MCFA

Minor Crop Farmer Alliance

Via Electronic Docket Submission http://www.regulations.gov

February 14, 2023

Mary E. Reaves, Ph.D.
Director
Pesticide Re-Evaluation Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20460-0001

Re: Comments of the Minor Crop Farmer Alliance on the "*Appendix to the ESA Workplan Update: Proposed Label Language for Public Comment"*, Docket Identification Number EPA-HQ-OPP-2022-0908.

Dear Dr. Reaves,

The Minor Crop Farmer Alliance (MCFA) appreciates the opportunity to submit these comments on the "*Appendix to the ESA Workplan Update: Proposed Label Language for Public Comment"* (referred to herein as the "Appendix"). We thank the Environmental Protection Agency ("EPA" or "Agency") for extending the comment period an additional fifteen (15) days to February 14, 2023, in response to the extension requests from several interested stakeholders.[1]

MCFA is an alliance of national and regional organizations and individuals representing growers, shippers, packers, handlers, and processors of various agricultural commodities, including food, fiber, turf grass, nursery and floriculture crops, and organizations involved with public health pesticides. MCFA's members are extremely interested in the development and safe

[1] See, EPA Memorandum, January 4, 2023, "Authorization to Extend the Public Comment Period for the Appendix to the ESA Workplan Update: Proposed Label Language for Public Comment". While MCFA shared the view expressed by many agricultural stakeholders that a significantly longer extension was appropriate given the nature and complexity of the proposal, MCFA understands that for a variety of reasons, including but not limited to litigation pressures confronting the Agency, EPA was reluctant to extend the official comment period beyond February 14. MCFA believes that the proposed Appendix is a developing proposal, not an official rule-making, and as such, reserves the right to provide any additional substantive comments we may develop beyond the close of the official comment period. MCFA also appreciates that in the interim, EPA will be proceeding with its finalizing of the proposal.

use of pest management tools, including crop protection chemicals that are environmentally sound, safe for applicators, workers, and the public, and do not represent an unreasonable adverse risk to the environment, including humans, non-target organisms, and endangered and threatened species. While our commodities are often called "minor crops" or "specialty crops," they contribute to the diverse and highly nutritious diets available for the global population, and support the aesthetic and environmental services for our homes, schools, and places of business. These U.S. farmers grow more than 500 types of fruit, vegetable, tree nut, flower, ornamental nursery, and turf grass crops, in addition to the major bulk (row) commodity crops. Specialty crop agriculture accounts for more than $60 billion, or approximately 40% of total U.S. crop receipts.

General Comments

Before providing specific comments on the various components of the Appendix, some general comments are appropriate. First, MCFA greatly appreciates the Agency providing the opportunity to comment on the Appendix. While some may argue that soliciting public comments on the Appendix's proposed labeling approach may not be technically required, nevertheless, in view of the potential impacts from the approaches being considered, it is a sound approach for the Agency to employ from a public policy perspective. It helps increase transparency into how the Agency intends to address the ESA issue regarding pesticides. While MCFA believes that most of the mitigation measures proposed in the Appendix are not applicable to specialty crop production, we appreciate the opportunity to express our concerns and present potential additional approaches for the Agency to consider in its quest of limiting potential impacts of pesticides on non-target species, particularly listed species.

Second, MCFA believes that many of the mitigation measures identified in the Appendix may be more suitable for those farmers producing major crops such as corn, wheat, soybeans, and cotton. It appears many of these measures, while not identical to approaches developed by National Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA), mirror those approaches. NRCS performs a very valuable service for American agriculture. It has tremendous expertise regarding conservation programs. However, many of its program approaches are associated with major commodities and not specialty crops. Generally, specialty crop producers have less interaction with NRCS than the major commodities. That may be understandable considering the use of cropland in the U.S. Most cropland is used for producing livestock feed, feed exports, or is left idle to allow the land recover. According to Bloomberg reports, in 2018, the total cropland in the U.S. was approximately 391.5 million acres. Of that total, 127.5 million acres was in livestock feed, 21.5 million acres were being cultivated for wheat exports, 62.8 million acres devoted to other grains and feed exports, 13.6 million acres used for cotton and non-food production, 38.1 million acres for ethanol, biodiesel production, and 52 million acres were idle. Approximately 77 million acres (less than 20% of the total U.S. cropland acreage) was used for human food production.[2] Specialty crop production falls into this

[2] *Here Is How America Uses Its Land* by David Merrill and Lauren Leatherby, Bloomberg, July 31, 2018. https://www.bloomberg.com/graphics/2018-us-land-use/.

last category. For most of these crops, the average acreage farm is far less than 100 acres.[3] Consequently, many specialty crop producers do not have as much flexibility or economic wherewithal as major commodity producers in terms of reducing planting acreage or installing new systems for producing their crop. Some of the proposed mitigation measures would require wholesale changes to established cropping systems with substantial adverse economic impacts to the impacted growers.

Additionally, some specialty crop growers lease their land. These growers must secure the approval of the land-owner lessor to make changes to the leased land. Securing multi-year commitments from the lessor is particularly problematic. Consequently, mitigation measures that may involve substantial changes to the farm, especially those involving multi-year commitments, are essentially not feasible for these growers.

Third, the Agency should also be aware that because many specialty crop producers are growing their crops for human consumption, there are food safety requirements developed by, among others, the Food and Drug Administration that these producers are required to meet.[4] If they do not follow those requirements, there is a real risk of consumers getting sick from microbial contaminants. This includes trying to take steps to ensure that produce does not become contaminated with, among other things, microbial pathogens from animals, amphibians, and reptiles. EPA mitigation measures that could result in creating an environment that attracts animals, amphibians, and reptiles into a farmer's field would be a cause for concern for growers and the public alike.

Fourth, MCFA recognizes that EPA has developed its proposed suite of mitigation measures with the goal of reducing the likelihood of off-field transport of pesticide residues through surface water runoff or soil erosion. Reducing the ability for pesticide residues to move off-field reduces the potential for non-target organisms, including listed species, to become exposed to the chemical. However, many specialty crops are grown on lands that are essentially flat or with minimal slope (*e.g.,* 3% grade or less). In such a situation, off-field movement is mitigated by default and accomplishes the intended goals of the field contouring mitigations proposed. That should be acknowledged by the Agency. We do not believe it is EPA's intent to have farmers bring in thousands of cubic yards of soil to augment a field that is already minimally sloped just to meet the mitigation requirements. Additionally, drier regions of the U.S. are inherently less prone to pesticide runoff risk. Annual average rainfall volumes or average number of rainfall events during application periods should be used as an additional metric when considering the need for mitigations.

Fifth, the Agency should take into consideration that several states have established conservation best management practices (BMPs) which growers follow to help ensure that agricultural

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[3] E.g., According to the California Department of Food and Agriculture in 2017, nearly three-quarters of California farms were under 100 acres. Farms + Data: California's farms are smaller than the US average, but they're big on diversity – and productivity – CDFA's Planting Seeds BlogCDFA's Planting Seeds Blog Also, according to the USDA, National Agricultural Statistics Service, in 2021, the average farm size for more than 50% of all farms in the United States was 81 acres. https://www.nass.usda.gov/Publications/Todays_Reports/reports/fnlo0222.pdf

[4] See, 21 CFR Part 112. These are typically referred to as the Produce Safety Rule.

operations are conducted in a manner to help protect the integrity of waterbodies. For example, the Florida Department of Agriculture and Consumer Services has developed a BMP manual for the Florida commercial citrus industry to follow. These include conservation practices to help protect wetlands, springs, and streams from any runoff from citrus operations.[5] Those practices include employing various conservation buffers, such as grove borders, filter strips, grassed waterways, and riparian buffers. Grove borders are strips of permanent vegetation, either natural or planted, at the edge or perimeter of groves. They function primarily to help reduce erosion from wind and water, protect soil and water quality, and provide wildlife habitat. Filter strips and grassed waterways are areas of permanent vegetation between grove areas that drain to natural waterbodies. Their main purpose is to decrease the velocity of runoff water and remove sediment particles before they reach surface waters.

California administers a similar program through a network of state regional water quality boards. These boards preside over a process that requires certification of assessments that are conducted by certified experts to determine whether erosion mitigation measures are necessary. Under the California Irrigated Lands Regulatory Program, regional grower coalitions work in tandem with State of California regional water quality control boards to identify any farmland that requires mitigations to prevent erosion and degrade water quality. When necessary, growers submit a certified Sediment and Erosion Control Plan, that details the mitigation measures that will be undertaken to prevent erosion. The plans and land parcels are subject to review and inspection by the state regional water quality control board.

Similarly, Michigan has the Agricultural Environmental Assurance Program (MAEAP), a voluntary program focused on reducing pesticide runoff, fertilizer leaching, and point source pollution among other things. Farmers certified through this program are already compliant with many of these mitigation outcomes. As an industry/state government partnership, MAEAP is interested in engaging with EPA to help farmers ensure they meet mitigation requirements in their specific contexts.

It is suggested that the Agency conduct additional outreach with the states to obtain more information on applicable BMPs that may already exist in the several states.

Sixth, MCFA believes that the USDA has extensive information and data about existing conservation efforts involving both major commodities and specialty crops. It also has a good appreciation for the difficulty that farmers may face in trying to implement EPA's proposed mitigation measures. USDA also has knowledge regarding current crop protection application technologies that can help reduce the likelihood of pesticides moving offsite. It is hoped that the Agency will take advantage of the opportunity to work with the Department, particularly through the Office of Pest Management Policy, to better understand those efforts and newer technologies. That information would be useful to the Agency in finalizing its mitigation measures approaches.

Seventh, it is suggested that the Agency plan to enhance communication efforts with the growers regarding this entire mitigation program, including Bulletins Live! Two (BLT) so that the

[5] See, https://www.fdacs.gov/ezs3download/download/25410/516289/Bmp_FloridaCitrus2012.pdf and https://www.fdacs.gov/content/download/77230/file/vegAgCropBMP-loRes.pdf .

growers have a better understanding of its operation. In that same vein, it is suggested that the Agency consider developing additional guidance regarding what steps the grower could take to essentially be within a "safe harbor" in case there is a subsequent enforcement issue associated with the alleged use of a pesticide. For example, presumably the Agency would think it important for a grower to maintain a record establishing that he or she checked BLT within the prescribed window prior to the pesticide application to help establish that the application was in accordance with the label. Providing such suggested guidance, which is purely voluntary, could be of service to the affected agricultural community.

Eighth, MCFA understands that the Agency is using its "FIFRA" labeling measures in the hopes of providing additional protection to listed species. Such mitigation measures or use restrictions would be applied before the ESA assessment has been conducted for an individual chemical. Consequently, the sixteen listed mitigation measures are presented as a potential menu of measures. Presumably, before they are applied to any chemical, it is expected that the Agency will still conduct a rigorous FIFRA risk/benefit analysis for that chemical in addressing potential ecological risk. MCFA supports the Agency using its FIFRA statutory authorities to advance the goal of avoiding jeopardy for listed species from pesticide applications. However, it must be done in accordance with FIFRA requirements. The current tone of the Workplan Update creates the impression that mitigation measures will be required on almost every chemical. This raises a question regarding whether any chemical's review will include an objective risk/benefit assessment as it relates to the imposition of mitigation measures that concern ecological effects. Mitigation should be applied only if, at the conclusion of the FIFRA risk/benefit analysis, it is determined that they are warranted. Their inclusion onto a pesticide's label should not be considered a foregone conclusion. Further, regarding FIFRA mitigations, if applicable, the grower should only have to select one type of mitigation to implement and not several. The magnitude of the ecological issue the Agency is trying to address under FIFRA would not appear to require implementation of more than one mitigation measure on a treated field.

Ninth, the Agency has asked whether additional mitigations should be considered. MCFA suggests that there are additional current agricultural practices to help ensure that pesticide applications from surface water runoff or soil erosion are minimized. Specifically, as noted above, some states including but not limited to Florida, California, and Michigan, have conservation requirements that a farmer must follow in conducting agricultural operations. It is suggested that to the extent a grower has developed a conservation plan which includes an assessment of potential surface water runoff and soil erosion that a governmental entity or similar expert authority has determined that there is a low probability for such runoff or erosion, that EPA accept that determination. This would obviate the need for additional mitigation measures.

Specific Comments on the Appendix

1. Bulletins Live! Two (BLT)

The Agency has made clear that it intends to expand the use of BLT as part of the pesticide labeling process, particularly to address geographically-based restrictions to protect listed species

and their critical habitats. MCFA understands the reason why the Agency is taking that approach. Pesticide labels on or attached to products are expanding, requiring the grower to sift through essentially a book to determine the use restrictions applicable to their pesticide application. If those printed labels are modified to address ESA restrictions, from a practical perspective, the labels will become even more difficult for the grower to use. Use of BLT via a computer website should make maneuvering through ESA-based label restrictions easier for the grower. The label language offered in the Appendix is generally understandable. It appears to be a sufficient direction to the user to check BLT prior to use of a product for which ESA restrictions have been established, as well as how to access BLT.

That said, some suggested refinements associated with BLT should be considered. For example, the ESA geographical areas should be refined. In many instances, the available maps are developed on a county level basis. This potentially overstates the critical affected area. Efforts should be undertaken to refine these maps to a sub-county level. This would help assure that needed restrictions are appropriately targeted, and an undue regulatory burden is not placed on growers to adopt application restrictions that are not necessary because the listed species are not impacted by that farm's operations.

In that vein, one of MCFA's members in Florida recently conducted a search regarding the use of dicamba on BLT. It revealed that that all of Palm Beach County is included as a Pesticide Use Limitation Area (PULA). Clicking on the "Printable Bulletin" link reveals that the active ingredient in question involves multiple dicamba products. Then clicking the "Full Details" link displays the "Limitations for Selected Area" details. The limitations for these dicamba products indicate the use sites involve dicamba-tolerant cotton and dicamba-tolerant soybean, and the official limitation column says, "Do not apply in … Palm Beach County, FL." Palm Beach County Florida does not produce any dicamba-tolerant cotton or soybeans whatsoever. In fact, the nearest cotton or soybean plantings of any kind are more than 500 miles away from Palm Beach County. Consequently, it is suggested that the Agency may want to review its lists of crops attributed to a listed county to make certain that it coincides with crops grown in that county.

Additionally, the Agency has asked whether requiring a user to check into BLT within six months of a pesticide product's application is enough time to accommodate the user's plan for planting and other needs. MCFA believes that the period should not be less than six months and consideration should be given to expanding that window to twelve months. It is not unusual for specialty crop growers to develop their farm plans a year prior to their next planting season. This includes determining what chemicals they are going to use. So, extending the window to twelve months would help facilitate the grower's planning of their agricultural operations.

2. **Interim Ecological Mitigation #1: Surface Water Protection Statements and Conservation Measure Pick List to Reduce Ecological Risks from Surface Water Runoff; Interim Ecological Mitigation #2: Surface Water Protection Statements and Conservation Measure Pick List to Reduce Ecological Risks from Soil Erosion; and**

Interim Ecological Mitigation #1 and #2: Runoff and Erosion Mitigation Pick List Descriptions[6]

Regarding the Appendix's ecological mitigation measures directed towards addressing the potential for surface water runoff or soil erosion, there is no objection to a prohibition against applying a pesticide when it is raining on the treatment site. However, there are several concerns with the proposed prohibition of applying "when a storm event is 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." It is overbroad. It is not unusual for a weather reporting service to suggest that there may be a rain event within the next 48 hours if there is any chance of rain occurring. A probability of the event occurring should be provided, *e.g.*, there is a strong (greater than 75%) likelihood that a significant amount of rain is expected within that window.

Additionally, under the current language, for example, thunderstorms are commonplace most afternoons in geographic areas such as Florida from May through November. Most of the state could experience a NOAA/NWS forecast that includes the chance of significant afternoon thunderstorms, and these afternoon thunderstorms could produce as little as 0.1 inch of rain or as much as 3.0 inches of rain on essentially any day. The Agency's proposed restriction suggests that pesticide use of any kind in these areas from May through November would be prohibited, because a significant chance of afternoon thunderstorms will be in the NOAA/NWS forecast virtually every day within that seven-month window. It is believed that not only the likelihood of the rain event occurring, and the expected rainfall amount are important, but also the soil saturation level and soil field capacity are important considerations in predicting that runoff will occur. Designations of soil being "saturated" soil versus simply "wet" or "moist" soil will have large impacts on the fate of runoff immediately following a pesticide application. Saturation and field capacity have different meanings and farmers more clearly understand the former.

Another concern is the impact on such a restriction on the use of certain fungicides. Many fungicides have protectant activity. Those fungicides must be administered as close before the occurrence of the anticipated rain event as possible to protect any/all newly emerged or emerging plant tissues. It is preferable in fact to make such applications within 48 hours of a rain event. Consequently, any such prohibition of this type could negate disease management strategies on any specialty crop. Growers want to apply those fungicides as near to the arrival of the anticipated rainfall as possible, and certainly within 48 hours before the anticipated rain. Prohibiting fungicide applications under such circumstances would be inconsistent with decades worth of understanding the science regarding breaking known disease cycles.

A further concern with the proposed label is the basis for proposing the mitigation. Regarding the reliance on Koc values in a soil, soil types vary widely between different geographic areas and even between individual fields within the same geographical area. Therefore, using Koc

[6] It is noted that the specific ecological mitigation measures applicable to surface water runoff are the same measures offered to help prevent pesticide transport through soil erosion. Consequently, many of the comments presented in this section are applicable to the sections addressing Soil Erosion mitigation and the Pick List description sections of the Appendix. It was thought easier to provide comments on these three sections to help reduce duplication.

values in one soil type would be overly conservative. Further, Koc value is only one factor in a pesticide's ability to move off-field and should not be the sole determiner to triggering mitigation. Factors such as rainfall amount and field slope play significant roles and should be considered before mitigations are required. The proposed mitigations are intended to prevent, to the extent practicable, the movement of pesticides off field and create scenarios where water moves slowly across the field thereby reducing water runoff and water-induced erosion. If the field is largely flat or with minimal slope (*e.g.,* 3% grade or less) either through precision grading or naturally occurring, then off-field movement is mitigated by default and accomplishes the intended goals. We do not believe EPA intends to have farmers import thousands of cubic yards of soil to augment a field that is already minimally sloped just to meet the mitigation requirements.

The configuration of the field to be treated is an important component of determining whether mitigation is needed. For example, in Florida, most all specialty crop production fields are surrounded by roadways to drive on. These roadways are intentionally elevated 2 to 4 feet above the level of the production area portion of the field, and the roadway itself is intentionally sloped towards the field so that anything from the roadway will flow towards the field and not towards any water or offsite area that might be adjacent on the other side of the roadway. This 2 to 4-foot elevation enables the roadway to function as a dam on all sides of the field, physically assuring that no soil or water runoff from the field can potentially make its way to any water system that may be adjacent to the roadway. Consequently, in such circumstance, it is believed mitigation should not be required regardless of the Koc value.

The following will discuss the specific mitigation measures in the order they are described in the Appendix.

a. Vegetative Filter Strip (30 ft minimum width)[7]

Vegetative filter strips would appear to be a potential mitigation measure that some specialty crop growers could implement. However, it would be difficult. For example, in California, where there is a long dry season and water is a scarce and expensive resource, maintaining such vegetative strips is problematic. They would be expensive to construct and difficult to irrigate and manage. Some growers do not have the financial wherewithal to handle these additional costs. The industry would not know which plants to use or what impact the strips would have on integrated pest management (IPM) programs since the strips could harbor harmful insects, beneficial insects, rodents, or other pests. There are few historical relationships between specialty crop growers and experts from the NRCS or Land Grant Universities involving consulting on these questions. Many of these mitigation tactics will differ, not only by cropping system, but by topography, climate, and other local considerations. The vegetative strips could also reduce productive acreage, which would lower the yield per acre and increase the cost per acre of production.

[7] It is recognized the proposed soil erosion mitigation measures include vegetative filter strips that are only 20 ft wide.

Most of the approximately 8 million acres being farmed for crops in California is set up on flat fields that do not have any runoff. Many of these areas are set up on permanent drip irrigation systems. There would be substantial additional costs incurred to modify these systems to accommodate watering vegetation strips. Further, many orchard crops are set up with underground piping that brings water to each crop row. Modification of these established underground systems would be expensive. Additionally, since these systems provide deep penetration irrigations, irrigation schedules can be as infrequent as every 10-14 days, which may not be appropriate for the vegetative strips. Once crops are harvested irrigation schedules often become more infrequent until fall.

Additionally, for some specialty crop growers such as those in California and Washington state, water is a scarce resource. With this in mind, many growers use herbicides to keep all non-crop row areas clean and free from vegetation, as this would become a source of competition for the available water. Also, when the soil is dry, it should not be a concern for runoff. There are very few times when farm soils in western states reach a saturation level.

Another concern for vegetation strips is that these will become a habitat for the very pests that growers are trying to eliminate from their fields. Pests such as vertebrate pests, lygus bug, grasshoppers, katydids, beetles, etc. will move into these strips and will then move into the grower's crop for their food source. This in turn will increase the need by the grower to apply more pesticides to control these new pests that would not have been there if the vegetative strips were not developed on the grower's acreage. This can be expected to have some negative impact on the grower's IPM plan for controlling pests.

Also, vegetation strips could be particularly disruptive from a human food safety perspective for some specialty crop growers such as those in the California lettuce industry. Vegetative areas are likely to harbor animals or rodents that can conflict with the food safety efforts and regulations that are in place for their crops. Again, the filter strips are just creating a habitat area for pests that will potentially venture into the grower's field and adversely affect the marketability of the crop.

b. Grassed Waterways (on-field and off-field)

Grassed waterways are used potentially more in the eastern than in much of the western United States. In California, for example, there is typically a long dry season. So, maintaining grassed waterways is not practical. Additionally, much of the California specialty crop production acreage is relatively flat. There would be little need to implement this measure to contain water or soil runoff. Further, many of the groves and orchards involve permanent features that cannot be reengineered without making production essentially infeasible. Crops such as lettuce, peppers, tomatoes, and artichokes are set up with permanent irrigation systems or permanent drip systems that cannot be reengineered easily.

Fruit orchards in states such as Washington state do utilize managed grassed row middles in between tree rows. Orchard floor vegetative ground cover provides traction for tractors and equipment to move through the orchards, protects the soil from wind and water erosion, prevents

runoff, facilitates water percolation, and helps manage dust. Given the increased significance and focus of grassed waterways for runoff management, growers would appreciate detailed information on which vegetative covers are appropriate for best management of water in the central valley orchards where fruit is grown.

Grassed waterways are also present between each row of trees within Florida's flatwoods citrus production areas. Prior to planting, lands are intentionally manipulated so that primary root growing regions are in an elevated area, while areas between every-other row of trees are intentionally "dug out" to create a depressed area between the rows, to hold and/or intentionally move water. These depressed areas between every other row allow the tree roots to avoid oversaturated growing conditions where roots are present. In these flatwoods citrus production areas, trees are planted on double-row raised beds. The crown of raised beds is approximately 3 to 4 feet above the bottom of the furrow. Areas between the dripline of each row is made up of a solid and maintained vegetative strip. These water/sediment management systems within citrus flatwoods production areas are designed to be able to handle approximately 4 inches of rainfall water per day, keeping tree roots in a favorable growing situation from a moisture standpoint. In the sandy soil citrus growing areas of the central part of Florida, however, downward drainage of water is usually adequate because of the high sand content in these soils, and groves in the central part of Florida do not require bedding or additional drainage measures. Overall, because of the implementation of these management systems, excessive and undesirable water runoff/soil erosion therefore does not/cannot occur.

c. Field Border (off-field)

As noted above, many specialty crop growers' fields are relatively flat. New plantings are often laser leveled, and the drop from one end of the field to the other over a quarter of a mile, is 1-2 inches. With this configuration, these fields do not represent a significant threat to transport pesticide residues through surface water runoff. Water will not runoff the acreage. Instead, it soaks into the soil. There is little need for taking cropland away to create a field border of permanent vegetation under such circumstance.

Also, could the Agency provide the basis for establishing the minimum buffer width at 30'? Establishing a 30' minimum border can involve taking a significant amount of land out of production. This size buffer could be particularly significant for smaller specialty crop growers where the loss of production area will impact them particularly hard from an economic perspective.

d. Cover Crop (on-field)

This mitigation measure seems to be appropriate only for areas that have sufficient rainfall. In some areas in the western U.S., this mitigation would be inappropriate and impractical for groves or orchards because production activities must be performed seasonally throughout the production cycle and equipment must be moved between the rows of trees. It is also impractical for other crops in California such as lettuce, carrots, peppers, melons, garlic, onions, and artichokes. As previously discussed, there is a concern of non-crop vegetation competing with

the crop for the available water. Also, some cover crops can provide habitat for pests such as vertebrate pests, lygus bugs, grasshoppers, katydids, beetles, etc. This would disrupt IPM and resistance management efforts and result in more pesticides being used to gain control.

It is suggested that the Agency consider leaving crop stubble as an alternative to cover crops where soil moisture is not sufficient for maintaining a cover crop and have a productive cash crop. Mitigations such as cover crops, maintained vegetative buffers, grassed waterways and others will encourage dryland farms to convert to irrigation that runs counter to other conservation efforts.

On the east coast, the use of cover crops has some utility. For example, certain specialty crop sectors in Florida do implement traditional cover cropping during the fallow months of summer (which is countercyclical to the rest of the country). However, other specialty crop sectors in the state essentially cover crop their specialty crop fields with water during the summer, for multiple reasons. To maintain soil characteristics and soil physiological properties, water must cover the surface area for months at a time to limit the amount of oxygen reaching the soil, as soil oxygenation leads to soil breakdown and soil subsidence. Flooding these fields also provides certain pest management benefits, as the water within these summer flooded fields literally drowns soilborne pests such as wireworms, grubs, and nematodes over time. Planting a cover crop within fields that would otherwise be flooded would involve more economic investment, cost more money, and it would maintain pest levels at problematic levels when approaching subsequent production cycles.

e. Contour Buffer Strips (on-field)

Contour farming is generally not possible for many specialty crop producers because of the lack of slope in their fields, and the perennial nature of some specialty crop systems. It appears that contour farming is trying to accomplish what fields with a relatively flat (3% or less) slope already achieve, namely limiting the opportunity for surface water runoff. Unless a grower is farming in areas with a higher slope, contour farming appears unfeasible.

f. Contour Farming (on-field)

Contour farming is generally not possible for many specialty crop producers because of the lack of slope in their fields and the perennial nature of some specialty crop systems. It appears that contour farming is trying to accomplish what fields with a relatively flat (3% or less) slope already achieve, namely limiting the opportunity for surface water runoff. Unless a grower is farming in areas with a higher slope, contour farming appears unfeasible.

g. Contour Strip Cropping (on-field)

Contour farming is generally not possible for many specialty crop producers because of the lack of slope in their fields and the perennial nature of some specialty crop systems. It appears that contour farming is trying to accomplish what fields with a relatively flat (3% or less) slope already achieve, namely limiting the opportunity for surface water runoff. Unless a grower is

farming in areas with a higher slope, contour farming appears unfeasible. It would be particularly difficult for many producers to implement given the need for equipment to get through for harvest and other production culture needs.

h. Terrace Farming (on-field)

Terrace farming would require a wholesale change for many specialty crop producers. As noted above, many specialty crop growers' fields are relatively flat. New plantings are often laser leveled, and the drop from one end of the field to the other over a quarter of a mile, is 1-2 inches. With this configuration, these fields do not represent a significant threat to transport pesticide residues through surface water runoff. Water will not run off the acreage. Instead, it soaks into the soil. Putting in terraces to create flat crop areas would appear to be incredibly radical and make no sense for lands that already are flat. Additionally, groves and orchards are permanent features that cannot be reengineered without making production completely infeasible.

i. Strip Cropping

Strip cropping essentially means establishing two production systems for a field. This is not financially practical for most specialty crop producers. These mitigations would be inappropriate and impractical for groves or orchards because production activities must be performed seasonally throughout the production cycle and equipment must be moved between the rows. This is also incompatible with the standard methods for planting arrangements for many crops in California including peppers, garlic, onions, lettuce, carrots, melons, and artichokes. Financial returns on specialty crops in California are at or just above being profitable. To remove 50% of the specialty crop from a specific acreage would cause financial ruin, let alone the complications from trying to provide a wide array of crop care materials on several crops grown on the same acreage.

In many parts of the east coast, with the architecture of existing specialty crop production systems, such design modifications would require a complete retooling of all mechanical aspects of the growing system. Strip cropping leads to the disintegration of the land by limiting the efficient use of machinery, so it is not suitable for highly mechanized systems. Specialty crop growing systems for the most part cannot accommodate different species of alternating crops within one row or within one field, as the growing characteristics/requirements are often vastly different. For example, in Florida, many of the specialty crop production systems such as fruiting vegetable crops, strawberries, and cucurbit vegetable crops already have built-in erosion protection because the farmers grow the crop on top of plastic mulched raised beds within the field. These raised beds stop soil erosion simply by their physiological architecture, design, and structure. Strip cropping is typically used on lands that have an 8 to 10% slope. Florida fields typically are laser-leveled so that there is approximately a 1% slope in all directions from the center of the field where the highpoint of the field is located. Florida fields are much too flat for something like strip cropping, or terrace farming, or contour farming to be a consideration.

Strip cropping would also lead to an increase of numerous complications with respect to pesticide applications in general, as pesticides registered for one of the crops in the field might very well not be registered for the other crop in the field that is grown as a part of the strip. Such situations would lead to repeated off-label application and residue violations for one crop or the other. Additionally, incorporating an approach such as strip cropping would make no sense on any land that has a slope of less than approximately 3%.

j. No Tillage/Reduced Tillage (on-field)

This practice is not practical for perennial crop systems and is rarely employed in the western U.S. for annual specialty crop production. Almost all fruit and vegetable row crop fields are disced and prepared for planting. Once planted, herbicides are used to remove all unwanted vegetation which competes for the available water for the crop and can harbor unwanted pests, such as lygus bugs, katydids, grasshoppers, beetles, etc. Some orchard crops do practice no-tillage, but the entire orchard floor may be treated with herbicides to remove any vegetation, again because of competition with the crop for water and to minimize the opportunity for plant pests.

Similarly, on the east coast other than for tree crops, specialty crops for the most part are annual crops that demand tillage of crop residues at the end of the production cycle and then re-tillage again prior to the beginning of the subsequent production cycle. No till/reduced tillage within these specialty crop sectors is impossible because of the production necessities and the demands of the production system. These crops must have clean beds to start the season and crop residues must be plowed into the soil at the end of the cropping cycle for numerous reasons such as creating pest free time periods between crops. Additionally, incorporating a requirement such as no-till would make no sense on any land that has a slope of less than approximately 3% for pesticide residue surface water runoff or soil erosion reduction.

k. Vegetative Barriers (on-field)

Since most acreage in California is on flat ground there is no contour of fields. Vegetative rows are not normal, as they would most likely require an independent water source. As the normal irrigation sources may not be compatible with the requirements of the vegetative strip, it may not be feasible to water from the flood irrigation that is practiced in many areas nor from the drip irrigation that is set up in many orchards. Again, this vegetative strip would compete with the crop for the limited amount of water available and would also become a haven for unwanted pests, including vertebrated pests, lygus bugs, katydids, grasshoppers, beetles, etc.

Vegetative barriers composed of naturally occurring plants (natural barrier) would be preferred as they require less maintenance and irrigation while achieving the reduced runoff benefits.

l. Vegetative Ditch Banks

This mitigation measure is not easily attainable in areas where specialty crops are produced and there is a long dry season. There are a few rare sites where there is vegetative runoff for acreage that has runoff issues, usually due to being located where there is a terrain issue that would

require such a practice. But it is believed only a very small percentage of those that exist would meet the measurements specified for this practice. Again, for specialty crop production areas that are relatively flat and dry, there normally are no runoff issues, especially in the late spring to early fall when the crop must be irrigated due to the lack of any summer rain.

On the east coast, for example in Florida, while vegetative/grassed ditch banks are possible, often having vegetative ditch banks becomes a flagged offence during food safety audits conducted by FDA or retailers. For mammal, reptile, and amphibian management, FDA and retail auditors will cite farms that use vegetative/grassed ditch banks, because any such vegetative or grassed ditch banks can harbor and/or provide cover for numerous species of mammals, reptiles, and amphibians that are associated with and can transmit microbial diseases and pathogens. FDA and retail buyers of specialty crops prefer to have crops grown in areas that are clean, with completely vegetation free ditch banks.

m. Riparian Buffers

There is a distinct lack of science-based information regarding the establishment and management of upland riparian buffers in proximity to most of specialty crop agriculture. If the Agency is to focus on the use of riparian buffers for ecological mitigation considerations, science-based, peer-reviewed information on quantity and mode (surface, subsurface, and ground water) of runoff and sediment movement to water bodies requires a serious need of investment in research, and outreach from local experts in best utilizing these buffers is an absolute need. Growers do not have the necessary tools and knowledge to properly implement these buffers, and there is little understanding of the economic impacts of implementing this mitigation tactic.

n. Management of Surface and Subsurface Water on the Field

These types of basins are very rare for specialty crop production in the western U.S. For example, since runoff from flat acreage is not normal during the growing season, there are very few such basins in California. Years ago, some areas of California used to employ underground pipes to collect water from the acreage, but generally this was done to prevent salt intrusion from being flushed into the underground water systems, not for runoff control. For the past 20-30 years, this has become a very uncommon practice since the droughts have modified the water intrusion events. There are still a few of these systems in place in the Coachella Valley. However, again they are used to divert salts from intrusion into the underground water systems and not for pesticide runoff control.

o. Mulching with Natural Materials

Mulching with materials brought into a specialty crop orchard or field is not common. There is a mulching of vegetative material pruned from trees in orchards (if the tree is pruned) and that material is shredded up so it will decay in the orchard. Even in the fall when the leaves drop, they decompose quickly. Most likely this shredding of brush in an orchard would not measure 2 inches deep and it is not held in place. Therefore, it would not appear to meet the proposed requirements. It most likely will be kept free of vegetation growth with herbicides or may be cultivated into the soil as a soil fertilization supplement.

It is also suggested that the Agency add gravel as a suitable artificial mulch for reducing erosion. Gravel is regularly used in nursery operations (often a state required/recommend BMP), particularly in potted plant nurseries. See for example, Required Operational BMP for King County, CA.[8]

p. Alley Cropping

These mitigations would be inappropriate and impractical for groves or orchards because production activities must be performed seasonally throughout the production cycle and equipment must be moved between the rows of trees.

The very definition of this practice implies use on hilly terrain, not flat acreage. Also, the vegetation for the alleys becomes a competition with the crop for limited water supply as well as a potential habitat for the very pests that the grower is trying to keep out/off the acreage being farmed. As noted previously, the pests could be vertebrates, lygus bugs, katydids, grasshoppers, beetles, etc.

In some states, such as Florida and Michigan, perennial crop systems do contain sod strips that are approximately 10 to 12 feet wide within each of the alleys between each row of trees or bushes. While these sod systems within the perennial bush or tree fruit groves may not technically be considered alley cropping, they are a solid set of strips of vegetation intentionally grown/maintained between each row of trees that serve as a barrier to runoff of water or sediment. Consequently, it is suggested that the Agency consider this practice as an appropriate mitigation measure.

3. Interim Ecological Mitigation #3: Reducing Ecological Risks from Spray Drift

Spray drift language has been on pesticide product labels for many years. Consequently, specialty crop growers are very familiar with the proposed language regarding mitigating spray drift. However, MCFA is encouraged with the Agency considering refining such language with a wind direction qualifier. Having wind directional buffer language on a label is a commonsense approach by which restrictions are appropriately tailored. Language such as "Do not apply within [X] feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farms) when the wind is blowing toward the aquatic habitat" is generally acceptable.

It is believed that there have been substantial advances in new technologies and techniques associated with pesticide applications over the past several years. These include for example, changes in application equipment such as nozzles. MCFA also is aware of an air blast application study occurring on the west coast, which is investigating, among other things,

[8] https://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/stormwater-pollution-prevention-manual/a49-jul21.pdf

techniques to reduce spray drift.[9] MCFA is attempting to get additional information on that study, and if obtained, will provide it to the Agency. The Agency should discuss such new technologies with USDA and other knowledgeable persons so that the Agency can appropriately consider such new technologies when it is reviewing a pesticide registration application.

The Agency also has asked regarding spray drift buffers for conservation areas, is the list of examples of conservation areas representative of areas to be protected? EPA should not treat "conservation easements" as equal to public lands and parks. Often these easements involve agreements between farmers and USDA through programs like the Conservation Stewardship Program (CSP) or the Agricultural Conservation Easement Program (ACEP), which are meant to protect but often are closely associated with working lands. Pesticide label restrictions that would infringe a grower's ability to manage their working lands adjacent to conservation easements, would have a negative effect on growers participating in these important programs and could lead to conflict among neighbors where one is looking to manage their working lands and their neighbor decides to put their property into conservation.

4. Pesticide-Treated Seed: Proposed Label Language and Consideration of Future Ecological Mitigation

MCFA believes that the comments submitted by the American Seed Trade Association and by the affected registrants and their association representatives will thoroughly address this issue. MCFA defers to those comments.

5. Promoting Pollinator Stewardship: Proposed Advisory Language

As the Agency is aware, for many years MCFA has been a strong proponent of advisory label language, voluntary management practices *(e.*g., spraying after sunset), and improved communications with commercial pollination services to help reduce the potential risk to non-target pollinators from pesticide applications. Pollinator protection language similar to that which the Agency is presenting in the Appendix has appeared on the labels of various pesticide products over the past several years. MCFA member organizations have developed BMPs for several crops (*e.g.*, apple and almond), worked with the National Association of State Departments of Agriculture and Association of American Pest Control Officials in developing State Managed Pollinator Protection Plans, and has supported federal BMPs for Pollinator Protection. The BMPs identified in the proposed labeling should be very familiar to specialty crop growers. These BMPs appear to be working, given the relatively small number of adverse pollinator incidents. The label advisory language appears understandable and appropriate. MCFA has no suggested changes to the proposed language.

6. Ecological Incident Reporting Label Language

In response to the Agency's question, MCFA is not aware of anyone having issues reporting bee or other ecological incidents to EPA. If such incidents do occur, MCFA believes they will be

[9] See, CURES at https://www.cureswork.org/.

reported as required. Overall, it appears that generally such adverse incidents may not be occurring due to growers following product label directions. In other words, the Agency's actions in finalizing the labeling of pesticide products helps assure that there is a lower likelihood of an adverse incident if the label directions are followed.

Conclusion

MCFA appreciates the efforts of the Agency in developing the Appendix as well as making it available for public comment by interested stakeholders. MCFA looks forward to working with the Agency as it further develops its Workplan Update and applies it in the review of specific chemicals. We believe that the approach presented by the Agency recognizes that agriculture is not monolithic, (particularly within specialty crop production), so a "one size fits all" approach is not appropriate.

We recognize the tremendous amount of work that the ESA Workplan and the ESA Workplan Update represents, and it is our hope that these mitigation approaches will continue to be refined and lead to the development of a more effective regulatory program. Please let us know how we can further assist the Agency as it proceeds in its effort. MCFA believes that working cooperatively with the Agency represents the best opportunity to achieve the goals of the Agency while minimizing the potential disruption to agricultural operations regarding the continued availability of important crop protection chemicals.

Sincerely,

James R. Cranney

Chairman, MCFA

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