Improving pesticide-use data for the EU

To the Editor — Access to pesticide-use data is essential to accurately evaluate the adverse effects of pesticides on human and ecosystem health. In Europe, applicators are usually required to record the location and date of pesticide applications[1]. A subset of these data is periodically sampled to produce heavily aggregated estimates of pesticide use, with spatial data reported to a national level. By contrast, in California all the data from applicators is reported in an openly accessible and highly temporally and spatially granular database[2]. The Californian approach has enabled the location of endangered species exposed to spray drift[3], the monitoring of surface water pollution[4], the determination of honeybee pesticide exposure[5] and the identification of health effects from residential exposures to pesticides[6]. Such analyses are not possible within the European Union.

The European Commission has proposed to reform the EU legal framework of statistics on agricultural input and output in February 2021[7]. This reform was examined by rapporteurs from the European parliament and awaits a decision from the EU Committee on Agriculture and Rural Development. A main objective of this reform is to improve the high-quality European agricultural statistics "for policymakers, businesses and the general public to be able to take appropriate evidence-based decisions". As such, we recommend changes so that pesticide-use data can be incorporated into EU environmental and health risk assessments. The spatial scale at which data are reported must enable fine-scale granular analyses, ideally at the level of individual fields. Reporting should include products applied, adjuvants, active ingredients (including their concentration), rate and timing of application, target crop variety, and should be reported per application. Digital record submission could be used to minimize the workload on farmers, with additional options (for example, postal return) made available to maximize compliance. Since most farmers are already required to record these data, this should impose little additional burden. Data should be reported yearly with a short delay and should be standardized across the bloc. These data should be published as downloadable whole datasets and have a user-friendly online interface. However, with an increase in transparency comes an associated cost to privacy. Explicit reporting of where controversial substances are used could open up pesticide users to targeted harassment.

Currently, scientists and authorities have to rely on farmers voluntarily reporting pesticide-use data to assess ecological impacts. Compared with an open access standardized database, this is time consuming and can produce low-quality and potentially biased data. If the proposed database were paired with long-term biodiversity monitoring, the relationship between pesticide use and ecosystem health could be determined[8]. This would allow for the identification of harm from specific pesticides using real-world populations, as has been done in California for amphibians[9].

The regulatory regime in the EU has demonstrated a willingness to allow academic findings to play decisive roles in the approval process of pesticides, as evidenced by the ban on three neonicotinoids after academics raised concerns about their effects on pollinators[10,11]. Access to high-quality pesticide-use data will help inform pesticide regulation and provide greater transparency[12]. Improving the tracking of pesticide use would facilitate the European Green Deal objective of reducing pesticide use 50% by 2030 and promote a move towards a more sustainable agri-food system. ❒

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Competing interests

C.B. has participated in pesticide litigation in the US, which entailed analysis of pesticide-use data. The other authors declare no competing interests.

Additional information