



WHOLE FOOD NUTRIENT SOLUTIONS

The
SCIENCE
of *organic*
farming





At Standard Process, the passion we have for growing our own ingredients on our certified organic farm goes hand in hand with our passion for changing lives.

Our dedication is so strong, we have emerged as a pioneer and expert in organic farming.

We are committed to carrying on the whole food philosophy of Standard Process founder, Dr. Royal Lee. We believe the best way to achieve this is to grow many of the plants that we use in our supplements on our very own 420-acre organic farm.

Plants grown organically contain less potentially harmful chemicals, and organic farming is safer for our farmers; our environment; and our plant, animal, and human neighbors.

“Sustainable organic agriculture is neither the easy nor the cheap way to farm. I believe it’s the right way to farm.”

—Christine Mason, *Standard Process farm manager*





What does it mean to be *organic*?

The core purpose of organic farming is to raise crops without synthetics or genetic modification.

The term “organic” is backed by a set of rigorous federal production and processing standards. The [National Organic Program](#) (NOP), within the [U.S. Department of Agriculture](#) (USDA), regulates these standards. The NOP defines organic as “... food produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations.”

We consider the NOP to be the basic starting point of the Standard Process farming philosophy. We are very proud to have developed internal organic standards that exceed the strict regulations set forth by the USDA as well as certifier [Midwest Organic Services Association](#) (MOSA). For example, regulations specify that three or four crops have to be in rotation; the Standard Process organic farm has 24 crops in rotation.





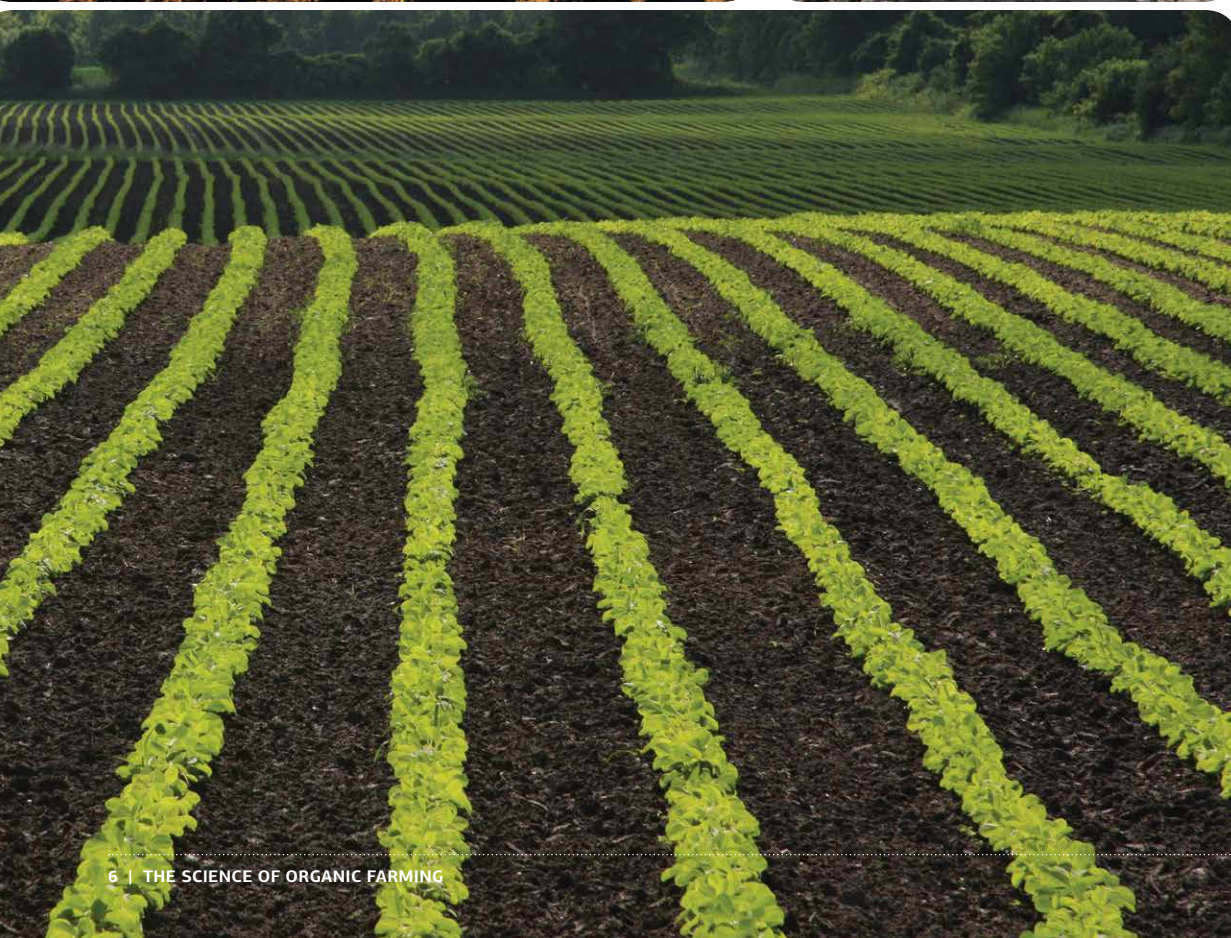
It Starts With the *Soil*

An organic system emphasizes life, diversity, and sustainability.

Nowhere are these core standards more essential than within the soil itself. Conventional agriculture depends heavily upon annual inputs of synthetic fertilizers, which tend to decrease life in the soil.

Organic agriculture must only use natural inputs and cannot depend upon synthetic fertilizer. It is critically important that the flora and fauna that make up our soil's microenvironment are abundant and active. These soil creatures and their life and death cycles transition a living cover crop and natural soil amendments, such as compost, into available plant nutrition.

On our farm, we are fortunate to have soil with very high organic matter as a strong foundation. Our team has worked very hard with mother nature to cultivate soil to provide our crops with the opportunity to absorb important minerals and the building blocks for plants to craft the essential vitamins we need to be healthy.



Why *Soil* Matters

Health is directly affected by the quality of food we eat.

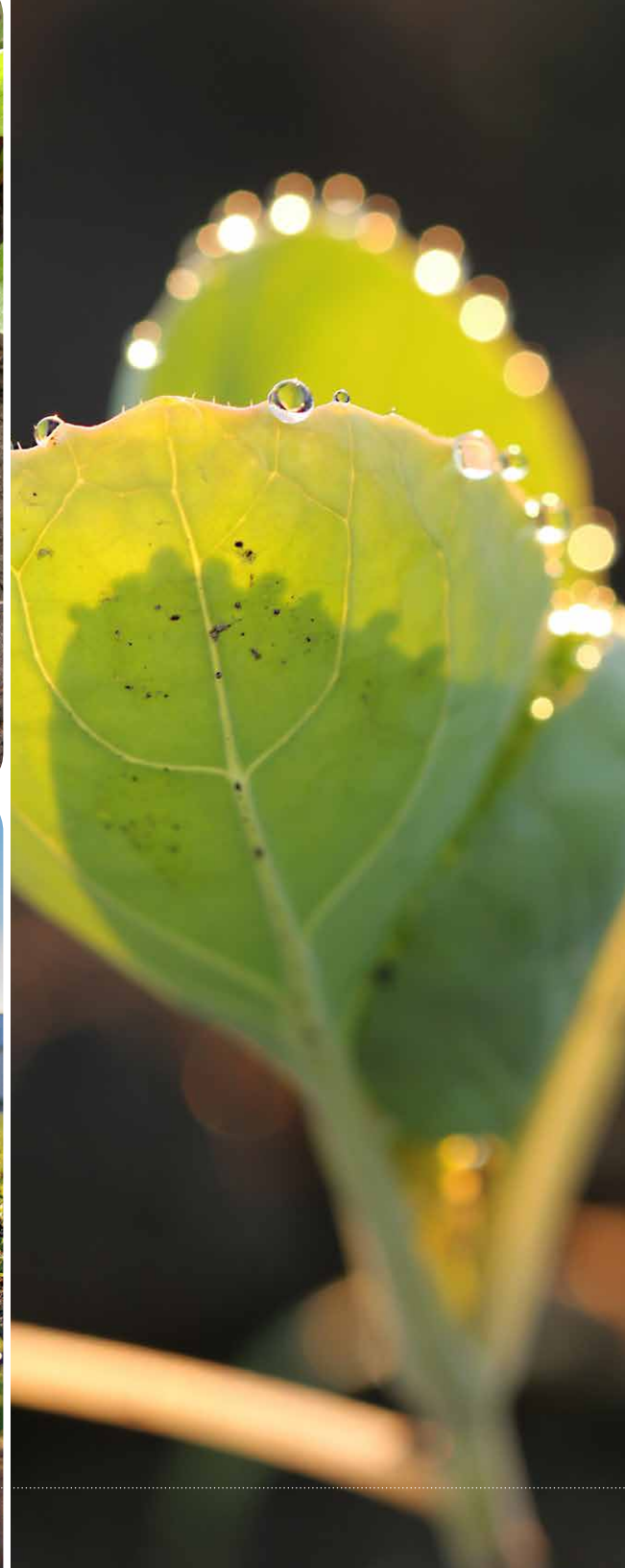
At Standard Process, we strongly believe that the food we grow for our products is only as healthy as the soil it's raised in.

Organic soil is a community of living organisms. The soil is one of our most precious resources, and that's why we take many steps to ensure that this living biosystem remains as healthy and vibrant as possible.

The Standard Process organic farm's soil has been managed organically since 1995. No synthetic fertilizers, pesticides, or genetically modified crops have touched Standard Process soil since that time. The reward is living soil with the capacity to produce healthy abundance.

As stewards of this land, we also take great care in practicing responsible and sustainable water management to support the environment today and in years to come.





Protecting *Soil* Health

In organic agriculture, enrichments to the soil, known as soil amendments, are added only when necessary.

Soil testing lets us know if an amendment is needed and helps illustrate the overall health of the soil and long-term trends. These results help with management decisions. For example, though we annually harvest a high yield off every acre, our soil tests show we're not depleting our organic matter. This supports our dedication to planting cover crops.

Our plants reflect soil health in leaf color and other visual cues, but soil testing is much more accurate and allows us to pinpoint the nutritional levels of our fields. Using GPS technology in conjunction with these tests makes it possible to supplement our soil exactly where and when fertilization is needed. Our use of variable-rate technology—software that controls the fertilizer applicator—is environmentally beneficial and balances soil health without applying more fertilizer than necessary.

The Importance of *Compost*

Compost is a tremendous asset to the Standard Process organic farm and highlights its commitment to sustainability by keeping more than 3 million pounds of production waste out of landfills.

The compost base is 100 percent certified organic vegetative matter from the farm. When whole foods are brought into the pressroom and juiced, we are left with a pulp that transforms beautifully from green plant material to “black gold.”

The transformation to compost is carefully managed. Farm personnel keep detailed logs of temperature readings and how often the pile has been turned. The compost piles are turned to exchange the carbon dioxide with oxygen and to keep the temperature between 130 degrees and 160 degrees Fahrenheit, which is warm enough to kill *E. coli* while still cool enough to protect our “good” bugs. The result of this diligence is beautiful black compost that is spread every fall to improve the fertility and texture of the farm’s soil.





Organic Weed Management

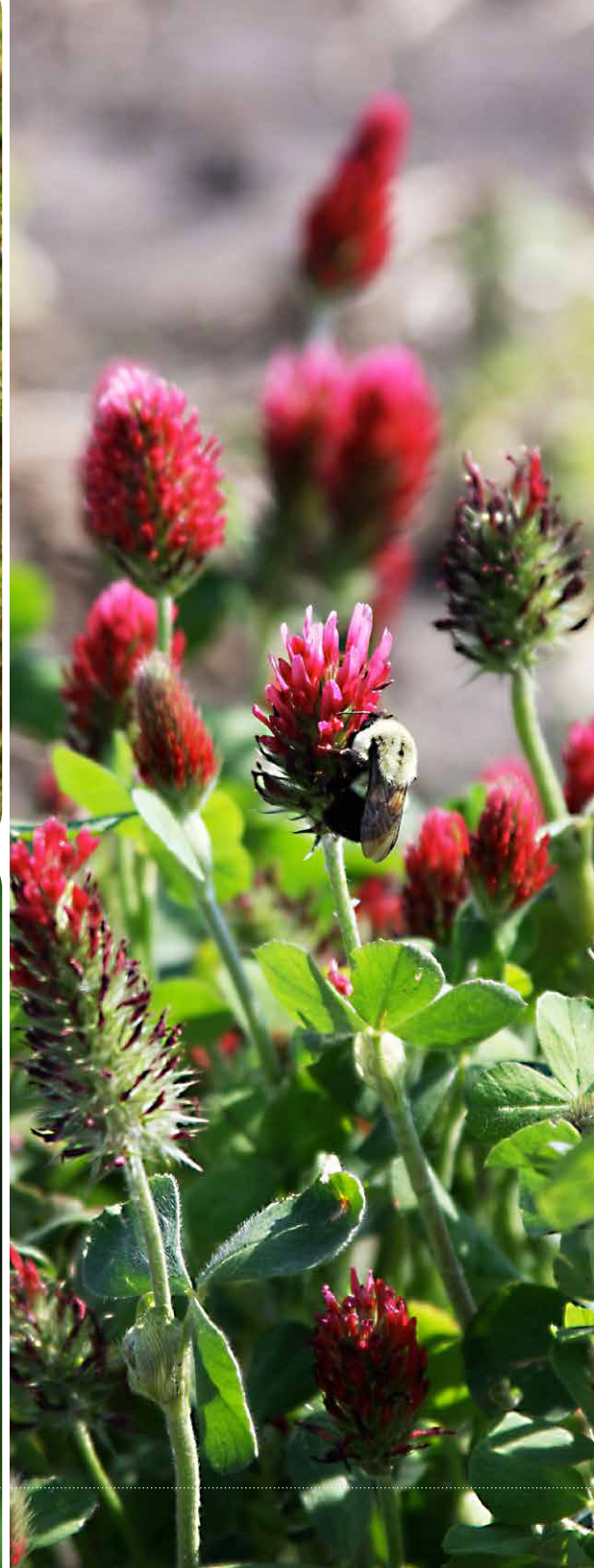
Weed control is critically essential in agricultural production.

Because weeds, by nature, are more aggressive than any commercial crop, a bountiful harvest requires vigilant weed control.

In organic agriculture, triumph over weed pressure must be achieved without herbicides. We use multiple machines and technologies, including time-tested manual labor, in the fight against weeds.

Because our farm is both sizable and organic, we rely on a variety of tools to help us work the land and raise our crops without pesticides and fertilizers. In addition to combines, planters, and tractors, we have six cultivators designed to eliminate specific weeds and ensure a healthy crop.





Beneficial Birds and Bugs

Organic farming encourages a healthy environment from the soil to the sky.

In the soil there is an ecosystem made up of fungi, bacteria, and microscopic nematodes, as well as spiders, beetles, and ants. In this system, the cycle of growth, predation, death, and recycling is constant. These soil citizens all are part of a system that works with roots of plants to help transform sunlight into energy.

Other members of the wider ecosystem like snakes, birds, bats, and shrews help keep detrimental bug populations in balance, and bigger predators like hawks and foxes feed on the smaller creatures and thus complete the cycle.

On the Standard Process organic farm, we also rely on pollinators to pollinate our plants, so we make an effort to support their life cycles. To provide safe havens for ground-dwelling bees, we protect the soil in buffer strips between fields. We let flowering plants like milkweed grow in our tree lines, and we planted a pollinator habitat with native flowers and grasses.

Greenhouse Production



The greenhouses at Standard Process are used for the production of specific vegetables.

At this time, vegetables grown include celery, parsley, Brussels sprouts, kale, celeriac, and test varieties for internal research and development efforts.

Greenhouse production is a huge asset to the farm for several reasons. Crops that need a very long growing season, like Brussels sprouts, can be a challenge in Wisconsin due to the short growing season. The greenhouse gives us about a two-month head start, making it much easier for crops to prosper.

Historically, Standard Process greenhouse transplants have had a much higher average harvest per acre than plants seeded directly into the soil.

Another distinct advantage the greenhouse gives us is weed control. Transplanted and established greenhouse plants are much more successful at combating weeds than small seedlings waiting to germinate in the field.





Experience and Expertise Matter

Our farmers are experts in agronomy (the science of soil management and crop production) both by education and experience.

Their training and innovative thinking helps the farm bring in a successful harvest, even in drought and pest-ridden years. The team stays up to date on current practices in organic farming through continuing education.

The farm is also a resource for outreach education on organic production and academic research exploring the viability of organic varieties or farming methods.

A farm's success correlates directly to the skill level of the farmers. The Standard Process land would be completely different if not for the organic vision and skill of the farm team.

This multitasking team does everything from procuring the seed, to working the land, to processing the final product. The group is also responsible for preventive maintenance on 185 pieces of field and processing equipment at the farm.

Staying current on organic farming trends is vital to the success of the farm. Some of the team members are engaged in the ongoing education necessary to maintain certifications.





Research and Development

The farm has the benefit of a team of research professionals right up the road at corporate headquarters, ready to help.

The research and development (R&D) department answers questions concerning plant varieties, processing, and harvest practices. By evaluating questions in the lab, R&D helps the farm innovate while providing consistent quality in raw materials added to Standard Process supplements.

In addition to evaluating plant varieties and processing options, R&D provides information on harvest windows. In turn, the farm helps R&D by offering expertise on crops and growing conditions.

For example, when the farm was having a hard time sourcing the usual pea variety, R&D evaluated a new cultivar that offered a similar or greater phytonutrient composition and a denser canopy to help suppress weed growth.

The departments worked together to plant and evaluate a 10-acre test plot of different pea varieties. A variety with similar phytonutrients was found, giving the farm a chemically similar variety with available seed source to plant.



Maintaining *Quality*

Ingredients grown on our certified organic farm give us control over and confidence in the quality of our final product.

For items we can't grow on our farm, we have an extensive, rigorous system of supplier auditing and validation. This allows us to provide products that have been controlled, tested, and verified from beginning to end.



We can promise that we pay personal attention to every detail of the ingredients grown on our farm. From the code on the bottle, we can tell where the seed was purchased, the micronutritional and macronutritional health of the soil in which the seed was grown, and which tractor and employee cultivated the field. We can follow the entire process for that particular crop. Plants are harvested at their peak nutrition and travel less than a mile for processing, often on the same day. This helps maintain the nutrients in the harvested food.

From *Seed* to *Supplement*:TM The Process



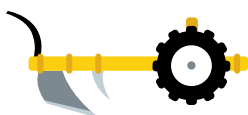
Identify raw material needs and procure seed.

The first step in growing crops is to determine what volume of each separate raw material will be necessary for the next year of production. Seeds that are organic and not genetically engineered are often in short supply, so seed procurement is completed as early in the year as possible.



Analyze soil tests and order appropriate amendments.

At Standard Process, soil tests are taken in the fall and analyzed in the winter. These tests illustrate important elements of soil health, such as micronutrient and macronutrient levels, organic matter levels, and cation exchange capacity (the degree to which the soil can adsorb positively charged ions). When soil tests reflect a need, appropriate soil amendments are ordered or management changes are made.



Apply soil amendments.

Organic agriculture does not mean zero input; it does mean that soil health

must be maintained with only natural inputs. Our soil is continually improved with green-manure cover crops (crops grown only to be tilled back into the soil), compost, and tillage that focuses on soil health. Natural fertilizers are purchased when necessary.



Work the field.

Field tillage is critical to our success. Soil worked too often can become compacted and void of air, water movement, tilth (soil structure), and life. Properly timed tillage eliminates the last flush of weeds before crops are planted, and good tillage leaves

the soil fit for the cultivation that will be necessary for weed control later in the season.



Plant crop. Proper seedbed preparation and placement is essential for success. We have many different planters to help ensure that our crops get the best start possible. These planters are made for specific types of seeds. Planters open a seed furrow, place the seed at specified depths, close the furrow, and tamp the seedbed.



Weed and cultivate (three to six times).

By nature, weeds are more aggressive than cultivated crops. Weeds compete with planted crops

for sunlight, soil nutrients, and moisture, so keeping weeds controlled at every growing stage is necessary. Organic growers rely on mechanical cultivation for weed control, and Standard Process has both the tools and the talent to get the job done.



Harvest crop. The vibrancy, health, and bounty of our harvests are a rewarding reflection of how successfully our organic cropping system has evolved. We utilize a combine, a root digger, a chopper, a baler, and sometimes good old-fashioned muscle to harvest crops from our fields.

Prepare the Harvest



Press. Freshly harvested crops are processed immediately to maintain vital nutrients. Certain crops are pressed, and their nutrient-rich juice is dried the same day.

Dry. Some crops are dried on our low-temperature staged belt dryer and then barreled for milling.



Process. Milling, mixing, capsuling, tableting, and bottling happen at our main processing plant, just down the road from the farm.

Working for the Greater Good

Our passion for organics is heartfelt, and we are proud to cooperate in organic outreach.

Research on developing strong organic varieties and diversity is essential to long-term agronomic success. Limiting seed variety creates the risk of opportunistic disease devastating whole fields. Seed breeding that limits diversity is contradictory to organic farming principles.

We have participated in field trials on cover crops and variety selection with the [University of Wisconsin](#) and the [University of Wisconsin Extension](#). We also partnered with the [Northern Organic Vegetable Improvement Collaborative](#) (NOVIC) on variety trials for red beets, carrots, and sweet corn.

We support education by cooperating with our local [Future Farmers of America](#) (FFA) chapter, educating Wisconsin growers on organic practices, and giving organic farm tours to more than 2,000 people a year. Christine Mason, farm manager, was a founding member of the Organic Advisory Council for the [Wisconsin Department of Agriculture, Trade and Consumer Protection](#).



Christine Mason, Standard Process farm manager

Our *Legacy* for the Earth



Organic farming takes education, skill, dedication, and hard work.

With an eye to the earth and the sky, organic farmers take the pulse of the land every day. At Standard Process we respect our farmers and value our organic farm. Nature has provided the foundation, and we work with the earth to ensure the quality of our crops and farmland is maintained for years to come.



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**—CHRISTINE MASON, STANDARD PROCESS
FARM MANAGER**

We’re Committed to Being a Leader

Sustainability and environmental stewardship have always been important at Standard Process. Our decision to use environmentally safe farming, manufacturing, and business practices underscores our interest in the health of the planet. Visit www.standardprocess.com/about-us/sustainability to learn more.

In our efforts to be more energy efficient and create less waste, we have created this e-book. We encourage our health care professional customers and their patients to read it digitally.



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