NUTRIENTS FOR LIFE

SPRING
2016

Virtual Field Trip

From Soil to Store

{NORTHERN NEIGHBORS}
Nutrients for Life Foundation Canada

From the Pages of NEW Foundation Readers

{ from our leadership }

When was the last time you visited a school classroom? Over the last seven years, I've had the privilege of being a guest presenter in schools ranging from an inner-city elementary setting where English was one of ten second languages, to a suburban high school campus where students were able to order coffee that was delivered to the classroom. Many things have changed in education over the years, but what never changes is a teacher's need for fact-based material.

Educators are very selective about what they'll teach in their classrooms, as they should be. That is where the materials produced by the Nutrients for Life Foundation (NFLF) really shine. As a member of the NFLF Advisory Council, I am proud of the resources we provide. All our materials are written by teachers, for teachers. The curriculum development team takes special care to ensure resources meet national science standards and all content is science-based. In just the last year, 237,514 teachers have used NFLF resources to impact over six million students. In the past three years, we've reached over 24 million students.

The NFLF team meets frequently with educators to review ways we might improve our materials. Nancy Bridge, a high school teacher from Ocala, Fla., provides invaluable input and has a seat on the NFLF Advisory Council. I've learned so much from Nancy about what today's teachers look for when they're considering science materials. The environmental science resource, *Feeding the World & Protecting the Environment,* that NFLF developed with Nancy's input is a great example of how the agriculture industry can partner with teachers to accomplish common goals. She wants her students to have high-quality, science-based information that is interesting and relevant. Through excellent NFLF resources, our future generation is equipped with factual knowledge about how our industry is working to feed the world. Who knows, maybe even a future President or two is leaning over a microscope studying soils in Florida, or any one of the other classrooms where NFLF resources are taught.

The challenge to effectively reach teachers requires constant adapting to education changes. One way NFLF has crossed into the digital landscape is by partnering with Discovery Education, a widely-respected educational resource used by over 3.5 million teachers across America. Our message reach and frequency is greatly enhanced, not only from a quantitive standpoint, but in the way Discovery Education uses its digital technology and assets to bring messages about fertilizer into classrooms. Last year, over 100,000 students embarked on interactive virtual field trips to real-life farms. What a cool, impactful way to tell agriculture's story and to create an appreciation for America's safe, abundant, and affordable food supply.

Education is one of America's most powerful tools. Never could I have imagined during my days at Badger Elementary School that my career path would take me from my family's Webster County, Iowa farm to a career where I'm able to tell agriculture's story each day. I'd like to invite you to share it too, by actively supporting and endorsing the many good works of the Nutrients for Life Foundation.

Annette Degnan
Marketing Communications Director, CHS

NUTRIENTS FOR LIFE FOUNDATION

{contents}

SPRING
2016

in every issue

features

{from the editor}

Milestones Reached in 2015

"Fertilizer does no good in a heap, but a little spread around works miracles all over." This is one of my favorite quotes which so simply states the role of fertilizers in each of our lives. Indeed, feeding over 7 billion people today is a miracle! When Richard Brinsley Sheridan, an Irish playwright wrote this in the late 18th century, he may not have understood the science behind crop nutrients. Instead, he saw it as a true miracle. Today, we understand the science behind these little miracles and are fortunate to share the science of crop nutrients and soil science with educators around the country.

When I look back at 2015, I am proud of the work the Nutrients for Life Foundation completed. The day-to-day interactions with teachers and communities are inspiring, and we crossed the threshold of 20 million students reached. The need for our science-based resources is real, and we are more than happy to be the trusted resource for so many educators. In just a short 11 years, NFLF has established itself at the premier source for soil and crop nutrient resources.

2015 brought the unveiling of our much anticipated AP environmental science resource, *Feeding the World & Protecting the Environment*, which was developed for use in advanced environmental science courses. Students learn about essential plant nutrients, study the fertilizer-manufacturing processes, and examine the 4R Nutrient Stewardship framework. We are thrilled to offer this resource at a time of world environmental awareness and unparalleled technological advancements that support responsible fertilizer use. *Feeding the World & Protecting the Environment* challenges students to think critically about pressures our growing world population puts on natural resources, agriculture and technology used to protect our environment. Students are encouraged to contemplate the relationships between population, food security, regulation, and the environment.

Another exciting milestone reached during 2015 was hosting two virtual field trips (VFT) focused on crop nutrition through our partnership with Discovery Education. These two VFTs brought crop and farming systems, both large commodity and specialty crops, into thousands of classrooms. Over 100,000 students hopped aboard a combine to harvest corn and witnessed the critical role of fertigation in growing strawberries. This new digital content lives on our partnership website, www.thescienceofsoil.com and is available year-long for students to experience.

The Nutrients for Life Foundation takes its role creating and sharing science-based resources on crop nutrients very seriously. As we spread soil science knowledge, we hope that it inspires and educates students about the need for crop nutrients and the small miracles they bring us each day.

Harriet E. Wegmeyer

Harriet Wegmeyer
Executive Director, Nutrients for Life Foundation

The Nutrients for Life Foundation is proud to announce the release of its latest resource for high school teachers entitled *Feeding the World & Protecting the Environment.* The supplement describes the importance of responsible fertilizer use in growing healthy crops, fertilizer production and related federal regulations. The resource supports the Foundation's efforts to promote soil and crop nutrient science in the classroom and teach students about the basic aspects of plant biology as it relates to food production.

"We are thrilled to offer this resource at a time of world environmental awareness and unparalleled technological advancements that support responsible fertilizer use," says Nutrients for Life Foundation Executive Director Harriet Wegmeyer. *Feeding the World & Protecting the Environment* challenges students to think critically about pressures our growing world population put on natural resources, agriculture and technological advancements in place to protect our environment. Students are encouraged to contemplate the relationships between population, food security, regulation, and the environment."

Developed for use in advanced environmental science courses, students learn about essential plant nutrients, study the fertilizer-manufacturing processes, and examine the 4R Nutrient Stewardship framework. Additionally, students consider various federal regulations, such as the Clean Water Act, in relation to fertilizer-manufacturing. States have the primary responsibility for regulating fertilizer; however, many federal laws govern the mining, production and use of fertilizer. The resource provides labs, reading excerpts, and classroom activities relating to the content and real world challenges that enrich the learning experience. These activities encourage and support student inquiry and are appropriate for advanced high school grade levels.

Content includes:

- 4R Nutrient Stewardship
- Air Quality and the Clean Air Act
- Climate Change
- Land Restoration
- Mining
- Natural Biogeochemical Cycles
- Nitrogen Production Facilities
- Nourishing Crops with Fertilizers
- Organic and Commercial Fertilizer
- Production Facility & Federal Regulation Case Study
- Roles in Sustainability
- Water Quality, Quantity and the Clean Water Act

In the first section, *Feeding the World & Protecting the Environment* introduces students to essential plant nutrients and the biogeochemical cycles. These lessons culminate in the examination of sustainable agriculture and the 4R Nutrient Stewardship framework. 4R Nutrient Stewardship promotes applying the right source of plant nutrients at the right rate, at the right time, and in the right place. Students research a case study about the 4Rs and determine appropriate management practices to prevent nitrogen loss.

Feeding the World & Protecting the Environment is aligned to the Next Generation Science Standards and created from standards listed in The College Board's Advanced Placement Environmental Science course framework. The spectrum of content, from production to stewardship on the farm, allows educators to share fertilizer's impact in feeding the world.

Download at www.nutrientsforlife.org/nutrients-life-store

SYNCHRONIZED SOIL

KATIE MAXWELL

***Market Coordinator for Micronutrients*, Yara**

Imagine being responsible for food sources for households across the United States and Canada. Thousands and thousands of people and animals would rely on you to meet their food needs. Would you be up for the task?

Such is the responsibility of Katie Maxwell, who works for Yara, one of the world's leading fertilizer companies. Katie, who serves as a Market coordinator for Micronutrients, helps plan and coordinate Yara's micronutrient fertilizer needs for the United States and Canada based on market requirements. In other words, Katie has to project the micronutrient fertilizer demands of farmers across North America and make sure those needs are met. Without sufficient fertilizer, crops would suffer and human food supply could diminish.


CAREER
SPOTLIGHT
YARA
NUTRIENTS FOR LIFE

SYNCHRONIZED SOIL

"Agriculture impacts so much of everything from the chocolate milk you drink to the fabric you wear."

The fertilizer market is based on the growing season of crops. Katie synchronizes micronutrient fertilizers (products) so the farmer has what it needs at the right time. Without fertilizer, plants cannot get the nutrients they need to grow. A healthier plant produces a lot of crops, which provide increased food sources for people. We don't know our population in the future so her role is critical as our population changes.

On a typical day, Katie says her goal is to assist the customer and provide them with a complete portfolio of products that will meet their crop's nutritional needs. To aid in this goal, Katie's role is to watch the market trends. Everything is very seasonal. She monitors inventory, looks at sales history and trends and tries to keep the inventory minimum to meet the demands, a task which she credits as the most challenging part of this job. She coordinates the inventory for all of the products in all of the warehouses. Their manufacturing plant is in the United Kingdom so she has to think about layover time from production to distribution location.

Katie is also responsible for helping growers grow the right product. Her job allows her to focus on the nutritional needs of the customer. "As a company we help supply them with nutrition requirements for the plant, which optimizes plant growth and increases crop yield. This increases the profit margin for the farmer. It helps feed the population and a lot of the land is being developed. Innovative fertilizer solutions help the growers/farmers."

Katie found her future at a young age. Katie's love for the ag industry first occurred in the sixth grade when she selected a course in middle school called Agriculture. She learned about the subject in class as well as through participation in numerous career developments events. She participated in the organization called Futures Farmers of America (FFA), which has since been changed to the National FFA Organization. Her participation in the course and its activities fed her passion for agriculture and it flourished.

While in high school, Katie took several science courses with an agricultural focus. These included Agriculture Communications, which taught leadership skills when working with customers, growers, supervisors, and other relevant personnel. Another course was Nursery and Landscaping, which taught plant science and in-depth knowledge of plant growth.

Aside from earning a Bachelor of Science Degree in Agriculture, Katie says that a person working in the agriculture field must love and be dedicated to the industry. Real world experience is invaluable and is the best classroom for this position.

What she loves about Yara is that they have 100 years of knowledge. The products produced are solutions for the growers. And they do it responsibly in a way that protects the environment. Katie is committed to her profession and believes in what she does. She recommends that young people pursue what they love. "Agriculture has such a big impact on everyone. It is a necessity. It connects everyone. Agriculture impacts so much of everything from the chocolate milk you drink to the fabric you wear."

From SOIL to Store

Wow! Over 54,000 students joined us in December for our Live from the Farm: From Soil to Store virtual field trip event! If you were one of them, thank you for tuning in.

A Virtual Field Trip

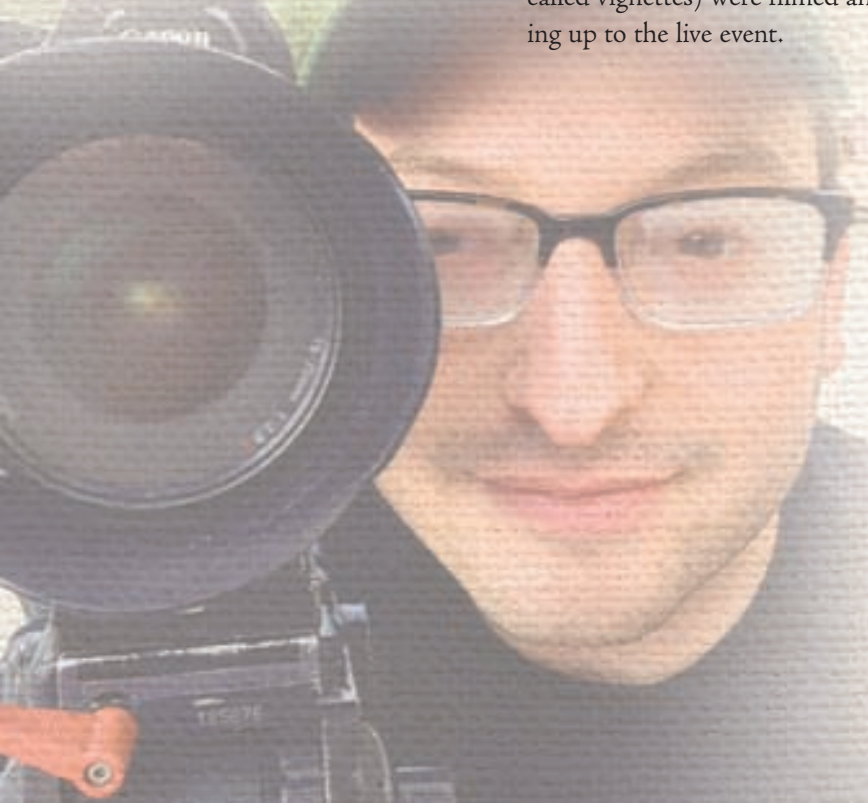
Behind The Scenes

We had such a great time creating this event we thought we'd give you a quick look behind the scenes… (All photos were taken with team members' iPhones).

The making of the event began this fall when the Hinton family of Hinton Farms in Dover, Fla. jumped at the chance to join us on our latest virtual field trip project. They expressed their eagerness to share their farm with students everywhere and we knew we'd found a great group to work with. As we learned more about them, we discovered that Bob (father), Melissa (daughter), and Jake (son-in-law) were all previous state FFA officers! We love working with FFA members so it was a great match. If you watched the field trip, you saw how proud they are of their farm and feeding the world. They feel it's their duty to be transparent and educate the public on how their farm operates.

We knew we wanted to highlight the importance of nutrients and the fascinating fertigation system. After weeks of editing, we had a great outline for the event. The week of the field trip, the Nutrients for Life team and Discovery Education team flew down to Florida and the real fun began!

Hot and humid Florida greeted us as soon as we stepped off the plane. Quite a weather change from our home office in Washington, D.C.! In order to have a smooth event, certain pieces of the field trip (such as introductions and short clips, called vignettes) were filmed and edited during the days leading up to the live event.



We love working with FFA members, you can see how proud they are of their farm and feeding the world.

◀ Melissa got up close and personal with a drone for her introduction!

If you didn't get a chance to join us live, the archived version is available now on our Discovery Education partnership website, www.thescienceofsoil.com. Each section of the event is available individually. The 45 minute event is a fantastic supplement to any classroom learning about biology, chemistry, soil, agriculture, land use, or fruit. Students get a real world look into the science behind how produce, like strawberries and jalapenos are grown and harvested, and how they go from soil to your store.

▲ An impressive makeshift video studio serves as headquarters for editing footage in the days leading up to the event.

▲ The team will really do anything for the best shot! Jake introduces himself while driving (very slowly) with the camera and sound men on the forks of the forklift.

▲ Jarrod Parker rehearses how he is going to explain the fertigation system with Discovery team members.

From our team, the Discovery Education team, and Hinton Farms, thank you for joining us on this soil science field trip adventure! Be sure to check out more resources from From the Ground Up: The Science of Soil and Nutrients for Life.

◀ Here Jake is filming his short piece about how strawberries are grown using the fertigation tubes to deliver nutrients to the plants.

NUTRIENTS FOR LIFE | NUTRIMENTS POUR LA VIE

Northern N

Did you know Nutrients for Life is a North American program? That's right, Nutrients for Life has a sister foundation in Canada, which offers the same reliable and high-quality resources with a Canadian twist. Founded in 2008, Nutrients for Life Foundation Canada consists of educators, community groups, scientists, and representatives from the agricultural sector, including farmers, agri-retailers, and members of the Canadian fertilizer industry. Nutrients for Life Foundation Canada aims to educate Canadian communities about the sustainable use of nutrients to increase the health and quality of our soil, improve production of nutritious food, and preserve green spaces.

eighbors

Through its learning garden program, **Nutrients for Life Foundation Canada** helps students explore and experience the science behind food production.

A Spring Tip from Nutrients for Life Foundation Canada

To prepare for spring gardens, it's important to first learn about seeds and their packaging. The seed package provides an abundance of useful information, such as which type of crop, variety, or hybrid it contains, its history, and how it was developed. The package will also provide directions as to where to plant and what kind of growing conditions are needed. A seed package will also enlighten you as to which sunlight condition will be most beneficial for the crop, what kind of pH the crop requires, what type of soil is preferred, and how much fertilizer is needed. Exploring the variety of seeds prior to planting will have long-term benefits and will ensure your garden thrives.

Together, both Nutrients for Life organizations produce and distribute educational materials to classrooms across the continent.

Learning Gardens: A Growing Canadian Program

Through its learning garden program, Nutrients for Life Foundation Canada helps students explore and experience the science behind food production. Approximately 30 schools across Canada currently have learning gardens, illustrating the connection between sustainable agriculture and the food we eat, allowing students to experience the curriculum in a hands-on way.

{students}

10 Things You Didn't Know about the Foundation's Activity Readers

1 These activity readers require less time commitment than the full soil science curriculum, *Nourishing the Planet in the 21st Century*, also available through Nutrients for Life Foundation.

2 The *#SoilScience* reader is written for 7th and 8th grade.

3 The *#SoilScience* reader introduces soil formation and soil horizons with a fun edible soil activity. Other topics include the nitrogen cycle, plant nutrition, and fertilizer basics featuring the 4R Nutrient Stewardship.

4 The *SOIL* reader was created for 5th and 6th grade and contains articles and activities, such as "Properties of Soil" and "Soil Testing Your Yard."

5 The *SOIL* reader features an interview with an agriculture engineer and features puzzles, quizzes, and visuals to enhance a teacher's soil unit.

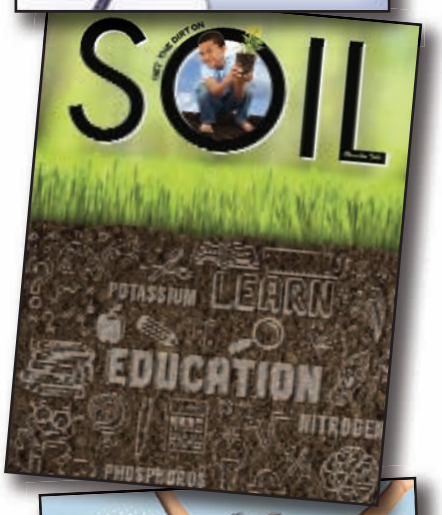
6 Written for grades 1 & 2, the *Under Your Feet* reader introduces soil, plant nutrients, and their role in producing food.

7 Wait, why isn't there one for 3rd and 4th grade? It's coming late spring 2016! In the meantime, check out our 3rd and 4th grade full curriculum, *Nourishing the Planet in the 21st Century*.

8 All of the readers are available digitally at nutrientsforlife.org!

9 Teacher's Guides are also available at nutrientsforlife.org.

10 These readers (and all of Nutrients for Life's education materials) are free!



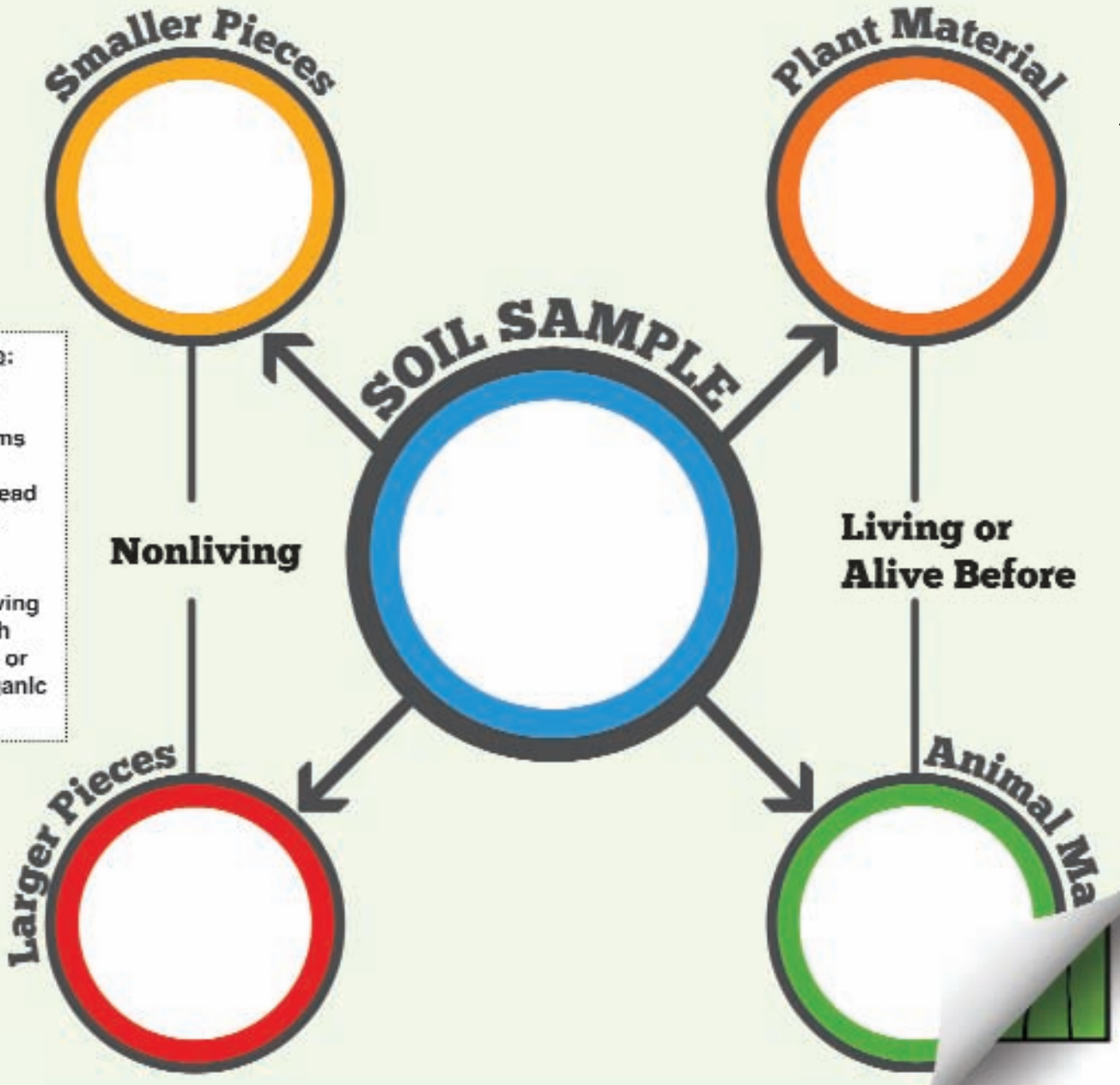
Be a Soil Detective

Not all soil is the same. It can look different and have different nutrients.

Try this: Use a magnifying glass to look at different types of soil.

Does soil from a lawn look different than the soil from a garden?

Put a spoonful of soil in the middle circle. Use a magnifying glass to sort the parts of soil into different piles.



Teacher's Note: Materials from living or once living organisms can be called organic, like dead plant material, worms, and decomposing insects. Nonliving materials, such as clay, rocks, or sand are inorganic materials.

4Rs of Soil

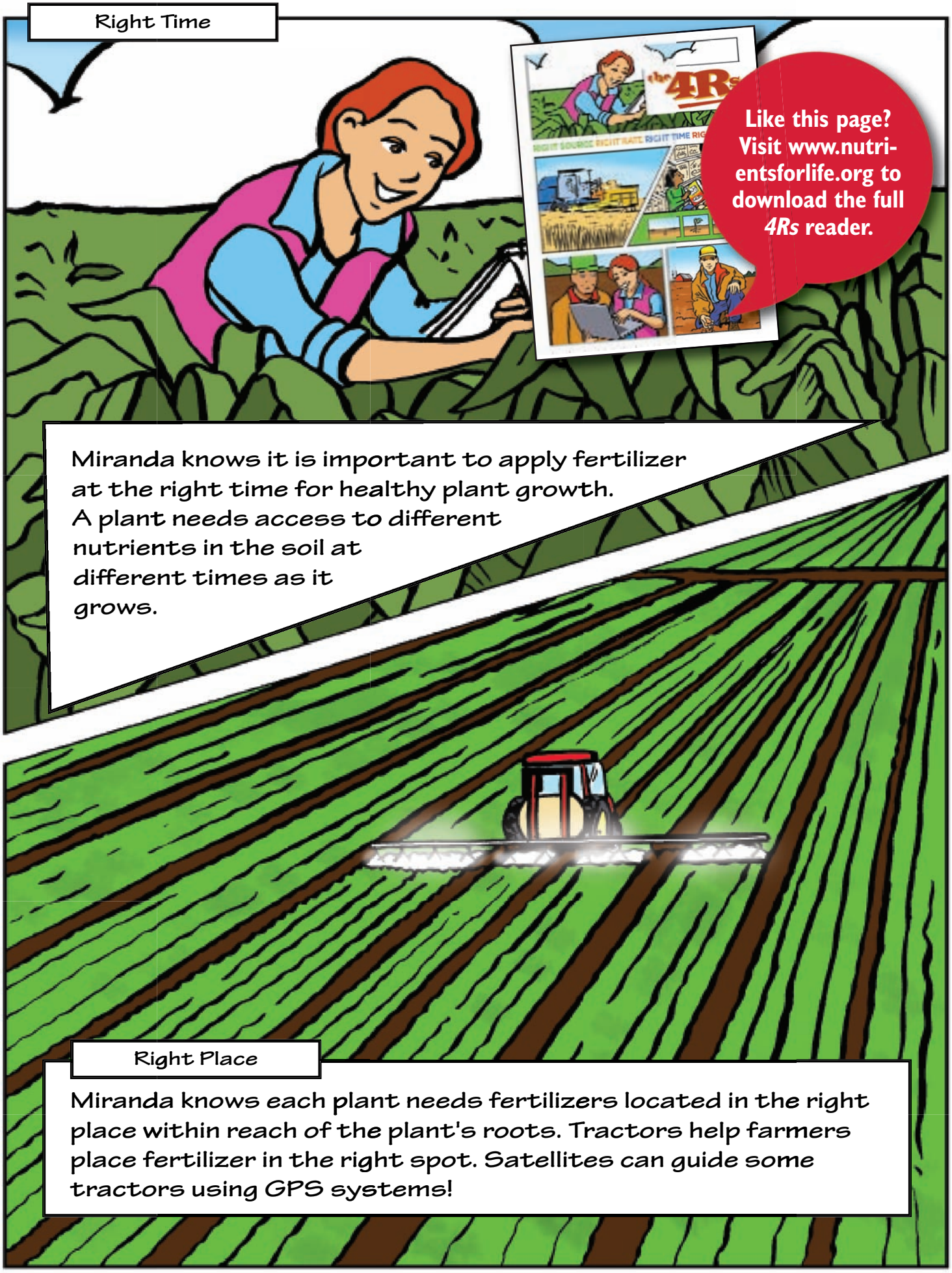
Meet Miranda, an agronomist! An agronomist is a scientist who helps farmers make decisions about growing the food we eat on their farms. Today Miranda is providing advice to the farmer about fertilizer needs for the growing food.

Right Source

Miranda suggests a specific type of fertilizer for the farmer to use. Many types of fertilizers are available. It is important to select the right fertilizer for the plant's needs.

Right Rate

Miranda uses soil tests to help the farmer match the right amount of fertilizer to the plant's needs. Too little fertilizer limits the plant's growth, and too much fertilizer is wasteful.


Right Time
Like this page? Visit www.nutrientsforlife.org to download the full 4Rs reader.
Miranda knows it is important to apply fertilizer at the right time for healthy plant growth. A plant needs access to different nutrients in the soil at different times as it grows.
Right Place
Miranda knows each plant needs fertilizers located in the right place within reach of the plant's roots. Tractors help farmers place fertilizer in the right spot. Satellites can guide some tractors using GPS systems!

PLANT NUTRIENTS ON THE FARM STATION

STEM-BASED Education Station

THE KIT INCLUDES:

- First grade script
- Third grade script
- Large magnetized board
- Corresponding magnets
- 3 Child-sized hat props

Price…$750

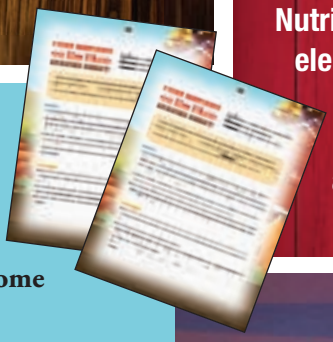
"Approximately 600 students visited our farm on field trips last fall and learned about plant nutrients with the Nutrients for Life farm board. The board helped me explain what plants need to grow in a way the children could understand and they loved the interactive aspect. The Nutrients for Life farm board simplifies the process so that even the youngest children, the ones who haven't even learned about plant growth yet, can enjoy and understand the process! I can certainly attest to the positive feedback we have received from visiting school groups. The Nutrients for Life farm board was an integral part of our tour. We can't wait to use it again for the upcoming season!"

– Mandy McCary, Mercier Orchards, Blue Ridge, GA

To request your station, contact Debra Kearney, (641) 891-4182 or dkearney@nutrientsforlife.org.

Educate students visiting your farm with STEM and a science-based activity!

Sign-up today and receive the "Plant Nutrients on the Farm" interactive station and become a member of the Nutrients for Life Foundation. During the station activity, elementary students learn about plant nutrients' important role in growing healthy crops. Teachers will appreciate that the standards-based station is a STEM activity emphasizing agriculture science!



Script Sample:

- **Plants need nitrogen to be green and healthy. Without nitrogen, plant leaves will be weak and yellow. Who can spot a pumpkin plant that needs Mr. N to come to the rescue?** *(Find the yellow leaf.)*
- **Does anyone have Mr. N?** *(Have a student add Mr. N near the yellow leaves. Let one of the students wear the N hat.)*
- **Now that we have added Mr. N, let us fix this plant. Who has a better-looking leaf? Please hold it up in the air.** *(Green leaves - Have the students with the green leaves cover the yellow, sickly leaves.)*

Nutrients for Life **Golf Tournament**

Above: Garrett Lofto, Foundation Chairman, with the winning team from Mosaic: Gord McKenzie, Bruce Bodine, Rod Wells, Brian Harlander and Chris Jahn, President of The Fertilizer Institute and Nutrients for Life.

Twelfth Annual Golf Tournament Raises Over **$85,000** to Support Education Efforts

The fertilizer industry, suppliers, and customers came together in support of soil science education for the twelfth annual Nutrients for Life Foundation golf tournament fundraiser. Fifteen teams competed in the challenge that included fourteen sponsorships on the beautiful Golden Bear Golf Club at Keene's Point in Orlando, Fla. We'd like to congratulate the Mosaic team on their win and players, Bruce Bodine, Brian Harlander, Gord McKenzie, and Rod Wells on their impressive performance that earned them the coveted Fertilizer Cup!

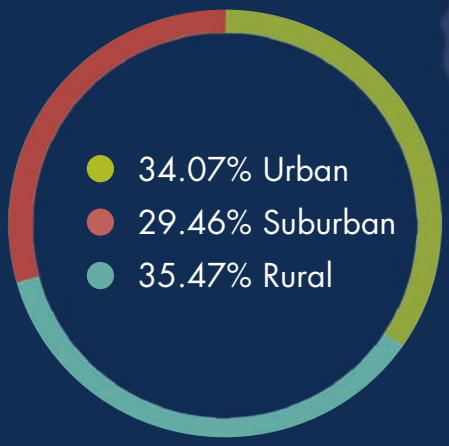
The tournament netted over $85,000 to benefit the Foundation! The generous support of each team and sponsor provides benefit to the Foundation's many ongoing efforts, including the Discovery Education partnership, *From the Ground Up: The Science of Soil*, resource development, Helping Communities Grow FFA outreach program, and regional representative positions. The Foundation will hold the 2017 Nutrients for Life Golf Tournament on Feb. 6th at the Westin Kierland Golf Course in Scottsdale, Ariz. Mark your calendar to participate!

{industry}

Making an **Impact in 2015**

Community-Based Programming
Helping Communities Grow Participation

School Classification Break-down:



179
CHAPTERS

13
STATES

424
FFA MEMBERS PARTICIPATED IN EACH STATE, AVERAGE

268,876
COMMUNITY MEMBERS IMPACTED

365,406
RESOURCES AND OUTREACH MATERIALS DISTRIBUTED

237,514
TEACHERS IMPACTED

6.6M
PEOPLE IMPACTED THIS YEAR

24M+
PEOPLE IMPACTED IN THE PAST THREE YEARS (2013-2015)

6.1M
STUDENTS IMPACTED

THIS L.O.L. MOMENT
brought to you by
N.P.K.

To some, it's a place to play. To others, a place to think. And on those lazy days, even a place to sleep. It's our lawn. And it's a place made beautiful thanks to the main ingredients of fertilizer – N (Nitrogen), P (Phosphorus) and K (Potassium). Together, they're helping grow beautiful lawn and gardens, and in turn, priceless moments as well. Learn more at *NutrientsForLife.org*.

fertilizer

LIFE'S MAIN INGREDIENT™

Available **Resources**

NUTRIENTS FOR LIFE FOUNDATION

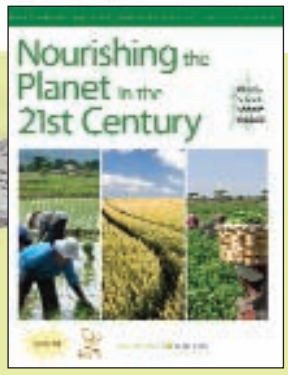
To request the complementary items featured, please visit the Nutrients for Life Foundation website's teacher section: **www.nutrientsforlife.org/for-teachers**.

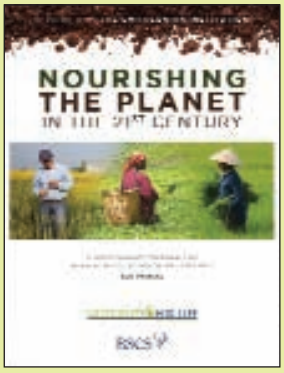
1 From the Ground Up: The Science of Soil Website

AUDIENCE: MIDDLE SCHOOL

Through a partnership with Discovery Education, this microsite provides a collection of digital resources about soil science, including career spotlights, interactive lessons, digital exploration, and family activities.

Visit www.thescienceofsoil.com.





2 *Nourishing the Planet in the 21st Century* High School Curriculum

Now in the second edition, the supplement offers six lesson plans designed to teach students about soil science and crop nutrients' role in feeding a growing world.

3 *Nourishing the Planet in the 21st Century* Middle School Curriculum

A middle school supplemental curriculum with six science-based lessons about soil science. All three levels of curriculum were favorably reviewed by the Smithsonian Institution.

4 *Nourishing the Planet in the 21st Century* Elementary Curriculum

Smithsonian-approved, these five STEM-based, supplemental lessons teach plant and soil science, while using gardening to make the lessons fun, interactive, and educational.

5 Recipe Cards

AUDIENCE: GENERAL

A series of eight recipe cards. Recipes include ***pumpkin soup, chocolate chip cookies, raspberry crumb bars, moist carrot cake, apple cookies, baked spaghetti cakes, broccoli quiche,*** and ***vegetable soup.***

6 5 Key Message Cards

The wallet-sized card concisely states five of the top truths about fertilizers.

7 Cross-curricular Magnets

AUDIENCE: 5TH TO HIGH SCHOOL

Simultaneously promote language arts and science skills with this word magnet. Make sentence with soil science and agriculture buzz words color-coded by the part of speech.

8 Phosphate Mining Video

AUDIENCE: MIDDLE/HIGH SCHOOL

This lively video shows students the amazing process of mining phosphate and its relevance in global food security. Available to stream online!

9 Potash Video

AUDIENCE: MIDDLE/HIGH SCHOOL

Learn where potash fertilizer comes from and how it helps feed the world in this short video. Available to stream online!

10 Ruler

Six-inch ruler that publicizes the ***Nourishing the Planet in the 21st Century*** curriculum.

More Available **Resources**

11 NPK Soccer Poster

AUDIENCE: ELEMENTARY/MIDDLE SCHOOL

Plants, like humans, need nutrients. This resource poster is a great addition to your classroom showing the basics of primary nutrients. *(Also available in Spanish)*

12 Curriculum and Virtual Classroom Videos USB Flash Drive

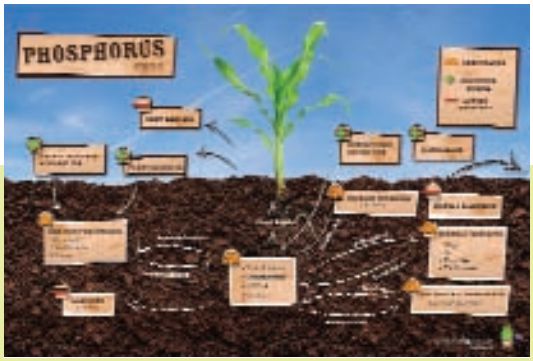
AUDIENCE: ELEMENTARY/MIDDLE/HIGH SCHOOL

Includes all three levels of curriculum, the virtual classroom videos, and pre- and post-test assessments. Introduce lessons from the *Nourishing the Planet in the 21st Century* curriculum with the short, interest grabbing Virtual Classroom videos, featuring spokesperson Dee McKenna. Also available via download online.

13 Feeding the World & Protecting the Environment

AUDIENCE: HIGH SCHOOL

This supplemental resource was developed to provide content and labs about fertilizer's role in federal regulations, such as the Clean Water Act. Additionally the supplement provides an overview of sustainability and 4R Nutrient Stewardship. Available as a downloadable PDF.



14 Nitrogen Cycle Poster

AUDIENCE: HIGH SCHOOL

So many of our planet's systems are cyclical, including one of the most recognizable cycles: nitrogen. Use this colorful visual to help teach about nitrogen's role in plant growth.

15 Phosphorous Cycle Poster

AUDIENCE: HIGH SCHOOL

Perfect for the science classroom, this poster focuses on the movement of phosphorus.

16 Potash Poster

AUDIENCE: HIGH SCHOOL

Enforce biogeochemical cycle concepts with this poster about the potassium cycle. A great visual aid for the high school classroom.

19 Apple, Air and Ocean Postcards

AUDIENCE: GENERAL

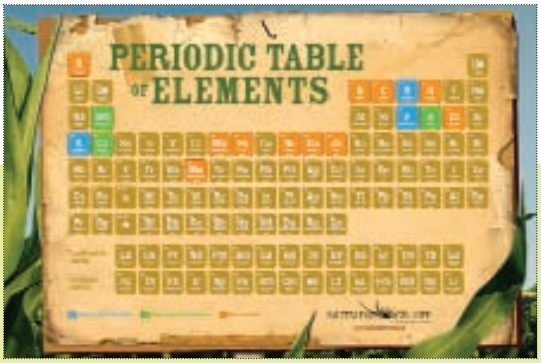
A series of three postcards highlighting the origins of nitrogen, potash, and phosphate.

20 Flashcards

AUDIENCE: MIDDLE/HIGH SCHOOL

Play fun games (Around the World, Beat the Clock, or Circle Up) and test your students' plant and soil science knowledge. Or use the set to review concepts from the middle and high school curriculum, *Nourishing the Planet in the 21st Century.*

To request the complementary items featured, please visit the Nutrients for Life Foundation website's teacher section: **www.nutrientsforlife.org/for-teachers**.



17 Periodic Table of Elements Poster

AUDIENCE: MIDDLE/HIGH SCHOOL

Connect biology to chemistry with this colorful periodic table of elements poster. This piece highlights the primary macronutrients, secondary macronutrients, and micronutrients; all of which are essential for plants.

18 Apple Poster

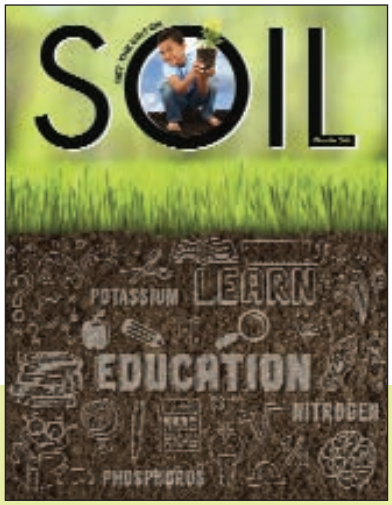
AUDIENCE: MIDDLE/HIGH SCHOOL

Can a single apple slice feed the world? This resource poster for teachers provides a visual aid as they address the challenges of feeding a growing population. *(Also available in Spanish.)*

More Available **Resources**

21 Interactive Lesson Plans

AUDIENCE: 3rd & 4th, 7th & 8th, 9-12th
Download ready-to-go PowerPoint slides that correspond with *Nourishing the Planet in the 21st Century* curriculum. Access the middle school slide deck on www.thescienceofsoil.com and download the elementary and high school slide decks on the teacher's section www.nutrientsforlife.org.



22 Under Your Feet Reader

AUDIENCE: 1ST & 2ND
This activity reader introduces soil and its role in producing food. Written for grades 1 & 2.

Download from the teacher's section at www.nutrientsforlife.org.

23 SOIL Reader

AUDIENCE: 5TH & 6TH
This 18 page booklet contains articles, like "Properties of Soil" and "Soil Testing Your Yard," and activities about soil science written specifically for grades 5 & 6.

Download from the teacher's section at www.nutrientsforlife.org.

24 #SoilScience Reader

AUDIENCE: 7TH & 8TH
Introduce soil formation, the nitrogen cycle, and fertilizer basics with the activity booklet designed for grades 7 & 8.

Download from the teacher's section at www.nutrientsforlife.org.

To request the complementary items featured, please visit the Nutrients for Life Foundation website's teacher section: **www.nutrientsforlife.org/for-teachers**.

Help us continue our mission, donate today!

More than ever, it is essential that the Nutrients for Life Foundation continues to develop and distribute science-based materials to improve plant nutrient literacy, soil health knowledge and promote fertilizer's role in sustaining a growing population. The resources provided to teachers and students at no cost address common misconceptions among consumers and educate the industry workforce to better understand how their work helps feed the world.

NFL has demonstrated remarkable progress since its inception. In just the past three years, over 24 million people have been impacted.

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parting shot

Melissa Buehler, Nebraska Regional Representative, and Mike Foley, Lieutenant Governor of Nebraska, discuss the importance of agriculture education and fertilizer's role in feeding the world at the Nebraska Agribusiness Expo.