with main component of the device: photometric sensor and principle based on the works by Ellman. By a non-probabilistic sampling, we recruited 190 farmers from the two townships fulfilling all the inclusion criteria and available to participate to all stages of the study.

Results The studied population is essentially young: 83.16% were under 45 years old, with 75% illiterates. 70.3% of the farmers have more than 10 years of spraying experience. We noted that 2.06% of the farmers still used domestic containers to prepare the pesticides. As precautions to prevent poisoning after spraying, 10.31% of the surveyed farmers drink milk. There was a significant AChE decrease between pre-exposure (AChE 3.08 ± 2.3 IU/ml) and post-exposure (AChE 2.65 ± 0.52 IU/ml); $p=0.009$. 73.1% of the farmers were concerned by that inhibition. Those who could read the pictograms faced less inhibition of AChE ($p<0.05$). The age variables, level of education and experience of pulverisation do not have any influence on AChE inhibition.

Conclusion AChE monitoring is needed for the surveillance of farmers.

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RISK PERCEPTION AMONG MIGRANT AGRICULTURAL WORKERS

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Introduction Over the past few years, there has been a progressive increase in foreign labour force in agricultural sector in Italy, which has reached over 1 15 000 units (14.2% of total employment in agriculture), of which 36% coming from EU countries, while 64% from non-EU countries.

In case of migrant workers factors such as lack of knowledge of occupational safety and health (OSH) legislation, language knowledge difficulties, young age, lack of information and training and, consequently, reduced perception of work-related risks, could further increase the risk for health due to both specific risks of the activities carried out and the peculiar characteristics of the work organisation.

The present study aims at detecting the perception of OSH risk in agriculture in migrant workers as a contribution to the identification of training needs.

Methods With the support of cultural mediators, an *ad hoc* questionnaire was submitted to 402 migrant workers employed in agriculture in Lombardy Region.

Results The interviewees have different nationalities (60% Indian, 15% Moroccan, 15% Bengali), with mostly seasonal employment contracts (96%); the age most represented is 25–34 years (41%).

Over 56% generally evaluate their health 'very good'. About 73% of respondents believe that there are no risks for OSH and 80% of them believe that are not personally exposed. Over 62% is very/completely agree that the lack of knowledge and awareness of workers' dangers in the workplace contributes to an injury.

Conclusions Preliminary results of the study requires a secondary analysis in order to contribute to the implementation and optimisation of preventative tools in consideration of the peculiarities that characterise the agricultural sector.

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EVIDENCE-BASED SOCIAL LEARNING FOR SAFETY AND HEALTH PROMOTION AMONG IRISH DAIRY FARMERS

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Introduction Farming is an occupation that incurs high rates of occupational injuries and illness, including fatalities. Internationally, legislative approaches to improve agricultural occupational safety and health (OSH) practices have been inconsistent in achieving those objectives. Many alternative initiatives to influence agricultural OSH practices have been developed, frequently emphasising information provision. In Ireland, evaluation of information provision approaches, such as classroom-based learning, has found that this is ineffective for improving agricultural OSH practices. However, peer-based learning using communities of practice (COPs), such as Teagasc dairy farmer discussion groups, presents a promising context for agricultural OSH promotion in Ireland.

Research has established the efficacy of farmer discussion groups for promoting adoption of novel technologies and production practices. Little research has been undertaken to assess whether they are effective for promoting agricultural OSH practices. This paper describes the extent to which Teagasc dairy discussion groups engage with agricultural OSH, and identifies the characteristics associated with agricultural OSH engagement. The results are evaluated with respect to the existing literature regarding effective social learning for farming and OSH promotion, to assess the suitability of these COPs for agricultural OSH promotion.

Methods Information about discussion group characteristics and engagement with OSH topics was collected using a survey of Teagasc dairy discussion group members, and a survey of Teagasc dairy discussion group facilitators. The statistical software R was used to assess variation in discussion group engagement with OSH, and the group characteristics statistically associated with that variation.

Result Analysis of the results is ongoing and will be completed in September 2017.

Discussion The findings of this study, including the evaluation framework developed from literature review, can contribute to effective agricultural OSH promotion in Ireland, and internationally. This is especially true for other countries with existing farmer COPs, such as farmer discussion groups in New Zealand and Wales.

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KNOWLEDGE, ATTITUDES, AND PRACTICES OF THE USER GARDENERS OF PESTICIDES IN BURKINA FASO

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Introduction Pesticides are very useful in the field of gardening for the fight against pests, which exposes gardeners to the risks associated with their use. The aim of our work was to study the

incurred risks by the gardeners in Ouagadougou, to bring them to adhere to the prevention strategies implemented for their health and safety.

Methods It was a descriptive and cross-sectional study. The study population consisted of 101 gardeners coming from three districts. They were involved in a no probabilistic way by a systematic recruitment.

Results Most of gardeners were illiterate (66.3%). Their ages ranged between 21 and 69 years old, with a median of 38 years. 78.2% of gardeners have been trained once on pesticides. Most of the vegetable growers used mainly pyrethroids (86%) as pesticide. More than 90% of gardeners apply products by spraying and they keep the stocks in the fields. Personal Protective Equipment (PPE) was not worn. The empty containers were either buried in the ground or thrown into the fields. The respiratory tract irritation, respiratory difficulties, eyes irritation, and headache were the dominant symptoms after pesticide application. The drinking water came from wells not well covered in majority.

Conclusion With the strong urbanisation and the increase of the demand, the gardeners were taken to big use of pesticides most of the time without follow-up nor control, with all the possible risks for their health, those of the populations as well as for the environment.

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CROSS-SECTIONAL SURVEY ON GENITOURINARY SYSTEM HEALTH OF VEGETABLE GREENHOUSE GROWERS IN SUBURBAN AREAS IN YINCHUAN

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Introduction China has the largest greenhouse production area in the world, with the rapid development of Ningxia facility agriculture, some greenhouse growers use the pesticides blindly in order to eliminate pests and increase economic efficiency. However, they are lack of the knowledge about how to use the pesticides and the individual protection consciousness of them are not high. We need to evaluate the genitourinary system health of vegetable greenhouse growers and analyse related influencing factors so as to protect these occupational population and improve their health.

Methods Adopted the methods of whole group sampling at random studied on vegetable greenhouse growers in three districts and two countries of suburb in Yinchuan, collected the basic information and the pesticide exposure intensity by questionnaire. Used the logistic regression analytic method to each factor, found the influencing factors of the current state of genitourinary system in vegetable greenhouse growers, during April 2015 to May.

Results In this study, 207 females and 241 males vegetable greenhouse growers were selected, the valid questionnaire return rate was 97.4%. The genitourinary system prevalence rate reached 75.8% in the female growers. The results of multiple logistic regression analysis showed that increased the frequency of crop-spraying (OR=3.683) and chatting during crop-spraying (OR=2.532) were risk factors, while using abamectin (OR=0.311) was a protective factor. The genitourinary disease prevalence rate was only 14.11% in the male growers. The results showed that the risk factors of male genitourinary

system health included age (OR=1.048), pesticides exposure classification (OR=5.11), types of mixed pesticides (OR=3.243), and the proportion of mixed pesticides (OR=0.697). The frequency of eating meat per week (OR=0.697) was the protective factor.

Conclusion A higher prevalence rate of genitourinary diseases was found in female vegetable greenhouse growers in Yinchuan. Deficiency the correct pesticides use and the related protective measures are the main influencing factors.

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OCCUPATIONAL EXPOSURE TO PESTICIDES AMONG FARMERS: OUTCOMES OF SURVEY AND LEADS FOR PREVENTION

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Introduction Farmers are particularly exposed to pesticides while performing their professional tasks. In France, Certiphyto training program is aiming to decrease occupational exposure by improving knowledge.

Several studies have shown the importance of the following two aspects, which are not taken into account by Certiphyto: psychosocial factors such as risks perceptions, peer norms, self-efficacy are important to better understand the underlying mechanisms of occupational exposure to pesticides among farmers; alternative educational strategies such as prevention by peers and practical exercises.

Methods We have conducted a national telephone survey among 197 farmers from three agricultural settings (open-field, open-field – cattle-breeding, viticulture) and we also realised an ergonomic and psychosocial analyse of Certiphyto by observation of sessions and semi-structured interview of trainers.

Results Direct exposure, studied by descriptive and comprehensive approach with determinants – frequency of Personal Protective Equipment (PPE) and adequacy with recommendations, hygiene habits, level of knowledge and psychosocial factors – is analysed in a comparative inter-setting perspective, indirect exposures, in an exploratory approach.

Our results show that, among pesticide users, PPE use is weak but for gloves during preparation phase (60% of users use gloves systemically, 30% do not always use another PPE), and therefore insufficient according to recommendations. In addition, hygiene habits are also insufficient, both hygiene and PPE compliance being variable between agricultural settings. Similar observations have been made for indirect exposure. Analysis of psychosocial determinants highlights several obstacles for PPE use, among which discomfort of using PPE for specific task and peer norms. We also show persistence of inadequate habits and false knowledge after Certiphyto.

Conclusion We identified leads for the design of an alternative Certiphyto training including practical exercises and intervention of farmers peers. This prevention program, in design phase, will take into consideration psychosocial factors, specially risk perception, peer norms and health locus of control on developing psychosocial strategy.