INVESTOR ENVIRONMENTAL HEALTH NETWORK

Pesticide Reduction Recommendations for Food Systems Companies

Investor guidance for food retailers and manufacturers

VERSION 1.0 | NOVEMBER 2026

ASSESS → STRATEGIZE → INCENTIVIZE & VERIFY



INVESTOR ENVIRONMENTAL HEALTH NETWORK

Clean Production Action

OVERVIEW

The three recommendations at a glance

A practical pathway from identifying pesticide risk to delivering verified reductions.

01 ASSESS	02 STRATEGIZE	03 INCENTIVIZE & VERIFY
Map biodiversity dependencies, pesticide use, hazards, and financial exposure.	Set accountable, time-bound pesticide reduction targets and transition plans.	Support farmers and demonstrate independently verified risk reduction outcomes.

INTRODUCTION

Summary

Pollution, including from chemicals and waste, has been identified as one of the five key drivers of biodiversity loss and ecosystem change, and plant and insect populations are in decline partly due to the persistent use of highly hazardous pesticides (a term inclusive of herbicides, insecticides, and fungicides).[1] The business case for addressing pesticide risk and its contribution to biodiversity loss is clear: it can help companies by reducing regulatory and litigation exposure, strengthening supply chain resilience, meeting growing demand for sustainably sourced ingredients, and bolstering brand reputation. The underlying risks are financially material to enterprise value—input cost and supply security, contingent liability, and regulatory-compliance exposure—reinforced by, but distinct from, the broader societal and environmental costs described below.

Moreover, food system companies are increasingly adopting and implementing 'regenerative agriculture' commitments and programs, often as part of broader nature-based strategies. Although regenerative agriculture has the potential to achieve the goals of climate-smart agriculture while also reversing the negative impacts of extractive agricultural production systems, the lack of a standardized definition, regulation, and criteria, particularly as it relates to pesticide reduction efforts, makes the practice susceptible to greenwashing risks. As a result, it is imperative for institutional investors to understand how companies are mitigating these risks and capitalizing on opportunities through well-defined and evidence-based agricultural practices that deliver measurable pesticide reduction.

Underlying this is a structural reality that a ten-year horizon brings into focus. Most large-scale agricultural systems are locked into dependency on pesticides—a dependency that underpins current food security even as it generates cumulative harm to human health and ecosystems. As the weight of independent scientific evidence linking specific pesticides to human health and ecological harm continues to accumulate—including associations with certain cancers, neurodegenerative diseases such as Parkinson's, reproductive and developmental effects, and the decline of pollinators and other species on which food production depends—

[1] https://www.ipbes.net/news/Media-Release-Global-Assessment

the regulatory, litigation, and market risks attached to that dependency rise with it. These costs are latent and hard to price precisely today, but their direction is foreseeable, and the balance is shifting so that, for a growing set of companies, the cost of inaction exceeds the cost of transition. This is the blind spot in many current regenerative agriculture programs: they leave unaddressed a company's revenue dependency on the very pesticides driving this rising exposure. Building the systems to reduce that dependency early converts an unmanaged, compounding risk into a planned transition—the outcome this guidance is designed to support.

> *For a growing set of companies, the cost of inaction exceeds the cost of transition.*

ABOUT THIS VERSION

This is Version 1.0 of our guidance. Outcomes from the 17th Conference of the Parties to the Convention on Biological Diversity (CBD COP17) and the first International Conference under the Global Framework on Chemicals (IC1), as well as feedback from companies and other leading experts, will inform the development of future iterations of this guidance in 2027. A resource guide providing tools and examples of best practice to support implementation of the recommendations is forthcoming.

The recommendations in this document are designed to help food retailers and food manufacturers understand, identify, and mitigate the risks associated with the persistent use of pesticides and incorporate pesticide reduction efforts into regenerative/sustainable agricultural practices. By addressing this current gap in regenerative programs and commitments, this guidance will help food system companies manage long-term business risks, meet growing demand for ingredients inherently safer for human health, the climate, and biodiversity, and future-proof supply chains and food security. We acknowledge that organic agriculture is the leading regulated form of agriculture that places meaningful restrictions on agrochemical use and that it has a legal definition, regulatory standards, and independent certification systems. We also recognize that not all actors within the food system are currently in a position to adopt organic practices at scale; therefore, this guidance is meant to help companies transition from conventional agriculture to better practices that reduce dependency on pesticides.

While this guidance was designed primarily for institutional investors (e.g., asset owners and managers) to use in their stewardship and investment activities, other actors within the financial value chain (e.g., lenders and insurers) are welcome to adapt the recommendations and metrics for use in their own engagements and risk assessment processes.

IMPORTANT NOTICE

This document was produced with input from asset managers and other investor groups participating in the Investor Environmental Health Network (IEHN) Biodiversity and Pesticide Reduction Working Group. IEHN is a program of Clean Production Action (CPA), a US-based 501(c)(3) nonprofit organization. IEHN and CPA seek to reduce the financial risks

of chemical pollution while leveraging the economic value of safer alternatives. Our analysis and other activities are subject to all relevant laws, including competition and antitrust laws, which prohibit agreements and concerted practices that have the object or effect of preventing, restricting, or distorting competition. This guidance is provided as informational input to each investor's and each company's own independent risk analysis; it does not call for, and should not be construed as, any agreement, coordinated commitment, output restriction, or exchange of competitively sensitive information among market participants, each of whom adopts or declines these practices unilaterally based on its own determination of financial materiality. In addition, the views and analysis presented in this document do not necessarily represent the positions or perspectives of every member of IEHN. Investors' endorsement of these best practices is separate and apart from their independent determinations regarding any company's elections and should not be understood to imply support for or opposition to any directors.

Furthermore, companies considering these best practice guidelines are expected to undertake their own legal and fiduciary due diligence. This includes modifying their approach to biodiversity and pesticide management where legal or fiduciary obligations necessitate otherwise, including where fiduciary or competition law analysis precludes adoption.

HOW PESTICIDE DEPENDENCY BECOMES FINANCIAL RISK

A connected chain of operational, environmental and enterprise-level exposure.



THE CASE FOR ACTION

Rationale for Action

Chemical pollution has crossed a planetary boundary, meaning human-induced changes have pushed the Earth's systems outside safe limits.[2] Pesticides are a major driver of biodiversity decline, with studies documenting a 60% decline in European farmland bird populations and an over 70% decline in insect populations, including pollinators and natural pest predators. Recent research published in *Science* found that total applied pesticide toxicity has increased for most species groups globally. The research noted that substantial actions—combining shifts to less-toxic pesticides and increased adoption of organic agriculture—will be required to meet the Kunming-Montreal Global Biodiversity Framework (GBF) Target 7, which calls for a reduction of overall pesticide risk by at least half by 2030.[3]

NATURE UNDER PRESSURE

Figures cited in the Rationale for Action; see the accompanying source notes.

60%
Decline in European farmland bird populations

70%+
Decline in insect populations, including pollinators and natural pest predators

$44T
Global economic value generation highly or moderately dependent on nature

The continued loss of pollinators poses significant financial risks for the entire food industry because an estimated $235 billion to $577 billion worth of global annual food production relies on contributions by pollinators.[4] Additionally, pesticides and related chemicals in the global food system generate an estimated $2.2 trillion annually in human health costs and a further $640 billion in environmental costs, including crop losses and management of pesticide-resistant pests.[5] The global economy's function and success are dependent on nature and biodiversity, with at least $44 trillion of global economic value generation highly or moderately dependent on it.[6] Forward-looking risk assessments echo this exposure: the World Economic Forum's *Global Risks Report 2026* ranks biodiversity loss and ecosystem collapse as the second-most-severe global risk over the coming decade, behind only extreme weather events, with five of the ten most severe long-term risks environmental in nature.[7] Continued ecosystem losses pose a systemic risk to companies, their supply chains, and their shareholders.

[2] Linn Persson et al. "Outside the Safe Operating Space of the Planetary Boundary for Novel Entities," Environmental Science & Technology, Vol 56/Issue 3, January 18, 2022.

[3] Wolfram et al. (2025). Increasing applied pesticide toxicity trends counteract the global reduction target to safeguard biodiversity. Science.

[4] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). "The Assessment Report on Pollinators, Pollination and Food Production." February 26, 2016.

[5] Systemiq. (2025). "Invisible Ingredients: Tackling Toxic Chemicals in the Food System."

[6] World Economic Forum. "Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy." January 2020.

[7] World Economic Forum. "The Global Risks Report 2026," 14 January 2026. Biodiversity loss and ecosystem collapse is ranked the second-most-severe global risk over the 10-year (to 2036) horizon. https://www.weforum.org/publications/global-risks-report-2026/

THE SCALE OF THE EXPOSURE

Figures cited in the Rationale for Action; see the accompanying source notes.

$235–577B
Annual food production reliant on pollinator contributions

$2.2T
Estimated annual human-health costs of pesticides and related food-system chemicals

2030
Global Biodiversity Framework target: halve overall pesticide risk

Litigation exposure is not hypothetical. Glyphosate-related product-liability claims alone have produced multi-billion-dollar settlements and jury verdicts, and a marked erosion of the leading manufacturer's market capitalization, while dicamba-drift and chlorpyrifos cases have generated further liability across the value chain. For food retailers and manufacturers, the corollary risks are sourcing disruption, reformulation and recall costs, and reputational damage when a widely used input becomes a contested liability—among the most direct, enterprise-level demonstrations that pesticide dependency is financially material today, not only over the long term.

Regulations related to pesticide production and use, and to biodiversity protection, are shifting regionally, nationally, and internationally. In addition to GBF Target 7, the UN Global Framework on Chemicals (GFC) Target A7 calls for the phase-out of highly hazardous pesticides in agriculture by 2035. The EU Corporate Sustainability Reporting Directive (CSRD) requires disclosure on biodiversity impacts (ESRS E4), including pesticide use and ecosystem dependencies. In the United States, California recently passed legislation that requires the state to monitor and disclose PFAS pesticide use, and both Maine and Minnesota have banned the use of PFAS pesticides.[8]

Investors are demonstrating increasing concern about how companies are assessing and managing their dependence and impact on biodiversity and ecosystems. In 2025, more than 44 investors representing over $4 trillion in assets under management issued joint statements calling on the chemical industry to transition away from highly hazardous chemicals.[9] Additionally, more than 240 institutional investors representing over $30 trillion in assets under management (AUM) participate in Nature Action 100, and over 200 financial institutions representing over $22 trillion AUM participate in the Finance for Biodiversity initiative, engaging companies in key sectors deemed systemically important in reversing nature and biodiversity loss by 2030.[10]

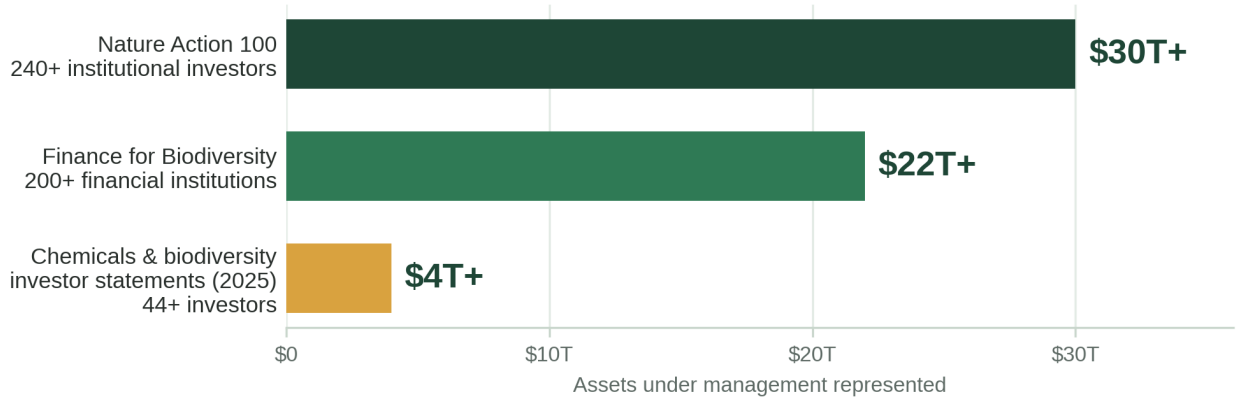
[8] EWG. "Newsom signs landmark bill to track and disclose PFAS pesticide use in California." September 28, 2026.

[9] ShareAction Chemicals and Biodiversity Investor Statements, 2025. Over 44 investors representing $4+ trillion AUM. Coordinated by ShareAction, Achmea Investment Management, ChemSec, Erste Asset Management, IEHN/CPA, Planet Tracker, and Mercy Investment Services.

[10] https://www.natureaction100.org/investors/

INVESTOR MOMENTUM ON NATURE AND CHEMICALS

Assets under management represented by investor initiatives cited above (see notes 9 and 10).



As risks increase, so do opportunities. Companies investing in organic agriculture, integrated pest management (IPM), and least-toxic growing practices are positioning themselves to capture growing market demand for sustainably sourced food, reduce supply chain vulnerability linked to pollinator decline and soil degradation, and align with emerging disclosure frameworks, including the Taskforce on Nature-related Financial Disclosures (TNFD). The economic benefits of pesticide use reduction and organic agriculture practices are well established. Consumer demand for organic products has exhibited double-digit growth most years since the 1990s,[11] and annual economic gain from a regenerative agriculture system is estimated to be $1.17 trillion by 2030 and $3.04 trillion by 2050, with a reduction of public health costs of $850 billion a year by 2030.[12] Furthermore, a World Bank meta-analysis found that farmers' profits increased by an average of 19% as a result of implementing nature-based solutions.[13] The World Bank figure spans nature-based solutions broadly rather than pesticide reduction specifically; at the enterprise level, however, early corporate programs point the same way. For example, Danone reported a roughly 10% reduction in synthetic pesticide and mineral-nitrogen use in a strawberry-sourcing project in Morocco, and PepsiCo's practice- and outcomes-based scheme in Brazil pays farmers upfront for sustainable inputs and adds performance bonuses tied to measurable in-season agrochemical reductions. These programs remain early and unevenly disclosed, but they indicate that reduction can be structured to protect grower economics rather than erode them.

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OF 78 COMPANIES

According to FAIRR's assessment of 78 publicly listed agri-food companies, none of the companies have set a target to reduce the use of pesticides as part of their regenerative agriculture programs.

FAIRR, REGENERATIVE AGRICULTURE: MOVING FROM AMBITION TO CREDIBILITY (2026)

[11] Economic Research Service, USDA. "Organic Agriculture." January 27, 2026.

[12] The Food and Land Use Coalition. "Growing Better: Ten Critical Transitions to Transform Food and Land Use." September 2019.

[13] Damania, Richard; Ebadi, Ebad; Mayr, Kentaro; Russ, Jason; Zaveri, Esha. 2025. Reboot Development: The Economics of a Livable Planet. © World Bank. http://hdl.handle.net/10986/43522 License: CC BY 3.0 IGO.

A growing number of food sector companies are adopting regenerative agriculture commitments and mentioning regenerative agriculture practices in their disclosures and nature-based strategies. However, few companies have clearly defined regenerative agriculture to include a reduction in pesticide use or set quantified targets, and disclosure of positive impacts and outcomes remains inconsistent. According to FAIRR's assessment of 78 publicly listed agri-food companies, none of the companies have set a target to reduce the use of pesticides as part of their regenerative agriculture programs.[14] This is in spite of the fact that the broad use of hazardous pesticides is fundamentally incompatible with the commonly stated goals of regenerative agriculture, which include building soil health, promoting resilience, and protecting biodiversity and human health. Furthermore, recent investor research documents active backsliding, not mere stagnation: major food companies that had previously disclosed pesticide data and set reduction targets are now withdrawing those commitments from public reporting.[15] This underscores the importance of robust verification, independent validation, and accountability mechanisms embedded in these recommendations. Without input-based and outcome-oriented targets and the corresponding measurement of progress, investors cannot fully assess the effectiveness of companies' regenerative agriculture programs and whether they are contributing to resilient ecosystems.

We recognize that there are multiple significant drivers of nature and biodiversity loss. This guidance is intended to add value to existing frameworks and standards by focusing on pesticides as one of those key drivers. We also acknowledge that the use of agricultural inputs has contributed to increases in global food production on a smaller land footprint, helping to minimize land conversion for agricultural purposes. The position of this guidance is not necessarily to eliminate all chemical inputs, but to highlight the risks associated with continued dependency on highly hazardous pesticides and outline a transition plan to a healthier, more resilient, and more sustainable food system that utilizes least-toxic growing methods. The recommendations and accompanying metrics and milestones offer a roadmap for continued progress that meets companies where they are in their sustainability journey, provides a maturity pathway, and supports long-term risk management.

The recommendations here are informed by globally recognized frameworks, including the GBF, GFC, CSRD, TNFD, Science Based Targets Network (SBTN), Global Reporting Initiative (GRI), and Nature Action 100, and are specifically designed to address long-term business risks and help future-proof value chains. Because the regulatory landscape is itself volatile—binding instruments can be delayed, narrowed, or withdrawn, as the EU's Sustainable Use Regulation was in 2024 and as the CSRD's scope was substantially reduced in 2026—these recommendations are constructed to rest on financial fundamentals that hold regardless of regulatory change: input cost and security, litigation exposure, physical dependency on pollinators and soil, and market demand.

[14] FAIRR. "Regenerative Agriculture: Moving from Ambition to Credibility." June 2026.

[15] https://www.asyousow.org/reports/2026-pesticides-in-the-pantry-transparency-risk-in-food-supply-chains

WHAT WE RECOMMEND

Best Practice Recommendations for Food Retailers and Food Manufacturers

Summary

1

Conduct a biodiversity and pesticide impact assessment

Starting with high-impact sourcing regions and product categories, assess biodiversity dependencies and impacts and pesticide use and risk across the value chain, evaluate the efficacy of regenerative agricultural practices in reducing pesticide dependence and risk, and disclose material impacts on ecosystems.[16]

2

Adopt a comprehensive pesticide reduction strategy that is embedded in regenerative agriculture practices

Establish a strategy—with appropriate oversight, accountability, and resources—that sets timebound input- and practice-based targets aligned with the intended outcomes of the Global Biodiversity Framework and Global Framework on Chemicals, integrated into regenerative agriculture practices, and that ensures continuous evaluation for efficacy.[17,18]

3

Incentivize and verify regenerative agriculture practices that deliver measurable pesticide reduction

Invest in farmer transition support, independently verified certification programs, and input-based and outcome-oriented metrics that demonstrate measurable pesticide use and risk reduction through regenerative agricultural practices.[19]

[16] Aligned with EU CSRD (ESRS 2 SBM-3); Kunming-Montreal Global Biodiversity Framework (GBF); TNFD; SBTN; Nature Action 100.

[17] Aligned with EU CSRD (ESRS 2 IRO-1, E4-2); GBF; TNFD; Nature Action 100; Friends of the Earth Bee Friendly Scorecard.

[18] Aligned with EU CSRD (E4-4); GBF Target 7; Global Framework on Chemicals (GFC) Targets A3, A7; TNFD; SBTN; Nature Action 100; ChemSec ChemScore; Friends of the Earth Bee Friendly Scorecard; CPA Chemical Footprint Survey.

[19] Aligned with GBF Target 19; GFC Targets D1, D3, D4, E3; CPA Chemical Footprint Project Survey; ChemSec ChemScore.

MEASURING PROGRESS

Milestones and Metrics to Measure Progress

A PRACTICAL TRANSITION TIMELINE

Align company milestones with the international targets referenced in this guidance.

NOW	2030	2035
Assess sourcing exposure, disclose baseline and begin farmer transition	Contribute to GBF Target 7: reduce overall pesticide risk by at least half	Contribute to GFC Target A7: phase out highly hazardous pesticides in agriculture

RECOMMENDATION 1

Conduct a biodiversity and pesticide impact assessment

- Assess and disclose the company's material impacts, both positive and negative, and dependencies on biodiversity and ecosystems across the full value chain, including how these interact with the company's strategy and business model.[20] Companies should implement robust supply chain traceability to ensure the full scope of impacts, dependencies, risks, and opportunities are captured in the assessment.
- Evaluate pesticide use and risk, identifying where pesticide-driven impacts on biodiversity are most acute.[21] Assess where agriculture systems, such as organic farming or regenerative practices (e.g., cover cropping, diversified rotations, biological and integrated pest management, and habitat diversification), are reducing or could reduce reliance on pesticide use in the company's supply chain.[22] Assess and identify what additional tools are needed to address gaps in regenerative or other agricultural practices.
- Quantify the contribution of regenerative agriculture practices to measurable pesticide risk reduction using, if possible, both input-based metrics around volume and hazard and outcome-oriented metrics, such as the IPM Institute's Pesticide Risk Tool[23] or the Environmental Impact Quotient (EIQ) field-use rating recommended by the WBCSD Global Framework for Regenerative Agriculture.[24,25]
- Starting with high-impact product categories and sourcing regions identified via the process in bullets #1 and #2 above, measure and disclose the company's pesticide footprint (i.e., the company's dependency on pesticides that contain chemicals of concern, including persistent, bioaccumulative, and toxic

[20] Aligned with EU CSRD (ESRS 2 SBM-3); Global Biodiversity Framework (GBF); TNFD; SBTN; Nature Action 100

[21] Aligned with EU CSRD (E4-5); GBF; GFC; TNFD; SBTN; Nature Action 100; Friends of the Earth Bee Friendly Scorecard.

[22] WBCSD Global Framework for Regenerative Agriculture. See: https://www.wbcsd.org/actions/a-global-framework-for-regenerative-agriculture/

[23] Eleanor L Meys, Pierre Mineau, Peter Werts, Sally G A Nelson, Ariel Larson, William D Hutchison, Assessment of insecticide risk quantification methods: Introducing the Pesticide Risk Tool and its improvements over the Environmental Impact Quotient, *Journal of Integrated Pest Management*, Volume 15, Issue 1, 2024, 9, https://doi.org/10.1093/jipm/pmad032

[24] https://www.wbcsd.org/metrics/environmental-impact-quotient-eiq-field-use-rating/

[25] The WBCSD Global Framework is a voluntary measurement and reporting framework, not a consumer-facing certification label. Companies using the WBCSD EIQ metric should pair it with one of the certified programs noted in the Resources & Leading Practices document to provide supply chain verification and consumer-facing credibility.

chemicals (PBTs); carcinogenic, mutagenic, and reprotoxic chemicals (CMRs); and endocrine disruptors), including dependency on Highly Hazardous Pesticides (HHPs), using authoritative hazard lists and risk-based assessment tools.[26] Companies should prioritize parts of the value chain where pesticide-related risks to biodiversity are greatest based on a consideration of the inherent hazards of the pesticides used, application volumes, and local biodiversity conditions (e.g., near protected areas, containing protected or vulnerable species, or near a body of water).

- Based on the company's pesticide footprint, disclose revenue dependency on high-impact product categories and sourcing regions that utilize HHPs and pesticides that contain chemicals of concern.

RECOMMENDATION 2

Adopt a comprehensive pesticide reduction strategy that is embedded in regenerative agriculture practices

- Develop a public-facing pesticide reduction policy, fully integrated into operations with adequate staffing and budgetary resources and robust governance accountability,[27] that includes:
  - A clear commitment to a dedicated strategy addressing the company's pesticide use and risk, as well as its impacts and dependencies on biodiversity and ecosystems.[28]
  - Timebound input- and practice-based targets related to a company's pesticide use and risk, and dependencies and impacts on biodiversity and ecosystems. The targets should contribute to GBF Target 7 (reduce overall pesticide risk by at least half by 2030) and GFC Target A7 (phase out highly hazardous pesticides by 2035) and be aligned with international frameworks (e.g., TNFD, GRI, and the EU Biodiversity Strategy for 2030) and relevant local policies and regulations.[29] Additionally, practice-based targets (e.g., cover cropping, buffer zones, agroforestry, integrated pest management) should seek to contribute to clear positive outcomes, including clean water, healthy soil, increased biodiversity, and healthy farm workers. Practice-based targets that fail to address pesticide use and risk create vulnerabilities for growers and brands by perpetuating a risk gap.
  - Interim targets that guide the company toward the sound management of chemicals and waste, reduction of pesticide use and risk throughout the value chain, and avoidance of HHPs.[30] This could include improving supply chain traceability to map agricultural suppliers by location, crop, and volume/type of pesticides used; developing internal operational capacities via staffing, training, investments, etc.; and providing support and resources to suppliers/farmers (e.g., training, capacity building, learning opportunities with peer growers, financial support). Targets should focus on reducing overall risk or toxicity per acre or per ton of product to accurately reflect overall intensity. Targets based only on volume can incentivize a switch from less-toxic to more-toxic active ingredients that are used at lower volumes.
  - A transition plan for how the company will shift sourcing to safer, less hazardous agricultural practices through procurement policies, supplier engagement, and supply chain management. Include measurable

[26] Such as the PAN International Highly Hazardous Pesticide List and the FAO/WHO Guidelines on Highly Hazardous Pesticides.

[27] Aligned with GRI 2: General Disclosures (2-12, 2-13, 2-24). https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/ ; EU CSRD (E4-3); GBF; GFC; TNFD; Nature Action 100

[28] Aligned with EU CSRD (ESRS 2 IRO-1, E4-2); GBF; TNFD; Nature Action 100; FoE's Bee Friendly Scorecard

[29] Aligned with EU CSRD (E4-4); GBF; Global Framework on Chemicals (GFC) (Target A3, A7); TNFD; SBTN; NA100; ChemSec's ChemScore; FoE's Bee Friendly Scorecard; CPA's Chemical Footprint Survey.

[30] Aligned with CPA Chemical Footprint Survey KPIs; ChemSec ChemScore; GFC Target A7.

targets for the percentage of sourced agricultural volume transitioning to least-toxic growing practices, with verified pesticide reduction outcomes, and with milestones aligned to the 2030 and 2035 global target timelines.

- If pesticides are used, adopt supplier requirements for drift reduction measures for volatile and hazardous pesticides—including dicamba and 2,4-D—such as buffer zones near sensitive areas, use of drift-reducing nozzles, and restrictions on application during high-wind or high-temperature conditions. Require notification of adjacent communities and farmworkers prior to application of such pesticides.
- Adopt and disclose farmworker pesticide protection requirements across supply chains, including: bilingual pesticide safety training for agricultural workers; advance community notification prior to application of volatile or hazardous pesticides; and supplier requirements for personal protective equipment and re-entry interval compliance.
- Validate results through independent assessments to verify the effectiveness of the program against stated pesticide reduction targets.
- Report (in a standalone document or integrated into existing reporting) annually on relevant policies, targets, and progress.[31]

RECOMMENDATION 3

Incentivize and verify regenerative agriculture practices that deliver measurable pesticide reduction

- Adopt the FAIRR Initiative's four-stage assessment framework—Ambition, Targets, Implementation, and Validation—to self-assess and disclose the maturity of regenerative agriculture commitments as they relate to pesticide reduction.[32]
- Invest in farmer transition programs—including cost-sharing, agronomic advisory services, IPM training, biological pest control expertise, and access to safer alternatives—to support adoption of regenerative practices that reduce pesticide use and risk.[33] These investments could be made through capital or operating expenditure, or embedded in supplier purchasing agreements.
- Support the development of shared Monitoring, Reporting, and Verification (MRV) systems among value chain actors to establish aligned metrics and comparable data. Aligned metrics better enable stakeholders to share the costs and benefits of implementing regenerative agriculture practices.[34]
- Report pesticide risk reduction outcomes using impact metrics such as the EIQ field-use rating or Pesticide Risk Tool applied to supply chain acres, pesticide use intensity trends by label signal word, and percentage of volume sourced from programs with binding HHP prohibition.[35]

[31] Aligned with EU CSRD; TNFD; Nature Action 100.

[32] FAIRR Initiative, The Four Labours of Regenerative Agriculture, September 2023. See: https://www.fairr.org/resources/reports/regenerative-agriculture-four-labours

[33] Aligned with GBF (Target 19); GFC (Targets D1, D3, D4, E3); CPA's Chemical Footprint Project Survey

[34] WBCSD "Implementing Outcome-Based Metrics to Scale Regenerative Agriculture," May 2025, https://www.wbcsd.org/resources/implementing-outcome-based-metrics-to-scale-regenerative-agriculture/.

[35] Aligned with EU CSRD (E4-3); GBF; GFC; TNFD; Nature Action 100; ChemSec ChemScore; CPA Chemical Footprint Project (CFP) Survey

- Disclose revenue and percentage of sales derived from certified organic foods and beverages (USDA or internationally harmonized equivalents), recognizing organic certification as a foundational element of the most rigorous regenerative standards.
- Track and disclose the percentage of sourced volume certified under externally recognized and verified certification and regenerative agriculture standards with meaningful criteria on integrated pest management and/or explicit pesticide reduction requirements,[36] including:
  - **Regenerative Organic Certified (ROC):** Rated by Friends of the Earth (2026) as the strongest threshold standard—fully meeting the bar on pesticide prohibition, toxicity reduction, neonicotinoid and GMO prohibition, all five IPM principles, and soil health—with third-party verification via accredited organic certifiers.
  - **USDA Organic:** Rated by Friends of the Earth (2026) as fully meeting the bar on pesticide prohibition, toxicity reduction, neonicotinoid and GMO prohibition, all five IPM principles, and soil health—with third-party verification via accredited organic certifiers.
  - **EU Organic[37]:** Prohibits the use of GMOs, ionizing radiation, and hormones, and limits the use of artificial fertilizers, herbicides, and pesticides. In Europe, Bio is the label for the EU Organic Regulation. Bio fully meets the bar on pesticide prohibition, toxicity reduction, neonicotinoid-seed prohibition, GMO prohibition, all five IPM principles, and soil health practices. The following schemes use EU Organic as a baseline and may include stricter input restrictions, enhanced biodiversity measures, higher animal welfare standards, additional requirements on water retention and soil management, as well as social criteria: Bioland (Germany); Naturland (Germany/International); Bio Suisse (Switzerland); KRAV (Sweden); Gäa (Germany); Soil Association Organic (United Kingdom); and EKO (Netherlands). Some schemes also place a stronger emphasis on regional aspects, such as short supply chains, regional origin, and fair partnerships: Biokreis (Germany); Bio Austria (Austria); Biogarantie (Belgium); Bio Cohérence (France); and Nature & Progrès (France).
  - **A Greener World Certified Regenerative:** The highest-performing non-organic threshold standard (FOE 2026), fully meeting the bar on toxicity reduction, neonicotinoid and GMO prohibition, and all five IPM principles; all synthetic pesticides and fertilizers must be phased out over time per a producer-specific Regenerative Plan.
  - **Demeter Biodynamic:** Prohibits synthetic pesticides and fertilizers (USDA Organic-equivalent plus biodynamic practices); rated by FOE (2026) as fully meeting the bar, with strong segregation and traceability (note: second-party verification).
  - **Real Organic Project:** Requires USDA Organic as a baseline and mandates cover cropping and crop rotation; rated by FOE (2026) as fully meeting the bar on pesticide prohibition, toxicity reduction, and soil health. Full evaluation in the Appendix.
  - Partial-tier standards (Rainforest Alliance, Field to Market, Soil & Climate Initiative) and caution-tier pathway standards (Regenified, Regenagri) are evaluated in full in the Appendix; investors should not treat volume under the caution-tier programs as evidence of pesticide risk reduction without independently verified data.

[36] Aligned with SASB Agricultural Products Standard (FB-AG-430a.1). https://navigator.sasb.ifrs.org/sector/FB/industry/FB-AG

[37] https://agriculture.ec.europa.eu/farming/organic-farming/organic-production-and-products_en#organicproductionrules

ABOUT

About IEHN and this guidance

IEHN's role. Through sustained investor engagement, IEHN has helped build demand for the hazard disclosure, policies and safer-chemistry commitments featured here.

About this document. Produced with input from asset managers and investor groups in the IEHN Biodiversity and Pesticide Reduction Working Group. IEHN is a program of Clean Production Action. IEHN's activities are subject to all relevant laws, including competition and antitrust laws; the views here do not necessarily represent every IEHN member, and companies considering these practices should undertake their own legal and fiduciary due diligence. Company examples are drawn from public disclosures and are illustrative, not endorsements.

Let's make a difference, together.

For more information about pesticide reduction and regenerative agriculture for food systems companies:

IEHN — iehn.org