Intensive use of agrochemicals in Brazilian agriculture resulted in negative impacts on the environment, the health of rural workers and human health, in addition to water, air, rain and soil contamination in fumigation sites and surroundings.

As a strategy for workers’, population and environmental health surveillance, we conducted a study in which we described the distribution of sown areas in agricultural plantations, use of agrochemicals, and consequent effects on the workers’ and population health (acute intoxication, malformations and cancer) reported for counties. The objective was to identify the high-priority locations for decision-making in regard to the surveillance of the health of rural workers, populations and environments exposed to agrochemicals.

Based on data on Municipal Agricultural Production, Automatic Recovery System, Brazilian Institute of Geography and Statistics (Sistema do Instituto Brasileiro de Geografia e Estatística de Recuperação Automática–IBGE-SIDRA) for the 21 predominant crops in Brazil, and the average amount of agrochemicals/hectare per crop, we were able to map the amount of agrochemicals used in Brazilian counties in 2015. From the Department of Informatics of the Brazilian Unified Health System (DATASUS) we collected information on health problems associated with exposure to agrochemicals, represented by indicators of acute, subacute (malformations) and chronic (childhood cancer) intoxication.

The analyzed crops accounted for 71 million sown hectares, among which soybean, maize and sugarcane predominated (together they accounted for 76% of the total sown area in 2015). About 899 million liters of agrochemicals were fumigated. Use of agrochemicals was highest in the states of Mato Grosso, Parana and Rio Grande do Sul.

Poisoning by agrochemicals was the second most frequent among all exogenous intoxications. The number of cases and incidence of acute intoxication with agrochemicals increased over time, and were the most lethal among all toxic agents. Biostatistical methods evidenced positive and significant association between production of the 21 analyzed crops and corresponding use (fumigation) of agrochemicals, and the average incidence of poisoning with agrochemicals in all the Brazilian states, and in the more productive areas in each state.

Occupational poisoning predominantly involved agricultural and public health agrochemicals. Half of the cases of agricultural intoxication were associated with soybean, maize, rice and cotton growth and pasture. Most cases of agricultural and public health intoxication corresponded to work accidents, but Work Accident Reports (WAR / Comunicação de Acidente de Trabalho - CAT) were issued for less than 10% of events.

Similarly, we found statistically significant association between crop growth and use of agrochemicals (fumigation) and the average incidence of congenital malformations and childhood cancer in the most productive areas in each Brazilian state. The amount and quality of reports via the System of Information for Notifiable Diseases (Sistema de Informação de Agravos de Notificação – SINAN) and WAR should be improved to ground surveillance actions targeting the health of workers and populations exposed to agrochemicals. In this regard, the counties with higher agricultural production rates should be prioritized, and the prevention and protection of human beings and the environment improved.

**REFERENCE**