LIVING FOOD CHALLENGE™
PILOT

A Visionary Path to a Regenerative Future
NOTIFICATION
NOW IS THE RIGHT TIME FOR A LIVING FOOD SYSTEM TO FEED THE WORLD
IMAGINE a world that with ethical labor and regional nutrients, produces, processes, and distributes a sufficient supply of affordable food and promotes self-sustaining economies not dependent on fossil fuel-based chemicals or transportation.

IMAGINE a food production, processing, and distribution system that is designed to function as effectively and efficiently as nature’s living ecosystems; a food system informed by its bioregion’s characteristics, that runs exclusively on renewable energy, cleans water, recycles nutrients, and renews the land in harmony with nature’s principles.

IMAGINE a nutrient-rich, equitable and diverse food supply for all those living within a community: a food system that is Socially Just, Culturally Rich, and Ecologically Restorative℠.
The International Living Future Institute issues a challenge:

**TO ALL FOOD PRODUCERS, PROCESSORS, DISTRIBUTORS, AND CONSUMERS** to create the foundation for a sustainable future of nutrient-rich food for all people in all communities.

**TO POLITICIANS AND GOVERNMENT OFFICIALS** to remove barriers to regenerative food systems and to realign market incentives for equitable access to sustainable, affordable, high-quality food that better protects the health, safety, and well-being of all people.

**TO ALL OF HUMANITY** to reconcile food production, processing, and distribution systems for the elimination of hunger and food waste throughout the world.
INSTEAD OF A WORLD THAT IS MERELY A LESS BAD VERSION OF THE ONE WE CURRENTLY HAVE, WE ASK A SIMPLE AND PROFOUND QUESTION: WHAT DOES GOOD LOOK LIKE? IMAGINE IF THE FOOD YOU ATE MADE THE WORLD A BETTER PLACE.
INTRODUCING THE LIVING FOOD CHALLENGE

Imagine a world in which we can ensure that the food we are eating is good for us. All of us. Everywhere.

What if food producers were inspired to grow and raise food that is nourishing, delicious, and socially and environmentally responsible, and then were celebrated for it? What if the processors and distributors responsibly sourced food that maintained its nutrients, reduced waste and avoided additives that could cause harm? Consumers could more easily navigate food choices and attend to their health. Producers, processors and distributors would have an incentive to redesign their bottom line to one that considers the long-term endgame.

We are living in a moment when cancer, diabetes, and other chronic food-related illnesses are rampant; when our agricultural practices are devastating our health and that of the living systems around us. We are reducing the fecundity of our soil and replacing it with a petrochemical and pesticide-laden paradigm. More of the ingredients in our food come from a laboratory than from a farm, in a sprawling, globalized system of production.

The Living Food Challenge is designed to help transform the way food is grown, processed, transported, packaged, marketed, consumed and discarded. It is relevant to the full cross section of participants in the global food economy, including producers, food manufacturers and distributors and sellers such as restaurants, grocery stores and other suppliers.

By setting specific and holistic targets for all stages of the food supply chain, the Living Food Challenge sets the bar for transparent and deeply considered food practices locally and around the world.
| EXECUTIVE SUMMARY | 10 |
| HOW THE LIVING FOOD CHALLENGE WORKS | 14 |
| THE 20 IMPERATIVES OF THE LIVING FOOD CHALLENGE | 16 |
| INTRODUCING HANDPRINTING AND FOOTPRINTING | 18 |
| PATHWAYS TO CERTIFICATION | 23 |
| PETALS | |
| PLACE | 26 |
| 01. Appropriately Regional Food | 29 |
| 02. Responsible Place | 31 |
| 03. Soil Health | 33 |
| 04. Habitat Exchange | 34 |
| WATER | 36 |
| 05. Net Positive Water | 38 |
| ENERGY | 40 |
| 06. Net Positive Energy | 42 |
| HEALTH + HAPPINESS | 44 |
| 07. Food Red List | 46 |
| 08. Transparent Ingredient Health | 48 |
| 09. Human Thriving | 50 |
| MATERIALS | 52 |
| 10. Operations Red List | 55 |
| 11. Living Economy Sourcing | 56 |
| 12. Responsible Industry | 58 |
| EQUITY | 62 |
| 14. Equitable Food Access | 65 |
| 15. Equitable Investment | 66 |
| 16. Just Organizations + Worker Rights | 68 |
| 17. Sacred Life Treatments | 70 |
| 18. Social Co-benefits | 71 |
| BEAUTY | 72 |
| 19. Beauty + Spirit | 74 |
| 20. Inspiration + Education | 75 |
| STEPS TO CERTIFYING A LIVING FOOD | 76 |
| ADDITIONAL RESOURCES FOR DEEPER ENGAGEMENT | 77 |
| GLOSSARY | 78 |

TRANSFORMATIVE IMPACT ACROSS FOOD SYSTEMS IN NEIGHBORHOODS, COMMUNITIES, REGIONS, AND COUNTRIES

The Living Food Challenge (LFC) is designed to transform the way food is produced, processed, and distributed, while valuing the nutrient cycle. It identifies advanced measures and seeks to narrow the gap between current limits and sustainable solutions.

The LFC is designed to dramatically raise the standard for farming to regenerative agriculture, where we give more than we take. It aims to transform how we think about every single act in the food chain as an opportunity to positively impact the greater community of life and the cultural fabric of our human society.

Imagine if everything we consumed in our daily lives, regardless of how small, helped to create a better world. From fruit to vegetables, meat, dairy and other consumables—nothing should escape consideration as a potential contributor to a healthier future.

Imagine if even the packaging that our food comes in—normally discarded without consideration—was designed to create value and abundance through time? Why should we accept environmental and social degradation as necessary consequences of our food system?

As Paul Hawken has said, “Doing the right thing should be as easy as falling off a log.”2 The average person shouldn’t have to be a nutritionist or food expert to understand if the purchases they make support their values and their family’s well-being. The Living Food Challenge is a philosophy first, an advocacy tool second, and a certification program third. It is intended as a beacon to guide our food systems, and to give direction and support to those who grow, process and distribute food. Within the larger Living Future Challenge framework that covers the creation of Living Buildings, Living Communities and Living Products, the Living Food Challenge focuses on humanity’s most essential system—food. It is a

unified tool for transformative thought, allowing us to envision a future that is Socially Just, Culturally Rich, and Ecologically Restorative.

Regardless of the location or scale, the Living Food Challenge provides a framework for production, processing and distribution that achieves symbiosis between people and our planet. Indeed, “Living Food Challenge” is not merely a noun that defines a particular solution for food production, but can also be thought of as a call to action that describes not only the production of all of humanity’s food, but also the relationships and broader sense of community and connectivity those processes engender.

It is a challenge to immerse oneself in such a pursuit—and many refer to the ability to do so as a paradigm shift. Food systems that achieve this level of performance can claim to be the healthiest, most socially responsible of all, and will serve as models for others to follow. The Living Food Challenge will help unify and clarify food claims such as “natural and organic” and provide a roadmap for where our food systems as a whole should head.

Understanding the Standard is inherently easy: there are just twenty simple, yet profound Imperatives, and three Typologies: Primary Producers, Secondar Producers and Distributors. Each Typology has a number of Imperatives that must be met for any food project, of any size, for any use, in any location around the world, in order to be certified as a Living Food Product or Distributor. This Standard is decidedly not a checklist of best practices—the facets of the Living Food Challenge are performance-based and position the ideal outcome as an indicator of success.

The specific methodology used to meet the expectations of the Living Food Challenge is not predetermined by the Institute, but rather is left to the genius of those in the food supply chain, their partners, and consumers, who are expected to make informed decisions appropriate to the food and its relationship to place, community and bioregion. The Living Food Challenge is a holistic standard, pulling together the most progressive thinking from producers, consumers, food processing, distribution and policy making. It challenges us to ask: What if every single act within a food chain made the world a better place? What if every intervention resulted in greater biodiversity; increased soil health; additional outlets for beauty and cultural expression; a deeper understanding of climate, culture and place; a realignment of our transportation systems; and a more profound sense of what it means to be a citizen of a planet where resources and opportunities are provided fairly and equitably? What if food tasted better and consistently supported human health and vitality?

A tall order to be sure.

Truly restorative, Living Foods are to be produced in an ecologically sound and socially just manner. They are to give more to the planet and to people within the food-nutrient continued >>
cycle than they take while making people healthier, which may seem impossible at first but is indeed possible. Pioneering Living Foods that demonstrate the reality of this potential will become inspirations for the entire industry.

The scale of change we seek is immense. But without recording these visions with clarity of purpose, we as a society will never experience the type of future that is possible and necessary for our long-term survival. It is our belief that only a few decades remain to completely reshape humanity’s relationship with nature and realign our ecological footprint to be within the planet’s carrying capacity. Incremental change is no longer a viable option.

Over the last twenty years, awareness of sustainable agriculture has grown alongside that of sustainable building and manufacturing. Just as there have been huge steps forward in the design, construction and operation of Living Buildings, the planning of Living Communities, and the production of Living Products, so too have there been great strides in our food system. Still, when compared with the rate of change that is required to avoid the worst effects of climate change and other global environmental challenges, our progress has been minute and barely recordable. With more and more mouths to feed and a greater disparity of wealth, more clarity in our food system is essential.

THIS STANDARD IS AN ACT OF OPTIMISM.

We have entered a world of peak oil, peak water and peak phosphorus, a world that is globally interconnected yet ecologically impoverished, a world inhabited by seven billion people and counting. Every major ecological system is in decline, and the rate of that decline is increasing.

Global temperature increases mean shifting rainfall distributions, changing growing seasons and potentially catastrophic weather events. Like oil, human extraction of water and phosphorus are depleting geological fossil reserves critical to the functioning of our current social and economic paradigm that are not replenishable on human timescales; to paraphrase Edward O. Wilson, one of the world’s most distinguished scientists and a professor and honorary curator in entomology at Harvard, the world’s children are starving and malnourished or obese and malnourished.

Nothing less than a sea change in food production, processing, distribution and nutrient recycling is required. Indeed, this focus must be the great work of our generation. We must remake our relationship with the food systems that sustain us and redesign them from the ground up to be part of a healthy, regenerative cycle of life.

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Since it was launched in 2006, the Living Building Challenge has inspired and motivated rapid and significant change. Projects have sprouted up all over North America and beyond: currently, there are over eighteen million square feet of registered Living Building Challenge projects underway in more than two dozen countries, each project a beacon in the dark, showing what is possible. The regulatory environment has responded by embracing a series of reforms. Perhaps most importantly, a new sense of what is possible has permeated design communities as a result of the successful certification of the first Living Buildings. Subsequently the Living Product Challenge has pushed manufacturers to reinvent the material supply chain for products. The Living Food Challenge seeks to reinvent food production, processing, consumption and distribution in an equally revolutionary fashion. The challenge inspires us to create food systems that will improve our health and well-being, as well as ecosystem health.

This Standard is an act of optimism and belief that with the right tools in the hands of passionate and sensitive individuals, a revolutionary transformation is possible. It is a program that asks us to think holistically and to engage both our left and right brains, our heads and our hearts. We invite you to join us, so that together we can continue to forge ahead on our path toward restoration and a Living Future.
The Living Food Challenge is comprised of seven performance areas or “Petals”: Place, Water, Energy, Health +Happiness, Materials, Equity, and Beauty. Petals are subdivided into a total of twenty Imperatives, each of which focuses on a specific sphere of influence. These Imperatives can be applied to almost every conceivable Typology or food project type. Notwithstanding the reality that strategies to create “Living Food” will necessarily vary widely by geography, climate, population density, and culture, the fundamental considerations remain the same.

THE LIVING FOOD CHALLENGE IS VERSATILE

There are three Typologies; certifying organizations must identify the one that aligns with their stage of food production and distribution type to determine which Imperatives apply.

TYPOLOGIES:

• Primary Products: agricultural, meat or fish products from producers such as farmers, fishers, or ranchers.

• Secondary Products: packaged or multi-ingredient products from producers such as brewers, winemakers, or bakers.

• Distributors: locations for the distribution of finished products, such as restaurants, grocery stores or distribution centers.
The following table outlines the smallest divisible portion of a Typology that can be certified under the Living Food Challenge.

<table>
<thead>
<tr>
<th>PRIMARY PRODUCTS</th>
<th>SECONDARY PRODUCTS</th>
<th>DISTRIBUTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A singular food product such as:</td>
<td>A singular food product line such as:</td>
<td>A location where food is distributed, such as:</td>
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<tr>
<td>- A singular type of agricultural product being harvested</td>
<td>- A packaged food product with one or multiple ingredients</td>
<td>- A distribution or packing warehouse</td>
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<tr>
<td>- A singular species of fish, shellfish or animal</td>
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<td>- A single grocery store, even if part of a chain</td>
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<tr>
<td></td>
<td></td>
<td>- A single restaurant, even if part of a chain</td>
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3. Secondary producers with operations involving multiple food products can apportion the life cycle impacts of the particular food product being certified for certain imperatives, see Certification Summary Matrix.

4. Including all areas controlled by the building owner or under the lease agreement.
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<thead>
<tr>
<th>PETAL</th>
<th>IMPERATIVE</th>
<th>PRIMARY PRODUCER</th>
<th>SECONDARY PRODUCER</th>
<th>DISTRIBUTOR</th>
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<td></td>
<td>IMPERATIVE</td>
<td>FARM/RANCH/FISHERY</td>
<td>HANDLER/PROCESSOR</td>
<td>DISTRIBUTOR/RESTAURANT/GROCERY</td>
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<td>CORE IMPERATIVE</td>
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<td>NOT REQUIRED</td>
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<td>PLACE</td>
<td>01. APPROPRIATE REGIONAL FOOD</td>
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<td>02. RESPONSIBLE PLACE + HABITAT IMPACTS</td>
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<td>03. SOIL HEALTH</td>
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<td>05. NET POSITIVE WATER</td>
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<td>06. NET POSITIVE ENERGY</td>
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<td>HEALTH + HAPPINESS</td>
<td>07. NUTRITION RED LIST</td>
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<td>08. TRANSPARENT INGREDIENT HEALTH</td>
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<td>09. HUMAN THRIVING</td>
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<td>MATERIALS</td>
<td>10. RED LIST</td>
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<td>11. LIVING ECONOMY SOURCING (FOOD MILES)</td>
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<td>12. RESPONSIBLE INDUSTRY</td>
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<td>13. NET-ZERO WASTE + METHANE MANAGEMENT</td>
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<td>EQUITY</td>
<td>14. EQUITABLE ACCESS TO HEALTHY FOOD</td>
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<td>15. EQUITABLE INVESTMENT</td>
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<td>16. JUST ORGANIZATIONS + WORKER RIGHTS</td>
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<td>17. SACRED LIFE TREATMENTS</td>
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<td>18. SOCIAL CO-BENEFITS</td>
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<td>20. INSPIRATION + EDUCATION</td>
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THE LIVING FOOD CHALLENGE ADDRESSES A FOOD’S CRADLE-TO-PLATE IMPACTS
WALK THE TALK

The Living Food Challenge calls on producers, processors and distributors to walk the talk of restorative sustainability by reducing their environmental footprints and making their upstream, operational and downstream impacts Net Positive with respect to impact categories such as water, energy, climate, waste and ecological impacts. In this way, their claims of Living Food extend beyond their direct actions to every aspect of their food products’ life cycles.

Footprinting is the act of accounting for all impacts of the processes that sustain an organization or a person. Not all of the impacts included in, or inputs to, a footprint are negative, but the net impact usually is negative. The footprint of food is likewise the sum total of impacts caused by processes that produce, distribute, consume and recycle nutrients. Many organizations account for their life cycle impacts across different scales, from “cradle to grave,” from “cradle to gate,” or from “cradle to cradle,” which encompass different scopes of services a producer, processor or distributor needs to supply food.

For the Living Food Challenge, two footprint scopes for food products will be considered: “cradle to gate” and “cradle to plate.” A cradle-to-gate assessment of food products’ impacts is a minimum program requirement and assesses the full life cycle, from primary production and its supply chain through and including the processes of the organization that is being certified (the “gate”).

A cradle-to-plate assessment for the Living Food Challenge addresses the full life cycle, from primary production and its supply chain through all processes that occur before the food reaches the consumer (plate). It is the sum total of impacts from all of the processes required to bring the food to the consumer. The consumer transportation, consumption and disposal phases of the food are omitted in both the cradle-to-gate and cradle-to-plate scopes in assessments for the Living Food Challenge.
**HANDPRINTING – A NEW PARADIGM**

Smaller footprints are still footprints. One can never achieve a footprint of zero. By solely focusing on reducing one’s own footprints, one eventually reaches a point of diminishing returns in trying to eliminate all negative impacts. Producers, processors and distributors of Living Foods need to use their human creativity and ecological inspiration to convert as many of their footprints from net negative to net positive. And then, for the impacts that remain negative, the actors involved in the food system should create handprints larger than the remaining (detrimental) footprints.

Handprints measure the positive impact that producers, processors and distributors cause across their foods’ life cycles and beyond, such as collecting and cleaning more water than needed and generating more energy than was required to produce the food. If soil becomes healthier over time, or greater biodiversity results, the handprint is considered to be growing. Cultivating a system of agriculture that is practiced in regenerative ways, so that the net environmental effects of growing food heal the earth and ecosystems where the food is grown simultaneously, can create handprint multiplier effects. While a food rarely has a zero footprint, its provision can still become Net Positive if its creative handprint is bigger than its footprint.

Handprints must be real and measurable, but there are endless ways to create them. Handprints can result from working directly with suppliers to identify less impactful practices and share those suppliers’ sustainable stories to educate consumers. They can also result from a food producer sharing sustainable innovations beyond its supply chains to competitors or consumers at large. Their benefits may go beyond the physical boundaries of the supply chain or the consumer region to create positive impacts outside the region or in other parts of the world.

**UPSTREAM HOTSPOTS AND FOOTPRINT REDUCTIONS**

When assessing the footprint of food, there are key “hot spots” in the upstream supply chain that contribute significant negative impacts to one or more impact categories. For example, upstream processes such as managing a water supply, preparing soil nutrients, developing or procuring seed, developing a herd, or sourcing equipment and energy needed to manage production may be upstream hot spots. Transporting food to a processing facility and the energy and water materials required for processing and packaging food product may in some cases be upstream hot spots of processed foods. Hot spots are high priority places to look for improvement opportunities, such as using water or energy more efficiently. Tackling these hot spots shrinks the upstream footprint and consequently decreases the size of the handprint required to become Net Positive.

continued >>
DOWNSTREAM HANDPRINTS

After looking on site and upstream to shrink a food’s footprint, it’s time to look downstream at the food’s life cycle until it reaches the consumer. Reducing the energy and water of consumption and reducing food and packaging waste are possible hot spots for reducing the footprint of food.

Downstream life cycle phases include distribution—transportation, wholesaling and retailing—the consumption phase, and end-of-use management of waste materials, packaging, and excess nutrients. For example, for food that requires energy to enable heating or consumption, making methods of cooking or heating more efficient is a major handprint opportunity.

Another powerful way to improve a food’s consumption phase is through consumer engagement. If a producer, processor or distributor can connect with consumers and encourage them to identify opportunities to consume their food more sustainably—by encouraging fresh and timely consumption, for example—the reduced need for cold storage is a handprint. Consumer engagement can create massive ripple effects as more and more consumers influence each other and more individuals change their behavior, multiplying consumers’ engagement with handprinting from one action to many.

It is also important to consider the distribution phase. Increasingly complex distribution systems and networks can be a surprisingly large burden to the total life cycle. But that means it is a key place to look for handprint opportunities.

Finally, there is end-of-use management. Can a producer, processor or distributor identify opportunities to decrease or eliminate unnecessary packaging or discourage food waste, and perhaps reinforce these ideas with similar foods provisioned by others? The benefits of doing so will contribute to the handprint of the producer, processor or distributor.

HANDPRINTS BEYOND THE LIFE CYCLE

Handprints can be created anywhere and everywhere outside of the food’s life cycle. Producing more energy than is needed, collecting and cleaning more water than is required, and closing all waste streams to replenish nutrients are ideal means to start growing positive handprints. Investing in an energy retrofit project of a school, installing a rainwater catchment or storage system in a nearby community, or restoring a key ecological
habitat off-site can create measurable positive impacts that begin to offset or overcome negative footprints. Providing food, education or training for those in need (beyond the targeted consumers) is a unique opportunity for food producers, processors and distributors to provide a Living Food system that feeds the world in many ways.

BECOMING NET POSITIVE

The cradle-to-plate footprint of a food is the sum total of negative impacts caused by the processes necessary to bring the food product to the consumer. The handprint of a food product, meanwhile, is the sum total of positive impacts created over the life cycle of the product, relative to business as usual, plus the positive actions the producers, processors and distributors take outside of the food product’s life cycle.

FOOD PRODUCTS WHOSE HANDPRINTS ARE GREATER THAN THEIR CRADLE-TO-PLATE FOOTPRINTS ARE CONSIDERED NET POSITIVE WITHIN THE LIVING FOOD CHALLENGE.

It is often said in the Life Cycle Assessment field that you can only change what you measure. So far, sustainable food production has largely focused on measuring and reducing the negative impact. While this is a critical place to start, it is a tragic place to stop since it does not account for the positive impact a producer, processor or distributor can make in the world.

Through the Living Food Challenge, you can not only measure and reduce your negative impact—you can now also grow and expand your positive impact with clear, measurable actions.
THERE ARE TWO ESSENTIAL RULES TO CERTIFYING A LIVING FOOD:

• All Imperatives assigned to a Typology are mandatory for Living Certification. Some Typologies may require fewer Imperatives because the conditions are either not applicable or they may compromise other critical needs. However, certifying organizations are encouraged to integrate the optional Imperatives into their products and locations wherever possible.

• Living Food Challenge recognition is based on actual, rather than modeled or anticipated performance.
THREE PATHWAYS TO CERTIFICATION UNDER THE LIVING FOOD CHALLENGE:

Though all Imperatives are mandatory to be Living Certified under the Living Food Challenge, the Institute will recognize and certify foods on a Petal or Imperative basis provided that the four Core Imperatives are achieved. These Core Imperatives are

- Imperative 07, Food Red List;
- Imperative 09, Human Thriving;
- Imperative 12, Responsible Industry;
- Imperative 20, Inspiration and Education.

LIVING CERTIFICATION

A food producer or distributor achieves Living Food Certification by achieving all Imperatives applicable to their Typology.

PETAL CERTIFICATION

While achieving Living Certification is the ultimate goal, meeting the Imperatives of multiple Petals deserves recognition in and of itself. Petal Certification requires the achievement of at least three of the seven Petals, one of which must be the Water, Energy or Materials Petal. In addition, each of the four Core Imperatives must be achieved.

IMPERATIVE CERTIFICATION

We encourage all producers, processors and distributors to strive for one Imperative at a time and to obtain a Living Food label that can celebrate their success. Imperative Certification requires that at least seven of the twenty Imperatives be achieved, including the four Core Imperatives.
The internal logic of the Living Food Challenge is based on pragmatic experience with what has already been accomplished in the marketplace.

This Standard is in the pilot phase. Version 1.0 will be released once the pilot phase is complete.

The Living Food Challenge does not dwell on basic best practice issues, so it can instead focus on fewer, high-level needs. It is assumed that to achieve this progressive standard, typical best practices are incorporated.

Regional solutions are integral to all Living Food Challenge products due to a number of variables, including climate factors and geography characteristics.

RESPONSIBLE CO-PRODUCTS

The producers, processors and distributors of the food must demonstrate consistent responsibility across its entire operations. The producers, processors and distributors cannot directly:

- Make weapons or armaments of any kind.\(^5\)
- Produce tobacco products or drugs forbidden in the location where they are produced.
- Produce violent video games with an MA-13 or MA-17 rating.
- Engage in fossil fuel extraction or nuclear energy production.
- Engage in or facilitate the patenting of life.
- Engage in or facilitate payday lending or gambling.\(^6\)
- Charge interest rates significantly in excess of market peers for comparable offerings.\(^7\)

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\(^5\) Armaments are weapons designed for killing people, not for hunting.

\(^6\) The National Association of Consumer Advocates: www.consumeradvocates.org

\(^7\) The National Consumer Law Center advances fairness in the marketplace for all: www.nclc.org
PETAL INTENT

The intent of the Place Petal is to influence in positive ways how people relate to the natural environment that sustains us. It is essential for modern individuals to reconnect with the origins of their food and their unique cultural connections to food production and consumption so that this connection to life and community can be honored, protected and enhanced. The Place Petal clearly articulates where it is acceptable for people to produce, process or distribute food and how to protect and restore the places that are a part of this food system. The Place Petal encourages respect for all the living species that are native to these places and encourages production that also regenerates soil health and biodiversity.

The continued spread of sprawl development, industrialized agriculture and the vastly increasing number of global megalopolises threaten the few wild places that remain. The decentralized nature of our residential communities and industrial zones impedes our capacity to connect not just with one another but also with the foods we consume—all while increasing transportation impacts and pollution. The overly dense urban centers in turn crowd out healthy natural systems, isolating culture from a sense of place. As prime land diminishes, more residential and commercial development tends to occur in sensitive areas that are easily harmed or destroyed. Invasive species threaten ecosystems, which are already weakened by the constant pressure of human encroachment.

Monoculture crops, annual tilling, intensive grazing and chemical-dependent agricultural processes do as much damage to ecosystem diversity as paving and suburban sprawl. The food production industries often impose significant point-source impacts that threaten water, air and soil quality.

Finding ways to increase biodiversity, increase soil nutrients, and co-locate crops and grazing with healthy ecosystems is essential as our food system becomes a living food system.
IDEAL CONDITIONS + CURRENT LIMITATIONS

The Living Food Challenge envisions a moratorium on intensive industrial agriculture and grazing practices as well as food processing plants that threaten sensitive ecosystems, watersheds and species. Instead, we envision a regenerative, living food system that regenerates the natural resources that support human health and are the basis for all healthy and nutrient-rich food. As previously disturbed areas are restored, the trend of depletion is reversed, and nature’s functions are invited back into a healthy nutrient cycle.

Human behavior and attitudes are the most significant barriers to transforming the food system. There is a food scarcity mentality that has for generations encouraged high production at any cost and without replenishing the nutrient cycle. Meanwhile food goes to waste because it cannot be effectively distributed to those in need. To feed the world’s growing population, there must be regenerative agriculture, animal husbandry, regional food supplies and clean distribution networks, or there will be no food for future generations. Living food feeds the world today without compromising the ability for future generations to feed their children.
Producers and distributors must support and celebrate local food culture that is specific and appropriate to their immediate bioregion, and the prevailing culture, indigenous culture and climate. The celebration of bioregional, cultural and climate-based food production is intended to promote a culture of food heritage that is most appropriate ecologically to place and helps underscore and accentuate regional differences in history, cuisine and production. Agriculture and food must be produced in a way that is appropriate to a given climate region in terms of water use and soil types.

Specific food might include:

- Wild rice in the Great Lakes region
- Salmon in the Cascadia bioregion

Harvesting practices that are not appropriate for the local bioregion should be avoided, such as growing rice in Southern California.

BIOREGIONS

Bioregions are defined by a myriad of environmental and social features rather than by arbitrary political boundaries:

- Geography and topography
- Climate
- Hydrology and watersheds
- Biodiversity including native plant and animal species

Cultural and agricultural practices may also factor into the determination of a bio-region, but practices that have been displaced from their original climate and source are not always ecologically appropriate. Therefore, when such displacement has occurred, although continuation of practices may be important for cultural reasons, it would no longer be a determinant of the bio-region and might require mitigation.

continued >>
Producers and distributors must identify the bioregion of their primary ingredients using the Commission for Environmental Cooperation’s North American Environmental Atlas (or international equivalent) online mapping tool.

**REQUIREMENTS**
Producers and distributors must develop an Appropriate Regional Food Plan that identifies the bioregional, native, cultural and climate-specific foods that are part of the entity’s operations. The following table outlines the minimum percentages of Appropriate Regional Foods for each Typology based on total sales:

- **Primary Producers:** 40%
- **Secondary Producers:** 25%
- **Distributors:** 10%

8 Primary ingredients are defined as those ingredients that compose as least 5% of the final product. Commission for Environmental Cooperation’s North American Environmental Atlas www.cec.org/sites/default/atlas/map
The production and distribution of Living Food must not diminish quality habitat and the capacity for life to regenerate. Instead, nonagricultural food production and distribution organizations should be located on previously developed sites and must actively participate in restoring healthy ecological functions, biodiversity and soil health in measurable ways to the ecosystems to which those organizations belong. Agricultural food production should be located on agricultural or previously developed sites, as long as risks of any contamination from previous uses has been mitigated.

**REQUIREMENTS**

Living Food production and distribution facilities and all material inputs cannot be located in or extracted from:

- Habitats where there are endangered species, unless there is an appropriate provision for the protection of the species.⁹

Sensitive ecological habitats, such as:

- primary dunes
- old-growth forest
- virgin prairie, grasslands or steppes
- tundra
- tidal zones, estuaries, salt marshes, saltwater swamps, mangroves or coral reefs
- wetlands and freshwater ecosystems such as streams, rivers, springs, (peat) bogs and swamps
- protected marine habitats

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⁹ For purposes of the Living Food Challenge, an endangered species is a species that has been categorized by the International Union for Conservation of Nature (IUCN) as endangered (EN) or critically endangered (CR) as defined by the IUCN Red List of Threatened Species™, www.iucnredlist.org. To demonstrate protection of a species, the certifying organization must demonstrate, through a comprehensive conservation program such as the Forest Stewardship Council, that the location of the facility or the material extraction does not impact the health of the endangered species.
HABITAT REGENERATION PROJECTS

Unless production and distribution facilities are part of a scientifically guided and measured habitat regeneration project that improves the ecosystem functions of these areas and includes a system to measure improving health over time, they cannot be located in greenfields or sensitive habitats. Such projects should be verified by, or use supply chain participants who are verified by, a third-party system such as the LAND to Market standard or an equivalent international standard, which verifies ecological outcomes such as biodiversity of plants and animals, quality of soil including appropriate organic carbon and microbiota, water infiltration and healthy ecological function.¹⁰

Habitat regeneration practices may include practices such as:

- No-till farming
- Diverse crop covers
- In-farm fertility (no synthetic fertilizers)
- No synthetic pesticide use
- Multiple crop rotations
- Managed grazing
- Perennial crops and tropical-stable trees that produce food
- Avoiding the use of peat
- Active and passive restoration of spent farmland
- Tree intercropping—growing crops amidst trees
- Multistrata agroforestry—growing food in multiple layers of a forest (shade-grown coffee)
- Urban agriculture
- Silvopasturing—animals grazing within forests
- Nutrient management—applying the right source, at the right time, in the right place, at the right rate, using satellite-based measurement techniques

¹⁰ www.savory.global/land-to-market
The production of food must protect and enhance soil health and fertility through regenerative land management practices through time. Producers must utilize best practices for building organic soil matter, increasing biodiversity and restoring local ecological functions, such as:

- Erosion and sedimentation control
- Irrigation management to protect soils
- Natural compost and manure pack strategies
- Conservation tillage
- The use of cover crops
- Crop rotation
- Grazing management
- Animal feed and waste management
- Soil protection strategies for tree cropping
- Providing conservation buffer areas
- Soils testing and ongoing verification of improvements to soil health

**REQUIREMENTS**
Primary Producers with land-based operations must meet the Regenerative Organic Certifications Gold Level for Soil Health and Land Management or international equivalent.11

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11 Regenerative Organic Standard, rodaleinstitute.org/regenerativeorganic.
For every dollar of gross profit generated by the sale of the food or operation of the distribution location, through the twelve-month performance period, the certifying organization must donate a quarter cent to an approved conservation or land trust organization or to the Institute’s Habitat Exchange Program.\(^{12}\)

OR

For every hectare of food production, the certifying organization must donate sufficient funds to offset an equal amount of land through an approved Land Trust organization or the Institute’s Habitat Exchange Program, with a minimum offset of one acre.

**REQUIREMENTS**

The use of land to generate, process and distribute food for humans must be mitigated through the protection of land that can shelter and feed other species.

\(^{12}\) The ILFI Habitat Exchange Program works in cooperation with conservation organizations to direct project team donations to highest-value habitat restoration and offset programs. For more information, visit www.living-future.org/exchange.
PETAL INTENT
The intent of the Water Petal is to realign how food producers, processors and distributors use water and to redefine “waste” in the process so that water is respected as a precious resource.

Scarcity of potable water is quickly becoming a serious issue as many countries around the world face severe shortages and compromised water quality. Even regions that have thus far avoided the majority of these problems due to a historical presence of abundant fresh water are at risk: the impacts of climate change, highly unsustainable water-use patterns, and the continued drawdown of major aquifers portend significant problems ahead.

IDEAL CONDITIONS + CURRENT LIMITATIONS
The Living Food Challenge envisions a future whereby all food processes are configured based on the carrying capacity and water balance of the site and do not impact water quality through any resource extraction methods required for material inputs. We envision a future where water used to grow or process food mimics the natural hydrology of the land, the water needs of the ecosystem it inhabits and those of its neighbors, without diminishing the ability to meet those needs in the future.

Water need not be used as a throughput; rather, it can be used, purified, and then used again, cyclically—just as in nature.

Currently, many industries are often able to skirt regulations and avoid ethical water use, or deliberately situate facilities in places where impacts to water and watersheds are not regulated. Frequently, food processes that use water excessively when it is scarce contribute to the undemocratic and unjust ownership of a natural resource that should be a basic human right. Therefore, reaching the ideal for water use means challenging outdated attitudes and technology with an approach that treats water as the essential resource it is for all life on this planet.
WATER SOURCING
Water use and release from the production processing and distribution of food must work in harmony with the natural water flows of the site and its surroundings. 100% of the water needs must be supplied by captured precipitation or other natural closed-loop water systems and/or by recycling water. Furthermore, all water used must be purified as needed without the use of chemicals.

STORMWATER
All stormwater and water discharge at the food production, processing or distribution site must be treated on site and managed either through reuse, a closed loop system or infiltration. Excess stormwater can be released onto adjacent sites under certain conditions.13

LIFE CYCLE ASSESSMENT
The food producer or distributor must conduct a Life Cycle Assessment (LCA) to assess and document the water footprint and identify the five processes (key drivers) that make the largest contributions to the food’s cradle-to-plate water footprint. The Life Cycle Assessment (LCA) can make use of an existing LCA or Environmental Product Declaration (EPD) that follows the ISO 14044 standard for Life Cycle Assessment used for third-party communication.

13 ISO 14044:2006 covers life cycle assessment (LCA) studies and life cycle inventory (LCI) studies. The ISO 14044:2006 specifies requirements and provides guidelines for life cycle assessment (LCA), including definition of the goal and scope of the LCA; the life cycle inventory analysis (LCI) phase; the life cycle impact assessment (LCIA) phase; the life cycle interpretation phase; reporting and critical review of the LCA; limitations of the LCA; relationship between the LCA phases; and conditions for use of value choices and optional elements.
WATER QUALITY MONITORING

As part of the Life Cycle Assessment for this Imperative, Primary Producers with land-based operations are required to develop a water quality monitoring plan and perform annual tests and perform corrective measures to ensure groundwater quality.

The producer or distributor must develop and publicly share a plan to reduce the food’s cradle-to-plate water footprint through on-site and supply chain innovations to conserve or capture water, and then create a water handprint greater than the footprint through one or more of the following strategies:

• Innovate to conserve or recapture more water across the life cycle of the food, compared to a base case.
• Engage with the food’s users to achieve water conservation and/or restoration.
• Work outside of the food’s supply chain to reduce potable water consumption or to harvest potable water.

14 See glossary
ENERGY
ENERGY
RELYING ONLY ON CURRENT SOLAR INCOME

PETAL INTENT
The intent of the Energy Petal is to signal a new age of food production, processing and distribution, that relies solely on renewable forms of energy and operates year-round in a safe, pollution-free manner, ultimately giving back more than is taken. In addition, this Petal engages producers, processors and distributors to consider the full life cycle energy footprint of their foods and to look for ways that process innovations can conserve energy.

Living Foods will be produced, processed and distributed in ways that produce more energy than is required to accomplish the food production activities that occur on site. Further, Living Foods will be designed and distributed in ways that enable them to generate or conserve more energy over their entire life cycle than is required to produce them.

The Energy Petal aims to prioritize reductions and optimization before technological solutions are applied to eliminate wasteful spending—of energy, resources and dollars. The majority of energy generated today is from highly polluting and often politically destabilizing sources, including coal, gas, oil and nuclear power. Large-scale hydro, while inherently cleaner, results in widespread damage to ecosystems. Burning wood, trash or pellets releases particulates and carbon dioxide (CO2) into the atmosphere and often strains local supplies of sustainably harvested biomass while robbing the soil of much-needed nutrient recycling. The effects of these energy sources on regional and planetary health are becoming increasingly evident through climate change, the most worrisome major global trend attributed to human activity.

IDEAL CONDITIONS + CURRENT LIMITATIONS
The Living Food Challenge envisions a safe, reliable and decentralized power grid, powered entirely by renewable energy, supplied to incredibly efficient infrastructure without the negative externalities associated with combustion or fission. Although considerable progress has been made to advance renewable energy technologies, there is still a need for a greater efficiency from these systems and for new, cleaner ways to store the energy they generate. These realities, together with the current cost of the systems available, are the major limitations to reaching our goals.
105% of the energy used to produce, process, or distribute food and its packaging must be generated from on-site renewable energy on a net annual basis. The producer or distributor must conduct a Life Cycle Assessment (LCA) to assess and document the energy footprint and identify the five processes (key drivers) that make the largest contributions to the food’s cradle-to-plate energy footprint. The footprint assessment can be through an existing LCA or EPD that follows the ISO 14044 standard for Life Cycle Assessment used for third party communication.

COMBUSTION-FREE COOKING:

• Cooking equipment should eliminate the unhealthy byproducts of combustion through the use of efficient electric induction technology.

The producer or distributor must develop and publicly share a three-year plan to reduce the food’s cradle-to-plate energy footprint through on-site and supply chain innovations to use less combustion-based energy, and then create an energy handprint that is greater than the product footprint to become Net Positive through one or more of the following strategies:

• Innovate to conserve energy or generate renewable energy across the life cycle of the food.

• Engage with users to achieve energy conservation through improved use of the food.

• Take action outside of the food’s supply chain to reduce energy consumption or generate renewable energy.

15 See Glossary

16 Culturally specific food prepared over an open flame may be considered for an Exception if negative impacts to air quality and the greater environment can be mitigated.
HEALTH + HAPPINESS
PETAL INTENT
The intent of the Health and Happiness Petal is to focus on the most important conditions that must be met to create foods that truly benefit consumers. The Petal is not designed to address all of the potential ways that foods can nutritionally and socially impact society. Instead, it aims to encourage foods that enhance the physical and emotional wellness of the people who produce and consume them.

Many production, processing and distribution facilities provide substandard conditions for the health and productivity of workers and the communities that surround them. Persistent bioaccumulative toxic chemicals from food production, processing, distribution, use and disposal are building up in our environment, with significant impact to human and ecosystem health. Many of the foods we consume in our daily lives are on the whole harmful to our health and well-being, and some foods greatly diminish human potential. By focusing attention on the major pathways of health through the spaces where we make our foods and the ways in which we eat food, we can create a consumer society designed to optimize the human condition.

IDEAL CONDITIONS + CURRENT LIMITATIONS
The Living Food Challenge envisions a nourishing, highly productive and healthy modern world with foods that enrich our daily lives and health. However, even the most beneficial foods require cultural and consumer acceptance. It is difficult to ensure that foods will continue to optimally enhance health and happiness since it is difficult to control the tastes and habits of consumers. Additionally, individuals react to foods in different ways, and the health implications of foods are difficult to isolate in scientific studies. It will always be challenging to predict the unintended consequences or the health benefits from the consumption of any food.
This Imperative applies to Secondary Producers and Distributors. Primary Producers are exempt.

No food that is processed or distributed may contain any of the following Food Red List ingredients:

- Artificial colors
- Artificial flavors
- Artificial sweeteners
- Partially hydrogenated oils and trans fats
- Polyunsaturated fats
- Alloxan, a byproduct in bleached flour
- Polysorbate 80
- Bisphenol A (BPA)
- Potassium bromate
- Brominated vegetable oils (BVO)
- Potassium benzoate
- Butylated hydroxyanisole (BHA)
- Propyl paraben
- Butylated hydroxytoluene (BHT)
- Propylene glycol
- Disodium inosinate
- Sodium benzoate
- High fructose corn syrup
- Sodium nitrate
- Hydrolyzed vegetable protein (HVP)
- Sodium nitrite
- Mercury
- Sodium sulfite
- Mono and diglycerides
- Sodium tripolyphosphate
- Monosodium glutamate (MSG)
- Sorbitan monostearate
- Olestra
- Sulfur dioxide
- Tert-Butylhydroquinone (TBHQ)

17 Defined by FDA, such as: Yellow 5, Yellow 6, Yellow Tartrazine, Blue 1, Blue 2, Red 3, Red 40, Natural Green, or Caramel coloring, www.foodmatters.com/article/22-additives-and-preservatives-to-avoid

18 Defined by FDA as any substance, the function of which is to impart flavor, which is not derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, fish, poultry, eggs, dairy product, or fermentation products thereof.

19 Synthetically produced sweeteners such as sacralose, neotame, aspartame, acesulfame potassium, saccharine, cyclamates, and Advantame.

20 Such as palm oil, soybean oil and corn oil modified with hydrogen
The following fish are banned due to elevated levels of heavy metals:

• King Mackerel
• Swordfish
• Marlin
• Tilefish
• Orange Roughy
• Ahi Tuna
• Shark
• Bigeye Tuna

No ingredients that are derived solely or in part from any animal or plant classified as near-threatened, vulnerable, endangered or critically endangered may be used as food ingredients.

21 www.nrdc.org/stories/mercury-guide
Food must be safe for human exposure during production, processing & distribution, use and end-of-use. The producers, processors and distributors must identify and fully assess and disclose all intentionally added chemical substances in the food supply.

It must be easy for consumers to understand how a food product may impact their health across a broad range of issues that may be highly personal. Consumers must be able to make informed choices about the food they consume. Nutritional labels and marketing claims must be used only to promote facts about the ingredients and nutritional information.

Whether it is to prevent food allergy reactions, to help parents and schools to prevent childhood obesity, or simply to make consumer choices consistent with personal values, products must meet the following labeling and advertising standards:

**REQUIREMENTS**

**PRIMARY PRODUCERS**
All foods must be clearly labeled at point of sale or use.

**SECONDARY PRODUCERS**
All foods must be clearly labeled on packaging, or, if not individually packaged, at point of sale and/or use.

**ALL FOOD LABELING MUST INCLUDE:**

- Food allergy information for peanuts, fish, shellfish, soy, milk and dairy products, wheat, tree nuts, gluten (FDA 21 C.F.R. 101.91)
- Total calories; macro-nutrients in weight and as a percentage of the FDA daily requirements or daily values; micronutrient content, such as vitamins in weight or international units and/or as a percent of the FDA estimated daily requirements22

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continued >>
• Total sugar content and refined sugar content, as well as the rating on an approved glycemic index
• Grain type
• Sodium content
• Caffeine content
• Serving size
• Antibiotic use
• Probiotic type and content

ALL PLACES THAT DISTRIBUTE, SERVE OR SELL FOOD MUST:

• Include food allergy labeling for peanuts, fish, shellfish, soy, milk and dairy products, wheat, tree nuts, gluten (FDA 21 C,F,R. 101.91) and,
• Either offer alternatives that are peanut-free, gluten-free, lactose-free, egg-free, vegan or vegetarian, or
• Legibly state on publicly available menus which of these options are not available.

Locations that include the following food types must offer options with:

• Beverages: less than 30 grams of sugar per container
• Snacks: more options with 15 grams or less of sugar than options with over 30 grams of sugar.
• Grains: whole grains


This Imperative addresses the safety of workers, as well public health, through the safe handling of food in the course of production, processing, cooking and distribution.

**REQUIREMENTS**

**WORKER SAFETY**
Facilities must meet the following requirements:

- Demonstrate that there have been no reported deaths or serious injuries related to the final manufacturing of the product within the last twelve months.\(^{26}\)

- Demonstrate that there are programs in place to support the health and well-being of employees who are manufacturing the product.

- Provide mechanisms for employees to offer feedback to improve facility conditions and collaboratively build a thriving environment for everyone.

**FACILITY HYGIENE PLAN:**\(^{27}\)
All facilities must develop a Hygiene Plan that outlines the cleaning schedule, procedures for food handling, processing materials, cleaning products and training requirements. The Hygiene Plan must meet the minimum FDA requirements for the type of facility as well as the specific requirements below.

**HANDWASHING EQUIPMENT AND SUPPLIES:**\(^{28}\)
All bathroom and kitchen sinks must meet the following minimum requirements:

- 9” width and length with a minimum 10” column of water
- Liquid soap (fragrance-free, non-antibacterial) in sealed cartridges is provided at each sink
- Disposable paper towels (can be in addition to air dryers)
- Signage for staff handwashing

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\(^{26}\) The product is manufactured in a facility that has had, during the past year: No fatal injuries and no injuries with greater than 0.5 Disability Adjusted Life Years (DALYs) over the expected duration of the injury. If the expected duration is permanent, use life expectancy in your country. www.who.int/healthinfo/global_burden_disease/metrics_daly/en.

\(^{27}\) This section references WELL Building Standard features 41 Hand Washing, 42 Food Contamination, and 46 Safe Food Preparation Materials.


continued >>
COLD STORAGE OF RAW MEAT, FISH AND POULTRY: 29

- At least one removable, cleanable drawer or container located at the bottom of the unit, designated and labeled for storing raw foods (uncooked meat, fish and poultry).
- A visual display of holding temperatures to ensure accurate representation of storage temperatures.

APPROVED COOKING MATERIALS FOR POTS, PANS AND OTHER COOKING TOOLS: 30

- Ceramics, except those containing lead
- Cast iron
- Stainless steel
- Glass
- Coated aluminum
- Solid (non-laminated) wood that is untreated or treated with food-grade mineral or linseed oil

APPROVED MATERIALS FOR CUTTING BOARDS: 31

- Marble
- Plastic
- Glass
- Pyroceramic
- Solid (nonlaminated) wood that is untreated or treated with food-grade mineral or linseed oil

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MATERIALS
PETAL INTENT
The intent of the Materials Petal is to help create a food economy that is based in healthy, ingredients and operations protocols, as well as sustainable sourcing practices. Our food systems are responsible for many adverse environmental issues, including personal illness, habitat and species loss, pollution, and resource depletion. The Imperatives found in this section aim to remove the worst known offending chemicals and practices from the production, processing and distribution of food; to increase processing transparency; to address food’s carbon impact; and to reduce the associated waste production and processing impacts.

When impacts can be reduced but not eliminated, there is an obligation not only to offset the damaging consequences associated with foods, but also to strive for corrections within the industry. At the present time, it is impossible to gauge the true environmental or human health impact and toxicity of the food economy due to a lack of transparent information. The Living Food Challenge strives to shine a light on the need for transformative and transparent industrial practices.
The Living Food Challenge envisions a future where all foods are regenerative and have no negative impact on human and ecosystem health and the precautionary principle guides all materials decisions when impacts are unclear. There are significant limitations to achieving this ideal in the materials realm.

Food supply chains have far-reaching impacts, and although consumers are starting to care where their food comes from, the biggest shortcoming is due to lack of transparency in the market. While there are a huge number of “health” foods for sale, there is also a shortage of good, publicly available data that backs up the claims of producers, processors and distributors. Consumers need the ability to make conscious, informed choices. Transparency is vital; as a global community, the only way we can transform into a truly sustainable society is through open communication and honest information sharing.

However, many producers, processors and distributors are wary of sharing trade secrets that they believe afford them a competitive advantage and instead make proprietary claims about specific food contents. Food processors also have a long history of making misleading claims that distract consumers from potential harm by touting a non-relevant benefit. “Fat free” products, for example, that contain twice as much sugar are not really providing a health benefit. “Contains natural ingredients” is misleading benefit when a food product also contains artificial ingredients. This Petal is designed to improve clarity for consumers, which will benefit those organizations implementing transformative, positive change in food production and distribution.

32 The precautionary principle or precautionary approach to risk management states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking an action.
The operations for food producers and distributors, including on-site practices, cleaning protocols, materials for shipping, packaging or take-away containers, cannot utilize any of the following Red List materials or chemicals.33

- Alkylphenols
- Asbestos
- Bisphenol A (BPA)
- Cadmium
- Chlorinated Polyethylene and Chlorosulfonated Polyethylene
- Chlorobenzenes
- Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs)
- Chloroprene (Neoprene)
- Chromium VI
- Chlorinated Polyvinyl Chloride (CPVC)
- Formaldehyde (added)
- Halogenated Flame Retardants (HFRs)
- Lead (added)
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Perfluorinated Compounds (PFCs)
- Phthalates
- Polyvinyl Chloride (PVC)
- Polyvinylidene Chloride (PVDC)
- Short Chain Chlorinated Paraffins
- Wood treatments containing Creosote, Arsenic or Pentachlorophenol
- Volatile Organic Compounds (VOCs).34

In addition, Primary and Secondary Products may not be produced with any synthetic substance not allowed by the National Organic Standards.35

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33 A link to the list of CAS registry numbers that correspond with each Red List item is available in the v3.1 Materials Petal Handbook.

34 Volatile Organic Compounds (VOCs) in wet-applied products must meet South Coast Air Quality Management District (SCAQMD) Rule 1168 for Adhesives and Sealants or CARB 2007 Suggested Control Measure (SCM) for Architectural Coatings, as applicable.

Primary Products are exempt from this Imperative.

Secondary Products and Distributors must incorporate place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices that reduce food miles. By sourcing regional food, producers of Secondary Products, and Distributors, help keep nutrients local, and connect people with the origins of their food. People also begin to connect to the seasonality of food and learn to eat what is in season from local producers.

Agricultural delivery models such as community-Supported agriculture (CSA), co-ops, community gardens and food hub projects build community resiliency by matching local supply to local demand.

Edible landscapes and community orchards that serve the public can be included in the requirements for this Imperative.

**GROWING SEASON**

The number of days in the growing season is defined by the location (elevation and annual potential sunlight) and climate (temperature, rainfall and humidity). In many locations the growing season can be interrupted by periods of intense rainfall or a lack of winter sunlight due to latitude.

**TRAVEL DISTANCE FOR PURCHASED INPUTS**

Source locations for a regional food system require that food production, processing and distributing must adhere to the following requirements. See the table below for the minimum percentage of purchased-inputs budget, which must originate from within the given distance from the production or distribution site.

**REQUIREMENTS**

Secondary Products and Distributors must source their inputs according to the Food Miles Table and offset the transportation impacts through a carbon offset.

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36 Food miles are the distance a food travels from its original source to the point of distribution to a customer.
MATERIALS
LIVING ECONOMY SOURCING

11

IMPERATIVE

<table>
<thead>
<tr>
<th>TYPOLOGY</th>
<th>GROWING SEASON (NUMBER OF DAYS)</th>
<th>DISTANCE</th>
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<td>TIER 5: 271 TO 365</td>
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**FOOD MILES CARBON OFFSETS**
Secondary Products and Distributors must account for the total embodied carbon impact from the transportation of the purchased inputs through a one-time carbon offset in the Institute’s Living Future Carbon Exchange or approved carbon offset provider.37

**EXCEPTIONS**
Secondary Products or Distributors with Tier 4 or Tier 5 growing seasons may petition to qualify for a lower tier if the production or distribution site is located in one of the following types of access limiting areas:

- a remote location, such as a mountainous area or island.
- in a region with critical food shortages due to a political emergency, such as a war or famine.

37 For the purposes of the Living Food Challenge, “purchased inputs” denotes all materials or components purchased for the production, processing or distribution of food.
Food producers, processors and distributors must advocate for the creation and adoption of third party-certified standards for sustainable resource extraction, regenerative soil and land management, and fair labor practices within its industry.

REQUIREMENTS

RESPONSIBLE PACKAGING
In food’s packaging that uses wood-based materials, those materials must be certified to Forest Stewardship Council (FSC) 100% labeling standards or be from salvaged sources.

Petroleum-based, single-use plastic films and containers are not allowed in the Living Food Challenge. Only 100% bio-based and biodegradable plastics are allowed. Compostable packaging is encouraged in markets with municipal or industrial composting operations.

Where possible, food producers are encouraged to sell products in bulk forms that require minimal packaging.

CERTIFIED ORGANIC

• All food grown or processed must be certified organic.

• Food distributors must source at least 50% (by cost) of their food from certified organic sources.

Exceptions:

• All food produced on farms under 100 acres, or under $100,000 in gross annual sales of agricultural products, must be grown following the USDA Organic Standard, the Regenerative Organic Standard or an international equivalent, but need not be certified organic.

• All food that comes to a processor or distributor from a distance less than 100 miles away need not be certified organic.

38 Under USDA or Regenerative Organic Standard or international equivalent.
The producers, processors and distributors of food must strive to reduce or eliminate production, packaging and food waste in order to conserve natural resources and to find ways to use waste in a closed-loop cycle.

**REQUIREMENTS**

**FOOD WASTE:**
The food producer, processor or distributor/retailer must develop a Food Waste Plan that details how food waste is managed to avoid it ending up in the landfill, how the majority of the embedded calories are being put into highest and best use, and how the organization will move toward “zero waste.” The combustion of food waste is not allowed and composting of food waste must avoid the production of methane. The following lists uses of food waste in order of preference for the Food Waste Plan:

- Food that is still safe and edible (e.g., with damaged packaging, or recently expired sell-by dates) should be diverted from the landfill through donations (e.g., gleaning)
- Food waste is fed to chickens or other animals
- Food waste is composted and returned to the soil

**FOOD GLEANING**
Food is often required to be disposed because it is past its expiration date, but is otherwise safe and healthy. When this is the case, food producers, handlers or distributors must work to eliminate food waste and support equal access to healthy and nutritious food in their communities by coordinating with nonprofit food gleaning organizations such as food banks for pick up. Organizations that create food waste must:

- Develop food disposal guidelines that support diversion of food waste to nonprofit food gleaning organizations.
- Post schedules alerting nonprofit food gleaning organizations of disposal times to allow the organizations the opportunity to collect food before it is disposed of.
- Maintain appropriate separation between food types to facilitate selection and pick processes.

[continued >>]
MATERIALS

NET-ZERO WASTE + METHANE MANAGEMENT

PRODUCTION, PROCESSING & DISTRIBUTION PROCESS:
The producers, processors and distributors must meet the following targets for waste diversion during the upstream phase of the life cycle of food.

MINIMUM MATERIAL DIVERTED BY WEIGHT:
- Metals - 99%
- Paper and Cardboard - 99%
- Soil and Biomass - 100%
- Food Waste - 100%
- All others (combined weighted average) - 90%

The production, processing & distribution process may not produce any byproducts or emissions considered toxic or included on the Red List.39

PACKAGING:
100% of the packaging that comes in or out of the operations must either:
- Be completely biodegradable
- Be completely recyclable without being commingled with non-recyclable materials, or
- Be completely reusable through a producer’s, processor’s, or distributor’s take-back and reuse program, or
- Pose no hazard to marine, bird or animal life.40

39 “Toxic” is defined by the US EPA Toxics Release Inventory (TRI) Program. www2.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals.
40 While there are many advocates for decreasing the risks to wildlife, there is no existing standard. The Living Food Challenge will support the development of a standard for packaging that will not harm wildlife.
PETAL INTENT

The intent of the Equity Petal is to transform the food economy to foster a true, inclusive sense of community that is just and equitable regardless of an individual’s background, age, class, race, gender or sexual orientation. A society—especially a modern-day, affluent consumer society—that embraces all sectors of humanity and allows the dignity of equal access and fair treatment is a society in the best position to make decisions that protect and restore the natural environment that sustains us all.

This Petal goes well beyond the notion of corporate responsibility; it gives companies the opportunity to be leaders in creating a world that is better for all people. Living Food Products give back to society by looking beyond strictly environmental metrics to consider social impacts of their actions and asking producers to create positive social change.

There is a disturbing trend toward “us” vs. “them” that gives disproportionate control to those of a certain economic or cultural background. Only by realizing that we are all in this together can the greatest environmental and social problems be addressed. We need to aggressively challenge the notion that ownership somehow implies the freedom to do whatever an owner likes, including externalizing the negative environmental and health impacts of their actions to others.

For example, consider these situations: when a food processing plant is placed next to a residential community, the environmental burdens of its operation are often placed on the individuals who live in the nearby houses. A factory can diminish its neighbors’ rights to clean air, water and soil, while profiting from this diminishment. Similarly, when a company does business with a farmer whose business practices are unfair, unsafe and/or unsustainable, those bearing the brunt of the poor practices are subsidizing that company’s profits with no compensation. Corporate practices need to accept the cost of all their impacts, and the first steps are understanding those impacts and working to minimize them.

We need to prioritize citizens as well as consumers. The Equity Petal requires the creation of foods via fair business practices and socially responsible corporate partnerships. JUST™, the Institute’s social justice label, provides a publicly accessible online database of companies and organizations that are working to optimize their social justice and employee engagement polities. JUST provides a powerful forum for helping innovative food producers, processors and distributors to share the values of a responsible, equitable Living Future.

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EQUITY

SUPPORTING A JUST, EQUITABLE WORLD

IDEAL CONDITIONS + CURRENT LIMITATIONS
The Living Food Challenge envisions food systems that allow equitable access and treatment to all people regardless of physical abilities, race, gender, sexual orientation, age or socioeconomic status.

Current limitations stem from ingrained capitalistic cultural resistance to sharing wealth, and to doing the right thing for employees, the community and the environment. The idea that the rights of corporations are equal to or greater than the rights of people needs to be replaced with an understanding that if consumers and communities are not healthy, the economy as a whole cannot be healthy. Ill health is the most expensive externalized cost in the food system, while improved health and individual productivity is an opportunity for improved efficiencies in every aspect of the economy.

It is necessary to change corporate standards in order to protect the rights of individuals who work for, live near, or do business with food production, processing and distribution operations. At the same time, companies fortunate enough to realize profits must factor charitable giving into their normal expense budgets as recognition of the public benefits they enjoy. A healthy, diverse community is one that is supported by local enterprise, and is organized in a way that protects the health of people and the environment. Ultimately, we champion a future in which food producers, processors and distributors are highly profitable and successful, but not at the expense of the environment or any particular population.
This Imperative addresses issues of social justice and of equal access to food as a basic human right.

**REQUIREMENTS**

**COMMUNITY PARTNERSHIP**
Certifying organizations must develop a partner agreement, with one or more of the following types of community organizations. The agreement must, at a minimum, provide an annual donation equivalent to 1% of the product or location’s total annual profits in the form of volunteer hours or fresh/healthy food donations, to the community organization of their choice.41

**COMMUNITY ORGANIZATION TYPES**
- Charity organizations whose primary mission is to address food scarcity at a local level in a region defined by the USDA as a “food desert”42
- School Breakfast Program (SBP) by USDA or equivalent international program that offers free breakfast program schools and residential childcare institutions43
- Nonprofit food banks44
- Nonprofit organizations whose primary mission is to address food insecurity for the elderly45
- Nonprofit organizations whose primary mission is to address food security for First Nations or Indigenous peoples46

41 Priority should be given to local organizations.
45 Such as Meals on Wheels: www.mealsonwheelsamerica.org.
46 Such as Native American Food Sovereignty Alliance: www.nativefoodsystems.org/about/news/fsa.
EQUITY INVESTMENT

REQUIREMENTS
For every dollar of gross revenue generated by the sale of the food annually, the producers, processors and distributors must donate one-quarter of one cent to a charity of its choosing.

The charity must be located in the country of the product production or distribution location being certified, and be a registered charity or 501(c)3.

The company making the donation may choose to split the offset between multiple charities, and/or provide up to 25% of the donation through an equivalent value of donated product.
Organizations in the food economy can help create a more just, equitable society through the transparent disclosure of business practices.

**REQUIREMENTS**

**JUST ORGANIZATIONS**
Food producers, processors and distributors are required to obtain a JUST label and to send JUST program information to at least five of their major supply chain partners as part of an ongoing advocacy effort.

Protection and advancement of food workers’ rights is essential for all aspects of the food production, processing and distribution. Food worker employees include: seasonal and permanent farm workers, ranchers, food processing employees, drivers, and food service employees.

**FOOD WORKERS’ RIGHTS**
Certifying organizations must:

• Meet all US labor standards and laws (or equivalent international standard)
• Prohibit forced and child labor
• Prohibit sexual harassment, abuse and human trafficking
• Support the right of workers to form a union with collective bargaining power
• Provide equal opportunity employment
• Provide a living wage to all workers47
• Support worker happiness and well-being (Demonstrate that there are programs in place to promote the health and well-being of employees)
• Provide sufficient and frequent human-nature interactions for the employees to connect with nature directly and encourage an active, healthy lifestyle.

47 MIT Living Wage Calculator; the amount must be based on a single adult and the state’s average. livingwage.mit.edu

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To demonstrate that the promotion of human rights extends to the workers and communities across their full supply chains, Primary Producers, Secondary Producers and Distributors must also:

- Perform human rights due diligence for their top-ten priority suppliers, based on spending, through the Social Hotspots Database risk portal.

- Identify the most critical social risks associated with each priority supplier and the leading certification systems that address those risks by using the Standards Map website.  

- Give preference to priority suppliers that either obtain the relevant certification or conduct a social audit to otherwise address the identified social risks.

The Social Hotspots Database, a risk portal that identifies country- and sector-specific risk levels, aims to foster greater collaboration in improving social conditions worldwide by providing data and tools necessary for improved visibility of social hotspots in product supply chains. [www.socialhotspot.org](http://www.socialhotspot.org).

**TYPOLOGY-SPECIFIC REQUIREMENTS**

In addition, the following criteria must be met for specific Typologies and applications:

- US Primary Producers of agricultural products must comply with the Regenerative Organic Certifications Gold Level for Farmer and Farmworker Fairness OR the Fair Food Standards Council’s (FFSC) Fair Food Code of Conduct and maintain ongoing participation in the certification program and workplace audits.

- International Primary Producers of agriculture products must be Fair Trade Certified under the Agricultural Production Standard (APS) or international certification system equivalent.

- Primary Producers and Secondary Handlers of seafood and other fish products must be Fair Trade Certified under the Capture Fisheries Standard (CFS) or international certification system equivalent.

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48 Hosted by the International Trade Centre, the Standards Map module offers comprehensive, verified and transparent information on standards for environmental protection, worker and labor rights, economic development, quality and food safety, and business ethics. [www.standardsmap.org/identify](http://www.standardsmap.org/identify).
The producers, processors or distributors of food must recognize the sacredness of all life and ensure humane treatment and ethical practices without suffering of any animals.

**VEGAN FOOD PRODUCTS**

Vegan food products automatically qualify for this Imperative.

**VEGETARIAN FOOD PRODUCTS**

Vegetarian food products automatically qualify with additional requirements for dairy and eggs to meet the requirements below.

**ANIMAL PRODUCTS**

Food consisting of animal products must satisfy the following requirements:

- 100% of all animal-based ingredients must meet the Regenerative Organic Certifications Gold Level for Animal Welfare.

- In addition, the producer may not purchase from or do business with any organization that clones or patents life in any form.

**GENETICALLY MODIFIED ORGANISMS**

All food grown, processed or distributed must not contain genetically modified organisms.

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50 www.fairtradecertified.org/business/standards/agricultural-production-standard
The certifying organization must demonstrate that at the time of certification, and for at least the next three years of production, they will work within their broader ecosystem to harness social co-benefits from their environmental handprint strategies by:

- Providing a narrative describing how their environmental handprinting strategies are designed to also generate social co-benefits
- Creating a plan to measure and assess the social co-benefits over the next three years and creating a process to re-evaluate their results
- Gathering brief narratives from any organizations the manufacturer partners with to bring about social co-benefits.
BEAUTY
PETAL INTENT

The intent of the Beauty Petal is to recognize the need for beauty to enrich our lives and to honor the impacts of the things we grow and make. Our food system is fraught with ugly and inhumane production and distribution processes, and our food is often consumed with little thought as to the short- or long-term human and environmental impacts. If we do not celebrate the beauty of the food that nourishes our bodies, the bounty of the land and all those who are involved in bringing food to the table, how will it strengthen us for daily duty as a part of a community?

IDEAL CONDITIONS + CURRENT LIMITATIONS

The Living Food Challenge envisions food and food packaging systems that elevate our spirits and inspire us to be better than we currently are. Mandating beauty is, by definition, an impossible task. And yet, the level of discussion and, ultimately, the results are elevated through attempting abstract but critical tasks.

In this Petal, the Imperatives are based on genuine efforts, thoughtfully applied. We do not begin to assume we can judge beauty and project our own aesthetic values on others, or to know exactly how our education efforts impact the world, but we do want to understand people’s objectives and know that an effort was made to enrich people’s lives with each physical thing we contributed to the world, whatever its size or intended use. This intentionality of good design and graceful execution must carry forth into a program for educating the public about the social and environmental qualities of a Living Food system.

There are no current limitations to this Petal other than our imaginations and what we as a society choose to value.
BEAUTY

The food product must contain features intended solely for human delight and the celebration of culture and spirit. The food must be artfully presented and pleasing to consume. Producers, processors and distributors must also:

- Demonstrate how the food has the potential to transform people’s relationship to the natural world through the production, processing and distribution processes, or through the consumption of the food.
- Celebrate and enrich the culture and history of the food system.
- Document whether the food’s production, processing or distribution was informed by the natural world, if nature was used as model, mentor or measure, and/or if biomimicry was used as an inspiration.
- Demonstrate that the food’s final form will not further disconnect people from either nature or their culture.
- Complete a Living Food case study for inclusion on the Institute’s website.
REQUIREMENTS

The certifying organization must provide educational materials to the public about the production, processing, distribution, consumption and disposal of the certified product or location so the public understands how and why the food achieved the Living Food Challenge, including:

• A Living Food feature on the websites of the certifying organization for as long as the food is sold.
• Interpretive signage explaining the Living Food processes at the production, processing and distribution facility.
• An ongoing training program to educate workers at the production, processing and distribution facilities about the Living Food Imperatives.
• At least one day per year open to the public of non-sensitive/secure areas of production, processing and distribution facilities.
• Child focused education or advertising on certifying product packaging or at certifying distribution locations, must support the intent of the Living Food Challenge by encouraging whole, natural foods, not the consumption of sugary or processed foods or snacks.
CERTIFYING A FOOD

Contact LFCpilot@living-future.org to discuss how your food or organization fits within the challenge framework and to determine which certification pathway is most appropriate.

The Living Food Challenge Pilot will be open for feedback for approximately six months from the publication date. Certification will not be part of the pilot process. Once the Living Food Challenge is open for registration, registered projects may contract directly with third-party assessors to verify compliance with Imperative requirements and gather documentation.

Once documentation is uploaded to the Living Food Portal, a site audit of the final production or distribution facility will be conducted by the LFC Assessor to verify the information submitted. Certifying organizations will have the opportunity to update documentation or make changes to the food or processes after the audit and prior to submitting the final documentation for certification.

Once final documentation is complete, the Institute and the assessor will produce a report for the producers or distributors and create the food’s LFC label. Certification is valid for three years, at which time producers or distributors will need to recertify their product.
The International Living Future Institute (ILFI) focuses on the transformation to a world that is socially just, culturally rich, and ecologically restorative. Working as a hub for visionary programs designed to realize grounded, relevant, and enduring sustainable solutions, ILFI is a not-for-profit based in Seattle and with offices around the country.

Some of the other programs currently administered by ILFI include:

- Living Building Challenge: defining sustainability in buildings
- Living Community Challenge: defining sustainability in communities
- Living Product Challenge: defining sustainability for products
- Living Food Challenge: defining sustainability in foods
- JUST label for organizational social justice
- DECLARE label for food ingredient transparency

ILFI has developed the Living Future Challenges because there remains a need to set a visionary pathway that is truly sustainable, equitable and healthy in the long term. They are called challenges because they are hard to meet, and they are living because they are designed to support life. The labels focus on the transparency that is critical to making choices that support a Living Future.

living-future.org
Annual Profit
The amount of monetary gain from the product over the span of a year, after deducting the expenses of that year (e.g. wages, rent, maintenance, supplies, etc.).

Certifying body
The organization administering and processing the certification applications from the certifying organizations. For the Living Food Challenge, the certifying body is the International Living Future Institute.

Certifying organization
The producer, processor or distributor that is targeting certification through the Living Food Challenge.

Cradle to Gate
The full life cycle, from primary production and its supply chain (the "cradle") through and including the processes of the organization that is being certified (the "gate"). Transportation to the consumer, consumer consumption and disposal are not included.

Cradle to Plate
The full life cycle, from primary production and its supply chain through all processes that occur before the food reaches the consumer (the plate).

Endangered Species
For purposes of the Living Food Challenge, an endangered species is a species that has been categorized by the International Union for Conservation of Nature (IUCN) as endangered (EN) or critically endangered (CR) as defined by the IUCN Red List of Threatened Species™, www.iucnredlist.org.

Footprint
An accounting for all impacts of the processes that create or sustain a product, organization or person.

Handprint
An accounting of the positive impacts that products, organizations or people cause through their life cycles and beyond. Can be used to offset a footprint.

Net Positive
A calculated determination that over a set period of time (e.g. a year or three years) the benefits of a particular action or process results in more benefit than negative impact.

Primary ingredients
are defined as those ingredients that compose as least 5% of the final product.

Purchased Inputs
For the purposes of the Living Food Challenge, “purchased inputs” denotes all materials or components purchased for the production, processing or distribution of food.
LIVING FOOD CHALLENGE℠ PILOT

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