The Equitable Food Initiative Standard

Version 1.0, June, 2013

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Responsibility for the Standard

The EFI Standards and Scheme Committee has responsibility for this document, and will periodically review and update it.

Users should verify that they are using the latest copy by checking on the EFI website at: www.equitablefood.net.

Versions Issued

Version No.	Date	Description Of Amendment
V1.0	June, 2013	First public-facing version

About the Equitable Food Initiative (EFI)

Though produce is an essential part of a healthy diet, it is also one of the most common source of food-borne illness outbreaks. The people who harvest our fruits and vegetables are among the lowest-paid and marginalized workers in America, and face extremely high rates of occupational risk. Moreover, common pest management strategies create toxic exposure risk for workers and raise consumer concerns about the environment and food safety. EFI tackles these labor, food safety and pest management challenges simultaneously, by training farmworkers to identify problems at the point of production and empowering and incentivizing workers to solve them.

EFI is developing a certification system through which farms that are audited and found to comply with our Standard will be licensed to apply an EFI label to their produce. Retail and food service companies seeking higher levels of assurance about food safety and ethical working conditions will support growers to comply with the Standard, and "conscious consumers" will seek out the EFI label. This dynamic will push resources back through the value chain to farmworkers, as EFI's Standard mandates improved wages and conditions.

Our focus on worker involvement and active collaboration among the stakeholders sets EFI apart from other certification processes. Once a farm has been certified by a third-party auditor to comply with the Standard, an EFI-trained "Leadership Team" helps the farm management and workforce to verify ongoing conformity, thereby reducing the likelihood of future labor violations, produce contamination, or pesticide hazards on the farm. Because of this continuous verification, EFI certified product will create greater assurance for consumers that workers are treated fairly and food safety protocols are observed in the production of EFI-certified fruits and vegetables.

EFI was founded by five major farmworker organizations and Oxfam America, who then partnered with retailers, growers and consumer/food safety advocates to develop the initiative.

EFI Vision Statement for 2025:

EFI is establishing a certification system that is trusted by workers, growers, retailers, food service companies and consumers. Over time, EFI certification will become the produce industry norm, helping to provide a “one-stop-shop” option for companies seeking assurance on working conditions, pesticide use and food safety protocols.

Farmworkers will be empowered and respected in a system that produces healthier, safer and more sustainable food. Growers and farmworkers will enjoy viable careers and fair compensation. Retailers and food service companies will realize the value inherent in greater assurance that safer food is being produced on farms that treat workers with dignity. Consumers will enjoy safer food and receive assurances about the conditions in which it was produced.

Furthermore, EFI’s model of labor/management collaboration will create opportunities for grower-specific strategies to increase quality, productivity and employee retention.

EFI Mission

EFI was created by a consortium of major food buyers, growers, farmworker groups and consumer advocates to ensure:

- A dignified livelihood for farmworkers
- A stable and professionally trained agricultural workforce for growers, and
- Safer and more environmentally sustainable food for retailers and consumers.

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Preface

The Equitable Food Initiative (EFI) is a multi-stakeholder partnership to help workers, growers and major food buyers collaborate to grow safer food. As farms comply with the EFI Standard for improved working conditions, pesticide management and food safety, the initiative creates additional value throughout the food system, with benefits extending all the way to consumers. The EFI Standard is designed to be applied broadly to all fruit and vegetable crops, and is crafted around three stewardship areas: Labor, Food Safety and the Environmental Stewardship. The indicators outlined in this document identify specific outcomes or management processes that demonstrate compliance with the EFI Standard. Indicators are intended for use as tools for auditors to determine compliance with the EFI Standard; as a guide for farm managers and other stakeholders on how to achieve the benchmarks required for EFI certification; and for training and education purposes.

EFI believes that innovation in the produce system must create measurable benefits for all stakeholders—farmworkers, growers, food companies and consumers. The EFI Standard has been refined and improved through the participation of retailers and food service providers, growers, leading non-profit organizations, and farmworker unions. Each stakeholder understands the real potential for mutual benefit through exploration of new ways of working together. EFI is developing a certification and verification system through which farms that comply with the EFI Standard will be issued a certificate and licensed to apply an EFI trust mark to their product. This trust mark will create a new level of assurance for retailers, food service companies and consumers that food safety protocols are being observed, that pesticide use is carefully managed, and that workers are treated fairly.

Section 1. Cross Sectional Benchmarks

Labor Management Cooperation (LMC)

Benchmark LMC-1 Leadership Team has been established for workers and management to share responsibility for compliance with the EFI Standard and contribute to the overall success of the farm, under which farmworkers are knowledgeable, trained and empowered to ensure compliance with the EFI Standard.	
LMC Indicator 1.1.	A Leadership Team has been established under the guidance of EFI Leadership Training program and has adopted the mission of implementing the EFI Standard.
LMC Indicator 1.2.	Leadership Team includes representatives of management and workers in non-management positions. Worker representatives are selected by workers to represent all job categories, gender, and specific demographic interests, including indigenous and disabled workers. The term 'workers' is intended to include those hired or supervised directly by the farm operation as well as those hired or supervised by farm labor contractors, temporary agencies and other intermediaries.
LMC Indicator 1.3.	Leadership Team maintains minutes for each meeting and posts minutes in a public place.
LMC Indicator 1.4.	Members of the Leadership Team are publicly identified to farmworkers.
LMC Indicator 1.5.	Minutes include reports from Leadership Team members from each work area as to any compliance concerns, proposed remedies and status of those remedies.
LMC Indicator 1.6.	Leadership Team meets with sufficient regularity to ensure the timely resolution of any issues related to compliance with the EFI Standard.
LMC Indicator 1.7.	All trainings pertaining to the EFI Standard occur on the clock.
LMC Indicator 1.8.	No punitive measures are taken in retaliation for participation on the Leadership Team, including being disciplined, reassigned, rescheduled, suspended or fired.

Non-Retaliation (NR)

Benchmark NR-1 There is no retaliation against farmworkers or management representatives for participating in the monitoring, assessment and enforcement practices required under the EFI Standard.	
NR Indicator 1.1.	Farmworkers and management representatives are not fired or otherwise retaliated against for documenting and/or reporting alleged violations of the EFI Standard, for participating in the on-going auditing and compliance with the EFI Standard, or for encouraging co-workers to take similar action.
NR Indicator 1.2.	Disciplinary action taken close in time to participation in the monitoring, assessment and enforcement practices required under the EFI Standard creates a presumption of retaliatory motive. Under such circumstances, the burden of proof shifts to the employer to show absence of retaliation through the processes of the dispute settlement mechanism.
NR Indicator 1.3.	Policies and procedures are in place and implemented to prevent behavior that is inconsistent with this benchmark.

Compliance with Law (CL)

Benchmark CL-1 Employer complies with national, state and local laws regarding labor, food safety and pesticides.	
CL Indicator 1.1.	Employer complies with national, state and local laws regarding labor relations and employment, including but not limited to Social Security insurance, unemployment compensation, state and federal wage-hour laws, state agricultural labor relations laws, anti-discrimination laws, farm labor contractor laws, and, when applicable, housing and transportation safety requirements.
CL Indicator 1.2.	When a federal, state or local agency of government, or a court, issues a decision or recommendation finding violation of laws or regulations, the employer provides prompt notice to the EFI, including a copy of the relevant documents.
CL Indicator 1.3.	The methods and responsibility for ensuring the farm is kept informed of changes to relevant legislation, scientific and technical developments and relevant industry codes of practice are documented and implemented.
CL Indicator 1.4.	Bribery is strictly prohibited.

Ongoing Confirmation (OC)

Benchmark OC-1 Information is provided in an ongoing and timely fashion to the EFI to substantiate compliance with the EFI Standard.

Section 2. Labor Stewardship

Worker Health and Safety (WHS)

Benchmark HS-1 Systems have been established and implemented that provide farmworkers with a safe and healthy work environment and minimize occupational injuries, illnesses and fatalities.	
HS Indicator 1.1.	Leadership Team takes responsibility for identifying, reviewing and resolving workplace health and safety issues, including but not limited to first aid, pesticide safety, transportation safety, reducing and responding to heat stress, and preventing and responding to sexual harassment.
HS Indicator 1.2.	There is a health and safety manager on staff of the employer or through a third-party contractual arrangement.
HS Indicator 1.3.	Leadership Team maintains a written record of farmworker-generated occupational safety complaints and concerns, as well as remediation actions.
HS Indicator 1.4.	Farmworkers are informed that the Leadership Team is charged with addressing occupational safety complaints and concerns.
HS Indicator 1.5.	The health and safety manager, in partnership with the Leadership Team, ensures that all worker safety protocols are communicated to farmworkers.
HS Indicator 1.6.	Records of occupational injuries, illnesses and deaths are created promptly and maintained. Non-confidential documentation of particular incidents is provided promptly to Leadership Team following any and all work-related injuries, illnesses and fatalities.
HS Indicator 1.7.	Farmworkers are not forced to work in any situation which poses risk to their health or, if they are pregnant, to the health of their fetus. If these circumstances are present, farmworkers are reassigned to an alternative position.
HS Indicator 1.8.	No punitive measures are taken against farmworkers for summoning emergency services or reporting incidents to government agencies.
HS Indicator 1.9.	Rates of occupational injuries, illnesses and deaths are monitored and analyzed.

Benchmark HS-2 Farmworkers are provided adequate equipment to prevent injuries, illness and deaths.	
HS Indicator 2.1.	A process is in place, including provision of equipment or training as needed, to minimize occupational dangers that pose risk of serious injury, serious illness or death.
HS Indicator 2.2.	Employers provide farmworkers with equipment and clothing that is appropriate to their tasks and necessary to minimize illnesses and injuries. The equipment and clothes are provided free of charge.
HS Indicator 2.3.	A process is in place to ensure that equipment is properly maintained.

Benchmark HS-3 Farmworkers receive workers' compensation insurance coverage.	
HS Indicator 3.1.	Workers' compensation coverage is provided to all farmworkers, even if state law excludes agricultural employers or workers.
HS Indicator 3.2.	At a minimum, workers' compensation benefit levels are equivalent to those afforded to non-agricultural workers in that state.

Benchmark HS-4 Farmworkers have access to cool, potable water, shaded rest areas, clean sanitary toilets and hand washing facilities at the worksite.	
HS Indicator 4.1.	A process is in place which ensures: • Farmworkers' unrestricted access to clean, sanitary container of cool, potable water that is clearly labeled and in close proximity to workers at all times. • Drinking cups are always available next to the source of drinking water. • Unrestricted access to clean and sanitary toilets and washing facilities at all times at the ratio of one for every twenty farmworkers. • Separate bathroom facilities are provided to female farmworkers at the same ratio. • Soap, water, toilet paper and paper towels are always available. • Shaded rest areas and rest periods in order to avoid heat illness during high heat conditions.
HS Indicator 4.2.	The following exist: • Farmworkers have unrestricted access to clean, sanitary container of cool, potable water that is clearly labeled and in close proximity to workers at all times. • Drinking cups are available next to the source of drinking water. • Farmworkers have unrestricted access to clean and sanitary toilets and washing facilities at all times at the ratio of one for every twenty farmworkers. • Separate bathroom facilities are provided to female farmworkers at the same ratio; • Soap, water, toilet paper and paper towels are always available. • Shaded rest areas and rest periods in order to avoid heat illness during high heat conditions. • The toilets lock from the inside.

Benchmark HS-5 The risk of farmworkers' and bystanders' exposure to pesticides is minimized.	
HS Indicator 5.1.	Pesticide applications strictly adhere to all directions specified on the pesticide label. Employer instructs employees and contracted third-parties to meet this obligation. Leadership Team is notified whenever there is an application of conventional pesticides (natural enemies or other biologicals are exempted). Notification includes pesticide name, dates and place of application.
HS Indicator 5.2.	Records of all pesticide applications are maintained for at least three years and are accessible to farmworkers.
HS Indicator 5.3.	Workers are trained upon hire and at least annually in their specific roles in pesticide risk reduction.
HS Indicator 5.4.	A system is in place for farmworkers and neighbors to report and employers to track pesticide exposures attributed to pesticide use on farm or on a neighboring farm.

Benchmark HS-6 Pesticide handlers follow all required practices to protect themselves and others from pesticide exposure. Medical monitoring and response procedures are in place to detect and address excessive exposure.	
HS Indicator 6.1.	All Personal Protective Equipment (PPE) specified on the pesticide product label is provided by employers and is clean and in good repair.
HS Indicator 6.2.	Farmworkers use required PPE and follow directions for use.
HS Indicator 6.3.	All pesticide mixing and loading occurs in a designated, clean, well-ventilated room or area with accurate and clean measuring equipment.
HS Indicator 6.4.	Closed systems are used for mixing or loading pesticides labeled with "Danger."
HS Indicator 6.5.	Farmworkers handling organophosphate or carbamate pesticides labeled with the signal word "DANGER" or "WARNING" are medically monitored.

Benchmark HS-7 Ergonomics protocols are in place and being implemented.	
HS Indicator 7.1.	Leadership Team evaluates each job, process, or operation of identical work activity covered by this section or a representative number of such jobs, processes, or operations of identical work activities involved at the farm and develops a Repetitive Motion Injury (RMI) Elimination Plan.
HS Indicator 7.2.	For any repetitive motions that are deemed to cause RMIs, the Leadership Team develops a work plan to correct the RMI exposure, or, if the exposure cannot be corrected in a timely manner, the exposure is minimized to the extent feasible. The Leadership Team recommends engineering controls, such as work station redesign, adjustable fixtures or tool redesign, and administrative controls, such as job rotation, work pacing or work breaks to

	minimize the risk of RMIs.
HS Indicator 7.3.	Farmworkers' training includes an explanation of: • The worksite evaluation; • The exposures which have been associated with RMIs; • The symptoms and consequences of injuries caused by repetitive motion; • The importance of reporting symptoms and injuries to the employer; • The responsibility of the Leadership Team to minimize RMIs; • The ability of farmworkers to provide input and suggestions for a RMI Elimination work plan; and • Methods recommended by the Leadership Team to minimize RMIs.
HS Indicator 7.4.	Hand-weeding is prohibited unless the employer demonstrates the unsuitability of the use of a long-handled tool or other reasonable alternative means of performing the work. In the limited circumstances in which hand-weeding is required, number of hours of hand-weeding by farmworkers is limited and special rest periods apply.

Benchmark HS-8 Physical, psychological and verbal abuse are not tolerated.	
HS Indicator 8.1.	A policy is in place which prohibits physical, psychological and verbal abusive behavior by farmworkers, supervisors and managers in the workplace.

Freedom of Association (FOA)

Benchmark FOA-1 Employers recognize farmworkers' freedom of association and right to organize.	
FOA Indicator 1.1.	The employer's policy states that: • Farmworkers have the right to form, join, or assist labor organizations, to bargain collectively through representatives of their own choosing, and to engage in other concerted activities for the purpose of collective bargaining or other mutual aid or protection, and shall also have the right to refrain from such activities; • The employer will not interfere with, restrain, or coerce farmworkers in the exercise of these rights; and • The employer will not dominate or interfere with the formation or administration of any labor organization.
FOA Indicator 1.2.	Farmworkers are not discriminated or retaliated against in hiring or tenure of employment, or any term or condition of employment, for engaging in the above-mentioned activities under the freedom of association.
FOA Indicator 1.3.	No punitive measures are taken against any farmworker for reporting alleged violations of law to government authorities.
FOA Indicator 1.4.	No punitive measures are taken against any farmworker for seeking medical or legal assistance.

FOA Indicator 1.5.	No punitive measures are taken against any farmworker for joining or supporting a political party of his/her choice, or participating in community organizations, so long as it does not disrupt work operations.

Fair Compensation (FC)

Benchmark FC-1 The EFI creates opportunity to generate value for all stakeholders in the food production system (supply chain), including farmworkers, growers and retailers/buyers, and creates opportunity to improve compensation and conditions of employment for farmworkers.	
FC Indicator 1.1.	The grower is engaged in a process with buyers participating in the EFI to discuss how the generation of added value in the food supply system can be shared, including by the improvement of wages and working conditions for farmworkers.
FC Indicator 1.2.	Within two weeks of the date of certification, farmworkers receive, at a minimum, pay of $9.05 an hour in the United States or, outside of the United States, 125% of the minimum wage mandated in that country.
FC Indicator 1.3.	A process is in place and operating to guarantee minimum hourly rates apply even when farmworkers are paid by piece rate.
FC Indicator 1.4.	Upon starting their employment, farmworkers are provided the following information: • The terms and conditions of employment, including the length of employment, pay rate, regular pay date, the name, address, and telephone number of the employer; • If the employer is an FLC, the name of the grower for which work is being performed; • An accurate description of the piece rate system, which includes the definition of a complete piece, identifies all piece rates (including variable piece rates), discloses the system for recording production, and sets forth any productivity requirements; and • The name, address, and telephone number of the farmworker's compensation insurance carrier.
FC Indicator 1.5.	Farmworkers receive pay at the appropriate rates for all time worked as defined in the EFI Standard. Other than lawfully required deductions, no other deductions are made without the written consent of the farmworker. Financial disciplinary action is prohibited.

Fair Working Conditions (FWC)

Benchmark FWC-1 A transparent and clear policy and system for disciplinary measures exists and is communicated to farmworkers. The system includes fair warning principles and disciplinary actions that are proportionate to the conduct in question.

FWC Indicator 1.1.	"A written, transparent and clear policy exists and is in operation for disciplinary measures and is communicated effectively to farmworkers by employers, in the language primarily understood by the farmworker. It provides:

Benchmark FWC-2 An accurate, reliable and transparent time-keeping system, which records the time that each farmworker starts and leaves work, is maintained and workers are compensated properly for all time worked.	
FWC Indicator 2.1.	Time spent at work is recorded accurately. The grower and farmworker both have access to documentation of the time workers start and finish work each day.
FWC Indicator 2.2.	In cases where a grower fails to maintain accurate time records, the farmworker's recollection of hours worked prevails.
FWC Indicator 2.3.	In cases where farmworkers are required by the employer to be transported to work, the work time begins at the time the farmworker boards the employer-designated transportation and ends upon disembarking.
FWC Indicator 2.4.	All time spent at work is compensated at the appropriate wage rate.

Benchmark FWC-3 Working hour requirements are reasonable, rest breaks and meal periods are provided, and overtime work is strictly voluntary.	
FWC Indicator 3.1.	There is no retaliation against any farmworker who declines to accept overtime work. "Overtime work" is defined as more than 10 hours of work per day or 60 hours of work per week.
FWC Indicator 3.2.	Farmworkers receive a paid fifteen-minute rest period, which insofar as practical, will be in the middle of the four-hour period.
FWC Indicator 3.3.	Farmworkers receive a half hour unpaid lunch break for each five hours worked.
FWC Indicator 3.4.	Farmworkers are compensated for all time under the direction and control of the employer whether or not actual work is being performed.

Benchmark FWC-4 Slavery, human trafficking, and forced labor, including bonded or prison labor, do not occur.	
FWC Indicator 4.1.	The employer does not retain any part of the farmworker's salary, benefits, property or documents in order to force them to remain employed by the company.
FWC Indicator 4.2.	The employer refrains from any form of physical or physiological measures requiring farmworkers to remain employed by the company.
FWC Indicator 4.3.	Usurious interest rates on loans made to farmworkers are prohibited.
FWC Indicator 4.4.	Bonded labor does not occur.
FWC Indicator 4.5.	There is no use of prison labor.

FWC Indicator 4.6.	There is no use of slave or trafficked labor.

Benchmark FWC-5 Child labor does not occur.	
FWC Indicator 5.1.	Employers verify the age of farmworkers upon hire.
FWC Indicator 5.2.	No person is employed at an age younger than 16.
FWC Indicator 5.3.	No person under the age of 18 undertakes hazardous work, i.e. work which by its nature or circumstance, in which it is carried out, is likely to harm the health or safety of the farmworker.

Non-discrimination (ND)

Benchmark ND-1 There is no discrimination against any farmworker on the basis of age, race, color, sex, sexual orientation, religion, national origin, ethnicity, trade union membership, disability, pregnancy, family status or any other legally protected status.	
ND Indicator 1.1.	A policy is in place which ensures that none of the forms of discrimination listed above occur in hiring, compensation, promotion, transfer, assignments, lay-off, recall and termination decisions.
ND Indicator 1.2.	The non-discrimination policy is clearly posted at every worksite.
ND Indicator 1.3.	No termination or other adverse actions occur for pregnancy, lactation, or maternal leave following childbirth.
ND Indicator 1.4.	Farmworkers, including indigenous workers, are allowed to communicate in their native languages.

Benchmark ND-2 Sexual Harassment is not tolerated and there are polices in place to ensure a prompt and impartial investigation of any sexual harassment claims. Sexual harassment includes any insult or inappropriate remark, joke, insinuation, or comments on a person's dress, physique, age, or family situation; a condescending or paternalistic attitude, with sexual implications undermining dignity; any unwelcome invitation or request, implicit or explicit whether or not accompanied by threats, any lascivious look or other gesture associated with sexuality; and any unnecessary physical contact, such as touching, caressing or pinching.	
ND Indicator 2.1.	Sexual harassment of any sort is strictly prohibited, and penalties for acts of harassment are clearly stated.
ND Indicator 2.2.	Sexual harassment awareness training is provided upon hire to all farmworkers, supervisors and management.
ND Indicator 2.3.	Leadership Team has a designated female lead assigned with dealing with all issues related to sexual harassment, sexual violence and discrimination.
ND Indicator 2.4.	Posted policies are in place which describe how claims of sexual harassment will be investigated. The confidentiality of all individuals involved will be protected, to the extent possible.

Dispute Settlement (DS)

Benchmark DS-1 There is a clear and effective dispute settlement mechanism in place to ensure transparent resolution of workplace disputes between farmworkers and owners or management when they occur.	
DS Indicator 1.1.	Leadership Team is trained in interest-based issue resolution.
DS Indicator 1.2.	Farmworkers and management have a process through which they may engage in dialogue to resolve workplace issues and violations of the EFI Standard, including retaliatory actions and unjust firings. If the parties are unable to reach agreement on a non-EFI Standard related issue, farmworkers or the employer have access to a multi-level appeal procedure.
DS Indicator 1.3.	Farmworkers and employers are trained as to their respective rights and procedures under the EFI Standard.
DS Indicator 1.4.	Farmworkers and employers are not required to and do not waive legal remedies.

Employer Provided Housing (EPH)

Benchmark EPH-1 If the company provides farmworkers with housing, the conditions and the infrastructure of the housing ensure decency, privacy and security, and housing is provided at reasonable or no cost.	
EPH Indicator 1.1.	All beds have clean, sanitary mattresses.
EPH Indicator 1.2.	Adequate ventilation exists to ensure the indoor temperature does not exceed 80 degrees.
EPH Indicator 1.3.	All windows that open have screens.
EPH Indicator 1.4.	Doors to the outside lock from the inside.
EPH Indicator 1.5.	Heat is supplied when the outdoor temperature drops below 60 degrees.
EPH Indicator 1.6.	Running water, clean drinking water and sanitary facilities are provided at all times. If common bathrooms and showers are provided, such facilities are provided separately for men and women.
EPH Indicator 1.7.	Secure facilities whereby farmworkers may store their personal possessions under lock and key are provided.
EPH Indicator 1.8.	Farmworkers are not charged a fee for transportation to the worksite from grower owned or provided housing.

EPH Indicator 1.9.	Farmworkers have the right to invite any guests of their choosing into their employer-provided housing, subject to the legitimate right of the employer to prevent criminal activity from occurring on the premises and subject to legal obligations established under state or federal laws.
EPH Indicator 1.10.	Farmworkers have privacy in their living quarters and sanitary facilities.
EPH Indicator 1.11.	Laundry facilities are provided.

Benchmark EPH-2 Housing for farmworkers complies with all federal, state and local regulations, including regulations promulgated by state or local environmental health authorities.	
EPH Indicator 2.1.	Housing inspections occur prior to occupancy.

Benchmark EPH-3 Auditors and other representatives of the EFI have unimpeded, unannounced access to housing.	
EPH Indicator 3.1.	Farm owners agree to permit unimpeded access to housing.
EPH Indicator 3.2.	Unimpeded access to housing is provided to assessors and other representatives of the EFI.

Protections for H-2A Program Workers (H2A)

Benchmark H2A-1 The recruitment of H-2A and U.S. farmworkers occurs in a transparent and fair manner. Employment through recruitment is provided free of cost and without prejudice.	
H2A Indicator 1.1.	H-2A program farmworkers receive full disclosure of the terms and conditions of their job at their time of recruitment in a language they can understand and in a written, readable format.
H2A Indicator 1.2.	All recruiters and recruitment agencies comply with all applicable laws in the farmworkers' country of origin.
H2A Indicator 1.3.	The employer immediately provides the name, phone number, email and physical address of the agency/recruiter in the foreign country to the EFI or its designee and worker representation organization or labor union.
H2A Indicator 1.4.	The employer instructs the agency/recruiter in the foreign country to fully and transparently cooperate with representatives of the EFI and worker representative organization or labor union to ensure all benchmarks are met.
H2A Indicator 1.5.	Farmworkers do not pay recruitment fees.
H2A Indicator 1.6.	Farmworkers do not pay visa or other document processing fees related to employment.
H2A Indicator 1.7.	All food and lodging incurred in traveling to the worksite, if longer than one

	day's travel, are paid by the employer. Farmworkers do not incur out-of-pocket expenses.
H2A Indicator 1.8.	An action plan created by the farm owner or manager assesses gender equality in H-2A hiring and identifies milestones for achieving greater gender equality.

Benchmark H2A-2 Farmworkers remain in control of their personal documents at all times.	
H2A Indicator 2.1.	Farm owners, managers, and/or labor recruiters or others do not hold, for any reason, a farmworkers' passport, visa, identification or other legal documents.

Benchmark H2A-3 Each farm using H-2A farmworkers provides transportation and access to public telephones to facilitate access to essential services including religious services, medical attention, cultural events, laundromats and shopping no less than once a week (for access to medical care, see also: Health and safety, Benchmark HS-5).	
H2A Indicator 3.1.	H-2A workers have access to essential services to include religious services, medical attention, cultural events, laundromats and shopping no less than once a week on a timely basis.

Worker Involvement – Labor (WI-Labor)

Benchmark WI-Labor-1 Farmworkers have been trained and understand their rights and responsibilities guaranteed in accordance with the EFI Standard.	
WI-Labor Indicator 1.1.	Farmworkers have been trained and understand their rights and responsibilities with regard to workers compensation coverage.
WI-Labor Indicator 1.2.	Farmworkers have been trained and understand the minimum required pay rates, benefits, breaks, lunch breaks, child labor prohibitions and the written disclosure of their terms and conditions afforded in the EFI Standard.
WI-Labor Indicator 1.3.	Farmworkers have been trained and understand the no retaliation policies within the EFI Standard.
WI-Labor Indicator 1.4.	Farmworkers have been trained and understand the process by which workplace issues are resolved.
WI-Labor Indicator 1.5.	Farmworkers have been trained and understand the role of the Leadership Team.
WI-Labor Indicator 1.6.	Farmworkers have been trained and understand RMIs.
WI-Labor Indicator 1.7.	Farmworkers have been trained and understand that physical, psychological and verbal abuses are not tolerated.
WI-Labor Indicator 1.8.	Farmworkers have been trained and understand the sexual harassment

policy in the EFI Standard.

Section 3. Food Safety Stewardship

Accountability and Recordkeeping (AR)

Benchmark AR-1 Management demonstrates a clear commitment to food safety.	
AR Indicator 1.1.	There is a clearly written organizational structure identifying those with responsibility for food safety, including the Leadership Team.
AR Indicator 1.2.	There is a clearly written food safety policy specifying the organizational commitment to food safety which is signed by senior management and communicated to all employees. The policy includes procedures for compliance with regulatory and other requirements for food safety, and emphasizes a commitment to continuous improvement.
AR Indicator 1.3.	Management provides sufficient resources necessary to implement, maintain and improve the food safety system.

Benchmark AR-2 A written food safety plan for the operation is developed and implemented.	
AR Indicator 2.1.	The food safety plan identifies all locations of the operation and products covered by the plan. The plan assesses likely physical, chemical, and biological hazards and contaminants and procedures to control those hazards, including monitoring, verification, corrective actions, and recordkeeping, for the following areas: water, soil amendments, environmental assessments, animals, post-harvest, and worker sanitation. The food safety plan includes SOPs (Standard Operating Procedures) appropriate to controlling the identified hazards.
AR Indicator 2.2.	The food safety plan is reviewed and revised as necessary, at least annually. The plan is revised whenever changes are made to production practices or production inputs that would impact safety of the product.

Benchmark AR-3 Farmworkers and individual(s) responsible for food safety have received training commensurate with their responsibilities.	
AR Indicator 3.1.	Individual(s) responsible for food safety receive annual training in food safety, and are provided with periodic updates as necessary. Training includes HACCP principles and is at least equivalent to a curriculum recognized as adequate by the FDA.
AR Indicator 3.2.	Individual(s) responsible for food safety are on site whenever the site is operating.
AR Indicator 3.3.	Farmworkers are trained in food safety practices commensurate to their responsibilities on the farm, and are provided with periodic updates as necessary.
AR Indicator 3.4.	A training program is documented and implemented. Records are kept that document training, including the date of the training, topics covered, person(s) trained, and supervisor's verification that training was completed and that the trainee is competent to perform the required tasks.

Benchmark AR-4 All food safety policies pertaining to employees apply equally to all visitors and other personnel.	
AR Indicator 4.1.	Written policies related to food safety state that they are applicable equally to all farmworkers, visitors and other personnel.
AR Indicator 4.2.	Visitors are informed of, and comply with, food safety policies and procedures.

Benchmark AR-5 Adequate documentation and recordkeeping to demonstrate compliance with the EFI Standard is maintained.	
AR Indicator 5.1.	Documentation is sufficient to demonstrate compliance with the EFI Standard.
AR Indicator 5.2.	Documents may be maintained on-site or at an off-site location and are available for inspection within a reasonable time frame.
AR Indicator 5.3.	Documentation is maintained for a minimum of two years.

Benchmark AR-6 Corrective actions are implemented for findings out of compliance with the EFI Standard.	
AR Indicator 6.1.	Written procedures and timelines for making corrective actions are developed and implemented.
AR Indicator 6.2.	Records of corrective actions are documented and maintained. Documentation includes identification of root cause and resolution of food safety violations.

Benchmark AR-7 An internal audit system is in place that covers the scope of the food safety plan.	
AR Indicator 7.1.	An internal audit schedule is developed and maintained. Internal audits are

	conducted at least annually to verify the effectiveness of the food safety plan. Internal audits and corrective actions are documented.

Benchmark AR-8 Food products can be accurately traced back to the farm.	
AR Indicator 8.1.	Finished product is able to be traced to the customer and back to the field within four hours. Trace back information includes production inputs.
AR Indicator 8.2.	A trace back and forward exercise is conducted at least annually.
AR Indicator 8.3.	Records sufficient for trace back and trace forward are maintained.

Benchmark AR-9 A recall procedure is established, documented and tested.	
AR Indicator 9.1.	Written recall procedure identifies the personnel responsible for initiating, managing, and investigating product withdraw or recall procedures to be followed in the event of a recall.
AR Indicator 9.2.	The recall procedure describes the methods to inform customers and other relevant bodies in a timely manner of the nature of the withdraw or recall.
AR Indicator 9.3.	The recall procedure includes an investigation to determine the root cause of a withdraw or recall.
AR Indicator 9.4.	The recall procedure is tested in the form of a mock recall at least annually.
AR Indicator 9.5.	Records of all product withdrawal and recalls are be maintained.

Benchmark AR-10 Inputs are assessed for food safety risk and managed to ensure control over processes.	
AR Indicator 10.1.	Any inputs - including services - purchased from outside sources that may have an effect on food safety are documented, assessed for risk, and any risk identified is appropriately managed.
AR Indicator 10.2.	The farm maintains control over any processes or activities that are outsourced and could have an effect on food safety. Outsourced processes/activities are identified and documented.

Benchmark AR-11 Suppliers are continually evaluated, assessed and monitored for any impact on food safety.	
AR Indicator 11.1.	The farm documents its evaluation and assessment of all suppliers for any impact on food safety. Procedures are developed and implemented to adequately address supplier effects on food safety. Results of evaluations, investigations and follow-up actions are documented.

Benchmark AR-12 Employees who show signs of illness or who have open wounds that are not properly covered are prohibited from direct contact with produce and food contact surfaces.	
AR Indicator 12.1.	Farmworkers are trained to recognize signs of illness, including signs and symptoms of pesticide poisoning.

AR Indicator 12.2.	A reporting system for illness is established.
AR Indicator 12.3.	Farmworkers are made aware of the illness reporting system.
AR Indicator 12.4.	Employees are not punished for reporting illnesses and injuries.
AR Indicator 12.5.	Farmworkers who show signs of illness are assigned to jobs other than direct contact with produce and food contact surfaces.
AR Indicator 12.6.	Farmworkers are symptom-free for 48 hours before returning to work involving direct contact with produce and food contact surfaces.
AR Indicator 12.7.	Farmworkers who have open wounds or sores are issued protective covering (such as gloves or bandages) if they will have direct contact with produce and food contact surfaces.

Benchmark AR-13 A written company policy on worker health & hygiene is established.	
AR Indicator 13.1.	The health & hygiene policy includes: • Sanitation and hygiene training; • Adequate access to bathroom facilities, including for menstruating women and urinary tract health issues; • Requirement for frequent and regular hand washing, as well as hand washing after any incident of potential contamination; • Restrictions on smoking, eating, spitting, and drinking alcohol; • Personal item storage; • Requirement for head and hair coverings for all farmworkers; • Requirement for personal attire, including: clean and work-appropriate attire; in addition to the employee's own attire, clean garments (e.g. aprons) are provided; all garments are well maintained and cleaned, sanitized or replaced according to Standard Operating Procedures (SOP). • Requirements that no jewelry of any kind, badges, buttons, false fingernails, pens, pencils, thermometers, etc. is worn or stored in unsecured pockets; • Requirements that when gloves are used, they are clean and intact are provided by the grower, and changed or cleaned frequently, and disposed of as required; • Requirements that produce or food contact surfaces that have come into contact with blood or other bodily fluids are handled/disposed of properly; • Requirements that broken glass, spills, leaks, and inoperative water sprays are handled properly; and • Requirements that chemicals are properly labeled, safely stored and records are kept.

Benchmark AR-14 All employees participate in health and hygiene training prior to beginning work.	
AR Indicator 14.1.	All employees are trained in: • Proper hand washing; • Proper personal hygiene; • Proper toilet use; • Proper glove use, if required; • Proper treatment of cuts and abrasions;

	• Identification of illness and signs of illness; • Control of bodily fluids (coughing, sneezing, spitting); and • Knowledge of reporting system for illness and injuries.
AR Indicator 14.2.	Health and hygiene training: • Is conducted in the employees' language; • Utilizes visual aids; • Is tailored to the education level of the workers being trained; • Takes into account cultural differences that may inhibit proper training; and • Is offered regularly as a refresher course.
AR Indicator 14.3.	Health and hygiene training is provided at hire and at the beginning of each growing season. Periodic updates are provided as necessary.
AR Indicator 14.4.	Signs are posted indicating proper hand washing and toilet use. Signs use pictures and/or are written in the predominant language of the workforce.

Benchmark AR-15 Food safety controls are verified as effective.	
AR Indicator 15.1.	Food safety controls are verified to achieve their intended purpose. Verification schedule, activities and results are documented.

Water (WA)

Benchmark WA-1 Water sources, water distribution systems and water used in crop production are assessed for risk and held to appropriate quality and safety standards.	
WA Indicator 1.1.	Water sources, uses, quality, delivery systems and equipment are documented and assessed for food safety risk. • A description of the water system is prepared sufficient to facilitate a risk assessment, which can include maps, photographs, drawings, etc. to communicate the location of the source, permanent fixtures, and the flow of the water system. • A review or new assessment is conducted at the beginning of each growing season, or any time there is a change in the system or when a situation occurs that could introduce an opportunity for contamination of the system. • In crop production, the use and quality of water, water application methods and application schedules are assessed with respect to crop characteristics and the degree of contact with the edible portion of the crop for the purpose of identifying conditions that may result in contamination with pathogens. • Appropriate actions are taken to eliminate or minimize the potential for contamination from water used for crop production.
WA Indicator 1.2.	A water management plan is established and includes: • preventive controls; • monitoring and verification procedures;

	• corrective actions; and • documentation.
WA Indicator 1.3.	Water sources, distribution systems and equipment used to maintain water quality are not a source of contamination and are inspected and maintained according to a documented maintenance schedule. Wells used as water sources are maintained and repaired as needed, and all unused wells are properly shut down.
WA Indicator 1.4.	Water (including water used for ice) that directly contacts harvested crops or that is used on food contact surfaces meets microbial standards for drinking water. If water does not meet microbial standards for drinking water, use of the water source is discontinued, and water is treated to achieve those standards. The treatment process is effectively monitored and controlled to ensure that treatment is effective. Treated water is tested to verify it meets microbial standards for drinking water before using.
WA Indicator 1.5.	Irrigation methods are evaluated for their potential to introduce, support or promote growth of human pathogens, including the potential to deposit soil on the crops or for water leakage. Procedures for storing irrigation pipes and drip tape that reduce or eliminate pest infestations are used.
WA Indicator 1.6.	Location and construction of functional wells is assessed for optimal water protection. Wells are located away from potential contaminants such as septic tanks and drain fields, and on an area of land that encourages drainage away from the water source or well.
WA Indicator 1.7.	There is a written policy separating water systems that convey untreated human or animal waste from those for agricultural use. Policy is implemented.
WA Indicator 1.8.	The water system prevents backflow from and cross-contamination with wastewater or sewage piping systems.
WA Indicator 1.9.	Microbial testing is conducted to verify the adequacy of water quality. Testing is conducted according to the risk assessment, for microbial pathogens of concern and standard indicators of fecal contamination. Points of water sampling are based on the particular history, location and risk assessment of the source. Testing is conducted according to the risk assessment, and at least monthly. If safety problems are identified, corrections should take place and testing should be increased to daily until problem is resolved. The local water authority microbial analysis may be used to document adequacy. Water analysis is performed by a laboratory accredited to ISO 17025 or equivalent.
WA Indicator 1.10.	Water sources are protected from run-off, flooding and animal contamination.
WA Indicator 1.11.	Water used in hydroponic culture is tested and treated to reduce levels of microbial pathogens.
WA Indicator 1.12	Local rain patterns are observed to determine the effect of run-off from

	adjacent and nearby properties.

Benchmark WA-2 Antimicrobial agent use should be documented and the use of antimicrobial agents significant to human and animal health is avoided.	
WA Indicator 2.1.	Antimicrobial agents used in water are not significant to human and animal therapy. Other antimicrobial agents are used in accordance with Good Agricultural Practices.

Soil Amendments / Manure (SAM)

Benchmark SAM-1 Soil amendments and manure use are thoroughly documented and assessed for risk.	
SAM Indicator 1.1.	The risk of contamination of food products, food contact surfaces, water sources and distribution systems from soil amendments and treatment methods is assessed and documented. Appropriate actions are taken to eliminate microbial pathogens from soil amendments used for crop production.
SAM Indicator 1.2.	A review or new assessment is conducted at the beginning of each growing season, or any time there is a change in the system or when a situation occurs that could introduce an opportunity for contamination of the system.
SAM Indicator 1.3.	The location, composition, treatment, application date and method of soil amendment application is documented.

Benchmark SAM-2 Thorough documentation is required of the compost supplier.	
SAM Indicator 2.1.	Documentation is obtained from the supplier of soil amendment documenting the origin, composition, treatment used, aging procedure, handling practices, and validation of effectiveness of treatment, including tests performed and test results. Documentation is available for inspection for two years. • Supplier documentation includes materials, time and temperature treatments, number of turnings, watering frequency, carbon dioxide concentrations, and ammonia concentrations. • A minimum curing period is included in criteria for properly composting animal manures.
SAM Indicator 2.2.	Soil amendment suppliers have written Standard Operating Procedures to prevent cross-contamination of treated soil amendment with raw materials.

Benchmark SAM-3 Manure management plans are utilized.	
SAM Indicator 3.1.	Written procedures establish a treatment process for manure that ensures

	inactivation of pathogens. Treatment methods are validated and treatments are verified as being effective. Records, including time and temperature controls, of validation and verification activities are maintained.
SAM Indicator 3.2.	Treated soil amendment is properly stored to avoid contamination of water sources and cross-contamination with untreated soil amendments. Insulated covers are applied to aerated static piles and windrows to help ensure that all soil amendment material is subjected to the thermophilic conditions necessary for inactivation of pathogens.
SAM Indicator 3.3.	Any product containing human waste or raw or incompletely treated manure is not used.
SAM Indicator 3.4.	If bio-solids are used, they meet federal and state requirements for use, including the requirements of 40 CFR Part 503 (EPA standards for use of sewage sludge). The risk of contamination is adequately assessed and appropriate controls are implemented to reduce microbial contaminants.
SAM Indicator 3.5.	Soil amendments are applied in such a way as to protect surface water or edible crops in crop fields and in adjacent fields.
SAM Indicator 3.6.	The interval between soil amendment application and harvest does not compromise food safety. Soil amendment application and harvest records demonstrate this.
SAM Indicator 3.7.	Microbial testing of soil amendments for microbial pathogens of human health concern is conducted prior to application and test results are documented. Microbial testing demonstrates that soil amendment has no detectable levels of microbial pathogens of human health concern, including E. coli, Salmonella and Listeria.
SAM Indicator 3.8.	Fields in close proximity to on-farm stacking of soil amendments are monitored to minimize the likelihood of wind-dispersed or aerosolized sources of contamination.
SAM Indicator 3.9.	Equipment, vehicles and tools used for soil amendments are maintained in good condition and are segregated from other uses. Sanitation of equipment, vehicles and tools is documented and maintained. The equipment is calibrated to ensure accurate application.

Environmental Assessments (EA)

Benchmark EA-1 Land use history, including adjacent lands, is evaluated and documented for food safety risks and appropriate steps are taken to minimize potential for contamination.	
EA Indicator 1.1.	Historical land uses for production fields are identified and documented, and assessed for any food safety issues that could arise from these uses. • Evaluation includes a physical description of the soil type in each field, the crop history and soil amendment history • Land has not previously been used for animal husbandry or bio-solid

	disposal. (If the land has been used for animal husbandry, a three-year buffer time is required before using the field for edible crop cultivation. If the land has been used for animal husbandry or bio-solid disposal, the soil should be tested for persistent pathogen populations.) • Where there is a possibility of pathogen contamination, necessary corrections are performed to minimize the potential for an adverse food safety impact, or conclude that the land shall not be used for produce production until the risks have been minimized.
EA Indicator 1.2.	A review or new assessment is conducted at the beginning of each growing season, or any time there is a change in the system or when a situation occurs that could introduce an opportunity for contamination of the system.
EA Indicator 1.3.	Evaluation encompasses adjacent land and waterways including manure and compost storage, CAFOs, grazing/open range areas, surface water, sanitary facilities, and composting operations.

Benchmark EA-2 Flooding or other events that may result in contamination are documented and assessed.	
EA Indicator 2.1.	Potential for flooding or other events that may result in contamination is evaluated and documented; risk mitigation plan is developed for significant flooding events.
EA Indicator 2.2.	An environmental assessment is conducted following heavy rains or flooding. Any produce that has been in contact with flood waters is excluded from the food supply.

Animals (AN)

Benchmark AN-1 Wild and domestic animal activity is assessed and documented for risks to food safety.	
AN Indicator 1.1.	Assessment considers the crop characteristics, type and number of animals, pathogens of concern, nearness to the growing field, proximity to harvest, and other relevant factors.
AN Indicator 1.2.	A review or new assessment is conducted at the beginning of each growing season, or any time there is a change in the system or when a situation occurs that could introduce an opportunity for contamination of the system.
AN Indicator 1.3.	Animal activity assessments take place immediately prior to planting and regularly during production periods.

Benchmark AN-2 Preventative and remedial measures are used to reduce the risk of contamination.	
AN Indicator 2.1.	Action is taken to prevent or minimize the risk of contamination of produce from wild or domestic animals to the extent possible, including from animal feces. Physical barriers are used to prohibit the movement of animals in

	the growing field and to control the movement of animals in adjacent fields. Fencing, gates, barriers, noisemakers, buffer zones or other practices as applicable are used to reduce intrusions.
AN Indicator 2.2.	Bird populations are monitored to the extent possible and actions are taken to control bird populations above baseline levels. Actions are taken to reduce risk of birds contaminating produce.
AN Indicator 2.3.	Animals are physically kept out of water sources.
AN Indicator 2.4.	When the assessment or monitoring indicates a possibility of contamination with pathogens, corrective actions are taken as needed to minimize the potential for an adverse food safety impact.

Harvest (H)

Benchmark H-1 A pre-harvest risk assessment is performed.	
H Indicator 1.1.	The risk assessment is conducted immediately prior to harvest and identifies and documents conditions that may result in contamination of produce. Appropriate action is taken to address findings to reduce risk to food safety prior to harvest.

Benchmark H-2 Harvesting equipment is clean and does not contribute to contamination risk.	
H Indicator 2.1.	Harvesting containers, tools, and equipment are inspected prior to use to ensure they are functioning properly and do not serve as a source of contamination.
H Indicator 2.2.	Harvesting containers, tools, and equipment are cleaned prior to use and maintained so as not to serve as a source of contamination.
H Indicator 2.3.	Harvesting containers, tools, and equipment are stored in a manner so as not to serve as a source of contamination.
H Indicator 2.4.	Food contact containers, bins, and totes are appropriate for the commodity being harvested and are not used for other purposes.

Benchmark H-3 Personnel are properly trained to identify and correct food safety issues.	
H Indicator 3.1.	Personnel who come into direct contact with produce during harvest: practice good hygiene and sanitary practices; inspect equipment, tools, containers, and produce to ensure sanitary conditions; and take steps to minimize potential physical damage to produce.

Post Harvest: Packing, Storage, Testing, Transportation (PH)

Benchmark PH-1 A post-harvest risk assessment is performed.	
PH Indicator 1.1.	The risk assessment identifies and documents conditions during post-harvest including sorting, packing, washing, cooling, storage, loading, and transport, which may result in contamination of produce. Appropriate actions are taken to address findings to reduce risk to food safety.
PH Indicator 1.2.	A review or new assessment is conducted prior to harvest, or any time there is a change in the system or when a situation occurs that could introduce an opportunity for contamination of the system.

Benchmark PH-2 Personnel are properly trained to identify and correct food safety issues.	
PH Indicator 2.1.	Personnel who come into direct contact with produce: practice good hygiene and sanitary practices; inspect equipment, tools, containers, and produce to ensure sanitary conditions; and take steps to minimize potential physical damage to produce.

Benchmark PH-3 Cooling and water systems are sanitary and do not contribute to contamination risk.	
PH Indicator 3.1.	Cooling systems are maintained in a clean and sanitary condition. Condensate and defrost water from cooling systems do not drip onto fresh produce.
PH Indicator 3.2.	Water systems are maintained in a clean and sanitary condition. Water systems are of appropriate size and design and installed and maintained so as not to serve as a source of contamination of produce or water supplies, or to create unsanitary conditions.
PH Indicator 3.3.	Water that is in direct contact with fresh produce meets microbial standards for drinking water. The water quality in these systems is controlled, verified and documented.
PH Indicator 3.4.	Ice that comes into direct contact with fresh produce meets microbial standards for drinking water. Ice is produced, handled and stored to protect it from contamination.
PH Indicator 3.5.	Water systems are periodically assessed for risk of contamination. Assessment includes water source, use, delivery system and equipment.
PH Indicator 3.6.	Equipment designed to assist in maintaining water quality, such as chlorine injectors, filtration systems, and backflow devices, are routinely inspected and maintained to ensure effective operation. Chlorine levels are tested daily to assure correct dilution.
PH Indicator 3.7.	Water used in washing, dump tanks, flumes, wash tanks, and hydro-coolers is monitored (including for temperature), cleaned, and sanitized according to SOPs that include water-change schedules.
PH Indicator 3.8.	Recirculated water may be used with no further treatment provided its use does not constitute a risk to the safety of fresh fruits and vegetables (e.g. use of water recovered from the final wash for the first wash) and that the

	safety of water is verified and documented through testing. Where water is recirculated for final produce washing, it is filtered and disinfected; pH levels, concentration levels, and exposure levels of disinfectant are routinely monitored. Documented records are maintained.
PH Indicator 3.9.	Air cooling systems are appropriately designed and maintained to avoid contaminating fresh produce.
PH Indicator 3.10.	Fresh fruits and vegetables are maintained at temperatures sufficient to minimize microbial growth. The temperature of the cold storage is controlled, monitored and documented.
PH Indicator 3.11.	The facility uses wash and cooling methods appropriate to the commodity and maintains an adequate water temperature to prevent internalization of microorganisms from the water into produce tissue.
PH Indicator 3.12.	Processing water is regularly tested to ensure it meets microbial standards for drinking water. Testing and results are documented.

Benchmark PH-4 Written sanitation standard operating procedures are developed, followed, and documented.	
PH Indicator 4.1.	Sanitation schedule includes, but is not limited to, SOPs for cleaning and maintaining the following: Harvest containers and equipment, fields, packing facilities, floors, drains, equipment, food contact surfaces, fixtures, tools, cooling systems, lines used for washing, grading, sorting and packing, packing materials, storage facilities, cooling rooms, cooling units, coolers, containers for finished product, trash cans, and cleaning equipment. Cleaning agents, chemicals and lubricants are stored in a designated area, away from produce.
PH Indicator 4.2.	Washing, grading, sorting, and packing lines, and food contact surfaces are cleaned and sanitized, at least daily when in use, to reduce risk of contamination with pathogens.
PH Indicator 4.3.	Trash and waste containers are available for use. Trash and waste is collected and stored in such a way as to minimize the potential to attract or harbor pests. Trash and waste is removed regularly from the fields and packing facility, and disposal minimizes the potential for contamination of produce or water sources.

Benchmark PH-5 Facilities, equipment, and procedures are designed and monitored to reduce potential for contamination.	
PH Indicator 5.1.	Packing facilities are designed to prevent cross-contamination: • Packing house uses a linear product flow; • Roof does not leak; • Floors are properly sloped and maintained to ensure adequate drainage and minimize pooling water; • Drains and pipes are covered and corrosion-resistant; • Maintenance areas are separate from processing area, and care is taken when making repairs on the line; and • Access to the facility is limited to necessary personnel and approved

	visitors.
PH Indicator 5.2.	Facility location, design and layout are constructed to avoid contamination of produce. Facility is constructed in such a way that floors, walls, fixtures, drains and pipes can be adequately cleaned and kept in good repair. Maintenance of facility and equipment is carried out in a manner that prevents contamination of the produce.
PH Indicator 5.3.	Sewage is disposed into an adequate sewage or septic system. Sewage or septic systems are maintained in a manner that prevents contamination of produce, food contact surfaces, water sources and distribution systems. Spills or leaks of human waste are managed in a way that prevents contamination of produce, food contact surfaces, water sources and distribution systems.
PH Indicator 5.4.	Measuring and monitoring devices are appropriate to the component being measured and are calibrated according to recognized industry standards. Calibration schedule is established and documented.
PH Indicator 5.5.	Post-harvest equipment, including food packing material, is appropriate for its intended use and has been assessed to reduce the risk of contamination.
PH Indicator 5.6.	Procedures are developed and implemented to reduce the risk of glass, plastic, metal, rocks and other hazardous items from contaminating produce during harvesting and post-harvest.
PH Indicator 5.7.	A pest management program is established, monitored, and documented to minimize pests, birds and animals in and around packing facilities.
PH Indicator 5.8.	Packing containers and equipment are clean and maintained so as not be a source of contamination, and are suitable for their intended use.
PH Indicator 5.9.	Packing materials are stored in a clean, dry area and in a manner that prevents contamination.
PH Indicator 5.10.	Cleaning tools are kept separate according to function.
PH Indicator 5.11.	A written policy is developed and implemented requiring that damaged or decaying produce is disposed of properly. Produce that contacts the ground shall not be harvested (unless that product typically contacts the ground). Policy includes clear identification of disposed product.
PH Indicator 5.12.	Containers and equipment are clean and maintained so as not to be a source of contamination and are suitable for their intended use. Harvest containers are kept separate from packing containers.
PH Indicator 5.13.	Equipment and tools that are no longer suitable for use are effectively repaired or disposed of in a manner that minimizes the risk of inadvertent use, improper use or risk to food safety. Records of the handling, repair, or disposal of such equipment and tools are maintained.

Benchmark PH-6 Storage facilities, equipment, and procedures are designed to reduce potential for contamination.

PH Indicator 6.1.	Storage facilities are kept clean and dry and the unit has a dehumidifying function.
PH Indicator 6.2.	Refrigerators are maintained at temperatures sufficient to minimize microbial growth. Temperature is monitored and recorded. Temperature indicators are appropriately calibrated.

Benchmark PH-7 A microbiological testing program is implemented and conforms to established testing protocols.	
PH Indicator 7.1.	Environmental samples are taken at multiple, representative areas of the fields, packing facilities and processing areas. Sampling program includes agricultural inputs including water and soil amendments.
PH Indicator 7.2.	Testing program is documented, including test frequency, sampling, test procedures, responsibilities and actions to be taken based on test results.
PH Indicator 7.3.	All testing results are recorded and records are maintained for two years.
PH Indicator 7.4.	Samples are handled according to standard sampling protocol and procedures to avoid cross-contamination of samples are followed.
PH Indicator 7.5.	Laboratory analysis is conducted by a laboratory accredited to ISO 17025 or equivalent.
PH Indicator 7.6.	If finished product is tested for microbial pathogens, product is held until test results are obtained.

Benchmark PH-8 Pesticide residue testing is conducted as necessary.	
PH Indicator 8.1.	If pesticides are used that have established maximum residue levels (MRLs), post-harvest spot testing is conducted to ensure that pesticide residues do not exceed the MRLs as defined by the International Maximum Residue Level Database provided by the EPA.

Benchmark PH-9 Transportation facilities, equipment, and procedures reduce potential for contamination.	
PH Indicator 9.1.	Procedures for loading and unloading of produce are maintained and documented. Personnel involved in the loading and unloading of produce during transport practice good hygiene and sanitary practices and ensure that produce is not likely to become contaminated.
PH Indicator 9.2.	Farm vehicles are cleaned and maintained according to a schedule so as to avoid contamination of product.
PH Indicator 9.3.	Transport vehicles are not used for the transport of hazardous substances or materials that may be a source of contamination unless they are adequately cleaned and sanitized, and where necessary disinfected, to avoid cross-contamination.
PH Indicator 9.4.	The individual(s) responsible for loading produce inspect the cargo area of transport vehicles to ensure they are as clean as practicable and take steps to minimize the potential of physical damage to produce.

	o Personnel are aware of prior use of transport vehicles and take steps to avoid cross contamination of produce; and o Loading dock personnel do not stack pallets that have touched the ground on top of pallets of product.
PH Indicator 9.5.	When refrigeration is required for safety during transport, the cargo area is pre-cooled to a temperature appropriate for the type of produce.
PH Indicator 9.6.	Refrigerated transport vehicles have properly maintained and fully functional refrigeration equipment controlled by a thermostatic device.

Benchmark PH-10 Indoor facilities associated with growing and harvesting are appropriate..	
PH Indicator 10.1.	For operations where fresh fruits and vegetables are grown indoors (greenhouses, hydroponic culture, etc.), premises and equipment are constructed in such a way as to avoid contamination of produce.

Worker Involvement – Food Safety (WI-Food Safety)

Benchmark WI-Food Safety-1 Farmworkers are knowledgeable, trained and empowered to ensure compliance with food safety stewardship standards.	
WI-Food Safety Indicator 1.1.	Farmworkers are trained in food safety practices and understand the importance of following food safety practices and why they should do so.
WI-Food Safety Indicator 1.2.	Farmworkers recognize signs of illness and understand the relationship between illness and food safety on the farm.
WI-Food Safety Indicator 1.3.	Farmworkers have been trained in health and hygiene protocols and understand the relationship between practicing these behaviors and food safety on the farm.
WI-Food Safety Indicator 1.4.	Farmworkers understand the risks to human health that rodents and other pests can introduce. Farmworkers report presence of pests in fields or packing facilities.
WI-Food Safety Indicator 1.5.	Farmworkers are trained to understand risks posed by the presence of animals in fields and report evidence of animals in fields including animal urine and feces.
WI-Food Safety Indicator 1.6.	Farmworkers are trained to report presence of animals in water sources.
WI-Food Safety Indicator 1.7.	Farmworkers are trained in good hygiene and sanitation practices and follow practices in harvesting, packing, loading/unloading, and storage of produce.
WI-Food Safety Indicator 1.8.	Farmworkers can inspect cargo holds for potential sanitation or other problems and alert management to problems.
WI-Food Safety Indicator 1.9.	Leadership Team has access to and reviews food safety plan and accompanying documentation, including risk assessments, testing results,

	sanitation schedules and training schedules. Leadership Team is empowered to raise food safety issues with management.

Section 4. Environmental Stewardship

Pest Management (PM)

Integrated pest management, or "IPM," is the basis for all pest management decisions. IPM is a process used to solve pest problems while minimizing risks to people and the environment. IPM focuses on long-term prevention through ecosystem management. Fundamental to IPM is regular monitoring to correctly identify all potential pests and determine if they are present at levels that represent a real economic threat in terms of crop yields or quality. If warranted, the most effective management approaches involve the use of different methods (biological, cultural, physical or, as a last resort, chemical controls) in combination rather than separately.

Benchmark PM-1 Pesticide use is minimized by identifying and implementing non-pesticide measures. Pesticide risk is reduced by identifying and implementing reduced-risk pesticide options and mitigation strategies.	
PM Indicator 1.1.	A current IPM plan addresses practices used to prevent and avoid pest problems, and control measures for key pests typically requiring intervention to produce a successful crop.
PM Indicator 1.2.	If the grower contracts with an outside pest control advisor (PCA) for pest management plan development and implementation, the licensed PCA is trained in IPM and economically independent from any pesticide company.
PM Indicator 1.3.	The IPM Plan includes a risk analysis using the Pesticide Risk Mitigation Engine (PRiME, www.ipmprime.org) for all pesticides applied.
PM Indicator 1.4.	A written drift management plan details practices and standards in place to minimize off-target movement of pesticides through the air.

Benchmark PM-2 Conventional pesticides are applied consistent with the IPM plan.	
PM Indicator 2.1.	All pesticide applications are supervised by a licensed private applicator.
PM Indicator 2.2.	Additional risk mitigation measures are taken if highly hazardous fumigant pesticides are used.
PM Indicator 2.3.	If pesticides are stored on-farm, they are stored in a locked containment area, off the ground, with a secondary containment device or structure. The storage area is located at least 400 feet from any public or private drinking water source and200 feet from surface water. A spill response/cleanup kit is in the pesticide storage facility.
PM Indicator 2.4.	A written emergency response plan is available and posted prominently in areas where pesticides are handled.

Soil Management (SM)

Benchmark SM-1 Farm procedures maintain or improve soil quality, protect soil resources and promote healthy crop production.	
SM Indicator 1.1.	If applicable, procedures are in place to measure and reduce soil erosion and compaction and/or improve soil health.
SM Indicator 1.2.	If using synthetic fertilizers, process details are provided for measuring and optimizing fertilizer use efficiency. This may include use of organic/biological soil amendments and crop rotation.
SM Indicator 1.3.	Soil is tested at least once a year for soil borne pests (particularly nematodes and fungal pathogens) and records are kept.

Water Management (WM)

Benchmark WM-1 Irrigation and other water management practices support the conservation of resources and do not contaminate water	
WM Indicator 1.1.	Irrigation practices limit runoff. Grower uses a system of measurement to determine need (e.g. soil moisture level) and use (flow rate) of water to avoid excess use and runoff.
WM Indicator 1.2.	If farm has aquatic habitats like rivers, streams, creeks, sloughs, or seasonal watercourses, buffer strips (preferably of native vegetation) at least 9 feet wide are planted between crop fields and moving water habitats.

Worker Involvement – Environment (WI-Environment)

Benchmark WI-Environment-1 Farmworkers are knowledgeable, trained and empowered to ensure compliance with environmental stewardship standards.	
WI-Environment Indicator 1.1.	As part of pesticide safety training, farmworkers are trained annually on basic concepts of Integrated Pest Management and the federal Worker Protection Standard.
WI-Environment Indicator 1.2.	Farmworkers are trained to access information on pesticide product names, active ingredients and how to access product labels and Material Safety Data Sheets.
WI-Environment Indicator 1.3.	Leadership team is briefed as to on-farm Integrated Pest Management measures and use reduction goals.

WI-Environment Indicator 1.4.	Farmworkers are trained and understand importance of re-entry interval and ensure it is not violated.

Appendix A: Applicable Labor Laws

The following section briefly highlights major labor protections applicable to farmworkers and labor law obligations of agricultural employers and notes several key distinctions between the rights and responsibilities under labor laws regarding agriculture and those under labor laws applicable to other occupations. There are many concerns about the adequacy of enforcement of farmworkers' labor protections; indeed, many law-abiding employers express concern that unequal enforcement undermines their competitiveness in the marketplace.

The labor laws create minimum standards but do not and cannot design effective labor-management systems that address all the legitimate needs and concerns of farm workers and their employers, or other participants in the food system. This project is intended to reach agreement on and implement employment-related standards, environmental practices, and food safety protocols, as well as effective, equitable compliance mechanisms, which improve farmworkers' conditions and assure a prosperous labor-intensive agricultural sector of the economy.

Two of the most important laws regarding farmworkers' employment are the Fair Labor Standards Act (FLSA) and the Migrant and Seasonal Agricultural Worker Protection Act of 1983 (AWPA or MSPA).

The Fair Labor Standards Act (FLSA)

FLSA, originally enacted in 1938, guarantees most workers a minimum wage -- currently $7.25 per hour -- for each hour worked. FLSA requires that most employees be paid one and one-half times their regular rate of pay for each hour over forty hours per week. FLSA also requires employers to comply with recordkeeping requirements, including maintaining payroll records.
In 1966, Congress added most farmworkers and their employers to those covered by the minimum wage and recordkeeping provisions but farm workers are still excluded from overtime pay requirements. Further, the many agricultural workers employed on smaller farms i.e., any farm that employs fewer than roughly seven workers in a calendar quarter, are not protected by the minimum wage provisions of the FLSA.

FLSA also restricts child labor but offers less protection to agricultural workers than to all other workers. In agriculture, the minimum age for performing "hazardous" tasks is 16 but it is 18 in other industries. For most jobs the normal minimum age is 16 years (with few exceptions), but in agriculture it is 14 years (with many exceptions). There are no restrictions on agricultural work being done by children as young as 12 years old early in the morning or late into the night.

The Migrant and Seasonal Agricultural Worker Protection Act (AWPA or MSPA)

The Migrant and Seasonal Agricultural Worker Protection Act is the principal federal employment law for farm workers, who are excluded from the National Labor Relations Act. While the law does not grant farmworkers the right to join labor unions or access to collective bargaining, it does contain some important protections. "

AWPA includes the following requirements: agricultural employers must disclose terms of employment at the time of recruitment and comply with those terms; employers, when using farm labor contractors ("FLCs" or "crew leaders") to recruit, supervise or transport farm workers, must confirm that the FLCs are registered with and licensed by the U.S. Department of Labor; providers of housing to farmworkers must meet local and federal housing standards; and transporters of farmworkers must use vehicles that meet basic federal safety standards and are insured. Like FLSA, AWPA does not apply to smaller employers.

AWPA contains a broad definition of employment relationships so that in most cases a farmworker is an "employee" and the grower who uses a FLC is responsible, as a joint "employer" with the FLC, for providing farmworkers with AWPA's labor protections. The FLSA and AWPA are administered and enforced by DOL's Wage and Hour Division, and through lawsuits in federal courts that may be filed by farmworkers.

Field Sanitation Standard

The Occupational Safety and Health Administration (OSHA) issued a regulation called the Field Sanitation Standard. It requires larger agricultural employers (those with 11 or more employees and those of any size when they operate a labor housing camp) to provide cool drinking water, toilets and hand washing facilities in the fields. However, other standards issued by OSHA regarding workplace safety do not apply to agriculture.

Pesticides

The Environmental Protection Agency

The Environmental Protection Agency issued a Worker Protection Standard as part of its regulation of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act. It applies to use of pesticides on farms, and in nurseries, greenhouses or forests. The WPS requires that workers receive basic pesticide safety training once every five years, that decontamination water be available, that minimum restricted-entry intervals and personal protective equipment requirements be observed (based on the product's immediate toxicity), and that medical assistance be provided in case of emergency. Farm workers, however, do not have the same right-to-know protections as do other employees under OSHA's Hazard Communication Standard. For example, farm workers receive no information about the specific short and long term health effects associated with the products used at their work site. "

Some states provide additional protections. For example, the California Agricultural Labor Relations Act grants agricultural workers in that state the freedom to join a labor union without retaliation and creates a structure for collective bargaining. A few states have more stringent pesticide safety protections than federal law.
Pesticide Use Reduction

Some pesticide use reporting is required in Oregon and New York. California's reporting requirements are the most comprehensive and serve as a model for the EFI Standards.

While no states require pesticide use reduction per se other sustainability standards do. Throughout the country, state and federal government agencies and university agricultural extension programs, as well as many private pest control advisors offer training and services in the on-farm application of Integrated Pest Management (IPM) with the intent of reducing use of hazardous pesticides and replacing them with less toxic pest control approaches. For a number of reasons growers across the country are increasingly looking to implement IPM practices on their farms: concern for the health and wellbeing of their family members, ever-present threat of regulatory restrictions removing pesticides from their pest control arsenal, and the potential of cost savings from the reduction of pesticide purchases.

While the goal of true IPM is the replacement of synthetic pesticides with cultural and biological controls, rather than simple substitution with other, albeit less toxic, synthetic pesticides, many pest control advisors continue to promote the latter. The EFI Leadership Training program will work to ensure that participating growers have access to IPM advisors that embrace, as is the intent of IPM, the whole systems approach that includes helping growers (and the workers in the fields) develop a good understanding of the farm's ecosystem from soil health (and soil-borne diseases) to insect pests; what level of damage represents a real economic threat, and what "soft" practices can be employed when the need for pest control is indicated.

Food Safety

The Food and Drug Administration is responsible for assuring the safety of fresh fruits and vegetables. FDA has not issued regulations for the safe production of fresh produce, but has historically provided non-binding guidance documents to the produce industry. However, under the newly passed FDA Food Safety Modernization Act, FDA is required to establish science-based minimum standards for the safe production and harvesting of fruits and vegetables. FDA has jurisdiction to regulate produce safety on the farm, but has rarely used that authority, relying on state regulatory agencies to oversee safety. Under the FSMA, FDA is instructed to coordinate with the U.S. Department of Agriculture and state regulatory agencies to assure compliance with new federal produce safety regulations. Florida is the only state to establish regulations for produce safety (in 2008), and has only done so for fresh tomatoes. No other state has implemented its own produce safety regulations.

Appendix B: Equitable Food Initiative Highly Hazardous Pesticide List

Pesticide name	Drift Prone[vii]	Detrimental effects combines High Acute Toxicity, Carcinogen, ChE Inhibitor, Development or Reproductive Distruptor, Endocrine Disruptor and Groundwater Contaminant.	International Listings WHO class 1a and 1b, Rotterdam Convention, EU very toxic by inhalation, Stockholm Persistant Organic Pollants or EPA Restricted Use Pesticide
1,3-dichloropropene	Very high	High acute toxicity,ChE inhibitor, Carcinogen,Devel/Repro toxicant, Enodcrine disruptor, Groundwater contaminant	EPA Restricted Use Pesticide
2,4,6-trichlorophenol	no data	Carcinogen	
2,4-D	Moderate	suspected Endocrine Disruptor	
2,4-DB (acid)	no data	possible Carcinogen	
2,4-dichlorophenol	no data	suspected Endocrine Disruptor	
2,4-DP, isooctyl ester	no data	Possible Carcinogen	
Abamectin	no data	High acute toxicity, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Acephate	Moderate	Possible Carcinogen, ChE inhibitor, suspected Endocrine Disruptor	
Acetochlor	no data	Carcinogen, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Acifluorfen, sodium salt	Low	Carcinogen	
Acrolein	Very high	High acute toxicity, possible Carcinogen	WHO 1B (Highly Hazardous); EU very toxic by inhalation; EPA Restricted Use Pesticide
Alachlor	Moderate	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor, Groundwater contaminant	Rotterdam Convention; EU very toxic by inhalation (Alachlor HB); EPA Restricted Use Pesticide
Aldicarb	Moderate	High acute toxicity, ChE inhibitor, suspected Endocrine Disruptor, Groundwater contaminant	WHO 1A (extremely hazardous); Rotterdam Convention; EU

			very toxic by inhalation; EPA Restricted Use Pesticide
Allethrin	no data	suspected Endocrine Disruptor	
Alpha-chlorohydrin	no data	High acute toxicity	EPA Restricted Use Pesticide
Aluminum phosphide	Very high[viii]	High acute toxicity	EPA Restricted Use Pesticide
Aminopyralid	no data		
Amitraz	no data	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Amitrole	no data	Carcinogen, suspected Endocrine Disruptor	EU very toxic by inhalation; EPA Restricted Use Pesticide
Aniline	no data	Carcinogen	
anthracene oil	no data	Carcinogen	
Arsenic acid	no data	High acute toxicity, Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Arsenic pentoxide	no data	High acute toxicity, Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Asulam	no data	Possible Carcinogen	
Atrazine	Low	Carcinogen, suspected Endocrine Disruptor, Groundwater contaminant	EPA Restricted Use Pesticide
Azamethiphos	no data	ChE inhibitor	
Azinphos-ethyl	no data	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous)
Azinphos-methyl	Moderate	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous); EU very toxic by inhalation
Azobenzene	no data	Carcinogen	
Azocyclotin	no data	suspected Endocrine Disruptor	
Benfluralin	Moderate	Possible Carcinogen	
Bifenthrin	Low	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Binapacryl	no data	High acute toxicity	Rotterdam Convention
Bis(chloroethyl) ether	no data	Carcinogen	EU very toxic by inhalation
Boscalid	Low	Possible Carcinogen	
Brodifacoum	no data	High acute toxicity	WHO 1A (extremely

			hazardous); EPA Restricted Use Pesticide
Bromacil	Low	Possible Carcinogen, suspected Endocrine Disruptor, Groundwater contaminant	
Bromadiolone	no data	High acute toxicity	WHO 1A (extremely hazardous)
Bromethalin	no data	High acute toxicity	WHO 1A (extremely hazardous)
Bromuconazole	no data		
Buprofezin	no data	Possible Carcinogen	
Captan	Very high 8	High acute toxicity, Carcinogen	
Carbaryl	Moderate	Carcinogen, ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Carbendazim	no data	Possible Carcinogen, suspected Endocrine Disruptor	
Carbofuran	Low	High acute toxicity, ChE inhibitor, suspected Endocrine Disruptor	WHO 1B (Highly Hazardous); Rotterdam Convention* in combination with benomyl and thiram; Stockholm POP (check with Margaret - "Furans"); EU very toxic by inhalation; EPA Restricted Use Pesticide
Chlorethoxyphos	no data	High acute toxicity, ChE inhibitor	WHO 1A (extremely hazardous)
Chlorfenapyr	Low	Possible Carcinogen	
Chlorophacinone	Moderate	High acute toxicity	WHO 1A (extremely hazardous)
Chloropicrin	Very high	High acute toxicity	EPA Restricted Use Pesticide
Chlorothalonil	Moderate	High acute toxicity, Carcinogen	EU very toxic by inhalation; EPA Restricted Use Pesticide
Chlorpyrifos	Moderate	ChE inhibitor, suspected Endocrine Disruptor	WHO 1A (extremely hazardous); EPA

			Restricted Use Pesticide
Chlorpyrifos-methyl	no data	ChE inhibitor	check out hidden cells
Chlorsulfuron	no data	Development or Reproductive Disruptor	
Chlorthal-dimethyl (DCPA)	Moderate	Possible Carcinogen	
Clodinafop-propargyl	no data	Possible Carcinogen	
Clofencet (2-(4-Chlorophenyl)-3-ethyl-2,5-dihydro-5-oxo-4-pyridizine-carboxylic acid)	no data	Possible Carcinogen	
Clofentezine	Very low	Possible Carcinogen, suspected Endocrine Disruptor,	EPA Restricted Use Pesticide
Coumaphos	no data	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Creosote	no data	Carcinogen	EU very toxic by inhalation (Cresote WoodP); EPA Restricted Use Pesticide
Cyanamide (Hydrogen)	no data	High acute toxicity, possible Carcinogen	
Cyhexatin	no data	High acute toxicity, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Cyproconazole	no data	Carcinogen	
Daminozide	High	Carcinogen	
Demeton-S-methyl	no data	High acute toxicity, ChE inhibitor, suspected Endocrine Disruptor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Diazinon	Moderate	ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Dichlobenil	High	Possible Carcinogen	EPA Restricted Use Pesticide
Dichlorprop-P	no data	High acute toxicity, possible Carcinogen	
Dichlorvos (DDVP)	Very high	High acute toxicity, Carcinogen, ChE inhibitor, suspected Endocrine Disruptor	WHO 1B (Highly Hazardous) EU very toxic by inhalation
Diclofop-methyl	no data	Carcinogen Development or Reproductive Disruptor	EPA Restricted Use Pesticide
Dicofol	Low	High acute toxicity, possible Carcinogen, suspected Endocrine Disruptor	EU very toxic by inhalation

Dicrotophos	no data	High acute toxicity, possible Carcinogen, ChE inhibitor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Difenacoum	no data	High acute toxicity	WHO 1A (extremely hazardous)
Difenoconazole	no data	Possible Carcinogen, suspected Endocrine Disruptor	
Difethialone	no data	High acute toxicity	WHO 1A (extremely hazardous)
Dimethenamid	no data	Possible Carcinogen	
Dimethoate	Moderate	High acute toxicity, possible Carcinogen, ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Dimethoxane	no data	Possible Carcinogen	
Diphacinone	Very low	High acute toxicity	WHO 1A (extremely hazardous); EPA Restricted Use Pesticide
Diquat dibromide	Very low	High acute toxicity	
Disulfoton	no data	High acute toxicity, ChE inhibitor	WHO 1A (extremely hazardous); EPA Restricted Use Pesticide
Diuron (except products with < 7% diuron & applied to foliage)	Low	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor, Groundwater contaminant	EU very toxic by inhalation
Endosulfan	Moderate	High acute toxicitysuspected Endocrine Disruptor	Rotterdam Convention; EU very toxic by inhalation
Esbiothrin	no data	Possible Carcinogen	
Esfenvalerate	Moderate	suspected Endocrine Disruptor	
Ethalfluralin	Moderate	Possible Carcinogen Carcinogen	
Ethoprophos	High	High acute toxicity, Carcinogen, ChE inhibitor	WHO 1A (extremely hazardous); EPA Restricted Use Pesticide
Ethylene oxide	no data	High acute toxicity, Carcinogen, Development or Reproductive Disruptor	Rotterdam Convention
Etofenprox	no data	Carcinogen, suspected Endocrine Disruptor	

Fenarimol	Low	suspected Endocrine Disruptor	
Fenbuconazole	Low	Possible Carcinogen, suspected Endocrine Disruptor	
Fenbutatin-oxide	Very low	High acute toxicity, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Fenitrothion	no data	ChE inhibitor, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Fenoxycarb	no data	Carcinogen, ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EU very toxic by inhalation
Fenpropathrin	Moderate	High acute toxicity	EPA Restricted Use Pesticide
Fentin Hydroxide (Fentine)	no data	High acute toxicity, Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EU very toxic by inhalation
Fipronil	Very low	Possible Carcinogen, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Flonicamid	Very low	Possible Carcinogen	
Fluazinam	no data	Possible Carcinogen	
Flumioxazin	Moderate		
Fluometuron	no data	Possible Carcinogen	
Fluthiacet-methyl	no data	Carcinogen	
Folpet	no data	Carcinogen	
Forchlorfenuron	Very low		
Formaldehyde	Very high	High acute toxicity, Carcinogen	EU very toxic by inhalation
Fosthiazate	no data	ChE inhibitor	
Furfural	no data		
Hexythiazox	Very low	Possible Carcinogen	
Hydramethylnon	Low	Possible Carcinogen, Development or Reproductive Disruptor	
Imazalil	no data	Carcinogen, Development or Reproductive Disruptor	
Iodomethane (Methyl Iodide)	no data	High acute toxicity, Carcinogen	
Iprodione	Low	Carcinogen, suspected Endocrine Disruptor	EU very toxic by inhalation
Isoxaben	Low	Possible Carcinogen	
Isoxaflutole	no data	Carcinogen	
Kresoxim-methyl	no data	Carcinogen	
Lactofen	no data	Carcinogen	
Lambda-cyhalothrin	no data	suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Linuron	Moderate	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	

Malathion	Moderate	High acute toxicity, possible Carcinogen, ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EU very toxic by inhalation
Mancozeb	Very high	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Maneb	Very high	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor,	
MCPA	Moderate [ix]	High acute toxicity, possible Carcinogen	
MCPB	no data	Possible Carcinogen	
MCPP	High	Possible Carcinogen	
Mecoprop-P	High	High acute toxicity, possible Carcinogen	
Meta-cresol	no data	Possible Carcinogen	
Metaldehyde	Very high	Possible Carcinogen	
Metam-sodium (Metam-sodium, dihydrate)	High[x]	High acute toxicity, Carcinogen, Development or Reproductive Disruptor, suspected Endocrine disruptor	
Methamidophos	no data	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous); Rotterdam Convention; EPA Restricted Use Pesticide
Methidathion	Moderate	High acute toxicity, possible Carcinogen, ChE inhibitor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Methiocarb	Low	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Methomyl	Moderate	High acute toxicity, ChE inhibitor, suspected Endocrine disruptor	WHO 1B (Highly Hazardous); EU very toxic by inhalation
Methyl bromide	Very high	High acute toxicity, Development or Reproductive Disruptor, suspected Endocrine Disruptor,	EPA Restricted Use Pesticide
Methyl isothiocyanate (Metam breakdowm product)	High	High acute toxicity, Carcinogen	EPA Restricted Use Pesticide

Metiram	no data	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine disruptor	
Metolachlor	Moderate	Possible Carcinogen, suspected Endocrine Disruptor, Groundwater contaminant	EPA Restricted Use Pesticide
Metolachlor, (S)	Moderate	Possible Carcinogen, suspected Endocrine Disruptor, Groundwater contaminant	EPA Restricted Use Pesticide
Metribuzin	Low	Development or Reproductive Disruptor, suspected Endocrine disruptor	
MGK 326 (Dipropyl isocinchomeronate)	no data	Carcinogen	
Molinate	no data	ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine disruptor	
MSMA	Low	Carcinogen	
Myclobutanil	High	Development or Reproductive Disruptor, suspected Endocrine Disruptor,	
Nicotine	no data	High acute toxicity, Development or Reproductive Disruptor,	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Nitrapyrin	High	Carcinogen, Development or Reproductive Disruptor,	
Norflurazon	Low	Possible Carcinogen, Groundwater contaminant	
Orthosulfamuron	no data	Possible Carcinogen	
Oryzalin	Very low	Carcinogen, suspected Endocrine Disruptor,	
Oxadiazon	Low	Carcinogen, Development or Reproductive Disruptor,	
Oxamyl	High	ChE inhibitor	WHO 1B (Highly Hazardous); EU very toxic by inhalation; EPA Restricted Use Pesticide
Oxydemeton-methyl	no data	High acute toxicity, ChE inhibitor, Development or Reproductive Disruptor, suspected Endocrine Disruptor,	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Oxyfluorfen	Low	Possible Carcinogen	
Para-dichlorobenzene	no data	Carcinogen	
Paraquat dichloride	Low	High acute toxicitysuspected Endocrine Disruptor,	EU very toxic by inhalation
Parathion	Moderate	High acute toxicity, possible Carcinogen, ChE inhibitor, suspected	WHO 1A (extremely

		Endocrine Disruptor,	hazardous); Rotterdam Convention; EU very toxic by inhalation
Parathion-methyl	no data	High acute toxicity, ChE inhibitor, suspected Endocrine Disruptor	WHO 1A (extremely hazardous); Rotterdam Convention; EU very toxic by inhalation
PCP	High	High acute toxicity, Carcinogen, suspected Endocrine Disruptor	Stockholm POP; EU very toxic by inhalation
Pendimethalin	Moderate	Possible Carcinogen, suspected Endocrine Disruptor,	
Penoxsulam	no data	Possible Carcinogen	
Permethrin	Low	Possible Carcinogen, suspected Endocrine Disruptor,	EPA Restricted Use Pesticide
Phenothrin	Low	suspected Endocrine Disruptor	
Phorate	High	High acute toxicity, ChE inhibitor	WHO 1A (extremely hazardous); EPA Restricted Use Pesticide
Phosmet	Low	Possible Carcinogen, ChE inhibitor	
Phosphine	Very high		
Picloram	no data	suspected Endocrine Disruptor, Groundwater contaminant	EU very toxic by inhalation; EPA Restricted Use Pesticide
Piperonyl butoxide	Low	Possible Carcinogen, suspected Endocrine Disruptor,	EPA Restricted Use Pesticide
Pirimicarb	no data	Carcinogen, ChE inhibitor	
Polyhexamethylene biguanidine	no data	Possible Carcinogen	
Potasan (a breakdown of Coumaphos)	no data	High acute toxicity, ChE inhibitor	
Prodiamine	Low	Possible Carcinogen, suspected Endocrine Disruptor,	
Prometryn	Moderate	Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Propachlor	no data	Carcinogen, Development or Reproductive Disruptor	

Propanil	no data	Possible Carcinogen, suspected Endocrine Disruptor,	
Propargite	no data	High acute toxicity, Carcinogen, Development or Reproductive Disruptor	
Propazine	no data		
Propetamphos	Low	High acute toxicity, ChE inhibitor	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Propiconazole	Low	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor,	
Propoxur	Moderate	High acute toxicity, Carcinogen, ChE inhibitor	
Propylene oxide	Very high	High acute toxicity, Carcinogen	
Propyzamide	Low	Carcinogen, suspected Endocrine Disruptor	
Pymetrozine	Low	Carcinogen	
Pyraflufen-ethyl	Very low	Carcinogen	
Pyrasulfotole	no data		
Pyrimethanil	Moderate	Possible Carcinogen, suspected Endocrine Disruptor,	
Pyrithiobac-sodium	no data	Possible Carcinogen	
Quintozene (PCNB)	Moderate	possible High Acute Toxicitysuspected Endocrine Disruptor	
Resmethrin	Low	Carcinogen, Development or Reproductive Disruptor	EPA Restricted Use Pesticide
S,S,S-tributyl phosphorotrithioate	no data	Carcinogen, ChE inhibitor	maybe Rotterdam? Is this the same as "Tributl tin compounds?"
S-Bioallethrin	no data	Possible Carcinogen	
Simazine	Low	Development or Reproductive Disruptor, suspected Endocrine Disruptor, Groundwater contaminant	EPA Restricted Use Pesticide
S-Metolachlor	no data	Possible Carcinogen, suspected Endocrine Disruptor	
Sodium dimethyl dithio carbamate	no data	Carcinogen, ChE inhibitor, Development or Reproductive Disruptor	EPA Restricted Use Pesticide
Sodium fluoroacetate (1080)	no data	High acute toxicity, Development or Reproductive Disruptor	WHO 1A (extremely hazardous); EU very toxic by inhalation; EPA

			Restricted Use Pesticide
Spirodiclofen	Very low	Carcinogen	
Strychnine	no data	High acute toxicity	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Sulfosulfuron	Very low	Carcinogen	
TCMTB	no data	Possible Carcinogen	
Tebuconazole	Low	Possible Carcinogen, suspected Endocrine Disruptor	
Tebufenpyrad	no data	Possible Carcinogen	
Tebupirimifos (Phostebupirim)	no data	High acute toxicity, ChE inhibitor	WHO 1A (extremely hazardous)
Tefluthrin	no data	High acute toxicity	WHO 1B (Highly Hazardous); EPA Restricted Use Pesticide
Tembotrione	no data		
Tepraloxydim	no data		
Terbufos	no data	High acute toxicity, ChE inhibitor	WHO 1A (extremely hazardous); EPA Restricted Use Pesticide
Terrazole	no data	Carcinogen, suspected Endocrine Disruptor	
Tetrachlorvinphos, Z-isomer	no data	Carcinogen, ChE inhibitor, suspected Endocrine Disruptor	
Tetraconazole	no data	Carcinogen	
Tetramethrin	Moderate	Possible Carcinogen	
Thiabendazole	Very low	Carcinogen, Development or Reproductive Disruptor,	
Thiacloprid	no data	Carcinogen	
Thiodicarb	Moderate	Carcinogen, ChE inhibitor	
Thiophanate-methyl	Low	Carcinogen, Development or Reproductive Disruptor,	
Thiram	Moderate	Development or Reproductive Disruptor, suspected Endocrine Disruptor	Rotterdam Convention* in combination with benomyl and carbofuran;
Tolylfluanid	no data	Carcinogen	
Topramezone	no data	Carcinogen	
Tralkoxydim	no data	Possible Carcinogen	
Triadimefon	Low	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	

Triadimenol	Very low	Possible Carcinogen, suspected Endocrine Disruptor	
Triallate	no data	Possible Carcinogen, ChE inhibitor	
Tribenuron methyl	no data	Possible Carcinogen	
Trichlorfon	no data	Carcinogen, ChE inhibitor, suspected Endocrine Disruptor	EU very toxic by inhalation
Triclosan	no data	High acute toxicity, possible Carcinogen	
Trifluralin	High	Possible Carcinogen, suspected Endocrine Disruptor	EPA Restricted Use Pesticide
Triflusulfuron-methyl	no data	Possible Carcinogen	
Triforine	Low	Possible Carcinogen, Development or Reproductive Disruptor	
Uniconazole	no data	Possible Carcinogen	
Vinclozolin	no data	Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	
Warfarin	Very low	High acute toxicity, Development or Reproductive Disruptor	WHO 1B (Highly Hazardous)
zeta-Cypermethrin	Very low	High acute toxicity, possible Carcinogen, suspected Endocrine Disruptor	
Ziram	Very low	Possible Carcinogen, Development or Reproductive Disruptor, suspected Endocrine Disruptor	EU very toxic by inhalation

[i] Measure of Pesticide Use. Two documents on agricultural chemical use as recorded by the USDA were used in to compile this category: the 2004 vegetables summary and the 2005 fruits summary of pesticide usage. We chose 200 thousand pounds of an applied pesticide as a cutoff level to show that these pesticides are used significantly on particular crops. The numbers reported here are the total numbers of combined pesticide usage for the states evaluated as shown for those years. It should be noted that most states do not report pesticide use. Therefore, use of many or most of the pesticides for which we did not provide use data are likely to exceed 200 thousand pounds, and the pesticides listed with use over 200 thousand pounds are likely to have much greater use.

[ii] PHPP/PHRP – Protected Harvest Prohibited Pesticides or Protected Harvest Restricted Pesticides

[iii] RUP - US EPA Restricted Use Pesticide (http://www.epa.gov/opprd001/rup/rupjun03.htm)

[iv] PAN International published the list of Highly Hazardous Pesticides (HHP). The categories qualifying pesticides for inclusion in this list are similar to but more comprehensive than PAN North America's list used to identify toxicity category in this table. This column shows the HHP category (from the list below) that qualifies the associated pesticide for inclusion in this table. There were 138 pesticides on the HHP list excluded from this list of Prohibited Pesticides because they are not registered for use in the U.S.

[v] Total number of Systemic/Respiratory and Topical illnesses reported as associated with acute illnesses in California as reported by California physicians and compiled by the California

Department of Pesticide Regulation (DPR). These include all illnesses that were determined by DPR to be either definitely, probably or possibly related to pesticide exposure.

[vi] Calvert ref

[vii] Drift prone level measured in mmHg's as recorded by PAN's Pesticide Database (Air & Pesticides Information Center (AirPIC): http://pesticideinfo.org/airpic/ap_step1.jsp). PAN considers that any pesticide with a vapor pressure greater than 10^-6 mmHg is prone to volatilization drift; this corresponds to anything with an air pollution potential of moderate or higher. However, it should be noted that not all pesticides on this list have been tested for volatilization drift so it is possible that untested pesticides, which remain unmarked on this list, do in fact have a drift prone level of moderate or higher.

[viii] Breakdown product and parent compound are very low

[ix] This rating is for the isooctyl ester; parent compound is low; breakdown product is very high.

[x] Parent compound is high; breakdown product is very high.