

Press release

New Study: Children's Playgrounds Contaminated with Pesticide Drift All Year Round

Within the Italian province of South Tyrol, 32 different agricultural pesticides were detected on children's playgrounds. An international team of scientists strongly advises to take action for public health.

Bolzano/Bologna/Brussels/Vienna – Scientists from Italy, Austria and Germany have proven the all year round contamination from pesticides. In 2018, 96 samples of grass were taken from 19 children's playgrounds, four schoolyards and one marketplace and were analyzed by the Sanitary Services of the Province of South Tyrol. This public institution also selected the playgrounds as well as the specific time of collection of the samples. The results of the study were presented february 10th 2021 during a press conference via Zoom by the authors Fiorella Belpoggi, Koen Hertoge and Caroline Linhart. The authors of the study work at the Cancer Research Centre, Ramazzini Institute, Bologna, at the University of Natural Resources and Life Sciences, Vienna as well as for Pesticide Action Network Europe (PAN Europe).

This study provides clear evidence of the huge presence of pesticide drift in public spaces. PAN Europe co-author Koen Hertoge regards the content of this study as an elemental contribution for more factuality around the issue. „Once again, evidence has been provided to prove that the topic of pesticide drift is of absolute importance. This study is yet another scientific proof calling on those responsible to find solutions in order to protect public health“, says Hertoge.

This study verifies the conclusion of a former study conducted by the same authors: In the previous study from 2017, 45 percent of the children's playgrounds tested were contaminated with residues of pesticides. Not only did the new study identify the presence of residues of 32 different pesticides, but also their presence in the environment throughout the entire year. PAN Germany's expert toxicologist Peter Clausning commented: „The samples analyzed allow to conclude that such pesticide residues could also be found in the fruit and vegetables of adjacent gardens. In this case, the EU limit of permitted value would be exceeded significantly“.

Caroline Linhart, lead author of the study, sees the public's chronic exposure to pesticide residues with concern: „The contamination of non-target areas is proven. 23 of the 24 examined playgrounds show an all year round multiple contamination“. According to Johann Zaller, Professor at the

University of Natural Resources and Life Sciences, Vienna and author of *Unser täglich Gift/Our daily poison* the results show clearly „how pesticide users are unable to limit the toxins to the designed areas only“. The playgrounds and schoolyards represent all other non-target areas which are being contaminated with pesticide drift, like private gardens, sports facilities and the like.

The pesticide concentrations found have proven to be relatively low. However, in the case of Endocrine Disrupting Chemicals (EDCs) the level of concentration has no relevance at all because endocrine disrupting substances do not function on a dose-response pattern. The majority of the examined substances (76 percent) were EDCs. Endocrine Disrupting Chemicals are associated with several types of cancer, infertility, developmental and behavioural disorders and diabetes. According to Caroline Linhart, „former samples of grass give evidence to the fact that this exposure has occurred over the last decades already“.

The researchers see an urgent need for action in order to reduce the drift of pesticides. Alternative possibilities to protect public health would be the improvement of application techniques, the strict observance of wind conditions and a change towards farming methods free of pesticides.

The Ramazzini Institute took part in this study because it was interested in verifying the level of environmental contamination by pesticides on the ground, even in small doses, but mixed together. The study was conducted rigorously in collaboration with Austrian and German colleagues, and the analyses were carried out at the level of the public health system, and therefore independently. The results are worrying because almost all the sites studied were found to be contaminated, confirming the so-called drift effect.

The relationship between pesticides and human health has been extensively investigated to date; a definite causal link has been found between neurological damage in children and carcinogenic risks (in particular haematological cancers) in the occupationally exposed population. In Italy too, in relation to all causes of death, generally higher levels of risk have been found for male and female workers in the agricultural sector than in other sectors, and the causes of increased risk are to be found in the profound changes that have transformed the face of agriculture in recent decades, namely the massive and systematic use of synthetic chemical substances (fungicides, herbicides, insecticides and fertilisers). It is hard to believe that even the environmental exposure of people living in agricultural areas can be risk-free: pesticide molecules are now firmly established in our habitat, contaminating water, soil and food, and are found in the umbilical cord and in mother's milk

itself. And we find them in public gardens, where our children play. The active ingredients of pesticides and adjuvants act in infinitesimal doses, are now present in real cocktails and interfere with important and very delicate functions such as hormonal, reproductive and metabolic functions. In children, they interfere with neurological and hormonal development, and exposure begins in the early stages of development, during mothers' pregnancies, which is also the period of greatest susceptibility. The alarm that this causes is growing. With this study, we have shown that exposure to pesticides is ubiquitous and growing, and that, because of the health hazards involved, the current agricultural model must be changed as a matter of urgency, avoiding monocultures and the massive use of pesticides that they require.

Europe is in favour of this change and we hope that farmers, who are the first victims of pesticide abuse, will be helped to make the right transition from the conventional to the organic agricultural model. Them and their grandchildren will benefit from this.

Link to the Study

„Year-round pesticide contamination of public sites near intensively managed agricultural areas in South Tyrol“
<https://enveurope.springeropen.com/articles/10.1186/s12302-020-00446-y>

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For more detailed information we ask the media to please contact the authors Fiorella Belpoggi, Caroline Linhart and Koen Hertoge concerning questions regarding for example the methodology of the study, the specific sites in South Tyrol and their respective distance to plantations, as well as issues regarding the effects of the substances in question and their scientifically proven short- and long-term health dangers for humans.