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FALL 2016

 **USA Dry Pea
& Lentil Council**


**AMERICAN PULSE
ASSOCIATION**

Take Your **PULSE** MAGAZINE

**Discover how pulses can help
you live beyond 100!**

DAN BUETTNER'S BLUE ZONES Page 5



THE MAN IN THE ARENA

thoughts from the CEO



Tim D. McGreevy, CEO

I believe Theodore Roosevelt to be one of the greatest Presidents in our nation's history. He was a man of action. He built the Panama Canal against all the odds. He was a champion of conserving some of this country's greatest natural resources. He felt connected to the people of the land, and he loved his ranch in the Badlands of the Dakota's. He wasn't afraid to get his hands dirty and to put his considerable energy behind the causes he believed. My favorite quote is "The Man in the Arena" from a speech he gave at the University of Sorbonne in Paris, France on April 23, 1910 (above right).

The farmers, processors, and exporters who make up this organization are "in the arena" working to grow this industry. If there was ever a time in our industry to "dare greatly," that time is the present.

We launched the North American Pulse Marketing Campaign on January 1, and the results have exceeded our goals and expectations

"It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly....

—Theodore Roosevelt, 26th President of the United States (1901-1909)"

in every category. Going into this campaign, we set a goal of reaching 500 million consumer page views through our media outreach initiative.

AT THE END OF SUMMER 2016 WE REACHED WELL OVER 2 BILLION CONSUMER PAGE VIEWS. In November 2015 we conducted a consumer research poll that showed that only 6% of consumers associated the term "Pulse" to dry peas, beans, lentils, and chickpeas. We did a follow-up consumer research study in June 2016 which showed that 26% of U.S. consumers associated the term "Pulse" with our crops. If you Google the term "Pulses" the number one website that comes up is www.pulsepledge.com. That's our website, folks.

In March, the Washington Pulse Crops Commission held a referendum to raise their assessment from 1% to 2% for a three-year period to support the International Year of Pulses (IYP) Activities, the North American Brand Campaign, and a research legacy. Though a clear majority of producers voted in favor of this increase, the vote fell just short of the 60% super majority required by the state of Washington to implement the assessment increase.

While a minor setback, the failure to pass the referendum isn't the end of the road for the Pulse Movement.

Growers in the state of Idaho also voted in favor of the assessment increase. The Idaho Pea and Lentil Commission decided in May 2016 to take a leadership role and increase their assessment from 1% to 1.5% in FY 16/17. They challenged the producers in the states of Washington, Montana and North Dakota to increase their assessments to support funding for the marketing efforts needed to move this growing production and the key research projects needed to grow the industry.

In June 2016 the Washington Pulse Crops Commission voted to hold another grower referendum this winter to match the state of Idaho's 1.5% assessment for three years. Montana and North Dakota growers will meet after harvest to consider an assessment increase to 1.5% for three years.

U.S. farmers responded to strong pulse prices by planting a record 2.5 million acres of dry peas, lentils, and chickpeas in 2016. When the harvest dust clears, we could have an additional 600,000

metric tons of pulses to move after this harvest. We have started a movement. Demand and prices for our crops are strong.

Our challenge as an industry is to keep the pulse movement growing and the demand for our product increasing. To accomplish this goal, we will have to follow the advice of Theodore Roosevelt and “dare greatly.” Our mission is to build a pulse movement that will increase demand for years to come.

Sincerely,



Tim D. McGreevy, CEO



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ORGANIC & CONVENTIONAL

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C&F FOODS, Inc. is a top quality processor of Beans, Rice, Ancient Grains, and More. Not only do we reach our customers on so many multi-cultural levels, we also have expanded our product line to the outer limits of the culinary imagination. Wholesome Food, Wholesome Life™

PULSES & THE BLUE ZONES

Dan Buettner is a journalist, New York Times best National Geographic Fellow and founder of the Blue Zones Project is a movement of sorts, a commu- genesis to a National Geographic sponsored the world, circled on the world map in blue, centenarians exist. First published in 2005, the which led to a series of best-selling books, was to identify the common elements in these 100-year plus seniors' lives, with the ultimate plan to build a blueprint for living longer, better lives. Part of this design are "pulses" - you know, dry peas, lentils, chickpeas, and beans - the newest, ancient superfood.

selling author, motivational speaker, of the Blue Zones Project. The Blue nity improvement initiative that owes its study examining geographic anomalies in indicating where the greatest concentrations of premise of the article, "The Secrets of Living Longer," of this design are "pulses" - you know, dry peas, lentils, chickpeas, and beans - the newest, ancient superfood.

This revelation prompted Director of Communications, Drex Rhoades and Director of Domestic Marketing, Jessie Hunter of the USA Dry Pea & Lentil Council and the American Pulse Association to interview Mr. Buettner about the role pulses play in the Blue Zones blueprint for living better and longer lives. >>>





Blue Zones' Dan Buettner

In Buettner's travels, he identified and visited five global regions that had the highest proportion of people that have reached the age of 100 and live full, productive lives. These areas are in the mountainous highlands of Sardinia; an island in Greece; the Nicoya Peninsula in Costa Rica; and Okinawa, Japan. The U.S. is represented as well in a Seventh Day Adventist community in Loma Linda, California who live ten years longer than anyone else in North America on average.

We've caught Buettner at an opportune time. He is taking a break from simmering a vat of lentil dal in his Los Angeles home. He casually mentions he'll be sharing this lentil dal ("Dal" or "Dahl" is a lentil stew, often a staple of the Indian subcontinent) with his good friend, Paula Abdul. Yes, that Paula from American Idol fame. Clearly, this will be an interesting interview.

TYP: Dan, can you tell us about the Blue Zone's Community Project?

BUETTNER:

After spending ten years discovering and studying places around the world where people live the longest, I came up with two sets of learning. The first set is the nine common denominators that you see every place. We call it the Power 9® (graphic on page 7).

And out of that comes food guidelines, which of course include beans, but a few other plant based foods. And the other big learning can be summed up by saying that if you want to get people to change their health behaviors, don't try to change their behavior as such, modify their environment instead.

And so the Blue Zones Project is to change people's health behaviors by changing their environment. And our guide for changing those environments flow right from that Power Nine Pyramid.

The Blue Zones Project is an extension of that initial study. Buettner brought together a team of experts to leverage the secrets learned from these blue zones, to help create a community of healthier, happier inhabitants. It's a community collaboration; "a systems approach" in which leaders, community members, and business owners make decisions and provide services that lead the greater community to "better health and well-being." Blue Zones make changes within the community, called "interventions," that stem from the "Power 9®" findings, ranging

from improved roads and sidewalks to transportation, home design, green and public spaces as well as changes in diet. These interventions are designed to foster sustainable change, addressing the environment as well as the individual. There are 70-80 interventions in all.

BUETTNER:

Our biggest successes to date are the big cities of California, Redondo Beach, Hermosa Beach, and Manhattan Beach, about 125,000 adults, just south of LAX. And in the five years that we've been there, our work has created a 17 percent drop in BMI (Body Mass Index), about a 50 percent reduction in childhood obesity, and about 30 percent drop in smoking.

And we have about 100 restaurants that are Blue Zone's approved. That means they've incorporated foods like bean dishes instead of meat dishes. So that there's at least an option to get the plant-based food, rather than having everything on their menu be a meaty offering.

Buettner's philosophy is that you don't try to change the individual's behavior as much as you change the environment influencing them. Diet change is an important prong in the Blue Zone Communities, and Buettner states that beans and other pulses are the cornerstones of most centenarian diets. Buettner uses the term "beans" and "pulses" interchangeably, preferring the former, but working hard to integrate "pulses" into his vernacular. He believes in pulses so much he invested in a meta-analysis of existing studies, which he plans to publish soon.



BUETTNER:

I hired three graduate students from the University of Minnesota and we did a meta-analysis. We gathered 155 dietary surveys from all five Blue Zones, stretching back about 100 years. Because if you want to know what Centenarians ate to live to be 100, you have to know not just what they've been eating lately, you have to know what they've eaten all of their lives.

And when you look at all five Blue Zones, you see on average; they're eating about a cup of beans a day for most of their lives. And there's no other food group or food type consistent or more ubiquitous than beans in Blue Zones.

In Okinawa, it's soybeans and mung beans. In Costa Rica, it's almost always black beans or pinto beans. And in Korea, it's black-eyed peas, lentils, chickpeas. In Sardinia, it's fava beans, but also red beans and cannellini beans. And the Adventists (in the U.S.), they eat all kinds of beans. I would say they eat every kind of pulse. The point being they're hitting one of their biggest protein sources, that I would argue, come from pulses.

I do like to argue the point, however, that penny for penny, you can get more protein

than you would from meat, through pulses. And there are packages of goodness from fiber. I'm mostly interested in that we know Centenarians have different bacteria flourishing in their guts than in our guts. And it may be because the beans are creating a mulch, so to speak, or a fertile pasture for healthy bacteria to flourish, and that might be the pulses.

Many of The Blue Zones Project's environmental tweaks are about making smart food choices more readily available in a Blue Zones community.

BUETTNER:

So in general what we do in our Blue Zones project cities is we get 15 percent of the population to pledge on doing two things when it comes to how they eat. We ask them to look at the Blue Zone's food guidelines. Here's what a 100-year-old ate. You'll see beans are salient on that. And then we'll ask them to attend cooking demonstrations, which is almost always bean-centric. We have all kinds

of Blue Zone certified recipes, many of which are beans.

People have to taste enough dishes until they find one that they can make and that they like. You know, you can tell them that broccoli is good for them all day long, if they don't like broccoli they're not going to eat it. So they have to taste enough beans. It might be a cold lentil salad. It might be Ikarian stew. It might be a bean burger, but they have to ingest enough to know they're going to like it. So we asked people just to do that. Know it's good for you and try enough to taste it. But then at the policy level, we work with city council, with a menu of evidence-based policies that make fruits, vegetables - plant based food, including legumes cheaper and more accessible.

In fact, Buettner has become somewhat of a bean evangelist. He has decreased meat consumption dramatically, not because it's bad, but because he can replace the protein with pulses. His favorite foods are the Ikarian Stew and the Sardinian Minestrone with a slice of sourdough bread, made the old fashioned way. >>>

**Move Naturally**

1. Make daily physical activity an unavoidable part of your environment

Right Outlook

2. Know your purpose

3. Downshift: Work less, slow down, take vacations

Eat Wisely

4. Eat until 80% full

5. More veggies, less meat & processed food

6. Drink a glass of red wine each day

Belong

7. Create a healthy social network

8. Connect/reconnect with religion

9. Prioritize Family

The Power 9®

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BUETTNER:

You know, like most Americans, I like to have something in the middle of the plate, something that anchors your meal. And when you take meat away, or you take fish away, what is it? And for me, it's beans that have been filling that void. I've become a bit of a fanatic, so I've had a chance to travel around the world to a variety of different cultures and made it my mission to find delicious bean dishes.

I met the oldest family in the world. There were nine siblings whose collective age was 851 years. And every day of their life for lunch they had this Sardinian minestrone, which had four or five kinds of beans. It's all plant based, and then a piece of sourdough bread. So it's got a good story, and it never fails to delight. It's so good, so delicious and hearty. And you can eat it all year round. I have it for lunch probably twice a week.

While still on the phone, Dan Buettner took the pulse pledge (at www.pulsepledge.com). So, pulses have a new and dedicated fan, even though Buettner has been eating "beans" for years.

BUETTNER:

Do I think Americans should be eating more pulses? Absolutely. They're cheap. They taste good. They have the protein. They have the fiber. There's no cruelty. They're good for the environment. I think, literally, the health of America is riding on the bean.

As mentioned, Buettner hasn't adopted the term "pulses" 100% of the time, yet. But give him time. Like the Blue Zones project, behavior comes in baby steps. For more information about the Blue Zones, visit www.bluezonesproject.com and follow them on social media @bluezones. For the delicious Sardinian minestrone recipe, see page 9 of this magazine.



WESTPLAINS

Head Quarters
Houston, Texas,
U.S.A

Global Offices
Brazil, Mexico &
India (2
locations)

West Plains, LLC is actively involved in the procurement and global marketing of all Pulses and Special Crops.

West Plains owns and operates 25 grain elevators across 5 states, totaling approximately 33 million bushels of storage capacity. Our trading offices and elevators are strategically placed to originate and market these products worldwide.

Elevator Locations

- Nebraska
- Colorado
- South Dakota
- Wyoming
- Texas



www.westplainsllc.com

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INGREDIENTS

(1/2 cup)	dried peeled fava beans
(1/2 cup)	dried cranberry beans
(1/3 cup)	dried chickpeas
(7 tbsp)	extra-virgin olive oil
(1 cup)	med., chopped onion
(2)	med., chopped carrots
(2)	med., chopped celery
(2 tsp)	minced garlic
(1 can)	crushed tomatoes (28 oz)
(3)	med., peeled, diced yellow potatoes
(1+1/2 cups)	chopped fennel
(1/4 cup)	loosely packed fresh italian flat-leaf parsley leaves, chopped
(2 tbsp)	chopped fresh basil leaves
(2/3 cup)	Sardinian fragula, Israeli couscous, or acini di pepe pasta)
(1/2 tsp)	salt
(1/2 tsp)	fresh ground black pepper
(1/4 cup)	finely grated pecorino Romano



Longevity Minestrone Soup

This bountiful dish is eaten for lunch every day by the world's longest-lived family, the Melises. Traditionally, it is made with whatever is growing in the garden, but it always includes beans and fregula, a toasted pebble-size semolina pasta that is popular in Sardinia. Fregula can be purchased at Italian markets or online. If you can't find fregula, any tiny pasta, such as Israeli couscous or acini di pepe, will do. My version also takes a little time to cook. As Gianni Pes points out, a longer cooking time melds the flavors and enhances the bioavailability of more nutrients, such as the lycopene in tomatoes and carotenoids and other antioxidants. A shorter cooking time will make a tasty dish as well, but nutritionally inferior. Traditionally, the minestrone is accompanied with slices of pane carasau, or Sardinian flat bread. Find more Blue Zone Recipes at www.bluezones.com/recipes.

INSTRUCTIONS

1. Soak the fava beans, cranberry beans, and chickpeas in a large bowl of water for at least 8 hours or up to 16 hours (that is, overnight). Drain in a colander set in the sink. Rinse well.
2. Warm 3 tablespoons of the olive oil in a large soup pot or Dutch oven set over medium-high heat. Add the onion, carrots, and celery; cook, stirring often, until soft but not browned, about 5 minutes. Add the garlic and cook until fragrant, about 20 seconds.
3. Stir in the tomatoes, potatoes, fennel, parsley, and basil, as well as the drained beans and chickpeas. Add enough water (6 to 8 cups) so that everything is submerged by 1 inch.
4. Raise the heat to high and bring to a full boil. Reduce the heat to low and simmer slowly, uncovered, until the beans are tender, adding more water as necessary if the mixture gets too thick, about 1½ hours.
5. Stir in the pasta, salt, and pepper. Add up to 2 cups water if the soup seems too dry. Continue simmering, uncovered, until the pasta is tender, about 10 minutes.
6. Pour 1 tablespoon of olive oil into each of four serving bowls. Divide the soup among them and top each with 1 tablespoon of the grated cheese.

Tip: You can vary the beans in the minestrone: pinto beans make a good substitute for cranberry beans; great northern or cannellini beans, for the favas.

PULSE AWARENESS SIGNIFICANTLY INCREASING AS NORTH AMERICAN PULSE CAMPAIGN CONTINUES

By Erika Simms, APR

Vice President, Maxwell PR + Engagement

So just what are pulses? When we asked consumers in the United States that question in November 2015, only 6% could answer correctly. Fast forward to a survey conducted in June, a little more than half-way through the first year of the North American pulse marketing program, and 26% correctly identified pulses as dry peas, beans, chickpeas and lentils. And most importantly: The majority of those surveyed said they were more likely to incorporate pulses into their diet than before the campaign.

With these results we are confident the approach we have taken of targeting information showing the versatility, affordability, sustainability and nutritional benefits of pulses to mainly millennials (18-34 year olds, dubbed “Generation Yum”) is working.

Our reach, or the number of people that have seen the campaign, is significant and continues to grow rapidly. We continue to drive interested consumers to our PulsePledge.com website, and our back-end site data shows they are spending the majority of their time looking for recipes and tips for how to use pulses. We’ve exceeded our goal for unique visitors to the website – more than one half-million people have visited the site – and we’re

nearing our goal for the number of Pulse Pledge participants, with nearly 50,000 pledgers at the end of October.

Earned Media Stories Help Increase Awareness

Media have been extremely receptive to highlighting pulses in articles and broadcast stories, with hundreds of media stories in outlets ranging from CBS This Morning to the Washington Post, Women’s Health, Huffington Post and Bon Appetit naming pulses as an important food trend. Stories range from a focus on recipes and unique and delicious ways to eat pulses (calling out the definition and benefits of pulses), to an emphasis on the many nutritional benefits.

Several media have interviewed CEO Tim McGreevy as a farmer and representative for the U.S. pulse campaign. From media events early on, to continued outreach and reminders about pulses timed with seasons like May’s Mediterranean diet month and the popularity of spring and summer salads, we have maintained stories and consumer impressions throughout the campaign, reaching over 2 BILLION media impressions (5x our original goal), with message and image pull-through also far exceeding our goals.

Influencer & Blogger Engagement is Snowballing

Since the campaign officially launched January 1, nearly 200 influencers and bloggers have promoted the benefits of pulses, including promotion of PulsePledge.com to their social media and online followers. Dietitians have been one of the most receptive groups, promoting pulses whenever interviewed by media outlets and any other chance they have.

Social Media Drives Strong Website Traffic & Consumer Engagement

One main way we’re driving traffic to PulsePledge.com is via Facebook, Instagram, Pinterest and Twitter. We are advertising the benefits of pulses to both USA Pulses and Pulse Canada (social media handles) followers as well as to millennials interested in healthy, delicious foods. By looking at where website traffic is coming from, we know a large majority are clicking through to the site from social media. We also can see that many of our pulse pledgers have come through social media channels.

Our social media communities continue to grow as well and stay actively engaged with the recipes, health tips and other content we’re posting. We currently have more than 214,000 followers on Facebook (more than double the 94,000 we had in November 2015), as well as thousands of Twitter and Instagram followers.

Additionally, as a result of consumers taking the pulse pledge and influencers promoting the pledge, we have had nearly 9,000 people tag photos of pulse recipes and more using the hashtag #pulsepledge, reaching millions of followers.

Digital Advertising Reaches our Target

We started the digital advertising component of the campaign in late January, including banner ads and advertorial-style ads on Eater, Well + Good, Women's Health, Prevention, Organic Life and many other websites. These ads helped drive traffic to our website, as well as pulse pledges, reaching more than 40 million impressions for the first round of advertising. In June we selected those paid media partners who had the biggest impact to continue with for the rest of the year – specifically Eater, Well + Good and Nativo, which runs ads on websites such as Women's Health.

Pulse Pledgers are a Devoted Following

To date, PulsePledge.com, the website we created as part of the North American pulse marketing campaign, has had 500,000 individual users/visits between January 1 and June 30, 2017, and nearly 50,000 pulse pledgers. The goal of the pulse pledge was to strongly engage a group of consumers who would help spread the word to others and personally increase their intake of pulses. Based on surveys of the pledgers – one in February and one in June – we are achieving our goal!

In a pulse pledge survey conducted in June, 71% of nearly 1,000 respondents stated they are consuming more pulses than they had previously. 99% plan to continue eating pulses on a regular basis. More than 80% have shared information and/or recipes with friends and family members.

We continue to stay in touch with all 50,000 pledgers on a regular basis, with monthly newsletters including new ways to enjoy pulses. We are already so close to surpassing our year-end goal of 50,000 pulse pledgers!

Summary

We'll continue our marketing efforts through the end of the year and begin planning for the next phase, following the International Year of Pulses, in 2017. We look forward to continuing to spread awareness of the benefits of pulses!

POPULAR INFLUENCER BLOG CONTENT INCLUDES:

Inspiralized -Spiralized Red Cabbage Slaw with Vegan Chipotle-Lime Dressing



Ballet Beautiful - Mary Helen's Lentil Salad with Avocado & Arugula



A Cup of Jo -Berry Chickpea Smoothie Bowl



THE PULSE BRAND



www.pulses.org

Pulse Brand sign-up:
<http://pulses.org/register>

Pulse Brand User Guide:
<http://pulses.org/pulse-brand-user-guide>

www.pulsepledge.com

The Importance of a Brand

Brands are developed to create and convey a message that resonates with consumer interests. Brands help communicate, educate and differentiate. Dr. Philip Kotler, widely regarded as the Father of Modern Marketing said, “If you are not a Brand, you are a commodity”.

The Global Pulse Brand is a symbol developed to be used on packaging, advertising and promotional material to identify the presence of pulses in a wide range of food products. The Pulse Brand is also designed to be used by all pulse value chain stakeholders and is a critical component of a global strategy aimed at generating consumer awareness, stimulating demand and increasing consumption of pulses.

The Making of the Pulse Brand

In 2014, the global pulse industry led by US Dry Pea and Lentil Council, the American Pulse Association, the Global

Pulse Confederation and Pulse Canada commissioned Leo Burnett, a world-renowned Chicago-based advertising agency, to begin the process of developing the Pulse Brand. Consumer interviews and a series of consultations with retailers, food manufacturers, ingredient companies and pulse trade representatives from around the world influenced the choice of logo, the brand program established the direction for consumer promotions in North America. This process also paved the way for collaboration globally among pulse industry players. Sharing resources and working together strategically to achieve common goals has ensured that we are further ahead collectively.

Alongside the Pulse Brand, a global website for consumers has been developed and the North American consumer campaign has been launched. The Pulse Brand, consumer campaign and www.pulses.org have become a central source of information about pulses in North America and around the world.

Together these initiatives are educating consumers about what pulses are and why they are important, with the goal of inspiring a passion for pulses.

Using the Pulse Brand

The Pulse Brand is designed for use around the world, and has flexibility to adapt to local markets and translations. The word “PULSES” appears above the logo in every market, and the white space below can be edited for local relevance and additional information about food products.

“The Pulse Brand is really taking off,” said Daria Lukie, Manager, Brand Development. “The International Year of Pulses has resulted in strong global collaboration that has fostered excitement throughout the pulse industry. Food companies are also ready for what’s next in food and that’s pulses.”

The Pulse Brand can be used for promotional activities by all members of the pulse value chain to celebrate the International Year of Pulses, which will help maximize recognition

Left: An example of the Pulse Brand in use.

of the Pulse Brand throughout 2016. For other uses, like on products and packaging, the Pulse Brand has a certification program with criteria for use.

The Pulse Brand program’s use criteria, standardized guidelines and licensing agreement ensures the logo will be recognizable, consistent across the world, and will deliver maximum value for Brand users. For the food industry, the use criteria will encourage and hopefully lead to higher inclusion of pulses in products.

To use the Pulse Brand on product packaging, a pulse ingredient must be within the top five ingredients by weight at no less than 5% of the formulation. The program certifies the Pulse Brand logo is applied to products that contain enough pulse ingredients to add value to the product. This protects the value of the brand by ensuring that the food products carrying the brand are aligned with the brand promise of health, nutrition and sustainability.


The Pulse Brand is available to all types of products from 25kg poly bags of dried pulses to consumer packaged

goods in grocery stores. Pulses.org is host to more information about the Pulse Brand, the Pulse Brand User Guide, Information Sheets, and an online registration system to sign up to use the Pulse Brand.

Pulse Opportunities

Food manufacturers are looking for new ingredients that will help meet consumer demands for alternative protein, fiber and clean labels, and also offer added nutrition and health benefits. Pulses can help food manufacturers meet these targets.

The pulse industry has taken note of these demands. Industry members from the United States and Canada are excited to have launched the Global Pulse Brand for North America in Chicago during the International Food Technologist (IFT) Annual Meeting & Food Expo held on July 18, 2016.

Food manufacturers introduced pulses through the Love Pulses Product showcase, Cooking Up Science Demonstration, pulse technical sessions and participating industry booths. IFT is the ideal platform to demonstrate that the International Year of Pulses is only the beginning. IYP has paved a path that will continue to increase demand for pulses and ultimately grow global pulse production. 



Daria Lukie, the manager of the Pulse Brand bakes with pulse ingredients at the Culinary Institute of America in Napa, California.

POWERED BY PULSES

**By: Jessie Hunter, MPH,
RD, Director of Domestic
Marketing**

In celebration of International Year of Pulses, the American Pulse Association presented the Great School Lunch Contest “Powered by Pulses,” a national culinary competition for middle and high school students. Sponsored by Bush Brothers and USA Dry Pea and Lentil Council, the competition challenged students along with their school nutrition advisors to develop a school lunch with pulses in both the main entree and as a vegetable side dish while meeting the National School Lunch Program (NLSP) meal requirements.

Pulses in School Lunch

Pulses are counted as either a meat alternate or legume vegetable. Schools are required to serve 1/2 cups of dry peas, beans, or chickpeas once a week as a vegetable. There are no requirements for serving pulses as a meat alternate. Powered by Pulses encouraged students to develop recipes to inspire creative uses of pulses in school lunch programs. In order to be credited as a legume vegetable, pulses must be served in an identifiable form i.e.. whole cooked. Exceptions include hummus and smoothies made with cooked pulses. Baked goods made with pulse flours cannot be counted as a vegetable, however some pulse

based pastas have special certifications and can be “counted” as a vegetable if served with a recognizable vegetable such as tomato sauce. Pulse flours will be added to the USDA School Lunch Program Buyers Guide in the fall of 2016. While not changing how pulses are credited in school meals, creating opportunities for school nutrition programs to learn about pulse flours and how to use them in school meals is a great opportunity for our industry.

Competition Components

4th-8th Grade

Create a school lunch menu with both a meat alternative dish and vegetable side dish, each made with at least one of the required ingredients.

Bush’s Best bean products selected from specified listing -AND- Dry pea, lentil, or chickpea (whole or as ingredient -such as powder, flour, pasta) Submit a marketing plan for introducing menu at their school.

9th-12th Grade

Same as 4th-8th grade with the additional requirement that the top ten teams conduct a taste test at their school. The scores from the taste test plus the judges score determined the top three teams.

The final competition was a cooking demonstration at the Annual National Conference of the School Nutrition Association in San Antonio, Texas July 10-12, 2016.



GREAT SCHOOL LUNCH CONTEST

POWERED BY PULSES

P15

Find out more about this contest and winning team recipes at www.cookingwithpulses.org!

Prizes:

The top three teams in both age categories won cash prizes for their school nutrition program. The top three high school teams won a trip to present their menus at the culinary demonstrations stage, a special training at the Culinary Institute of America in San Antonio, where they learned new culinary techniques for preparing pulses. High school advisors won cash prizes for their efforts.

Finalists

4th-8th Grade 1st place team *The Chef Squad* - Students: Mia Bucich, Gracie Bent, Adam Clarke, Advisors: Lucille Barresi and Lynn Schwartz from Heritage Middle School in Livingston, New Jersey. Meal: Pulsonal Pizza.



9th-12th Grade 1st place team
Team B&R - Students: Darryl Burkes, Chris Rainey, Advisor: Denise Schindler of Ritenour High School, St Louis Missouri. Meal: Sweet Chickpeas with Rice.

Menu:

- *Pulsonal Pizza and Supreme Bean*, featuring Bush's Best kidney, white, and garbanzo beans with garbanzo bean flour crust.
- *Sweet Chickpeas with Rice and Awesome Egg rolls*, featuring Bush's Best garbanzo beans and black beans.



Aztec Shepard's Pie



Breakfast Spread



Burger with Apple Muffin



Pulsonal Pizza and Supreme Bean



Roasted Cauliflower and Lentil Tacos



Sweet Chickpeas & Awesome Egg Rolls

UPROOT KITCHEN

A millennial food blogger's viewpoint on the
International Year of Pulses



MARRISA WESTBROOK

is a public health professional, recipe developer and food photographer of Uproot Kitchen. She is a home cook, and focuses on sharing nutritious, seasonal recipes using whole ingredients – hoping to inspire others to eat healthier, one meal at a time. Visit her website UprootKitchen.com for recipes, kitchen DIYs, and urban gardening posts, and connect with her @UprootKitchen on Instagram, Facebook, and Twitter.

This year, I have been working with the USA Dry Pea & Lentil Council and the American Pulse Association to help tell the story of pulses to my readers of my blog, Uproot Kitchen, and my friends. As a healthy recipe developer and a public health practitioner, I consider pulses an essential staple in my pantry since I love to create affordable plant-based recipes that satisfy. As I think of my community and how to help them create seasonal, healthy recipes, some questions come to mind; How long will this ingredient stay good? How much will it cost? Most importantly, is it going to be delicious enough to be worth my time in the kitchen?

These questions, among others, help guide me back towards the humble beginnings of any meal – ingredients in my pantry. You'll find a variety of dry pulses stacked in glass jars from the bulk bins of my grocery store. The contrast of the red and black lentils next to dark red kidney and speckled

pinto beans is pleasing to the eye. Their long shelf lives make them a key ingredient when I'm looking for something to whip up on days I don't have the freshest ingredients. It feels magical to create a healthy meal from scratch on those days, and the friends I share meal ideas with feel the same – a simple pot of green lentils in my **Lentil Minestrone Soup** can transform the carrots, onions, and celery at the bottom of my vegetable crisper drawer. These are the recipes that resonate with my community, looking for the pantry staples they can lean on.

From my lens as a public health practitioner, I emphasize the value added by having these nutritious, budget-friendly pantry staples at our fingertips. Pulses are high in protein, fiber, and essential nutrients – with the welcome bonus of being wallet friendly. One can buy 15 servings of lentils or 1 serving of beef for \$1.40, a staggering price comparison that many

of my friends are using to inform their transition to a few more plant-based meals each week. In addition, I can't help but praise the beauty of the pulse in its low carbon footprint and water-efficiency as a crop. Our planet is facing change, and pulses contribute towards a vision of global food security.

Though I don't label how I eat into a category, most days I eat vegetarian, and I find more and more friends and readers ask me for plant-based meal ideas. For those seeking to make small changes to start, my recommendation is to begin cooking a pot of beans or lentils from scratch each week. This lessens the price of a meal further, and pulses are simple to cook in batches and freeze in individual portions. It's simple to mix up a favorite recipe with a new pulse to get a slightly different flavor profile.

There are some weeks when a pot of beans is transformed from one meal

to another, and this is all due to the versatility of the humble pulse. They can be blended into dips, mashed into spreads, thrown into stir-fry, or added into soups and salads like my **Mediterranean Salad with Crispy Garlic Chickpeas** to make them hearty. They adopt any flavors thrown at them - from **Mexican Smashed Sweet Potatoes with Kale and Black Beans**, to **Italian Beluga Lentil and Watermelon Caprese Salad**, to **Indian Potato and Chickpea Curry**. New flours made from pulses are another way I look forward to experimenting in healthy baking, since my **Chocolate Black Bean Cupcakes with Salted Date Caramel** are already a big hit.

Knowing the benefits of pulses through the lens of nutrition, sustainability, and affordability, I'm so glad to see them getting the spotlight this year through many initiatives. But in the end, it truly comes down to taste and versatility, and for that, they've always had my attention.



Mexican Smashed Sweet Potatoes with Kale and Black Beans



Italian Beluga Lentil and Watermelon Caprese Salad



Lentil Minestrone Soup



Indian Potato and Chickpea Curry



Mediterranean Salad w/ Crispy Garlic Chickpeas



Chocolate Black Bean Cupcakes w/ Salted Date Caramel



SOIL AND INPUTS, *THE PULSE CONNECTION*

Ed & Patty Haag, Spokane, Washington

The concept of water and food as agricultural resource is not difficult for people to comprehend. It is clear and tangible. But what about soil and inputs? These vital aspects of the growing cycle are not as simple to identify but equally as important in the overall picture of sustainability.

They are interrelated as the quality of inputs affects soil health. Without fertile soil we can grow nothing and without wise use of inputs and best practices we will deplete that very soil which is the essence of life.

This is not something that will happen in a hundred years or so, it is happening now. It is estimated that we have already wiped out approximately 40% of topsoil needed for agriculture worldwide, and if we continue using the soil without appropriate stewardship our planet will run out of arable soil within six decades, threatening our survival as a species.

So can we save our soil or is it too late? According to experts we do have time to make it right. All the information

is available, it's up to us to utilize it. With proper implementation farmers can reverse soil loss and damage due to overuse of commercial fertilizers and other harmful practices. Recent studies show this is possible without losing income.

For too long we have treated the soil as an infinite resource we could use without offering anything in return. In order to reverse this pattern, we have to reassess the process which involves bringing the interactive relationship between plants, inputs and soil back into balance.

A big part of the solution lies in the unique attributes of pulses. These nitrogen-fixing plants are capable of producing inputs while helping rebuild the soil and at the same time producing a crop.

Jill Clapperton, internationally-renowned soil microbiologist, is convinced that pulses will play an increasingly important role in rebuilding the soil. "Pulses are an exceptional food source and exceptionally good for the soil," she

comments, "in other words, you have a plant that works to build soil and at the same time feed people and livestock nutritious food."

In describing how nitrogen-fixing operates, she says "Pulses form nodules with nitrogen fixing bacteria and they also form an association with mycorrhizae fungus which supply micronutrients plus phosphorus that allows for nitrogen fixing and nodule formation. We look at the nitrogen-fixing ability to promote soil health so we don't have to supplement legumes with fertilizer, a practice that seems bizarre to me. We shouldn't ever have to supplement legumes with fertilizer; pulses should be able to make their own nitrogen and pull their own micronutrients and phosphorus out of the soil with mycorrhizae."

While nitrogen fixing is an obvious advantage, there's also one which relates more directly to building soil mass. Legumes create biomass which becomes part of the soil, increasing clumping by reducing soil compaction, improving filtration and allowing nitrogen to remain static without being released. This organic matter provides a food source for living microorganisms in the soil, augmenting nutrient availability and increasing resistance to disease.

Pulses are being used successfully in crop rotations, especially with livestock. Jay Fuhrer, Soil Health



Specialist with Natural Resources Conservation Service (NRCS) in North Dakota, has successfully integrated production and profit. He has spent years experimenting with various mixes for his cover crops, and he says “legumes are a very unique plant. That’s why I think of them as the heartbeat of the mixture.”

Jay uses legumes to adjust the carbon nitrogen ratio of his mix. “When you have a mixture of plants, legumes can transfer nitrogen to non legume components.”

Another focus is controlling the amount of residue in his fields. “If I have excessive amounts of high carbon materials and want to accelerate decomposition then I will increase the legume component in that mixture which will create a lower carbon nitrogen ratio and accelerate decomposition.”

Due to their nutrient value, pulses are an important component in his cover crops. He uses 10-12 ingredients instead of one or two, which begins to mimic the dozens of plant species found in the original Northern Plains

rangeland. “I like to put together cover crop combinations , and bring in diversity with legumes which are a nice application of protein. My warm season mix includes cowpea, soybean, and clovers, while the cool season includes field pea , lentil, and clovers again, along with the other ingredients. It brings diversity which is much better for a grazing forage than a monoculture, simultaneously improving soil health and livestock health. The highest production costs In the Northern Plains are the wintering costs and that’s where using a grazing forage is beneficial.”

Advantages in using cover crops, in addition to providing nutrients for the soil and livestock, are many. “You don’t have to windrow, haul feed , bail, or haul manure back out. Cover crops have lowered our production costs so we can be more competitive. They are one of the keys to success with livestock production in the future.”

With pulses the farmer can rebuild the quality of the soil, while at the same time improve productivity and grow a crop—it’s a win win situation.



Photo credits to Jay Fuhrer and Jill Clapperton.

Photos, upper left and right: Soil Microbiologist Jill Clapperton, in pink, leads a class in a soil discovery field trip.

Below: NRCS Soil Health Specialist Jay Fuhrer in a sunflower-cover crop combination.

Left: Sheep grazing winter triticale and hairy vetch at the Menoken Farm.

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EAT MORE PULSES

FOR THE HEALTH OF IT!

Jessie Hunter, MPH, RD
Director of Domestic Marketing

Pulse crops are nutritious. It is refreshing to have something we can all agree on. However, let's not take for granted just how nutritious pulse crops really are.

The International Year of Pulses designation is an amazing opportunity to focus attention on the nutrition and health story of pulses. Because this story continues to resonant with media, messaging into 2017 will continue to lead with the nutrition and health virtues of pulses.

The nutrition story for pulses is virtually unparalleled by any other food. As a registered dietitian, it is important for me to note that there are no perfect foods, however pulses come pretty close. Not only are pulses loaded with fiber, protein, minerals, vitamins, but they are gluten-free. Admittedly there are some limited drawbacks to pulse consumption. For instance, anti-nutritional components naturally occurring in pulses can impact our ability to absorb the very same nutrients we are promoting. And, we must be cognizant of the allergen potential (although not currently an issue). However, just take a look at how pulses stack up with other foods as far as nutritional content! >>>

PULSES BY THE NUMBERS: HOW DO THEY COMPARE?

Data from the USDA National Nutrient Database
Highlighted Text ≥ 20% Daily Value. Bold text ≥ 10% Daily Value.

1 serving = 1/2 cup	Pinto Beans	Lentils	White Rice	Brown Rice	Potato	Broccoli
Kcals	116	115	103	109	124	22
Fat (g)	< 0.5	< 0.5	< 0.5	0.8	0.1	0.3
Protein (g)	7.0	8.9	2.1	2.6	2.6	2.3
Carbohydrates (g)	22	20	22	22	29	4
Fiber (g)	7.3	7.8	0.3	1.8	2.7	2.2
Potassium (mg)	398	365	28	42	474	278
Iron (mg)	2.2	3.3	1.0	0.4	1.6	0.6
Magnesium (mg)	43	36	9	42	43	16

Due to the unique nutritional profile of pulses, the Dietary Guidelines for Americans (DGA)2015 classifies pulses “in both the protein foods group and the vegetable group, they may be thought of as either a vegetable or a protein food and thus, can be counted as a vegetable or a protein food to meet recommended intakes.” Legumes are basically pulses with the addition of edamame, fresh soybeans.

DGA 2015 provides the following three eating pattern examples “Healthy U.S. Style”, “Healthy Mediterranean Style” and “Healthy Vegetarian”. Both the US Style and Mediterranean 2000 calorie eating patterns recommend 1 ½ cups of beans, peas, and other pulse crops per week, which is the same as the 2010 DGA recommendations.

Where did the 1 ½ cups per week recommendation come from? In 2005, the Dietary Guidelines for Americans Scientific Advisory Committee analyzed the nutritional adequacy of diets with and without legumes. The advisory committee concluded: “Removing legumes would require a “fourfold to six fold increases in the amounts of whole grains over what is now consumed.” Additionally, they determined to meet the nutrient shortfalls left by not consuming legumes individuals would also need to dramatically increase dark green vegetable intake from “¼ cup per day to 1 ½ cups per day” meaning “tenfold to fortyfold increases in the amounts of dark green vegetables over what is now consumed.” Americans have a hard enough time eating vegetables, imagine recommending 1 ½ cups of dark green leafy vegetables? To help Americans meet their nutrient needs within the scope of realistic eating habits, the DGA 2005 scientific committee settled on 1 ½ cups of legumes per week.

This recommendation has carried over into the 2010 and 2015 DGA recommendations for legumes. With the goal of improving nutrition and improving health, targeting 1 ½ cups per week of pulses is a great place to start, however gaining insight into a dose-response and health outcome story is not as straight forward. Focused well-funded health research is a critical component in this process. Inspiring new and ongoing research into pulse crops and health is a goal of the American Pulse Association.

Therefore, in partnership with Pulse Canada and UC Davis World Food Center, the APA and USA Dry Pea and Lentil Council sponsored a scientific session at Experimental Biology this April in San Diego, California,

entitled Pulses for Healthy People and a Healthy Planet: Emerging Research and Opportunities. This lunch session from 12:45-2:45 on April 2 at the national conference for the American Society for Nutrition focused on new and emerging pulse research with the following topics and speakers:

- Dietary Guidelines: Role of Pulses in Nutrition and Sustainability and Future Research Needs
Joanne Slavin, PhD, University of Minnesota
- Health Claims for Pulses: Current State of Research and Opportunity Areas
Julianne Curran, PhD. Pulse Canada
- Harvesting Natural Variation for Climate Resilience, Biotic Stress and Nutrient Density from Chickpeas’ Wild Progenitors
Douglas Cook, PhD University of California-Davis
- Emerging Research on Pulses and the Impact on Gut Microbiota
Volker Mai, PhD, MPH University of Florida



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This session featured a review of the research for pulse health claims like blood sugar response, as well as emerging areas like gut health, to advocate for sustainable, plant-based protein foods in dietary guidance. In addition, research on how breeding and processing pulses impacts nutritional quality will be highlighted. The session concluded with a panel discussion with event speakers, moderated by Amy Beaudreault, PhD World Food Center University of California-Davis. Lunch included the mason jar salads featured on www.pulsepledge.com and black bean brownies made with Inland Empire Food black bean flour.

Additionally, this year the American Society of Nutrition created a new “Pulses, Nutrition, and Health” category for researchers to submit research abstracts for both poster and oral presentations. In it’s inaugural year, thirteen posters and eight oral presentations highlighted human health and nutrition research related to pulses. Find a complete list of the researchers presenting posters in the PULSES, NUTRITION AND HEALTH poster sessions at the Experimental Biology website: <http://experimentalbiology.org/2016/Program-Information/Society-Programs.aspx>

Research topics ranged from “development of low-glycemic index foods by incorporating pulses” to “white tepary bean shows higher in vitro iron bioavailability than brown tepary or common bean.” The intent of the pulse related events at Experimental Biology, the annual meeting of six sponsoring societies including nutrition that draws in 14,000 scientists and exhibitors, was to inspire new research on human health benefits of pulse crops. With the strong showing at the lunch presentation as well as the oral and poster presentations pulses did make an impact on the event spotlighting the need and potential opportunities for pulse crop research.

During the scientific session at EB, Julianne Curran focused her presentation on a recent research review conducted by Pulse Canada staff highlighting the current research on the role of eating pulses on lowering cholesterol, blood pressure, blood sugar, and increasing fullness after meals.

Current meta-analysis of pulse related research in these areas are outlined in the following table.


Health Effect	Number of trials meeting criteria for meta-analysis	Pulse type	Number of trials
Cholesterol Reduction	26	Beans	14
		Mixed pulses	8
		Chickpeas	2
		Peas	2
		Lentils	1
Blood Pressure Reduction	8	Mixed pulses	6
		Lupins	2
Blood Sugar	41		
Satiety	9	Lupin	3
		Lentils	3
		Beans	4
		Chickpeas	3
		Yellow Peas	2

Sources: Emerging Health Research & Opportunities for Dietary Pulses. Pulse Canada. April 2, 2016



To build on this review, a new meta-analysis on the effect of dietary pulse consumption published in *The American Journal of Clinical Nutrition* concluded that people eating pulses once a day compared to people not eating pulses lost more weight over the course of 6 weeks. This work continues to connect the dots between pulse consumption and specific health outcomes. The challenge is to build a cohesive and consistent body of research for the most commonly grown and consumed pulses in the United States.

As the table shows, the majority of research on cholesterol reduction is on beans with only one study included in the analysis for lentils. Just a few of the important questions facing the pulse industry in relation to health studies include: What is the health effect(s) of interest? How do we measure the health effect (which biomarker to use)? How much is required to eat to gain those health effects? Does the form matter i.e. will be eating pulse pasta have the same health effect as whole cooked pulses? What is the control to use as a comparison in these studies? To help address these questions and conduct research to move the health research forward, funding institutes and pulse researchers will need to work collaboratively.

Steps have been made to build collaboration between the pulse research funders in the US, Australia, and Canada. Continuing to build on the success of the Experimental Biology conference to increase awareness about pulse research is a key part of the American Pulse Association's research strategic plan. With limited funding directed at pulse research in the United States, our work is to continue supporting, inspiring, and advocating for increasing health research on pulses. I suggest we look forward to the pulse research future as Antoine de Saint-Exupery looked to the future in general when he said: "As for the future, your task is not to foresee it, but to enable it." 

 2016 
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Volker Mai, Douglas Cook, Julianne Curran, Joanne Slavin, and Amy Beaudreault answer questions from the audience.

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