



**EPA’s Endangered Species Act Workplan Update: Proposed Label Language
for Nontarget Species Mitigation and Other Actions
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Comments submitted by the Arizona Pest Management Center,
University of Arizona**

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To Whom It May Concern:

This document was written in response to EPA’s call for public comments on its Endangered Species Act (ESA) Workplan Update, which outlines EPA’s broad strategies to meet its obligations under the Endangered Species Act in the way it implements pesticide registration review. Herein, we provide stakeholder feedback on proposed label language which is summarized in the EPA document entitled “Appendix to the ESA Workplan Update: Proposed Label Language for Public Comment.” In addition, we provide general comments, questions and concerns related to the feasibility of implementation, potential user impacts, and compliance and liability issues.

Process: The Arizona Pest Management Center maintains a contact list of well over 300 state and regionally based stakeholders with an interest in EPA pesticide registration review. Following the release of EPA’s ESA Workplan Update and public webinar, we informed contacts via email and presented information about proposed changes at seven Cooperative Extension meetings (3 virtual and 4 face to face) attended by 180 people, and hosted a roundtable discussion that included representatives from the Arizona Department of Agriculture, Arizona Farm Bureau, Arizona Crop Protection Association, University of Arizona Cooperative Extension, licensed Pest Control Advisors and a grower representative. Information was separately presented to the Southwest Vegetation Management Association Governing Board. Two informational emails were sent to our list of 313 participants, including one with a survey link. Our survey solicited feedback on EPA’s proposed list of “Pick List” mitigations. In addition, we conducted outreach by telephone to several experienced Pest Control Advisors to solicit more detailed reflections on proposed label language and potential impacts on growers, applicators, and farm operations. These comments represent a distillation of information gleaned through these interactions.

In Arizona and California, pesticide recommendations are generally provided to growers by a professional industry of licensed Pest Control Advisors (PCAs). These are the individuals who are most informed about pest management practices, and they serve as an interface between the grower and the applicator. Many applications in Arizona and California are provided by custom applicator companies, including both aerial and ground applications. Certain applications, including many herbicide applications made by ground, are handled by the growers using their own employees and equipment. Overall, the Pest Control Advisors have a deep knowledge of grower practices, including pesticide use, irrigation, water and erosion management practices, and served as our main contacts for responding to the ESA Workplan Update.

Even providing for EPA's short extension on the comment period, given the broad and sweeping nature of the workplan and its potential impact on daily practices of a large number of diverse stakeholders (e.g., growers, applicators, landscapers, urban pest control operators, municipalities, tribal members, vector control programs, rangeland weed management, forest management, invasive species management, riparian restoration and other conservation programs), EPA has not allowed adequate time to conduct comprehensive outreach on the proposed workplan for implementing ESA. These comments reflect our best effort given these constraints, with a primary focus on potential impacts on commercial agriculture in Arizona. We address EPA's proposed changes and potential impacts in each of the following sections:

1. Bulletins Live! Two
2. Interim Ecological Mitigation
3. Pesticide Treated Seed
4. Promoting Pollinator Stewardship
5. Ecological Incident Reporting Label Language

1: Bulletins Live! Two

Bulletins Live! Two (BLT) is EPA's web-based system intended to provide timely and site-specific protections for listed species. Through BLT, end-users will access "Endangered Species Protection Bulletins" when required on the pesticide label. The Bulletins are considered extensions of the product label and are legally enforceable. This system will allow protection of listed species and their critical habitats (Pesticide Use Limitation Areas), while allowing standard label use of products elsewhere.

Proposed Label Language:

"It is a Federal offense to use any pesticide in a manner that results in an unauthorized "take" (e.g., kill or otherwise harm) of an endangered species and certain threatened species, under the Endangered Species Act section 9. When using this product, you must follow the measures, including any timing restrictions, contained in the Endangered Species Protection Bulletin for the area where you are applying the product. Before using this product, you must obtain a Bulletin at any time within six months of the day of application. To obtain Bulletins, consult <http://www.epa.gov/espp>. For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov."

Access to Bulletins Live! Two. The URL listed as the resource for obtaining a bulletin is a general EPA website on the topic of “Protecting Endangered Species from Pesticides,” and contains more than 27 links to other webpages. It is not immediately apparent how a user can find the link where they can generate a bulletin. Even for an experienced internet user, this is far from ideal. Many of our growers and Pest Control Advisors in Arizona are of an older generation and are not high-end internet users. **We urge EPA to include a direct link to the page where an end-user can immediately enter their information to obtain the needed bulletin.** In addition to providing the correct URL, we recommend EPA include a QR code which users can scan with their mobile device to go directly to the Bulletins Live! Two interface. Currently, this appears to be the correct URL for obtaining a bulletin: <https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins>. Providing a shortened URL (e.g., tinyurl.com) is also strongly recommended. Anything that helps users access the site and generate a bulletin quickly will help with compliance while also minimizing the time burden imposed on end-users. In these industries, time is money, and efficiency is of the utmost importance.

BLT Integration with Pesticide Recommendation Writing Services. A high percentage of farming companies, chemical distributors and commercial applicator companies in Arizona and elsewhere subscribe to commercial services that provide advanced software data interfaces that, among other things, facilitate communication between growers, Pest Control Advisors that make pesticide recommendations, and custom applicators who apply pesticides. A commonly used service in Arizona is Agrian, a product of Telus Agriculture (<https://home.agrian.com/>). One advantage of such a service is that it provides online access to accurate, up-to-date pesticide label information, which helps to ensure that end users do not inadvertently make off-label applications. This type of service is broadly adopted in Arizona and California, and perhaps in other states as well. Because growers rely on the accuracy of information provided by Agrian and similar services, it was suggested that access to BLT information be directly integrated with these types of services. **EPA should work with major label and recommendation writing services like Agrian, providing Application Programming Interface (APIs) or other utilities to fully integrate BLT functionality into those ubiquitous tools.** The outcome of such collaboration would have great benefits to growers and EPA, increasing both farming efficiency and compliance with ecological risk mitigations.

Use of the BLT System. We did not obtain any direct feedback from stakeholders who accessed the BLT system. In our experience, the user interface seemed simple enough, and when the application location, month and date, and EPA registration number were provided, a bulletin was generated. At least one end-user asked if it would be possible to enter either the product name *or* the EPA registration number. EPA might consider providing a dropdown list of registered products that appears when a product name is entered, allowing the end user to select the correct product and formulation from the list. This type of functionality exists in other online resources such as the Pesticide Risk Tool (<https://pesticiderisk.org/>) and is very convenient for end users (i.e., type a product name and many options immediately appear in a dropdown.) Regarding the maps presented by the system, one stakeholder, a Pest Control Advisor, commented that it would be helpful for end users if the maps presented on BLT indicated not only the critical habitat for a species, but also provided information about buffer zone mitigations (if applicable). For example, this could be addressed by showing two color-coded or hashed zones, the original area (critical habitat) and the potential buffer zone required.

Six-Month Period. EPA requested feedback on the question, “Does six months give stakeholders enough time to plan for planting and other needs?” Three Pest Control Advisors who work with growers of different crops in different regions of Arizona indicated that **the 6-month window would be sufficient.** There can be significant variation, crop to crop, on how much is known in advance about specific pesticides that will be used, or even the location where the crop will be planted. Few growers would know their full spray program in advance, as many pest situations can be unpredictable. Whereas many growers across most crops have in place standard weed management programs and herbicides used would be known in advance, insect and disease management can be much more variable year to year in many crops, making it difficult to predict in advance the full suite of products that might be used. Furthermore, in the produce industry centered around Yuma County, for example, planting location can remain unknown until a week or a few days before planting. A large percentage of Arizona crops are grown on leased land, and leases frequently change hands. A PCA will typically know the grower’s planting schedule in advance (the goal is to have a constant flow of harvested product available to market) but may only find out close to planting time where the crop will reside. In one example, a PCA explained that a piece of ground was slated for watermelons, but the company didn’t decide until the last minute whether they were going to farm the land or sell it to developers. These situations happen fairly often.

While PCAs indicated that they could anticipate a high percentage of products likely to be used in the coming season, and appreciate the 6-month lead time, many decisions about what to spray are happening real time, where pest situations require swift and decisive action. In these situations, PCAs, growers, or applicators would need to access BLT immediately prior to a spray decision being made. In most cases, this responsibility would likely fall on the PCA. One PCA commented that in a situation where there may be more than one product to choose from, such as fungicides for disease control in leafy vegetables, given the choice among products with or without a BLT requirement, he would expect most PCAs to skip that extra step of going to the website by choosing a product that does not have the bulletin lookup requirement. This is an extra step in an industry where there is no time to waste. **It will be important for EPA to make this process as efficient as possible for end users.**

Raising End-User Awareness. One important consideration for facilitating end-user compliance when new Endangered and Threatened Species Requirements are added to labels will be taking steps to ensure customer awareness of the changes. Pest Control Advisors (PCAs) responsible for application decisions on commercial agricultural crops become very familiar with certain pesticides they may recommend on a regular basis. Most PCAs in Arizona have decades of experience and manage thousands of acres for many grower-customer clients. **When existing labels change to include new endangered species requirements, what practices can be put into place to ensure that industry professionals are informed about the change?**

Stakeholders suggest that the registrant companies that market the pesticides would be in the best position to provide customer education to communicate new requirements to end users. This would work well for a whole suite of products used across a variety of crops. Agrochemical companies typically review their primary products and any regulatory changes annually with growers and PCAs at Cooperative Extension meetings and industry conferences. However, there are also a number of generic compounds sold by smaller companies who often do not have a

robust enough sales force to inform potential users of a label change. **EPA should consider whether some obligation for education should be placed upon the registrants.**

Another suggestion is that **EPA might require or encourage registrant companies to enhance the revised labels with colorful eye-catching elements to help draw attention to the new requirements.** When new pollinator protection language was added to neonicotinoid labels in 2014, EPA required the addition of a “Pollinator Protection Box” (Figure 1), which included a specific bee graphic which could not be modified by the registrants (US EPA 2022). This provided visual consistency across labels which helped bring the new requirements to everyone’s attention.



Figure 1. Pollinator Protection Box. Photo source: <https://www.goodnewsnetwork.org/epa-debuts-bee-protective-pesticide-labels/>

BLT, Liability, and Overall Impact on Arizona Agriculture. Questions were raised in discussions with PCAs, growers and others with respect to liability when something goes wrong. Pest Control Advisors write up the prescription for their pesticide recommendations, but they do not have control over what the applicator does. It is the grower who benefits financially from the crop, who obtains a permit to grow the crop, and who typically owns or leases the land applications are made on. **It was suggested that EPA include language that would directly clarify roles, responsibilities, and liabilities when violations occur.**

A stakeholder who works in the area of pesticide safety education expressed concerns about conservation crews doing weed control on rangeland or in other remote areas of the state. These crews are not typically the decision makers on what herbicide is being used. These crews are dispatched by various entities that may include federal, local, tribal, or regional management programs. This stakeholder stressed the importance of good two-way communication between application crews and decision-makers to ensure that both bosses and applicators are aware of

EPA labels requiring use of BLT to identify any applicable mitigations. In addition, it was stated **responsibilities and liabilities in these situations need to be clarified by EPA.**

Another point that has been raised is what will be the impact on Arizona agriculture over time, as EPA proceeds through registration reviews, endangered species risk assessments, and as more Endangered and Threatened Species Requirements are added to product labels? Some concerns expressed by stakeholders include:

- From a grower point of view, if a habitat for a protected species is determined to be in proximity to an established farming area, it could limit farming in that area, or even bankrupt some growers.
- If use of an ‘indispensable’ product were to be restricted due to these mitigations, there could be risks of severe economic losses for growers.
- We are always concerned about resistance management. Loss of access to one chemistry due to new mitigations in some instances can result in over-reliance on another chemistry, leading to resistance issues for insects, weeds or diseases.
- Some PCAs anticipate that older chemistries such as organophosphates and carbamates may be among the first chemistries subject to additional mitigations for endangered species. We are proud that Arizona agriculture makes **very limited use** of these chemical classes in most crop industries. However, there are limited cases where these products are needed, and viable alternatives are not available. For example, as reported in Arizona Pest Management Center comments on the Proposed Interim Decision for Carbaryl, (submitted February 2023), this insecticide plays a critical role in the New Mexico eradication program for pecan weevil and is used on about 7% of Arizona melon acres to manage darkling beetles and other soil pests for which no viable alternatives exist.
- As an industry, we are concerned about safe product use and species protection. The professional industry in Arizona is highly educated and proactive when it comes to issues like integrated pest management, resistance management, environmental protection and worker safety. The most troubling aspect of EPA’s proposed Workplan Update is the level of uncertainty instilled in these early stages of implementation. What will be the longstanding economic impact for growers and for the state economy?

2: Interim Ecological Mitigation

Surface Water Runoff Mitigation. EPA has identified that there may be a need for additional mitigation measures to address ecological risks associated with pesticides that move off-field when they dissolve in surface water runoff. While EPA notes that pesticides may be more prone to leave the field in surface water runoff on some soils than others, to better address off-site ecological risks across all soils, and because more restrictive mitigation is typically needed to reduce pesticide transport from surface water runoff than erosion, EPA is proposing surface water runoff mitigation across all soils for pesticides that are highly or moderately mobile in one or more soils.

A PCA responding to EPA’s approach of implementing mitigations for these types of pesticides on all soils noted that there is more probability of chemical movement on heavier soils than are typical for most of the production ground in Yuma, Arizona. Nonetheless, he also noted that

“simpler is better” when it comes to implementing these types of mitigations. Often the same company will farm across a broad range of soils present over a particular farming region. The need to keep track of separate mitigation requirements across many farms with different soil types would be burdensome, he said, and could be difficult to implement correctly. This particular PCA agreed with EPA’s proposed implementation of the same mitigation across all soil types for a particular pesticide. Due to time constraints, we were unable to secure a broader set of opinions on this issue.

Surface Water Protection: Rainfall Statements.

Proposed Language:

- “Do not apply during rain.”
- “Do not apply when a storm event likely to produce runoff from the treated area is forecasted (by NOAA/National Weather Service, or other similar forecasting service) to occur within 48 hours following application.”

The first statement is obvious, and no one would do this for numerous reasons. The second statement may be more problematic, and it did give rise to practical questions about implementation and enforcement.

Although Arizona receives very low rainfall compared to most other states, precise timing and location of rain can be near-impossible to predict. Spray applications have to be planned in advance, equipment moved into place and so forth. Growers and PCAs are very attentive to weather predictions, though they can be woefully inaccurate at times.

It should be understood that pesticide applications cost a lot of money, and growers are not inclined to make unneeded applications. Furthermore, rainfall is generally undesirable following an application from the standpoint of efficacy. Even for products which must be watered-in, irrigation is preferred to rainfall because the depth of penetration of chemical into the soil needs to be carefully controlled to ensure product efficacy. This is to say that no one intentionally applies a pesticide prior to rainfall.

Some practical considerations, questions and recommendations:

- How will someone predict rain within a 48-hour period? Forecasts from different sources can vary.
- Is some form of documentation of a weather forecast preceding an application required to be retained by end-users?
- It is common for PCAs and growers to use NOAA for weather prediction, but the actual amount of rain, if it comes, can vary a lot across an area.
- What is EPA’s definition of “likely”? It needs to be spelled out in more specific terms.
- It will be important for EPA to identify the regulatory consequences and liability if rain (predicted or not) does occur following an application.
- **Given the difficulty of accurate rain prediction, we urge EPA to make label language related to rainfall advisory, providing guidance on best management practices, but that it should not be considered enforceable or punitive.**
- If a product with mitigations in place is used and surface water runoff occurs, should this incident be reported and what would be the procedure for doing so?

Environmental and Structural Conditions in Arizona Agriculture

Factors special to Arizona agriculture and climatic conditions should be taken into account in implementation of EPA's modeling of risk, particularly with respect to surface water runoff. It is worthwhile to review these factors, some of which have been described in earlier responses (comments) to pesticide registration reviews.

Arizona's low desert agriculture is characterized by a variety of structural and environmental factors that impact movement of pesticides of all kinds. National models that are derived from the Pacific Northwest and the Eastern Seaboard, such as have been used by US-EPA in the past, are extremely poor predictors of pesticide fate in desert ecoregions, including Arizona agriculture production zones. To extrapolate these data to Arizona's situation is flawed (Ellsworth et al. 2016).

Arizona's irrigated agriculture is in a desert environment where rainfall averages less than 25 cm per year. Because of the importance of irrigation water in our system, farmers are important stewards of this natural resource. This includes nearly 100% use of laser-leveling technology (since the 1970s) to control slope in fields for the management of irrigation water. This means that little to no water leaves the site of application, the agricultural field (Ellsworth et al. 2016). New water restrictions placed on farmers in recent years due to shortages on the Colorado River have only intensified the already careful management of water.

These conditions are accompanied by extremely high temperatures and extremely low humidities, as low as 2% in 2015. These are harsh conditions under which to apply pesticides. Furthermore, even the small amounts of pesticides that might reach our soils are subject to intense solar radiation (and heat) and the associated degradation processes (Ellsworth 2016). Even published studies of environmental fate for organophosphates including chlorpyrifos distinguish from dry areas (or seasons) and wet areas (or seasons) with far lower levels (and risks) measured under dry conditions (Jaipieam et al. 2009).

Surface Water Runoff and Soil Erosion Protection: EPA's Pick List of Mitigations.

To provide added flexibility in implementing mitigations, EPA has developed a proposed "pick list" of mitigations growers could choose from to reduce off-site movement of pesticides when mitigations are required.

We appreciate the flexibility behind EPA's approach, which we believe acknowledges that there are significant differences in agricultural practices throughout the United States and even in local regions among growers. Practices that make sense and would be relatively easy to implement in one state or crop industry may not apply in another. In this section, we describe irrigation and other crop management practices which are used here, and which have great bearing on surface water runoff and soil erosion. Some of these practices are also common in other western states, particularly areas that receive lower rainfall and rely on irrigation for crop production.

The Arizona Pest Management Center conducted a survey of Pest Control Advisors and growers to determine the relevance of EPA's proposed Pick List practices to Arizona Agriculture. The voluntary survey was made available at virtual and live UA Cooperative Extension meetings and

via our email list. We received 14 responses, some of which included comments, including additional suggested Pick List practices.

- The practices on EPA’s proposed Pick List most often identified as “relevant for Arizona” (5 times) were Cover Cropping, No/Reduced Tillage, and Runoff/Retention Pond (each chosen by 36% of respondents).
- Vegetative Filter Strip was next most commonly identified as relevant with 4 (28.5%) responding.
- Contour farming received 3 responses (21%)
- Riparian Buffer Zone received 2 responses (14%)
- The remainder of practices received either 1 or zero responses.
- Two respondents indicated that none of the practices on the list were relevant for Arizona.
- It should be noted that individuals involved in different cropping systems in different parts of the state are likely to have different experiences and views on which practices should be relevant.

With respect to implementation of Vegetative Filter Strips (VFS), we refer to previous precedent set in EPA registration reviews (e.g., the Proposed Interim Decision for Oxyfluorfen, US EPA 2021), whereby growers in certain Western states were permitted exceptions to the VFS requirement on the following basis:

1. Rainfall in these states that causes runoff occurs during the winter and out of the growing season.
2. Most of the agriculture is irrigated and VFS are not easily compatible with irrigated agriculture (primarily flood and furrow irrigation).
3. Many of the crops grown are under contracts that require “clean” field borders to minimize contamination.

As was argued in comments submitted by the Arizona Farm Bureau Federation (AFBF 2021):

1. The average statewide rainfall in Arizona ranges between 9 and 13 inches. In some areas like Yuma, Arizona, where the majority of the state’s cole crop is produced, the average annual rainfall is 3 inches. (As noted in our original comment letter, oxyfluorfen is an important weed management tool in cole crop production.)
2. Arizona’s desert environment and low rainfall means all agriculture in the state is irrigated. Additionally, laser leveling fields is a common practice used to conserve water and minimize runoff.
3. Many of the crops grown in Arizona are also under contract, in particular cole crops, and have similar requirements for “clean” field borders.

EPA asked, *are there other measures that are effective in controlling dissolved runoff or soil erosion that should be included in the pick list?*

Practices commonly used in Arizona agriculture which greatly reduce the potential for runoff include:

- **Laser-leveled fields.** Fields are specifically designed throughout most areas of the state to prohibit any runoff, for water and soil conservation. According to experienced PCAs, “There is no tail water that runs off any operation in Yuma.”
- **Use of drip irrigation and/or sub-surface drip** in some crops is designed to deliver water precisely to plant roots at optimum levels for support of crop plant growth /

flowering /fruiting. In addition to virtually eliminating the possibility of runoff, these systems can help to reduce weed growth and lower the need for herbicide applications.

- **Controlled irrigation** of laser-leveled fields is used to deliver the optimum amount of water at various plant stages equally across the field while minimizing the potential for runoff. Arizona growers employ various techniques, including sprinkler irrigation, lateral move systems, center pivots and other forms of overhead irrigation that are very carefully controlled to deliver water to meet the needs of the crop while virtually eliminating the potential for runoff.
- Where flood irrigation is still used, **sump systems are often in place to capture all runoff**, so water can be reused. Sump systems or water retention areas are commonly used on most farms where the field may have a minor slope, or where water is traditionally more expensive. In Buckeye, Arizona, most farms have sump systems that catch their runoff. In other areas, where the land is flatter, it may not be needed. With recent water shortages and increased prices per acre-foot of water, we may see an increase in the popularity of these systems. **We are unsure whether this practice aligns with EPA’s category “Runoff retention pond/ water and sediment control basin/ sediment catchment basin/ constructed wetland.”**

Because of their effectiveness at keeping water and soil on the field, we believe all of these practices should be added to EPA’s Pick List practices for surface water runoff and/or soil erosion.

Soil Erosion Mitigation. EPA also intends to more regularly propose mitigation measures to address ecological risks associated with transport of pesticides off the field through soil erosion. These measures would apply to pesticides which are considered slightly mobile, hardly mobile, or immobile in all soils tested.

Because of laser-leveled fields and other practices in place to conserve water and keep it on the field, soil erosion may be less of an issue in Southwest Desert agriculture than in other areas of the country. Erosion from wind would have a higher potential to occur here than some other types of erosion. There are practices in place that help to limit soil erosion. For example, many growers use soil erosion polymers to eliminate erosion during initial irrigations or at stand establishment. Two PCAs I spoke with were familiar with the use of Polyacrylamide (PAM) Polymers for this purpose. There are various forms of PAM, but the type used for erosion control is a large, negatively (anionic) charged molecule (12-15 megagrams per mole) that is water soluble (Chan 2023). PAMs are very commonly used in several western states, including in alfalfa in Arizona, and are very effective for reducing soil erosion. The product is metered into the irrigation water, and it basically eliminates erosion and improves water spreading, thus it makes watering easier and more efficient. One PCA described how adding the product causes soil particles to drop out, leaving water completely clear of particulates at the far end of the field. PAMs are also used in cotton, where they help to maintain the integrity of the furrow, which is important in effective irrigation. **We suggest EPA add use of PAMs to its Pick List of soil erosion mitigation practices.**

3: Pesticide Treated Seed

Use of pesticide treated seeds is a common practice in several cropping industries in Arizona. For example, in vegetable production and some other crops, insecticide treated seed is often used to protect emerging crops from plant-feeding insects that can be devastating to stand development, leading to significant yield losses or the costly need to replant a field.

We acknowledge that it is important to consider potential impacts on pollinators and birds or mammals that feed on or come into contact with treated seeds. EPA's proposed mitigations to limit exposure and ecological risk represent an important step in this direction.

Reducing pesticide dust-off: EPA is considering measures to reduce the potential for exposures to insect pollinators from treated seed dust-off. **We could not identify any source of local data on seed abrasion and dust off that might be relevant to EPA.**

Burying spilled pesticide-treated seed: EPA is considering additional measures to reduce exposures to terrestrial vertebrates from ingestion of treated seed. EPA has suggested a 2-foot depth for burying treated seeds as a practical measure for growers to avoid disturbance during plowing that may also address risk to birds and mammals from eating treated seed.

Seed is expensive, and planting practices are metered for the best stand establishment with a minimum of seed waste. One Pest Control Advisor commented that whenever possible, spilled treated seed would be picked up and re-used. **All PCAs contacted understood the need for burying spilled treated seed to a depth sufficient to protect non-target species. A depth of two feet was deemed practical and appropriate for this purpose.**

One PCA asked whether the spilled seed would need to be buried in the field that was planted or whether it could be buried outside of field borders.

Disposing of excess seed after planting: EPA is considering the need for instructions for disposal of excess treated seed that would not be stored and used for future plantings. Such measures could include labeling instructions for the grower to contact the registrant for information on appropriate disposal and amended registration terms and conditions to require registrants to create disposal plans and educational materials for growers.

As noted above, seed is expensive. As such, it is typically ordered by growers in quantities sufficient for planting with little to no excess. However, we acknowledge the need to have procedures in place to deal with excess seed that could occur either through miscalculations or carried-over seed from prior years that could lose its efficacy in storage. **We agree in general with EPA's thinking that guidelines or programs for grower education and for disposal of excess treated seed should be developed by the manufacturers and communicated to consumers.**

4: Promoting Pollinator Stewardship

EPA is proposing to include revised advisory language for insect pollinators. This advisory language distills the most important information growers need to know to voluntarily reduce risk to insect pollinators.

There were no stakeholder comments on the proposed pollinator stewardship language.

5: Ecological Incident Reporting Label Language

Ecological incident reporting language provided by EPA simply points the pesticide user to a website where there are separate links with appropriate agency contact information and guidance for reporting different types of pesticide incidents.

There were no comments from stakeholders specific to EPA's proposed label language, but questions came up regarding reporting to the state Department of Agriculture versus federal reporting requirements. In the past, this has been the common practice, for example with bee incidents (rare). It has been assumed that state-reported information gets forwarded to EPA and other agencies as appropriate.

The following questions were posed by stakeholders:

- Can EPA specify whether reporting requirements as indicated on the provided website replace the need to report locally to Arizona Department of Agriculture or other state agencies?
- Are both state and federal level reporting required in some cases?
- Do reports submitted to the appropriate state agency and filtered up to EPA replace the need for direct reporting to EPA or other federal agencies? Is there a danger of double reporting?

Who We Are

Dr. Alfred Fournier is Associate Director of the APMC / Associate Specialist in Entomology and has expertise in evaluating adoption and impact of integrated pest management and associated technologies. He serves as a Southwest Region IPM Network Coordinator for the Western IPM Center, representing stakeholders in the desert Southwest states. Dr. Peter Ellsworth is Director of the APMC, State IPM and Pesticide Coordinator for Arizona and Professor of Entomology / Extension IPM Specialist with expertise in developing IPM systems in cotton and other crops and measuring implementation and impact of IPM and pest management practices.

These comments are the independent assessment of the authors and the Arizona Pest Management Center as part of our role to contribute federal comments on issues of pest management importance and do not imply endorsement by the University of Arizona or USDA of any products, services, or organizations mentioned, shown, or indirectly implied in this document.

Our Data and Expert Information

The Arizona Pest Management Center (APMC) is host to the University of Arizona's expert IPM scientists, including Ph.D. entomologists, weed scientists and plant pathologists with expertise in the strategic tactical use of pesticides within Integrated Pest Management (IPM) programs that protect economic, environmental and human health interests of stakeholders and the society at large.

Through cooperative agreements with Arizona Department of Agriculture (ADA), the APMC obtains use of, improves upon, and conducts studies with ADA's Form1080 pesticide use data. Growers, pest control advisors and applicators complete and submit these forms to the state when required by statute as a record of pesticide use. These data contain information on 100% of custom-applied (i.e., for hire) agricultural pesticides used in the state of Arizona, including all aerial applications. Grower self-applied pesticide applications may be under-represented in these data. In coordination with the Western Integrated Pest Management Center, we contribute to federal comments on issues of pest management importance to stakeholders throughout the desert southwest including Arizona, New Mexico, Nevada, Colorado, Utah and the southeast desert regions of California.

Thank you for the opportunity to comment. Please feel free to contact us with any questions.



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