

March 4, 2021



## **Final Report from Pest Management Subcommittee Activities**

### **Background**

During Field to Market's June 2017 General Assembly, members from the Brand and Retail Sector expressed concern about pressure from their stakeholders to respond to a growing number of inquiries regarding use of pesticides in their supply chains. Field to Market discussed potential steps to address questions about pesticides in supply chains with the Verification and Metrics Committees, and Field to Market's Board established a multi-stakeholder Pest Management Task Force to develop recommendations for how Field to Market can best respond to this subject.

The Pest Management Task Force was convened in 2018 to explore Field to Market's consideration of pesticides and discuss additional action that the supply chain could take to protect biodiversity and water resources in U.S. agricultural landscapes. The Task Force issued a report in 2019 with several recommendations, one of which stated that the Field to Market Metrics Committee should explore an Integrated Pest Management (IPM)-focused metric that could be used by producers to show measurable improvement over time. Another recommendation from the Task Force was to publish a report on pest management trends in U.S. row crop production. The report, [Trends in Pest Management in U.S. Agriculture: Identifying Barriers to Progress and Solutions Through Collective Action](#), was published in February 2020.

The Metrics Committee held initial discussions in pest management topics during the first quarter of 2020, and the Pest Management Subcommittee was established in July 2020 to include external subject-matter experts to help with identifying potential approaches, tools, and resources for a pest management metric.

The objectives, composition, and timeline of deliverables for the Subcommittee were as follows:

### **Subcommittee Objective**

The main objective was to craft recommendations to the Metrics Committee determining if and how Field to Market should define and measure pest management for Field to Market members while abiding with the principles of a metric that should be pre-competitive, technology neutral, transparent, science-based, and outcome-focused. Metrics should help Field to Market members address farmer and supply chains needs to demonstrate and communicate continuous improvement in environmental outcomes associated with pesticide usage and management. One key question for discussion was to define the environmental outcome of concern and define what continuous improvement in that outcome would be.

Potential outcomes from the Subcommittee included issuing recommendations for creating a new, ninth Field to Market metric based on pest management practices and tied to a ninth environmental outcome of concern, modifying an existing metric to include more questions related to pest management to

evaluate impact on one or more of the eight existing environmental outcomes of concern, or taking no action.

### **Subcommittee Activities and Timeline of Deliverables**

Subcommittee members met for monthly calls to participate in presentations from subject-matter experts, give and receive updates on recent activities, and decide direction on relevant topics. Members were asked several times to provide written feedback between monthly calls. Recommendations to the Metrics Committee will be issued during the March 2021 convening.

### **Subcommittee Composition**

The Subcommittee was composed of Metrics Committee volunteers and external subject matter experts.

Volunteers from Metrics Committee:

- Monica McBride/Clay Bolt (WWF)
- Steve Linscombe (USA Rice)
- Ben Johnson (Smucker)
- John Stewart (Soil Health Partnership)
- Heidi Peterson (Sand County Foundation, Metrics Committee co-chair)

Subject-matter Experts:

- Ed Spevak (Saint Louis Zoo)
- Tom Green (IPM Institute)
- John Tooker (Penn State)
- Clint Pilcher (Corteva)

### **Schedule**

<b>Date</b>	<b>Speakers</b>	<b>Topics discussed</b>
August 2020	Daniel Glas (Bayer), Christy Wright (Corteva)	Field to Market staff provided background and objectives. Discussion of environmental outcomes of a pest management metric. Guest speakers presented on industry perspectives
September 2020	Tom Green (IPM Institute), John Tooker (Penn State)	Measuring IPM adoption; pesticides and soil health effects
October 2020	Ben Johnson (Smucker)	Discussion of value of a pest management metric to Brands & Retailers companies and farmers
December 2020	Sarah Lewis (The Sustainability Consortium)	Past and current pest management initiatives
February 2021		Recommendations to Metrics Committee
March 2021		Recommendations to Metrics Committee

### Pest Management in the Fieldprint Platform

Pest management activities are currently considered in the Fieldprint Platform for the Energy Use, Greenhouse Gas Emissions, Biodiversity, and Water Quality Metrics. The current Water Quality Metric, the Water Quality Index (WQI), will be updated in mid-2021 to the Stewardship Tool for Environmental Performance (STEP), and will no longer have a pest management component after the switch to STEP. Details of the accounting of pest management operations in the Fieldprint Platform are available in an [external document](#).

### Main Recommendations Based on Subcommittee Objectives

1. Subcommittee members showed no inclination towards adopting a ninth Field to Market Metric associated with a new environmental outcome for pest management.
2. Subcommittee members have indicated support towards the modification of an existing metric, the Biodiversity Metric, to incorporate more pest management material.
  - a. For the Biodiversity Metric, members stated that the question about Integrated Pest Management should be improved to include more details, and other pest management questions should be included as well.
  - b. One suggested approach is to use The Sustainability Consortium (TSC) Responsible Pest Management framework to guide potential new questions or modifications, while another is to add a question such as “Are you interested in learning more about the biodiversity on your farm?”, to offer an opportunity for producers interested in biodiversity to collaborate with surveyors and other supporting organizations.
3. Members recommend that, following Field to Market Metrics revision schedule, all relevant Metrics should be evaluated for incorporation of pest management material. If promising tools or models related to pest management are discovered or presented to Field to Market, it is also recommended to review them and potentially incorporate them into relevant metrics as needed.
4. Members recommend assessing the feasibility of incorporating a qualitative pest management module to the STEP Water Quality Metric that reflects a score based on water quality impact of pest management operations or practices.

### Other Subcommittee Suggestions for Discussion

- Subcommittee members have not been in favor of adopting any of the quantitative and qualitative models explored by or presented to the Subcommittee. Quantitative models explored include [PestLCI](#), [USETox](#), [SYNOPS 2](#), and [Environmental Yardstick for Pesticides](#) (EYP), while qualitative models include [Windows Pesticide Screening Tool](#) (WIN-PST), [Environmental Impact Quotient](#), Multi-attribute Toxicity Factor Model (MATF), and [Pesticide Risk Tool](#). Reasons for not adopting these models included the prohibitive amount of data required to run the models or tools and the burden they would represent for farmers, not adhering to Field to Market principles of technology neutrality, or overall lack of suitability for Field to Market needs.
- Subcommittee members have indicated that Field to Market needs to avoid survey fatigue whenever possible. With the goal of avoiding duplication of efforts with other initiatives in the pest management space, members recommend conducting a gap analysis between what Field to Market offers and what other organizations, such as Sustainable Agriculture Initiative (SAI), Stewardship Index for Specialty Crops (SISC), Cool Farm Tool (CFT), TSC, and others are doing to find opportunities for alignment and/or harmonization for pest management topics.
- The Subcommittee acknowledges the work being conducted by TSC in their Responsible Pest Management framework, which focuses on biodiversity, environmental protection and

resilience, pest suppression, optimal production, and human and animal health. Since their work is not yet final and pilots are still being conducted, members recommend that the framework be reviewed when it is finalized to look for alignment or harmonization, and that Field to Market members participating in pilots with TSC be surveyed about their thoughts and experiences with the framework. A member indicated that many of the questions in the framework cannot be answered by producers but rather by pesticide applicators who are often hired to conduct pest management field operations on the producers' behalf, and that data collection from this third party can pose a serious challenge for implementing the framework.

- It was suggested that members from the Brands & Retail Sector that placed the original request about pest management in the Field to Market Plenary of 2017 be surveyed about their current positions and efforts on pest management. Moreover, there were several Field to Market members that expressed similar concerns during the 2019 Cross Sector Dialogue about pest management; it is also recommended that Field to Market staff and the Metrics Committee learn about their current positions as well. This would provide information about the existence of any gaps between what Field to Market offers and their members' needs in the pest management space. These suggested tasks could be included in Field to Market's strategic plan refresh that will occur during 2021.
- Subcommittee members stated that, in the case that further questions about pest management are added to the Fieldprint Platform, those questions should ideally be readily answerable by producers, without having to contact external pesticide applicators to obtain more information. However, it is noted that obtaining information from 3<sup>rd</sup> parties might not be completely avoidable, depending on the producer's involvement and the diversity of pest management field operations.
- Members suggest that Field to Market focus on developing educational materials that reinforce IPM tenets such as following pesticide labels, scouting fields to understand pest levels and the need to economically control the population, rotating modes of action, and consulting with local technical advisers. Educational material that delves into topics such as recommended pesticide rates, timings, and active ingredients, are best addressed by certified crop advisers, retail agronomists, University Extension, and other professionals that are cognizant of local cropping conditions.
- Members state that, given all the organizations, frameworks, and initiatives in the pest management space, Field to Market should produce guidance for Field to Market projects that may wish to use any of these external frameworks to track improvements in pest management.
- The subject of pesticide seed coatings came into the group discussion several times. These coatings have become standard on some commodity crops, like corn and cotton, and are somewhat less common on other crops like soybeans and wheat. It was noted that farmers who want to avoid these seed coatings on corn can have difficulty buying seeds without pesticide coatings. Depending on their preferences, some farmers can buy uncoated seeds if they purchase their seeds early in fall of the previous year; however, other growers that seek particular corn varieties may only have pesticide-coated seeds available to them. The Subcommittee and Field to Market urge seed providers to provide farmers with greater choices for buying pesticide-coated seeds, uncoated seeds, and/or pesticide coatings with their active ingredients of choice. Moreover, research<sup>1</sup> has shown that producers may not know the full list of pesticides coating their seeds (seed coatings typically comprise multiple active ingredients). Having this information easily accessible can enable producers to rotate their pesticides modes of action (an important component of Integrated Pest Management) and avoid using pesticides not needed in their operations or for their local soil and cropping conditions.

## References

1. Hitaj, C., Smith, D.J., Code, A., Wechsler, S., Esker, P.D. and Douglas, M.R., 2020. Sowing uncertainty: what we do and don't know about the planting of pesticide-treated seed. *BioScience*, 70(5), pp.390-403.