



**TACKLING THE SALE OF ILLICIT
PESTICIDES ON E-COMMERCE PLATFORMS
RISKS, CHALLENGES AND SOLUTIONS**

ABOUT TRACIT

The Transnational Alliance to Combat Illicit Trade (TRACIT) is an independent, private sector initiative to drive change to mitigate the economic and social damages of illicit trade by strengthening government enforcement mechanisms and mobilizing businesses across industry sectors most impacted by illicit trade.

For more information, visit www.TRACIT.org

ACKNOWLEDGMENTS

Under the supervision of TRACIT's Director-General Jeffrey Hardy, this publication was drafted by principal author Suriya Prabha Padmanaabhan, TRACIT's Director of Programs and produced by KAH Design LLC. TRACIT expresses gratitude to the agro-chemicals and crop protection industry for their contributions.

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EXECUTIVE SUMMARY

As the global demand for food continues to rise, it is imperative to optimize agricultural productivity, increase food supply and ensure long-run food security. The proper use of agro-chemicals like pesticides is a critical component in modern agriculture. Protecting crops from pests and diseases helps farmers maximize crop yields and ensure crop quality, which mitigates the vulnerability of communities to food shortages and strengthens global food security.

Governments regulate pesticides for many reasons, but primarily to protect human health and the environment from risks associated with pesticide use. Legislation is one of the tools that countries use to achieve these objectives, by regulating the manufacture, registration, importation, transport, storage, sale, use and disposal of pesticides.

As the demand for agricultural productivity grows, the demand for crop protection grows, creating opportunities for criminal actors to exploit the complexities of agricultural supply chains to introduce unauthorized illicit pesticides¹ into the market.

Like many other sectors, such as pharmaceuticals and consumer products, internet-based e-commerce platforms have provided sellers with a new channel for selling and distributing pesticides. However, this growth in online sales has also exposed the sector to new forms of illicit trade, including counterfeiting, trafficking in illegal or otherwise banned products, and sales of pesticides that do not comply with regulatory requirements.

This situation presents several alarming problems, starting with the practical reality that illicit pesticides may not contain active ingredients or the proper balance of chemicals necessary for effective crop protection. When it comes to human safety, illicit pesticides usually contain toxic, prohibited or otherwise unsafe chemicals which present a wide range of risks to farmers, the applicable land and the broader ecological systems.

Complicating efforts to stop illicit trade in pesticides is the fact that they are increasingly being listed online on e-commerce platforms² by unlicensed sellers,³ primarily because (i) regulations that have traditionally been applied to physical retail sales, such as requiring valid trade licenses, have not always been uniformly applied to online sales, (ii) systemic weaknesses within e-commerce platforms, such as inadequate due diligence during the seller onboarding process, makes it easier for criminals to evade detection.

Consequently, structural vulnerabilities in e-commerce platforms enable illegitimate sellers to:

- Offer for sale unregistered pesticide products and prohibited pesticides.
- Sell counterfeit pesticides or conceal banned or discontinued pesticides by labeling them with well-known brand names of major pesticide companies, lending them an appearance of legitimacy.
- Disguise pesticides as herbicides or organic fertilizers to evade registration and licensing requirements.

- Facilitate the diversion of pesticides from countries where they are legally permitted to countries where they are prohibited, bypassing registration requirements in the country of intended sale.

Despite the heavy regulations on pesticide trade, listings of unauthorized, banned and counterfeit pesticides can be found on virtually every e-commerce platform. In an effort to better control such activity, this report reviews 12 e-commerce platforms, based on their market size, reputation for being vulnerable to listings of counterfeits and other illicit products,* recommendations by agro-chemical industry experts, or public evidence of policies or implementation of measures to mitigate illicit sales of pesticides. It provides examples of listings of illegal pesticides and exemplary measures that some have undertaken to mitigate illicit trade in pesticides.

Key findings

In summary, the findings indicate that:

- Listings of illicit pesticides are offered on all the e-commerce platforms evaluated in this study, despite platforms having strict policies addressing or prohibiting the sale of pesticides. This reveals a troubling gap between the anti-illicit trade policies declared by e-commerce platforms and their practical enforcement.
- Platforms vary widely in their approach to compliance with national laws. Most countries permit the sale of only those pesticides that are registered in the 'country of use'. All e-commerce platforms evaluated in this study have limited measures to verify that pesticides listed on their platforms are registered in the country of (intended) use.
- While national regulations may traditionally mandate that sellers obtain pesticide dealer licenses for physical (brick and mortar) sales, there is little evidence to suggest that the e-commerce platforms have tangible measures in place to verify that their third-party sellers are compliant with laws requiring valid licenses to sell the pesticides they list for sale.
- National regulations typically require licenses for storage and transport of pesticides. For those platforms that do offer logistics services (collection from buyer, storage or delivery to seller), there is no publicly available information indicating that they have a policy in place for storage and transportation of pesticides and the associated license to do so.
- Ongoing contributory facilitation by e-commerce platforms of illicit trading in pesticides in violation of applicable law and repudiation of their own restrictions, suggests a role for governments to mandate strict due diligence measures for e-commerce platforms.

Evidently, more needs to be done to eliminate the structural vulnerabilities of e-commerce platforms that enable illicit trade in pesticides. In this regard, there are two meaningful pathways: (i) governments mandate stricter controls on e-commerce platforms, and (ii) platforms step up their own efforts to prevent listings of illicit pesticides.

*2023_Review_of_Notorious_Markets_for_Counterfeiting_and_Piracy_Notorious_Markets_List_final.pdf

Recommendations

In an effort to advance progress in these areas, this report delineates recommendations for intergovernmental organizations, national government and e-commerce platforms.

Intergovernmental organizations

Intergovernmental organizations (IGO) are in an inimitable position to set standards and help shape national laws. This presents an opportunity for them to provide clear, robust guidance to their Member States, urging them to adopt rigorous controls to preclude any and all listings of illicit pesticides online. The Organization for Economic Cooperation and Development (OECD) and the UN Food and Agriculture Organisation (FAO) are key IGOs that undertake work on promoting the sustainable use of pesticides, and both have acknowledged the proliferation of e-commerce transactions and the related problem of the growing sales of illicit pesticides on e-commerce platforms. In response, both have produced guidance useful to assist national governments establish comprehensive and harmonised regulations to more effectively address and mitigate the online sale of illicit pesticides. However, these agencies can more actively

promote the adaptation of these guidelines in regulatory frameworks at a national level.

National governments

In recent years, national governments have shown a growing tendency to hold e-commerce platforms accountable for engaging in the trade of illicit pesticides, as evidenced by cases involving Amazon, eBay, and Mercado Libre, where fines and other sanctions were imposed. While these steps are positive, government prescriptions must be comprehensive, legally binding and more clearly directed at e-commerce platforms and their sellers so that there is no uncertainty in the requirements and responsibilities for precluding listings of illegal pesticides.

Specifically, national governments must modernize regulations that govern every stage of the pesticide cycle to ensure application to e-commerce transactions. Where necessary, laws must be enforced and/or amended to ensure that e-commerce platforms, online sellers and buyers abide by regulations that govern pesticides trade. Specifically, TRACIT recommends that such regulations must hold platforms to greater accountability.

Notably, TRACIT's key recommendations to national governments are as follows:

Three Critical Requirements for Controlling Online Pesticide Sales

- 1. Ensure that sellers have a license:** National regulations should require e-commerce platforms to check pesticide sellers' credentials and verify that pesticide sellers have a license to trade pesticides.
- 2. Store such licenses for verification by regulatory authorities:** National regulations should mandate e-commerce platforms to verify and store seller information including dealer licenses for greater transparency and for recourse in the case of illicit pesticides.
- 3. Verify that pesticides sold on platforms are registered in the country of use:** Most national regulations require that pesticides sold in the country are registered with the relevant regulatory authorities. Furthermore, in the case of cross-border transactions, regulations should require e-commerce platforms to verify registrations or authorization certificates in the country of import and the country of export ahead of permitting such transactions. It should be the responsibility of the platform to ensure that any pesticide placed on its marketplace is registered in the "country of intended use".

Additionally, TRACIT recommends national governments to:

- Strengthen enforcement of online activities.
- Levy penalties on platforms for non-compliance.
- Make the sale of illicit pesticides online a consumer protection issue.
- Improve collaboration between customs and postal services.
- Establish stronger sanctions against fraudulent sellers.
- Conduct training, awareness raising, and communication campaigns.
- Create a public registry of licensed sellers and registered products.

The above is a summary of the list of recommendations – for greater detail see page 54.

E-commerce platforms

The absence of mandatory controls governing online transactions provides an opportunity for criminals to exploit systemic weaknesses to sell unauthorized, illegal, banned and counterfeit pesticides.

E-commerce platforms must be held to a standard of accountability, especially where their transactional roles have expanded to controlling more and more of the transaction between a buyer and seller including promoting, consummating, guaranteeing, financing, storing and shipping the product – legal and illegal.

TRACIT strongly encourages e-commerce platforms to swiftly implement the **TRACIT's Three Critical Requirements for Controlling Online Pesticide Sales**

defending their supply chains from illicit pesticides. Additionally, TRACIT recommends that e-commerce platforms:

- Declare a strong public policy against illicit pesticides and implement such a policy.
- Implement strong Know your Customer (KYC) practices.
- Verify product registration and proper labelling on products ahead of permitting the listing.
- Verify that buyers have a license to use pesticides acquired through an online transaction.
- Proactively remove illicit listings and reprimand sellers.
- Empower consumers to report illicit pesticides listings.
- Maintain a database of pesticides sellers.
- Destroy illegal pesticides in a safe manner.

The above is a summary of the list of recommendations – for more details see page 57.

Conclusion

The extensive body of legislation and regulatory controls governing the trade of pesticides has not kept pace with the rapid evolution of e-commerce, and where regulations do target online sales, they have not been uniformly applied or enforced. It is imperative that governments improve the clarity and applicability of regulations governing transactions on e-commerce platforms.

While numerous e-commerce platforms have established policies to prevent the sale of chemicals, hazardous, or illicit goods on their platforms, much more needs to be done to close the significant gaps between publication and adherence of such policies. Other highly regulated sectors such as

pharmaceuticals or toys, illustrate that much more can be done by e-commerce platforms to increase their capabilities to mitigate illicit, illegal activities by ensuring that sellers possess the requisite permissions and products possess proper certifications before they are listed.

I. INTRODUCTION

What are pesticides?

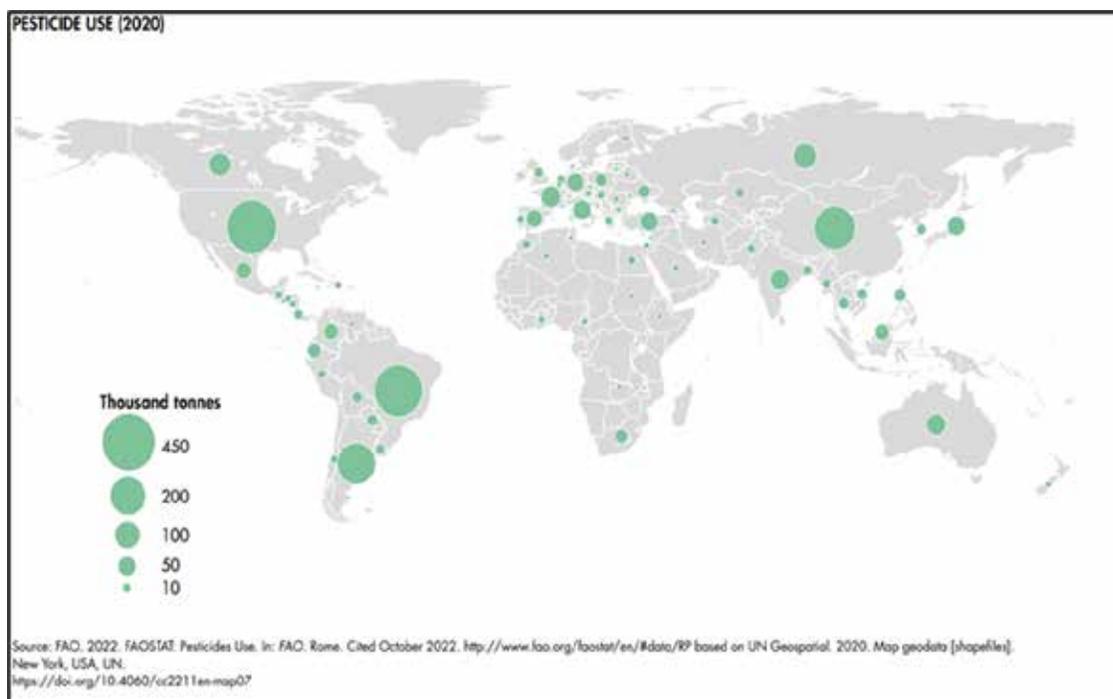
- **Pesticides:** According to the UN Food and Agriculture Organization, pesticides refer to insecticides, mineral oils, herbicides, fungicides and bactericides, fungicides, plant growth regulators, rodenticides and any other substance or mixture of substances intended for preventing, destroying or controlling any pest.⁴
- **Restricted-use pesticides:** Restricts a product's uses (i.e., it can be used only for specific purposes on specific plants) and can be purchased by a certified buyer and used only by a certified applicator or someone under the certified applicator's direct supervision.⁵ They are not available to the general public for purchase or use.

Pesticides are critical to agricultural productivity

As the global demand for food continues to rise, it is imperative to optimize agricultural productivity, increase food supply and ensure long-run food security. The proper use of pesticides is a critical component in modern agriculture, protecting crops from pests and diseases. This helps farmers maximize crop yields and ensure crop quality, which mitigates the vulnerability of communities to food shortages and strengthens global food security.

In addition to safeguarding food security and combatting hunger, pesticides⁶ contribute to wider economic gains in agricultural sectors. By protecting crops and ensuring higher yields, pesticides enhance agricultural output, which generates revenue, economic growth, employment opportunities, agricultural innovation, and growth in downstream industries such as food processing, distribution, and export.

Given the degree of economic complementarity between the demand for food and the demand for pesticides, it is helpful to understand that the agriculture sector contributes to approximately 4 percent of global GDP and can account for as much as 25 percent of national GDP in some agriculture-intensive economies. The sector at large employs close to 27 percent of the global workforce, making it a critical sector in building healthy sustainable food systems and raising rural incomes.⁷



Pesticides are governed by a unique regulatory framework

According to the FAO’s International Code of Conduct on Pesticide Management (Code of Conduct), governments regulate pesticides for many reasons, but primarily to protect human health and the environment from risks associated with pesticide use. This includes protection of pesticide users, consumers, crops, livestock, wildlife and water bodies. Other important objectives include ensuring the effectiveness of pesticide products for their proposed use and safeguarding a fair market for manufacturers, importers and distributors of pesticide products.

Legislation is one of the tools that countries use to achieve these objectives, by regulating the manufacture, registration, importation, transport, storage, sale, use and disposal of pesticides. To safeguard public health most governments have implemented strong regulatory frameworks governing all phases of the pesticide product lifecycle. This includes regulations on proper manufacture, handling, transport, storage and sale, use and recycling.⁸



Source: CropLife International <https://croplife.org/our-work/promoting-stewardship/>

In 2020, the FAO renewed the Code of Conduct, providing standardized guidance to governments that seek to review, update or design national pesticide legislation. The code lays down the foundation for sound management of pesticides by encouraging governments to implement and enforce regulations governing five primary activities:

1. **Registration:** Pesticide registration involves a rigorous evaluation by the relevant national authority ahead of approving the pesticide for sale and use. Approval depends on scientific data demonstrating product effectiveness and safety for humans, animals, and the environment.
2. **Import and export:** Pesticide laws prohibit the import of pesticides that have not been registered in the country. In this context, tight control on pesticide imports is aimed at eliminating non-registered pesticides including counterfeit, substandard or outdated pesticides, as well as those that are not properly packaged or labelled – which otherwise are categorized as illicit (see page 10 for definitions).
3. **Licensing:** Pesticide laws require that all persons or businesses that manufacture, import, export, formulate, pack, re-pack, distribute, store or sell a pesticide be in possession of a valid license issued by the responsible national authority. The purpose of licensing is significantly different from registration (Point 1, above). Registration is a review process of pesticides while licensing is a review of the person, business or other entity to determine the suitability to deal with already registered pesticides. Different types of mandatory licenses include:
 - i. Licensing for manufacture and formulation of pesticides.
 - ii. Licensing for storage of pesticides.
 - iii. Licensing for sale of pesticides.
 - iv. Licensing of retail pesticide shops.
4. **Packaging and labeling:** Pesticides regulations specify technical requirements for safe pesticide packaging and labelling during the registration process. Some countries prohibit the import, transportation, distribution or sale of pesticides unless it is packaged and labeled in compliance with national laws.
5. **Storage and transport:** Pesticide storage and transport is regulated in line with general standards for hazardous substances or under chemicals legislation. Requirements typically include separation from consumables, ventilation, security, and emergency equipment.

2. UNDERSTANDING THE ANATOMY OF ILLICIT TRADE IN PESTICIDES

What are illicit pesticides?

Illicit or illegal pesticides include a broad group of illegal, unregistered or otherwise unauthorized products. The Organization for Economic Cooperation and Development (OECD)¹⁰ describes an illicit pesticide as any product that is not legal in the country where it is “placed on the market.” Illicit pesticides include:

- **Counterfeit and fake pesticides:** Illegal copies of a branded, legitimate pesticide. Counterfeit or fake pesticides are characterized by high-quality fake branding and packaging and may therefore be difficult to distinguish from a legal product.
- **Unauthorized pesticides:** Those that are not authorized for use by regulatory authorities in the country in which they are “being placed on the market.” In most countries, pesticides must be registered by a national government agency, which ensures they meet local regulations aimed at ensuring their proper use including the safety standards, environmental regulations, food quality compliance, and labelling requirements.
- **Obsolete pesticides:** Pesticide products that are no longer authorized or fit to purpose. Pesticides become obsolete for reasons including product deterioration or degradation, deterioration of the packaging and label, deregistration of the product – due to harmful health or environmental effects.

Illicit trade across a wide range of product sectors has increased significantly over the last two decades, driven by trends in globalization, international trade, and increasingly far-reaching supply chains. There has been, for example, a marked growth in falsified and substandard pharmaceuticals, alcohol and tobacco smuggling, illicit trade in endangered species and counterfeiting of virtually every consumer product from electronics to footwear.

Among the sectors that have become increasingly vulnerable to illicit trade is pesticides. As the demand for agricultural productivity grows, the demand for crop protection grows, creating opportunities for criminal actors to exploit the complexities of agricultural supply chains to introduce unauthorized illicit pesticides into the market.

This situation presents several alarming problems, starting with the practical reality that illicit pesticides may not contain active ingredients or the proper balance of chemicals necessary for effective crop protection. When it comes to human safety, illicit pesticides usually contain toxic, prohibited or otherwise unsafe chemicals which present a wide range of risks to farmers, the applicable land and the broader ecological systems.

The scale of illicit pesticides

Understanding the potential harms associated with illicit pesticides starts with understanding the size and scope of its illegal market. In 2020, the Organization for Economic Cooperation and Development (OECD) reported that the global trade in illicit pesticides has been steadily growing.¹¹

The share of illegal pesticides on the global market ranges from 10 percent to as much as 25 percent.¹² In monetary terms, global revenues associated with the trade of illegal pesticides are estimated between USD 8 to 20 billion per year.¹³

In Europe, for example, the European Union Intellectual Property Office (EUIPO) estimates that counterfeit pesticides equal about 14 percent (about EUR 1.3 billion) of the EU market.¹⁴ This is consistent with the European Commission's (Directorate-General for Health and Food Safety, DG SANTE) estimate that illicit pesticides account for approximately 10 percent of the EU market.¹⁵ In developing countries, the OECD estimates that illegal pesticides can account for a much larger share because regulatory and enforcement capacities are generally more limited.¹⁶ For example,

- In Kenya, illegal pesticides represent as much as 20 percent of the market,¹⁷ and the government reported losing Sh120 billion (USD 1.2 billion) in revenue from unregistered and counterfeit pesticides. Staggering estimates in Africa suggest that illegal pesticides can make up to 80% of the market.¹⁸ In India, the Indian Chambers of Commerce and Industries [FICCI], reported that the market for spurious/ counterfeit pesticides is to the extent of 25% by value and 30% by volume in the country.¹⁹

The OECD also notes that current estimates of illicit pesticides trade are based on scattered data (e.g. collected during control and investigation) and vary widely, as is the case for all sectors affected by illicit activities. Another challenge to measuring the full impact arises from the fact that the discovery of illegal pesticides is not always declared, as authorities may prefer to deal discreetly and directly with the concerned parties. One explanation for this approach is the desire to avoid reputational consequences and legal repercussions associated with the distribution and use of such pesticides.²⁰

Operation Silver Axe VIII²¹

The Operation, coordinated by Europol, took place between January-April 2023 and involved law enforcement authorities from 32 countries (all EU Member States and 5 third-party countries). The European Union Intellectual Property Office (EUIPO), the European Anti-Fraud Office (OLAF), the European Commission's Directorate-General for Health and Food Safety (DG SANTE), CropLife Europe and CropLife International supported the operation. The Operation focused on



the import and use of illegal pesticides to/in the EU. It led to 21 arrests, the seizure of 2040 tons of illegal and counterfeit pesticides. During the operation, law enforcement authorities identified criminal trends in plant protection products emerging on the EU black market. These trends include the sale of counterfeits, banned products and unregulated imports – both online and offline. The participating authorities carried out inspections at land and sea borders, inland marketplaces, parcel service providers and online marketplaces. Cases of abuse in the trade of illegal pesticides range from trafficking counterfeit or mislabeled products to the irregular import of banned substances. While Asia and South Asia remain the primary source regions for illegal pesticides, much of the production and finishing takes place in the EU.²² In addition to border checks, law enforcement authorities have also been monitoring online sales of pesticides. Over the years, there is also an increase in the seizures of smaller shipments (up to 10 liters/kilograms).²³ Operation Silver Axe began in 2012 to target illegal trade of pesticides, since its launch almost 7,000 tons of illegal pesticides have been seized.²⁴

Illegal pesticides present health, safety and environmental risks

According to the OECD, pesticides present a range of alarming threats to food supply, land integrity and farmer health.²⁵ This is because pesticides are essentially chemical compounds that can be dangerous if not handled properly. For these reasons, only products that are registered with government authorities are considered to be eligible for sale.

Illicit pesticides present several risks, including:

- **Health and safety risks.** Illicit pesticides can have a broad range of negative impacts on human health primarily because of the unknown nature of the chemical composition that criminals may have used. In particular, the unknown concentration of active substances or the type and concentration of co-formulants may trigger effects on human health such as eye and skin irritation, skin sensitization, or long-term effects such as neuronal disorders. Farmers and handlers of illicit pesticides, including delivery/ transport operators, are particularly vulnerable to these risks. It is for these reasons that registered pesticides are subject to rigorous testing to ensure that a product does not present unacceptable health risks to humans.
- **Environmental risks.** Illicit pesticides are counterproductive to initiatives of sustainable agriculture. Undeclared active ingredients in counterfeit and illegal products can leave unacceptable residues on produce, rendering crops unfit for market. Unregistered pesticides can also cause a range of direct environmental effects, including air pollution, contamination of ground water and riparian systems, soil and wildlife.^{26/27}
- **Social and economic risks.** Farmers face a significant economic risk from using illicit pesticides. Ineffective illicit pesticides do not deliver adequate pest control, resulting in potential crop failure or crop damage. This increases costs to farmers and reduces revenue yields. Illicit pesticides also undermine the value of legitimate crop protection products on sustainable development, global stability and security of food supply.²⁸ Lost GDP, employment and taxes exacerbate budget deficits and preclude

government resource mobilization, especially in agriculture-based developing countries. Governments and legitimate crop protection companies also end up spending more time and resources on enforcement-related activities to clear markets of illicit products.²⁹

Understanding the connection to organized crime and corruption

Criminals have entered the crop protection market in pursuit of illegal profits, especially in developing countries where regulation and enforcement are weak. The fact that organized criminal groups are actively involved in the manufacture and distribution of illicit pesticides was documented in a report by the United Nations Interregional Crime and Justice Research Institute (UNICRI), which explained that OCGs exploited loopholes in regulatory oversight and insufficient deterrent penalties.³⁰

Moreover, Europol reports that the trade in illegal and counterfeit pesticides is organized by highly sophisticated criminal networks and they have developed complex global supply chains to camouflage their activities.³¹

“Attractive profit margins in the illicit pesticides trade also contribute to conspiracy and corruption of responsible authorities in law enforcement, customs, company staff and those in charge of pesticide procurement.”

– UNICRI, 2016

Threat to sustainable development

Illicit pesticides pose significant threats to the achievement of the UN Sustainable Development Goals (SDGs) due to their adverse impacts on several interconnected dimensions.³² Notably, illegal pesticides jeopardize:

- Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth), as farmers lose their livelihood from the use of ineffective pesticides on crops, governments lose revenues from taxes and exports, and businesses are faced with unfair competition from low-cost substandard product.
- Goal 2 (Zero Hunger), as they can contaminate food crops, leading to crop destruction. This not only undermines food security but also hampers efforts to eradicate hunger and malnutrition.
- Goal 3 (Good Health and Well-being), as their toxic ingredients can cause acute and chronic health issues for farmers, farm workers, and communities exposed to these illegal unauthorized chemicals.
- Goal 12 (Responsible Consumption and Production), as they promote the use of unregulated and harmful substances, contradicting efforts to promote sustainable and environmentally friendly practices.
- Goal 6 (Clean Water), Goal 14 (Life Below Water) and 15 (Life on Land) as their use can harm ecosystems, contaminate water sources, and negatively impact biodiversity and soil health.

3. SALE OF ILLICIT PESTICIDES ON E-COMMERCE PLATFORMS

As explained in the previous chapter, there has been a significant increase in the sale of illegal pesticides, including sales facilitated through internet-based channels.

Like many other sectors, such as pharmaceuticals and consumer products, internet-based e-commerce platforms³³ have provided sellers³⁴ with a new channel for selling and distributing illegal pesticides. Online sales are growing steadily, enabling the sector to expand product offerings and sales, but also exposing the sector to new forms of illicit trade.

In fact, illicit unregistered pesticides are increasingly being listed online by unlicensed sellers. This trend is primarily because (i) regulations that have traditionally been applied to physical retail sales, such as requiring valid trade licenses, have not always been uniformly applied to govern online sales, (ii) systemic weaknesses within e-commerce platforms,³⁵ such as inadequate due diligence during the seller onboarding process, makes it easier for criminals to evade detection.

Consequently, structural vulnerabilities in e-commerce platforms enable illegitimate sellers to:

- Offer for sale unregistered pesticide products and prohibited pesticides.
- Sell counterfeit pesticides or conceal banned or discontinued pesticides by labeling them with well-known brand names of major pesticide companies, lending them an appearance of legitimacy.
- Disguise pesticides as herbicides or organic fertilizers to evade registration and licensing requirements.
- Facilitate the diversion of pesticides from countries where they are legally permitted to countries where they are prohibited, bypassing registration requirements in the country of intended sale.

Case study: Sale of Highly Hazardous Pesticides online

Most countries have banned the sale of Highly Hazardous Pesticides (HHPs) or (in exceptional circumstances) require special permissions and licenses to trade and use them. However, illegal online channels are enabling newfound, easy access to HHPs. A common tactic is to list for sale a banned HHP and block the image or name of the product to conceal the toxicity. Another tactic is to present misleading product descriptions that lack indication of the hazardous properties of these banned pesticides. Some online sales descriptions have even falsely asserted that the HHP (such as paraquat) is ecologically safe or that it is “suitable for home garden use.”³⁶ An investigation by Pesticide Action Network Asia and the Pacific (PANAP) revealed that “banned HHPs paraquat, endosulfan, and profenophos are being sold through e-commerce platforms such as Shopee and Lazada.”³⁷ Evidently, the simple tactics to mask illicit pesticides under brand names of major agrochemical companies with fake labels, logos and designs was sufficient for the sellers to operate without impunity by the platforms. Further, PANAP reported that, “sellers of banned HHPs employ various marketing strategies on e-commerce platforms, offering special deals such as free shipping, discounts, rebates, and cashback vouchers.”³⁸ The simple tactics to mask illicit pesticides under brand names of major agrochemical companies or by using fake labels, logos and designs sufficiently enables sellers to operate without impunity by the platforms.

Enablers of illicit pesticides online

The factors that enable the sale of illicit pesticides in traditional physical retail settings, (i.e., bricks and mortar) are all relevant to online sales. The primary difference, however, is that existing regulations that apply to physical retail have not yet been uniformly applied to online sales. These regulatory gaps create avenues for criminals to evade controls and list illicit pesticides online.

Consequently, enforcement officials may not have the:

- Necessary regulatory authority to apply sanctions to online sales.
- Capacity to monitor the large volume of e-commerce sales.

System weaknesses in e-commerce platforms along with the determined efforts of criminals to evade scrutiny and detection, have exacerbated the problem. The lack of sufficient policies and procedures to verify the seller licenses and product registrations and to conduct the necessary vetting of sellers during the onboarding process are vulnerabilities across multiple e-commerce platforms.

Consequently, platforms often do not:

- Require or verify that sellers possess valid licenses for domestic or cross-border sales.
- Require or verify that products are allowed to be sold in the country of use.
- Verify the authenticity of products offered online.

The following section delineates the main factors that facilitate the sale of illicit pesticides on e-commerce platforms:

Limited enforcement of regulations to online channels

- **Existing regulatory controls have not been uniformly applied to online sales.** Traditionally, regulators have established practices that allow them to monitor transactions to ensure compliance with regulatory controls, such as validating dealer licenses, ensuring that products are properly registered and meet labeling requirements. Despite the increasing migration of commercial transactions to online outlets, similar control measures have not been uniformly or effectively applied to many online sales channels. This could be for multiple reasons:
 - Current legislation or regulations have not been amended or updated to include e-commerce platforms.
 - Regulatory agencies have not been mandated to apply controls to online markets.
 - Limited awareness by regulators regarding the extent of online illicit pesticide transactions.
 - Insufficient manpower or resources to monitor the large volumes of online transactions.

Case study: Singapore

In Singapore, the Singapore Food Agency primarily regulates the use of pesticides on plants that are cultivated for agricultural purposes. The Control of Plants Act and Control of Plants (Registration of Pesticides) Rules (CPRR) set out requirements concerning the import, sale, and use of pesticides for agricultural purposes in Singapore:

- Anyone who wishes to manufacture, import, distribute, supply, or sell any pesticide must first register the pesticide with the Director-General of Plant Health. No pesticide can be distributed, sold, exposed, or offered for sale unless it has been registered.
- No pesticide can be used in the cultivation of any plant unless it is registered with the Director-General of Plant Health, and the person utilizing the pesticide is a 'pesticide operator', or the use is supervised by a certified pesticide operator.
- If labelling requirements on the pesticide's container are not met, the Director-General can reject the application for the registration or cancel the registration of that pesticide.

Despite a strong regulatory framework, enforcement on e-commerce platforms is lacking. Industry experts report sales of illicit pesticides on AliExpress, Lazada, Amazon and Shopee, which can be purchased by consumers in Singapore from sellers in China, where such products have not been registered for import, sale or use in Singapore.

Limited controls and due diligence by e-commerce platforms

In the absence of explicit legal requirements or regulatory enforcement, platforms may or may not voluntarily apply controls sufficient enough to deter listings of illicit pesticides.

- **A platform may not be required by regulation to implement control measures.** In some jurisdictions, platforms have not been explicitly required to regulate the sale of pesticides in the same manner that governs offline transactions. In the absence of a legal requirement to control pesticide sales online, platforms may not feel obligated to apply voluntary control measures – in which case fraudulent sellers are free to exploit the system with little risk of exposure and virtually no risk of punishment or penalty. This is largely the current situation.
- **A platform may not enforce voluntary control measures included in its terms of service.** A platform may announce that it restricts the sale of illicit, illegal or otherwise restricted products. However, such policies may not always be systematically implemented, permitting sellers to continue to trade in illicit products.

For example:

- While Lazada’s seller policies prohibit the sale of “toxic chemicals,” illicit pesticides continue to be found on their platforms.
- Shopee’s seller policies across several jurisdictions bans the sale of pesticides on its platforms.³⁹ However, weak monitoring and enforcement of such policy enables sellers to list illicit pesticides.
- **A platform may not have a robust due diligence process in place.** Even where regulations have been applied or where platform terms of service ban illicit listings, limited screening, verification and other compliance controls enable illicit sellers to conceal identities or list illicit pesticides. Many e-commerce platforms do not conduct adequate Know Your Customer (KYC) protocols, a process designed to strengthen due diligence across industries. Furthermore, even those with robust KYC policies in place may not effectively implement them. This leaves room for sellers to avoid a platform’s security controls by creating multiple accounts or using false identities to sell illegal pesticides.
- **A platform may not have licensing requirements/proof.** One of the key factors enabling the sale of illegal pesticides online is the absence of requirements for sellers to authenticate their license to trade in pesticides. E-commerce platforms generally do not require or verify if sellers of pesticides have a license to trade.
- **A platform may not coordinate with pesticides regulators.** The absence of coordination between platforms and regulators can lead to a lack of accountability, making it easier for the sale of illegal pesticides. Furthermore, the global nature of e-commerce platforms means that illicit pesticides can be sold across borders, making it even more difficult for regulatory authorities to enforce regulations without cooperation with e-commerce platforms.

4. EXAMPLES OF ILLICIT PESTICIDES SOLD ON E-COMMERCE PLATFORMS

Despite government sanctions on the sale of illicit pesticides, these products can be found everywhere. Recently, in response to the surge in online sales, regulatory authorities are intensifying efforts to monitor and prosecute e-commerce platforms. This report reviews 12 e-commerce platforms, based on their market size, reputation for being vulnerable to listings of counterfeits and other illicit products,* recommendations by agro-chemical industry experts, or public evidence of policies or implementation of measures to mitigate illicit sales of pesticides. It provides examples of listings of illegal pesticides and exemplary measures that some have undertaken to mitigate illicit trade in pesticides.

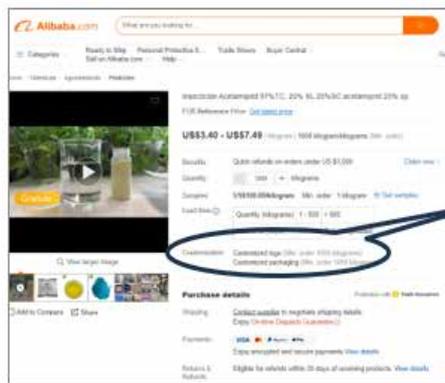
Alibaba

Illicit pesticides and active ingredients, some of which are banned for use in many countries are found for sale on Alibaba.

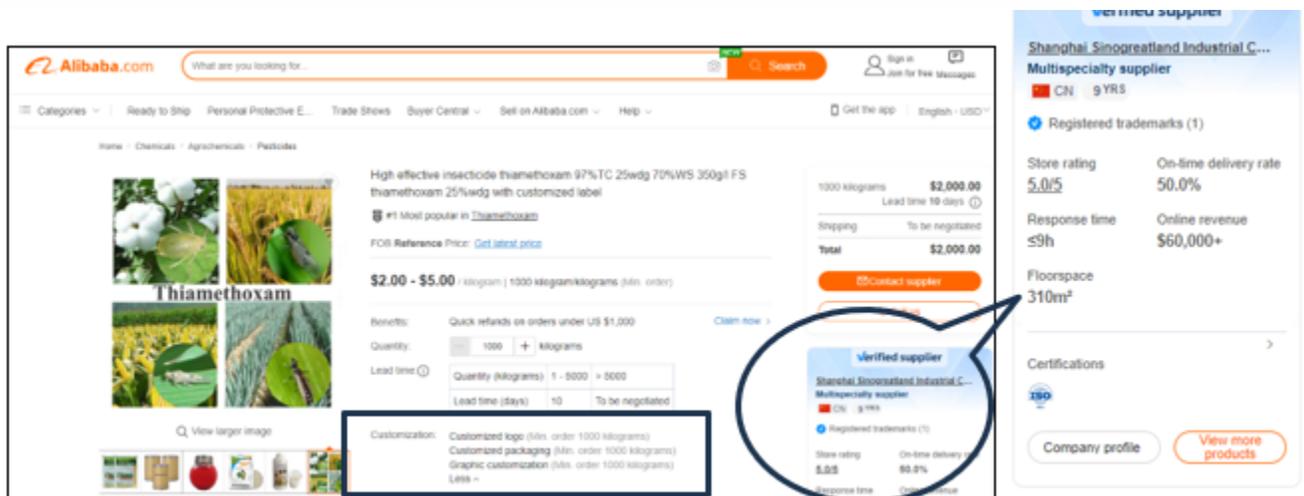
- Orders received by customers in EU and non-EU countries were counterfeit pesticides with logos belonging to well-known brands. This includes listings for “integrated packages” which include customized formulation using active ingredients, personalized packaging and graphics including logos (see image below).
- Sellers on Alibaba supply active ingredients that are used to produce counterfeit pesticides. Further, some of these illicit listings were also from “Verified Suppliers” (i.e. the sellers’ identity has been verified by Alibaba).
- Sellers have used forged documents or have mis-declared banned pesticides as ‘cat litter’ or ‘detergent’; or falsely declared as fertilizers under the wrong tariff heading to avail higher rate of export. Since, Alibaba offers global shipping to more than 200 countries and offers premium services for delivery under 5 days, illicit pesticides can reach foreign jurisdictions where the pesticides/active ingredients may be banned or under restricted use.
- Analysis of documents retrieved from seizures of illegal pesticides in several countries revealed that these products were traced back to identifiable sellers on Alibaba, with origins pointing to China.
 - Illicit products seized in warehouses in EU were traced back to sellers on Alibaba.
 - EU Customs authorities made substantial seizures of shipments, encompassing packages that contained active ingredients and fully formulated illegal pesticides. In a separate but coordinated strategy, sellers shipped bottles and labels to be assembled at the final destination, a tactic devised to bypass customs scrutiny and detection. The fake bottles are designed to look like bottles of well-known brands.

*2023_Review_of_Notorious_Markets_for_Counterfeiting_and_Piracy_Notorious_Markets_List_final.pdf

- Illicit pesticides and active ingredients are routed from China to Singapore or Uruguay deliberately concealing their true origin and subsequently channeled through complex routes to reach various destination countries worldwide. Another modus operandi is for the consignment of illicit pesticides to enter Singapore, and subsequently the paperwork is changed, making it look like the products are manufactured by a local company and thereafter exported globally. Multiple companies are established within this network, allowing them to evade detection or to seamlessly continue operations under a different entity if one company faces prosecution. Furthermore, these networks set up ‘collaborators’ in the destination countries and to extend their reach into foreign domestic markets, sometimes with support from (corrupt) local law enforcement. Even in the absence of complicit law enforcement, authorities face resource constraints that hinder their ability to extend investigations, verify documentation, scrutinize sellers, or access historical import/export data, creating a conducive environment to trade in illicit pesticides.



Customization: Customized logo (Min. order 1000 kilograms)
Customized packaging (Min. order 1000 kilograms)



Source: Screenshot from Alibaba's website, taken in October 2023

Amazon US

In the past, Amazon entered into settlements with regulators to resolve the sales of illicit pesticides that were available its stores.

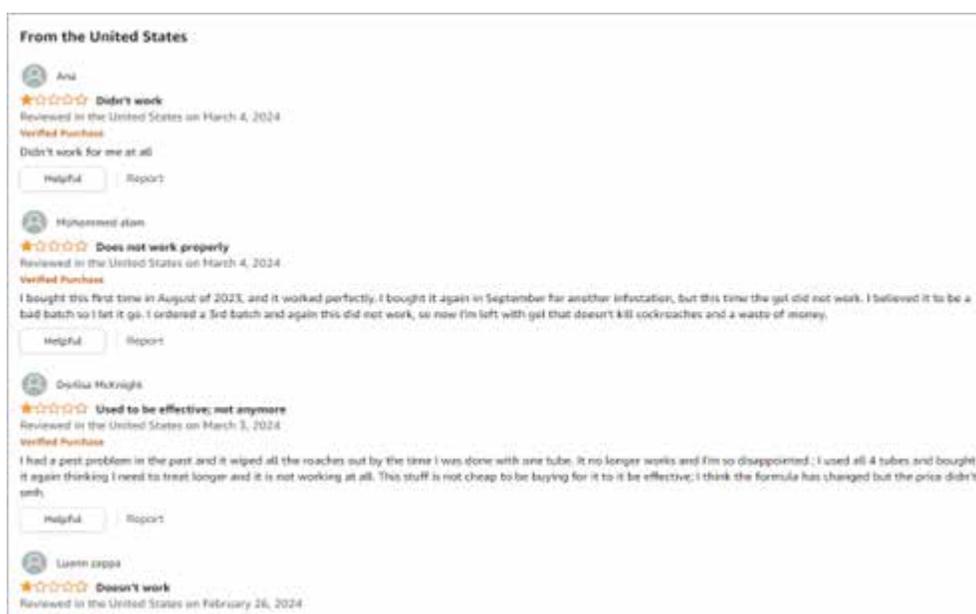
- Between 2013-2018, the US Environment Protection Agency (EPA) charged Amazon for committing almost 4,000 violations of laws prohibiting the sale of certain pesticides in the US and fined Amazon USD 1.2 million.^{40/41} Many of those products were intentionally mislabeled by third-party sellers and imported from other countries without proper authorization.⁴³ As part of a settlement with the EPA, Amazon agreed to create an e-learning module on federal pesticide regulations and required all vendors selling pesticides on its platform to score higher than 80 percent on its quiz.⁴³
- In June 2020, the EPA ordered Amazon to remove more than 30 illegal pesticides listing that were available for sale on Amazon, including one that was tagged as “Amazon’s Choice,” the company’s recommendation tag for preferred suppliers.⁴⁴
- In January 2021, the EPA added a further 70 products to the June 2020 Stop-Order list. It required Amazon to stop selling illegal pesticides noting that they pose “a significant and immediate health risk to consumers, children, pets, and others exposed to the products.”⁴⁵
- Amazon was also fined USD 2.5 million in December 2021 as part of a settlement with the Washington state Attorney General for selling illicit pesticides that were highly toxic and restricted for use.⁴⁶
- The California Department of Pesticide Regulation (DPR) fined Amazon approximately USD 5 million for selling illegal pesticides. The DPR noted that it is especially critical for companies such as Amazon to comply with pesticide laws – especially with the reach and influence the company has on consumers.⁴⁷ Among the multiple violations registered by the DPR, one was that Amazon failed to hold a valid pesticide broker’s license, which is a requirement under state law.⁴⁸



EPA pesticide enforcement officer, displays one of the banned pesticides that Amazon was selling online prior to 2018. Source: <https://www.seattletimes.com/business/amazon/epa-again-orders-amazon-to-stop-selling-illegal-pesticides/>

- Since the EPA fines and court orders, Amazon has been putting in place better systems to proactively remove illicit pesticides listings on its US and UK-based platforms. Consequently, there are fewer and fewer illegal listings. However, there is evidence of pesticides being shipped to jurisdictions where they are not registered for sale or use. At this point a “legal” listings becomes “illegal”. Additionally, on Amazon’s India platform, there are listings of illicit pesticides including counterfeit pesticides and it is unclear whether sellers have a license to trade.

The screenshot below is taken from an illicit pesticide listing on Amazon.com. The brand name is a trademark that belongs to a well-known crop protection company. The customer reviews below note that the product is not effective – indicating that it is counterfeit.



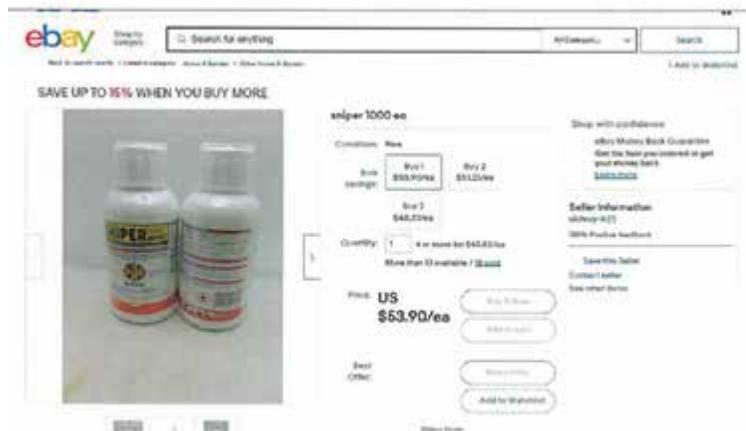
Bonanza

The EPA issued a stop order to marketplace Bonanza to halt the sales of several imported illicit pesticides. The order noted that none of the pesticides were registered for sale in the US and they contained false or misleading claims on their labelling.⁴⁹

eBay US

In September 2023, the US Government filed a civil complaint against eBay claiming that eBay distributed over 23,000 illicit (i.e. restricted or mislabeled pesticides) since 2016. The complaint noted that despite the EPA's Stop Sale, Use, or Removal Order (SSURO) in 2020 and subsequently in 2021, "eBay continued to list and sell numerous pesticides that were unregistered, misbranded, or classified as restricted use." In its complaint, the Government alleges that:

- eBay's "involvement in the transaction guides, encourages, and controls every step of the interaction between a buyer and a merchant. In sum, eBay.com is far more than an internet venue that connects purchasers and merchants - it also actively promotes, controls, consummates, and guarantees the transaction."⁵¹
- In an investigation led by EPA, neither eBay nor the seller that listed a "Restricted Use Pesticide" on its platform verified that the buyer of the product was "purchasing the product for application by certified pesticide applicator".
- EPA is now holding eBay liable for selling unregistered, restricted and mislabeled pesticides. For example, 'Miraculous Insecticide Chalk' which was available for sale on the platform, is an "unregistered pesticide product with unknown ingredients that appears like ordinary blackboard chalk" when unpackaged. Samples analyzed have contained the insecticides deltamethrin and cypermethrin, both of which can cause serious harm to those exposed via multiple routes, including by touch (dermal), inhalation, and ingestion." Another product named Sniper, which has the active ingredient 'dichlorvos' (DDVP), is a highly restricted product. However, more than 10 units were available for sale and more than 18 had been sold as of September 2021.



Lazada

Lazada is a platform that operates in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. Online listings of illicit pesticides that were unregistered, contained banned substances, or had misleading labels have been found as recently as August 2023.⁵² Among the deceptive tactics, sellers on Lazada use include false labelling and declaration to circumvent scrutiny by the platform.⁵³



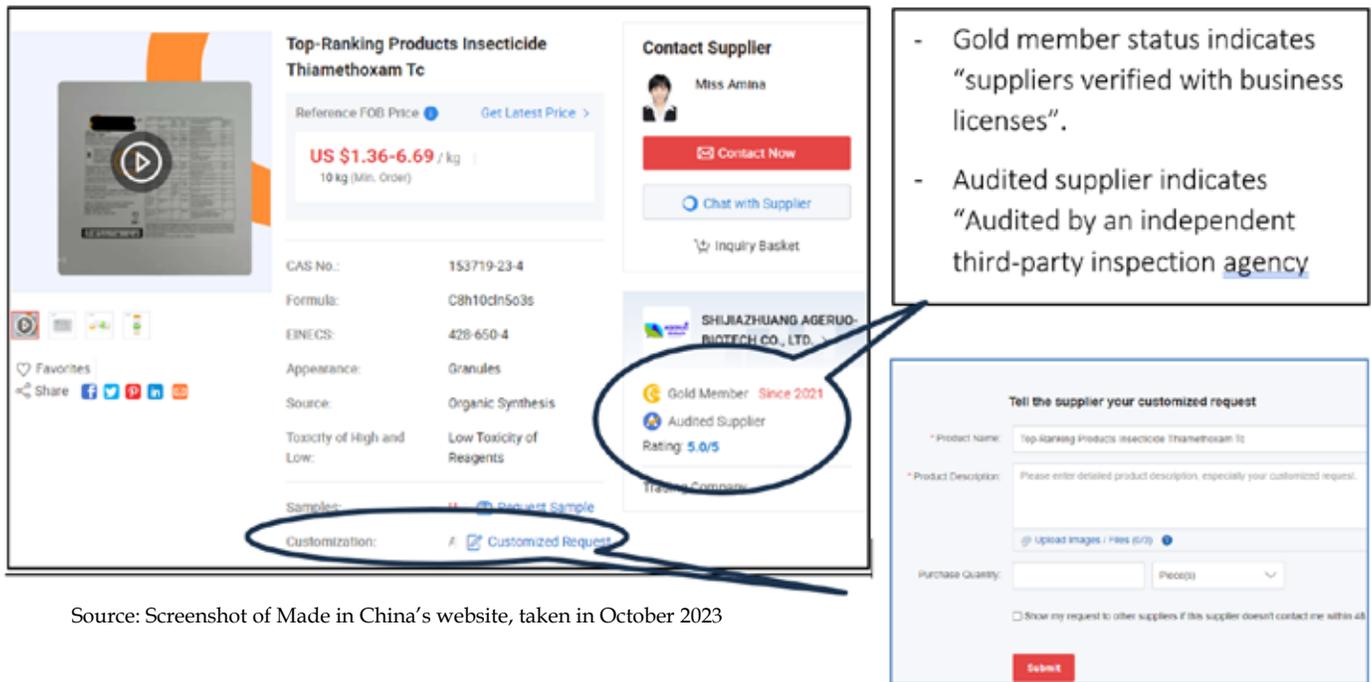
Mercado Libre

There are reported instances of Mercado Libre's online platform acting like a "tele-sales" point that advertises illegal pesticides that are not registered for use.⁵⁴ In 2018, Mercado Libre was fined by the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) for USD 8,000 and the Ministry of Agriculture, Livestock and Supply (MAPA) for the amount of USD 200 "for the alleged breach of environmental laws" by sellers offering illicit pesticides on the platform.⁵⁵

In the aftermath of Operation Webcida in 2018, where investigators discovered large quantities of illicit pesticides listings on Mercado Libre and other e-commerce platforms,⁵⁶ Mercado Libre was sanctioned by the Public Ministry of Parana (Curitiba, Brazil) to prohibit the platform from selling illicit pesticides.

Made in China

Made in China is another Chinese e-commerce platform where sellers use the same tactics as with Alibaba to trade illicit pesticides. Pesticides are falsely declared as insecticides or organic products, but they contain banned active ingredients. Also similar to the situation at Alibaba, sellers on Made in China offer "Integrated packaging" which allows for customized formulation and customized packaging and graphics including logos, and they ship illicit pesticides and active ingredients globally. Below is an example of a 'Gold Member' and 'audited' seller on the platform selling counterfeit pesticides. The product contains active ingredient 'thiamethoxam' which is banned in the EU. In a separate incident, this product was shipped to the EU and stopped by local Customs.



Source: Screenshot of Made in China’s website, taken in October 2023

- Gold member status indicates “suppliers verified with business licenses”.
- Audited supplier indicates “Audited by an independent third-party inspection agency”

Meta (WhatsApp, Instagram and Facebook)

In addition to e-commerce platforms, the UN Environment Program (UNEP) notes that criminals are increasingly using social media channels to advertise the sale of illicit pesticides.⁵⁷ For example, illicit pesticides are advertised through network “Stories” on Instagram. These advertisements are difficult to detect and take down because they appear to users for only 24 hours. Furthermore, on Facebook, criminals are increasingly using Facebook groups to list offers for illicit pesticides. Often, initial contact is made between seller and buyer through Facebook groups, after which the parties continue discussions on WhatsApp or WeChat to complete the sale process. This adds to the complexity of detecting illegal content and its removal.

- The images below demonstrate a Facebook user who offered illicit pesticides for sale and is willing to customize labels and / or produce counterfeit labels. The conversation is subsequently moved to WhatsApp or WeChat. The comments to the Facebook post are from their potential clients. Eventually, the user was traced to a company that habitually deals with illicit pesticides, located in Shijiazhuang City, China.



Source: Screenshots taken from Facebook, in October 2023.

- The image below shows a pesticides seller in India putting up for wholesale and discounted prices of paraquat on Instagram. The seller has not requested a license from the buyer as a prerequisite for sale. The Indian Insecticides Act of 1968 permits paraquat only to be sold to licensed users who have completed a training to use the product as it falls under the category of restricted-use pesticides in India.



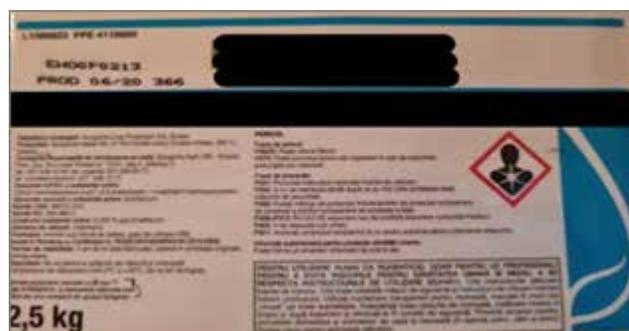
Screenshot of a post on Instagram selling restricted-use pesticide Paraquat, March 2024

Nexles

Nexles is an e-commerce platform dedicated to the sale and distribution of pest control products. It is headquartered in Romania and operates multiple platforms servicing several national markets. However, pesticides that are registered for sale in Romania are sold to users in other EU and Non-EU countries where the product may not be registered, may not conform to local labeling requirements, or may be banned for use. For example:



Order request: France
Buyer: French citizen
Product delivered: Product labeled in Romanian language.



OLX Group

OLX operates a consumer-to-consumer (C2C) marketplace. Despite this, numerous businesses and individuals are observed leveraging OLX for frequent trading activities, which runs counter to the intended business model of OLX. Within this framework, private sector investigators have uncovered multiple instances where individuals, recruited by nationals from Serbia, Bulgaria, or Ukraine, source products from Ukraine, where laws are lax, to sell illicit pesticides via OLX. These individuals easily cross borders to source their products that they can sell on OLX, exploiting the perception of transporting only "small" quantities. These small quantities can accumulate significantly when transported multiple times a day. Moreover, substantial amounts are being concealed within vehicles, for example, hidden under trucks or buses, reaching up to 100 kg per day (e.g., at the Bulgaria-Greece border crossing of Kulata-Promachonas). Another critical point of interest is the Bulgaria-Turkey border at Kapitan Andreevo, which stands as the largest road border crossing with Turkey.

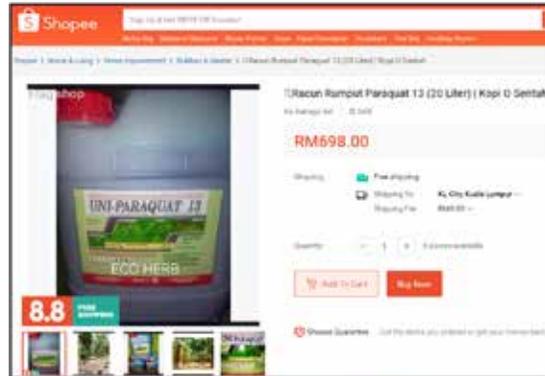
The image below is from a screenshot of a suspicious listing on OLX Romania featuring a counterfeit version of well-known brand's product offered at prices 50% lower than market value. Numerous such listings exist, where sellers smuggle from Turkey a product named 'Canprim' with the active ingredient 'Metalaxil', which is banned in EU at an attractively low price. They then use Canprim to refill stolen empty packages of the well-known brand, presenting it as legitimate pesticides that is sold online permitting them to eventually introduce a banned pesticides to the EU market.



Screenshot taken from OLX.ro on March 2024

Shopee

Shopee has been found to offer for sale illicit pesticides, including banned pesticides. Investigations by Pesticide Action Network Asia Pacific (PANAP) revealed listings of banned pesticides such as paraquat, endosulfan, and profenophos.⁵⁸



Screenshot from Shopee Malaysia's website in August 2023: Sale of banned paraquat



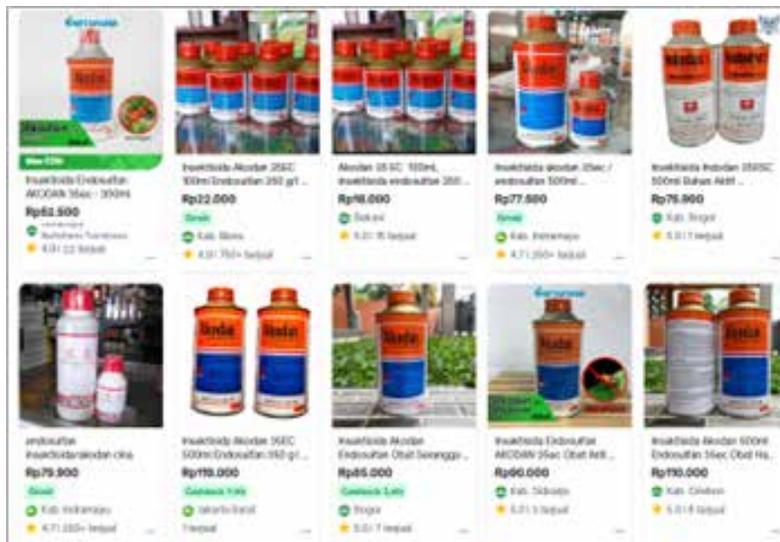
Screenshots of a search result using Google for Shopee Malaysia selling Paraquat, March 2024

Tokopedia:

In 2020, several vendors were found selling pesticides on Tokopedia that were deceptively mis-labeled as "herbal" and "organic". The illicit pesticides contained incorrect or no active ingredient and high levels of dangerous chemicals that are were not approved for use in Indonesia. Moreover, they were not properly registered.⁵⁹ Furthermore, several listings of endosulfan, a banned pesticide, is available on Tokopedia for sale in Indonesia.



Screenshot of listings on Tokopedia - Product unregistered containing no active ingredients, August 2023



Screenshot of listings selling banned endosulfan on Tokopedia, March 2024

5. EFFORTS BY PLATFORMS TO PREVENT THE SALE OF ILLICIT PESTICIDES

With increasing public concern over the widespread availability of illicit and fake products online, along with mounting pressure for the imposition of regulatory controls, some e-commerce platforms have undertaken “voluntary” measures to prevent and remove bad listings and sellers. However, evidenced by the continuing presence of illicit pesticides available online – as described in Chapter 4 – the effectiveness of such measures is mixed.

As long as illegal product listings appear online, more needs to be done to eliminate the structural vulnerabilities of e-commerce platforms that enable illicit trade in pesticides. In this regard, there are two meaningful pathways: (i) governments mandate stricter controls on e-commerce platforms, and (ii) platforms step up their own efforts to prevent listings of illicit pesticides.

In order to determine the extent to which platforms need to improve their own capabilities and efforts to prevent listing of illicit pesticides, this chapter explores the measures and actions undertaken by platforms across five categories. The information was gathered from direct interviews with e-commerce platforms, information exchanges or publicly available sources (e.g., a platform’s publicly available Terms of Service available online).

Platform policies and measures to prevent sale of illicit pesticides

The table below delineates the set of questions passed to each e-commerce platform that has agreed to participate in the research.

Index		TRACIT is presenting the measures and actions taken by platforms to regulate sale of pesticides against the following key categories.
Policies on pesticides restrictions	1	<ul style="list-style-type: none">• Does the platform restrict some products to be listed; if so, what are the differences in the rules for restricted goods; and where do pesticides fall?• Does the platform have additional security measures in place that need to be complied with as a prerequisite to list pesticides?
Policies on pesticide registration	2	<ul style="list-style-type: none">• Does the platform have additional security measures in place that need to be complied with as a prerequisite to list pesticides?
Licensing requirements for sellers	3	<ul style="list-style-type: none">• Does the platform have a system to i) request and ii) verify the seller's legal obligation to hold a license to sell pesticides?• Is submission of the license a prerequisite to permit seller listings on the platform?
Storage and transport and of pesticides	4	<ul style="list-style-type: none">• Does the platform have special policies/regulations on the storage and transport of pesticides?• If the platform offers storage and transport facilities as part of their services, does it hold a related license for pesticides per national obligations?
Engagement with authorities	5	<ul style="list-style-type: none">• Does the platform have any notable cooperation with pesticides agencies or other relevant authorities?

E-commerce platforms

Alibaba	
Policies on pesticides restrictions	1 <ul style="list-style-type: none">• Alibaba prohibits the sale of banned and restricted pesticides.⁶⁰• Additionally, Alibaba does not permit pesticides to be sold in EU, US and Canada.⁶¹
Policies on pesticide registration	2 <ul style="list-style-type: none">• Alibaba was unable or unwilling to provide information on its capability to verify whether pesticides listed by sellers are registered for sale in the country where they are intended to be sold (“country of use”).
Licensing requirements for sellers	3 <ul style="list-style-type: none">• Alibaba was unable or unwilling to explain whether it has systems in place to i) request and ii) verify the seller’s legal obligation to hold a license to sell pesticides.• Alibaba was unable or unwilling to confirm whether submission of the license is a prerequisite to permit seller listings on the platform.
Storage and transport and of pesticides	4 <ul style="list-style-type: none">• Alibaba was unable or unwilling to confirm if it has special policies/regulations governing the storage and transport of pesticides, or if it holds a related license to do so in the country where the product is used.
Engagement with authorities	5 <ul style="list-style-type: none">• Alibaba was unable or unwilling to confirm if it has any notable cooperation with pesticides agencies or other relevant authorities.

Amazon US

Policies on pesticides restrictions

1

- Amazon notes that it must approve a seller ahead of permitting them to list pesticides for sale. This approval is also contingent on whether the seller completes a training developed by Amazon for sellers to use their platform to trade in pesticides.
- Only US residents are eligible to list pesticide products on Amazon's US store.
- Amazon has controls in its store that verify residency and whether the training has been completed successfully before any products can be listed.
- Pesticides that are not intended for sale in the US are banned.
- Restricted-use pesticides, which are not available for purchase or use by the general public, are also banned.

Policies on pesticide registration

2

- Listings of pesticide products and devices require evidence of an EPA registration and/or EPA establishment number or a certification that the product is exempt from EPA regulations. Amazon compares information provided by sellers to the EPA's database, much of which is automated and includes continuous review.

Licensing requirements for sellers

3

- Amazon's US store only allows pesticides to be sold in its store by US residents that are eligible by law to list pesticide products.
- Sellers must successfully complete a training on pesticides before listing any products.
- Amazon does not allow restricted-use pesticides to be sold in its store, and sellers are required to maintain licenses were applicable.

Storage and transport and of pesticides

4

- Amazon reports that it complies with "dangerous goods shipping" restrictions.

Engagement with authorities

5

- Amazon reports that it regularly engages with regulators and other relevant agencies.

Lazada

Policies on pesticides restrictions

1

- Lazada prohibits the sale of “toxic chemicals” on its platform, including pesticides. However, it must be noted that illicit pesticides are found on the platform.

Policies on pesticide registration

2

- Not applicable as Lazada does not permit sales of pesticides.
- In Thailand, Lazada has introduced a ‘qualification module’ that sellers must complete before listing certain categories of goods such as cosmetics or toys. Ahead of a product being available for sale, this qualification module requires sellers to: i) upload licenses (seller-level license), and ii) products’ registration certificates (product-level certification). A similar control process has not been required by Lazada for prohibiting sale of pesticides.

Licensing requirements for sellers

3

- Not applicable as Lazada does not permit sales of pesticides.

Storage and transport and of pesticides

4

- Not applicable as Lazada does not permit sales of pesticides.

Engagement with authorities

5

- Currently, Lazada does not have an established engagement with pesticides agencies.

Mercado Libre (ML)

Policies on pesticides restrictions

1

- ML has a specific content policy in place that is aimed at the sale of pesticides on all their 18 country site platforms including Argentina, Brazil, Mexico, Colombia, Chile, and Peru.
- The “Pesticides and substances”⁶² policy and “Products requiring approval or authorization from state agencies”⁶³ largely govern the sale of pesticides on its platform.
- ML permits the sale of only those pesticides that comply with all relevant laws and regulations, including those governing pesticide registration, labeling, and usage.⁶⁴ It explicitly bans the sale of unregistered, banned pesticides per national regulations.⁶⁵

Policies on pesticide registration

2

- ML requires sellers to abide by their policies governing pesticides sales - which requires sellers to ensure that pesticides have the required registration per applicable laws.

Licensing requirements for sellers

3

- ML does not verify if sellers possess licenses as a prerequisite to permitting them to make product listings.
- ML's policy necessitates sellers to comply with national pesticide regulations, which would typically entail possessing a license for most pesticides. However, the policy does not explicitly mandate sellers to possess or display their pesticide trading licenses before listing pesticides for sale.

Storage and transport and of pesticides

4

- ML was unable or unwilling to confirm if it has special policies/regulations governing the storage and transport of pesticides, or if it holds a related license to do so in the country where the product is stored or transported.

Engagement with authorities

5

- ML engages with pesticides regulators and other relevant agencies regularly including to share seller information and take appropriate actions based on regulatory guidance, such as takedowns of listings due to a lack of product or seller registration.
- ML has entered into Collaboration Agreements (CAs) with national pesticides agencies to better regulate these products. For example, ML cooperates with SENASA in Argentina (National Service for Plant & Animal Products) and SAG in Chile (National Authority for Plant & Animal Products). This collaboration includes efforts to enhance automated detection of prohibited pesticides and initiatives to educate sellers on compliance and regulation.

Shopee

Policies on pesticides restrictions

1

- Sellers are prohibited from selling pesticides unregistered or illegal pesticides on Shopee's platform.

Policies on pesticide registration

2

- Sellers are required to comply with all laws and platform policies, including acquiring the required licenses/permits to sell before listing them on Shopee.
- Shopee may not independently verify the registration status of each item upon listing, however, sellers are required to present the necessary licenses/permits and supporting paperwork when requested by Shopee.

Licensing requirements for sellers

3

- Shopee mandates the provision of license registration information as a prerequisite before listing pesticides for sale.
- Shopee places responsibility on the seller to ensure that their items comply with all national laws and regulations and in accordance with Shopee's Policies before listing on the Platform.
- Shopee publishes articles on their Seller Education Hub to inform sellers on the relevant regulations pertaining to pesticides in each market.

Storage and transport and of pesticides

4

- Shopee does not offer storage services for products. Regarding transport facilities, these are provided by third party logistics partners with whom Shopee engages.
- Shopee contractually requires all its commercial counterparts to comply with all relevant laws and regulations.

Engagement with authorities

5

- Shopee cooperates with all relevant authorities as required and regularly engage with law enforcement in the region.

Weixin⁶⁶

(instant messaging, social-media and payment platform)

Policies on pesticides restrictions

1

- Weixin's Standards of Weixin Account Usage (Section 9)⁶⁷ policy prohibits users from engaging with content that involves goods that are in violation of laws and regulations. This covers regulated pesticides to the extent the sale of such goods is not allowed or restricted by applicable laws and regulations. If a user or rights holder reports a violation Weixin will review the report and act as appropriate.

Policies on pesticide registration

2

- Channels Store's (an e-commerce feature of Weixin) rules do not allow pesticides to be sold on the platform. Pesticide sellers are not allowed to register in Channels stores.

Licensing requirements for sellers

3

- Not applicable as Weixin does not permit sales of pesticides on its platforms.

Storage and transport and of pesticides

4

- Not applicable as Weixin does not offer storage and transportation services.

Engagement with authorities

5

- Weixin has engaged with authorities on illicit trading issues with respect to other products which also have a health and safety dimension. However, Weixin notes that it has not done so with respect to illicit pesticides because it has not received feedback on this from brands or relevant authorities.

Assessment

This section is designed to better understand whether measures undertaken by e-commerce platforms have been sufficient to prevent listings of illegal pesticides.

The assessment is partially based on publicly available resources including published platform policies, open media articles, cases and news articles. In order to improve the understanding of gaps between control policies and the persistence of illicit listings, platforms were contacted directly and information was requested on policies on pesticides sales restrictions, registration and licensing requirements, treatment of storage and transportation, and measures to engage with regulatory authorities. While most platforms were forthcoming with information, responses to information requests usually consisted of sharing passive links to publicly available policies available on their websites. Since these policies alone offer little insight into compliance, verification and enforcement measures and mechanisms, significant gaps in understanding remain:

- On one hand, these policies contain measures that completely prohibit the sale of pesticides on their platforms or prohibit unregistered, restricted-use or banned pesticides.
- Yet, there persists a noticeable inconsistency between these policy requirements and the continued availability of such products on their platforms.

Consequently, our findings suggested that in addition to evaluating the measures undertaken by platforms to regulate the sale of pesticides, there also needs to be an assessment of whether the platforms – when they engage in facilitating the transaction – are abiding by laws governing the sale, storage and transportation of pesticides, especially illegal versions.

Naturally, the degree of success of platform policies and efforts would be a useful determinant for whether mandatory regulations need to be applied and whether penalties for non-compliance should be imposed. An important consideration in determining the responsibility of platforms in the sale of pesticides is their role in the commercial transaction. For instance, in the September 2023 complaint against eBay, the US government took the position that the *“platform’s involvement in the transaction guides, encourages, and controls every step of the interaction between a buyer and a merchant. In sum, eBay.com is far more than an internet venue that connects purchasers and merchants - it also actively promotes, controls, consummates, and guarantees the transaction.”*⁶⁸

This view underscores the need for a reevaluation of the role of these platforms in the transactions they facilitate, as well as the need for more robust regulatory frameworks to ensure compliance with local laws that govern pesticides.

Policies on pesticides' sales restrictions

As indicated in the table above, all platforms assessed in this study have strict policies addressing the sale of pesticides.

- Amazon has stepped up its measures to prevent offerings of illicit pesticides by third party sellers since it was fined and issued a stop order by the EPA and by various US state governments. Since then, Amazon US allows pesticides to be sold on its platform only by US residents that are eligible per national law to list pesticide products. Furthermore, these sellers are required to complete training requirements before being allowed to list products on Amazon's US store. Amazon also clearly states that pesticides not intended for sale in the US are banned from the platform; and restricted-use pesticides, which are not available for purchase or use by the general public are also banned. EPA reports that since the fines and stop orders, far fewer illegal pesticides and disinfectants have found their way onto the platform. EPA also noted that Amazon is "a better place than any other e-commerce site out there."⁷⁰
- Some have imposed a blanket restriction prohibiting the listing of pesticides of any type. Lazada more broadly prohibits the sale of "toxic chemicals" on its platform, which includes pesticides. Sellers on Shopee are prohibited from selling unregistered or illegal pesticides in all regions where the platform operates. Nonetheless, listings of illicit pesticides continue to be offered on both these platforms, conveying that policies are not being sufficiently enforced.
- Mercado Libre (ML) also has a specific policy that governs the offering of pesticides, which should practically prohibit listings of illicit pesticides. ML's "Pesticides and Substances" policy only permits the sale of pesticides that comply with all relevant laws and regulations, including those governing pesticide registration, labeling, and usage.⁷¹ It explicitly bans the sale of unregistered, banned pesticides per national regulations.⁷²
- Weixin (known as WeChat) has been described by as China's "app for everything" because of its wide range of functions, including text messaging, hold-to-talk voice messaging, broadcast (one-to-many) messaging, and video conferencing.⁶⁹ These services are vulnerable to exploitation by criminal sellers aiming to establish sales networks with WeChat clients or to use messaging services to conclude transactions. So, while Weixin's policy prohibits users from engaging with content that involves goods that are in violation of laws and regulations (including pesticides), there are reported incidents of sellers of illicit pesticides using Weixin's instant messaging feature to finalize transactions with buyers.

Policies on pesticides' registration

National laws in most countries mandate that pesticides are registered in the country of use. This presents a complication for platforms that operate in more than one jurisdiction and offer international shipping. Nevertheless, these challenges do not absolve them from conducting more robust due diligence to verify that all pesticides available for sale are intended to be sold where they are registered, i.e., in the "country of intended use."

Of the platforms assessed, Lazada and Tencent's Weixin specifically prohibit the sales of pesticides, which would preclude their responsibility for requiring that offerings for pesticides be properly registered or licensed. Nonetheless, illicit pesticides are available on Lazada and sales are facilitated through Weixin.

Amazon, Mercado Libre (ML) and Shopee have policies that require sellers to comply with national regulations on pesticides registration.

- To comply with the 2021 EPA settlement agreement related to the sale of illicit pesticides, Amazon US has enhanced controls to prevent such listings. Amazon now requires evidence of an EPA registration number or a certification that the product is exempt from EPA regulations. Failing to do so will automatically prevent the listing from being published on the Amazon website. Furthermore, Amazon notes that it regularly crosschecks the product registration number provided by the seller against a federal EPA database. Nonetheless, illicit listings persist in the form of pesticides being sold to countries where there is no registration for the product.
- Mercado Libre's policies on "Pesticides and substances"⁷³ and "Products requiring approval or authorization from state agencies"⁷⁴ do not permit the sales of pesticides by sellers that do not possess registrations or legal authorisation. ML was unable or unwilling to explain measures it takes to verify that sellers have appropriate licenses.
- Shopee requires sellers to comply with national regulations such that sellers would be allowed to list only those pesticides that are registered in the country of intended use. However, Shopee was unable or unwilling to explain how they enforce the policy and how they verify that the pesticides are registered. It appears that Shopee assigns the responsibility of ensuring the legality of pesticides to the seller, without necessarily conducting its own verification of registrations before allowing listings to go live.

These platforms express their commitment to align their policies with applicable national regulations on pesticide registration. Policies which explicitly ban unregistered pesticides, is a step toward accountability. However, there are some notable concerns:

- Amazon's verification process in the US which ensures that only registered pesticides are listed on its platform through comparison against the EPA (federal) database is a step in the right-direction. However, industry experts note that the platform facilitates export of products to countries where the pesticides may not be registered, thereby making it illegal. Furthermore, it is also important to note that this is specific only to the US market. Listings of unregistered pesticides are found on Amazon India for example, where national regulations mandate pesticides to be registered. This discrepancy highlights the variation in regulatory compliance and enforcement across Amazon's global marketplaces.
- It appears that Mercado Libre places the full responsibility on sellers to ensure their products comply with national pesticide regulations on registration, with no apparent proactive verification of pesticide registrations as a prerequisite for listing.

- Shopee places full responsibility on the seller to ensure that they operate within the bounds of the law and the platform's policies. Shopee may not independently verify if the pesticides offered for sale are registered. This lack of proper verification evidently enables unregistered, illegal pesticides to be listed on the platform.

Licensing requirements for sellers

It is not evident that the platforms examined for this study have tangible measures in place to verify whether their third-party sellers have valid licenses to sell the pesticides they list for sale. So, while national regulations may traditionally require such licenses for off-line sales, online e-commerce platforms have not demonstrated verification measures to ensure that sellers without licenses are barred from listing pesticides.

- Amazon US mandates training for its sellers as a prerequisite to listing pesticides for sale. Many states in the US require sellers to have a license only to trade in restricted use pesticides. Amazon US does not permit listings of such pesticides, consequently, there is no licensing requirement for sellers. However, this is specific only to the US market. Listings from unlicensed sellers are found on Amazon India for example, where national regulations mandate license for sellers dealing with all pesticides. This discrepancy highlights the variation in regulatory compliance and enforcement across Amazon's global marketplaces.
- While Mercado Libre policy aligns with national regulations, it lacks a clear and proactive approach to verifying seller licenses. Requiring sellers to present their licenses before listing pesticides for sale would enhance accountability.
- Simply prohibiting pesticide sales without correspondent enforcement – such as on Lazada – is negligent business practice, bordering on illegal commercial undertaking. Continued, contributory facilitation of illicit trade, in defiance of applicable law, highlights the necessity for government mandated due diligence measures. While Weixin may not permit the sale of pesticides, they are similarly negligible in allowing their instant messaging service to be used to finalize transactions of sale of illicit pesticides.
- Shopee mandates its sellers to provide a registration as a prerequisite to listing pesticides for sale, however it appears that their verification may be lax as illicit pesticides are available for sale on Shopee.

Currently, in lieu of government-mandated requirements, e-commerce platforms employ a variety of voluntary measures to prevent listings of illicit products, including pesticides. For example, many platforms use a version of Know Your Customer (KYC) protocols to verify the credentials of third-party sellers and the authenticity of the products they offer. In the case of pesticides, voluntary KYC protocols need to incorporate measures requiring and verifying that sellers possess valid licenses, e-commerce platforms store those licenses, and that the pesticides are registered in the country of use.

Storage and transport and of pesticides

National regulations require special treatment of pesticides during storage and transport to ensure product integrity and safety. Requirements may typically include separation from consumables, proper ventilation, security and emergency equipment. National regulations typically require licenses for storage and transport of pesticides. While the assessed platforms appear to offer illicit pesticides for sale, not all of them offer logistics services (collection from buyer, storage, delivery to seller) as part of their services. For those that do, there is no publicly available information indicating that they have a policy in place for storage and transport of pesticides or a license to do so. For example, while Amazon provides storage and transport services, they do not acknowledge possession of valid licenses. It is also unclear how such pesticides are stored and transported.

Best practice: Amazon Australia

Amazon Australia has put in place strict mechanisms to govern the sale of pesticides. Amazon Australia permits only those products that are approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA) to be listed on their platforms. The products listed contain an “Approval Number.” and sellers are mandated to provide images of the product containing this number. Amazon Australia is also proactively screening listings to the extent that a search on the platform for pesticides provides only those that are legally permissible to be sold in the country. This example underscores the capacity of platforms to implement proactive measures to ensure that illicit pesticides remain out of consumer reach.

Image source: Amazon Australia



Best practice: Collaboration among pesticides agencies and platform

The British Pest Control Agency (BPCA) along with Crop Protection Association (CPA) have released guidelines for identifying and reporting illegal internet sales of pesticides.⁷⁵ Furthermore, BPCA and CPA have an agreement with eBay to have all illegal listings of pesticides removed. As a result of this two-year collaboration, eBay does not permit private sellers⁷⁶ to sell pesticides and only business sellers with a registration are permitted to sell. Further eBay prohibits the sale of pesticides that are:⁷⁷

- Not authorized for sale in the UK.
- Not sold in their original packaging with the original label.
- Poisonous or toxic substances that Royal Mail (or An Post) has prohibited for posting.

On the back of this engagement, BPCA and CPA have created guidelines to help people report illegal online sales of pesticides to relevant authorities – the Health and Safety Executive or the BPCA.⁷⁸



Seller information
Example seller name (10971) ★
100% Positive Feedback

Save this seller
Contact seller
Visit Shop

Registered as a business seller

This seller has an online shop and therefore can sell pesticides.

However all online shops should still ensure the chemical is being sold for professional use only and should include a statement sure as this:

Using Pesticides Safely
When you buy a professional use pesticide you and/or the end user must ensure that the product is legally used in line with the industries Approved Code of Practice set out by The Food and Environment Protection Act 1985 (FEPA) and Control of Pesticide Regulations 1986 (COPR).
When placing an order for a professional use pesticide you must confirm that you have read, understood and will comply with these regulations. Use plant protection products safely and always read the label and product information before use.

6. WHAT'S BEING DONE

National governments

In recognition of the surge in sales of illicit pesticides on e-commerce platforms, some governments have started developing a stronger regulatory response and holding e-commerce platforms more accountable for preventing the listing and sale of illegal pesticides. Some notable regulatory changes are provided below.

United States

Environmental Protection Agency (EPA)

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires actors that produce pesticides, active ingredients or devices, including companies or establishments that import into the United States, to register and file production reports with EPA.⁷⁹

Fact Sheet on Pesticides Sales in E-Commerce

As early as 2004, the EPA issued a fact sheet on sale of pesticides in e-commerce, which clearly stated that both federal and state pesticide laws and regulations would apply to online sales of pesticides.⁸⁰ The EPA specifically notes that, “No person in any state may distribute, sell, or offer for sale or distribution to any person any pesticide that is not registered in accordance with §3 of FIFRA.”⁸¹

The EPA also banned the sale of restricted-use pesticides online.⁸²

Regulating platforms

In addition to issuing guidance, the EPA has actively been regulating e-commerce platforms to prevent the sale of illicit pesticides and restricted-use pesticides.⁸³ (See Chapter 5 for EPA Stop-Orders prohibiting Amazon, Bonanza and eBay from selling illicit pesticides.)

California state law

Through AB 1011 (Chapter 612, Statutes of 2005) California expanded broker licensing requirements to all those who sell or distribute pesticides into California to close loopholes in previous laws that allowed some internet-based pesticide sellers to avoid paying the ‘mill assessment’ (a fee on all pesticide sales at the point of first sale into the state).⁸⁴



Settlement agreements

States in the US have also addressed the sale of illicit pesticides online and have issued orders and entered into settlements, notably:

- In November 2022, the California Department of Pesticide Regulation (DPR) reached an agreement with Amazon, where in addition to a fine for trading in unregistered pesticides into California, DPR ordered Amazon to register as a pesticide broker.⁸⁵ A pesticide broker license applies to those who are the “first” to sell or distribute pesticides into or within California, however it does not authorize the sale to end users.⁸⁶ These are important improvements in bringing offline regulations to govern online sales, however the treatment of sales to end users still needs to be addressed.
- The King’s Court of the State of Washington also entered into a consent decree with Amazon in 2021, whereby it ordered Amazon to comply with pesticide dealer licensing requirements of the state of Washington and related Washington Administrative Code regulations in order to continue selling restricted use and general use pesticides.⁸⁷

INFORM Consumers Act

US legislation is a good start to placing more responsibility on e-commerce platforms to avoid the sale of illegal products, but they fall short of specifying the unique controls applicable to the sale of pesticides.

The federal Integrity, Notification, and Fairness in Online Retail Marketplaces for Consumers Act or the INFORM Consumers Act, which was signed into law in late 2022, requires better transparency from online marketplaces. In addition to collecting and verifying seller information, the law requires platforms to disclose in the product listings or order confirmations certain information about the high-volume third-party sellers (such as full name, physical address or contact information with exceptions applicable to those sellers that operate out of their home address).⁸⁸ High-volume third-party sellers are defined as ‘*online marketplace participants that conduct 200 or more transactions resulting in total revenues of \$5,000 or more during a continuous 12-month period*’. The Act also provides for penalties of USD 50,120 per violation.

SHOP SAFE Act

The Stopping Harmful Offers on Platforms by Screening Against Fakes in E-Commerce Act or the Shop Safe Act is a Bill introduced by Congress in the U.S. which aims to protect consumers from harmful counterfeits offered online. The Bill aims to establish better practices for e-commerce platforms regarding vetting sellers to ensure their legitimacy, removing counterfeit listings, and removing sellers who repeatedly sell counterfeits. Online marketplaces who fail to take the prescribed steps to prevent the continued sale of counterfeits by third-party sellers would face contributory liability for their actions. The Bill is yet to be adopted by the Congress and to be enacted.

While both these legislations are a good start to placing more responsibility on e-commerce platforms to avoid the sale of illegal products, they fall short of specifying the unique controls applicable to the sale of pesticides. They do not include provisions that require e-commerce platforms to:

- Verify possession of a license for sellers to trade in pesticides,
- Store such licenses for verification by regulatory authorities; and
- Verify that pesticides sold on their platform are registered in the country of intended use.

European Union

Digital Services Act (DSA)

The DSA is aimed at establishing a transparent and clear accountability framework for e-commerce platforms in the EU. The DSA also emphasizes that what is illegal offline per Union law or in Member States should also be treated as illegal online.⁸⁹

The DSA emphasizes that what is illegal offline per Union law or in Member States should also be treated as illegal online.

The EU Commission has chosen to leave the liability regime of the e-commerce Directive untouched but has introduced new obligations for platforms, especially for ‘very large e-commerce platforms’⁹⁰, to act responsibly and diligently to manage the risk of illegal content. The responsibility falls on the Member States to enforce the DSA through an appointed ‘Digital Services Coordinator’⁹¹ with comprehensive enforcement powers.

Notably, the DSA requires e-commerce platforms to:

- Comply with harmonized due diligence obligations,
- Cooperate with ‘trusted flaggers’ to remove illegal content (notice-and-action mechanism) with priority,⁹²
- Randomly check against existing databases whether products on their sites are compliant,
- Trace sellers on their platforms under the “know your business customer” principle,
- Implement transparency measures to prevent anonymous sellers and advertisers,
- Impose greater liability on platforms for facilitating illegal activities, potentially resulting in penalties for non-compliance,
- Conduct independent audits of their risk management measures and put in place effective mitigation measures for ‘very large e-commerce platforms’.

Compliance by Design

The new Article 31 of the DSA on “compliance by design” requires B2C (Business to Consumer) e-marketplace platforms to design and organize their interfaces in a way that enables traders⁹³ to comply with their obligations applicable under Union law. It requires that e-commerce platforms’ interface assists traders to provide necessary information to

consumers including compliance with labelling requirements and laws on product safety and compliance, before allowing products to be offered.

It also imposes an obligation on platforms to make their best efforts to ensure that the information provided by sellers is accurate and encourages random checks by platforms in any official database on whether such products offered are illegal. Further, when becoming aware of the presence of an illegal product on their platforms, platforms must inform the users who have bought such items, providing them with the identity of the trader and applicable means of redress.

Applicability to online pesticides sale in the EU

Application of the DSA to the sale of pesticides online, in conjunction with the provisions of EU Directive 2009/128/EC on the sustainable use of pesticides, would require platforms to ensure that third-party sellers (i) have a license to trade in the listed pesticides, per their national obligations as distributors, and (ii) demonstrate that their products are registered in the country of use.

Similarly, DSA would preclude the sale of professional grade pesticides to customers (online buyers) who do not have a certificate as defined in Article 5 (2) of the same Directive (2009/128/EC).⁹⁴

When e-commerce platforms are not in compliance with the rules, national pesticides regulators may issue orders to e-commerce platforms to remove non-compliant (illegal) offers, and the Digital Services Coordinator at the national level may impose penalties. Furthermore, the Digital Services Coordinator and the EU Commission will have the power to require immediate actions where necessary to address very serious harms. In cases where platforms do not comply – thereby endangering consumer health and safety – it will be possible for the Digital Services Coordinator to ask a court for a temporary suspension of their service.⁹⁵

United Kingdom

While the UK's governing legislation on pesticides does not explicitly apply to online sales, the UK Health Security Agency has taken the position that online sellers of pesticides must have exactly the same requirements as those who sell offline. Furthermore, the Health and Safety Executive (HSE), the national regulator for workplace health and safety, requires that all pesticide products for use, sale, supply or storage must comply with the registration process under law. The HSE also provides the list of registered products for use in the UK for access by buyers.⁹⁶

Germany

Germany allows sellers to trade in pesticides online if they have a physical retail counterpart which follows established provisions for distribution of pesticides. Laws also mandate that authentic images of the pesticides be displayed with the product listing, and buyers should be informed by sellers of the precautions for pesticide use in the form of electronic documents during sales.

Brazil

Brazilian law mandates that pesticides can only be produced, exported, imported, and commercialized if they are registered with the Ministry of Agriculture and Livestock. Separately, Article 19 of Law No. 12.965/2014 (Marco Civil da Internet) establishes that internet providers (including e-commerce platforms) are only subject to civil liability for damages caused by third-party content if they do not comply with a prior and specific court order to remove the content. Even though the framework limits civil liability, Brazil legislation and precedents from courts suggest that:

- E-commerce platforms cannot be shielded from civil liability when there is a violation of Brazilian laws.
- E-commerce platforms must exercise a minimum level of diligence in verifying the legality of the products because they are directly involved in the transactions, including payment processing. Platforms will be liable if they do not perform a minimum standard of due diligence to know who is trading and what is being traded on their platform.

Case study: IBAMA (the Brazilian Institute of Environment and Renewable Natural Resources) v. and Mercado Libre

The Court considered the Internet Civil Framework, which governs the responsibilities and liability of internet service providers and platforms for content generated by third parties on their platforms. This framework generally limits the platforms' liability for content generated by users until they receive a specific court order to remove such content. In this case, the Court held that the Internet Civil Framework provisions related to prior notification did not apply to the “irregular commercialization of pesticides” since it was related to the illegal sale of a potentially hazardous products and is in violation of the local pesticides legislation that requires the pesticide to be registered. Analyzing the Internet Civil Framework against Brazilian pesticides law, the Court ruled in favor of IBAMA, noting that Mercado Libre cannot use the Internet Civil Framework as a shield to avoid responsibility for enabling the sale of illegal pesticides on its platform.

India

The Indian government introduced regulations governing the online sale of pesticides in November 2022, with the Insecticides (Second Amendment) Rules 2022.⁹⁷ Notably, the Rules restrict online sales of pesticides to those holding a pesticides trade license. Additionally, e-commerce platforms are required to verify the licenses of those pesticides' sellers that list products on their platforms.⁹⁸

The Indian Insecticides (Second Amendment) Rules 2022: “A licensee may undertake the sale of any insecticide through e-commerce entity for supply of insecticides to the doorstep of the farmers during the currency of license, and the licensee shall comply with the provisions of the Act and the Rules made here under for the time being in force:

- Provided that the operators of e-commerce entity before engaging the licensee for sale of insecticide through online portal, shall verify the validity of the license issued by the concerned Licensing Officer of the State.
- Provided further that the operators of e-commerce entity and licensee shall comply with the provisions of the Consumer Protection (E-commerce) Rules, 2020.”

Intergovernmental organisations

Below are some key intergovernmental organizations (IGOs) initiatives that specifically target the sale of illicit pesticides online.

UN Food and Agriculture Organization (FAO)

The FAO’s 2021 Guidance on Pesticide Licensing Schemes addresses the regulatory framework governing pesticides lifecycle including for the “Sale of pesticides over the Internet” and recognizes the associated challenges to monitor and enforce compliance with national regulations. Commenting on the complexities of internet sales, the FAO recognizes that:

“Sale of pesticides over the Internet is a complex issue, as the market situation changes continuously, and sellers and buyers can hide behind false names in often unknown locations. E-commerce can facilitate the purchase of illegal pesticides on international markets, including those that are banned in most countries, not registered for use in the country of the buyer or are fake or counterfeit products.”

The Guidance elaborates on application processes for licensing and recommends “everyone who has a major role in the pesticide life cycle to obtain a license.”⁹⁹ It also notes that:¹⁰⁰

- Generally, the law obligates sellers (including those who sell over the Internet) to ensure that any pesticides sold are registered and labelled in accordance with the rules of the destination jurisdiction.

In multi-jurisdictional systems such as the European Union and the USA, both overall and specific legislation may apply. In addition, more detailed rules may apply to more dangerous pesticides such as HHPs, requiring the sellers or applicators to be licensed in every jurisdiction in which they intend to supply these types of pesticides.

“The potential for anonymity increases the risks of improper handling and use of pesticides sold over the Internet, hence increasing health risks and environmental contamination. Enforcement is difficult, because it is harder for responsible authorities to ensure compliance with labels and instructions for pesticides sold online.”
– Guidance on pesticide licensing schemes, FAO (2021).

Furthermore, the Guidance also suggests that:¹⁰¹

- Countries may decide to require special licenses or to require the applicant to extend pesticides sales licenses specifically to Internet sales. Such a special license or extension of a sales license must incorporate the necessary guarantees to ensure the responsibility of the seller for any problems with the product, such as conservation of the product after delivery and upon arrival to the buyer (e.g. if the product is exposed to very high temperatures during transport).
- The responsibilities and potential licensing requirements of Internet platforms that serve as intermediaries between the buyer and the seller require particular attention, particularly in the case of international trade.

National legislation may require Internet platforms to assume some responsibility for sales, such as to verify that sellers are licensed in their country of origin; ensure that only pesticides registered in the country of the buyer are sold; and guarantee that the seller can be contacted and that the buyer can make a complaint or potentially take action against the seller.

The Organization for Economic Co-operation and Development (OECD) OECD Network on Illegal Trade of Pesticides (ONIP)

The ONIP's primary objective is to establish a "global alliance" of experts specializing in combating illegal trade. The ONIP created the OECD Rapid Alert System (RAS) for suspected illegal international pesticide trade. The system operates enables regulatory authorities to swiftly exchange information among experts and inspectors within the network regarding suspicious or rejected pesticide shipments.

Guidance on Pesticide Compliance and Enforcement Best Practices

This OECD Guidance recognizes the challenges for regulators to monitor compliance online.¹⁰² It calls on border control officials in destination countries in the case of export, to support document inspection and ensure that:

- The recipient is a registered wholesaler, retailer, producer or a formulation company.
- The active ingredient/substance is authorized in the recipient country.
- The pesticide is registered in the recipient country.

Best Practice Guidance to Identify Illegal Trade of Pesticides

The ONIP prepared OECD's Best Practice Guidance to assist inspectors and regulatory authorities to identify and tackle illegal pesticides throughout the complete lifecycle of a pesticide, from manufacture, through formulation, trade and use to destruction. It elaborates best practices to deter illicit trade during the process of proper registration, manufacture, handling, storage, transportation and export of pesticides. It recognises that the "internet" is used as a channel to distribute illicit pesticides and encouraged authorities to monitor online sales. Furthermore, it notes that practical guidance on physical inspection of transported goods should be made available to inspectors and regulatory authorities including provisions for internet-based trade.¹⁰³

While not specifically aimed at internet trade, the Best Practice Guidance provides several measures to strengthen regulatory measures against illicit trade. Notably:

OECD recommends the following:

- Stronger cooperation between countries and between Customs and regulatory and compliance/enforcement agencies;
- Targeted inspections for illegal pesticides;
- Legal possibilities to take action against consignments of illegal pesticides in transit should;
- Formalizing interactions between relevant authorities involved in the control of illegal pesticides through a memorandum of understanding (MoU);
- Suitable specialized quarantine warehouses and disposal facilities; and
- Legal obligations to impose these costs upon those companies or individuals responsible for the illegal pesticides.

This document could be updated to include more elements on illegal online trade.¹⁰⁴

Recommendation of the Council on Countering the Illicit Trade of Pesticides

The OECD Recommendation recognizes that while pesticides are amongst the most regulated products globally, illegal pesticides escape oversight by pesticide regulators and Customs agencies. The Recommendation promotes the establishment or enhancing national procedures to combat the illicit trade of pesticides in alignment with the Best Practice Guidance, considering national priorities, policies, and programs. Notably, the Recommendation suggests:

- Establishing regulatory framework for the oversight of agricultural pesticides.
- Implementing systems for the detection and regulatory intervention against the illegal pesticides.
- Strengthening collaboration to minimize illicit pesticides trade.

While this is useful guidance to member states, it is unclear whether governments are actively implementing them at a national level. Further, the Recommendation does not specifically address the online sale of illicit pesticides.

New Digital Technologies to Tackle Trade in Illegal Pesticides

The OECD provides guidance on the use of new technologies including blockchain and big data analytics to track and trace supply chains and identify common patterns and criminal networks behind the operations. It also recognizes the ability of AI to augment efforts in monitoring and removing illicit content from the internet.¹⁰⁵

7. RECOMMENDATIONS

The rapid growth in e-commerce and the surge of online sales of pesticides necessitates a modernization of regulatory controls to ensure that existing regulations applicable to traditional sales be applied with the same force to online sales. The absence of stricter controls over online transactions opens a wide door for criminals to sell unauthorized, illegal, banned and counterfeit pesticides.

In recent years, governments have shown a growing tendency to hold platforms accountable for engaging in the trade of illicit pesticides, as evidenced by cases involving Amazon, eBay, and Mercado Libre where fines and other sanctions were imposed (refer to section X for details). While these steps are positive, government prescriptions must be comprehensive, legally binding and more clearly directed at e-commerce platforms so that there is no uncertainty in the requirements and responsibilities for precluding listings of illegal pesticides.

Similarly, e-commerce platforms will need to demonstrate greater responsibility for ensuring that their services do not facilitate the sale of illicit pesticides.

E-commerce platforms must be held accountable especially since their transactional roles have expanded to controlling more and more parts of the transaction between a buyer and seller including promoting, consummating, guaranteeing, financing, storing and shipping pesticides – legal and illegal.

The recommendations below are aimed at key stakeholders who can make a significant impact in reducing the trade of illicit pesticides: IGOs, national government and e-commerce platforms.

Intergovernmental Organizations

Intergovernmental organizations (IGO) are in an inimitable position to set standards and help shape national laws. Consequently, they should provide clear, robust guidance to their Member States, urging them to adopt rigorous controls to preclude any and all listings of illicit pesticides online. The OECD and the FAO are key IGOs that undertake work on promoting the sustainable use of pesticides, and both have acknowledged the proliferation of online transactions and the related problem of the growing sales of illicit pesticides on e-commerce platforms.

- While the OECD has issued some guidance for governments to address the sale of illegal pesticides online, these steps are thus far inadequate. There is a need for more comprehensive guidelines that emphasize the importance of Member States implementing stricter online controls. Additionally, greater efforts should be made to ensure the integration of these guidelines into national regulatory frameworks.

- The FAO has recently published Guidance on pesticide licensing schemes (2021),¹⁰⁶ recommending countries to require special licenses or to require the applicant to extend pesticides sales licenses specifically to Internet sales. The guidance also usefully encourages national legislation to require Internet platforms to assume some responsibility for sales, such as to verify that sellers are licensed in their country of origin. The FAO guidance does acknowledge that a licensing system for pesticide sellers can help prevent illegal sale of nonregistered, fake or counterfeit products. And, although there is a one-half page section addressing “Sale of Illicit Pesticides over the Internet,” the FAO does not fully address the problem, nor does it sufficiently prioritize actions to mitigate the problems. As such, FAO could provide greater value to its national constituencies by publishing policy recommendations directly addressing the sale of illicit pesticides online.

As such, it is recommended that the two organizations more actively advocate for better regulation of pesticides on online channels.

Specifically, IGOs must recognise and issue guidance to national governments to improve controls. Such directions to national governments should emphasize that:

- Offline regulations that govern pesticides sales must be applied to online transactions.
- E-commerce platforms be held accountable and liable for illicit sales of pesticides.

National governments and regulatory authorities

National governments must modernize regulatory systems to ensure that existing regulations applicable to traditional sales of pesticides are applied equally to online sales. The absence of stricter controls over online transactions opens a wide door for criminals to sell unauthorized, illegal, banned and counterfeit pesticides.

Given the pervasiveness of illicit pesticides and their detrimental impact on the environment and human health, it is puzzling that governments have not already promulgated strict controls on e-commerce sales of pesticides – legal and illegal. From a legal perspective, platforms must be held to an increased standard of accountability especially since their transactional roles have expanded to controlling every step of the transaction between a buyer and seller of pesticides including promoting, consummating, guaranteeing, financing, storing and shipping the product.

Nonetheless, national regulations are somewhat passive. For example,

In the US, the EPA issued a fact sheet on sale of pesticides in e-commerce, which clearly stated that both federal and state pesticide laws and regulations would apply to online sales of pesticides.¹⁰⁷ The EPA specifically notes that, “*No person in any state may distribute, sell, or offer for sale or distribution to any person any pesticide that is not registered in accordance with §3 of FIFRA.*” The EPA also banned the sale of restricted-use pesticides online. So, while this guidance is clear in its intent, it remains unclear whether it constitutes a legal, regulatory control that e-commerce platforms are legally required to comply with.

The approach in the UK is similarly oblique. The UK Health Security Agency has taken the position that online sellers of pesticides must have exactly the same requirements as those who sell offline. Again, this wisdom has not manifested to law, even though the Health and Safety Executive of the UK requires that all pesticide products for use, sale, supply or storage must comply with the registration process under law.

The EU may be closer to modernizing legislation that would effectively mitigate illicit trade in pesticides. Namely, application of the DSA to the sale of pesticides online, in conjunction with the provisions of EU Directive on the sustainable use of pesticides, would require platforms to ensure that third-party sellers (i) have a license to trade in the listed pesticides, per their national obligations as distributors, and (ii) demonstrate that their products are registered in the country of use.

These prescriptions are among the most progressive worldwide, and should be impelled into the law to serve as the minimum standard of responsibility for e-commerce platforms operating anywhere in the world.

Additionally, TRACIT recommends that national governments:

1. Ensure that regulations on retail sales apply to online sales. Governments must modernize regulations that govern every stage of the pesticide cycle to ensure application to online transactions. Where necessary, online laws must be amended to include e-commerce platforms, online sellers and buyers abide by existing regulations that govern the offline pesticides trade. Governments must regulate and standardize regulations to sell pesticides online, so as to prevent illicit traders from infiltrating e-commerce platforms. Specifically, such regulations must hold platforms to accountability and require them to:

- *Ensure that sellers have a license:* National regulations should require e-commerce platforms to check pesticide sellers' credentials and verify that pesticide vendors have a "license" to sell pesticides. Furthermore, in case of cross-border transactions, regulations should require platforms to verify registrations or authorization certificates in the country of import and the country of export ahead of permitting such transactions.
- *Store such licenses for verification by regulatory authorities:* National regulations should mandate e-commerce platforms to verify and store seller information including dealer licenses for greater transparency and recourse in the case of illicit pesticides. Storing licenses will make it easier for inspection serving as a one-stop gateway for regulators to verify them.
- *Verify that pesticides sold on their platform are registered in the country of use:* Most national regulations require that any pesticides sold in the country is registered with the relevant regulatory authorities. It should be the responsibility of a platform to ensure that any pesticide placed on its e-commerce marketplace is registered in the country of use. Moreover, in the case of export, the pesticide must be registered in the country of import and abide by local regulations.

2. Strengthen enforcement of online activities.

- *Strengthen compliance of pesticides laws by e-commerce platforms* and develop effective online enforcement mechanisms. Furthermore, such enforcement must take a more holistic approach – to include cooperation with those agencies that are responsible for product safety, consumer health and safety, and environmental protection, such as the DSA as an example.

- *Improve coordination and cooperation among regulatory agencies, law enforcement, and industry stakeholders* to provide information and intelligence on illicit trade in pesticides sold online. The EU Commission's Product Safety Pledge + is a good example of a voluntary commitment by signatory e-commerce platforms to remove dangerous goods from consumers' reach and for platforms to engage in dialogue with relevant authorities including those responsible for consumer protection.¹⁰⁸
3. **Levy penalties on platforms for non-compliance.** Given the serious health, safety and environment impact of illicit pesticides, governments should increase the level of penalties on e-commerce platforms that do not comply with the relevant pesticides regulations. This will encourage greater action and serve as a strong deterrent for aiding and abetting the trade of illicit pesticides.
 4. **Make the sale of illicit pesticides online a consumer protection issue.** The sale of illicit pesticides can present significant health and safety risks to consumers, both through direct and indirect exposure. Similarly, illegal pesticides packaged incorrectly pose a risk to delivery personnel physically handling small parcels. Consequently, it is crucial that governments treat this issue as a matter of public health and safety and extend public health and safety regimes to include illicit pesticides.
 5. **Improve collaboration between customs and postal services.** National governments should improve coordination of customs and postal officials to share information, inspect and detain suspicious parcels, and raise awareness on illicit pesticides.
 6. **Establish stronger sanctions against fraudulent sellers.** National regulations should establish strong, deterrent penalties and fines to discourage sellers from engaging in the sale of illicit pesticides online. Regulations should also require platforms to ban repeat offenders from trading online on any platform; this could be facilitated by also requiring e-commerce platforms to maintain a database of sellers known to have traded in illicit pesticides.
 7. **Conduct training, awareness raising, and communication campaigns.** Educational materials, manuals, brochures, guidance documents or e-learning programs are key to raising awareness of the issue.¹⁰⁹ Some countries have already invested time and effort into training and education initiatives targeting importers, distributors or farmers, about the consequences of using illegal pesticides and have observed positive outcomes.
 8. **Create a public registry of licensed sellers and registered products.** The UK's Health and Safety Executive is a good example of a database of registered products available for use in the UK that is accessible by those wishing to purchase pesticides. Borrowing an example from the pharmaceutical sector, the National Association of Boards of Pharmacy's Safe Pharmacy¹¹⁰ allows consumers to verify the license status of a pharmacy or pharmacist selling online.

E-commerce platforms

1. **Comply with local laws that regulate the sale of pesticides.** Specifically, e-commerce platforms must be responsible to:
 - Put in place systems to verify that sellers have a license to trade in pesticides and that the products the seller lists on the platforms are ultimately sold only in those countries where the said product is registered.
 - Permit only those sellers that display an image of their license in the product listing page to be able to sell pesticides online. Furthermore, should a buyer wish to verify a pesticides seller license, there should be an option to do so on the product listing page or at checkout.
 - Establish a mechanism to store seller licenses, pesticide product registration numbers, and business details, for use by regulatory inspectors/authorities.
 - Verify that products listed for sale/destined to a particular country are registered for sale in that country.
2. **Declare a strong public policy against illicit pesticides and implement such policy.** Terms of Service of e-commerce platforms must contain strong and clear clauses prohibiting the sale of illicit pesticides with strict sanctions for those caught in the act. Platforms must also announce and enforce provisions to terminate the accounts of repeat offenders.
3. **Implement strong Know your Customer (KYC) practices.** While many platforms publish policies to govern the sale of pesticides, very few implement these effectively. Implementing a strong KYC program will necessarily require e-commerce platforms to verify and confirm the identity of the sellers and display their licenses to trade in pesticides, their contact information, business registration and bank details. Such information must be stored for access by regulatory authorities.
4. **Verify product registration and proper labelling.** Pesticides must be registered in the country of intended use and such registration – or some appropriate symbol indicating product verification – should be displayed as an image in the listings. Furthermore, images of the product and its packaging must contain clear labelling, storage and handling instructions in the correct language of the country of use. In cases of export, it should only be possible for pesticides to be exported to the destination country if valid registration and a valid label for that pesticide exists in the destination country.
5. **Verify that buyers have a license to use.** In many jurisdictions, it is mandatory for a buyer to have a training certificate or license that certifies that they are capable of safe usage and storage. Proof of such a certificate should be required before the transaction is allowed.

6. **Proactively remove illicit listings and reprimand sellers.** Proactive removal of listings of illicit pesticides by e-commerce platforms is a crucial step in stopping illegal sales of pesticides online. Such proactive measures demonstrate a commitment to social responsibility and can have a positive impact on public health and safety, workplace safety and the environment.
7. **Empower consumers to report illicit pesticides.** Allow consumers (buyers) to easily report fraudulent listings of pesticides. E-commerce platforms can consider adding pop up “banners” when a user searches for pesticidesⁱ to notify/inform buyers to purchase pesticides only from sellers who have a license and to purchase products that are validly registered in the country of use. Should the user not be able to verify this, there should be a mechanism to report such violation to the platform.
8. **Establish a central database of online sellers of pesticides.** Establish a database of licensed dealers of pesticides and specifically those that are trading across borders. This could be in the form of a highly-secure central registry managed by a third-party organization that can continuously verify seller’s identity and monitor their digital activities for risk signals on illicit activities. Such information can be shared with regulatory authorities who oversee the export of pesticides and in a manner that each individual consignment meant for export can be linked to a seller. There are several such registries in other industries such as the financial sector or the food industry to draw inspiration for a working model.¹¹
9. **Destroy illegal pesticides in safe manner.** The destruction of illegal pesticides is important to avoid their re-appearance on the market. If they have taken possession of the product in any way, for example, having the product in their fulfillment center, E-commerce platforms should pay storage and destruction costs, and they can recover costs from their sellers as part of the pre-conditions for a seller to list a pesticide for sale online.

ⁱ A pop-up banner can appear when a user searches for pesticides or any key words related to pesticides such as organic herbicide.

ⁱⁱ For example: Financial Industry Regulatory Authority, ‘Central Registration Depository (CRD)’ at <https://www.finra.org/registration-exams-ce/classic-crd> ; US Food and Drug Administration(FDA), “Foreign Supplier Verification Program (FSVP)” at <https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-foreign-supplier-verification-programs-fsvp-importers-food-humans-and-animals>

REFERENCES

- ¹ For the purpose of this paper, illicit and illegal are used interchangeably while describing ‘illicit pesticides’ that include illegal, unregistered, counterfeit or fakes, obsolete or unauthorized pesticides.
- ² For the purpose of this paper, e-commerce, online platforms or platforms are used interchangeably. As such, an ‘e-commerce platform’ is defined as any internet based platform that includes features primarily designed for arranging the sale, purchase, payment, or shipping of goods, or that enables sellers to sell physical goods through the web to consumers.
- ³ For the purpose of this paper ‘pesticide seller’ or “seller” is any natural or legal person who makes a pesticide available on the market, including wholesalers, retailers, vendors and suppliers.
- ⁴ FAO, ‘Pesticides use classification’, at https://www.fao.org/fileadmin/user_upload/faoweb/statistics/questionnaires/FAO_Definitions_and_classifications_of_pesticides__2021_.xlsx#:~:text=Pesticides%20refer%20to%20insecticides%2C%20mineral,animal%20disease%2C%20unwanted%20species%20of
- ⁵ US EPA, ‘Restricted Use Products (RUP) Report’, at <https://www.epa.gov/pesticide-worker-safety/restricted-use-products-rup-report>
- ⁶ FAO defines pesticides as: Pesticides refer to insecticides, mineral oils, herbicides, fungicides and bactericides, fungicides, plant growth regulators, rodenticides and any other substance or mixture of substances intended for preventing, destroying or controlling any pest, including vectors of human or animal disease, unwanted species of plants or animals causing harm during or otherwise interfering with the production, processing, storage, transport or marketing of food, agricultural commodities, wood and wood products or animal feedstuffs, or substances which may be administered to animals for the control of insects, arachnids or other pests in or on their bodies. The term includes substances intended for use as a plant growth regulator, defoliant, desiccant or agent for thinning fruit or preventing the premature fall of fruit, and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. See here: https://www.fao.org/fileadmin/user_upload/faoweb/statistics/questionnaires/FAO_Definitions_and_classifications_of_pesticides__2021_.xlsx#:~:text=The%20term%20includes%20substances%20intended,deterioration%20during%20storage%20and%20transport.
- ⁷ The World Bank, ‘Agriculture and Food’ (2023), at <https://www.worldbank.org/en/topic/agriculture/overview#:~:text=%E4%B8%AD%E6%96%87-,Agriculture%20and%20Food,a%20leading%20financier%20of%20agriculture>
- ⁸ FAO, ‘International Code of Conduct on Pesticide Management: Guidance on pesticide legislation’ (2020), at <https://www.fao.org/3/cb0916en/cb0916en.pdf>
- ⁹ FAO, ‘International Code of Conduct on Pesticide Management: Guidance on pesticide legislation’ (2020), at <https://www.fao.org/3/cb0916en/cb0916en.pdf>
- ¹⁰ OECD, ‘Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides’ (2020), at [https://one.oecd.org/document/COM/TAD/ENV/JWPTE\(2020\)8/FINAL/En/pdf](https://one.oecd.org/document/COM/TAD/ENV/JWPTE(2020)8/FINAL/En/pdf)
- ¹¹ OECD, ‘Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides’ (2020), at [https://one.oecd.org/document/COM/TAD/ENV/JWPTE\(2020\)8/FINAL/En/pdf](https://one.oecd.org/document/COM/TAD/ENV/JWPTE(2020)8/FINAL/En/pdf)
- ¹² OECD, ‘Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides’ (2020), at <https://doi.org/10.1787/9383b310-en>. / See also, OSCE / ENVSEC ‘Counteraction to Counterfeit and Contraband Pesticides: Methodology’ (2015), at <https://www.osce.org/secretariat/192516?download=true>; FICCI, ‘Study on Sub-Standard, Spurious/Counterfeit Pesticides in India’ (2015), at <http://ficci.in/spdocument/20641/Pestiside-Report.pdf>; Europol, ‘Europol warns of growing trade of counterfeit pesticides worth billions of euros a year’ (2012), at <https://www.europol.europa.eu/newsroom/news/europol-warns-of-growing-trade-in-counterfeit-pesticides-worthbillions-of-euros-year>
- ¹³ The Business Research Company, ‘Pesticide And Other Agricultural Chemicals Global Market Report’ (2022), at <https://www.thebusinessresearchcompany.com/report/pesticide-and-other-agricultural-chemicals-global-market-report>
- ¹⁴ EUIPO, ‘The economic cost of IPR infringement in the pesticides sector’ (2017), at [pesticides_sector_en.pdf](https://www.euipe.europa.eu/pesticides_sector_en.pdf) (europa.eu)
- ¹⁵ European Commission, DG Health and Food Safety, ‘Ad-hoc study on the trade of illegal and counterfeit pesticides in the EU’ (2015), at https://croplife.org/wp-content/uploads/pdf_files/DG-Health-Food-Safety-study-on-the-trade-of-illegal-and-counterfeit-pesticides-in-the-EU-March-2015.pdf
- ¹⁶ OECD, ‘Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides’ (2020), at <https://www.oecd-ilibrary.org/docserver/9383b310-en>.
- ¹⁷ The Star, ‘Counterfeit pesticides cost farmers Sh120bn’ (2018), at https://www.the-star.co.ke/news/2018/08/07/counterfeit-pesticides-cost-farmers-sh120bn_c1798482
- ¹⁸ <https://www.oecd-ilibrary.org/docserver/9383b310-en.pdf>
- ¹⁹ FICCI, ‘FICCI study on the menace of Spurious/Counterfeit Pesticides in India’ (2015), at <https://ficci.in/public/storage/PressRelease/2142/ficci-press-oc8-chem.pdf>
- ²⁰ <https://www.oecd-ilibrary.org/docserver/9383b310-en.pdf>
- ²¹ Europol, ‘2040 tonnes of illegal pesticides seized and 21 suspects arrested in global operation’ (2023), at <https://www.europol.europa.eu/media-press/newsroom/news/2-040-tonnes-of-illegal-pesticides-seized-and-21-suspects-arrested-in-global-operation>
- ²² Europol, ‘2040 tonnes of illegal pesticides seized and 21 suspects arrested in global operation’ (2023), at <https://www.europol.europa.eu/media-press/newsroom/news/2-040-tonnes-of-illegal-pesticides-seized-and-21-suspects-arrested-in-global-operation>

- ²³ Europol, 'Production of fake pesticides on the rise in the EU' (2022), at <https://www.europol.europa.eu/media-press/newsroom/news/production-of-fake-pesticides-rise-in-eu>
- ²⁴ Europol, 'Production of fake pesticides on the rise in the EU' (2022), at <https://www.europol.europa.eu/media-press/newsroom/news/production-of-fake-pesticides-rise-in-eu>
- ²⁵ OECD, 'Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides' (2020), at [https://one.oecd.org/document/COM/TAD/ENV/JWPTE\(2020\)8/FINAL/En/pdf](https://one.oecd.org/document/COM/TAD/ENV/JWPTE(2020)8/FINAL/En/pdf)
- ²⁶ OECD, 'Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides' (2020), at <https://www.oecd-ilibrary.org/docserver/9383b310-en>
- ²⁷ OECD, 'Joint Working Party on Trade and Environment: New digital technologies to tackle trade in illegal pesticides' (2020), at <https://www.oecd-ilibrary.org/docserver/9383b310-en>
- ²⁸ CropLife International, 'Industry Takes Positive Action on Management of HHPs', at <https://croplife.org/wp-content/uploads/2015/09/Statement-on-Alliance-to-Phase-Out-HHPs-FINAL.pdf>
- ²⁹ UNICRI, 'Illicit Pesticides, Organized Crime, and Supply Chain Integrity' (2016), at http://www.unicri.it/in_focus/files/The_problem_of_illicit_pesticides_low_res1.pdf
- ³⁰ UNICRI, 'Illicit Pesticides, Organized Crime, and Supply Chain Integrity' (2016), at <https://croplife.org/wp-content/uploads/2020/09/160912-UNICRI-paper-illicit-pesticides-Apr-2016-6.pdf>
- ³¹ Europol, 'Tackling the illegal pesticide threat' (2012), at <https://www.europol.europa.eu/media-press/newsroom/news/tackling-illegal-pesticide-threat>
- ³² TRACIT, 'Mapping the impact of illicit trade on the sustainable development goals' (2019), at https://www.tracit.org/uploads/1/0/2/2/102238034/tracit_sdg_jul2019_digital.pdf
- ³³ For the purpose of this paper, 'e-commerce platform' means any internet based platform that includes features primarily designed for arranging the sale, purchase, payment, or shipping of goods, or that enables sellers to sell physical goods through the web to consumers.
- ³⁴ For the purpose of this paper 'pesticide seller' or "seller" is any natural or legal person who makes a pesticide available on the market, including wholesalers, retailers, vendors and suppliers.
- ³⁵ For the purpose of this paper, 'e-commerce platform' means any internet based platform that includes features primarily designed for arranging the sale, purchase, payment, or shipping of goods, or that enables sellers to sell physical goods through the web to consumers.
- ³⁶ Pan Asia Pacific, 'Unboxed: Online Sales of Banned Pesticides in Malaysia' (2023), at <https://panap.net/resource/unboxed-online-sales-of-banned-pesticides-in-malaysia/?ind=1686057693536&filename=Unboxed-Online-Sales-of-Banned-Pesticides-in-Malaysia.pdf&wpdmml=5595&refresh=64d1e9200ee631691478304>
- ³⁷ Pan Asia Pacific, 'Unboxed: Online Sales of Banned Pesticides in Malaysia' (2023), at <https://panap.net/2023/06/new-report-banned-pesticides-sold-on-e-commerce-platforms-in-malaysia/>
- ³⁸ Pan Asia Pacific, 'Unboxed: Online Sales of Banned Pesticides in Malaysia' (2023), at <https://panap.net/2023/06/new-report-banned-pesticides-sold-on-e-commerce-platforms-in-malaysia/>
- ³⁹ Shopee, 'Prohibited and Restricted Items Policy', at <https://help.shopee.com.my/portal/article/77220?previousPage=other%20articles>
- ⁴⁰ UNEP and GRID-Arendal, 'The Illegal Trade in Chemicals' (2020)
- ⁴¹ AA Energy, 'Amazon fined \$1.2 million for illegal pesticide sales' (2018), at <https://www.aa.com.tr/en/energy/general/amazon-fined-12-million-for-illegal-pesticide-sales/18882>
- ⁴² AA Energy, 'Amazon fined \$1.2 million for illegal pesticide sales' (2018), at <https://www.aa.com.tr/en/energy/general/amazon-fined-12-million-for-illegal-pesticide-sales/18882>
- ⁴³ The Seattle Times, 'EPA again orders Amazon to stop selling illegal pesticides' (2021), at <https://www.seattletimes.com/business/amazon/epa-again-orders-amazon-to-stop-selling-illegal-pesticides/>
- ⁴⁴ The Seattle Times, 'EPA again orders Amazon to stop selling illegal pesticides' (2021), at <https://www.seattletimes.com/business/amazon/epa-again-orders-amazon-to-stop-selling-illegal-pesticides/>
- ⁴⁵ The Seattle Times, 'EPA again orders Amazon to stop selling illegal pesticides' (2021), at <https://www.seattletimes.com/business/amazon/epa-again-orders-amazon-to-stop-selling-illegal-pesticides/>
- ⁴⁶ The Seattle Times, 'EPA again orders Amazon to stop selling illegal pesticides' (2021), at <https://beyondpesticides.org/dailynewsblog/2021/12/repeat-offender-amazon-com-fined-2-5-million-for-illegal-pesticide-sales/#:~:text=Dec,Repeat%20Offender%20Amazon.com%20Fined%20%242.5%20Million%20for%20Illegal%20Pesticide,highly%20toxic%20restricted%20use%20pesticides.>
- ⁴⁷ California Department of Pesticide Regulation, 'Amazon Will Pay State Nearly \$5M for Illegal Pesticide Sales in CA' (2022), at <https://www.cdpr.ca.gov/docs/pressrls/2022/110322.htm>
- ⁴⁸ California Department of Pesticide Regulation, 'Amazon Will Pay State Nearly \$5M for Illegal Pesticide Sales in CA' (2022), at <https://www.cdpr.ca.gov/docs/pressrls/2022/110322.htm>
- ⁴⁹ Industrial Safety and Hygiene News, 'EPA orders online marketplace to stop selling illegal pesticides' (2019), at <https://www.ishn.com/articles/112043-epa-orders-online-marketplace-to-stop-selling-illegal-pesticides>
- ⁵⁰ Restricted Pesticides are those that require a government certified applicator or persons under their supervision to use such pesticides and only in a manner as indicated in the certification.
- ⁵¹ Case 1:23-cv-07173-OEM-LB Document 1 Filed 09/27/23 Page 17 of 58 PageID #: 82
- ⁵² Data collected from private sector and see also, Pan Asia Pacific, 'Unboxed: Online Sales of Banned Pesticides in Malaysia' (2023), at <https://panap.net/2023/06/new-report-banned-pesticides-sold-on-e-commerce-platforms-in-malaysia/>
- ⁵³ Daily Express, 'Illegal pesticides worth RM121,000 seized' (2019), at <https://www.dailyexpress.com.my/news/141086/illegal-pesticides-worth-rm121-000-seized/>; see also Borneo Post online, 'Most illegal pesticides smuggled via Sandakan, Tawau' (2019), at <https://www.theborneopost.com/2019/09/27/most-illegal-pesticides-smuggled-via-sandakan-tawau/>

- ⁵⁴ IDESF, 'O contrabando de defensivos agrícolas no Brasil', at <https://www.idesf.org.br/wp-content/uploads/2019/06/webversion2.pdf>
- ⁵⁵ Mercado Libre, 'Sustainability Report 2018', at https://meli-sustentabilidad-assets.s3.sa-east-1.amazonaws.com/MELI_Reporte_2018_ENG_1597011453.pdf
- ⁵⁶ G1, 'Mercado Livre will stop advertising and selling pesticides' (2021), at <https://g1.globo.com/economia/agronegocios/noticia/2021/01/26/mercado-livre-vai-deixar-de-anunciar-e-vender-agrotoxicos.ghtml>
- ⁵⁷ UNEP and GRID-Arendal, 'The Illegal Trade in Chemicals' (2020)
- ⁵⁸ PAN Asia Pacific, 'Unboxed: Online Sales of Banned Pesticides in Malaysia' (2023), at <https://panap.net/resource/unboxed-online-sales-of-banned-pesticides-in-malaysia/?ind=1686057693536&filename=Unboxed-Online-Sales-of-Banned-Pesticides-in-Malaysia.pdf&wpdmdl=5595&refresh=64d1e9200ee631691478304>
- ⁵⁹ Ministry of Agriculture of the Republic of Indonesia, 'Minister of Agriculture SYL Asks Staff to Strengthen Harmonization, Achieve Achievement and Prosperity for Farmers' (2023), at <https://pertanian.go.id/home/?show=news&act=view&id=5237>
- ⁶⁰ Alibaba, 'Prohibition of selling 66 pesticide products' (2022), at <https://rulechannel.alibaba.com/icbu?type=detail&ruleId=20001051&cId=1316#/rule/detail?ruleId=20001051&cId=1316>
- ⁶¹ Alibaba, 'Rules on the Control of Plant Protection Products and Biocidal Products Selling to the EU' (2023), at <https://rulechannel.alibaba.com/icbu?type=detail&ruleId=2044&cId=1396#/rule/detail?cId=1396&ruleId=2044>
- ⁶² Mercado Libre, 'Substances, pesticides and others', at https://www.mercadolibre.com.ar/ayuda/Plaguicidas_2515
- ⁶³ Mercado Libre, 'Products that require approval or authorization from state agencies', at https://www.mercadolibre.com.ar/ayuda/Productos-que-requieren-homolo_1072
- ⁶⁴ Mercado Libre, 'Products that require approval or authorization from state agencies', at https://www.mercadolibre.com.ar/ayuda/Productos-que-requieren-homolo_1072
- ⁶⁵ Mercado Libre, 'Substances, pesticides and others', at https://www.mercadolibre.com.ar/ayuda/Plaguicidas_2515
- ⁶⁶ Social media platform primarily focusing on instant messaging, audio/video calls. It also has a Channels Store that is an e-commerce feature of Weixin.
- ⁶⁷ Weixin, 'Standards of Weixin Account Usage', at https://weixin.qq.com/cgi-bin/readtemplate?&t=page/agreement/personal_account&lang=en_US&head=true
- ⁶⁸ Case 1:23-cv-07173-OEM-LB Document 1 Filed 09/27/23 Page 17 of 58 PageID #: 82
- ⁶⁹ WeChat, at <https://www.wechat.com/>; see also Asia Media Centre, 'WeChat' The app that rivals the internet' (2018), at <https://www.asiamediacentre.org.nz/features/china-most-popular-app-wechat/>
- ⁷⁰ Seattle Times, 'EPA again orders Amazon to stop selling illegal pesticides' (2021), at <https://www.seattletimes.com/business/amazon/epa-again-orders-amazon-to-stop-selling-illegal-pesticides/>
- ⁷¹ Mercado Libre, 'Products that require approval or authorization from state agencies', at https://www.mercadolibre.com.ar/ayuda/Productos-que-requieren-homolo_1072
- ⁷² Mercado Libre, 'Substances, pesticides and others', at https://www.mercadolibre.com.ar/ayuda/Plaguicidas_2515
- ⁷³ Mercado Libre, 'Substances, pesticides and others', at https://www.mercadolibre.com.ar/ayuda/Plaguicidas_2515
- ⁷⁴ Mercado Libre, 'Products that require approval or authorization from state agencies', at https://www.mercadolibre.com.ar/ayuda/Productos-que-requieren-homolo_1072
- ⁷⁵ British Pest Control Association, 'BPCA and CPA release guidance for identifying and reporting illegal internet sales of pesticides', at <https://bpca.org.uk/News-and-Blog/bpca-and-cpa-release-guidance-for-identifying-and-reporting-illegal-internet-sales-of-pesticides>
- ⁷⁶ Private sellers are any individuals who sell on eBay who are not registered as a business. Private sellers are not permitted to sell rodenticides or any other pesticide.
- ⁷⁷ British Pest Control Association, 'Guidance Document: Identifying and reporting illegal internet sales of rodenticides and other pesticides', at https://bpca.org.uk/write/MediaUploads/Documents/Member%20Only%20Documents/BPCA_Guidance_Document_Identifying_and_reporting_illegal_internet_Version_1_2019.pdf
- ⁷⁸ British Pest Control Association, 'Guidance Document: Identifying and reporting illegal internet sales of rodenticides and other pesticides', at https://bpca.org.uk/write/MediaUploads/Documents/Member%20Only%20Documents/BPCA_Guidance_Document_Identifying_and_reporting_illegal_internet_Version_1_2019.pdf
- ⁷⁹ Environment Protection Agency, 'Regulatory and Guidance Information by Topic: Pesticides', at <https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-pesticides>
- ⁸⁰ Environment Protection Agency, 'Regulatory and Guidance Information by Topic: Pesticides', at <https://www.epa.gov/regulatory-information-topic/regulatory-and-guidance-information-topic-pesticides>
- ⁸¹ Environment Protection Agency, 'Fact Sheet on Pesticides Sales in E-Commerce' (2004), at <https://www.epa.gov/sites/default/files/2014-01/documents/ecomfact.pdf>
- ⁸² FAO and WHO, 'Guidance on pesticide licensing schemes – International Code of Conduct on Pesticide Management' (2021), at <https://doi.org/10.4060/cb6104en>
- ⁸³ Environment Protection Agency, 'EPA orders online marketplace to stop selling illegal pesticides' (2019), at <https://www.epa.gov/newsreleases/epa-orders-online-marketplace-stop-selling-illegal-pesticides>
- ⁸⁴ California Department of Pesticide Regulation, 'A guide to Pesticide Regulation in California' (2017), at <https://www.cdpr.ca.gov/docs/pressrls/dprguide/dprguide.pdf>
- ⁸⁵ JD Supra, 'DPR Announces Agreement with Amazon to Pay Nearly Five Million Dollars for Illegal Pesticide Sales in California' (2022), at <https://www.jdsupra.com/legalnews/dpr-announces-agreement-with-amazon-to-8375806/>

⁸⁶ California Department of Pesticide Regulation, 'Pesticide Broker License', at https://www.cdpr.ca.gov/docs/license/licreq_broker.htm#:~:text=This%20licensing%20requirement%20applies%20to,use%20pesticides%20to%20end%20users.

⁸⁷ State of Washington, King county, Superior court, Case No: 21-2-15448-1 SEA (2021), at <https://agportal-s3bucket.s3.amazonaws.com/uploadedfiles/another/news/amazon-entered.pdf>

⁸⁸ Federal Trade Commission, 'Informing Businesses about the INFORM Consumers Act' (2023), at <https://www.ftc.gov/business-guidance/resources/INFORMAct>

⁸⁹ Recital 12 of the Digital Services Act (DSA)

⁹⁰ Per the Digital Services Act (DSA), "Very large e-commerce platforms" are those that reach more than 10% of the 450 million consumers in Europe.

⁹¹ Per the Digital Services Act (DSA), "Very large e-commerce platforms" are those that reach more than 10% of the 450 million consumers in Europe.

⁹² Digital Services Coordinators help the Commission to monitor and enforce obligations in the Digital Services Act (DSA) read more at Digital Services Coordinators at <https://digital-strategy.ec.europa.eu/en/policies/dsa-dscc>

⁹³ Article 19 (2) of the DSA presents the role of a trusted flagger: The status of trusted flaggers under this Regulation shall be awarded, upon application by any entities, by the Digital Services Coordinator of the Member State in which the applicant is established, where the applicant has demonstrated to meet all of the following conditions: it has particular expertise and competence for the purposes of detecting, identifying and notifying illegal content; it represents collective interests and is independent from any e-commerce platform; and it carries out its activities for the purposes of submitting notices in a timely, diligent and objective manner.

⁹⁴ Per Article 2 of the Digital Services Act: 'trader' means any natural person, or any legal person irrespective of whether privately or publicly owned, who is acting, including through any person acting in his or her name or on his or her behalf, for purposes relating to his or her trade, business, craft or profession;

Directive 2009/128/EC on sustainable use of pesticides, article 6 (Requirements for sales of pesticides)

⁹⁵ European Commission, 'Questions and answers on the Digital Services Act' (2024), at https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2348

⁹⁶ Health and Safety Executive, 'Pesticides registration', at <https://www.hse.gov.uk/pesticides/pesticides-registration/index.htm>

⁹⁷ Website of Ministry of Agriculture & Farmers Welfare, India, 'Notification', at <https://legalitysimplified.com/wp-content/uploads/2022/11/insecticides-rules.pdf>

⁹⁸ CNBC TV 18, 'India approves sale of pesticides through e-commerce platforms' (2022), at <https://www.cnbctv18.com/agriculture/union-narendra-modi-bjp-government-permits-sale-of-pesticides-through-e-commerce-platform-flipkart-amazon-15284231.htm>

⁹⁹ FAO, 'Guidance on pesticide licensing schemes' (2021), at <https://www.fao.org/3/cb6104en/cb6104en.pdf>

¹⁰⁰ FAO, 'Guidance on pesticide licensing schemes' (2021), at <https://www.fao.org/3/cb6104en/cb6104en.pdf>

¹⁰¹ FAO, 'Guidance on pesticide licensing schemes' (2021), at <https://apps.who.int/iris/rest/bitstreams/1361981/retrieve>

¹⁰² OECD, 'OECD Guidance on Pesticide Compliance and Enforcement Best Practices' (2012), at https://www.oecd.org/env/ehs/pesticides-biocides/Pesticides_Compliance_Guidance.pdf

¹⁰³ OECD, 'Best Practice Guidance to Identify Illegal Trade of Pesticides' (2018), at [https://one.oecd.org/document/env/jm/mono\(2018\)35/en/pdf](https://one.oecd.org/document/env/jm/mono(2018)35/en/pdf)

¹⁰⁴ OECD, 'Draft Report on the Implementation of the OECD Recommendation on Countering the Illegal Trade of Pesticides' (2024)

¹⁰⁵ OECD, 'New digital technologies to tackle trade in illegal pesticides' (2020), at [https://one.oecd.org/document/COM/TAD/ENV/JWPTE\(2020\)8/FINAL/En/pdf](https://one.oecd.org/document/COM/TAD/ENV/JWPTE(2020)8/FINAL/En/pdf)

¹⁰⁶ FAO, 'Guidance on pesticide licensing schemes' (2021), at <https://www.fao.org/3/cb6104en/cb6104en.pdf>

¹⁰⁷ Environment Protection Agency, 'Fact Sheet on Pesticides Sales in E-Commerce' (2004), at <https://www.epa.gov/sites/default/files/2014-01/documents/ecomfact.pdf>

¹⁰⁸ European Commission, 'Safety of products sold online', at https://commission.europa.eu/business-economy-euro/product-safety-and-requirements/product-safety/product-safety-pledge_en

¹⁰⁹ OECD, 'Report of the OECD Seminar on Risk Reduction Through Prevention, Detection and Control on the Illegal International Trade in Agricultural Pesticides' (2010), at https://read.oecd-ilibrary.org/environment/report-of-the-oecd-seminar-on-risk-reduction-through-prevention-detection-and-control-of-the-illegal-international-trade-in-agricultural-pesticides_9789264221574-en#page16

¹¹⁰ National Association of Boards of Pharmacy, 'Safe Pharmacy', at <https://safe.pharmacy/about/>



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