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YEAR MISSION/OP UNIT PROJECT

Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP)

NOTE: this template is for an ai-level persuap

Month 201**X**

This document was produced by XXX for the United States Agency for International Development (USAID) under (contract number; name of activity).

MISSION REVIEW DRAFT JUNE 2015

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# Initial Environmental Examination AMENDMENT

Year Mission/Op Unit Project Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP)

## Project/Activity Data

|  |  |  |
| --- | --- | --- |
| **Project/Activity Name:** | **Multiple** | |
| **Amendment (Y/N):** | Y | |
| **Geographic Location(s) (Country/Region):** |  | |
| **Implementation Start/End:** |  | |
| **Solicitation/Contract/Award Number:** |  | |
| **Implementing Partner(s):** |  | |
| **Tracking ID/link:** |  | |
| **Tracking ID/link of Related RCE/IEE (if any) (expiration date):** |  | |
| **Tracking ID/link of Other, Related Analyses:** |  |

## Organizational/Administrative Data

|  |  |  |  |
| --- | --- | --- | --- |
| **Implementing Operating Unit(s):  (e.g. Mission or Bureau or Office)** | |  | |
| **Funding Operating Unit(s):  (e.g. Mission or Bureau or Office)** | |  | |
| **Funding Account(s):** | |  | |
| **Funding Amount:** | |  | |
| **Amendment Funding Date:** |  |  |  |
| **Other Affected Unit(s):** | |  | |
| **Lead BEO Bureau:** | |  | |
| **Prepared by:** | |  | |
| **Date Prepared:** | |  | |

## Environmental Compliance Review Data

|  |  |
| --- | --- |
| **Analysis Type:** | IEE Amendment / PERSUAP |
| **Environmental Determination(s):** | Negative Determination (with Conditions) |
| **Expiration Date:** |  |
| **Additional Analyses/Reporting Required:** | SUAP Development by Partner |
| **Climate Risks Identified (#):** | Low \_\_\_\_\_\_ Moderate \_\_\_\_\_\_ High \_\_\_\_\_\_ **see parent IEEs** |
| **Climate Risks Addressed (#):** | Low \_\_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_\_ **see parent IEEs** |

## Threshold Decision Memo and Summary of Findings

### Purpose and scope

**Purpose** This Year Mission/Op Unit Program Pesticide Evaluation Report Safer Use Action Plan (PERSUAP) addresses the requirements of 22 CFR 216.3(b) (“Pesticide Procedures”) regarding assistance for the procurement and/or use of pesticides (“pesticide support”) in USAID/XXX projects and activities described under “scope” below. As such, it:

* Establishes the set of unrestricted same and similar uses pesticide Active Ingredients (AIs) for which support to procurement and/or use is authorized by these projects/activities,.
* Establishes the conditions under which pesticide products containing the authorized AIs may be procured, used, or their use supported to best ensure user, consumer and environmental safety.

[state if replacing/superceding an existing PERSUAP].

As such, it amends the above-listed IEE(s).

*Note: “Assistance for the procurement and/or use of pesticides” includes: direct procurement, transportation, storage, mixing, loading, application, disposal, demonstrations, promotion, technical assistance, provision of samples, special payments, donations, subsidies and other forms of financial support for purchase of pesticides, including credit provision and credit guarantees.*

**Scope.** This PERSUAP covers pesticide support for the below-listed value chains, use types, geographies, and actions under [describe programmatic scope; including whethe PERSUAP covers future activities within this scope, or only current ones.]

* **Covered actions/use types:** [briefly list all covered actions: e.g. Agriculture (field, orchard, greenhouse production, seed and nursery production, agricultural research); Health (larvidicing for dengue vector control; microbial disinfectants); Construction (termiticide and carpenter ant control) etc.)
* **Covered value chains**:[list]
* **Covered geographies**: [describe]

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### Threshold Decision/Action Taken

A **Negative Determination** is issued for assistance with procurement and/or use of pesticides within the above-enumerated scope, subject to the **CONDITION** of **full compliance with the Safer Use Action Plan** (**SUAP**) that comprises **Section 6** of this document.

**Note: SUAP conditions are adjusted slightly from PERSUAP to PERSUAP, but in general incorporate all the following elements**

**.**

**In summary, the SUAP requires that Implementing Partners (IPs)**

**1. Restrict the procurement, use, and support of pesticides in the covered activities to ONLY those pesticides containing the active ingredients (AIs) listed in Table FS-1 below OR identified by the U.S. Environmental Protection Agency (US EPA) as exempt from regulation** under the U.S. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).\*

Procurement, use of, or support for these pesticides is limited to the value chains, uses, geographies, and actions covered by this PERSUAP and must comply with (1) AI-specific restrictions and conditions in facesheet Table FS-1; and (2) all other requirements of the SUAP.

For pesticide products containing more than one AI, all AIs must be approved, and specific uses and conditions for all AIs apply. Ultimately, the product label and the product safety data sheet (SDS), formely known as a Material Safety Data Sheet (MSDS) are the appropriate sources of hazard communication, accounting for all aspects of product formulation, concentration, and potential synergy between AIs.

\* These particularly low-risk AIs (primarily essential oils and other plant extracts) are listed at: <http://www.epa.gov/sites/production/files/2015-12/documents/minrisk-active-ingredients-tolerances-2015-12-15.pdf>

A list of pesticides’ inert ingredients that are exempt from FIFRA is available at: <http://www.epa.gov/sites/production/files/2015-01/documents/section25b_inerts.pdf>

**2. Do NOT support pesticides containing “inert ingredients” banned by USEPA.** The list of inert ingredients is available at <https://www.epa.gov/newsreleases/epa-prohibits-72-inert-ingredients-use-pesticides> and provided in Annex E. This requirement applies even if the AI is “approved” per Table FS-1 (Table 2 in the SUAP).

**3. Do NOT support pesticide products with high acute toxicity except when use is conducted by professional applicators, trained and certified appropriately.**

“High acute toxicity” applies to any product labeled as World Health Organization (WHO) Class 1A and 1B or USEPA Acute Toxicity Category I or equivalent (e.g., those labeled with skull and crossbones, the word DANGER and/or POISON, or equivalent indications).

“Professional applicators” are defined as those holding a host country professional pesticide applicator certification, when such a certification program may exist, an appropriate U.S. or EU certification, or as approved by the USAID Mission Environmental Officer (MEO).

**4. Assure that phosphine fumigation, if supported, is conducted in conformity with USAID’s Programmatic Environmental Assessment (PEA) for Phosphine Fumigation of Stored Agricultural Commodities** (i.e., “Fumigation PEA”) [**http://www.usaidgems.org/fumigationpea.htm**](http://www.usaidgems.org/fumigationpea.htm)

**5. Ensure that commercial pesticide products procured, used, or recommended for use are properly labeled** in a national language and include required essential information. Training in reading and understanding labels is a mandatory requirement for safer pesticide use.

**6. Implement pesticide support for field agriculture in conformity with a set of locally adapted, crop- and pest-specific integrated pest management (IPM) plans, and observe enumerated use restrictions.** In Annex A, the PERSUAP provides a draft IPM plan containing some key information for IPs. IPs must utilize preventive IPM tools and tactics. Based on tools and tactics outlined in Annex A IPs must develop more extensive and detailed IPM plans that address major pests in their respective value chains and preventive non-chemical IPM tools and tactics recommended before resorting to PERSUAP-approved pesticides. Pesticides for plant protection must be part of an IPM scheme governed by crop- and pest-specific IPM-based plans and should be used only as the last resort after all preventive tools have been exhausted.

**7. Train appropriate IP staff and beneficiaries in safer pesticide use and pesticide first aid.** IPs must provide training in pesticide safer use and compliance with this PERSUAP to their staff and beneficiaries, including those using, selling, financing, providing extension services, or demonstrating pesticides with USAID funding. This training must include all topics listed in Annex C.1.

**8. Ensure use per label, including the correct use of appropriate personal protective equipment (PPE)** for all pesticide use under their direct control. Otherwise, IPs must ensure access to, proper use of, maintenance of appropriate PPE, and use per label, to the greatest degree feasible.

**9. Require safer handling of pesticides and use and maintenance of appropriate PPE.** To the greatest degree practicable, IPs must require safer pesticide purchase, transportation, handling, storage, and disposal practices, and use and maintenance of appropriate PPE.

**10. Systematically document and monitor all activity associated with any procurement of pesticides, including monitoring for pest resistance.**

**11. Certify that any proposed procurement of pesticides is compliant with this PERSUAP and provide other specified information for review and clearance by the Agreement Officer Representative or Contracting Officer Representative (AOR/COR) and MEO/DMEO as requested.**

**12. Complete and use the mandatory “SUAP Tracker.”** IPs must implement SUAP conditions and monitor and report such implementation using a tracking tool provided in Section 6.5 Any activity subject to this PERSUAP must submit a completed SUAP Tracker to their AOR/COR and MEO/DMEO at least 30 days before the implementation of the activity and must then update it annually. The tracker is a mandatory tool for assigning responsibilities and timelines for implementation of PERSUAP requirements, and for tracking compliance.

*Note: With respect to pesticides, the SUAP Tracker satisfies the requirement for an Environmental Mitigation and Monitoring Plan (EMMP). Activity EMMPs should simply incorporate the SUAP Tracker by reference.*

**13. Pass down all requirements to subcontractors and grantees.** Prime contractors must incorporate pesticide compliance requirements, as presented above, into each grant or subcontract that will involve assistance for pesticide procurement or use. Grants and subcontracts must also require reporting on compliance with these requirements.

**The SUAP requires that USAID/XXXX**

1. Announce the approved PERSUAP to all relevant offices/teams.
2. Note pesticide registration status changes in XXX annually and in the U.S. and amend this PPERSUAP as necessary after 2 or 3 years.
3. Ensure that all relevant Mission staff receive an internal short-format (~1–2 hour) training on the requirements established by this PERSUAP.
4. A/CORs and MEO/DMEO review and approve IP pesticide procurement requests per Annex F Form 2 [if these procurement forms are used]
5. Put in place effective internal procedures to review SUAP Trackers submitted by IPs. The Tracker template is provided in Section 6.5
6. AORs/CORs assure that the IP conditions summarized above are funded, implemented, and monitored (per ADS 204.2 and 204.3.4.).
7. Ensure that contract and award language for each relevant activity requires compliance with the IP conditions summarized above (per ADS 204.3.4). Note: USAID requirements may be expanded/changed based on the level of control the Mission would like to exercise.

| **Table FS-1. Active Ingredients APPROVED by this PERSUAP** | | | |
| --- | --- | --- | --- |
| ***AI*** | ***AUTHORIZED Uses*** | ***AI-Specific CONDITIONS/advisory/restrictions*** | ***Status vs previous PERSUAP*** |
| ***NOTE: THE FOLLOWING RESTRICTIONS APPLY TO ALL AIs***  ***1. High acute toxicity products are not approved for use by smallholder farmers – see condition IP 3 for definition***  ***2. Restricted use pesticides (RUP) products are not approved for use.***  ***3. Pesticides containing inert ingredients banned by US EPA are not approved for use.*** | | | |
| 2,4-D acids, salts, amines (2,4-dichlorophenoxy acetic acid; 2,4-Dimethyl amine; 2,4- dimethylamine salt) | Agriculture: Herbicide, plant growth regulator  Control of broadleaf weeds | Combinations with Picloram are RUP and may not be used.  Products corrosive to eyes and carrying label **Danger** and skull and crossbones on pictogram may not be used by smallholders | Include this column if applicable. Note if newly approved or if new or different restrictions since predecessor PERSUAP. |

### Clearance and Review Information

AIs approved by this PERSUAP are registered by USEPA for unrestricted, same and similar uses, and, are available in U.S.-registered pesticide products and are registered in XXX. They are chosen conservatively with respect to their environmental and human health risk profiles, with risk-reducing conditions specified as appropriate.

**Regulatory status and toxicology profiles.** The USEPA and WHO status of all approved pesticides as well as human health and ecological toxicological summaries are provided in **Annex B**.

**Those AIs considered but rejected by this PERSUAP** are listed in Annex D. Reasons for each rejection are also listed. These AIs are in some cases registered by USEPA, but were rejected for a variety of reasons such as prevalence of these AIs in products designated by USEPA as RUPs due to high human or ecological toxicity. Also rejected are AIs banned by international agreements but believed to be available locally via illicit imports.

Information regarding AIs evaluated in development of this PERSUAP but specifically rejected is provided to document the analyses undertaken and to support consideration of future requests for amendment of this PERSUAP.

Regardless, only AIs specifically approved by this PERSUAP can be supported in the USAID/Pakistan activities that are the subject of this PERSUAP.

### APPROVAL OF ENVIRONMENTAL ACTIONS

**Year Mission/Op Unit Program Pesticide Evaluation Report and Safer Use Action Plan (PPERSUAP)**

|  |  |  |
| --- | --- | --- |
| **Approval:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ XXXX, Mission Director USAID/YYY | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| Clearance: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ XXXX, USAID/XXXX Mission Environmental Officer | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| Clearance: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ XXXX, Regional Environmental Advisor | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| Clearance: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insert Office Heads, A/CORs as per mission clearance protocol | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| Clearance: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [insert Office Heads, A/CORs as per mission clearance protocol | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| Clearance: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [insert Office Heads, A/CORs as per mission clearance protocol | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| **Concurrence:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ XXXX, YYY Bureau Environmental Officer | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |
| **Concurrence:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ use this line is another BEO must also sign/ insert name, bureau | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date |

**DISTRIBUTION:** mission inserts

Acronyms

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# I. Introduction

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E. Any acute and long-term toxicological issues with the proposed use, and measures available to minimize such hazards

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Purpose as per facesheet:

1.2 USAID’s Pesticide Procedures.

Briefly describes USAID pesticide procedures.Reference 12 analysis factors (box at right)

## 1. 3 Definition of Pesticides

Provides a brief defenition of what is a pesticide and difference between AI and product

## 1.4 Integrated Pest Management

Provides brief introduction to the concept of IPM

## 1.5 Methodology of persuap development

Briefly describes how the PERSUAP was developed including field work description.

## 1.6 Structure of this persuap

Briefly describes contents of each section of the PERSUAP and the Annexes.

# Scope of the PERSUAP

Expanded version of scope information in facesheet including:

1. Programmatic scope.
2. within this programmatic scope, covered actions/use types, value chains, and geographies

**Note: Grants and loans:** USAID regulations apply to all recipients, direct and indirect, of USAID funding. All IPs that provide grants and loans for agricultural activities are responsible for ensuring enforcement of the requirements established by this PPERSUAP.

**Note: Pesticide Support outside the scope of this PPERSUAP will require amendment:** If current or future USAID/Pakistan programming requires support to the procurement or use of pesticides containing AIs not authorized by this PPERSUAP, or for same and similar uses not authorized by this PPERSUAP, an amendment to this PPERSUAP shall be prepared.

# Environmental Context

Provide some c about the country where pesticides will be used, including:

* Geography,
* Biodiversity.
* Economy.
* Agriculture sector.
* Agricultural sector governance.
* Environmental regulations.
* Climate change impacts on agriculture, or other relevant sectors.

Where information is available about specific loctions where pesticides will be used, provide this information.

This section provides background information for responding to factors G and H.

# PEST MANAGEMENT NEEDS AND MANAGEMENT CAPACITY

This section provides baseline information for addressing evaluation factor J and information about host country pesticide related topics such as: Agricultural Education, Research, Services and Extension, Input supply chain. Government oversight, Pesticide use, availability and quality, Pesticide use knowledge and training, Risk awareness and use of PPE, Storage, transportation and disposal.

# 5. Pesticide evaluation report (PER)—Candidate Pesticides and the 12-Factor Analysis

This section analyzes the 12 factors required by 22 CFR 216.3(b) for each candidate pesticide to assess the appropriateness of use or support with USAID funds, and to determine the specific conditions attendant to their use.

## 5.1 Pesticides (Active Ingredients) Evaluated

Explain the candidate list of pesticides evaluated and how this was assembled. For many mission-level PERSUAPs, this is the entire approved AI list for the country.

## 5.2 The 12-Factor Analysis

The PERSUAP development process applied the 12-factor analysis documented in this section to the candidate list of AIs. The result is the set of AIs recommended for approval for enumerated uses and subject to AI-specific conditions and restrictions.

This recommended list is set out in Table 1 of the SUAP and copied in Facesheet Table FS-1. Those rejected are found in Annex F of the SUAP.

### Factor A: US USEPA Registration Status of the Proposed Pesticides

All AIs recommended for approval by this PERSUAP are registered by US EPA, and are available in US products registered by US EPA for uses that are the same as or similar to the authorized uses set out in Table 1.

Some of the AIs recommended for approval by this PERSUAP are contained in products designated as RUP by US EPA (see Annex B). AIs for which a significant percentage of U.S. products are RUP have generally been rejected by this PERSUAP; see Annex D. Beyond this, specific restrictions (most often product concentration limitations) are attached to AIs where relevant to best assure that IPs will not request purchase of products that, were they available and registered in the US, would likely be classified as RUP by USEPA. Finally, the PERSUAP imposes the responsibility on the MEO, via mandatory label review, to ascertain that individual products requested by IPs for purchase, are not analogous to US RUP products. Thus, with one exception, no RUPs are recommended for approval by this PERSUAP.

This one exception is Aluminum Phosphide. This AI, which is RUP in all formulations, is recommended for approval is because it meets an important pest management need (fumigation) for which there is no reasonable alternative and 22 CFR 216.3(b) requirements are met by the Agency’s Programmatic Environmental Assessement (PEA) for Phosphine Fumigation of Food Commodities.

### Factor B: Basis for selection of pesticides

AIs recommended for approval in this PERSUAP are recommended on the following basis:

1. AIs are currently registered in both the US and in [host country].
2. In the US, products containing the subject AI are NOT largely RUP. (No RUP Products are authorized by this PERSUAP except aluminum phosphide; see above.)
3. AIs are chosen conservatively with respect to risk profile; AIs with notably high human or eco-toxicity are excluded, particularly when alternatives are available.
4. The AI addresses an identified pest management need that corresponds to same or similar use of USEPA-registered products containing this AI.
5. Sufficient diversity of AIs be approved to provide reasonable scope for managing resistance, procuring within current market availability, and allowing appropriate choice in light of cost and a wide variety of site-specific conditions.

Each point is described in more detail under other “Factor Analyses” A, E, F, G, H and J, and immediately below. Note that the combination of US and [host country] registration serves as a proxy for efficacy for the authorized uses enumerated in Table 1; See Factor F.

**Range of pest management needs.** Annex A provides known pests of the major crops/value chains covered by this PERSUAP. Taken together and in summary, there is a potential need for the following classes of pesticides to be supported on USAID/XXX activities covered :

* Summaruze types/use needs based on Annex A

### Factor C: Extent to Which the Proposed Pesticide Use is Part of an IPM Program

All activities involved directly in crop production will develop pest management plans based on IPM principles (IPM plans). The crop-by-crop pest and control measures tables in Annex A are intended to serve as a starting point for these plans, which will be refined by the agriculture sector IPs.

Direct pesticide use and direct extension actions by activities covered by this PERSUAP will be governed by these crop-specific IPM plans.Where an IP has little control over the actions of beneficiaries in the field, it will promote and support the use of these IPM plans to the greatest extent practicable. IPM will be an integral element of mandatory training; see Factor K and Annex C.

IPM practice exists on a continuum, rather than a single standard. The IPM plans will necessarily be at a level of technical complexity appropriate to the local context. At mimum, however, these IPM plans must stress pest recognition and minimum application based on monitoring, rather than applying pesticides for blanket protection from seeding to harvest. Significant weight must be given to agronomic improvements such as improved crop varieties, agronomic practices, and use of indigenous pest control practices. For further detail please see Factor I and Annex A..

### Factor D: Proposed Method or Methods of Application, Including the Availability of Application and Safety Equipment

**Proposed methods of application** are per product label; application per label and SDS is required by this PERSUAP. As such, methods of application will depend on the pesticide product type and formulation. Because of the wide variety of AIs recommended for approval under this PERSUAP—and the larger number of potential products—it is not possible to enumerate application methods on an individual basis. Rather, the following summary is offered: [summarize most common likely formulation types and applic methods]

**PPE Availability & Quality**. Describe PPE availability & Quality.

**Decision-making response to PPE availability/quality constraints.** Usually, PPE availability/quality poses concerns. Typical text is thus as follows: Thus, in this PERSUAP, preference is given to lower-toxicity AIs that require less extensive and expensive PPE and whose procedures are appropriate to the conditions under which pesticides are to be handled and used. AI-specific restrictions are further used to limit the toxicity of potential pesticide products procured by IPs. IPs will be required to provide and maintain appropriate PPE for pesticide use under their direct control. For use supported but not under their direct control, IPs must ensure access to, proper use of, maintenance of appropriate PPE, and use per label, to the greatest degree feasible.

Basic information on PPE requirements is provided in Annex C.4. For detailed PPE requirements for a given pesticide product, the product label and safety data sheet (SDS).

### Factor E: Any Acute and Long-Term Toxicological Hazards, either Human or Environmental, Associated with the Proposed Use, and Measures Available to Minimize Such Hazards

Toxicological profiles of AIs recommended for approval are provided in Annex B. These profiles indicate the hazards associated with use of these pesticides and provide background information on chronic and acute toxicology, and on the EPA and WHO rating systems for acute toxicology.

This PERSUAP rejects a number of AIs for reasons of high human or eco-toxicity, particularly when alternative AIs with more favorable toxicological profiles are available; see Annex D. In addition, it imposes concentration and other restrictions on an AI-specific basis to reduce the human or eco-toxicity of pesticide products; see Table 1. These restrictions are likewise based on the toxicity profiles. And, as documented below, this PERSUAP does not approve any high-toxicity products (as described below) for smallholder use.

Note however that toxicity risks of pesticide products with the same AI vary significantly. Product-specific information is necessarily provided by Product labels/SDSs, which cannot be provided by this AI-level PERSUAP.

[additional explanation provided here as to how, taken together, the set of safer use measures required by the PERSUAP act to minimize toxicological hazards]

### Factor F: Effectiveness of the Requested Pesticides for the Proposed Use

All AIs recommended for approval have been determined by US EPA to be effective for same or similar use, and efficacy is similarly a key basis for [host country] registration. The combination US EPA and [host country] registration (see Factor A and B) is used as a proxy for efficacy in general.

However, theoretical efficacy is very different that the actual efficacy of a specific product used in a specific location. Factors that influence efficacy in the field context include, inter alia: product formulation, quality, shelf-life and storage conditions, pH of water used, temperature and humidity during application, effect on natural enemies, poor foliage penetration, improper targeting, spraying technique, and level of resistance.

This PERSUAP requires use per label and SDS, appropriate storage technique, and training of applicators all of which are critical to choosing the right product for local circumstances and otherwise achieving efficacy in practice.

The PERSUAP’s requirement that pesticide use for crop protection be governed by IPM plans (Factor C) and the PERSUAP’s approval of a number of alternative AI (Table 1) are jointly critical to sustaining pesticide efficacy: Farmers often overapply, underapply or use repeatedly the same non-selective pesticides. Such practice increases the chance of resistance development and further reduces pesticide effectiveness. The primary tool in the battle against resistance is rotation by class or type among available chemicals, combined with the use of preventive IPM tools and tactics.

It must be noted, however, that there is more often than not a tradeoff between effectiveness of a pesticide and its level of toxicity. Compliance with USAID registration status and need for non RUP and lower toxicity mean that in a number of cases more effective (and more toxic) pesticides are available than those put forward for approval under this PERSUAP.

### Factor G. Compatibility of the proposed pesticides with target and non-target ecosystems

Some AIs evaluated were rejected for reasons of eco-toxicity, particularly when less toxic alternaive chemicals were available; see reasons for rejection documented in Annex D. For AIs recommended for approval, the Eco-toxicity profiles presented in Annex B provide an important indication of potential impacts of each AI on non-target organisms. Based on these profiles, the PERSUAP places restrictions as indicated on AIs to prevent impacts on non-target organisms and ecosystems (see “restrictions” column in Table 1).

However, product labels and the SDS armust be the primary sources of information for ensuring use compatible with target ecosystems. Therefore, the PERSUAP requires use per label and SDS, placing responsibility on IPs to choose and use pesticides in such a way as to minimize impacts on non-target organisms and ecosystems.

### Factor H: The Conditions under which the Pesticide is to be Used, Including Climate, Flora, Fauna, Geography, Hydrology, and Soils

For PERSUAPs conducted at the national level, text like this is common: Support to pesticide procurement or use coverd by this PERSUAP may foreseeably occur anywhere in XXX. See section 3 for national evironmnetal context.

Pesticide efficacy, potential impacts on non-target organisms, and potential for soil and water contamination are all determined by a complex set of interactions between the biophysical environment, chemical and physical characteristics of the AI and other ingredients of the pesticide product, as formulated, and application timing, amount, and technique.

Thus, when an individual pest management need is considered in a single location, climate, flora, fauna, geography, hydrology and soils are all highly relevant to choice of the appropriate pesticide and its safer use. The SUAP requires use per label and SDS to best assure that product choice and use appropriate to the biophysical environment.

However, this PERSUAP is conducted at the national level—and at the AI, not the product level. The diversity of national biophysical conditions documented in this section mean that environmental factors cannot be used as a criterion to accept or reject AIs. This diversity of conditions does mean that pest management needs are best met by a diversity of approved AIs, to allow best matching of products to local conditions. Providing such diversity, subject to toxicity considerations, was a factor in recommending AIs for approval under this PERSUAP.

**However, where intervention geography is specific, specific information should be provided in this section on** topography, climate, soils, hydrology, proximity to surface water, proximity to human habitat and proximity to sensitive habitat.

### Factor I: The Availability and Effectiveness of other Pesticides or Non-Chemical Control Methods

**Text like the following is common:** Annex A provides recommended chemical- and non-chemical control measures for common pests of the crops covered by this PERSUAP. These controls measures are not exhaustive, but are intended to inform the IPM plans that IPs must develop and use as the basis of crop protection efforts. The requirement to develop such plans and use them as the basis for crop protection efforts is intended to best assure that pesticides are used when necessary as a complement to, and not in lieu of, non-chemical controls.

### Factor J: The Requesting Country’s Ability to Regulate or Control the Distribution, Storage, Use and Disposal of the Requested Pesticide

Baseline information for this addressing this factor was provide in Section 4. Typically, countries in Africa have low capacity. In consequence, the PERSUAP limits approvals of more toxic pesticides. The section describes issues such as

* Regional regulatory authority if any (such as CILLS in WA)
* Pesticide regulatory mechanism/registration process.
* Relevant institutions and regulatory enforcement.

#### International conventions and treaties.

#### 

#### that were not addressed in Section 4.

### Factor K: The Provisions Made for Training of Users and Applicators

Training is the chief mechanism for ensuring safer and effective pesticide use by USAID activities and training of all relevant USAID and IP staff will be required. Relevant IP staff are defined as follows:

* IP staff who will apply or handle pesticides, or serve as extension agents;
* Beneficiary farmers who will use or apply pesticides;
* Those being trained as extension agents under the activities;
* Enterprises or cooperatives receiving USAID-funded loans or other credit support that deal in or use pesticides; and
* Beneficiary agro-input dealers.

Required training topics detailed in Section C. [provide summary of training topics here]:

[describe training evaluations, frequency of training, advanced training for higher-use products. Reflect in IP conditions section.]

### Factor L: The Provisions Made for Monitoring the Use and Effectiveness of the Pesticides

The use of pesticides will be monitored as part of the activities’ crop management extension program. Any incidents reported by IP staff or farmers will be followed up on by monitoring and evaluation staff.

The activity must maintain records of all pesticide use, monitor pesticide effectiveness, and scout for resistance. Training in monitoring and reporting must be provided to farmers. Where literacy or language is a limiting factor, training should be developed to address this concern. Some products are considered low risk for resistance development, while others allow a limited number of applications per season because of the high risk of resistance development, and must be alternated with pesticides from different chemical groups.

IPs will be required to report as stipulated in Section 6. As part of this reporting, IPs directly supporting farm-level pesticide use or extension will be required to report on observed instances of pesticide resistance. USAID monitoring and evaluation field visits will examine pesticide compliance.

# 6. Safe Use Action Plan (SUAP)

## 6.1 Introduction

This **Safer Use Action Plan (SUAP)** is the definitive statement of implementing partners’ pesticide compliance requirements and is synthesized from the Pesticide Evaluation Report (PER) analysis in Section 5:

* Section 6.2, immediately below, enumerates allowed AIs, their authorized uses, and AI-specific advisories and restrictions for their use.
* Section 6.3 provides an Annex reference for pesticides rejected by this PERSUAP and those banned in Pakistan and by the Stockholm and Rotterdam conventions.
* Section 6.4 summarizes the mandatory safer use conditions attendant to use/support of approvied AIs for IPs. It also specifies conditions for USAID/XXXX.
* For IPs, Section 6.5 specifies IP conditions in detail in the form of a **mandatory** “Pesticide Safer Use Action Plan and Compliance Tracker.” (“SUAP Tracker,” see box.) The tracker helps IPs assign responsibilities and timelines for implementation of these requirements and track compliance, and for USAID to oversee this compliance as a mandatory element of activity implementation.

**MANDATORY “SUAP TRACKER”**

For every activity subject to this PERSUAP, the IP must **submit a completed SUAP Tracker (section 6.5.) to the activity AOR/COR by the date specified and must provide an annual update.** The tracker satisfies the requirement for an Environmental Mitigation and Monitoring Plan (EMMP) for pesticide support action. The activity EMMP should simply incorporate the SUAP by reference.

**MANDATORY TEMPLATE**

Every Project Subject to this PERSUAP must **submit a completed SUAP template to its AOR/COR by the date specified on the attached tracker template and must provide an annual update.**

## 6.2 Allowed Pesticides

Upon approval of this PERSUAP, pesticides containing the AIs listed in Table 1 of the SUAP below (this table is the same as Table FS-1 in the Facesheet) are permitted for procurement/use/support by USAID/XXX activities covered by this PERSUAP subject to compliance with (1) the authorized uses and any restrictions/conditions enumerated in the table and (2) the general safer use requirements enumerated in the “Safer Use Action Plan and Compliance Tracker” that comprises Section 6.5 (A summary of these conditions is provided in Section 6.4.).

Some of these pesticides in Table 1 have an identified use within the Integrated Pest Management (IPM) scheme presented in Annex A. All pesticides in Table 1 are registered by the USEPA and in XXX and are chosen conservatively with respect to their environmental and human health risk profiles[[1]](#footnote-1).

For a number of AIs, Table 1 specifies AI- and product-specific risk-reducing conditions. In addition, the table includes the following conditions applicable to all AIs:

* **High acute toxicity products are NOT approved for use by smallholder farmers.**
* **Restricted Use Pesticides (RUP)** **products are not approved for use**
* **Pesticides containing inert ingredients banned by US EPA are NOT approved for use.**

[text explaining these restrictions goes here]

**NOTE: Low-risk AIs do not require approval under this PERSUAP.** Note that some particularly low-risk AIs are exempt from regulation under the Federal Fungicide, Insecticide, and Rodenticide Act (FIFRA) and therefore can be used by implementing partners without approval via this PERSUAP. These are listed at <http://www.epa.gov/sites/production/files/2015-12/documents/minrisk-active-ingredients-tolerances-2015-12-15.pdf>.

**INSERT HERE TABLE OF APPROVED AIs—Duplicates Table FS-1 from facesheet.**

## 6.3 Pesticides Evaluated but Rejected; BANNED PESTICIDES

Only pesticides specifically approved (i.e., appearing in the “lists of approved pesticides” above in Table 1) under this PERSUAP are authorized for procurement/use/support under the USAID/XXX activities covered by this PERSUAP.

For the purpose of supporting consideration of any future amendments of this PERSUAP, Annex D documents pesticides (as AIs) that (1) were specifically considered and rejected for use by the analysis undertaken in this PERSUAP; or (2) are specifically banned in XXX in consequence of XXX’s ratifications of the Rotterdam and Stockholm Conventions.

## 6.4 Compliance Requirements

Upon approval of this PERSUAP, a **Negative Determination with Conditions** shall be issued for assistance to the procurement and/or use of pesticides within the scope enumerated in section 2, subject to the **CONDITION** of **full compliance with (1) the IP conditions summarized immediately below and detailed in the “SUAP Tracker” that constitutes section 6.5**; and (2) **the conditions for USAID/XXX enumerated in this section**.

### Compliance Requirements for Implementing Partners

[duplicates IP conditions text from facesheet]

### Compliance Requirements for USaid/XXX

[duplicates USAID/XXX conditions text from facesheet]

## 6.5 Pesticide Safe Use Action Plan & Compliance Tracker

|  |  |  |  |
| --- | --- | --- | --- |
| **BASIC INFORMATION** | | **SUBMISSION DATES:** | |
| **Prime Contractor** |  | **Initial submission:** |  |
| **Activity** |  | **Annual Update #1** |  |
| **Pesticide Compliance Lead & Contact Information** |  | **Annual Update #2** |  |
| **Summary of Pest Management Needs on Activity** |  | **Annual Update #3** |  |

**Note: pesticide “support” = use of usaid funds to: purchase pesticides; directly fund the application of pesticides; recommend pesticides for use; enable the application or purchase of pesticides via provision of application equipment, credit support, etc**

| **Pesticide Compliance Tracker:** INSERT NAME OF ACTIVITY | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Required Compliance (Mitigation) Measure | Timeline | Initial Compliance Status (if not known, so indicate) | | Actions planned to achieve & maintain compliance  (w/ deadlines)  insert extra rows if needed | | responsible party  insert extra rows if needed | | Status of compliance actions  insert extra rows if needed |
| **Support only the pesticides authorized in Section 3, complying with AI-specific uses and restrictions in Section 3.** | | | | | | | | |
| Ensure NO SUPPORT for High-toxicity chemicals (US EPA Category I, WHO IA or IB, or equivalent) for smallholder farmers. | Immediately |  | |  | |  | |  |
| Ensure that Restricted Use Pesticides (RUPs), as classified by US EPA are not used. | Immediately |  | |  | |  | |  |
| Distribute copies of the list of allowed AIs with matching commercial product names and list of cancelled products to all activity field extension staff & advise them regarding the deadline for compliance. | To be implemented as soon as possible but not later than Date: |  | |  | |  | |  |
| Assure that USAID-funded Pesticide support is limited to ONLY AIs APPROVED BY PERSUAP in conformity with AI-specific restrictions specified in Section 3. | To be implemented as soon as possible but not later than Date:  Continue Verification over Life of Program (LOP) |  | |  | |  | |  |
| **Ensure that commercial pesticide products procured, used, or recommended for use are properly labelled** | | | | | | | | |
| Ensure availability of product label AND SDS. | Immediately and over LOP |  | |  | |  | |  |
| **Implement pesticide support for field agriculture in conformity with a set of locally adapted, crop- and pest-specific Integrated Pest Management (IPM) plans and observe enumerated use restrictions.** | | | | | | | | |
| Starting from the information in Section 4, adopt/develop crop- and pest-specific IPM-based pest management plans (IPM plans).  For chemical controls, IPM Plans must include the use restrictions specified in Section 3. (E.g., no use near surface waters.) | To be implemented by Date: |  | |  | |  | |  |
| Translate IPM plans into crop-specific field reference guides or posters for farmers to anticipate and manage pests. | To be implemented by this Date: |  | |  | |  | |  |
| Provide first-time training to appropriate IP staff, partners and beneficiaries in the IPM plans | To be implemented by this Date: |  | |  | |  | |  |
|  | |  |
| Provide refresher training in the IPM plans annually. | From Date:  Over LOP |  | |  | |  | |  |
| Require and enforce IPM plan implementation in situations where the activity has direct control over pesticide use | Over LOP |  | |  | |  | |  |
| Require and enforce that field extension under direct activity control be IPM-based. | Over LOP |  | |  | |  | |  |
| Where activity control over extension or agricultural practice on the ground is less than complete, promote and support pesticide use in conformity with IPM plans to the greatest practicable extent. | Over LOP |  | |  | |  | |  |
|  | |  | |  |
| Modify IPM plans over LOP, based on ground-truthing/field experience. | Over LOP |  | |  | |  | |  |
| **Train appropriate IP staff and beneficiaries in safer pesticide use and pesticide first aid in conformity with Section 5.** | | | | | | | | |
| Ensure that for all beneficiaries that receive support for procurement and use of seed treated with pesticides, training in handling dressed seed is provided. | Immediately and over LOP |  | |  | |  | |  |
| Ensure that for all beneficiaries that receive support for post-harvest storage of grains involving pesticides are trained in handling, disposal, and waiting periods before the treated commodities can be consumed. | Immediately and over LOP |  | |  | |  | |  |
| Develop a Training Plan for Pesticide Safe Practices and IPM for activity staff | Before training |  | |  | |  | |  |
| Develop or source curricula and training materials conforming to required training elements specified in Section 5. | Before training |  | |  | |  | |  |
| Implement training plan, providing first-time training to all relevant staff and beneficiaries | To be implemented Date:  Than periodically as needed |  | |  | |  | |  |
| **Ensure the correct and safe use of pesticides and PPE per label for all pesticide use under direct control, otherwise ensure per label use to the greatest degree practicable** | | | | | | | | |
| For pesticide use under direct IP control, implement core risk mitigation measures (PPE and other precautions) per label and as specified in Table 3.  Where control is less complete, take all practicable measures to support and promote implementation of these measures. | Over LOP |  | |  | |  | |  |
| Whenever providing, supporting, or recommending pesticides for use, assure that appropriate PPE is available and, to the degree possible, require its use. | Over LOP |  | |  | |  | |  |
| Whenever directly using, procuring, or supplying pesticides, assure that quality application equipment is available and local capacity for application is available and maintained. | Over LOP |  | |  | |  | |  |
| People who are not wearing PPE should not enter pesticide treated areas during Restricted Entry Intervals (REI) to perform tasks that involve contact with pesticide treated surfaces. Each pesticide label specifies a REI usually ranging from 12 to 72 hours. | Over LOP |  | |  | |  | |  |
| Warning signs should be posted to warn people in advance about pesticide application and REI. | Over LOP |  | |  | |  | |  |
| Products that are suspected to have potential to cause harm to unborn child will not be handled and applied by pregnant women. Pregnant women should not enter treated areas during application and REI. | Over LOP |  | |  | |  | |  |
| Pre-harvest interval (PHI) is the time required between the last application of pesticides and the safe harvesting of edible crops for immediate consumption. Farmers will be trained about the importance of adhering to the PHI stated on the label to ensure no chemical residues are found on harvested crops. | Over LOP |  | |  | |  | |  |
| **To the greatest degree practicable, require safe pesticide purchase, transportation, handling, storage, and disposal practices, and use and maintenance of the appropriate PPE.** | | | | | | | | |
| Ensure that all pesticides handling follows procedures addressed by Annex C in sections C.4-C.8 | Over LOP |  | |  | |  | |  |
| **Systematically document and monitor all activity associated with any support to pesticides, including monitoring for pesticide resistance.** | | | | | | | | |
| Pesticide efficacy in demonstration must be evaluated | Over LOP |  | |  | |  | |  |
| Any evidence of pesticide resistance development must be tracked and reported as detailed in Section 3.I | Over LOP |  | |  | |  | |  |
| **Pass-down all requirements to subcontractors and grantees** | | | | | | | |  |
| Prime contractors/grantees must write pesticide compliance requirements as set out above into each grant or sub-contract that will involve support for pesticide use. | As appropriate and over LOP |  | |  | |  | |  |
| **Ensure that Phosphine fumigation, if supported, is conducted in conformity with USAID’s Programmatic Environmental Assessment (PEA) for Phosphine Fumigation of Stored Agricultural Commodities** | | | | | | | | |
| Ensure Fumigation PEA compliance | As appropriate and over LOP |  |  | |  | |  | |

# Annex A: Pests and Diseases of Target Crops and Available and Recommended Control Methods

This annex details the primary pests of all target crops on a crop-by-crop basis, available non-chemical control methods, and recommended chemical controls, where these are necessary. As such, this annex contains both information compiled as INPUT to the PER analysis (pests of target crops), and OUTPUTS of that analysis (available non-chemical controls, recommended chemical controls).

This information is intended to serve as the basis for the crop and pest-specific IPM Management Plans required by the SUAP.

This annex is intended to describe the IPM context in which the selected pesticides will be used. It does not purport to be a complete handbook of IPM technique.

Crops and livestock addressed are:

[insert list].

| **Table A-1.** cROP: | | | |
| --- | --- | --- | --- |
| TYPE OF PESTS | DAMAGE DONE | AVAILABLE IPM CONTROL MEASURES | RECOMMENDED PESTICIDES, WHEN NEEDED |
|  |  |  |  |

# Annex B. Pesticide toxicity

This annex provides both human and ecotoxicology for the pesticides evaluated in this PERSUAP.

## Toxicity to humans

Table B-3 summarizes the human toxicity profiles of all AIs approved by this PERSUAP, as well as their USEPA registration status. The following sections and tables B-1 and B-2 explain the toxicology terminology and classifications used.

### Acute Toxicity

Acute toxicity refers to the immediate effects (0-7 days) of exposure to a pesticide. Highly acutely toxic pesticides can be lethal at very low doses. Acute toxicity is estimated from the LD50, the dose (in milligrams of substance per kilogram of body weight) that kills 50% of the test animals in a standard assay. The toxicity of a substance may also depend on the route by which it enters the body: dermal (through the skin), inhalation (through the lungs) or oral (through the digestive tract). The LD50 may need to be determined experimentally for all these routes. For inhalation exposures, the LC50 is used--the concentration in air in mg per liter that kills 50 percent of the test animals.

Two systems are referred to in this document: the USEPA system and the WHO system. USEPA also requires that pesticides in categories I-III carry a signal word as in the table. The system used by USEPA is based on an evaluation of the formulated product (Table B-1). Therefore there may be more than one classification for an active ingredient depending on concentration and inert ingredients. Where the USEPA assessment of acute toxicity is given in the table as “no consensus”, there is too much variation between the registered products to give a single estimate. The system of WHO is based on the active ingredient alone (Table B-2).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table B-1.** USEPA SYSTEM OF CLASSIFICATION OF ACUTE TOXICITY | | | | |
| Toxicity Categories | Category I | Category II | Category III | Category IV |
| Acute Oral | Up to and including 50 mg/kg | > 50 thru 500 mg/kg | > 500 thru 5000 mg/kg | > 5000 mg/kg |
| Acute Dermal | Up to and including 200 mg/kg | > 200 thru 2000 mg/kg | > 2000 thru 5000 mg/kg | > 5000 mg/kg |
| Acute Inhalation1 | Up to and including 0.05 mg/liter | > 0.05 thru 0.5 mg/liter | > 0.5 thru 2 mg/liter | > 2 mg/liter |
| Primary  Eye Irritation | Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days | Corneal involvement or other eye irritation clearing in 8-21 days | Corneal involvement or other eye irritation clearing in 7 days or less | Minimal effects clearing in less than 24 hours |
| Primary  Skin Irritation | Corrosive (tissue destruction into the dermis and/or scarring) | Severe irritation at 72 hours (severe erythema or edema) | Moderate irritation at 72 hours (moderate erythema) | Mild or slight irritation at 72 hours (no irritation |
| Signal Word | DANGER | WARNING | CAUTION | None Required |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table B-2**. WHO SYSTEM OF CLASSIFICATION OF ACUTE TOXICITY | | | | | |
| WHO Toxicity Classification | | Rat LD50 (mg of chemical per kg of body weight) | | | |
| Class | Description | Solids (oral) | Liquids (oral) | Solids (dermal) | Liquids (dermal) |
| Ia | Extremely hazardous | ‹ 5 | ‹ 20 | ‹ 10 | ‹ 40 |
| Ib | Highly hazardous | 5-50 | 20-200 | 10-100 | 40-400 |
| II | Moderately hazardous | 50-500 | 200-2,000 | 100-1,000 | 400-4,000 |
| III | Slightly hazardous | › 500 | ›2,000 | ›1000 | › 4,000 |
| U | Unlikely to present acute hazard in normal use | › 2,000 | › 3,000 | --- | --- |
|  | Not classified: believed obsolete |  |  |  |  |
|  | Pesticides subject to the Rotterdam Convention |  |  |  |  |

Source: http://www.who.int/ipcs/publications/pesticides\_hazard\_2009.pdf

### Longer-Term Human Toxicity

Pesticides may also cause long term hazards to human health. Those that cause most concern are:

* Carcinogenicity. Exposure to some substances may cause the development of cancer.
* Cholinesterase Inhibition. Cholinesterase is an enzyme that breaks down the neuro-transmitter, acetyl-choline in the nervous system. This is a necessary process for controlling nerve transmission and some pesticides, especially, organophosphates, work by interfering with it.
* Reproductive or Developmental Toxicity. Some pesticides are known to cause birth defects or interfere with normal development.
* Endocrine Disruption. Many pesticides and industrial chemicals are capable of interfering with the proper functioning of oestrogen, androgen and thyroid hormones in humans and animals.

Assessment of the acute and long-term toxicity of the pesticides evaluated is summarised in Table B-2

## Ecotoxicology

With few exceptions, such as pheromones, pesticides are, by their very nature, toxic to some organisms. They may therefore harm organisms other than the pests at which they are directed. These may include directly beneficial organisms, such as honeybees and other pollinators, the natural enemies of pests, other useful organisms such as fish or rare and endangered organisms making an important contribution to biodiversity. This document provides information, when available on the toxicity of pesticides to important groups of organisms.

**Table B - 3. Approved Active Ingredients Human Toxicity and Ecotoxicology**

| Active Ingredient | Chemical class | Human Health Issues | | | | Ground- water contaminant | Ecotoxicology | | | | | | | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Acute Toxicity Class/Categ. | | | Chronic  Toxicity | Type of pesticide |
| RUP | WHO | EPA |  |  | Fish | Bees | Birds | Amphibians | Earth-worms (Annelida) | Mollusks | Crustaceans | Aquatic insects | Zooplankton |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

WHO Acute Toxicity:

Class O = Obsolete Pesticide; Class Ia = Extremely Hazardous, Class Ib = Highly Hazardous; Class II = Moderately Hazardous; Class III = Slightly Hazardous, Class U = Unlikely to Present Acute Hazard in Normal Use

EPA Acute Toxicity:

Category I = Extremely Toxic, II = Highly Toxic, III = Moderately Toxic, IV = Slightly Toxic

Chronic Toxicity:

KC = Known/Likely Carcinogen; PC = Possible Carcinogen; ED = Potential Endocrine Disruptor; RD = Potential Reproductive or Developmental Toxin; NT = [Cholinesterase](http://www.pesticideinfo.org/Docs/ref_toxicity6.html#CholinesteraseInhibitors) inhibitors that are Potential Parkinson’s Disease Risk Factor and other neurological toxins

Acute Ecotoxicity:

HT = Highly Toxic; MT = Moderately Toxic; ST = Slightly Toxic or LT – Low Toxicity; NT = Not Toxic

It is beneficial to list resources used for compilation of the toxicity Table so that others can duplicate the analysis

# Annex C. Mandatory Elements of Training and Pesticide Safer Use

## C.1 Training in Safer Use

Basic pesticide safer use training must address the following minimum elements.

* Definition of pesticides
* Pesticide risks, the understanding that pesticides are bio-poisons
* Risks associated with release of pesticides into the environment and avoiding harmful effects.
* Concepts of AIs vs. formulated products.
* Classes of pesticides and the concept of broad spectrum vs. narrow spectrum, target specific pesticides
* Concept of proper application rates and pesticide resistance and techniques for avoiding misapplication.
* Practice-focused training in the core elements of Safer Pesticide Use:
* IPM (see **C.2** below Training in IPM)
* Reading and interpreting pesticide labels and msds -- including understanding PPE requirements and other precautions, dosage rates, and to identify AIs and expiration dates. (see **C.3** below: Understanding Pesticide Labels and Material Safety Data Sheet)
* Use of proper PPE and its treatment and maintenance (see **C.4** below Protective Clothing and Equipment)
* Proper use and maintenance of equipment including calibration of sprayers. Safer mixing and application of pesticides including ensuring compliance with Reentry and Pre-harvest intervals specified by the lable/MSDS (see below **C.5** Proper Spray Technique: Protecting Against Pesticide Spray Drift)
* Safer Purchase, Transport, and Storage of pesticides (see below **C.6** Pesticide Transport and Storage)
* Pesticide first aid and spill response. (see below **C.7** First Aid for Pesticide Poisoning)
* Clean-up and Disposal (See **C.8** below Proper Pesticide Container Disposal)
* Record keeping and monitoring. (**see C.9** Monitoring and Data Record Keeping)

Describe evaluation requirements

* 1. C.2 Training in IPM

Provides basic elements of training in IPM

* 1. C.3 Understanding Pesticide Labels and Safety Data SheetS

Describes the requirements of pesticide labeling and safety data sheet

C.4 Protective Clothing and Equipment

Pesticide safety training must address the types of personal protective equipment (PPE), when they should be worn and why.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE C.4** HANDLER PPE FOR WORKER PROTECTION STANDARD PRODUCTS | | | | |
| ROUTE OF EXPOSURE | TOXICITY CLASSIFICATION BY ROUTE OF EXPOSURE OF END-USE PRODUCT | | | |
| I  DANGER | II  WARNING | III  CAUTION | IV  CAUTION |
| Dermal Toxicity or Skin Irritation Potential1/ | Coveralls worn over long-sleeved shirt and long pants | Coveralls worn over long-sleeved shirt and long pants | Long-sleeved shirt and long pants | Long-sleeved shirt and long pants |
| Socks | Socks | Socks | Socks |
| Chemical-resistant footwear | Chemical-resistant footwear | Rubber boots or shoes | Rubber boots or shoes |
| Chemical-resistant Gloves2 | Chemical-resistant gloves2 | Chemical-resistant Gloves2 | No minimum4 |
| Inhalation Toxicity | Respiratory protection device3 | Respiratory protection device3 | No minimum4 | No minimum4 |
| Eye Irritation Potential | Goggles5 | Goggles5 | No minimum4 | No minimum4 |

1 If dermal toxicity and skin irritation toxicity categories are different, PPE shall be determined by the more severe toxicity classification of the two. If dermal toxicity or skin irritation is category I or II, refer to the pesticide label/MSDS to determine if additional PPE is required.   
2 Refer to the pesticide label/MSDS to determine the specific type of chemical-resistant glove.  
3 Refer to the pesticide label/MSDS to determine the specific type of respiratory protection.  
4 Although no minimum PPE is required for these toxicity categories and routes of exposure, some specific products may require PPE. Read pesticide label/MSDS.  
5 “Protective eyewear” is used instead of “goggles” and/or “face shield” and/or “shielded safety glasses” and similar terms to describe eye protection. Eye glasses and sunglasses are not sufficient eye protection.

Note: Where necessary, farmers can make their own PPE. For example, a plastic or water repellent apron from the waist to ankle length, can be fashioned from a large piece of plastic purchased in the local market (important if walking through the spray path).

C.5 Proper Spray Technique: Protecting Against Pesticide Spray Drift

Briefly Describes proper spray technicque and dangers of drift and runoffs

C.6 Pesticide Transport and Storage

Provides basic guidelines for pesticide storage and transport.

C.7 First Aid for Pesticide Poisoning

Provides basic guidelines on first aid.

| **TABLE C. 7** PESTICIDE POISONING FIRST AID | |
| --- | --- |
| FIRST AID ISSUE | APPROPRIATE ACTION |
| General | Read the first aid instructions on the pesticide label, if possible, and follow them. Do not become exposed to poisoning yourself while you are trying to help. Take the pesticide container (or the label) to the physician. |
| Poison on skin | Act quickly.  Remove contaminated clothing and drench skin with water.  Cleanse skin and hair thoroughly with detergent and water.  Dry victim and wrap in blanket. |
| Chemical burn on skin | Wash with large quantities of running water.  Remove contaminated clothing.  Cover burned area immediately with loose, clean, soft cloth.  Do not apply ointments, greases, powders, or other drugs in first aid treatment of burns. |
| Poison in eye | Wash eye quickly but gently.  Hold eyelid open and wash with gentle stream of clean running water.  Wash for 15 minutes or more.  Do not use chemicals or drugs in the wash water; they may increase the extent of injury. |
| Inhaled poison | Carry victim to fresh air immediately.  Open all doors and windows so no one else will be poisoned.  Loosen tight clothing.  Apply artificial respiration if breathing has stopped or if the victim’s skin is blue. If victim is in an enclosed area, do not enter without proper protective clothing and equipment. If proper protection is not available, call for emergency equipment from your fire department (if available). |
| Poison in mouth or swallowed | Rinse mouth with plenty of water.  Give victim large amounts (up to 1 quart) of milk or water to drink.  Induce vomiting only if instructions to do so are on the label. |
| Procedure for inducing vomiting | Position victim face down or kneeling forward. Do not allow victim to lie on his back, because the vomit could enter the lungs and do additional damage.  Put finger or the blunt end of a spoon at the back of victim’s throat or give syrup of ipecac.  Collect some of the vomit for the physician if you do not know what the poison is.  Do not use salt solutions to induce vomiting. |
| When not to induce vomiting | If the victim is unconscious or is having convulsions.  If the victim has swallowed a corrosive poison. A corrosive poison is a strong acid or alkali. It will burn the throat and mouth as severely coming up as it did going down. It may get into the lungs and burn there also.  If the victim has swallowed an emulsifiable concentrate or oil solution. Emulsifiable concentrates and oil solutions may cause severe damage to the lungs if inhaled during vomiting. |

C.8 Proper Pesticide Container Disposal

Once pesticides have been used, the empty containers need to be properly disposed of. Training must address proper disposal. The table below provides a summary of the best practices for disposal.

|  |  |
| --- | --- |
| TABLE C-8. PROPER METHODS TO DISPOSE OF PESTICIDES AND THEIR EMPTY CONTAINERS | |
| CONTAINER TYPE | DISPOSAL STATEMENTS |
| Metal Containers (non-aerosol) | Triple rinse. Then offer for recycling or reconditioning, or puncture and bury. |
| Paper and Plastic Bags | Completely empty bag into application equipment. Then bury empty bag. |
| Glass Containers | Triple rinse. Then bury. |
| Plastic Containers | Triple rinse. Then offer for recycling or reconditioning, or puncture and bury. |

C.9 Monitoring and Data Record Keeping

Provides guidelines on pesticide monitoring and recording

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TABLE C.9 EXAMPLE OF MONITORING AND RECORD KEEPING CHART | | | | | | | | | | |
| Crop | Plot Location | Plot Size | Planted Date | Pests Observed | Infestation Severity | Management Technique | Date/Time Of Application | Notes (Rate Of Application, Weather, Etc.) | Harvested Date | Results |
|  |  |  |  |  |  |  |  |  |  |  |
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# Annex D. Pestices rejected and prohibited

This Annex lists AIs rejected by the analysis and the reason, inert ingredients prohibited by USEPA, pesticides explicitly banned by the host country and pesticides that are banned by international conventions that the host country is signatory to.

| **Table D-**1**. Pesticides (Active Ingredients) REJECTED for Procurement/Use/Support by Activities subject to this PERSUAP** | | |
| --- | --- | --- |
| **AI** | **Uses** | **Reason for rejection** |
| e.g. Acetochlor | Herbicide | Classified as likely carcinogen, not approved in EU |

# REFERENCES AND RESOURCES

Provides useful resources for self study and references used that can be utilized as resources. Most other references are placed in the body of the document as footnotes.

1. Human health and ecological toxicological summaries and U.S. Environmental Protection Agency (USEPA) registration status for each pesticide are presented in Table B-3 in Annex B. [↑](#footnote-ref-1)