxyfluorène, de pyroxsulam, de quinmérac et de fluorure de sulfuryle
- LMR des substances actives amétoctradine, chlorméquat, dodine, nicotine, profenofos et *Spodoptera exigua*

AVIS / EXPERTISES / NORMES

- Abeilles et pesticides : consultation publique sur la mise à jour du document d'orientation

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- Lancement de l'Appel à projets (AAP) MAEC 2023-2027
- Plan de sortie du glyphosate : le dispositif

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- Idée reçue n°4 : les lobbies de l'agrochimie tirent les ficelles d'un gouvernement aux ordres
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- An amphibian high fat diet model confirms that endocrine disruptors can induce a metabolic syndrome in wild green frogs (*Pelophylax* spp. complex)
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- Toxic Pesticide Residues on Over Half of U.S. Food, 1 in 10 Samples Violate Legal Limits
- Organochlorine pesticides in the urban, suburban, agricultural, and industrial soil in South Korea after three decades of ban: Spatial distribution, sources, time trend, and implicated risks
- Nickel bioaccessibility in soils with high geochemical background and anthropogenic contamination
- Insight into effects of polyethylene microplastics in anaerobic digestion systems of waste activated sludge: Interactions of digestion performance, microbial communities and antibiotic resistance genes
- Le trafic de pesticides illégaux est en augmentation d'après Europol
- Help Stop Collapse of Ocean Life, Part of the Biodiversity Decline Crisis
- The strategy for estrogen receptor mediated-risk assessment in environmental water: A combination of species sensitivity distributions and in silico approaches
- Alerte : la Commission européenne veut de nouveau donner son feu vert à un pesticide extrêmement dangereux
- How do cells react to micro- and nanoplastics?
- Statistiques agricoles: 58 ONG demandent l'adoption sans délai du règlement d'exécution

- Enfants exposés aux pesticides en zone viticole : la leçon de Preignac
- A large geographic-scale characterization of organochlorine pesticides (OCPs) in surface sediments and multiple aquatic foods of inland freshwater aquaculture ponds in China: Co-occurrence, source and risk assessment
- Haute valeur environnementale : certification toujours trop peu ambitieuse, notamment sur l'indicateur pesticides !
- Fiabilité du pronostic de la procédure d'homologation des produits phytopharmaceutiques

25/08/2022

Mobility of Be, Bi, F, Ga, Ge and W in Surface Water and the Water Quality Impact on Epilithic Diatoms Downstream of the Historical Yxsjöberg Mine Site, Sweden

Author: Hallstrom LPB

Source: MINE WATER AND THE ENVIRONMENT Early Access, DOI 10.1007/s10230-022-00889-0

Abstract: There is a potential risk that the geochemical cycles of several critical metals will be affected when mining of these metals increases to meet the demand of green technology. [...] The mobility and environmental impact of CM5 and F in surface waters downstream of the Yxsjöberg mine site, Sweden, were studied using mont...

09/08/2022

Shifts in the bacterial community caused by combined pollutant loads in the North Canal River, China

Authors Yuan, SG, Zhang, WQ, Li, WY et al.

Source JOURNAL OF ENVIRONMENTAL SCIENCES 127: 541-551, 2022

Abstract A typical anthropogenically disturbed urban river polluted by a combination of conventional pollutants (nitrogen and phosphorus pollution) and heavy metals was investigated along a 238 km stretch. Changes in the bacterial community were evaluated using high-throughput sequencing, and the relationships betw...

24/08/2022

Hazard assessment and environmental fate of propiconazole degradation by microalgae: Differential tolerance, antioxidant and detoxification pathway

Authors: Hamed SM, Al-Nuaemi IJ, Korany SM et al.

Source: JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING 10:108170, 2022, DOI 10.1016/j.jece.2022.108170

Abstract: Propiconazole (PCZ), a triazole broad spectrum fungicide has been frequently detected in agricultural water webs. This emerging contaminant imposes a serious toxic impact on soil and aquatic microbiota. Thus, we aimed to investigate the potential of the microalgae as PCZ p...

28/07/2022

Bacterial community response to chronic heavy metal contamination in marine sediments of the East China Sea

Authors: Chen HF, Ji CY, Hu HM et al.

Source: ENVIRONMENTAL POLLUTION 307:119280, 2022, DOI 10.1016/j.envpol.2022.119280

Abstract: Marine sediments act as a sink for various heavy metals, which may have profound impact on sedimentary microbiota. However, our knowledge about the collaborative response of bacterial community to chronic heavy metal contamination remains little. In this study, concentrations of seven heavy metals (As, ...

28/07/2022

Role of environmental stresses in elevating resistance mutations in bacteria: Phenomena and mechanisms

Authors: Wang DL, Ning Q, Deng ZQ et al.

Source: ENVIRONMENTAL POLLUTION 307:119603, 2022, DOI 10.1016/j.envpol.2022.119603

Abstract: Mutations are an important origin of antibiotic resistance in bacteria. While there is increasing evidence showing promoted resistance mutations by environmental stresses, no retrospective research has yet been conducted on this phenomenon and its mechanisms. Herein, we summarized the phenomena of st...

21/07/2022

Machine learning predicts the impact of antibiotic properties on the composition and functioning of bacterial community in aquatic habitats

Authors: Kang J, Zhang ZY, Chen YL et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT 828:154412, 2022, DOI 10.1016/j.scitotenv.2022.154412

Abstract: In the past decades, hundreds of antibiotics have been isolated from microbial metabolites or have been artificially synthesized for protecting humans, animals and crops from microbial infections. Their everlasting usage results in impacts on the microbial community

comp...

21/07/2022

Differential response of copper nanoparticles and ionic copper on growth, chlorophyll fluorescence, oxidative stress, and antioxidant machinery of two paddy... cyanobacteria

Authors: Pandey N, Patel A, Tiwari S et al.

Source: ECOTOXICOLOGY 31, 933-947, 2022, DOI 10.1007/s10646-022-02553-3

Abstract: The current study explored the role of ionic copper (CuCl₂; 0.2 μM and 1 μM) and synthesized copper nanoparticles (CuNPs; 0.2 mM and 1 mM) in the two paddy field cyanobacteria (*Nostoc muscorum* ATCC 27893 and *Anabaena* sp. PCC 7120) with respect to growth, photosynthetic pigments, photosynthe...

21/07/2022

Effects of ofloxacin on the structure and function of freshwater microbial communities

Authors: Deng Y, Debognies A, Zhang Q et al.

Source: AQUATIC TOXICOLOGY 244:106084, 2022, DOI 10.1016/j.aquatox.2022.106084

Abstract: Ofloxacin (OFL) is a broad-spectrum fluoroquinolone antibiotic frequently used in clinic for treating bacterial infections. The discharged OFL would inevitably enter into aquatic ecosystems, affecting the growth of non target microorganisms, which may result in micro-ecosystem imbal...

19/07/2022

Humic acids alleviate the toxicity of reduced graphene oxide modified by nanosized palladium in microalgae

Authors: Li XK, Yan Y, Li XQ et al.

Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 241:113794, 2022, DOI 10.1016/j.ecoenv.2022.113794

Abstract: The use of graphene-family materials modified by nanosized palladium (Pd/GFMs) has intensified rapidly in various fields; however, the effects of environmental factors (e.g., natural organic matter) on the transformation and ecotoxicity of Pd/GFMs remain largely unknown. In...

07/07/2022

Influence of humic acid and fluvic acid on the altered toxicities of arsenite and arsenate toward two freshwater algae

Authors: Wang NX, Chen ZY, Zhou WQ, Zhang W

Source: AQUATIC TOXICOLOGY 249:106218, 2022, DOI 10.1016/j.aquatox.2022.106218

Abstract: Arsenic pollution in freshwater poses a serious threat to aquatic organisms. However, dissolved organic matter (DOM) in water can modulate arsenic environmental toxicity by either suppressing or promoting its bioaccumulation. In this study, we investigated the toxicity, bioaccumulation, and biotransfo...

19/07/2022

Individual and combined effects of diuron and light reduction on marine microalgae

Authors: King OC, Merwe JPV, Brown CJ et al.

Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 241:113729, 2022, DOI 10.1016/j.ecoenv.2022.113729

Abstract: Coastal ecosystems such as those in the Great Barrier Reef (GBR) lagoon, are exposed to stressors in flood plumes including low light (caused by increased turbidity) and agricultural pesticides. Photosystem II (PSII)-inhibiting herbicides are the most frequently detected pesticides...

04/07/2022

Effects of norfloxacin, copper, and their interactions on microbial communities in estuarine sediment

Authors: Chen XH, Chen JJ, Yu XX et al.

Source: ENVIRONMENTAL RESEARCH 212:113506, 2022, DOI 10.1016/j.envres.2022.113506

Abstract: The discharge of antibiotics and metals in estuaries is of great concern since they threaten microbial communities that are critical for maintaining ecosystem function. To understand single and combined effects of norfloxacin (0-20 $\mu\text{g g}^{-1}$) and copper (40 $\mu\text{g g}^{-1}$) on microbial ecology in estuaries, we ev...

04/07/2022

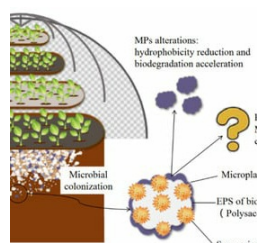
Bacterial biofilms on medical masks disposed in the marine environment: a hotspot of biological and functional diversity

Authors: Crisafi F, Smedile F, Yakimov MM et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT
837:155731, 2022, DOI
10.1016/j.scitotenv.2022.155731

Abstract: The present paper was aimed at investigating the role of disposable medical masks as a substrate for microbial biofilm growth and for the selection of specific microbial traits in highly impacted marine environments. In this view, we have immersed masks in a coastal area affected ...

ERA / PUBLICATIONS SCIENTIFIQUES / ECOTOX SPATIALE/ECOTOX DU PAYSAGE



03/07/2022

Biofilm Structural and Functional Features on Microplastic Surfaces in Greenhouse Agricultural Soil

Authors : Chen, Y ; Wang, XB ; Wang, XL; et al. **Source :** SUSTAINABILITY Volume 14 Issue 12 Article Number 7024 DOI 10.3390/su14127024 Published June 2022 **Abstract :** Microplastics (MPs) enter the soil through a variety of pathways, including plastic mulching, sludge, and organic manure application. In recent years, domestic and foreign experts and scholars have been concerned about the residues and contamination of MPs in the soil of greenhouse agriculture. In this investigation, five types of MPs ...

25/08/2022

Characterization of keystone taxa and microbial metabolic potentials in copper tailing soils

Authors Fan, Q, Chen, YQ, Xu, R, Guo, ZH

Source Environmental Science and Pollutin Research, 2022

Abstract Copper mining has caused serious soil contamination and threaten the balance of underground ecosystem. Effects of metal contamination on the soil microbial community assembly and their multifunctionality are still unclear. In this study, the keystone taxa and microbial metabolic potential of soil microorganisms surrounding a t...

19/08/2022

Diversity and composition of soil bacteria between abandoned and selective-farming farmlands in an antimony mining area

Authors Duan, RY, Du, YH, Chen, ZW et al.

Source FRONTIERS IN MICROBIOLOGY 13, 2022

Abstract Background and aimsLand abandonment and selective farming are two common management methods to restore the soil conditions of low-pollution farmland in mining areas. The soil bacterial community plays an important role in farmland soil restoration; however, few studies have compared the composition and diversity of soil bacteria between the...

19/08/2022

Contrasted speciation distribution of toxic metal(loid)s and microbial community structure in vanadium-titanium magnetite tailings under dry and wet disposal methods

Authors Gan, CD, Yang, JY, Liu, R et al.

Source JOURNAL OF HAZARDOUS MATERIALS439, 2022

Abstract Tailing disposal technologies such as dry and wet disposal methods have a profound effect on the ecosystem of mining areas. However, the chemical speciation of metal(loid)s and microbial community structure in tailings under different disposal methods are still poorly understood. Here we compared the bioavailable fraction of metal(loid)...

19/08/2022

Soil microbial community assembly model in response to heavy metal pollution

Authors Zhang, M, Zhang, T, Zhou, L et al.

Source ENVIRONMENTAL RESEARCH 213, 2022

Abstract Heavy metal pollution affected the stability and function of soil ecosystem. The impact of heavy metals on soil microbial community and the interaction of microbial community has been widely studied, but little was known about the response of community assembly to the heavy metal pollution. In this study, we collected 30 soil samples from no...

12/08/2022

Microbial community succession in soils under long-term heavy metal stress from community diversity-structure to KEGG function pathways

Authors Ma, SY, Qiao, LK, Liu, XX et al.

Source ENVIRONMENTAL RESEARCH 214, 2, 2022

Abstract Currently, understanding the structure and function of the microbial community is the key step in artificially constructing microbial communities to control soil heavy metal pollution. Abundant/rare microbial communities play different roles in different levels of concentrations. However, the correlation between heavy metals...

12/08/2022

Comparative Physiological and Transcriptome Analysis Provide Insights into the Response of *Cenococcum geophilum*, an Ectomycorrhizal Fungus to Cadm... Stress

Authors Shi, YY, Yan, TY, Yuan, C et al.

Source JOURNAL OF FUNGI 8, 7, 2022

Abstract Cadmium (Cd) displays strong toxicity, high mobility, and cannot be degraded, which poses a serious threat to the environment. *Cenococcum geophilum* (*C. geophilum*) is one of the most common ectomycorrhizal fungi (ECMF) in the natural environment. In this study, three Cd sensitive and three Cd tolerant strains of *C. geophilum* were use...

12/08/2022

Sorption, degradation and microbial toxicity of chemicals associated with hydraulic fracturing fluid and produced water in soils

Authors Kookana, RS, Williams, M, Gregg, A et al.

Source ENVIRONMENTAL POLLUTION 309, 2022

Abstract Spills of hydraulic fracturing (HF) fluids and of produced water during unconventional gas extraction operations may cause soil contamination. We studied the degradation and microbial toxicity of selected HF chemical components including two biocides (methylisothiazolinone-MIT, chloromethylisothiazolinone-CMIT), a gel...

09/08/2022

Resistance and resilience of soil bacterial community to zero-valent iron disposal of lindane contamination

Authors Shao, PF, Chen, YZ, Gu, DC et al.

Source CHEMOSPHERE 306, 2022

Abstract Zero-valent iron (ZVI, Fe⁰) enables chemical reduction of environmental pollutants coupled with reactivity loss due to surface oxidation. During ZVI treatment process, however, microbial community stability in terms of resistance and resilience remains largely unclear. Here, we monitored bacterial community succession over a 4 weeks peri...

09/08/2022

Nanoscale zero-valent iron changes microbial co-occurrence pattern in pentachlorophenol-contaminated soil

Authors Su, GP, Wang, YL, Ma, B et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, 2022

Abstract Nanoscale zero-valent iron (nZVI) is a prominent nanomaterial for the remediation of organochlorinecontaminated soil and groundwater. However, a knowledge gap regarding the effects of the coexistence of nZVI and pollutants on soil microorganisms remains. Here, we studied the effects of nZVI on the microbial community stru...

27/07/2022

Chromium toxicity and its remediation by using endophytic bacteria and nanomaterials: A review

Authors Murthy, MK, Khandayataray, P, Samal, D

Source JOURNAL OF ENVIRONMENTAL MANAGEMENT

Abstract This review focuses on chromium exposure and the associated environmental health risks. We also reviewed sustainable remediation processes, with emphasis on nanoparticle and endophytic remediation processes.

27/07/2022

Influence of bacterial community diversity, functionality, and soil factors on polycyclic aromatic hydrocarbons under various vegetation types in mangrove wetlands

Authors Wu, YN, Jiang, BW, Zou, Y et al.

Source ENVIRONMENTAL POLLUTION 308, 2022

Abstract Polycyclic aromatic hydrocarbons (PAHs) are prevalent organic pollutants in coastal ecosystems, particularly in mangrove wetlands. However, it is still largely unclear how PAHs affect the soil bacterial community under various vegetation types in the Greater Bay Area. Here, we selected soil samples from four sites with different vegetation ty...

27/07/2022

Soil Microbial Community Composition and Tolerance to Contaminants in an Urban Brownfield Site | SpringerLink

Authors Mejia, MP, Rojas, CA, Curd, E et al.

Source MICROBIAL ECOLOGY, 2022

Abstract Brownfields are unused sites that contain hazardous substances due to previous commercial or industrial use. The sites are inhospitable for many organisms, but some fungi and microbes can tolerate and thrive in the nutrient-depleted and contaminated soils. However, few studies have characterized the impacts of long-term contamination on soil microb...

22/07/2022

Experimental validation of stability and applicability of Start Growth Time method for high-throughput bacterial ecotoxicity assessment

Authors Wu, SC, Shih, CC

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract Ecotoxicity assessments based on bacteria as model organisms are widely used for routine toxicity screening because it has the advantages of time-saving, high sensitivity, cost-effectiveness, and less ethical responsibility. Determination of ecotoxicity effect via bacterial growth can avoid the restriction of model bacteria selection and uni...

22/07/2022

Comparative Effect of Commercially Available Nanoparticles on Soil Bacterial Community and "Botrytis fabae" Caused Brown Spot: In vitro and in vivo Experiment

Authors Sabra, MA, Alaidaroos, BA, Jastaniah, SD et al.

Source FRONTIERS IN MICROBIOLOGY 13, 2022

Abstract This study revealed the possible effects of various levels of silver nanoparticle (AgNP) application on plant diseases and soil microbial diversity. It investigated the comparison between the application of AgNPs and two commercial nanoproducts (Zn and FeNPs) on the rhizobacterial population and Botrytis fabae...

22/07/2022

Impact of ZnSO₄ and ZnEDTA applications on wheat Zn biofortification, soil Zn fractions and bacterial community: Significance for public health and agroec... environment environment

Authors Chen, YL, Mi, HZ, Zhang, YH et al.

Source APPLIED SOIL ECOLOGY 176, 2022

Abstract Application of Zn fertilizer can improve cereal Zn concentration, and affect soil microbial ecology by increasing soil Zn concentration. We investigated the effects of three-year continuous applications of different Zn fertilizers (i.e., ZnSO₄ and ZnEDTA) on wheat Zn biofortification, soil Zn fractions and bacterial community on a Zn deficient...

22/07/2022

Effects of sediment physicochemical factors and heavy metals on the diversity, structure, and functions of bacterial and fungal communities from a eutrophic river

Authors Yao, Y, Zhao, JQ, Miao, LZ, Hou, J

Source ENVIRONMENTAL POLLUTION 303, 2022

Abstract Urbanization has destroyed river ecosystems, leading to eutrophication. Heavy metals are frequently observed in urban rivers, and the joint effects of eutrophication and heavy metals on microbial communities, especially on fungal communities, have not been adequately explored. In this study, we explored the effect of sediment physicochemica...

22/07/2022

Effects of cadmium (Cd) on fungal richness, diversity, and community structure of Haplic Cambisols and inference of resistant fungal genera

Authors Luo, N, Zhang, XJ, Chen, S et al.

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract Cadmium (Cd) is one of the most toxic and widely distributed pollutants in mining sites of Northeast China, and how Cd contamination may affect the fungal characteristics of the zonal Haplic Cambisols is still unknown. The study aims to investigate the richness and diversity of fungal community in Haplic Cambisols in respons...

22/07/2022

Zinc Essentiality, Toxicity, and Its Bacterial Bioremediation: A Comprehensive Insight

Authors Hussain, S, (Khan, M, Sheikh, TMM et al.

Source FRONTIERS IN MICROBIOLOGY 13, 2022

Abstract Zinc (Zn) is one of the most abundantly found heavy metals in the Earth's crust and is reported to be an essential trace metal required for the growth of living beings, with it being a cofactor of major proteins, and mediating the regulation of several immunomodulatory functions. However, its essentiality also runs parallel to its to...

22/07/2022

Mercury drives microbial community assembly and ecosystem multifunctionality across a Hg contamination gradient in rice paddies

Authors Pu, Q, Zhang, K, Poulain, A et al.

Source JOURNAL OF HAZARDOUS MATERIALS 435, 2022

Abstract Soil microbial communities are critical for maintaining terrestrial ecosystems and fundamental ecological processes. Mercury (Hg) is a heavy metal that is toxic to microorganisms, but its effects on microbial community assembly and ecosystem multifunctionality in rice paddy ecosystems remain largely unknown. In the current study, we ...

22/07/2022

Physicochemical Properties, Metal Availability, and Bacterial Community Structure in Cadmium-Contaminated Soil Immobilized by Nano-Montmorillonite

Authors Liu, W, Zhao, CC, Yuan, YL et al.

Source FRONTIERS IN ENVIRONMENTAL SCIENCE 10, 2022

Abstract Montmorillonite has been widely used in remediation of toxic metals. However, for the safety of the soil ecosystem, the impact of this technology on microorganisms is still unclear. Here, the influence of nano-montmorillonite on immobilization, accumulation of cadmium, and microbial activity in a soil-plant system was investigated.....

22/07/2022

Ammonia level influences the assembly of dissimilatory nitrate reduction to ammonia bacterial community in soils under different heavy metal remediation treatments

Authors Wang, A, Li, X, Hao, XL et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 838, 3, 2022

Abstract Heavy metal remediation treatments might influence functional microbial community assembly. Dissimilatory nitrate reduction to ammonia (DNRA) contributes to the nitrogen retention processes in soil ecosystems. We assumed that re mediation might reduce heavy metal toxicity and increase some available nutrients for the DNRA microbes, ...

22/07/2022

Phosphate mining activities affect crop rhizosphere fungal communities

Authors Li, Q, Wu, Q, Zhang, T et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 838, 2, 2022

Abstract Phosphate mining releases heavy metals into the surrounding environment. In this study, the effects of phosphate mining on rhizosphere soil fungi in surrounding crops, including *Lactuca sativa* var. *angustata*, *Glycine max* (L.) Merr., and *Triticum aestivum* L., were assessed...

ERA / PUBLICATIONS SCIENTIFIQUES / MICROBIOLOGIE ET CONTAMINANTS / ANTIBIOTIQUE ET ANTIBIORESISTANCES

19/08/2022

Tracking the influence of antibiotics, antibiotic resistomes, and salinity gradient in modulating microbial community assemblage of surface water and the ecological consequences

Authors Ohore, OE, Wei, YJ, Wang, YW et al.

Source CHEMOSPHERE 305, 2022

Abstract The ecological impacts of antibiotics and antibiotic resistance genes (ARGs) on water ecology remain elusive in natural environments. We investigated the influence of antibiotics, ARGs and salinity gradient on the surface water ecosystem. Cefquinome (104.2 +/- 43.6 ng/L) and cefminox (16.2 +/- 7.50 ng/L) cephalosporins were predominant in all sites...

12/08/2022

Antibiotic Resistance of Bacterial Isolates from Smallholder Poultry Droppings in the Guinea Savanna Zone of Nigeria

Authors: Bamidele, O, Yakubu, A, Joseph, EB, Amole, TA **Source:** ANTIBIOTICS-BASEL 11, 7, 2022 **Abstract:** There is a growing risk of antibiotic resistance (AR) in smallholder poultry (SP). This study, therefore, aimed to investigate AR pattern of bacterial isolates from SP in the Guinea Savanna agro-ecological zone of Nigeria. A total of 120 fresh poultry droppings were aseptically collected, randomly, from two tropically adapted (FUNAAB Alpha and Noiler) and local chickens...

09/08/2022

Plant cultivar determined bacterial community and potential risk of antibiotic resistance gene spread in the phyllosphere

Authors Fan, XT, Su, JQ, Zhou, SYD, An, XL, Li, H Source JOURNAL OF ENVIRONMENTAL SCIENCES 127: 508-518, 2022, DOI 10.1016/j.jes.2022.06.0061001-0742 Abstract The global increased antibiotic resistance level in pathogenic microbes has posed a significant threat to human health. Fresh vegetables have been recognized to be an important vehicle of antibiotic resistance genes (ARGs) from environments to human beings. Phyllosphere ARGs have been indicated to be changed with plant species, yet the in...

09/08/2022

Antibiotics and microbial community-induced antibiotic-resistant genes distrib... sediment in ... sediment in ...

Authors Lu, JR, Yuan, QB, Wang, XL et al. Source ENVIRONMENTAL MONITORING AND ASSESSMENT 194, 9, 2022 Abstract The health risk of antibiotic-resistant genes (ARGs) has been a global concern, while the report on occurrence and prevalence of ARGs in coastal zone is relatively scarce. This study investigated typical ARGs in soil and sediment in coastal line of eastern China and assessed its relationship with antibiotics and heavy metals as well as microbial community...



27/07/2022

Bacteria associated with leaf-cutter ants drive natural antibiotic resistance in soil bacteria | Journal of Tropical Ecology | Cambridge Core

Authors Simon, S, Chai, K, Drescher, M, Chaves-Campos, J Source JOURNAL OF TROPICAL ECOLOGY, 2022 Abstract Actinobacteria that live mutualistically with leaf-cutter ants secrete antibiotics that may induce antibiotic resistance in nearby soil bacteria. We tested for the first time whether soil bacteria near and inside Atta cephalotes nests in Costa Rica show higher levels of antibiotic resistance than bacteria collected farther away...

27/07/2022

Impact of eight widely consumed antibiotics on the growth and physiological profile of natural soil microbial communities

Authors Pino-Otin, MR, Ferrando, N, Ballester, D et al.

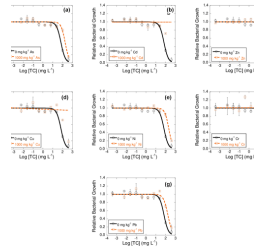
Source CHEMOSPHERE 305, 2022

Abstract Antibiotics' (ATBs) occurrence in soil ecosystems has a relevant effect in the structure and functionality of edaphic microbial communities, mainly because of their amendment with manure and biosolids that alter their key ecological functions. In this study, the impact of eight widely consumed ATBs on a natural soil microbial commun...

22/07/2022

Tolerance of soil bacterial community to tetracycline antibiotics induced by As, Cd, Zn, C... and Pb ... and Pb ...

Authors Santos-Miguel, V, Nunez-Delgado, A, Alvarez-Rodriguez, E et al. Source SOIL 8, 1: 437-449, 2022 Abstract The widespread use of both heavy metals and antibiotics in livestock farming, followed by their subsequent arrival on agricultural soils through manure and slurry spreading, has become a problem of vital importance for human health and the environment. In the current research, a laboratory experiment was carried out for 42 d to study tolerance and co-tolerance of three tetracycline antib...



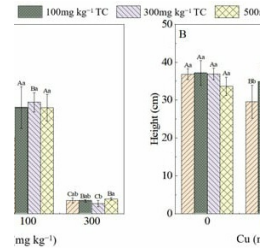
22/07/2022

Effects of Tetracycline and Copper on Water Spinach Growth and Soil Bacterial Community

Authors Tao, JD, Wang, JY, Zheng, XK et al.

Source PROCESSES

Abstract The effects of tetracycline (TC) and copper (Cu) on the growth of water spinach and the bacterial community structure in soil were examined in this study.../... The results of 16Sr RNA sequence analysis showed that the richness and diversity of soil bacterial communities were reduced by either a single TC or Cu treatment. Cu had a greater effect on the composition of...



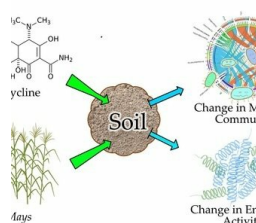
22/07/2022

Organic fertilizer potentiates the transfer of typical antibiotic resistance gene among special bacterial species

Authors Wei, ZiY, Shen, WL, Feng, K et al.

Source JOURNAL OF HAZARDOUS MATERIALS

Abstract The propagation of antibiotic resistance genes (ARGs) in environments has evoked many attentions, however, how to identify their host pathogenic bacteria in situ remains a great challenge. Here we explored the bacterial host distribution and dissemination of a typical ARG, sul1 gene, in agricultural soils through the simultaneous detection of ...



22/07/2022

The Role of Grass Compost and Zea Mays in Alleviating Toxic Effects of Tetracycline on Soil Bacteria

Authors Wyszowska, J, Borowik, A, Kucharski, J

Source INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH 19, 12, 2022

Abstract Given their common use for disease treatment in humans, and particularly in animals, antibiotics pose an exceptionally serious threat to the soil environment. This study aimed to determine the response of soil bacteria and oxidoreductases to a tetracycline (Tc) contamination, and to establish...



25/08/2022

Remediation of chlorpyrifos and deltamethrin in different salinity soils and its im... bacterial .. bacterial ...

Authors Jokar, S. H.; Shavandi, M.; Haddadi, A.; Alaie, E

Source International Journal of Environmental Science and Technology, 2022

Abstract Pesticides are chemicals widely used in agricultural industry, but their ecotoxicological effects on the environment are not still well understood. In this study, remediation of chlorpyrifos (CP) and deltamethrin (DM) and their impacts on soil microbial diversity were investigated. Four dif...

19/08/2022

Plant growth-promoting bacteria in phytoremediation of metal-polluted soils: Current knowledge and future directions

Authors Alves, ARA, Yin, QF, Oliveira, RS et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 838, 4, 2022

Abstract Soil metal contamination is a major concern due to the ever-rising number of areas afflicted worldwide and the detrimental effects of metals to the environment and human health. Due to their non-biodegradability and toxicity, it is paramount to prevent further metal contamination and remediate the thousands of contaminated...

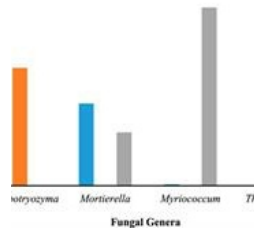
19/08/2022

Effects of Phytoremediation on Microbial Biomass, Composition, and Function in a... From ... Sulphide-Rich Tailing From ...

Authors Nkongolo, K. K., Spiers, G., Beckett, P., Narendrula-Kotha, R.

Source FRONTIERS IN ENVIRONMENTAL SCIENCE 10, 2022

Abstract Mining activities lead to serious land deterioration and large scale mine waste generation. Reclamation has been carried out on several technogenic materials to encourage the development of soils. To date no detailed studies have been conducted to assess if soil developed in reclaimed tailings can be su...



19/08/2022

Rape straw application facilitates Se and Cd mobilization in Cd-contaminated seleniferous soils by enhancing microbial iron reduction

Authors Lyu, C, Li, L, Liu, XW et al.

Source ENVIRONMENTAL POLLUTION 310, 2022

Abstract Many naturally seleniferous soils are faced with Cd contamination problem, which severely limits crop cultivation in these areas. Straw returning has been widely applied in agricultural production due to its various benefits to soil physicochemical properties, soil fertility, and crops yield. However, effects of straw application on the fates ...

19/08/2022

Immobilization of chromium enhanced by arbuscular mycorrhizal fungi in semi-aquatic habitats with biochar addition

Authors Chen, ZB, Hu, B, Hu, SS et al.

Source JOURNAL OF HAZARDOUS MATERIALS 439, 2022

Abstract Arbuscular mycorrhizal fungi (AMF) exhibit great potential in heavy-metal immobilization in semi-aquatic habitats. Under high heavy-metal stress, however, the role of AMF is limited, and the detoxification mechanism of AMF in heavy metals' stabilization remains unclear. This study investigated the effects of AMF on a wetland plant (Iris...

19/08/2022

Mycodegradation of diazinon pesticide utilizing fungal strains isolated from polluted soil

Authors Mostafa, AAF, Yassin, MT, Dawoud, TM et al.

Source ENVIRONMENTAL RESEARCH 212, A, 2022

Abstract The current study aimed to isolate biodegradable soil fungi capable of metabolizing diazinon. The collected soil samples were investigated for diazinon pollution to detect the pesticide level in the polluted soil samples. Food poisoning techniques were utilized to preliminary investigate the biodegradation efficiency of the isola...

12/08/2022

Screening of Plants and Indigenous Bacteria to Improve Arsenic Phytoextraction

Authors Franchi, E, Barbafieri, M, Petruzzelli, G et al.

Source APPLIED SCIENCES-BASEL 12, 14, 2022

Abstract Arsenic (As) is one of the most common inorganic pollutants; unfortunately, it is also one of the most toxic and is therefore a cause of great concern for the health risks that could result from it. Removing arsenic from the soil using phytoremediation approaches is an effective strategy, and several studies ...

Class	Acc. n. GenBank	Metal tolerance						
		Li	Na	K	Ca	Mg	Zn	Cd
Bacilli	OM678100	+	+	+	+	+	+	+
proteobacteria	OM678101	+	+	+	+	+	+	+
Bacilli	OM678102	+	+	+	+	+	+	+
proteobacteria	OM678103	+	+	+	+	+	+	+
ctinobacteria	OM678104	+	+	+	+	+	+	+
Bacilli	OM678105	+	+	+	+	+	+	+
proteobacteria	OM678106	+	+	+	+	+	+	+
Bacilli	OM678107	+	+	+	+	+	+	+
ctinobacteria	OM678108	+	+	+	+	+	+	+
ctinobacteria	OM678109	+	+	+	+	+	+	+

12/08/2022

Phosphate-solubilizing bacteria abate cadmium absorption and restore the rhizospheric bacterial community composition of grafted watermelon plants

Authors Zhang, J, Wang, PC, Tao, Z et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, 2022

Abstract The grafting of watermelon plants to rootstocks is common due to the strong capacity of rootstocks to adapt to abiotic and biotic stresses. However, the effect of phosphate-solubilizing bacteria (PSB) on grafted watermelon plant growth and bacterial structures in root soil is unclear. In this study, the growth and horm...

12/08/2022

Exploring bacterial communities through metagenomics during bioremediation of polycyclic aromatic hydrocarbons from contaminated sediments

Authors Gosai, HB, Panseriya, HZ, Patel, PG et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 842, 2022

Abstract The goal of this study was to evaluate the degradation effectiveness of PAHs degrading bacteria at the mesocosm level, including *Stenotrophomonas maltophilia* (SC), mixed culture (MC), and enriched native microflora (EC) at the mesocosm level. Maximum degradation was found in the mesocosm MC (26.67 %), follow...



12/08/2022

Phytoextraction potential of arsenic and cadmium and response of rhizo... intercropping .. community by intercropping ...

Authors Wang, XH, Zhou, C, Xiao, XY et al.

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract Intercropping with hyperaccumulators/accumulators is a promising alternative to enhance phytoextraction of heavy metal(loid)s in contaminated soil. In this research, a pot experiment was conducted to evaluate the influences of intercropping As hyperaccumulator *Pteris vittata* L. with Cd hyperaccumulator *Sedum...*

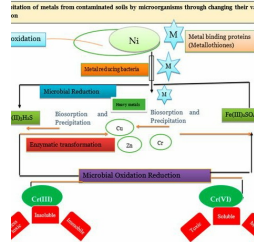
12/08/2022

Microbial Remediation: A Promising Tool for Reclamation of Contaminated Soil on Heavy Metals with Special Emphasis on Heavy Metals

Authors Tarfeen, N, Ul Nisa, K, Hamid, B et al.

Source PROCESSES 10, 7, 2022

Abstract Heavy metal and pesticide pollution have become an inevitable part of the modern industrialized environment that find their way into all ecosystems. Because of their persistent nature, recalcitrance, high toxicity and biological enrichment, metal and pesticide pollution has threatened the stability of the environment as well as the...



12/08/2022

Mycodegradation of diazinon pesticide utilizing fungal strains isolated from polluted soil

Authors Mostafa, AAF, Yassin, MT, Dawoud, TM et al.

Source ENVIRONMENTAL RESEARCH 212, C, 2022

Abstract The current study aimed to isolate biodegradable soil fungi capable of metabolizing diazinon. The collected soil samples were investigated for diazinon pollution to detect the pesticide level in the polluted soil samples. Food poisoning techniques were utilized to preliminary investigate the biodegradation efficie...

09/08/2022

Elsholtzia splendens promotes phenanthrene and polychlorinated biphenyl degradation under Cu stress through enrichment of microbial degraders

Authors Huang, ZL, Jiang, LF, Lu, WS et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, 2022

Abstract Co-contamination of heavy metals and organic pollutants is widespread in the environment. Metal-tolerant/hyperaccumulating plants have the advantage of enhancing co-operation between plants and rhizospheric microbes under heavy metal stress, but the underlying mechanism remains unclear. In the present study, the eff...

09/08/2022

Dynamics of fungal and bacterial communities in different types of soil ageing with different dosages of cadmium

Authors Liu, HX, Yang, YJ, Yang, YZ et al.

Source ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 242, 2022

Abstract This study investigated the structure of fungal and bacterial communities in different types of Cd-contaminated soils. The results showed that obvious variations in microbial structure between contaminated alkaline soils and acidic soils. Proteobacteria, Gemmatimonadetes, Bacteroidetes and Basidiomycota domina...

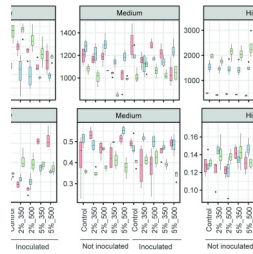
09/08/2022

Application of dry olive residue-based biochar in combination with arbus... enhances the .. mycorrhizal fungi enhances the ...

Authors Siles, JA, Garcia-Romera, I, Cajthaml, T et al.

Source SCIENTIFIC REPORTS 12, 1, 2022

Abstract Biochar made-up of dry olive residue (DOR), a biomass resulting from the olive oil extraction industry, has been proposed to be used as a reclamation agent for the recovery of metal contaminated soils. The aim of the present study was to investigate whether the soil application of DOR-based biochar alone or in comb...



01/08/2022

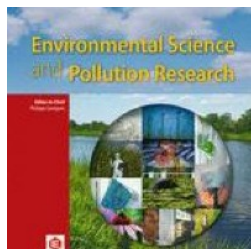
The combined application of γ -PGA-producing bacteria and biochar reduced the content of heav... .. metals and improved ...

Authors Liu, XW, Wang, XH, Xu, TY et al.

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract Plant growth-promoting bacteria and biochar have been widely used as immobilizers to remediate heavy metal contaminated soil. However, few studies have unraveled the effect and synergistic mechanism of combined application of plant growth-promoting bacteria and biochar on in situ heavy metal contaminated soil remediation and ...





01/08/2022

Effects of four endophytic bacteria on cadmium speciation and rem... plumbizincicola . of Sedum plumbizincicola ...

Authors Cheng, XY, Cao, XY, an, CY et al.

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract Cadmium (Cd) pollution in farmland soils severely affects agricultural production safety, thereby threatening human health. *Sedum plumbizincicola* is a Cd and Zn hyperaccumulator commonly used for the phytoremediation of Cd-contaminated soil. This study was aimed to improve the remediation effect of *S. plumbizincicola* on Cd-c...

27/07/2022

Metal(loid)-resistant bacterial consortia with antimycotic properties increase tolerance of *Chenopodium quinoa* Wild. to metal(loid) stress

Authors Alvarado, R, Fuentes, A, Ortiz, J et al.

Source RHIZOSPHERE 23, 2022

Abstract Bacteria associated with plants colonizing extreme environments in Chile (Atacama and Antarctic Desert soils) provide a model to study plant growth-promoting mechanisms that can be useful to improve the growth of crops such as *Chenopodium quinoa* Wild. (Amaranthaceae) growing under severe environmental conditions. This study aimed to determine the ...

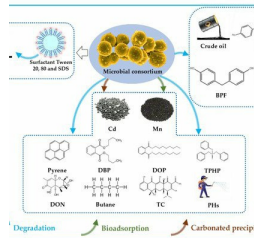
27/07/2022

Microbial Consortia Are Needed to Degrade Soil Pollutants

Authors Zhang, T, Zhang, HJ

Source MICROORGANISMS 10, 2, 2022

Abstract review Soil pollution is one of the most serious environmental problems globally due to the weak self-purification ability, long degradation time, and high cost of cleaning soil pollution. The pollutants in the soil can be transported into the human body through water or dust, causing adverse effects on human health. The latest research has shown that the clean-...



22/07/2022

Neutralization of the toxic effects of a fungicide difenoconazole against soil organisms by a difenoconazole-degrading bacterium

Authors Yeon, J, Chung, JH, Chon, K et al.

Source APPLIED SOIL ECOLOGY 177, 2022

Abstract In the present study the chemical structure of the non-toxic metabolite of a fungicide difenoconazole produced by a difenoconazole-degrading bacterium, *Sphingomonas histidinilytica* C8-2, was identified and it was found that strain C8-2 detoxifies difenoconazole by segregating the chlorobenzene group and attaching a hydroxyl group to the cleava...

22/07/2022

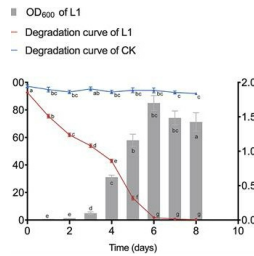
Bioremediation of a trifluralin contaminated soil using bioaugmentation with novel isolated bacterial strains and cyclodextrin

Authors Lara-Moreno, A., Morillo, E., Merchan, F., Madrid, F., Villaverde, J.

Source SCIENCE OF THE TOTAL ENVIRONMENT 840, 2022

Abstract Trifluralin (TFL) is a highly persistent with a strong adsorption capacity on soil particles herbicide. This study was to isolate microbial consortia and bacterial strains from a soil with a historical application of pesticides to evaluate their potential to degrade TFL in soil. Different bioremed...

22/07/2022



Characterizing the Microbial Consortium L1 Capable of Efficiently Degrading Chlor... Metagenome ... Metagenome ...

Authors Li, X, Lu, CM, Dai, YM et al.

Source FRONTIERS IN MICROBIOLOGY

Abstract Excessive application of the herbicide chlorimuron-ethyl (CE) severely harms subsequent crops and poses severe risks to environmental health. Therefore, methods for efficiently decreasing and eliminating CE residues are urgently needed. Microbial consortia show potential for bioremediation due to their strong metabolic complementarity and synthesis. In ...

22/07/2022

Characterization of a novel glyphosate-degrading bacterial species, *Chryseobacterium* sp. Y16C, and evaluation of its effects on microbial communities in glyphosate-contaminated soil

Authors Zhang, WP, Li, JY, Zhang, YM et al.

Source JOURNAL OF HAZARDOUS MATERIALS 432, 2022

Abstract Widespread use of the herbicide glyphosate in agriculture has resulted in serious environmental problems. Thus, environment-friendly technological solutions are urgently needed for the removal of residual glyphosate from soil. Here, we successfully isolated a novel bacterial strain, *Chryseobacterium* sp. Y16C, which efficiently degrades...

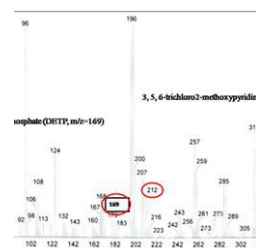
22/07/2022

Bioremediation Potential of Plant-Bacterial Consortia for Chlorpyrifos Removal Using Constructed Wetland

Authors Aziz, T, Rasheed, S, Shah, AH et al.

Source FRONTIERS IN ENVIRONMENTAL SCIENCE 10, 2022

Abstract The extensive and unchecked application of chlorpyrifos against crop insects has caused contamination of various ecosystems, such as soil, sediments, and water, posing harm to plants, animals, useful arthropods, and humans. The present study aimed at evaluating the ability of proto-type constructed wetland to biodegrade chlorpyrifos...



22/07/2022

Construction of bifunctional bacterial community for co-contamination remediation: Pyrene biodegradation and cadmium biomineralization

Authors Lin, H, Shi, JY, Dong, YB et al.

Source CHEMOSPHERE 304, 2022

Abstract Polycyclic aromatic hydrocarbons and heavy metals are typical pollutants in the non-ferrous metal smelting industry. The combination of biodegradation and biomineralization has great development potential for co-contamination removal as an environmentally friendly method. Pyrene (Pyr) and cadmium (Cd) were regarded as model pollutants of co-contamination...

25/08/2022

Effects of nanopolystyrene addition on nitrogen fertilizer fate, gaseous loss of N from the soil, and soil microbial community composition

Authors Zou, ZH, Li, SQ, Wu, J et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, DOI 10.1016/j.jhazmat.2022.129509

Abstract Nanoplastics and microplastics are the degradation products of plastics waste and have become a dominant pollutant in the environment. However, little is known about the ecological impacts of nanoplastic particles in the agroecosystem. We conducted a mesocosm experiment to examine nanopolystyrene effects on f...

25/08/2022

Implication of microplastic toxicity on functioning of microalgae in aquatic system

Authors: Parsai T, Figueiredo N, Dalvi V et al.

Source: ENVIRONMENTAL POLLUTION 308:119626, 2022, DOI 10.1016/j.envpol.2022.119626

Abstract: Microplastics (MPs) released from both primary and secondary sources affect the functioning of aquatic system. These MPs and components leached, can interact with aquatic organisms of all trophic levels, including the primary producers, such as microalgae. Considering the ecological value of m...

25/08/2022

Light availability modulates the responses of the microalgae *Desmodesmus* sp. to micron-sized polyvinyl chloride microplastics

Authors: Wang C, Jiang LJ, Huang WX et al.

Source: AQUATIC TOXICOLOGY 249:106234, 2022, DOI 10.1016/j.aquatox.2022.106234

Abstract: The vertical movement of large-size and high-density MPs in the water column is usually along with dynamic changes in light intensity. However, whether the change in light availability affects the bioeffects of MPs on surrounding microalgae is currently unknown. This study investigated the effects of m...

25/08/2022

The combined effects of microplastics and the heavy metal cadmium on the marine periphytic ciliate *Euplotes vannus*

Authors: Wang YX, Liu MJ, Geng XH et al.

Source: ENVIRONMENTAL POLLUTION 308:119663, 2022, DOI 10.1016/j.envpol.2022.119663

Abstract: Microplastics could be grazed by marine organisms and possibly transferred to higher trophic levels along the microbial loop. Due to their size and capacity to concentrate heavy metals that trigger joint toxic effects, microplastics (MPs) have already become a severe threat to marine organisms. The d...

25/08/2022

Plastic pollution fosters more microbial growth in lakes than natural organic matter

Authors: Sheridan EA, Fonvielle JA, Cottingham S et al.

Source: NATURE COMMUNICATIONS 13:4175, 2022, DOI 10.1038/s41467-022-31691-9

Abstract: Plastic debris widely pollutes freshwaters. Abiotic and biotic degradation of plastics releases carbon-based substrates that are available for heterotrophic growth, but little is known about how these novel organic compounds influence microbial metabolism...

24/08/2022

Interactions between microplastics and benthic biofilms in fluvial ecosystems: Knowledge gaps and future trends

Authors: Guasch H, Bernal S, Bruno D et al.

Source: FRESHWATER SCIENCE Early Access, DOI 10.1086/721472

Abstract: Plastics, especially microplastics (<5 mm in length), are anthropogenic polymer particles that have been detected in almost all environments. Microplastics are extremely persistent pollutants and act as long-lasting reactive surfaces for additives, organic matter, and toxic substances. Biofilms are microbial assembla...

24/08/2022

Interplay of plastic pollution with algae and plants: hidden danger or a blessing?

Authors: Karalija E, Carbo M, Coppi A et al.

Source: JOURNAL OF HAZARDOUS MATERIALS 438:129450, 2022, DOI 10.1016/j.jhazmat.2022.129450

Abstract: In the era of plastic pollution, plants have been discarded as a system that is not affected by micro and nanoplastics, but contrary to beliefs that plants cannot absorb plastic particles, recent research proved otherwise. The presented review gives insight into known aspects of plants' i...

24/08/2022

Influence of Microplastics on Microbial Structure, Function, and Mechanical Properties of Stream Periphyton

Authors: Merbt SN, Kroll A, Tamminen M et al.

Source: FRONTIERS IN ENVIRONMENTAL SCIENCE 10:928247, 2022, DOI 10.3389/fenvs.2022.928247

Abstract: Periphyton is a freshwater biofilm composed of prokaryotic and eukaryotic communities that occupy rocks and sediments, forming the base of the food web and playing a key role in nutrient cycling. Given the large surface that periphyton comprises, it may also act as a sink for a diverse ra...

19/08/2022

Future climate change enhances the complexity of plastisphere microbial co-occurrence networks, but does not significantly affect the community assembly

Authors: Ji L, Tanunchai B, Wahdan SFM, Schaedler M et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT 844: 157016, 2022, DOI 10.1016/j.scitotenv.2022.157016

Abstract: Biobased and biodegradable plastics have been intensively used in agriculture as mulching films. They provide a distinctive habitat for soil microbes, yet much less is known about the community assembly and interactions of plastisphere microbiota in soils under future ...

19/08/2022

Future climate change enhances the complexity of plastisphere microbial co-occurrence networks, but does not significantly affect the community assembly

Authors Ji, L, Tanunchai, B, Wahdan, SFM et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 844, 2022

Abstract Biobased and biodegradable plastics have been intensively used in agriculture as mulching films. They provide a distinctive habitat for soil microbes, yet much less is known about the community assembly and interactions of plastisphere microbiota in soils under future climate change. For the first time, we explored the relati...

19/08/2022

Soil bacterial community and metabolism showed a more sensitive response to PBAT biodegradable mulch residues than that of LDPE mulch residues

Authors: Liu LY, Zou GY, Zuo Q, Li CZ et al.

Source: JOURNAL OF HAZARDOUS MATERIALS 438: 129507, 2022, DOI 10.1016/j.jhazmat.2022.129507

Abstract: Biodegradable mulch film (BDM) is considered as an environmentally sustainable alternative to low density polyethylene (LDPE) mulch film. However, the low degradation rate of BDM resulted in residues in soil after service period which we...

12/08/2022

Microbial interactions enhanced environmental fitness and expanded ecological niches under dibutyl phthalate and cadmium co-contamination

Authors Wang, XJ, Wu, H, Dai, CH et al.

Source ENVIRONMENTAL POLLUTION 306, 2022

Abstract Co-contamination of organic pollutants and heavy metals is universal in the natural environment. Dibutyl phthalate (DBP), a typical plasticizer, frequently coexists with cadmium (Cd) in nature. However, little attention has been given to the impacts of co-contamination by DBP and Cd on microbial communities or the responses of ...

12/08/2022

Interplay of plastic pollution with algae and plants: hidden danger or a blessing?

Authors Karalija, E, Carbo, M, Coppi, A et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, 2022

Abstract In the era of plastic pollution, plants have been discarded as a system that is not affected by micro and nanoplastics, but contrary to beliefs that plants cannot absorb plastic particles, recent research proved otherwise. The presented review gives insight into known aspects of plants' interplay with plastics an...

09/08/2022

Microplastics spatiotemporal distribution and plastic-degrading bacteria identification in the sanitary and non-sanitary municipal solid waste landfills

Authors Li, NY, Han, ZY, Guo, NF et al.

Source JOURNAL OF HAZARDOUS MATERIALS 438, 2022

Abstract The municipal solid waste landfill (MSWL) is an important source of microplastics (MPs) and a huge bioreactor for plastic-degrading microorganisms (PDM). However, the spatiotemporal distribution and degradation mechanisms of MPs in MSWLs are unclear. Therefore, they were studied using the samples drilled in a sanitary la...

12/08/2022

Links among Microbial Communities, Soil Properties and Functions: Are Fungi the Sole Players in Decomposition of Bio-Based and Biodegradable Plastic?

Authors Guliyev, V, Tanunchai, B, Noll, M et al.

Source POLYMERS 14, 14, 2022

Abstract The incomplete degradation of bio-based and biodegradable plastics (BBPs) in soils causes multiple threats to soil quality, human health, and food security. Plastic residuals can interact with soil microbial communities. We aimed to link the structure and enzyme-mediated functional traits of a microbial community composition that ...

09/08/2022

Microplastics persist in an arable soil but do not affect soil microbial biomass, enzyme activities, and crop yield

Authors Schoepfer, L, Moeller, JN, Steiner, T et al.

Source JOURNAL OF PLANT NUTRITION AND SOIL SCIENCE 2022, DOI 10.1002/jpln.202200062

Abstract Background Microplastics (MP, plastic particles <5 mm) are ubiquitous in arable soils due to significant inputs via organic fertilizers, sewage sludges, and plastic mulches. However, knowledge of typical MP loadings, their fate, and ecological impacts on arable soils ...

01/08/2022

Effects of biodegradable and polyethylene film mulches and their residues on soil bacterial communities

Authors Yang, C, Huang, YZ, Long, BB, Gao, XH

Source ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, 2022

Abstract To investigate the effects of plastic film mulches and their residual films after use on soil bacterial communities, mulching experiment and the subsequent residual film experiment were conducted on winter-planting potato field in two locations. During mulching experiment, treatments biodegradable film mulch (BM) and PE ...

28/07/2022

Wastewater plastisphere enhances antibiotic resistant elements, bacterial pathogens, and toxicological impacts in the environment

Authors: Junaid M, Liu SL, Liao HP et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT 841:156805, 2022, DOI 10.1016/j.scitotenv.2022.156805

Abstract: [...] Conventional wastewater treatment plants (WWTPs) are unable to remove micro and nano-sized plastic particles, which end up in the natural aquatic and terrestrial environment, causing multifaceted toxic impacts. Moreover, plastics in wastewater generate biofilm that potentially enrich...

28/07/2022

Important ecological processes are affected by the accumulation and trophic transfer of nanoplastics in a freshwater periphyton-grazer food chain

Authors: Holzer M, Mitrano DM, Carles L et al.

Source: ENVIRONMENTAL SCIENCE-NANO Early Access, DOI 10.1039/d2en00101b

Abstract: Fundamental knowledge gaps on the bioaccumulation, trophic transfer and effects of nanoplastics in fresh waters limit the estimation of their ecological risks. In the present study, we investigated these unexplored aspects in a simplified stream food chain. Specifically, we used stream periphyton, which d...

22/07/2022

The role of microplastics in altering arsenic fractionation and microbial community structures in arsenic-contaminated riverine sediments

Authors Qin, M, Gong, JL, Zeng, GM et al.

Source JOURNAL OF HAZARDOUS MATERIALS 433, 2022

Abstract The ability of microplastics (MPs) to interact with environmental pollutants is of great concern. Riverine sediments, as sinks for multi-pollutants, have been rarely studied for MPs risk evaluation. Meanwhile, MPs generated from biodegradable plastics are questioning the safety of the promising materials. In this study, we investigate...

22/07/2022

Microplastic additions alter soil organic matter stability and bacterial community under varying temperature in two contrasting soils

Authors Shi, J, Wang, J, Lv, JF et al.

Source SCIENCE OF THE TOTAL ENVIRONMENT 838, 3, 2022

Abstract Microplastics can accumulate in soils and strongly affect the biogeochemical cycle. Biodegradable plastic films show potential as sustainable alternatives that could reduce microplastic soil contamination and accumulation. However, the effects of traditional and biodegradable microplastics on soil organic matter (SOM) stability are ...

22/07/2022

The formation of specific bacterial communities contributes to the enrichment of antibiotic resistance genes in the soil plastisphere

Authors Yang, Y, Li, T, Liu, P et al.

Source JOURNAL OF HAZARDOUS MATERIALS 436, 2022

Abstract Soil serves as a major reservoir of both antibiotic resistance genes (ARGs) and microplastics. However, the characteristics of the antibiotic resistome in the soil plastisphere remain largely unknown. In this study, we used metagenomic approaches to reveal the changing patterns of ARGs and the bacterial community and their associations in...

22/07/2022

Soil algae as a potential carrier for nanoplastics: Adsorption and internalization of nanoplastics in algal cells

Authors Nam, SH, Kim, D, An, YJ

Source SCIENCE OF THE TOTAL ENVIRONMENT 837, 2022

Abstract Although plastics are widely distributed in soil environments, few studies have assessed their effects on different test species. In this study, the responses (adsorption or internalization) of two green algal species (*Chlorococcum infusionum* and *Chlamydomonas reinhardtii*) to nanoplastics in soil were evaluated via microscopic analysis for ni...

21/07/2022

Biodegradable and conventional microplastics posed similar toxicity to marine algae *Chlorella vulgaris*

Authors: Su YY, Cheng ZR, Hou YP et al.

Source: AQUATIC TOXICOLOGY 244: 106097, 2022, DOI 10.1016/j.aquatox.2022.106097

Abstract: It has been demonstrated that some conventional microplastics (CMPs) have toxicities to organisms, however, whether biodegradable microplastics (BMPs) have similar potential risks to marine ecosystems remains to be elucidated. Therefore, this study aimed to investigate i) the effects of ...

19/07/2022

A new look at the potential role of marine plastic debris as a global vector of toxic benthic algae

Authors: Leite ID, Menegotto A, Lana PD, Junior LLM

Source: SCIENCE OF THE TOTAL ENVIRONMENT 838:156262, 2022, DOI 10.1016/j.scitotenv.2022.156262

Abstract: Marine plastic debris provides a significant surface area for potential colonization by planktonic and benthic harmful microalgae and for the adsorption of their toxins. Furthermore, floating plastics may substantially expand the substrate area available for benthic alga...

04/07/2022

Antagonistic and synergistic effects of warming and microplastics on microalgae: Case study of the red tide species *Prorocentrum donghaiense*

Authors: Zhang JZ, Kong LW, Zhao Y et al.

Source: ENVIRONMENTAL POLLUTION 307:119515, 2022, DOI 10.1016/j.envpol.2022.119515

Abstract: Bibliometric network analysis has revealed that the widespread distribution of microplastics (MPs) has detrimental effects on marine organisms; however, the combined effects of MPs and climate change (e.g., warming) is not well understood. In this study, *Prorocentrum donghaiense*, a typical re...

07/07/2022

The formation of specific bacterial communities contributes to the enrichment of antibiotic resistance genes in the soil plastisphere

Authors: Yang Y, Li T, Liu P et al.

Source: JOURNAL OF HAZARDOUS MATERIALS 436:129247, 2022, DOI 10.1016/j.jhazmat.2022.129247

Abstract: Soil serves as a major reservoir of both antibiotic resistance genes (ARGs) and microplastics. However, the characteristics of the antibiotic resistome in the soil plastisphere remain largely unknown. In this study, we used metagenomic approaches to reveal the changing patterns of ARGs and the bac...

04/07/2022

Species diversity and community structure of microalgae living on microplastics in Luoyuan Bay, China

Authors: Wang K, Lin H, Wang SM et al.

Source: MARINE POLLUTION BULLETIN 180:113809, 2022, DOI 10.1016/j.marpolbul.2022.113809

Abstract: This study was carried out in Luoyuan Bay in March 2021. The species composition of microalgae community colonizing on microplastics called epimicroplastic microalgae (EMP-MA) was analyzed and compared with planktonic microalgae (PM) community...

13/08/2022

Investigating children's chemical exposome – Description and possible determinants of exposure in the region of Luxembourg based on hair analysis

Authors: Iglesias-Gonzalez A, Schweitzer M, Palazzi P, Peng FJ, et al.

Source: ENVIRONMENT INTERNATIONAL 165:107342, 2022, DOI 10.1016/j.envint.2022.107342

Abstract: The specific physiology and behaviour of children makes them particularly vulnerable to chemical exposure. Specific studies must therefore be conducted to understand the impact of pollution on children's health. Human biomonitoring is a reliable approach for exposure a...

[doi.org](https://doi.org/10.1016/j.envint.2022.107342)

22/07/2022

The environmental and occupational influence of pesticides on male fertility: A systematic review of human studies

Authors: Giulioni C, Maurizi V, Castellani D, Scarcella S et al.

Source: ANDROLOGY, 2022, DOI 10.1111/andr.13228

Abstract: The environment plays a key role in male infertility, changing the incidence in various populations, and pesticides are one of the most studied hazards. The use of the latter has never decreased, jeopardizing the safety of workers and the general population. Our purpose was to summarize the results of studies d...

www.wmt.cikisi.com

13/08/2022

Occupational exposure to pesticides in mothers and fathers and risk of cancer in the offspring: A register-based case-control study from Sweden (1960-2015)

Authors: Rossides M, Kampitsi CE, Talback M, Mogensen H et al.

Source: ENVIRONMENTAL RESEARCH 214(1):113820, 2022, DOI 10.1016/j.envres.2022.113820

Abstract: We examined the association between maternal and paternal exposure to pesticides and childhood cancer in a Swedish register-based case-control study (1960-2015). Cancer cases < 20 years old were identified from the Cancer Register (n = 17313) and matched to controls (1:25) ...

[doi.org](https://doi.org/10.1016/j.envres.2022.113820)

21/07/2022

Maternal and child biomonitoring strategies and levels of exposure in western Canada during the past seventeen years: The Alberta Biomonitoring Program: 2005-2021

Authors: MacDonald AM, Gabos S, Braakman S, Cheperdak, L et al.

Source: INTERNATIONAL JOURNAL OF HYGIENE AND ENVIRONMENTAL HEALTH 244:113990, 2022, DOI 10.1016/j.ijheh.2022.113990

Abstract: The Alberta Biomonitoring Program (ABP) was created in 2005 with the initial goal of establishing baseline levels of exposure to environmental chemicals in specific populations in the province of Alberta, Canada, and was later expanded to includ...

[doi.org](https://doi.org/10.1016/j.ijheh.2022.113990)

15/07/2022

Association of Prenatal Exposure to Endocrine-Disrupting Chemicals With Liver Injury in Children

Authors: Midya V, Colicino E, Conti DV, Berhane K et al.

Source: JAMA NETWORK OPEN 5(7): e2220176, 2022, DOI 10.1001/jamanetworkopen.2022.20176

Abstract: Prenatal exposures to endocrine-disrupting chemicals (EDCs) may increase the risk for liver injury in children; however, human evidence is scarce, and previous studies have not considered potential EDC-mixture effects. Furthermore, the association between prenatal EDC exposure an...

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13/07/2022

Respiratory and allergic health effects in children living near agriculture: A review

Authors: Van Horne YO, Farzan SF, Razafy M, Johnston JE

Source: SCIENCE OF THE TOTAL ENVIRONMENT 832: 155009, 2022, DOI 10.1016/j.scitotenv.2022.155009

Abstract: We reviewed epidemiological studies to identify the respiratory health effects of children exposed to pesticides and agricultural burning through a systematic evaluation of peer-reviewed publications of children living in industrial agricultural areas. The initial search ...

doi.org

08/07/2022

Maternal pesticide exposure and its relation to childhood cancer: an umbrella review... analyses: Int.. analyses: Int...

This umbrella review summarizes the available meta-analyses elucidating the effects of maternal pesticide exposure on adverse health outcomes in children particularly the risk of childhood cancer. ...

doi.org



26/08/2022

Ecotoxicity of Heteroaggregates of Polystyrene Nanospheres in Chironomidae and Amphibians

Authors: Mouchet F, Roweczyk L, Minet A, Clergeaud F et al.

Source: NANOMATERIALS 12(15): 2730, 2022, DOI 10.3390/nano12152730

Abstract: Due to their various properties as polymeric materials, plastics have been produced, used and ultimately discharged into the environment. Although some studies have shown their negative impacts on the marine environment, the effects of plastics on freshwater organisms are still poorly studied, whi...

26/08/2022

Home and community composts in Nantes city (France): quality and safety regarding trace metals and metalloids

Authors: Kohli A, Guenon R, Jean-Soro L, Vidal-Beaudet L

Source: ENVIRONMENTAL MONITORING AND ASSESSMENT 194(9): 649, 2022, DOI 10.1007/s10661-022-10251-0

Abstract: Home and community composting are key strategies for local organic waste management. The quality and safety of industrial composts are controlled, but those of home and community composts are not, and this could make them unsafe for use in kitchen gardens. Home (n = 20...

26/08/2022

Sequential removal of human antibiotics as a function of the dynamic of organic matter fractions and 3D fluorescence during sludge composting

Authors: Ezzariai A, Pinelli E, El Fels L, Merlina G et al.

Source: JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING 10(3): 107956, 2022, DOI 10.1016/j.jece.2022.107956

Abstract: This study investigated the fate of antibiotics during composting and its relationship with organic matter fractionation. Sludge was spiked with roxithmmycin (ROX), chlortetracycline (CTC), oxytetracycline (OTC), and ciprofloxacin (CIP), at 3 different levels...

24/08/2022

Interactions between microplastics and benthic biofilms in fluvial ecosystems: Knowledge gaps and future trends

Authors: Guasch H, Bernal S, Bruno D et al.

Source: FRESHWATER SCIENCE Early Access, DOI 10.1086/721472

Abstract: Plastics, especially microplastics (<5 mm in length), are anthropogenic polymer particles that have been detected in almost all environments. Microplastics are extremely persistent pollutants and act as long-lasting reactive surfaces for additives, organic matter, and toxic substances. Biofilms are microbial assembla...

23/08/2022

Multi-elemental compound-specific isotope analysis of pesticides for source identification and monitoring of degradation in soil: a review

Authors: Hohener P, Guers D, Malleret L, Boukaroum O et al.

Source: ENVIRONMENTAL CHEMISTRY LETTERS Early Access, 2022, DOI 10.1007/s10311-022-01489-8

Abstract: The transfer of pesticides from agricultural soils to food and drinking water is a major health issue. There are actually few robust methods to identify, characterize and quantify the dissipation of pesticides in complex media such as soils, waters and sediments. Here, we r...

23/08/2022

Re-designing environmentally persistent pharmaceutical pollutant through programmed inactivation: The case of methotrexate

Authors: Espinosa A, Rascol E, Flos MA, Skarbek C et al.

Source: CHEMOSPHERE 306: 135616, 2022, DOI 10.1016/j.chemosphere.2022.135616

Abstract: Environmental emission of pharmaceutical pollutants notably causes the contamination of aquatic ecosystems and drinking water. Typically, reduction of these pollutants in the environment is mostly managed by ameliorated wastewater treatments. Here, we report a method for the eco-design of ...

23/08/2022

Do pesticides degrade in surface water receiving runoff from agricultural catchments? Combining passive samplers (POCIS) and compound-specific isotope analysis

Authors: Gilevska T, Masbou J, Baumlin B, Chaumet B et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT 842: 156735, 2022, DOI 10.1016/j.scitotenv.2022.156735

Abstract: Pesticides lead to surface water pollution and ecotoxicological effects on aquatic biota. Novel strategies are required to evaluate the contribution of degradation to the overall pesticide dissipation in surface waters. Here, we combined polar organic chemical integrati...

23/08/2022

Expression Patterns of Drosophila Melanogaster Glutathione Transferases

Authors: Gonis E, Fraichard S, Chertemps T, Hecker A et al.

Source: INSECTS 13(7): 612, 2022, DOI 10.3390/insects13070612

Abstract: Simple Summary Glutathione transferases are key enzymes found in all living species. In insects, two classes of these enzymes are specific: the Delta and Epsilon classes. These classes of glutathione transferases are generally considered supports during the evolution for the adaptability of the species...

23/08/2022

Improvements in Estimating Bioaccumulation Metrics in the Light of Toxicokinetic Models and Bayesian Inference

Authors: Ratier A, Lopes C, Charles S

Source: ARCHIVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY Early Access, 2022, DOI 10.1007/s00244-022-00947-2

Abstract: The surveillance of chemical substances in the scope of Environmental Risk Assessment (ERA) is classically performed through bio-assays from which data are collected and then analysed and/or modelled. Some analysis are based on the fitting of toxicokinetic (TK) models to a...

19/08/2022

Producing sugar beets without neonicotinoids: An evaluation of alternatives for the management of viruses-transmitting aphids

Authors: Verheggen F, Barres B, Bonafos R, Desneux N et al.

Source: ENTOMOLOGIA GENERALIS 42(4): 491-498, 2022, DOI 10.1127/entomologia/2022/1511

Abstract: Neonicotinoid insecticides have made possible, for three decades, to protect sugar beet crops against aphids and the viruses they transmit. However, they have been accused of reducing biodiversity, leading the European Union to ban the use of neonicotinoid-coated seeds. The requ...

19/08/2022

Interactions between microplastics and benthic biofilms in fluvial ecosystems: Knowledge gaps and future trends

Authors: Guasch H, Bernal S, Bruno D, Almroth BC et al.

Source: FRESHWATER SCIENCE Early Access, 2022, DOI 10.1086/721472

Abstract: Plastics, especially microplastics (<5 mm in length), are anthropogenic polymer particles that have been detected in almost all environments. Microplastics are extremely persistent pollutants and act as long-lasting reactive surfaces for additives, organic matter, and toxic substances. Biofilms are ...

19/08/2022

Hydra bioassay for the evaluation of chlordecone toxicity at environmental concentrations, alone or in complex mixtures with dechlorinated byproducts: experim... and modeling by and modeling by ...

Authors: Moreau X, Claeys-Bruno M, Andraud JP, Macarie H et al.

Source: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH Early Access, 2022, DOI 10.1007/s11356-022-22050-8

Abstract: In chlordecone (CLD)-contaminated soils of the French West Indies, if microbial remediation or a physicochemical remediation process, e.g., in situ chemical reduction, is implemented, concentrations of degradation byproducts, such as hydrochlordecones, are ...

19/08/2022

A meta-analysis of ecotoxicological models used for plant protection product risk assessment before their placing on the market

Authors: Larras F, Beaudouin R, Berny P, Charles S et al.

Source: SCIENCE OF THE TOTAL ENVIRONMENT 844: 157003, 2022, DOI 10.1016/j.scitotenv.2022.157003

Abstract: Before their placing on the market, the safety of plant protection products (PPP) towards both human and animal health, and the environment has to be assessed using experimental and modelling approaches. Models are crucial tools for PPP risk assessment and some even help ...

29/07/2022

Metal bioavailable contamination engages richness decline, species turnover but unchanged functional diversity of stream macroinvertebrates at the scale of a French region

Authors: Alric B, Geffard O, Chaumot A

Source: ENVIRONMENTAL POLLUTION 308: 119565, 2022, DOI 10.1016/j.envpol.2022.119565

Abstract: Freshwater ecosystems are the main source of water for sustaining life on earth, and the biodiversity they support is the main source of valuable goods and services for human populations. Despite growing recognition of the impairment of freshwater ecosystems by micropollutant contamination, different...

29/07/2022

Establishing a communication and engagement strategy to facilitate the adoption of the adverse outcome pathways in radiation research and regulation Science

Authors: Chauhan V, Hamada N, Garnier-Laplace J, Laurier D et al.

Source: INTERNATIONAL JOURNAL OF RADIATION BIOLOGY Early Access, 2022, DOI 10.1080/09553002.2022.2086716

Abstract: Background Studies on human health and ecological effects of ionizing radiation are rapidly evolving as innovative technologies arise and the body of scientific knowledge grows. Structuring this information could effectively support the development of de...

29/07/2022

Bioaccumulation of per- and polyfluoroalkyl substance in fish from an urban river: Occurrence, patterns and investigation of potential ecological drivers*

Authors: Macorps N, Le Menach K, Pardon P, Guerin-Rechdaoui S et al.

Source: ENVIRONMENTAL POLLUTION 303: 119165, 2022, DOI 10.1016/j.envpol.2022.119165

Abstract: Per- and polyfluoroalkyl substances (PFAS) are ubiquitous in aquatic environments and a recent shift toward emerging PFAS is calling for new data on their occurrence and fate. In particular, understanding the determinants of their bioaccumulation is fundamental for risk a...

22/07/2022

Long-term pollution by chlordecone of tropical volcanic soils in the French West Indies: New insights and improvement of previous predictions Science

Authors: Comte I, Pradel A, Crabit A, Mottes C et al.

Source: ENVIRONMENTAL POLLUTION 303: 119091, 2022, DOI 10.1016/j.envpol.2022.119091

Abstract: Chlordecone (CLD), was widely applied in banana fields in the French West Indies from 1972 to 1993. The WISORCH model was constructed to assess soil contamination by CLD and estimated that it lasts from 100 to 600 years, depending on leaching intensity and assuming no degradation. However, recent studies demonstrated that CLD is degrade...

22/07/2022

Toward a harmonized methodology to analyze field side effects of two pesticide products on earthworms at the EU level of Science

Authors: Brulle F, Amosse J, Bart S, Conrad A et al.

Source: INTEGRATED ENVIRONMENTAL ASSESSMENT AND MANAGEMENT Early Access, 2022, DOI 10.1002/ieam.4650

Abstract: Before plant protection product (PPP) marketing authorization, a risk assessment for nontarget soil organisms (e.g., earthworms) is required as part of Regulation (EC) No. 1107/2009. Following a stepwise approach, higher tier earthworm field studies are needed if they cannot demonstrate low long-term risk based on labora...

18/07/2022

The effects of dissolved petroleum hydrocarbons on benthic organisms: Chironomids and amphipods

Authors: Indiketi N, Grenon MC, Groleau PE, Veilleux E et al.

Source: ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY 237: 113554, 2022, DOI 10.1016/j.ecoenv.2022.113554

Abstract: The oil sands industry in Canada, produces heavy unconventional oils, diluted for transport and called diluted bitumen. However, despite advances in our knowledge of the ecotoxicological risk that these products represent, their effects on benthic organisms following a spill are still largely unknown. In order to ...



18/07/2022

Metabolism of the aquatic pollutant diclofenac in the Lymnaea stagnalis freshwater gastropod

Authors: Bouly L, Fenet H, Carayon JL, Gomez E et al.

Source: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH Early Access, 2022, DOI 10.1007/s11356-022-21815-5

Abstract: The metabolism of organic contaminants in *Lymnaea stagnalis* freshwater gastropod remains unknown. Yet, pharmaceuticals-like the NSAID diclofenac-are continuously released in the aquatic environment, thereby representing a risk to aquatic organisms. In addition, lower invertebrates may be affected by this pollution si...

16/07/2022

The effects of dissolved petroleum hydrocarbons on benthic organisms: Chironomids and amphipods

Authors: Indiketi N, Grenon MC, Groleau PE, Veilleux E et al.

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16/07/2022

Organ-specific accumulation of cadmium and zinc in Gammarus fossarum exposed to environmentally relevant metal concentrations

Authors: Gestin O, Lopes C, Delorme N, Garnero L et al.

Source: ENVIRONMENTAL POLLUTION 308: 119625, 2022, DOI 10.1016/j.envpol.2022.119625

Abstract: One of the best approaches for improving the assessment of metal toxicity in aquatic organisms is to study their organotropism (i.e., the distribution of metals among organs) through a dynamical approach (i.e., via kinetic experiments of metal bioaccumulation), to identify the tissues/organs that play a key role in metal regulation (e...

16/07/2022

Metabolism of the aquatic pollutant diclofenac in the *Lymnaea stagnalis* freshwater gastropod.

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Source: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH Early Access, 2022, DOI 10.1007/s11356-022-21815-5

Abstract: The metabolism of organic contaminants in *Lymnaea stagnalis* freshwater gastropod remains unknown. Yet, pharmaceuticals-like the NSAID diclofenac-are continuously released in the aquatic environment, thereby representing a risk to aquatic organisms. In addition, lower invertebrates may be affected by this pollution si...

16/07/2022

Development and calibration of an integrative passive sampler for monitoring vinyl chloride monomer in drinking water networks

Authors: Alembik L, Mazzella N, Hemion T, Husson et al.

Source: ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY Early Access, 2022, DOI 10.1039/d2ew00036a

Abstract: This paper evaluates the applicability of a new sampling device for monitoring vinyl chloride monomer (VCM) in drinking water networks. This device consists of an adsorbing cartridge filled with a strong adsorbent enclosed between two sheets of polyethylene-polyamide membrane. The passive sampler (PS) combines pr...

16/07/2022

Metabolism of the aquatic pollutant diclofenac in the *Lymnaea stagnalis* freshwater gastropod

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Source: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH Early Access, 2022, DOI 10.1007/s11356-022-21815-5

Abstract: The metabolism of organic contaminants in *Lymnaea stagnalis* freshwater gastropod remains unknown. Yet, pharmaceuticals-like the NSAID diclofenac-are continuously released in the aquatic environment, thereby representing a risk to aquatic organisms. In addition, lower invertebrates may be affected by this pollution si...

12/07/2022

Multigenerational Insecticide Hormesis Enhances Fitness Traits in a Key Egg Parasitoid, *Trichogramma chilonis* Ishii Science

Authors: Ray A, Gadratagi BG, Rana DK, Ullah F et al.

Source: AGRONOMY-BASEL 12(6): 1392, 2022, DOI 10.3390/agronomy12061392

Abstract: Hormesis for the intractable pests can be dreadful, but for natural enemies of pests, it is a puissant strategy in optimizing their mass rearing. We report multigenerational stimulatory effects of widely used insecticide, imidacloprid, on the demographic traits of an important egg parasitoid *Trichogramma chilonis* Ishii. The study investigated the co...

12/07/2022

Exposure of *Anopheles gambiae* larvae to a sub-lethal dose of an agrochemical mixture induces tolerance to adulticides used in vector control management

Authors: Zoh MG, Tutagata J, Fodjo BK, Mouhamadou CS et al.

Source: AQUATIC TOXICOLOGY 248: 106181, 2022, DOI 10.1016/j.aquatox.2022.106181

Abstract: The heavy use of pesticides in agricultural areas often leads to the contamination of nearby mosquito larvae breeding sites. Exposure to complex mixtures of agrochemicals can affect the insecticide sensitivity of mosquito larvae. Our study objective was to determine whether agrochemical residues in Anopheline larval breeding sites can...

12/07/2022

Implications of speciation on rare earth element toxicity: A focus on organic matter influence in *Daphnia magna* standard test

Authors: Lachaux N, Catrouillet C, Marsac R, Poirier L et al.

Source: ENVIRONMENTAL POLLUTION 307: 119554, 2022, DOI 10.1016/j.envpol.2022.119554

Abstract: Rare earth elements (REE) have become essential in high-and green-technologies. Their increasing use lead to the release of anthropogenic REE into the environment including aquatic systems. The limited data available on the aquatic ecotoxicology of REE indicate their biological effects are highly dependent on their speciation, p...

REGLEMENTATION

31/08/2022

Produits phytopharmaceutiques contenant des micro-organismes

Règlement (UE) 2022/1440 de la Commission du 31 août 2022 modifiant le règlement (UE) no 284/2013 en ce qui concerne les informations à fournir pour les produits phytopharmaceutiques et les exigences particulières en matière de données applicables aux produits phytopharmaceutiques contenant des micro-organismes

26/08/2022

LMR de cyprodinil présents dans ou sur certains produits

RÈGLEMENT (UE) 2022/1435 DE LA COMMISSION du 26 août 2022 modifiant les annexes II et IV du règlement (CE) n° 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus de carbonate de calcium, de dioxyde de carbone, de cyprodinil et d'hydrogénocarbonate de potassium présents dans ou sur certains produits

Numéro officiel : UE/2022/1435

Date de signature : 26/08/2022

Liens juridiques : Modification Règlement CE/396/2005 23/02/2005

16/08/2022

LMR de méthoxyfénazole, de propoxur, de spinosad et de thirame

RÈGLEMENT (UE) 2022/1406 DE LA COMMISSION du 3 août 2022 modifiant les annexes II, III 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 méthoxyfénazole, de propoxur, de spinosad et de thirame présents dans ou sur certains produits

Numéro officiel : UE/2022/1406

Date de signature : 03/08/2022

Liens juridiques : Modification le 28/02/2023

Règlement CE/396/2005 23/02/2005

25/07/2022

LMR d'ion fluorure, d'oxyfluorène, de pyroxsulam, de quinmérac et de fluorure de sulfuryle

RÈGLEMENT (UE) 2022/1321 DE LA COMMISSION du 25 juillet 2022 modifiant les annexes II et III du règlement (CE) no 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus d'ion fluorure, d'oxyfluorène, de pyroxsulam, de quinmérac et de fluorure de sulfuryle présents dans ou sur certains produits

Numéro officiel : UE/2022/1321

Date de signature : 25/07/2022

Liens juridiques : Modification Règlement CE/396/2005 23/02/2005

...

28/07/2022

LMR de benzovindiflupyr, de boscalid, de fenazaquine, de fluazifop-P, de flupyradifurone, de fluxapyroxad, de fosétyl-Al, d'isofétamide, de métaflumizone, de p... spirotétramate, . spirotétramate, ...

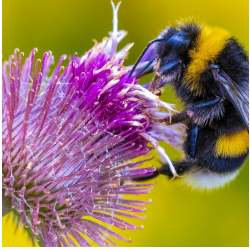
RÈGLEMENT (UE) 2022/1324 DE LA COMMISSION du 28 juillet 2022 modifiant les annexes II et III du règlement (CE) no 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus de benzovindiflupyr, de boscalid, de fenazaquine, de fluazifop-P, de flupyradifurone, de fluxapyroxad, de fosétyl-Al, d'isofétamide, de métaflumizone, de pyraclostrobine, de spirotétramate, de thiabendazole et de tolclofos-méthyl présents dans ou sur certains produits

22/07/2022

LMR des substances actives amétoctradine, chlorméquat, dodine, nicotine, profenofos et Spodoptera exigua

RÈGLEMENT (UE) 2022/1290 DE LA COMMISSION du 22 juillet 2022 modifiant les annexes II, III et IV du règlement (CE) no 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus des substances actives amétoctradine, chlorméquat, dodine, nicotine, profenofos et Spodoptera exigua — virus de la polyédrose nucléaire à capsides multiples (SeMNPV), isolat BV-0004, présents dans ou sur certains produits

Numéro officiel : UE/2022/1290 Date de sig...



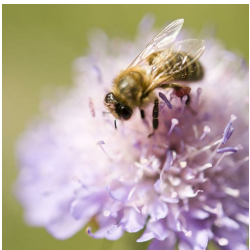
20/07/2022

Abeilles et pesticides : consultation publique sur la mise à jour du document d'orientation

Les parties intéressées sont invitées à soumettre leurs commentaires sur le document d'orientation mis à jour relatif à l'évaluation des risques associés aux produits phytopharmaceutiques pour les abeilles. Date limite : le 3 octobre 2022.

www.efsa.europa.eu

DROIT ET POLITIQUE DE L'ENVIRONNEMENT



01/08/2022

Nouvelles dispositions réglementaires pour la protection des abeilles et des insectes pollinisateurs

Dans le cadre de l'axe 5 du plan national en faveur des insectes pollinisateurs et de la pollinisation 2021-2026 publié le 21 novembre 2021, la réglementation nationale a évolué pour renforcer la protection des abeilles et des autres insectes pollinisateurs lors de l'utilisation des produits phytopharmaceutiques.

17/07/2022

Lancement de l'Appel à projets (AAP) MAEC 2023-2027

Un appel à projets (AAP) est ouvert jusqu'au **30 septembre 2022** pour sélectionner les futures Projets agro-environnementaux et climatiques (PAEC) de la future programmation PAC 2023-2027.

Cet AAP fait suite à un appel à manifestation d'intérêt (AMI) qui s'est clôturé le 15 juin et constituait une étape de présélection des opérateurs PAEC.

La sélection des lauréats aura lieu au mois d'octobre et se clôturera par une labellisation des territoires PAEC en CRAEC.

...



01/07/2022

Plan de sortie du glyphosate : le dispositif

Pour suivre en temps réel la dynamique collective de la mise en œuvre de l'engagement de sortie, le Président de la République a annoncé la création d'une start-up d'état pour les agriculteurs qui ont décidé de partager leurs pratiques.



25/08/2022

1 150 tonnes de pesticides frauduleux saisies en Europe

Le magazine de l'agriculture durable

Une opération menée par 25 États membres (tous, sauf Chypre) et six pays tiers (1), entre janvier et avril 2022, a permis de saisir 1 150 tonnes de produits issues du trafic de pesticides interdits ou contrefaits. Europol, qui a coordonné « Silver Axe », en a tiré le bilan, fin juillet. Verdict : le trafic de pesticides interdits reste stable, tandis que les produits contrefaits augmentent. Europol recense dix arrestations, tandis qu'une usine où des

...

campagnesetenvironnement.fr



25/08/2022

Idée reçue n°4 : les lobbies de l'agrochimie tirent les ficelles d'un gouvernement... ordres ordres

A l'heure des fake news et des théories complotistes, certains trouvent séduisants d'affirmer que de méchants lobbies de l'agrochimie feraient... The post Idée reçue n°4 : les lobbies de l'agrochimie tirent les ficelles d'un gouvernement aux ordres first appeared on Alerte Environnement.

www.alerte-environnement.fr

25/08/2022

Antibiotics and Neonicotinoid Insecticides Linked to Gut Microbiome Disruption and Childhood Diabetes

A study published in World Journal of Pediatrics finds an association between antibiotic and neonicotinoid (neonic) exposure and onset of pediatric (childhood) type 1 diabetes (T1D) through effects on the gut microbiome. Individuals with type 1 diabetes are at higher risk of other autoimmune disorders, including thyroid and celiac disease. Ample evidence demonstrates environmental contaminants like pesticides and antibiotics negatively affect human mouth and gut microbes. Through the gut biome, p...

beyondpesticides.org

23/08/2022

Study first to link weed killer Roundup to convulsions in animals

A recent report by the United States Centers for Disease Control and Prevention found more than 80 percent of urine samples from children and adults in the U.S. contained the herbicide glyphosate. A study by Florida Atlantic University and Nova Southeastern University takes this research one step further and is the first to link the use of the herbicide Roundup, a widely used weed killer, to convulsions in animals.

phys.org



23/08/2022

Detecting nanoplastics in the air

Large pieces of plastic can break down into nanosized particles that often find their way into the soil and water. But they also float in the air, where their presence is less understood. As a step toward better understanding airborne nanoplastics, researchers have now developed a sensor that detects these particles and determines the types of plastic and sizes using carbon dot films. The researchers will present their results today at ACS Fall 2022.

www.eurekalert.org

23/08/2022

An amphibian high fat diet model confirms that endocrine disruptors can induce a metabolic syndrome in wild green frogs (*Pelophylax spp. complex*)

A pre-diabetes syndrome induced by endocrine disruptors (ED) was recently demonstrated in the model amphibian *Silurana* (*Xenopus*) *tropicalis* and was suggested to be a potential cause of amphibian population decline. However, such effects have not been found in wild type frogs exposed to ED and the capacity of amphibians to physiologically develop diabetes under natural conditions has not been confirmed. This study showed that a high fat diet (HFD) model displaying the important characteristics of...

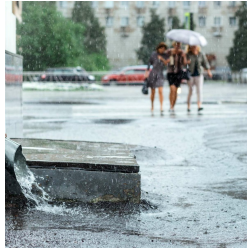
pubmed.ncbi.nlm.nih.gov

16/08/2022

Partout sur Terre, l'eau de pluie est devenue impropre à la consommation

On les appelle les « produits chimiques éternels » en raison de leur persistance dans l'environnement. Les PFAS (per et polyfluoroalkylées) sont connus pour causer de graves problèmes de santé. Dans les deux régions les plus reculées de la Planète, l'Antarctique et le plateau tibétain, il se...

www.futura-sciences.com



16/08/2022

Toxic Pesticide Residues on Over Half of U.S. Food, 1 in 10 Samples Violate Legal Limits

(Beyond Pesticides, August 16, 2022) Over half of all food samples tested by the U.S. Food and Drug Administration (FDA) contain the residues of at least one pesticide, and one in ten samples have levels that violate legal limits established by the U.S. Environmental Protection Agency (EPA). These findings, published by FDA this month in its 2020 Pesticide Residue Monitoring Report, are simply par for the course for government regulators, as FDA indicates the 2020 results “were consistent with re...

beyondpesticides.org

15/08/2022

Organochlorine pesticides in the urban, suburban, agricultural, and industrial soil in South Korea after three decades of ban: Spatial distribution, sources, time trend, and implicated risks

Organochlorine pesticides in soil samples across urban, suburban, agricultural, and industrial sites were analyzed every year between 2013 and 2016 in South Korea. The study aims to understand the residual status, diminution of occurrence from the South Korean environment, and its risk to humans after three decades of the ban. A general decreasing trend of OCPs has been observed over the years. The OCP concentrations were below the guideline values prescribed for soil pollution. Metabolites like...

pubmed.ncbi.nlm.nih.gov

13/08/2022

Nickel bioaccessibility in soils with high geochemical background and anthropogenic contamination

Abnormally high concentrations of metals including nickel (Ni) in soils result from high geochemical background (HB) or anthropogenic contamination (AC). Metal bioaccessibility in AC-soils has been extensively explored, but studies in HB-soils are limited. This study examined the Ni bioaccessibility in basalt and black shale derived soils with high geochemical background, with soils with anthropogenic contamination and without contamination (CT) being used for comparison. Although HB- and...

pubmed.ncbi.nlm.nih.gov

09/08/2022

Insight into effects of polyethylene microplastics in anaerobic digestion systems of waste activated sludge: Interactions of digestion performance, microbial communities a... resistance ... resistance ...

The environmental risks of microplastics (MPs) have raised an increasing concern. However, the effects of MPs in anaerobic digestion (AD) systems of waste activated sludge (WAS), especially on the fate of antibiotic resistance genes (ARGs), have not been clearly understood. Herein, the variation and interaction of digestion performance, microbial communities and ARGs during AD process of WAS in the presence of polyethylene (PE) MPs with two sizes, PE MPs-180µm and PE MPs-1mm, were investigated....

pubmed.ncbi.nlm.nih.gov

25/07/2022

Help Stop Collapse of Ocean Life, Part of the Biodiversity Decline Crisis

(Beyond Pesticides, July 25, 2022) We have seen pesticide use, habitat destruction, and climate change result in dramatic losses of insect biodiversity and biomass—an “insect apocalypse” that is resulting in cascading impacts on other species that depend on them. A preliminary report on two years of water sampling from sites in the Atlantic Ocean near the United Kingdom (UK), by a team from the Global Oceanic Environmental Survey Foundation (GOES), suggests that plankton populations may have plum...

beyondpesticides.org

29/07/2022

Le trafic de pesticides illégaux est en augmentation d'après Europol

1 150 tonnes de pesticides illégaux et contrefaits et ont été saisis par Europol entre le 25 janvier et le 25 avril 2022. Dans un communiqué publié mardi 26 juillet, l'agence européenne de police criminelle annonce en outre avoir identifié de « nouvelles tendances » sur le marché noir européen des produits phytosanitaires. Ainsi, même si la Chine reste le premier « pays source », ce type de trafic a augmenté dans la région de la mer Noire, en Turquie, et plus globalement dans le sud de l'Europe. ...

reporterre.net



16/07/2022

The strategy for estrogen receptor mediated-risk assessment in environmental water: A combination of species sensitivity distributions and in silico approaches

Risk assessment for molecular toxicity endpoints of environmental matrices may be a pressing issue. Here, we combined chemical analysis with species sensitivity distributions (SSD) and in silico docking for multi-species estrogen receptor mediated-risk assessment in water from Dongjiang River, China. The water contains high levels of phenolic endocrine-disrupting chemicals (PEDCs) and phthalic acid esters (PAEs). The concentration of $\Sigma(4)$ PEDCs and $\Sigma(6)$ PAEs ranged from 2202 to 3404 ng/L and...

pubmed.ncbi.nlm.nih.gov

12/07/2022

Alerte : la Commission européenne veut de nouveau donner son feu vert à un pesticide extrêmement dangereux



Jeudi prochain, la Commission européenne proposera aux États membres de maintenir le propyzamide, un pesticide... L'article Alerte : la Commission européenne veut de nouveau donner son feu vert à un pesticide extrêmement dangereux est apparu en premier sur Générations Futures.

www.generations-futures.fr

11/07/2022

How do cells react to micro- and nanoplastics?

The smaller plastic particles are, the more easily they can be taken up by cells. In addition, the shape, surface and chemical properties play an important role in answering the question of how the particles could affect human tissue. This is the result of a study by researchers at the German Federal Institute for Risk Assessment (BfR), published in the journal Microplastics and Nanoplastics. "With this study, we want to help to close the still rather large knowledge gaps in the topic of health e...

www.eurekalert.org



11/07/2022

Statistiques agricoles: 58 ONG demandent l'adoption sans délai du règlement d'exécution

Les 14 et 15 juillet prochains se tiendront des réunions du Comité permanent des végétaux... L'article Statistiques agricoles: 58 ONG demandent l'adoption sans délai du règlement d'exécution est apparu en premier sur Générations Futures.

www.generations-futures.fr



11/07/2022

Enfants exposés aux pesticides en zone viticole : la leçon de Preignac

Le mercredi 29 juin avait lieu au Ministère de la Santé et de la Prévention... L'article Enfants exposés aux pesticides en zone viticole : la leçon de Preignac est apparu en premier sur Générations Futures.

www.generations-futures.fr

09/07/2022

A large geographic-scale characterization of organochlorine pesticides (OCPs) in surface sediments and multiple aquatic foods of inland freshwater aq... Co-occurrence, source .. Co-occurrence, source ...

Inland freshwater aquaculture ponds (IFAPs) represent the key component of the global lentic freshwater environment and are increasingly important for global aquaculture production, yet the occurrence of organochlorine pesticides (OCPs) in these pond systems remains largely unknown. Here, we characterized the residual concentrations of 19 individual OCPs in sediments and in cultured fish and crustacean species (crabs, shrimp, crayfish and lobster), which were on-spot sampled from the IFAPs at a...

pubmed.ncbi.nlm.nih.gov



01/07/2022

Fiabilité du pronostic de la procédure d'homologation des produits pytopharmaceutiques

Dans le cadre d'un nouveau projet, le Centre Ecotox étudie les mesures à prendre dans le cadre de la procédure d'homologation et du monitoring des produits phytosanitaires.

www.centreecotox.ch

05/07/2022

Haute valeur environnementale : certification toujours trop peu ambitieuse, not... l'indicateur pes... l'indicateur pes...

Le 30 juin 2022 la Commission nationale de la certification environnementale (CNCE) a rendu un... L'article Haute valeur environnementale : certification toujours trop peu ambitieuse, notamment sur l'indicateur pesticides ! est apparu en premier sur Générations Futures.

www.generations-futures.fr



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| [Twitter](#)