

Project: Highly Hazardous Pesticides in Cuba

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Executive Summary

The use of highly hazardous pesticides is recognized as harmful to human health, but it is not only limited to this realm. Highly hazardous pesticides also affect animal, vegetable, soil, and ecosystem health. These five domains are interrelated and what happens in one will affect the health of the other four. In spite of evidence regarding the hazards that pesticides represent for health in these different domains, there has been a tendency to increase their use ever since they were introduced. Experience has demonstrated that it is not enough to reduce the applied amounts; the hazardousness of the active ingredients must also be taken into account. For this reason, in 2006, FAO and the World Health Organization established a new normative category known as Highly Hazardous Pesticides (HHPs).

This report addresses HHPs that are authorized and in use in Cuba. The report begins with a brief history of the emergence of pesticides, the origin of HHPs as a concept, the foundation underlying their classification, and a comment regarding the Pesticide Action Network's International List of Highly Hazardous Pesticides (HHPs). The report proceeds to address HHPs in Cuba, analyzing pesticide registration and the active ingredients that have been banned, before dealing with the core theme of this report: authorized HHPs and their use in Cuba. The report concludes with a brief comment regarding recently approved agro-environmental policies in Cuba and the alternatives in place that allow for the phasing-out of HHPs.

The term highly hazardous pesticides was introduced in 2006, the year in which the *Strategic Approach to International Chemicals Management* (SAICM) was approved. HHPs are defined as, “pesticides that are acknowledged to present particularly high levels of acute or chronic hazards to health or environment according to internationally accepted classification systems such as the World Health Organization (WHO) or the Globally Harmonized System or their listing in relevant binding international agreements or conventions. In addition, pesticides that appear to cause severe or irreversible harm to health or the environment under conditions of use in a country may be considered to be and treated as highly hazardous.”

FAO and WHO experts established eight criteria to classify HHPs. Members of the Pesticide Action Network International (PAN International) proposed incorporating six new indicators and published a list of HHPs, the most recent version corresponding to March of 2021. The list includes the active ingredients contained in the HHPs, following the criteria selected by PAN, as well as those by FAO/WHO.

In Cuba, prevention of the aforementioned hazards is one of the key working areas in public health, agriculture, the environment, and civil defense. Reducing the use of pesticides forms part of the Cuban agro-environmental policy. Between 2011 (12,253 t) and 2019 (4,996 t), imports were reduced by 59.2 percent. In recent years, this decrease was much more accentuated as a result of

the worsening of the economic, commercial, and financial blockade imposed by the US government on Cuba, which limits its possibilities of accessing external financing and foreign direct investment, as well as acquiring technologies, inputs, and agriculture-related goods.

Pesticides entering Cuba are imported, distributed, and applied in accordance with centralized standards and procedures. The main importing company is the Cuban Chemical Imports Company (Empresa Cubana Importadora de Productos Químicos/QUIMIMPORT). Wholesale commercialization in the agricultural sector is carried out by the Insurance and Services Company (Empresa de Aseguramiento y Servicios), pertaining to the Ministry of Agriculture, and lastly, the Entrepreneurial Logistics Group pertaining to the Ministry of Agriculture (Grupo Empresarial de Logística del Ministerio de Agricultura/GELMA), from which it is distributed to the municipal stores and subsidiaries that sell to producers.

In principle, legislation on pesticides in Cuba addresses the establishment and functioning of the Central Pesticide Registration Office and its adjunct Specialist Advisory Committee. The Registration Office was established on March 23, 1987 through a joint resolution issued by the Ministry of Public Health (MINSAP) and the Ministry of Agriculture (MINAG). Since the beginning, the Registration Office has been under the aegis of the National Plant Sanitation Center (Centro Nacional de Sanidad Vegetal/CNSV) pertaining to MINAG and has been governed methodologically by these two ministries. On March 7, 2007, a new resolution was approved in order to include pesticides of biological origin in the Registration.

Since the establishment of the Registration and its Advising Committee in 1987, nine resolutions have been approved banning the use of 43 active ingredients and a commercial formulation, or designating them under the category of *no consent to import* (Rotterdam Convention).

The identification of HHPs authorized in Cuba was carried out by comparing Cuba's *Official List of Authorized Pesticides* published in 2016 (currently in force) and the PAN International List of Highly Hazardous Pesticides published in March of 2021.

877 formulations are registered in Cuba's *Official List of Authorized Pesticides*, the compositions of which include 340 active ingredients, 110 of which are HHPs, representing 32.6 percent of the total: of which 45 (40.9%) are insecticides; 22 (20%) are fungicides; 19 (17.3%) are herbicides; six (5.4%) are acaricides; six (5.4%) are rodenticides; one (0.9%) is a nematicide; four (3.7%) are fumigants; and seven (6.4%) are ingredients with other modes of action.

Given their hazardousness to human health, according to the classification by WHO and the Globally Harmonized System in the European Union and Japan, 29 active ingredients (26.1%) qualified as having high acute toxicity. Insecticides are the formulations with the highest number of active ingredients under this category. Their effects are classified as follows: six active ingredients (5.4%) are categorized as class Ia (extremely hazardous); 12 (10.8%) as class Ib (highly hazardous); and the largest number, 21 (18.9%) as H330 (fatal if inhaled). 11 of these 29 active

ingredients produce two different effects.

61 active ingredients (55.4%) were found to produce at least one of the effects associated with chronic toxicity. The largest number of active ingredients, 35 (31.8%) produced carcinogenic effects. The second largest number produced endocrine or hormonal disruption: one active ingredient (mancozeb) confirmed by the EU as an endocrine disruptor according to the new European Commission Regulation 2018/605, and 23 active ingredients that meet the provisional criteria still used on the endocrine-disrupting properties established in the Regulation CE No. 1107/2009, which together make up a total of 24 (21.8%) in this category. And 17 (15.4%) were found to produce reproduction toxicity. Fungicides were found to contain the largest number of active ingredients associated with carcinogenicity.

Within the group related to environmental toxicity, 54 active ingredients (49%) are authorized, 44 of which are insecticides. 44 active ingredients (40%) are associated with high toxicity for bees and pollinators. This issue urgently needs increased attention, since there is an unsubstantiated perception that pesticide application in Cuba does not implicate any hazard to bees due to the small amounts applied.

Of the 877 formulations registered, 546 contain at least one highly hazardous active ingredient (62.2%). The 12 active ingredients with the greatest number of registrations are: cypermethrin 37 (6.7%), imidacloprid 32 (5.8%), glyphosate 29 (5.3%), 2,4-D 32 (5.8%), mancozeb 27 (4.9%), diuron 22 (4.0%), tetramethrin 19 (3.4%), permethrin 19 (3.4%), deltamethrin 17 (3.1%), chlorpyrifos 15 (2.7%), chlorothalonil 15 (2.7%), and folpet 15 (2.7%).

Of the 110 active ingredients in authorized HHPs in Cuba, 78 are banned or have a “no consent to import” designation by the Secretariat of the Rotterdam Convention, at least in one country; whereas eight active ingredients, although they have not been banned in any country, are not approved in the European Union, so in total 86 when adding up both criteria.

Cuba meets the conditions required to allow HHPs to gradually lose relevance. Since the nineties, the productive, academic and scientific sectors, accompanied by the civil society, have been working to construct a sustainable agricultural model with agroecological foundations in which HHPs have no place. In 2020, the Food Sovereignty and Nutrition Education Plan was approved. This plan proposes the organization of local sovereign and sustainable food systems at a municipal level. Considering that Agroecology is the scientific and methodological support underlying this plan, a proposal was developed for an Agroecology Policy in Cuba, to be approved during the first semester of 2021.

Recommendations

1. The authorities in charge of the Registration should be urged to develop the list of banned pesticides in Cuba, detailing the reasons why they are banned, and then disseminate this list as educational material so that it reaches all sectors associated with pesticide use.
2. Identifying which highly hazardous pesticides must be prioritized in future bans and which biological control agents and other non-chemical practices are available as alternatives.
3. To disseminate the list of highly hazardous pesticides that are authorized and in use in Cuba so that it reaches all sectors associated with pesticide use, in particular the national education system and people responsible for the management of the local sovereign and sustainable food systems constructed in the municipalities as part of Cuba's Food Sovereignty and Nutrition Education Plan.
4. Implementation of a national communication strategy, in which governmental institutions and civil society participate at all levels, about the hazardousness of pesticide use for human, animal, and environmental health, highlighting the importance of substituting inputs for agroecological processes.
5. Organizing a pesticide use surveillance system, accompanied by civil society, in particular the Cuban Association of Agricultural and Forestry Technicians (ACTAF by its acronym in Spanish) and the Cuban Association of Animal Production (ACPA by its acronym in Spanish), which both have representatives in all municipalities.
6. Diagnosing the causes that are limiting the production and use of biological control agents as an alternative to the use of pesticides in the short term.
7. Analyzing the contribution of the different public policies that are being approved and implemented in Cuba in the operation of agroecological processes that allow the gradual elimination of HHPs.
8. Making an inventory of the alternative technologies and techniques to the use of pesticides available in Cuba and their adoption trends.