



The middle section is dominated by the word 'ONPULSE' in a large, bold, white, sans-serif font. The text is centered and overlaid on a blurred background of various food items, including what appears to be a white bowl of pasta or a similar dish and some bread-like items.



on exploration



on innovation



on transformation

Video demonstrations online at
CIAprochef.com

COOKING WITH LENTILS

- All About Lentils
- Cross Utilization and Menu Plan-Overs
- Hummus, Dips, and Spreads
- Lentils in the Mediterranean Diet
- Popped Lentils
- Lentils in a Plant-Based Diet
- The Protein Flip
- Cooking with Puréed Lentils
- Cooking with Lentil Flour
- Lentils in Desserts and Sweet Applications

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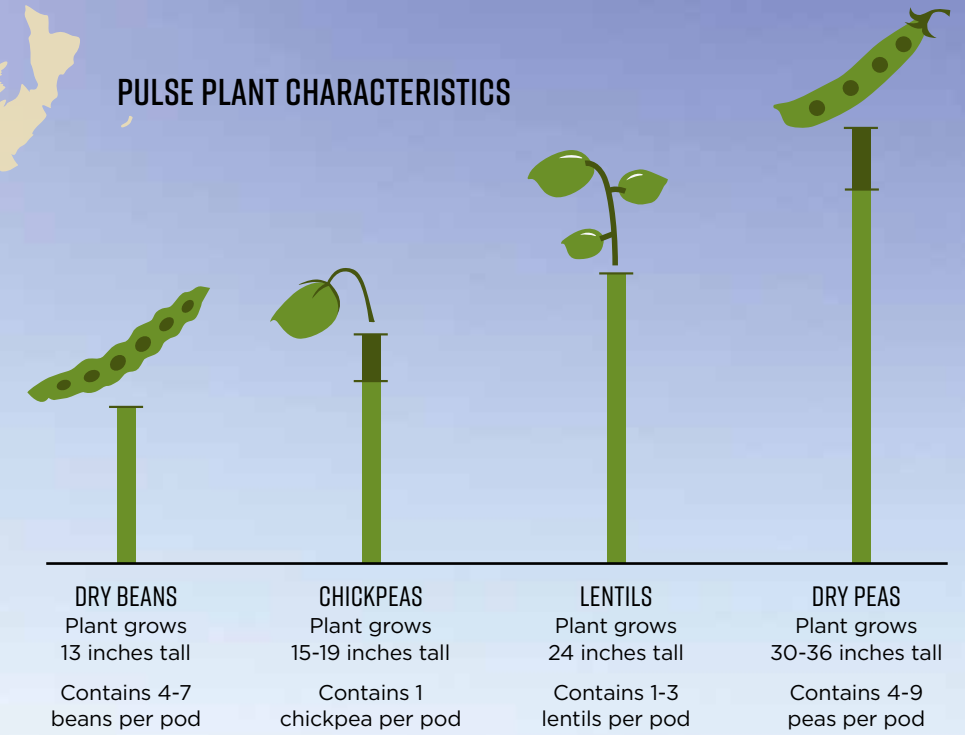
Growing Information



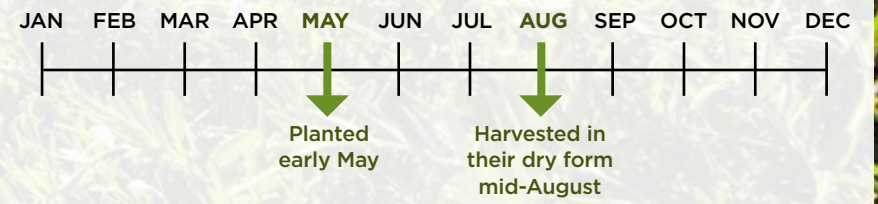
GROWING REGIONS

-  Bean Growing Regions
-  Chickpea Growing Regions
-  Lentil Growing Regions
-  Pea Growing Regions

PULSE PLANT CHARACTERISTICS



GROWING SEASON



Chef Memories



ZACH MINOT

On my very first day in the world of food television, I helped produce a cooking show featuring lentils. Scanning through the recipes for the episode, I saw that we were preparing a red lentil soup, a French lentil salad, and then I was surprised to see that we were going to bake lentil cookies. I had always enjoyed pulses — everything from velvety hummus to rich split pea soup to traditionally stewed lentils. But I'd never tried pulses in baked goods, let alone baked them myself. Naturally, they were amazing. They were spiced with cinnamon, nutmeg, and allspice, and flavored with dried fruits. We folded rolled oats into the dough before baking it into tender, flavorful, cookie perfection.

Those cookies have since led me to explore other unconventional applications for pulses wherever possible. I often flash fry puffed lentils for a rich, crispy garnish for seafood dishes. I dredge vegetables in chickpea flour before lightly frying them for a crunchy texture. I add bean purées to tighten sauces without adding gluten. If I hadn't had those cookies, I might have never considered how universal pulses can be in the kitchen.



ALMIR DA FONSECA

I am a Brazilian-born chef, and while growing up in Brazil I was exposed to pulses in our kitchens and at our tables. A fantastic memory is of my mother and father, both great cooks. Both made amazing pots of highly flavorful black beans for our family at the dinner table, always served with rice and farofa de ovo (egg farofa — our amazing manioc flour toasted with herbs and broken eggs). The next morning and many other mornings for breakfast before going to school, my mother would take the remaining cooked black beans and make a silky-smooth puréed soup, served warm with finely chopped hard boiled eggs and fresh cilantro. Wow, what an amazing breakfast — that meal would hold us over for most of the day. The texture and the flavors are still in my memory; it's something that I have now made so many times for my own child.



DAVID KAMEN

Pulses were not staple menu items in my house growing up. When I was very young, my father quit the piano tuning business and went back to college. When he did this, my mom went back to work to support the family (my two younger brothers, my parents, and myself). Consequently there was not a lot of time to cook on the weekdays. Weekends were busy with errands, activities and household chores so even then the meals were oftentimes quick and easy. Beans did make an appearance on Sunday mornings for breakfast, but these were typically the sweet and smoky canned "Pork-n-Beans" from whatever brand was on sale. Being the picky eater that I was, I always opted for plain scrambled eggs.

Having gone to culinary school right after high school, I was exposed to a multitude of pulses in a variety of preparations, but because of my limited exposure as a child (and some remaining food-neophobic tendencies) I tried to avoid eating them as much as possible. It wasn't until I graduated school and started working in the New York City hotel scene that I discovered the luxurious dish known as cassoulet. My very first experience with the dish was at a now-defunct French restaurant named La Colombe

D'or. I had heard a lot about this restaurant and was excited when a few friends invited me to join them after our shift ended.

Entering this rustically decorated Provençal bistro was an eye opener to the food neophyte I was at the time. Not having a clue what to order, I was encouraged to try the cassoulet. I immediately fell in love with the salty duck confit, pleasantly chewy saucisson à l'ail, and braised pork shoulder all bound together in the rich and creamy white bean stew with a crispy breadcrumb and butter topping. Never before had I reveled in such a combination of flavors, textures, and aromas.

This was my first real exposure to pulses but certainly not my last. Having experienced the sumptuousness of this stew, I immediately began to seek out others that I had glimpsed but not really tried to understand. Split pea soup, flageolet stew, and hummus of all varieties were now something that I no longer avoided but rather embraced. These earthy flavors and creamy textures became a favorite of mine.



REBECCA PEIZER

Being a half-Israeli, I grew up eating a variety of Israeli recipes made from pulses. Dishes like Falafel, the famous fried chickpea balls, Mujadarra, a lentil and rice pilaf with fried onions, and my most favorite, Cholent, the dish we broke Sabbath with every Saturday night.

Cholent was the food I looked forward to most of all as I grew older not only because of the immense amount of time it took to cook this dish, but mostly for the ritual behind it. Made from chickpeas, potatoes, eggs, onions, and what in Yiddish was called flanken (one of the cheapest cuts of meat from olden days, but which today you know as the premium beef short rib), this meal served four of us for the rest of the weekend for about 10 dollars.

Born out of the fact that we did not cook during the Sabbath (as in Jewish tradition it is considered work), this stew would start on Friday before the Sabbath began, with my mother letting me layer the raw meat, eggs, potatoes, onions, and dried chickpeas into a big pot. She would season it, bring it up to a simmer and then put it into a very low oven to cook for 12 or more hours. All night, and the following day, the house smelled comforting and safe.

My brother and I were always full of excitement, sleeping as though the next day would be Hanukkah or Christmas and the best present we could possibly get would be to dig into the Cholent.



SARAH LINKENHEIL

Growing up in Germany, the country of hearty, hot, and filling food, lentils were most definitely a staple in my mom's kitchen. There was nothing better than my mom's piping hot, perfectly thickened lentil soup with speck and sausages.

Since I now live in sunny California, one of the requests I have every time I go to visit my family is the lentil soup which made the long dark winters so much more bearable. A common companion of lentil soup is lovage ("Liebstoeckl"), an herb that is said to aid digestion. My mom grew it in our garden and it was used as garnish for other pulse dishes as well as the annual Christmas goose.



SOPHIE EGAN

My pivotal moment with pulses came a few years after college when I was home in Seattle visiting my parents. I decided to meet up with an old friend from high school for dinner, and she picked a cozy neighborhood spot called Mioposto. While we were perusing the menu, my friend immediately asked the waiter if we could start with the "ceci." "Start with the what?" I said. "Ceci" is Italian for chickpeas, and the appetizer was a small cast iron serving of them, oven-roasted. When they emerged from the waiter's hand, I was stunned to see these little heads glistening, rubbed in olive oil and flecked with sea salt.

For so long, my experience with chickpeas, which clearly hadn't been given the proper treatment, was of a dry, starchy consistency that left you thirsty. With these ceci, though, I remember being amazed by their incredible texture of both crunchy and creamy, their warmth and freshness, right out of the oven, and the aromatic mix of garlic and fresh sage. This dish really redefined chickpeas for me, and I have been in love with them ever since.



BILL BRIWA

One winter holiday season, when I was 14 or so, one of my brothers decided to tour Europe by bicycle and, to my delight, he asked me to join. I quickly agreed. We packed our panniers, pumped our tires, rolled our sleeping bags, and set off on a grand adventure.

What was I thinking? A 14 year-old is a minor and deserving of care and protection! It was small consolation that we saw the sights of Europe and experienced its rich and diverse culture. Why? Because for most of the trip I was miserably cold, could not feel my fingers or my toes, and just wished for it to be over.

If there was one fond memory from this dark, frigid interlude it came twice a day as we stopped for our lunch and dinner in small, inexpensive restaurants. While still in Germany, "Erbsensuppe" appeared on almost every menu — a rich, warming, rustic split pea soup offered up with big chunks of sausage or more often tender smoked ham hock. With lots of crusty bread and butter the feeling slowly crept back into my extremities, my core thawed, and my spirits lifted.

As we moved into Holland the Erbsensuppe — my new go-to winter restorative — was known by a different name: "Snert." Imagine the delight of a chilly, 14-year-old boy ordering a steaming bowl of "Snert!" It still brings a smile to my face and I can feel my spirits lift once again.

What Makes a Pulse a Pulse

— and why you should care

BY SOPHIE EGAN

A subgroup of legumes, a pulse is the dry, edible seed of a plant from the Leguminosae family.

Pulses include lentils, dry field peas, chickpeas, and dry beans.

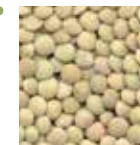
SOURCES

"The Oxford Companion to Food" by Alan Davidson; Berkeley Wellness website; Healthy Eating website; "Nutritional Benefits of Pulses" and "Varieties of Pulses" from FAO website

Variety Guide

All pulses are seeds, and all seeds have a remarkable construction in which they are essentially food that exists to get a plant started. Packed with dietary fiber, vitamins, iron, protein, phytochemicals, antioxidants, and other nutrients, pulses are far from humble pods; they are nutritional powerhouses. With all that inherent goodness comes yet more exciting attributes: a wide, vibrant variety to choose from and a world of culinary opportunities.

LENTILS



WHOLE GREEN

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: More spherical than most lentils, with a noticeably earthy flavor, whole green lentils retain their shape when cooked, making them great for dishes desiring texture.



SPLIT GREEN (APPEAR YELLOW)

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Whole green lentils that have been de-hulled and split. These lentils cook quickly and break down, making them great as thickeners in soups and curries, and as a smooth purée.



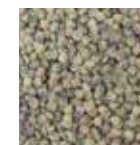
WHOLE RED

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: With a mild, earthy flavor, these lentils hold their shape when cooked resulting in a nice toothy texture.



SPLIT RED (APPEAR ORANGE)

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Whole red lentils that have been de-hulled and split. Sweeter and nutty in flavor, these lentils cook quickly and break down, making them great as thickeners in soups and curries, and as a smooth purée.



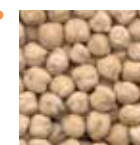
FRENCH GREEN

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Popular in French cuisines, with a robust, peppery flavor.



BLACK BELUGA

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Smaller, round, and shiny, these lentils appear similar to beluga caviar. Once cooked, they are deeply flavorful.



KABULI

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Larger and beige, this is the variety most common in the U.S. and preferred in Middle Eastern and Mediterranean cooking — notably in hummus, falafel, and Spanish soups and stews.



DESI

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Dark with yellow flesh, these chickpeas are often used in Indian cooking to make a type of dal. They are also served whole, or milled as flour and used in pakora (fritters).

DRY FIELD PEAS



WHOLE GREEN

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Slightly sweeter in flavor than yellow peas. These take longer to cook than the split version, but provide a heartier flavor.



SPLIT GREEN

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Whole green peas that have been de-hulled and split for easier and quicker cooking, and a softer texture. They are slightly sweeter in flavor than yellow peas.



WHOLE YELLOW

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Milder and sometimes nuttier than whole green peas.



SPLIT YELLOW

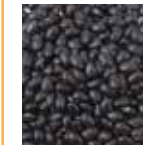
FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Whole yellow peas that have been de-hulled and split for easier and quicker cooking, and a softer texture.

BEANS



NAVY

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: With an earthy flavor and a slight nutty undertone, these beans can break down quickly, making them ideal for soups, purées, and baked bean dishes.



BLACK

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Popular in Mexican, Latin American, and Spanish cuisine. Black beans have a stronger flavor than other beans, similar to mushrooms.



CRANBERRY

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: These are the most popular beans in Italy, and similar in color, size, and mild flavor to Pinto beans.



KIDNEY

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: A firm, medium-sized bean with dark red skin and cream-colored flesh. Its full-bodied flavor makes it particularly popular in preparations such as chili and red beans and rice.



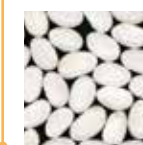
PINTO

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: The pinto is a small, mildly-earthy bean with reddish-brown streaks on a pale pink background. Spanish for "painted bean," they are often used in a Spanish and Mexican dishes including refried beans and chili con carne.



CANNELLINI

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Cannellini beans are elongated white Italian kidney beans. With a slightly nutty taste and mild earthiness, they have a relatively thin skin and tender, creamy flesh. This lends perfectly to salad and soup applications.



GREAT NORTHERN

FLAVOR | CULINARY LOW-DOWN | WHAT EVERY CHEF SHOULD KNOW: Smaller than cannellini, Great Northerns look like white baby lima beans. Their texture can be slightly grainy, with a nutty, dense flavor. These beans are great in salads, soups, stews, ragouts, and purées.

Global Inspirations

BY ALMIR DA FONSEGA

Even with such a large variety of pulses available, we often overlook that each one has its own unique flavor profile, aroma, texture, and cooking time. Each pulse has its own fingerprint and brings subtle differences to the plate.

The versatility of pulses has allowed chefs and cooks to experiment and create dishes with all flavor profiles and cuisine styles for centuries, with foods that offer great textures and mouth feel, smells and aromas, temperatures from hot to cold, colorful combinations, and of course spicy dishes.

Pulses hit on all of the five main tastes, from sour dishes and pulse salads with vinegar-based dressings, to salty dishes flavored with salt pork, salt cod, or anchovies to dishes cooked with bitter greens like escarole. Some cuisines and cultures even offer sweet pulse dishes, and some global desserts have come into the conversation lately, driven by the globalization and fusion of international culinary trends. Eastern influence brings amazing umami-full dishes with pulses and mushrooms and even fermented bean dishes in Asian cookery.

Pulses have a major place in global cookery, easily combining with flavoring ingredients commonly used within certain cuisines. Pulses can be used in a variety of ways, with several characteristics, applied in many forms, resulting in unique flavors and textures from cuisine to cuisine (see list at right).

Practicing cookery of pulses within global cuisines while using basic flavor principles and characteristics will help cooks to recognize and experience the tastes, flavors, textures, and authenticity of classic international dishes.

SOME OF MY FAVORITE PREPARATIONS AND FLAVOR PROFILES

1. CHINESE

Flavored with soy sauce, ginger, garlic, scallions, sesame oil, oyster sauce, and fermented soy beans

2. JAPANESE

Flavored with soy sauce, ginger, scallion, sesame oil, fermented soybeans, dashi, and sea vegetables

3. MEXICAN

Flavored with lime, cilantro, chiles, cumin, roasted ingredients, tomatoes, and chocolate

4. MEDITERRANEAN

Flavored with olive oil, olives, tomatoes, garlic, saffron, herbs, wine, citrus, and nuts

5. MOROCCAN

Flavored with harissa, preserved lemons, ras el hanout, dried fruits, honey, or mint

6. FRENCH

Flavored with butter, herbs de Provence, leeks, mustard, shallots, garlic, or wine

7. LATIN

Flavored with cumin, coriander, lime, peppers, dried beef, pork, cilantro, tomatoes, and other spices

8. ITALIAN

Flavored with olive oil, basil, garlic, Parmesan, balsamic vinegar, lemon, wine, or oregano

1 Curried Lentil, Chickpea & Kale Salad (photo from the blog *The Roasted Root*)

2 Steamed Mussels with Coconut Sweet Chili Lentils

3 Southwestern Stuffed Sweet Potatoes with Black Beans

4 Chicken Sausage Cassoulet (photo from the blog *Dennis the Prescott*)



Blue Zones: The Pulse of Longevity, Health, and Deliciousness

BY BILL BRIWA

Hidden in plain sight around the globe, researchers have discovered distinct communities where the local population lives measurably longer lives than most, without suffering the ravages of aging. These wellness anomalies, highlighted on the world map, have become known as the Blue Zones — currently there are five.

1. Sardinia, Italy

Demographers found the largest concentration of male centenarians in the world in small mountain villages.

2. The Islands of Okinawa, Japan

With a low incidence of cancer, heart disease, and dementia, women here are the longest living on the planet.

3. Loma Linda, California

Researchers studied a community of Seventh-day Adventists and discovered that they live an extra 10 years compared to the average American nationals.

4. Nicoya Peninsula, Costa Rica

A Latin American hot spot for longevity where residents are twice as likely to reach 90 compared to Americans, who, on average, live to be 78.8 years old.

5. Icaria, Greece

One in three lives into their nineties with very low incidence of the diseases that plague modern Americans.

Among the lifestyle habits shared by all of the Blue Zones is a vegetable-centric diet. Vegetable-centric dining has been gaining traction in the U.S. for the last 20

years, and for good reason. Vegetables are healthy, colorful, linked to the region and the season, inexpensive, varied in flavor and texture, sustainable, ethical, and highly versatile. It's encouraging now to see longevity and health research that supports this blossoming trend.

In the Blue Zones, pulses are filling the void as animal protein moves to a supporting role for the sake of health, longevity, and economics. All manner of lentils, chickpeas, peas, and beans make regular appearances on Blue Zone menus offering an inexpensive source of nutrient-dense protein that is readily available, versatile, and satisfying.

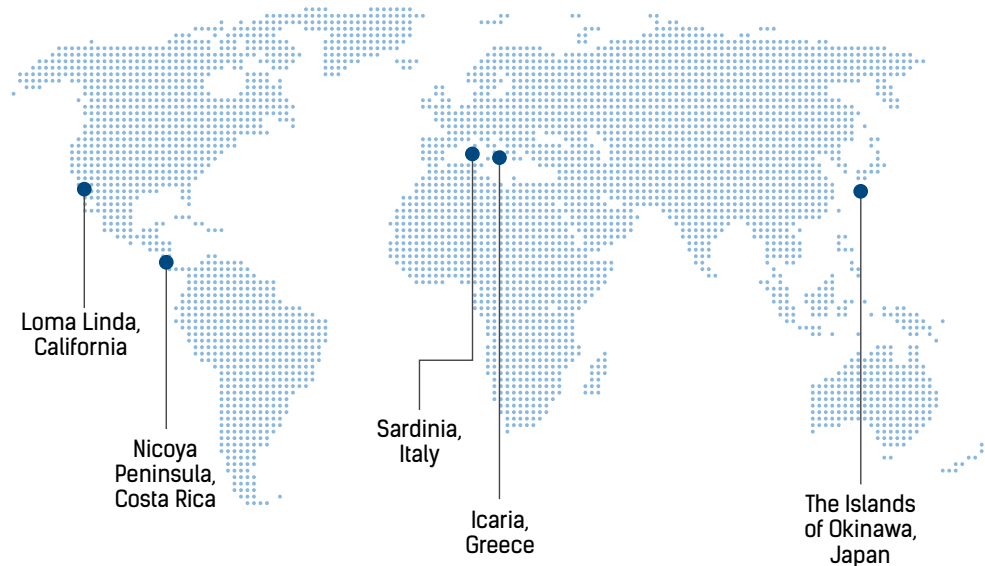
In the Sardinian mountain village Blue Zone you might find a humble vegetable soup, akin to minestrone. There is a clever recipe for just such a soup built around a pot of cooked chickpeas. Imagine taking a heavy pot and layering a selection of seasonal vegetables, cut into bite sized pieces, along with cooked chickpeas and their seasoned cooking liquid. Anoint all with good olive oil, cover the pot and bake this until tender and aromatic, 30 to 45 minutes. This soup couldn't be easier to prepare and welcomes a broad variety of seasonal vegetables as they become available.



Broccoli + Lentil Salad



The Blue Zones



It makes good use of the chickpea's cooking liquid, which should never be discarded as it makes a full-flavored and rich stock substitute.

When exploring Costa Rican cooking, you will quickly discover a foundational dietary truth known as the "three sisters," a symbiotic approach to growing vegetables. Historically gardens were grown with corn planted between pinto, navy, or other beans, so that the beans could climb the corn stalks like a trellis. The beans, which fix vital nitrogen into the soil, would grow synergistically with the corn — a notoriously heavy-feeder that might otherwise deplete the soil. And squash plants were placed strategically between the rows so that the large leaves would keep weeds down and maintain moisture in the soil. From a nutritional standpoint, beans, corn and squash seeds (the three sisters) represented ready, quality protein. Even today, pulses define Latin American cooking, appearing daily on menus from breakfast to dinner. It's not unusual to find a *Torta Ahogada* (a Mexican "drowned" sandwich) from a street vendor in Mexico, with cooked

beans spread across the bread along with cheese, avocados, and pork or chicken before being dipped wholly and completely in a brothy chipotle sauce. Pulses on a sandwich may sound uncommon, but search it out and give it a try. It may be messy, but it is certainly delicious.

Blue Zones strategies can certainly be exported across borders. *Tapenade*, a staple from the south of France, is a dip of capers and olives. It is great on cold fish and grilled vegetables or spread on warm, crusty, grilled bread. What you may not know is that for some the flavor is just too intense. To set this right, try adding a coarse purée of cooked lentils to downplay its "enthusiasm." Just right! And by happy coincidence this move boosts nutrient density. It is a win-win nutritional strategy that has no downside.

PRODUCT NEWS

Meet the Growers

BY REBECCA PEIZER

When renowned Chef Alice Waters first started using produce grown by Chino Farm in the San Dieguito Valley, it was due to her insistence that the ingredients she used at *Chez Panisse* were the product of someone's hard work and that all good ingredients have a story to tell of their origins. She was the first American chef to publicize her love for her favorite growers and tell their stories to her customers. The culinary movement that she pioneered saw an outpouring of other famous chefs who would follow suit and publicly acclaim the philosophies of farmers nationwide. For the Chino family, that philosophy was and still is "dedication to the land and passionate commitment to good food." But, how many chefs really travel to the source of those stories, and how many growers produce their crops with the chef in mind?

Corey Loessin, a pulse grower who runs *Aidra Farms*, a homestead-turned 7,000 acre farm in Saskatchewan, Canada will tell you that growing lentils and peas is not always easy but it's well worth it when he considers the future these pulses have in the North American food world as a high source of protein and fiber. Corey explains how lentils and peas need cool and dry conditions to grow. The climate, less rocky soil conditions, latitude, and air quality of Corey's Farm, all play a role in creating the perfect terroir for his crops to thrive. This is why Canada is the world's leading producer of

lentils. Corey realizes that he has chosen to grow crops that have had significance and longevity across the world of cuisine, as his lentils make their way to overseas markets of India, Turkey, and Bangladesh where he says they are prized for their beautiful and uniform appearance. And, while lentils and peas are great rotation crops for Corey, he would like to see his farm increase pulse production to more than 25% of his total output to keep up with the demand and ever-growing importance of plant-based diets found on menus today. He sees the future of his crops being higher in protein and having the versatility to be used in more innovative ways. For example, lentils as meat substitutes in classic dishes such as his wife's famous lentil lasagna, or lentil flour used in baked breads.

Cindy Brown, a sixth-generation pulse grower for *Chippewa Valley Beans* in Wisconsin, says that her 3,000-acre family farm, which began in 1858 and has been growing and processing beans since 1969, is always looking to "do beans better." Where other pulse growers might need arid conditions for optimal results, her dark red kidney beans increase their depth of color and retain moisture better when intermittent rain falls right before harvest. Once considered a specialty crop, sales grew with the rise of salad bars and Tex-Mex cuisine, which boomed in the 1970s. Cindy describes her beans as "beautiful" due to their unbroken skins, which is a result of dedicated special machinery used to harvest the crop

carefully, the sandy soils in which they grow, and the moisture content they retain from the rain. As a food lover, Cindy is devoted to understanding how chefs can use her products better. As a grower she is particularly interested in ongoing research being done on the functionality of pulses in different product forms, whether whole, puréed, flour, or fractioned. One of her favorite ways to prepare beans is a butterscotch and rum boudino, a traditional caramel custard in which she includes a layer of her white kidney beans.

Among a growing list of celebrity chefs celebrating growers is *Mehmet Gürs*, a pioneering chef in Turkey who uses lentils grown in Thrace. According to Gürs and his *New Anatolian Kitchen Manifest*: "No Farmer, No Food, No Future," the consideration that Chef Gürs gives to his lentil grower, who may only sell him one or two sacks of her lentils depending on the quality of the harvest, is to showcase the terroir in which her lentils grow, as well as her story about why she grows her lentils in the first place.

Almost 40 years after *Chez Panisse* opened its doors, the grower, as much as the chef, plays an important role in today's menus. Pulse growers are driving many current culinary trends, helping to achieve more sustainable food practices, and even introducing us to new dishes, flavors, and cuisines.

Corey Loessin
Aidra Farms
Saskatchewan, Canada



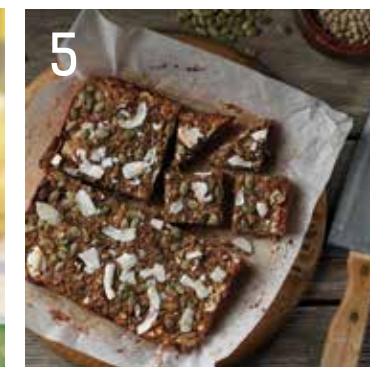
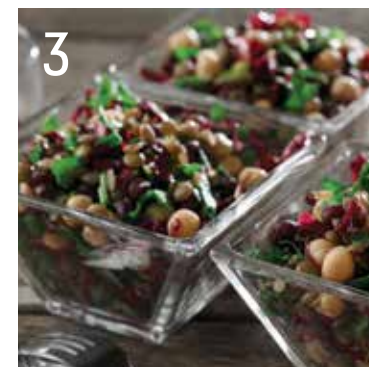
Grab & Go

Beverages, Catering, Takeout, Snacking

BY REBECCA PEIZER



- 1 Beef, Lentil + Sausage Burger
- 2 Oatmeal + Lentil Cups
- 3 Tri-Pulse Salad
- 4 Green Lentil Power Smoothie
- 5 Lentil Trail Mix Squares



Snacking is considered a habit for many in today's busy world, but it has also become one of the latest trends in food service. Our fast-paced society demands that our eating patterns change to accommodate our schedules. Look at the cashier counter at your favorite coffee shop, corner market, or grocery store and you will find an array of easy-to-consume, grab-and-go offerings that range from snack bars and pastries to sandwiches and smoothies. Typically, these options are not as healthy as one may desire, but they are easy to consume at any time of day, and that is why there is such a high demand for them.

In a food world increasingly interested in a plant-based diet, it seems natural to phase in more healthful choices and start avoiding the usual suspects of the snacking world. Protein-rich and high in fiber, pulses are a natural fit for this category of dining because they offer more nutrients than almost all the other ingredients in these snacks combined.

It is becoming more and more popular to see protein-rich beverages at the checkout stand at your local supermarket. Pulse flours and proteins of all kinds, or simply puréed pulses, can be used in smoothies the same way that whey protein is used. This makes these beverages available to a wider market of consumers who may shy away from dairy. It also offers a

potentially longer shelf life. Pulse flours can also be used in the production of sweet and savory snacks. The flour of various pulses can be mixed with all purpose wheat flour for a more nutritious yet just as tasty biscotti, with corn flour for more nutrient-dense tortilla chip, or even with whole wheat flour in crackers.

Granola and snack bars made of nuts, seeds, dried fruits, and chocolate are also very popular grab-and-go items. Lentils can make wonderful additions to a snack bar. When cooked and roasted, they have the similar pleasing texture as nuts and seeds, plus they add an earthy flavor reminiscent of cocoa or chocolate. And because of this, pulses have also found their way into healthier dessert snacks, especially those that contain chocolate. Take the Lentil, Avocado, and Peanut Butter Brownie (recipe on page 30) for instance. It has the same fudgy consistency of the traditional brownie, but without the butter or eggs, and with much more protein. This concept can be taken a step further and the same ingredients can be put into a blender with a banana, some dates, and your favorite juice for a delicious and nutritious beverage.

Aside from satisfying hunger, the particular thing about most snacks that makes them so cravable is their texture. Bags of crispy pretzels and

crunchy chips are easy and affordable snacks that can be enjoyed at all times of the day. A great characteristic of certain pulses is that they are able to be cooked a number of ways that change their texture. Depending on the cooking technique, crispy and crunchy textures are easily achievable. Cooked lentils, for instance, can be crisped in a pan with a little oil to create popped lentils that, once cooled, can be seasoned with a variety of seasoned salts that make them just as addictive as any bag of chips. Soaked chickpeas can be fried in olive oil before being seasoned with BBQ spice to become a great snack. Ultimately, the added nutrient density of these snacks satisfies both hunger and the need for cravable texture at the same time. They provide high satiety, especially when compared to traditional snacks.

The market for using pulses in the grab-and-go sector of the food industry is wide open and offers tremendous profitability. If operators are willing to look outside the box of conventional, typical snacks and beverages and look towards pulses to provide both versatility and nutrition, the business opportunity is enormous. Consumers want interesting and healthy food throughout the day. And according to most trend reports in the food industry, snacking as a meal option is not going away any time soon — if ever.

The Protein Flip

BY DAVID KAMEN

Today's health news is a cacophony of sound bites coming from all angles telling us to increase protein intake but avoid animal protein, and telling us that fat is not as bad as we thought. Except for animal fat. Aren't all proteins the same?

As consumers become more savvy, they will begin to understand — as many people in food service already do — that there absolutely are differences between types of proteins, fats, carbohydrates, and even calories. This new thinking suggests that the numbers of calories that come from each nutrient group are less important than the quality of the calories from that group. Animal proteins are often associated with saturated fats and do not offer any kind of dietary fiber. Plant proteins are less likely to be associated with saturated fats, and often do contribute dietary fiber, which is just as important a nutrient.

This is not to say that animal proteins are to be avoided. Rather in the climate of changing menus, creating new concepts, and responding to consumer requests for more interesting regional dishes with bigger and bolder flavors, there is an opportunity to consider a *Protein Flip*.

The *Protein Flip* is very simply the switching of some or all of the animal protein for plant protein in a dish. While there really is no substitute for a big steak on the plate, the idea is to begin to rethink the plate away from a traditional center-of-the-plate-protein.

American menus are often characterized by the center of the plate, typically a large piece of animal protein (pork chop, steak, chicken breast, salmon fillet, etc.) and the rest of the plate is then built around

it. In other countries and cultures, animal protein is more often used as a less central ingredient, garnish or seasoning. Often due to cost or scarce availability, animal protein portions may be limited, but can still be the focal point of the dish.

Imagine instead of a 8-, 10-, or 12-ounce rib eye or strip steak on the plate, you were presented with a rich savory ragout made of kabuli chickpeas, caramelized onions, and roasted mushrooms with three or four thin slices of grilled marinated strip, or perhaps skirt or hanger steak fanned over the top. This modification offers all of the same savory grilled and caramelized flavors, and even adds some interest in the form of other textures, while reducing saturated fat and increasing fiber. This is a great example of the *Protein Flip*.

Pulses are great plant-based protein alternatives, and are often described as flavor sponges (see page 20) because they absorb flavors from other ingredients that they are cooked with. This allows them to be customized to specific

Swapping pulses for animal protein is not just a health and wellness issue. Using more pulses can provide large cost savings to any operation.

dishes or be kept neutral to fit a variety of applications. When thinking about flavoring pulses, keep in mind that this process can happen long before cooking begins. Because pulses are used from their dry state, flavor can be added during the initial soaking stage. Dry chickpeas and beans will absorb their weight in water during soaking. Try seasoning the water or creating a light vegetable stock instead of using plain water. The soaking liquid should be cold so prepare it in advance and cool properly before soaking beans. Be wary when using salt or acidic ingredients during soaking as they will interfere with the way pulses absorb liquid and inhibit the cooking process.

Think about the color and flavor of the meat being replaced when selecting a pulse substitute. Whole yellow peas and large white broad beans make a great alternative to chicken. Whole red lentils or red kidney beans can stand in very nicely for pork.

One easy way to make the change is to keep the dishes familiar. Offerings such as bean bourguignon, vegetable paella or chickpea jambalaya are great cross-over dishes that appeal to those looking for animal protein. Identifying global dishes that traditionally feature pulses and adjusting their flavors or styles offers another approach. Dishes from India and northern Africa are often built on pulses due to their abundance in the regions. Here perhaps, adding small amounts of



- 1 Pulse Tacos
- 2 Lentil Bolognese
- 3 Lentil Falafel (recipe on page 31)
- 4 Lentil & Beet Burger (recipe on page 30)
- 5 Thyme Roasted Vegetables with Black Beans & Lentils

a familiar animal protein may be what the dishes need to make them more interesting to meat lovers.

As with the steak example, there are a number of pulse preparations that can be used in the center of the plate to reduce the amount of meat. Lentil ragouts, purées, and even flavorful lentil cakes make smaller amounts of animal protein seem more alive and impactful. Use these preparations to elevate the meat off of the plate; placing them closer to the eye will make them seem larger. Because you are using less, the meat that you are using can be seasoned more boldly.

Salads provide another platform for the *Protein Flip*. Pulses are very easily substituted for chicken in a number of salad preparations. Try chickpea falafel in lieu of fried chicken tenders or shrimp on a Caesar salad. In egg salad, as much as 25% of the egg yolks can be substituted for white bean purée reducing calories and saturated fat. In creamy salad dressings, bean purée can be substituted for eggs and a portion of fat.

As Fast Casual 2.0 matures, reinvented sandwich menus are making their way across the industry. Sandwich spreads based on pulse purées are an innovative way to introduce interesting flavors. Fat-based spreads like mayonnaise tend to mask flavors. Pulse spreads themselves can be full of flavor and enhance the identity of the other ingredients.

Consider adding a hummus bar to your menu, leveraging pulse purées in a myriad of flavors. A single flat bread recipe can be "multitasked" to create a variety of complimentary accompaniments. Imagine instead of giving away bread and butter, selling flat breads and spreads.

If you are using canned pulses, don't let the liquid go to waste. This liquid, known as *Aqua Faba*, is very high in protein and can be whipped up into a thick, stable foam. Many chefs with vegan clientele are using this foam in lieu of egg white meringue to create macaroons, to lighten batters, and to create the base for some puddings. Because the proteins in the

Aqua Faba are already denatured and coagulated during the canning process, there is no thickening ability. However, this can be overcome by combining with starches like tapioca, or other proteins like pea powder.

Swapping pulses for animal protein is not just a health and wellness issue. Using more pulses can provide large cost savings to any operation. In an earlier example, substituting falafel (chickpeas at \$0.60/lb) for chicken breasts (\$1.30/lb) can save nearly \$0.15 per portion. While perhaps not impressive on one portion, the \$15.00 savings on 100 portions is significant.

[Click here to learn more on the Protein Flip.](#)

Pairings and Platforms

BY REBECCA PEIZER

Consumers love the ability to make choices about the foods they eat. Take, for instance, the sheer number of different types of salsa, canned soups, tomato sauces, or granola bars that line the shelves of supermarkets. There are so many choices that it is almost baffling. Yet, what makes each of these products so accessible, in terms of creating as many varieties as there are, is the fact that each of them are made from a very basic formula that can be replicated, added to, and subtracted from to create new and exciting creations. This base formula or individual ingredient is what we call a platform. It can be used in restaurant and foodservice operations very successfully to efficiently create excitement and diversity.

Salsa, whose platform is chopped tomatoes and onions, can have hundreds of variations with the addition of beans, mango, corn, and cheese. And nachos, a huge food trend according to *Flavor & the Menu*, is a platform itself just waiting for traditional salsas and exotic ingredients to top each tortilla chip. For soup, the platform is the broth to which any number of noodles, meats, and vegetables can be added. For tomato sauce, and its hundreds of chunky, garden vegetable, cheese, and vodka variations, the platform is the ground tomatoes. And for granola bars, it is the oats, nuts, or seeds to which chocolates, dried fruits, and even trendy chili peppers are added. It is possible to create hundreds of variations of the same idea using these platforms, but it is also possible to use the platforms to create completely different dishes altogether.

Pulses, in their many forms, are perfect to use as a platform in any food service operation. They are simple and affordable, and they are a recognizable building block for menu development in any operation.

Pulses are also sponges for the flavors a cook pairs with them. They can be cooked in a flavorful liquid, or blended with herb purées, spice mixtures, and flavorful oils. Cooked pulses can also be puréed for hummus, soup, sauces, desserts, and burgers. Pulses are a great source of protein, but also have a longer shelf life in the refrigerator than most animal proteins. They can also be frozen for future use once cooked. Examples of pulses as platforms can be seen in some of the nation's leading restaurant concepts including Mediterranean, Indian, or even Southwestern and African Cuisines.

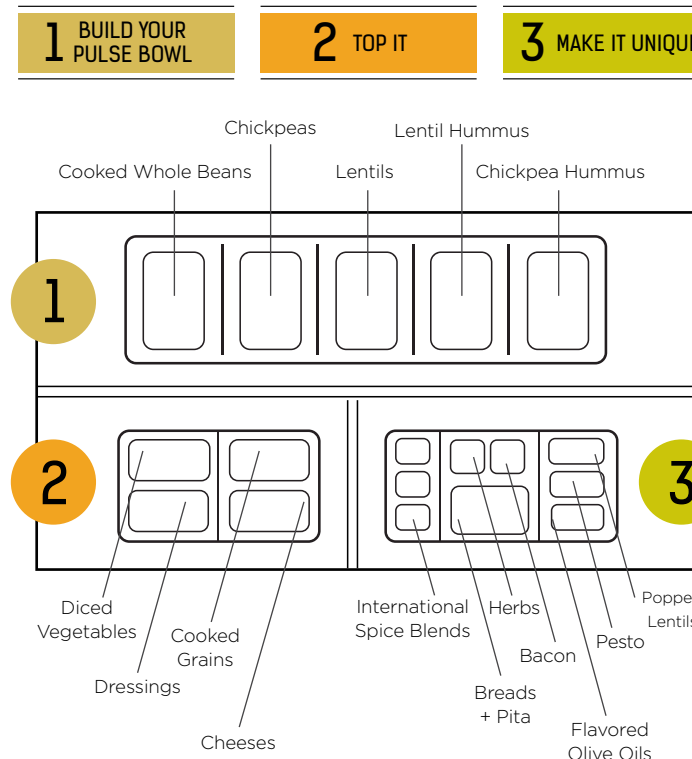
Excitement can be generated for new preparations by showcasing the bounty of the seasons through Limited Time Offerings (LTOs). Pulses are not seasonal per se, but the ingredients they are cooked with offer many opportunities to focus on the local growing season or cutting-edge food trends. According to SCORES — which tracks LTOs around the world and is run by the Datassential, a leading marketing research company — consumers make buying choices based on appeal, uniqueness, value, draw, the frequency they might purchase an item, and their intent to buy something for a particular reason. LTOs give businesses the opportunity to showcase their platforms in new, seasonal, or innovative ways that appeal to the time of the year or the latest trend. They may bring back customers seeking what unique preparations will be offered next.

Chickpeas, a fast-casual Mediterranean franchise based in Davis, California, uses chickpeas across their menu in salads, falafels, and most notoriously, their hummus platters. They use chickpea hummus as a platform and offer six different menu options for toppings, such as mushrooms, onions, beans, and grilled meat to eat with their hummus, all at different price points. As a franchise, owner-operators may have the ability to offer regional and seasonal flavors that suit the needs of their local customers. For instance, late winter in California is Meyer lemon and blood orange season, which are natural and fresh flavors that could be offered for a limited time. Salads can also take on a seasonal or LTO approach by offering chickpeas paired with tomatoes, grilled eggplant, and cucumbers in summer, and roasted onions and winter squash during the fall. Or, like the pumpkin spice latte served in coffee houses across the nation, perhaps a “Fall Harvest Hummus” that uses chickpea purée as a platform to which roasted pumpkin purée is also added.

Certain food service operations, such as Chipotle Mexican Grill or MOD pizza, run on a Build Your Own (BYO) model, where a platform, such as the burrito wrap and meat at Chipotle, or the pizza crust or salad greens at MOD, allows patrons to customize their food with any number of fillings or toppings to make it their own. This has been a successful model even on salad bars at Whole Foods, where salad greens are the platform to which dozens of toppings and dressings can be mixed in to fit the customer's desires and help increase craveability. Pulses are a natural platform for this type of BYO operation because they can be cooked ahead for days of usage, are easy to store, and customers can choose to include the flavors and textures they wish and make an exciting meal.

Imagine a BYO Bar that has an array of cooked whole beans, chickpeas, and lentils, as well as an array of puréed preparations like chickpea and lentil hummuses as well as pea and bean soups. A Pulse Bar is an approachable BYO option that lets customers take their time and build the perfect meal, be it a salad, snack, or entree. Whole cooked beans, lentils, and chickpeas could be served along one side of the bar with mix-ins such as diced vegetables, cooked grains, dressings, breads, cheeses, and greens. On the other side of the bar would be the hummus section with an array of different pulse purées that have mix-ins

Pulse Bar



such as spice blends from around the world, flavored oils, pestos, and breads for dipping. The hummus bar has had success at restaurants such as Hummus Kitchen in New York or Rotisserie Ema in Chicago where customers choose from an array of toppings for their hummus. The end cap would consist of both split pea and black bean soups with mix-ins such as croutons, ham, bacon, sour cream, herbs, and spices. Lastly there could be crunchy pulses for snacking on their own or for use as a topping for texture such as popped lentils, fried chickpeas, and wasabi style peas.

This delivery of pulses also fits very well into an LTO strategy because ingredients in the Pulse Bar can change with the seasons and include specialty flavors and ingredients that are only available locally, may fit a certain time of year, or may follow the latest food trends. Another top trend, according to the trend tracking magazine *Flavor & the Menu*, is “Chickpeas Go Chic.” They attribute consumer interest in chickpeas to the rise in popularity of the plant-based diet, the blossoming love affair with Eastern Mediterranean, Middle Eastern and Indian cuisines, and forward-thinking menu development of bowl or salad concepts and bar bites. Mediterranean food is known for its wide use of chickpeas, therefore a large batch of this cooked pulse can be used in anything from bar snacks

like chickpea fries to salads, hummus, sandwiches, wraps, soups, and entrees.

Another food trend that is good news for the Pulse Platform, according to the *National Restaurant Association*, is “Authentic Ethnic Cuisine.” These days, consumers are travelling more often and to more exotic places than ever before and they are much more aware of authenticity when they dine at restaurants back home. An example of a pulse-forward cuisine is Indian food, which is well known for its use of lentils. In San Francisco's Bay area, there is a small chain of authentic restaurants known for their lentil preparations, called Udipi Palace. They use lentils to make their famous dosa pancakes, fried lentil doughnuts called vada, rice and lentil patties called idli, and spicy lentil soup called Sambar (which they serve also as a sauce). A very busy restaurant like Udipi Palace wouldn't need to cook lentils every day, but rather once or twice a week since lentils are resilient, stable, and do not change in texture or flavor when stored properly.

With so many cuisines around the world — Indian, North African, Mediterranean, Latin American, and more — built around pulses as a primary ingredient, using pulses as a base is a great strategy.

What is a Flavor Sponge?

BY SARAH LINKENHEIL

From the Stone Age to the Middle Ages, and even today, the preparation of pulses has not changed drastically. Traditional pulses — lentils, dried peas, chickpeas, and dried beans — were mostly eaten as porridge and oftentimes combined with grains such as barley and wheat. While the result was nutritious and filling, it often wasn't very flavorful. Animal protein was an expensive and rare addition to peoples' diet; more exotic ingredients had yet to be introduced to common food culture. Today, it seems hard to imagine indulging in a nutritious bowl of porridge without the exciting addition of produce, spices, or other condiments widely available on the market today.

All pulses, whether lentils, chickpeas, beans, or peas, have their own distinct flavor. Depending on how it is being processed, whether whole or split, the flavor can be heightened or muted. The flavor and texture attributes of various types of beans and peas range from meaty, bold, and nutty (such as the red kidney bean) to velvety and creamy (found across the entire family of white beans). The larger the bean, the better flavor retention it has when cooked with other ingredients.

Without a seedcoat, split red lentils break down to a purée consistency when cooked over a short amount of time. Texture plays a very important role in how we perceive flavor.

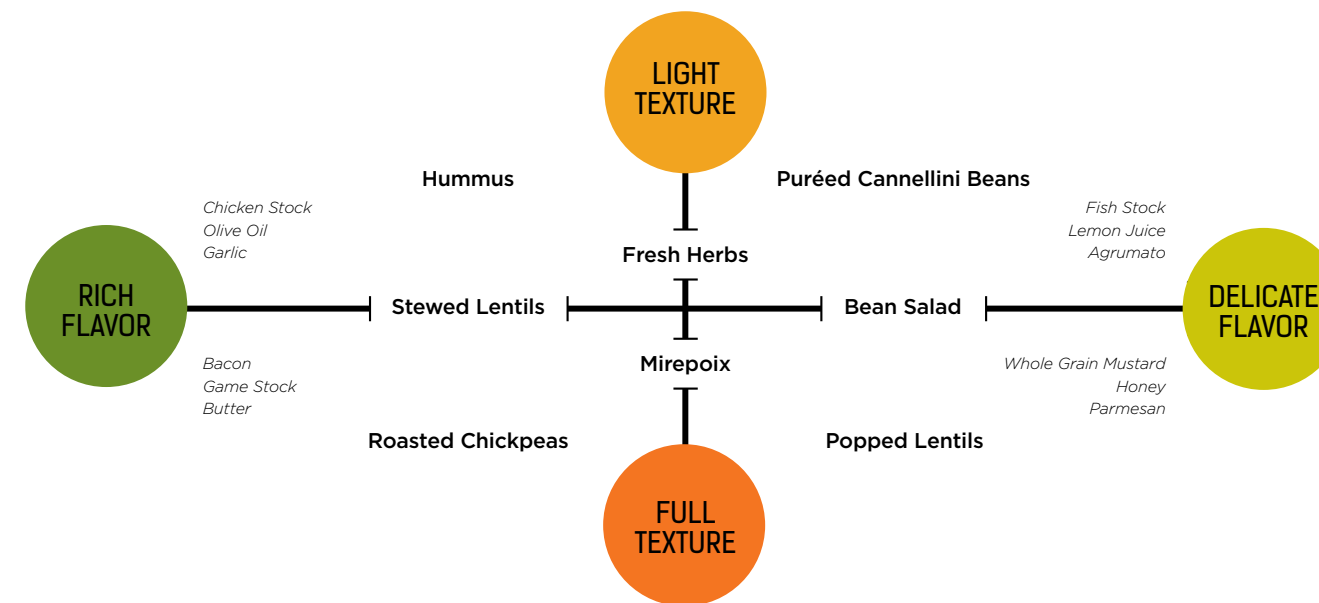
By examining cuisines that heavily rely on pulses, we can determine if it is the pulse or the cooking method that allows for maximum flavor absorption.

Many cuisines around the world use pulses as the center of their plates, relying on their flavor absorbing ability to create a delicious meal. Famous examples include Brazilian feijoada cooked with black beans and smoky pork, Indian dal spiked with curry, or Middle Eastern falafel rich with herbs and garlic. Recipes from these regions offer a bounty of flavor combinations for all kinds of pulses to absorb a vast variety of flavors and ingredients. Baking, stewing, and simmering are the most effective cooking methods for pulses to absorb flavor. They act like a sponge absorbing the cooking liquid. This can be as simple as flavored stocks or even water with basic aromatics like carrot, onion, celery, thyme, garlic, and bay leaves. When using store bought stocks refrain from using those

flavors of the product develop slower and with greater depth.

Want to bring the natural flavor of the pulses into the foreground? Pulses can be slow cooked in plain cooking liquids until almost tender and then finished with a flavored seasoning towards the end of the cooking process. This will ensure they are fully cooked and they will still combine with any beautiful flavors added at the end of cooking. Chef Hemant Mathur of Tulsei restaurant enjoys cooking lentils with a seasoning of ginger, garlic paste, tomato purée, salt, chili powder, butter, and cream. He says they are so rich and delicious that it is one of the most popular items in his restaurant. This method also works for cold preparations. The pulses are cooked and tossed in vinaigrette or fresh herbs and spices when warm. The warm temperature helps the flavors evolve and combine with the earthy notes in the pulses. After being cooled, they can then be served as a standalone salad or as an addition to a leafy greens salad.

Chef Pam Brown, author and visiting instructor at the CIA, says "I really like cooking lentils until they're soft, then combining them with vegetables —



little or no animal protein, or can be shaped into hamburger patties that can be seared like meat for a blast of umami.

Pulses can be simmered in a mildly flavored liquid and then puréed and finished with a variety of additions. Hummus has found a large following in recent years as an excellent dip and spread. Consider cooking chickpeas and flavoring hummus afterwards with curry, garlic, lime juice, and onions. Or turn a simple hummus into a delicious dip by adding basil chiffonade, diced cucumber, crumbled feta, and red onions. Smooth purées have an incredible ability to offer great depth of flavor and texture.

In Turkey, crispy baked chickpeas are known as leblebi. From the oven, seasonings such as za'atar, Parmesan, garlic, malt vinegar powder, or flavored oils can all be added for intense flavor enhancements.

Pulses can also be ground into flours to provide an exciting option to infuse preparations with additional flavor.

Chickpea flour is being used for a variety of staple preparations in parts of Asia and Europe. Panisse is a delicious snack from the South of France. It is made from chickpea flour cooked just like polenta, cooled, cut into a variety of shapes and then fried. Italians prepare farinata, an unleavened pancake often served as an accompaniment to salads or sometimes just on its own. It can be used to create thin, nutty, sweet wraps which then can then be filled with pumpkin purée, avocado, spinach, and quinoa. Blogger Mallika Basu prepares "pudla," light and

satisfying chickpea crepes with cilantro, green chili, and ginger, and serves them as a quick and simple breakfast item.

While there are endless options for using pulses in savory applications, consider using pulse purées and flours for desserts and baking purposes. Queijadas de Feijao from Portugal are a popular sweet pastry made with a filling of white bean purée, butter, eggs, sugar, ground almonds, and vanilla. These especially moist and sweet tarts are a delightful treat. Using lentils or black beans for brownies and chickpeas for a fall spiced apple cake are wonderful dessert applications using pulses. The smooth texture of purées opens the pulse base up for any type of flavor absorption.

Using pulse flours as sauce and soup thickeners, for baking, or as binders for vegetable fritters, offers an amazing alternative to the traditional binders while packing dishes with deliciousness and healthy plant-based protein. Chefs Mary Sue Milliken and Susan Feniger of Border Grill in Los Angeles create vegetable fritters with chickpea flour that's packed with flavors of coriander, cumin, red pepper flakes, turmeric, and cayenne.

In addition to adding extra flavor, common seasonings often paired with pulses help in other ways: Cumin, fennel, ginger, asafoetida, kombu, and savory all add flavor and all help with digestion.

The amazing ability of pulses to meld with infinite tastes and textures makes them a truly versatile component. Spices, herbs, acid, sweetness— they all work perfectly with the earthy and savory nature of pulses.



Lentils are naturally earthy and robust. Most of the flavor of lentils is found in the seedcoat — therefore, whole lentils will tend to have more flavor than split red lentils because the red lentil seedcoat is removed. Whole lentils therefore may be able to carry stronger, bolder flavors such as curry pastes, vinegar, mustard, or chili flakes. Split lentils may be more suitable for more delicate flavor additions like coconut milk, coriander, and cinnamon.

with high sodium content; pulses tend to stay firm during the cooking process when exposed to too much salt or too much acid. The trick is to add salt to the liquid just before the pulses are done and let them cook just a bit more in order to become fully cooked and properly seasoned at the same time. Using a clay pot as cooking vessel is preferable to a metal pot. The heat in a clay pot transfers at a slower rate and lets the

especially onion and mushrooms but also ingredients like broccoli — and pressing the mixture into a loaf pan and baking it." A meatloaf in this fashion can contain

- 1 Lentil Pasta Puttanesca
- 2 Chickpea Shakshuka
- 3 Pork + Lentil Carnitas
- 4 White Bean Artichoke Dip

TASTING GLOSSARY

1. NUTTY

Classic noisette flavors commonly found in hazelnuts, pecans, and toasted butter can also be recreated by carefully roasting pulses.

2. MEATY

Deep, rich, and sometimes deliciously fatty, these flavors can be created with a Maillard-like searing of pulse products.

3. VELVETY

Soft, light, airy, yet rich enough to create full mouthfeel. Velvety textures are easy to create with pulse purées, especially with the addition of a touch of olive oil.

4. EARTHY

These are moist, organic, musty, soil-rich flavors often found in root vegetables, old-world wines, and of course, pulses.

5. MUTED

These are soft, delicate, or 'quiet' tastes, often put to good use as the foundation for a dish. Muted flavors can play essential supporting roles in a recipe, letting key ingredients shine.

6. CREAMY

Rich in flavor and lightly clingy in texture, a creamy presence in any dish implies notes from the fattier end of the dairy spectrum.

7. SMOKY

Hardwood, fiery, carbonic, and oftentimes equated to the flavor of bacon. Smoky flavors perfectly compliment the meaty and earthy tastes common to most pulses.

8. UMAMI

Deeply savory and "mouth-filling," famously difficult to describe, umami is the fifth flavor. This elusive taste is surprisingly easy to create when cooking pulses given the proteins they contain.

Transformation Kit

BY ZACHARY MINOT

Pulses are one of the most versatile ingredients in the pantry — with the right techniques and the right equipment, you can transform them into an infinite selection of textures and flavors.

1

CRISPING

POPPING LENTILS

Traditionally, lentils are prepared tenderly, slow-cooked in liquid. But once they're cooked, they can be fried in hot oil providing a popped, crispy pulse perfect for adding crunch and crispness to any dish.

CRISPY WHOLE CHICKPEAS

U.S. diners are most familiar with chickpeas in the form of hummus. However, cooked whole chickpeas can be roasted in the oven at a high temperature, producing a crisp exterior with a creamy, tender interior.

DREDGING WITH CHICKPEA FLOUR

Often cooks dredge their fried foods with flour, but chickpea flour offers an equally crispy, more flavorful option for providing fried foods with a crispy crunch.

2

PURÉEING

BLENDERS

If you look beyond your average food processor, you can achieve truly incredible purées, infinitely silkier than anything you ate growing up. Use a cavitation blender — like a Vitamix — to produce a light, perfectly smooth purée. An added bonus: These blenders are incredibly capable of emulsifying large quantities of oil into the pulse purée. Beyond adding flavor, additional oil can improve mouthfeel and moisture perception.

PACO JET

For the ultimate in smooth purées, professional cooks employ the *Paco Jet*. This machine requires you to freeze the product and then processes it into a purée smoother than any other technique is capable of producing.

3

THICKENING

LIGHTER IMPACT

Gram for gram, pulses don't have the same thickening abilities as most starches, but that very property can provide cooks with an incredibly elegant option: adding pulse purées to soups and sauces for great mouthfeel, flavor, and light thickening. A smooth VitaMix-blended pulse purée can delicately tighten a sauce, while split lentils and split peas can provide heartier thickening for soups.

HYDROCOLLOID

Likewise, chickpea flour has been used for decades as a healthy, flavorful, hydrocolloid (liquid thickener).

Transformation Recipes

POPPED LENTILS

YIELDS 1 CUP

INGREDIENTS

| | |
|--|-------|
| Canola oil | 2 oz. |
| Whole green lentils cooked, drained | 1 cup |

PREPARATION

Heat a skillet on medium high heat with the oil and add the lentils.

Swirl the pan around and toss the lentils in the oil.

Season with salt and pepper if desired.

[Click here to view recipe video.](#)

CRISPY ROASTED LENTILS

YIELDS 1 CUP

INGREDIENTS

| | |
|-------------------|-------|
| Split red lentils | 1 cup |
|-------------------|-------|

PREPARATION

Soak lentils for 1 hour.

Drain water, then roast at 350°F for 20 to 25 minutes. Cool.

[Click here to view recipe video.](#)

LENTIL PURÉE

YIELDS 3-4 CUPS

INGREDIENTS

| | |
|---|----------|
| Split red or whole green lentils, rinsed | 1 ½ cups |
| Water | 4 cups |

PREPARATION

Bring lentils and water to a boil. Cover and simmer for 7 to 9 minutes for split red lentils, or 20 to 25 minutes for whole green lentils.

Drain, reserving the liquid.

Add ¼ cup of the lentil liquid back into the lentils. Purée in a blender or food processor until smooth.

[Click here to view recipe video.](#)



Sriracha Honey Roasted Chickpeas

Pulse FAQs

BY ZACHARY MINOT

1

DO I NEED TO SORT DRY PULSES?

Yes, it's important to sort through dry pulses before cooking. Using the largest sheet tray you can find, lay them out in a single layer and scan through them to identify any small pebbles or foreign objects. Once sorted, give them a rinse.

2

TO SOAK OR NOT TO SOAK?

While lentils are quick-cooking pulses, you can shorten the cooking times of beans, whole peas, and chickpeas by soaking them before cooking. Medium sized pulses can absorb over half of their total weight in just two to three hours of soaking. They can absorb a full 100% of their weight over 12 hours of soaking.

| PER 1 CUP (250ML) OF DRY PULSES | BEANS | WHOLE PEAS | SPLIT PEAS | WHOLE LENTILS | SPLIT LENTILS | WHOLE CHICKPEAS |
|---------------------------------|----------|------------|------------|---------------|---------------|-----------------|
| RINSE | Yes | Yes | Yes | Yes | Yes | Yes |
| SOAK | Yes | Yes | No | No | No | Yes |
| YIELD | 2.5 cups | 2.5 cups | 2 cups | 2.5 cups | 2 cups | 2.5 cups |

3

SALT OR NO SALT?

Adding salt to the soaking water will actually speed up cooking time, though adding salt to the cooking water can slow the cooking time slightly. Contrary to popular belief, salt will not cause the seed cases to crack. A dilution of 1% works great for pre-soaking (about 10 g/liter or 2 tsp/quart) and helps boost flavor. Additionally, cooking pulses in stock or other rich liquids boosts flavor as well.

4

WHAT ABOUT ADDING ACIDITY?

Vinegar, for example, helps firm up the seed coat and maintain its form. This is one reason it's common to find preparations with tomato (high in acidity) and molasses (contains slight acidity along with sugar and calcium that also help to firm up with seed coats in dishes desiring texture). Keep in mind that it's better to add acidity toward the end of the cooking process; this allows the pulses to cook more quickly and evenly before the acidity, and remain stronger after cooking.

5

IS PLAIN TAP WATER OK FOR COOKING PULSES?

Yes, tap water is the most common pulse cooking liquid. If you have particularly hard water — likely with lots of calcium and/or magnesium — you may notice your cooked pulses remain slightly firm after cooking. These minerals can interact with the outer shell and firm them up. It's not a common problem, but if this is an issue with your water source then the easy solution is to just cook with distilled water instead.

7

PULSES ARE SHELF STABLE, RIGHT? CAN I ORDER THEM IN LARGE AMOUNTS?

Dry pulses can be stored in an airtight container, in a cool, dry location for up to one year. After a year, the cooking time required may increase. They can be ordered in large quantities from any foodservice supplier.

6

IS THERE A PARTICULAR TYPE OF VESSEL I SHOULD USE?

For the best results, use a wider rondeau to cook a more spread out layer of pulses in liquid. This helps mitigate against the pulses being crushed while cooking and maintain their shape.

9

WHAT TEMP SHOULD I USE TO COOK PULSES?

After sorting through your pulses, start them in cold water and gently heat them to 180°-190°F (80°-85°C). You want the water hot enough to cook but not turbulent enough to damage the seed cases. For the most even heat application, cook the pulses covered in an oven.

8

HOW LONG SHOULD I COOK PULSES FOR?

In a phrase — until they're done. Lentils are a quick-cooking pulse option, ready in between 5 and 20 minutes depending on your variety, whereas other pulses can take up to an hour or two to fully cook depending on any number of variables (pulse type, water content, volume, and more).

| PER 1 CUP (250ML) OF DRY OR SOAKED PULSES | BEANS | WHOLE PEAS | SPLIT PEAS | WHOLE LENTILS | SPLIT LENTILS | WHOLE CHICKPEAS |
|---|------------|------------|------------|---------------|---------------|-----------------|
| COOKING TIME | 1-1.5 hr | 1-1.5 hr | 45 min | 15-20 min | 5-7 min | 1.5-2 hr |
| PRESSURE COOKING TIME (AT 15 PSI) | 8-12 min | 5-7 min | No | No | No | 12-15 min |
| COOKING LIQUID | 2.5-3 cups | 2.5-3 cups | 2 cups | 2.5-3 cups | 2 cups | 2.5-3 cups |



Health + Nutrition of Pulses

BY SANNA DELMONICO

Flavor will always be the biggest factor driving Americans' decisions about food, but nutrition is important as well. According to the International Food Information Council Foundation (IFIC) Food and Health Survey, 64% of Americans say the healthfulness of food impacts their buying decisions. Pulses have a well-deserved "health halo" for Americans. Adding pulses to a menu increases that menu's nutrient density, or the quantity of essential vitamins and minerals per calorie. Compared to vegetables and grains, pulses are higher in protein, iron, and zinc. Even whole grains, unrefined grains with the bran and germ intact, are lower in these nutrients than pulses.

Compared to meat, poultry, eggs, seafood and other animal proteins, pulses are lower in calories and saturated fat and are cholesterol-free, making them ideal for customers concerned about their blood cholesterol and heart disease risk. At the same time, pulses provide more fiber, potassium, and colorful phytochemicals than animal proteins. Phytochemicals are naturally occurring substances in plants with important health benefits for humans. They give pulses their various colors; think the inky black of black beans, red streaks of cranberry beans, or green

12%
of Americans say
they have come to see protein from
plant sources as more healthful

71%
of Americans say
protein from plant sources
is healthy, compared to:

42%
of Americans say
animal protein is healthy

of lentils. All of these factors may contribute to the blood cholesterol-lowering effects of pulses.

The recent IFIC Food and Health Survey reports that 68% of Americans are trying to eat more beans, nuts, and seeds. They recognize the health properties of plant proteins. Plant proteins are trending for many reasons: sustainability, versatility, flavor, and definitely nutrition. Americans are specifically trying to consume more of the nutrients that pulses provide: 64% are trying to consume protein, 60% are trying to consume fiber, 48% are trying

to consume potassium, and 12% are even trying to consume prebiotics. Prebiotics are also known as oligosaccharides.

Humans cannot digest these short fibers. While we can't digest them, the healthy probiotic bacteria in our digestive tracts can, and eating plenty of prebiotics seems to be essential to a healthy microbiota, the overall distribution of microorganisms in the body. Having a thriving, diverse microbiota may reduce risk of allergies and other immune disorders, chronic diseases including heart disease, and may even impact metabolism and the reduce risk of obesity. Much research still needs to be done to figure out all the ways that the microbiota affects health, but prebiotics are clearly a critical part of the story. Pulses are among the best sources of prebiotics.

Unlike grains and grain products including wheat and rye, pulses contain no gluten, making them a great option for customers with celiac disease or gluten intolerance. Pulses also have a lower glycemic index than grains, meaning that when they are eaten, blood sugar rises slowly and doesn't get as high, an important benefit for those with diabetes or metabolic syndrome.

½ CUP OF COOKED PULSES



SOURCES
Food in Sight website
Papanikolaou Y, Fulgoni VL. Bean consumption is associated with greater nutrient intake, reduced systolic blood pressure, lower body weight, and a smaller waist circumference in adults: results from the National Health and Nutrition Examination Survey 1999-2002. J Am Coll Nutr 2008; 27:569-76.

Sustainability and Mathematics of Pulses

(land, water, GHGs, price per serving, profit per serving)

BY SOPHIE EGAN

Between the wizardry of their nitrogen-fixing properties — which improves soil fertility and boosts the productivity of farmland — and their low strain on natural resources, these pockets of protein are the best choice in the quest to healthfully and sustainably feed a growing global population. Consider pulses the all-stars on your menu when it comes to both environmental sustainability and cost-effectiveness.

Extremely Low Carbon Footprint

- 2.3** kg of Greenhouse Gas (GHG) emissions per kg of edible product
- 1.6** kg of GHG emissions per 1000 calories of product
- 2.0** kg of GHG emissions per 100 grams of protein from product

Relatively Low Water Footprint

- 58.3** gallons of total water needed to produce each one-ounce serving of dry beans. Of that, 9.1 gallons of green water (rainfall) and 3.2 gallons of blue water (meaning groundwater, lakes, and rivers).
- 44.5** gallons of total water — even less — needed to produce each one-ounce serving of dry lentils. Of that, 7.9 of green water and 0.4 gallons of blue water.

Extremely Low Land Use Per Ton of Protein Consumed

- <10** hectares per tonne of protein consumed
- <1** hectare per million kilocalories consumed

SOURCES:
WRI and FAO websites
Click here to learn more on the sustainability of pulses.

Cost and Profit Analysis

\$1.11 is the average cost per pound (\$0.07 per ounce) of dry pulses to a foodservice establishment. Of course, we do not eat the dry pulses as is — they require cooking. Through this process, the pulse will expand about 3.5 times its dry weight.

4.29 ounces is the average serving size of cooked pulses. To determine the amount of dry product we need to hit this mark, calculate the following equation:

SOAKED WEIGHT/EXPANSION FACTOR:
4.29 oz / 3.5 = 1.23 oz of dry pulses

So, we need 1.23 ounces of dry pulses to eventually equate to a serving when soaked.

At \$0.07 per ounce, the following equation will calculate the average cost of dry pulses per serving:

COST PER OZ* WEIGHT OF SERVING:
\$0.07 x 1.23 = \$0.09 per serving of dry pulses

To calculate final portion cost, add in seasonings by individual recipe.

Recipe Generator

BY REBECCA PEIZER

As chefs, how can we get consumers to have the same emotions we have for the products we love? Perhaps you have a favorite seasonal recipe to share. Or maybe the distributor mentioned a price cut on a popular item that was too hard to pass up. Once the product is in the chef's hands, they must decide what to do with it. This process is referred to as the "PIE Theory of Menu Development."

First comes the Product: The P. Understanding the products being used in a menu item is key. Where does it come from? How is it grown or manufactured? What are the nutritional benefits? How does it change when prepared or cooked? Perhaps there is a need for new specific type of dish to fit into an already existing menu, whether it is an appetizer, entrée, or dessert. Chefs ponder many dishes at once and then define their favorite components from each. Then they try to put them together into one cohesive plate. For the most part, they follow a process. Good chefs have an intuitive feel for what flavors go well together, like sensory or tactile memory, that is informed by history and tradition or by their own memories. The list of potential flavor combinations is infinite, but people tend to gravitate towards the familiar. They may consult a flavor bible, rely on childhood memories, or previous combinations that have worked, or do some research. Chefs must also consider the texture of the ingredient. Can it stand on its own or will it be a side dish or sauce? Chefs will then think of cooking techniques that are suitable. Is there a technique that best suits the product? Or is there a need for a certain texture on the menu that isn't already represented.

In the case of creating a new menu item with pulses, let's consider using split red lentils. Since these pulses are split, they break down in the cooking process much more easily than their whole counterparts, and have a mild flavor. They are often used for soups in many countries such as Morocco, India, and Greece. This means that they pair very

well with spices, and can absorb flavors such as sour lemon or yogurt, pungent garlic and onion, and unctuous proteins such as lamb or shrimp. But they also can be soaked and then roasted to create a crispy garnish. Perhaps they can be featured both in purée form as well as in crispy form for an exciting appetizer, as they seem to be best used as a base for other more complicated ingredients.

The second part in this process is the Inspiration: The I. This is where the chef's creativity shines through. What is the chef's style of cooking? What are the current trends in the food industry? What are the traditional uses of the ingredients? There is also a lot of camaraderie between chefs and they tend to bounce their ideas off of one another, often sharing inspiration they've had from previous employment. A small batch of the dish in progress may be prepared and the kitchen staff will taste and evaluate the dish with feedback. At this point a chef will be thinking about plating. The plating defines the first impression of the dish to the staff and is intrinsic to the success of the dish in the end.

To continue with creating an appetizer with red lentils, we know that hummus is very popular and trendy these days, as are pickled food and authentic spice blends. Thinking a little outside the box, we could pickle the lentils in a sweet and sour liquid, and then purée them to create a "Pickled Hummus." In consideration of the seasons, if it were spring, the chef could feature a perfectly grilled slice of Turkish dukkah-spiced lamb on top of the pickled hummus. Perhaps we make a spiced cracker that

is topped with crispy lentils instead of poppy or sesame seeds for the pickled hummus and spiced lamb to rest on. This creation has crispy and velvety textures, hot and cold elements, and follows the trend and seasons.

The last step in this process is the Execution: The E. This is where discipline is important. The chef will also be thinking of the price point, the variety of other ingredients on the menu, making sure to avoid redundancy, the possibility of cross-utilization of the same ingredients in other menu items, and perhaps how to upsell the dish to customers as an additional menu item, rather than a replacement for other items on the menu.

To finish the red lentil and lamb appetizer, let's say that everyone has evaluated this dish and has decided that it needs a salty element, as well as something that also adds color and vibrancy to the final dish. A crumble of some hard Greek Myzithra cheese made from sheep and goat milk adds saltiness and a white color contrast, while a single leaf each of parsley and tarragon on each cracker would add color and fragrance to the earthy flavors of the lentils and the lamb. And here, we have created a new menu item called Pickled Red Lentil Hummus and Grilled Dukkah Spiced Lamb with Crispy Lentil Crackers and Mizithra Cheese.

A single dish can make or break the flow of a menu, as all dishes need to work well with one another for the success of the menu as a whole. Following the steps of PIE Theory in order to create a new and exciting dish will allow the chef to maximize profits and generate excitement with new ingredients and preparations.



LENTIL BOLOGNESE

YIELDS 6 SERVINGS

INGREDIENTS

| | |
|------------------------------------|-----------|
| Canola oil | 1½ oz. |
| Pancetta or prosciutto, minced | ¼ cup |
| Onion, medium, minced | 1 each |
| Celery stalk, with leaves, minced | ½ cup |
| Carrot, small, minced | ½ cup |
| Garlic cloves, minced | 2 each |
| Beef or pork, ground | ½ cup |
| Italian sausage, sweet | ½ cup |
| Whole green lentils | 1 cup |
| Dry red wine | 4 oz. |
| Chicken or beef stock | 12 oz. |
| Milk | 1 pint |
| Tomatoes, canned, drained, chopped | 3 each |
| Basil, chiffonade | ¼ cup |
| Oregano, minced | 1 tsp. |
| Salt | as needed |
| Ground black pepper | as needed |

PREPARATION

In a saucepot, heat the oil, and sauté the pancetta or prosciutto with the onion, celery, and carrots until the onions just begin to caramelize.

Drain any excess fat, add the garlic, and cook until aromatic.

Add the ground meat, the sausage, and the lentils to the pan and gently cook over medium heat until the meats turn deep brown; drain any excess fat.

Add the wine to the skillet and deglaze until wine has reduced by half, about 3 minutes.

Stir in the stock and let it simmer slowly until only ¼ cup liquid remains.

Stir in the milk. Simmer, partially covered, for 1 hour. Stir frequently to prevent the mixture from sticking.

Add the tomatoes. Cook, partially covered, at a very slow simmer for another 25 minutes.

Add the basil and the oregano and continue to cook until the sauce resembles a thick, meaty stew. Season with salt and pepper and serve with preferred pasta.

[Click here to view recipe video.](#)



LENTIL & BULGUR PILAF

YIELDS 8 SERVINGS

INGREDIENTS

| | |
|--------------------------------------|-----------|
| Canola oil | ½ cup |
| Onion, medium, peeled, thinly sliced | 1 quart |
| Onion, minced | 1 cup |
| Tomatoes, large, seeded | 4 each |
| Bulgur wheat, coarse | 1 cup |
| Whole green lentils, rinsed | 1 cup |
| Vegetable stock or water | 4 cups |
| Salt | 2 tsp. |
| Ground black pepper | ½ tsp. |
| Bay leaf | 1 each |
| Thyme sprig | 1 each |
| Lemon, zest and juice | 1 each |
| Greek yogurt, plain, stirred smooth | 2 cups |
| Chili Urfa or Aleppo, ground | ½ tsp. |
| Parsley, chopped | as needed |

PREPARATION

Heat half the oil in a 9- or 10-inch skillet. Add the sliced onions to the skillet and cook over medium heat, stirring often until golden, about 10 minutes. Remove onions with a slotted spoon and set aside to cool.

Add the minced onions to the oil remaining in the skillet and cook, stirring, over medium-low heat until golden.

Add the tomato pulp and cook, stirring, until thick and lightly caramelized, about 10 minutes.

Add the bulgur and lentils to the skillet and continue stirring.

Add the heated stock, salt, pepper, bay leaf, and thyme. Mix well and bring to a boil.

Cover and cook at a simmer over low heat until all the liquid has been absorbed, about 20 minutes.

Remove the skillet from the heat, stir in the remaining oil, lemon zest, and juice.

Serve warm with a dollop of yogurt and garnish with chili pepper, reserved onion strings, and parsley.

[Click here to view recipe video.](#)



LENTIL & BEET BURGER

YIELDS 6 SERVINGS

INGREDIENTS

| | |
|-----------------------------|-----------|
| Canola oil | ¼ cup |
| Yellow onion, small dice | 1 cup |
| Whole green lentils, cooked | 16 oz. |
| Red beet, finely grated | 1 cup |
| Pearl barley, cooked | 1 cup |
| Cashews, toasted | 1 cup |
| Breadcrumbs | 1 cup |
| Egg, large | 1 each |
| Tamari | 1 Tbsp. |
| Salt | as needed |
| Ground black pepper | as needed |
| Burger buns | 6 each |
| Smoked Gouda, slices | 6 each |

PREPARATION

Preheat oven to 400°F.

Heat a skillet with 2 tablespoons of oil and add onions. Sauté until golden brown and remove from pan. Cool.

Add lentils, beet, barley, cashews, bread crumbs, egg, and tamari to the bowl of a food processor. Pulse until mixture is crumbly and texture resembles ground meat. Do not purée smooth. Season to taste with salt and pepper.

Portion into 6 patties.

Heat an oven proof skillet with the remaining oil until just beginning to smoke. Add patties and brown on one side.

Flip patties over and continue cooking until heated through and browned. If desired, add one slice of cheese to the top of each patty and heat in the oven until melted, about 1 minute.

Place one patty topped with garnishes of choice on a toasted bun.

[Click here to view recipe video.](#)



LENTIL FALAFEL

YIELDS ABOUT 20 FALAFEL BALLS

INGREDIENTS

| | |
|-------------------------------|-----------|
| Whole green lentils | 1 cup |
| Split red lentils | 1 cup |
| Onion, roughly chopped | 2 cups |
| Parsley, chopped | ¾ cup |
| Cilantro, chopped | ¾ cup |
| Salt | 2 tsp. |
| Dried hot red pepper | ½ tsp. |
| Garlic cloves | 6-8 each |
| Cumin | 2 tsp. |
| All-purpose flour (if needed) | ½ cup |
| Baking powder | 2 tsp. |
| Canola oil, for frying | as needed |

GARNISHES

| | |
|--------------------------|-----------|
| Tomato, diced | 2 each |
| Onion, diced | 2 each |
| Green bell pepper, diced | 2 each |
| Lettuce, shredded | 1 head |
| Lentil hummus | as needed |
| Whole wheat pita | as needed |

PREPARATION

Place the red split lentils in a large bowl and add enough cold water to cover them by at least 2 inches; soak for 1 hour. Drain.

Place the whole green lentils in a large bowl and soak overnight. For a quick soak, place them in a pot covered by 2 inches of water and bring to a boil. Remove from heat, drain and cool.

Place the drained lentils and the onions in the bowl of a food processor. Add the parsley, cilantro, salt, hot pepper, garlic, and cumin. Process until blended but not puréed — it should look mealy. If needed, add a bit of flour.

Sprinkle in the baking powder, and adjust seasoning to taste.

Form the mixture into balls about the size of walnuts, using water to wet hands so the balls don't stick.

Heat 3 inches of oil to 350°F in a deep pot or wok and fry 1 ball to test. If it falls apart, add a little flour. Fry the balls until golden brown; drain on paper towels.

Serve with whole wheat pita, lentil hummus, and garnish with tomato, onion, lettuce and peppers.

[Click here to view recipe video.](#)



LENTIL & AVOCADO BROWNIE

YIELDS ABOUT 12 SQUARES

INGREDIENTS

| | |
|--|-----------|
| Vanilla bean | 1 each |
| Brown sugar | ½ cup |
| Split red or whole green lentil purée (recipe page 23) | 4 cups |
| Eggs, large | 4 each |
| Avocado, ripe | 1 each |
| Unsweetened cocoa powder | 1 cup |
| Baking powder | 1 tsp. |
| Baking soda | ½ tsp. |
| Salt | ½ tsp. |
| Semi-sweet chocolate chips | 1 cup |
| Walnuts, chopped | ¾ cup |
| Peanut butter | ¾ cup |
| Powdered sugar | as needed |

PREPARATION

Preheat oven to 350°F.

Grease a 9- by 11-inch baking pan.

Split the vanilla bean and scrape the seeds with the tip of a knife.

Rub the beans into the sugar using your fingers until dispersed.

Place all ingredients besides the chocolate chips, walnuts, and the peanut butter into the food processor. Process until ingredients form a smooth batter.

Add in the chocolate chips and the walnuts and fold into batter.

Pour batter into greased pan.

Swirl in peanut butter.

Bake for 35 to 45 minutes until top of the brownies begin to crack. Cool.

Cut into 12 squares. Serve dusted with powdered sugar.

[Click here to view recipe video.](#)



SPLIT RED LENTIL & SWEET POTATO HUMMUS

YIELDS ABOUT 2 QUARTS

INGREDIENTS

| | |
|---|-----------|
| Sweet potato, peeled, diced | 1 cup |
| Garlic cloves | 4-6 each |
| Water to cover | as needed |
| Canola oil | 2 oz. |
| Tahini paste | ¼ cup |
| Split red lentil purée (recipe page 23) | 4 cups |
| Lime, juice of | 2 each |
| Cilantro, minced | 2 Tbsp. |
| Salt | as needed |
| Ground black pepper | as needed |
| Cumin, ground | 1 tsp. |

PREPARATION

Simmer sweet potato and garlic cloves in water until very tender. Drain, reserving liquid.

Combine all ingredients in the bowl of a food processor and process with enough potato cooking liquid until a thick and smooth purée is achieved.

Adjust seasoning to taste and serve warm or chilled.

[Click here to view recipe video.](#)

LENTILS.ORG AND PULSES.ORG

are promotional brands, working to increase the consumption of pulses (lentils, chickpeas, beans, and peas) across North America.

Lentils.org is funded by farmers and operated by Saskatchewan Pulse Growers, a not-for-profit association accountable to and funded by over 17,000 pulse crop farmers in Saskatchewan, Canada.

The Pulses brand is funded by farmers and industry members across the global pulse value chain, and operated by Pulse Canada, the USA Dry Pea and Lentil Council/American Pulse Association, and the Global Pulse Confederation.



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