

quantification of 32 mycotoxins (aflatoxins, fumonisins, ochratoxins, trichotecens) with LOQ ranging from 1 to 45 ng/m<sup>3</sup> (90-min sampling).

Results: More than 140 samples were obtained: 65 for cattle breeders, and 82 from crop harvesters. Only 5 samples (3.5%) were above the LOQ: 3 positive for deoxynivalenol (DON) in cattle breeding (feeding, mulching, milking) ; 1 positive for DON during harvester cleaning (11%); 1 positive for aflatoxin B1 during tractor driving (11%) and none during the 64 observations of combines driving.

Conclusions: We reported a scarce presence of airborne mycotoxins during cattle breeding and various crops harvesting. However, the duration of each task was short which increased the LOQ. Most of the tasks were realized with tractors equipped with air-conditioned cabin but some exposure could occur in cattle growers or in specific short task like cleaning the harvester.

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#### **The Differences Neonates Mortality Rate and Characteristic of Birth on Rural and Urban Region in Agricultural Area, Jember, Indonesia**

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Background: The neonatal mortality rate is main health status indicators and Sustainable Development Goals(SDGs)'s target. In 2017, Jember is the highest neonatal mortality rate in East Java Province. Jember is an area which 40% of the residents work in agriculture. The influence of rural-urban disparities on neonatal death in Jember is poorly understood. In this study, we describe a neonatal mortality rate and the differences characteristics of birth on rural and urban region in Jember.

Method: This research was a cross-sectional study. We analyzed neonatal deaths in the data from the surveillance System of East Java Province in 2017. We compared characteristics of birth in rural or urban mothers during 2017. Rural-urban classifications were determined based on the residence registry system of Indonesia. Chi-square tests were used to compare the difference characteristics of birth.

Result: The neonatal mortality rate in rural region is 55.7%. Asphyxia, low birth weight (LBW), congenital malformation and infection is top causes of death which each causes death rate is higher in rural area. The differences characteristics of birth in rural has more stillbirth cases (p= 0.013), while there is no differences among LBW, preterm, congenital malformation and medical care in both region (p>0.05).

Conclusion: Neonates in rural had higher mortality rate than urban and asphyxia is the main causes in both region. There is difference characteristic about stillbirth cases that is possible caused by poor of antenatal care in rural region. Further studies and strategies are necessary to improve neonates health status in rural region.

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#### **Evaluation of occupational exposure to pesticides and Oxidative stress : A case study from Morocco**

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Introduction: In Morocco, given the lack of education and the presence of a counterfeit market, pesticides constitute a major problem to be addressed by occupational and environmental health. Falling under the PaPOE study (Parental Pesticides and Offspring Epigenome), our contribution aims to investigate the level of exposure of farmers in Morocco and comprehensively examine whether multi-residue exposure to commonly used pesticides could induce oxidative stress.

Methods: We launched a cross-sectional study assessing the occupational exposure among 300 farmworkers in Meknes-El Hajeb region, known for its high agricultural activity. Urine and Blood were collected among farmworkers during their working hours between April and July 2021, considered as a high exposure season. The oxidative stress status has been evaluated by assessing levels of total glutathione(TG), oxidized glutathione(GSSG), and 8-oxo-7,8-dihydro-2'-deoxyguanosine(8-oxodG).

Results: 52% of the respondents were females working on the field. Farmers reported a high detection frequency of atrazine, chlorpyrifos and glyphosate. Pesticides concentrations varied significantly with the use of PPEs, the source of food and drinking water. A positive correlation was found between pesticide exposure and 8-oxodG levels (p < 0.001) while a negative association is reported with TG and GSSG.

Conclusion: Our study provided more evidence on factors associated with urinary pesticides concentrations, and the impact of this exposure on the oxidative stress profile, especially in an occupational setting within a developing country.

### 27. SHIFTWORK AND WORKING TIME

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#### **Sleep habits and excessive daytime sleepiness frequency in shift work watchers from a security agency in Piura, Peru**

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Introduction: The objective of this study was to determine the sleep habits and the frequency of excessive daytime sleepiness in shift-work watchers from an agency in Piura.

Material and methods: It was an observational, descriptive, cross-sectional study on watchers at a security agency in Piura. The instruments used were: Data collection sheet, Sleep Hygiene Index, and Epworth Sleepiness Scale.