Hand Pies
savory
deliciousness
wrapped in a
pie crust

Thrive on a Plant Based Diet · The Hidden Costs of GMOs · Community Outreach
Drink in the Beauty of Spring

Are you looking for a new spot to explore this Spring that is both beautiful and not too far from home?

What's New?
Find out what's fresh at LifeSource!

Staff Favorites
Three of our staff share some of their favorites from the LifeSource shelves.

Grow Your Garden with LifeSource
Spring is here! Bringing warmer days, sunny weather, lots of rain—the perfect combination for all of your favorite veggies.

Thrive on a Plant Based Diet
It’s easier than you think!

Environmental Impacts of Genetically Modified Crops
Perhaps the greatest risk in genetically modified foods is not in how they were created, but in the purpose for which they were designed.

Community Matters
LifeSource does a lot of work with kids in our community—enriching our Outreach Coordinator’s life!

The Oregon Pasture Network
The OPN connects producers, and the growing crowd of consumers who care about the source of their food and want to purchase their meat, eggs and dairy from pasture-raised animals.

We hope this Spring finds you with a smile on your face. Eat Well and Be Happy!

Enjoy!

Kathy Biskey - Editor

Flowers and green shoots pushing up in fragrant soil and days with clouds scuttling across blue sky outnumber days that still hold on to the gray sky of winter. The glory of Spring is here once again!

In this issue of News in Natural, Desta offers some timely tips on shedding winter blues and embracing the lift in spirit that many feel with the coming of Spring. Ben delves into the broad reaching environmental ramifications of GMOs. Hannah shows us how a plant-based diet can be complete and satisfying. This is just a sampling of what we’ve offered up this issue, and as always, we have some great recipes, staff favorites and new products.

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Recipes
14 Vegan Mac & Cheese
21 Veggie Dip

On the Cover
We absolutely love Catherine’s recipe for veggie hand pies! Savory deliciousness wrapped in a pie crust. Whether you eat them warm out of the oven or make them ahead for on-the-go meals, they’re sure to satisfy. 6

Vegan Mac & Cheese

21 Veggie Dip

Enjoy!

Kathy Biskey - Editor
Drink in the Beauty of Spring
A Lovely, Local Spring Hike
Written and Photographed by Desta Moore · Wellness

Are you looking for a new spot to explore this Spring that is both beautiful and not too far from home? My new favorite destination for a deep dive into Willamette Valley beauty is the Luckiamute Landing State Natural Area. It is located south of Buena Vista at a very special place along the Willamette River.

The Lay of the Land
If you visit, you will see the convergence of three large rivers surrounded by lush native riparian areas. The slow moving Luckiamute River meanders in from the coastal foothills and farmland to the west. The cold, clear Santiam River brings in snowmelt water from the mountains to the east. These two smaller rivers pour into the larger Willamette River. There are two sections to the park. The 615 acre North Tract has river access, a nice gravel bar to explore for agates and petrified wood and trails that take you through meadow, field, or forest. The 300 acre South Tract includes old gravel pit ponds that are being restored to create Western Pond Turtle habitat. Each section has its own parking area accessed off Buena Vista Road.

The Willamette Watershed Council is actively restoring the natural floodplain and riparian hardwood forests of Oregon ash and bigleaf maple. You will walk through newly planted areas on your way to a jungle of ancient maples dripping with moss and ferns. Watch along the path for emerging native medicinal plants like stinging nettle, Oregon grape, and miner’s lettuce.

You could also visit the Landing by boat. Those who float the Willamette River Water Trail can even spend the night at the boater-only camp site within the park. Back in the days when the rivers were our highways, the Luckiamute Landing area was a major intersection and it is rich in cultural history for both native peoples and for the traders, trappers, and farmers who came through and chose to stay.

The Healthy Perks
Scientific research is continuing to discover even more reasons to be active outdoors in natural areas. When we exert ourselves our body produces more BDNF (brain derived neurotrophic factor). BDNF stimulates brain cell growth and higher levels of BDNF are associated with lower risk of developing the tangles and plaques that contribute to cognitive decline. New research on our gut microbiome has been pointing to an association between spending time in nature around healthy soil and increased diversity of beneficial bacteria in the gut. It is possible that we may need to come into regular contact with certain healthy soil organisms to be able to internalize them and maintain beneficial relationships with them in our gut.

The Must Haves
Walking through the Luckiamute’s bright meadows in the warm spring sun can feel so good after all the cold winter days. Remember though that skin that hasn’t seen sun since last September can burn quickly. Be sure to protect sensitive areas with a broad spectrum, natural mineral sunscreen. These wetland areas are also home to biting bugs like gnats, ticks, and mosquitoes. I like to use a nice smelling herbal insect repellent to discourage them from coming too close. Bring plenty of drinking water on your walk to stay hydrated. On the following page I call out some of my favorite supplement powders to add to my water bottle to support energy and remineralization during exercise.

I hope you get to visit Luckiamute Landing soon to get your daily dose of nature’s medicine.

Don’t Forget to Hydrate!

1. OXYLENT 3-in-1 Performance Supplement Drink
A great tasting electrolyte blend that promotes hydration. It also has 8 vitamins, citruline, and creatine for ATP energy support. I especially like the berry taste this powder gives to my water without adding any sugar or carbohydrate.

2. GARDEN OF LIFE Raw Organic Perfect Food Energizer
A refreshing option for when you want a little caffeine energy (7mg) for your walk, but don’t want the hot coffee. This greens blend with yerba mate supplies about 7 grams of nutrient dense superfoods per serving along with probiotics and enzymes. It can be hard to make so much concentrated chlorophyll taste good, but they got the flavor right on this one.

3. FOUR SIGMATIC Mushroom Coffee Mix
I love to take these lightweight packets on my overnight hiking trips. Convenient for when you want to start the morning with a hot cup of organic coffee but are far from a kitchen. Just add this instant coffee mix to hot water and sit back to watch the sunrise over the mountains. The chaga, cordyceps, and eleuthero extracts provide endurance support for the hike ahead.

4. ANCIENT NUTRITION Multi Collagen Protein Strawberry Lemonade Collagen is great support for active joints. This powder dissolves well in water and gives it a sweet lemonade flavor. It also supplies 9 grams of protein, almost as much as eating a protein bar, without any sugar.

5. MITOMIX Ketogenic Blend & DR. FORMULATED Organic MCT Powder
When I want to supercharge my good tasting drinks with fuel for my mitochondria to burn, I add either or both of these powders. They don’t have much flavor on their own so they easily complement any of the other drink options. The MCT powder mixes evenly into liquid, unlike MCT oil which floats on top. This easy to burn fat supplies fast fuel for the body and brain. The Mitomix Blend contains superfoods that are protective to mitochondria, the little energy powerhouses in our cells.
SPRING VEGGIE HAND PIES

Makes 20 Hand Pies

Ingredients

- 2 Tbsp olive oil
- 1 small leek, diced
- 1 medium carrot, diced
- 1 small fennel bulb, diced
- 6 crimini mushrooms, diced
- ½ cup dry white wine
- 2 tsp whole grain mustard
- 2 cups vegetable stock
- 2 Tbsp corn starch whisked into ¼ cup water or broth
- ½ tsp sea salt
- ¼ tsp pepper
- 1 cup peas, fresh or frozen
- 4 small red, yellow, or purple potatoes, diced and blanched until just tender
- 3 sprigs fresh thyme, chopped
- 3 sprigs fresh tarragon, chopped
- 2 pkg thawed pie crust, 4 crusts total
- 1 egg, beaten with 1 tsp water (optional)

Directions

1. Preheat oven to 425°F
2. Heat olive oil over medium heat in a large skillet. Sauté leeks until translucent and fragrant, about 5 minutes. Add carrot, celery, fennel and mushrooms. Sauté until carrots are nearly done, about 8 minutes.
3. Add wine to the vegetables, cook until reduced by half, about 4 minutes. Add mushroom stock, corn starch, salt, and pepper. Bring to a low boil, stirring until thickened, about 1 minute. Gently fold in peas, potatoes, thyme and tarragon. Taste and adjust seasoning if desired.
4. Line a rimmed baking sheet with parchment paper.
5. Roll out pie crusts on a lightly floured board. Using a glass or 3-inch biscuit cutter, cut about 10 circles from each crust, re-rolling scraps if necessary.
6. Spoon 1 Tbsp veggie filling on half of the pastry rounds, to within ½ inch of the edge. Using your finger, wet dough edges with water. Cover with another pastry round, crimp edges with a fork. Transfer to parchment lined baking sheet.
7. Cut 2 slits into the top of each pie, brush with egg wash. Bake 10-12 minutes, or until golden brown.
WHAT’S NEW?

MEADOW GROVE
Quail, Duck & Chicken Eggs
Free range and absolutely delicious! Raised in Salem.

CADO
Avocado Frozen Dessert
Vegan, plant based ice cream that is creamy and low in sugar. Three flavors to choose from—Dark Chocolate, Mint Chocolate Chip, and Simply Lemon. Delicious and sure to become a favorite!

NANCY’S
Oatmilk Yogurt
A creamy and delicious plant-based yogurt alternative, made from gluten-free oat milk, and offering 6g of plant protein per serving. And of course, each serving has billions of LIVE dairy-free Probiotics!

LIMITLESS WATER
Caffeinated Sparkling Water
Cool and refreshing lightly caffeinated sparkling water to give you a lift! Clean caffeine from green coffee beans and zero sugar and zero artificial ingredients.

Perishables & Freezer

JULIAN BAKERY
Paleo Thin Almond Bread
6g of carbs and 5 grams of fiber per serving. Paleo and Keto friendly!

AMY’S
Asian Dumpling Bowl
Made with organic vegetable dumplings, noodles & tofu. Quick and yummy.

Health & Beauty

SILVER FALLS SUSTAINABILITY CO.
Sustainable, Local, & Zero Waste Body Care Products
Silver Falls Sustainability Co. body care products give excellent results with nothing left behind. No plastic! The shampoo bars last for up to 60 washes, as much as 16 oz of liquid. We offer shampoo and conditioner bars, deodorant and lip balm—all in recyclable paper packaging, made with organic oils, in Silverton.

Grocery

QURE - 10ph Alkaline Water
Qure water goes through a nine-stage reverse osmosis purification process to make sure it’s pristinely clean and free of harmful contaminants and impurities, including sodium, bpa and fluoride. Next, Qure is run through several layers of natural ionic alkaline minerals—similar to Mother Nature’s method for creating spring water. It is then cured then passed through coconut and mesh filtration for a silky smooth taste. The entire process is zero waste.

CAULIPOWER · Baking Mix
This Paleo cauliflower based baking mix is dairy and gluten free, low carb, and replaces flour in any recipe cup for cup.

LATE JULY · Popcorn
Organic, Non-GMO and low in calories! A perfect movie night snack or crunchy and enjoyable treat for on the go lunches. Try all three flavors, Kettle, Sea Salt, and White Cheddar.

Sleep and Stress

By Travis Elmore · Wellness
There are many natural ways to combat stress—diet, yoga, meditation, and some unique adaptogenic herbs that support healthy stress levels. In my twenty years of working in the supplement industry I have noticed many changes, but one has stood out in the last five years. Many people come in with sleep problems and ask for supplements to help with this issue. It’s difficult to talk about sleep problems without talking about stress. There is a direct correlation between increased stress and lack of sleep. This is due to cortisol, a hormone that is released in the body when under stress. When cortisol levels rise, it causes our body temperature to elevate. Are you waking up in the middle of the night not knowing why? The slightest shift in temperature will upset your body’s nocturnal sleeping patterns and cause you to awaken.

There are many products that contain adaptogens that balance and support cortisol levels. We have many to choose from, including LifeSource CortiResponse, which is made for us locally in Mt. Angel. It contains the adaptogens rhodiola and ashwagandha both of which support healthy cortisol levels.

With the rapidly changing world around us it seems as though many people have reached all time high levels of stress in their life. Stop by and talk to our knowledgeable staff about adaptogenic herbs that just might help support healthier stress levels and a better night’s sleep.
STAFF FAVORITES

By Waylan Barber · Custodian

Steve is our beverage buyer. When he’s relaxing at home with his kittens, Steve enjoys reading classic science fiction and listening to afro-beat. Steve is originally from Minnesota and his favorite food is Hotdish. To date, he has developed three distinct variations of this Midwestern staple. When asked what his secret is, his response is always, “Just add a little salt.”

You’ve probably seen Hannah behind one of our demo tables. She firmly believes that you don’t have to stop being a foodie just because you’re on a specialized diet—she loves helping people find delicious foods that fit their dietary needs. Two of her favorite flavor profiles are lavender and rose. In her other life, Hannah is an amazing painter and gifted yoga teacher. Her favorite pose is tied between eka pada rajakapotasana (one-legged king pigeon pose) and savasana (corpse pose).

One of our most verbose grocery clerks, Grant uses his complex and exploratory knowledge of language to improve the morale of each team member he encounters. As a professional musician, Grant finds great pleasure in discovering and listening to all kinds of experimental music. His dream is to one day play drums for a math jazz metal band. At the end of a day spent immersed in experimental sounds and witty banter, Grant loves cracking open a great local craft beer.

Bayla is Catherine’s cat, though she might tell you that Catherine is her human. She spends her days like many cats sleeping in the sun, or in the laps of her human servants. At night, she runs as fast as she can through her house to keep the invisible forces of darkness at bay.

KII NATURALS · Raisin, Rosemary & Pumpkin Seed Artisan Crisps

According to Steve, the Kii Naturals Raisin, Rosemary & Pumpkin Seed Artisan Crisps are one of the best snack foods he’s ever tasted. Each flavor rests in perfect balance with each other flavor, rosemary harmonizing with the sweetness of raisins. Whole dried fruit delightfully interrupts the thick crunchiness of bulgur and pumpkin seeds. Eat these versatile crisps alone or combine them with just about anything to make a memorable hors d’oeuvre.

MITICA DE OVEJA
Sheep Milk Cheese

Steve’s perfect pairing recommendation is the Mitica De Oveja sheep milk cheese. The tangy brightness combined with a creamy texture make this cheese particularly good with crackers or fruit like pears and apples.

NEW CASCADIA
Everything Bagels

Hannah’s all-time favorite bagel is the New Cascadia Everything Bagel. She used to drive to Portland from Salem just to get them. She loves that these bagels are free from both gluten and animal products. Everyone Hannah serves them to, both gluten-free and gluten-tolerant individuals, love them.

LIFESOURCE DELI
Raisin Bran Muffin

When he’s looking for something more substantial Grant prefers to visit our in-store bakery and grab a Raisin Bran Muffin. For him, this muffin is the perfect mid-morning pick-me-up. His favorite part of the muffin, besides its great flavor is the crunchy top—that extra texture takes the muffin eating experience to an entirely different level.

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BEANFIELDS
Jalapeño Nacho Bean Chips

One of her favorite snack foods are the Beanfields Jalapeño Nacho bean chips. Not only are these chips free from gluten, corn, and animal products, they contain four grams each of protein and fiber. Hannah loves the fact that LifeSource regularly stocks the Jalapeño Nacho variety, a flavor she frequently has a hard time finding.

JUSTIN’S · White Chocolate Peanut Butter Cups

One of Grant’s favorite snack foods is Justin’s White Chocolate Peanut Butter Cups. He feels that the chocolate in other chocolate/nut butter confections is overpowering. Not so with these peanut butter cups. Grant describes them as perfectly creamy and rich, a delicacy to be savored. There are two in each package, so they are great for sharing with a friend or special someone.

FROM THE FIELDS
Refillable Catnip Mouse

Bayla’s favorite toy, maybe even her best friend, is From the Field’s “Shelby the Refillable Hemp Mouse.” She has never enjoyed the mouth feel of synthetic materials, so she really likes the fact that these mice are made with all-natural hemp. There are no small parts, so Bayla doesn’t have to worry about accidentally eating part of her best playmate. These mice have a secure, refillable pouch for catnip that Bayla wishes Catherine would use more.
SPOTLIGHT ON
CHOSEN FOODS

At Chosen Foods, we believe in the power of real food to nourish ourselves, our families and our communities. From our beginnings with the avocado, we created a new way of cooking and eating. It’s rooted in ingredients that are both fresh and ancient. It’s brought to life with the sun-soaked magic to the world, and everyone who has chosen to improve their lives. You can count on us to make the foods that make it easy to choose health, sustainability, and great taste.

www.chosenfoods.com

Plan Bee
By Kathy Biskey · Editor

You can help our struggling bee populations by choosing to eat organic foods.

We all make a number of food choices every day, and the cumulative impact of choosing organic again and again can make a difference! Organic farming, because of the practices it follows, has been demonstrated by a number of studies to support more pollinators than conventional farming. Organic practices have been found to protect and support the health of bees in two critical ways:

Less exposure to toxic chemicals. One of the biggest threats to bee health is exposure to toxic chemical pesticides through insecticides, herbicides, fungicides, and other synthetic toxins used in conventional agriculture. Neonicotinoids, a widely used class of insecticides, are found by many studies to be especially harmful to bees. Organic farming standards prohibit an organic farmer from using synthetic pesticides and instead to use integrated pest management.

Protection of the bee’s native habitat and biodiversity. Lack of habitat and nutritional food sources are key factors in pollinator decline. Bees need a diversity of plants from which to collect sufficient pollen and nectar to support their hives. Because organic producers are required to manage their farms in a way that maintains and improves the natural resources of that operation, organic farms tend to have a more diverse landscape with more flowering plants to support and feed bees.

Think of huge mono crop farms that rely on dangerous pesticides, herbicides, and fungicides as Plan A. This plan clearly isn’t working for the pollinators that our food crops need. So let’s move on to Plan Bee, organic and biodynamic farms that sustain the land and the incredible diversity that grows and lives on it. Each time you choose to buy organic products, you’re on Plan Bee—and the bees thank you.
Vegan Mac ‘n Cheese

Ingredients
- 4 cloves garlic, minced
- 2 small carrots, chopped
- ½ cup onion, chopped
- ⅛ small cauliflower, chopped
- ½ cup raw almonds
- 1-2 cups unsweetened almond milk
- ⅛ cup nutritional yeast
- ½ tsp turmeric
- ½ tsp paprika
- 1 tsp garlic powder
- 1 tsp pink sea salt
- 16 oz quinoa pasta, cooked

Directions
1. Place all vegetables in a medium sauce pan. Add enough water to cover. Bring to a boil, cook until soft.
2. Place cashews in a small bowl. Pour ¼ cup boiled vegetable water over the cashews and allow to soak while vegetables are cooking, about 10-15 minutes.
3. Put softened cashews and their water in a blender, blend until smooth.
4. Add cooked vegetables, seasonings, and 1 cup of the almond milk to the blender. Blend until smooth.
5. Serve 2½ cups over cooked pasta.

By Hannah Jeanseau · Customer Service

If you’ve ever eliminated meat from your diet, you know the most common concern is where to get your protein. For those of us that live by a plant based diet, we know that all sorts of nutrients are available through a variety of rainbow colored plant life. For years, the meat and dairy industries have convinced us that things such as protein, calcium, omegas, and vitamin B12 are all only available from animal products. The truth is, vegetables and plant based products offer a variety of healthy nutrients without harming sentient beings. For those few nutrients that we can’t fully access through plants—well, we are lucky to live in the 21st century where supplements are readily available.

Vitamin B12
B12 is an essential nutrient that unfortunately is only found in animal products or fortified foods. This is the one nutrient that people eating a plant powered diet need to make sure to be conscious of replacing either through fortified foods or supplements. A deficiency in this vitamin can cause digestive issues, nerve damage, depression, and fatigue. If you chose not to eat meat, but still eat eggs and milk, you’ll be happy to know that both are great sources of B12. The recommended minimum dose of B12 is 2.4 mcg per day, which isn’t very much, but it is important to note that your body can only absorb a small percentage of supplemental B12. Just one tablespoon of nutritional yeast offers 4 mcg of B12. So put that nooch on everything! I like to sprinkle it on popcorn, lasagna, salad dressings, or anything that could use some great cheesy flavor! Just whip up some soaked cashews and boiled cauliflower in the blender with nutritional yeast, garlic powder, and salt and you’ve got yourself the easiest vegan mac’n cheese sauce in town. As far as supplements go, B12 is offered in a variety of forms, from drops and melting under-the-tongue tablets, to chewables and traditional pills.

Omegas
Did your mama ever make you take cod liver oil as a kid? We all know omega-3s can easily be found in fish. But if we don’t eat sea creatures or take fish oil, how can we get those healthy omegas? Without them, we can suffer from dry, flaky skin, depression, brittle hair, nails, and trouble sleeping. The recommended amount per day is 1100 mg for women and 1600 mg for men. Many nuts, seeds, and cruciferous vegetables offer hefty amounts of natural, plant based omegas. An ounce of chia seeds delivers 4915 mg of omega 3, while hemp seeds deliver 6,000mg. Cooked Brussels sprouts offer 135 mg per half cup and an ounce of walnuts provides 6542 mg. Try adding shredded Brussels sprouts to a salad, and top that salad with walnut crumbles for extra omegas. I make sure to eat chia, flax or hemp seeds every day by adding them to smoothies, on top of salads or sprinkled on avocado toast. I also love creating quick, nutrient dense puddings by using ¼ cup of chia seeds with a cup of plant milk. Whisk them together and leave in the fridge overnight for a delicious and quick breakfast the next morning. You can add maple syrup, honey, fruits, or vanilla to create a customizable treat.

Protein
Okay, but, where do you get enough protein? Easy! Eat legumes. Beans, peanuts, and lentils are all a part of the Fabaceae family, commonly known as legumes. Legumes are protein dense, versatile, and delicious. Maybe that’s why they can be found in cuisines all over the world, from Mexican to Indian to Mediterranean. One cup of kidney or black beans offers 15 grams of protein while a cup of tempeh (fermented soybeans and grains) has 31 grams. Pair your beans with a rice dish to create a complete protein, containing all nine essential amino acids! Peanut butter and almond butter both offer about 7 grams of protein. Almond butter has about ½ the saturated fat and even more calcium! Two tablespoons of hemp hearts will give you the same protein boost as an egg. Both an ounce of pumpkin seeds and ½ cup of lentils offer 9 grams of protein. If you’re a smoothie person, toss in a tablespoon of spirulina powder for 4 grams of protein. And again with the nooch! They weren’t kidding when they called this stuff nutritional yeast—3 Tbsp. gives 9 grams of complete protein!

Calcium
Got milk? Yup, plant milk, fortified with up to 450 mg of calcium! Calcium is an essential nutrient, especially important for babies and the elderly. For an average adult, we need about 1000 mg of calcium per day. Luckily, we don’t need to be drinking a glass of cow milk a day like the TV always tells us. Tempeh offers about 184 mg of calcium per cup while kale offers about 177 mg and almond butter can give us up to 111 mg of calcium for every two tablespoons. Instead of reaching for your favorite paleo puffs, try homemade kale chips seasoned with nutritional yeast, hemp seeds, and an array of supplements and vitamins on the market, we are blessed to be able to not only survive—but thrive!—off of a well rounded, plant based diet. So remember, eat the rainbow and sprinkle that nooch on everything!
Genetically modified organisms (GMOs), first introduced to agriculture in a major way in 1996, now cover at least 45% of US croplands. In the two decades since their introduction, many individuals and groups have raised concerns about the potential risks of consuming these bioengineered foods, none of which have gone through significant controlled safety testing. Precisely because of the lack of serious scientific study of their impact on human health, however, discussions regarding the safety of GMOs are contentious at best. I wonder, though, if, in focusing on the potential risks of genetic modification per se, perhaps we are missing the bigger threat. Perhaps the greatest risk in genetically modified foods is not in how they were created, but in the purpose for which they were designed.

GMO Crops and Herbicide Use

The first major GMO crops were Monsanto’s Roundup Ready line of soybeans, cotton, corn, canola, and later, alfalfa and sugar beets. These Roundup Ready crops are designed for herbicide resistance: a farmer can spray a field with Roundup, a blend of glyphosate and other chemicals, and kill all the weeds, but the Roundup Ready crop tolerates the herbicide and survives. While this originally led to a decrease in the total weight of herbicides being sprayed in the US – in 1996, Roundup Ready soy used 0.3 lbs/acre less herbicide than non-GMO soy – the huge amounts of Roundup in use quickly bred new “super weeds” that are also herbicide tolerant, weeds like pigweed, ryegrass, and marestail. In an effort to combat these new weed varieties, farmers often sprayed more Roundup, but that had no effect: by 2011, farmers were using 0.73 lbs/acre more herbicide than non-GMO soy. The huge amounts of Roundup in use quickly bred new “super weeds” that are also herbicide tolerant, weeds like pigweed, ryegrass, and marestail. In an effort to combat these new weed varieties, farmers often sprayed more Roundup, but that had no effect: by 2011, farmers were using 0.73 lbs/acre more herbicide than non-GMO soy. The huge amounts of Roundup in use quickly bred new “super weeds” that are also herbicide tolerant, weeds like pigweed, ryegrass, and marestail. In an effort to combat these new weed varieties, farmers often sprayed more Roundup, but that had no effect: by 2011, farmers were using 0.73 lbs/acre more herbicide than non-GMO soy. In addition to the Roundup, farmers now use other, more toxic, herbicides, such as 2,4-D and dicamba.

Today, many GMO crops have “stacked” traits that allow them tolerance to multiple herbicides at once. Dow’s Enlist crops, for example, are resistant to Dow’s Enlist herbicide, which contains both glyphosate and 2,4-D.

One of the fastest-growing products on the GMO seed market, though, is Monsanto/Bayer’s Xtend line of soybeans, designed to resist the herbicide dicamba. In just three years, Xtend soybeans have taken over 60-75% of the US soybean market. According to Bayer, 50 million acres were planted in Xtend soybeans in 2018. Xtend use may be growing so fast because of one of dicamba’s major characteristics, a characteristic prominently cited in an antitrust lawsuit against Monsanto: dicamba tends to drift. As Dan Charles recently reported for NPR’s Morning Edition, many soybean growers are switching to Xtend soybeans because they fear that dicamba drift from neighbor’s fields would kill any non-Xtend crops. In 2017, according to Kevin Bradley of the University of Missouri, at least 3.6 million acres of soybeans were damaged or destroyed by dicamba drift. The current lawsuit alleges that Monsanto is well aware of dicamba’s tendency to drift and is using that tendency to gain monopoly control over the soybean market. Of course, drifting dicamba not only kills or damages crops and weeds, but other species of plants as well, including trees and shrubs.

Built-in Insecticides

Besides herbicide-tolerant crops, there is one other major group of genetically modified crops: corn and cotton with a built-in insecticide commonly referred to as “Bt toxin.” The bacteria Bacillus thuringiensis (Bt) has been used to produce insecticides since the 1920s, but beginning in the late
1996s, agribusiness corporations began inserting genes from *B. thuringiensis* into crop plants so that they would produce their own insecticidal proteins. Today, millions of hectares are planted in genetically modified Bt corn and cotton. In many cases, the Bt traits are stacked alongside herbicide-tolerance traits.

Bt toxins are produced in every cell of a plant genetically modified with the trait. While there are different types of Bt proteins that more strongly affect specific insect “pests” such as the European corn borer and the corn rootworm, but like most insecticides, Bt toxins can also kill other species, including ladybugs and monarch butterflies.

Even as Bt crops cause this “collateral damage,” their usefulness in curbing pest species is rapidly declining. Just as the widespread use of glyphosate herbicides has bred “super weeds,” the near-ubiquity of Bt crops is breeding “super bugs” that survive eating the genetically modified plants. As these Bt-resistant insects spread, farmers are adding other insecticides to the mix, either in the form of sprays or, in the case of neonicotinoid insecticides, by adding other insecticides to the mix, adding other insecticides to the mix, adding other insecticides to the mix.

Environmental Impacts

In examining the impacts of genetically modified crops, it is not enough to look at the crop in isolation. One must, instead, look at the crops’ roles in the entire agricultural system. Corporations have designed GMOs as part of their overall business strategies, which involve the sales of chemicals (herbicides and insecticides) and expanding their market share. GMOs are but a single component in an agricultural system that increasingly harms soils, ecosystems, and human communities.

Over the last decade, the eastern population of monarch butterflies has declined 90% over the last decade. Western monarchs – the population found here in Oregon – has declined 99% since the 1980s. Since I moved to Oregon over fifteen years ago, I have never seen a monarch. While there are likely multiple reasons for the decline, two major causes are the near eradication of milkweeds – monarch caterpillars’ only food – and poisoning by Bt crops. As early as 1999, researchers at Cornell University demonstrated that pollen from Bt corn kills monarch butterflies. And milkweeds are now essentially nonexistent over much of the monarch’s range, due to increased spraying of glyphosate on GMO crops. The extinction of this iconic butterfly is now a very real possibility.

The monarch butterfly is only one species among many, but the story of the monarch is repeated across countless other insect species. A study published in *Biological Conservation* in January showed that over 40% of world insect species are declining precipitously and could be in danger of extinction. The most affected taxa are Lepidoptera (moths and butterflies), Hymenoptera (ants, wasps, and bees), and Coleoptera (dung beetles). The authors note that, “A rethinking of current agricultural practices, in particular a serious reduction in pesticide usage and its substitution with more sustainable, ecologically based practices, is urgently needed to slow or reverse current trends, allow the recovery of declining insect populations and safeguard the vital ecosystem services they provide.”

Robust insect populations are critical not just for their own sakes. They are an important source of food for many species of birds, bats, amphibians, and reptiles, and Hymenoptera and Lepidoptera in particular are major groups of pollinating insects. Without these species, many plants, including many of our crops, could be at risk.

Human populations are not immune from the effects of pesticides, either. Glyphosate, for example, is considered a probable carcinogen by the World Health Organization, and in February a team from the University of Washington concluded that glyphosate increases the risk of non-Hodgkin lymphoma and some other cancers by over 40%. Other studies show that glyphosate has a negative impact on healthy gut microbes, and may be a causative factor in the massive increase in celiac disease in recent decades. Last year, in a lawsuit against Monsanto (now owned by Bayer) by Dewayne Johnson, a former school groundskeeper diagnosed with terminal non-Hodgkin’s lymphoma, the court found that Monsanto’s glyphosate-based Roundup herbicide caused his cancer. He was ultimately awarded $78.5 million.

Other herbicides, including dicamba and 2,4-D (an ingredient in Agent Orange) may be at least as toxic as glyphosate. Herbicide-resistant GMO crops are designed to permit essentially unfeathered spraying by these herbicides. As a result their residues are common throughout our environment and our food.

Solutions

If we wish to improve our health and the health of our ecosystems, it’s time for us to look at our agricultural systems holistically. We need a radical redirection of national and global agricultural policy. Such a policy would encourage the use of non-chemical methods of pest and weed controls. It would offer significant incentives for preserving and restoring habitat in agricultural areas, such as restoring the hedgerows and buffer strips that were once common around fields. These habitat areas allow the proliferation of helpful species that eliminate the need for insecticides to begin with, with no reduction in crop yield (but a significant reduction in expenses for insecticidal chemicals). A holistic agricultural policy could deprecate the use of massive monocrops (64% of Iowa’s land area is devoted exclusively to corn and soybeans, mostly GMO, for example) in favor of multiple-crop systems that help to build soil and break up and reduce pest populations.

Luckily, the basis for such a radical change to our agricultural policy is already in place: the USDA Organic Program (and aligned programs in Canada, Europe, Japan, and elsewhere) lays out the parameters for chemical-free agriculture. But the system needs to be scaled up dramatically with agricultural subsidies redirected from commodities like corn, soy, and wheat to more varied, nutritionally-significant organic crops. With such systems in place, GMO crops could no longer exist in their current form. More importantly, the health of farms, soils, waterways, animals, and plant populations would improve, as would our own.

**Why Buy Organic Seeds?**

Conventional seeds are grown with chemical systems: using petro-chemical fertilizers, herbicides, and pesticides. Organic seeds are grown without petro-chemicals, focusing on soil health, beneficial insects, and nature’s fertilizers.

They’re never treated with anti-bacterial, anti-fungal insecticide coatings, allowing for mycelium, beneficial insecticides, and bacteria for more healthy soil. Seed plants grown for seed production are grown until the seeds are mature, taking the plant past the young and tender stage. They’re grown longer. Seed plants are not subject to the chemical tolerances of plants grown for food. While there are federal tolerances for residues of weed amounts, I couldn’t find any tolerance limit for chemical applications for seed plants in the federal regulations.

Chemical pesticides, herbicides and fertilizers are generally applied by people. The chemicals are, by virtue of their intended purpose, poison.

LifeSource sells quite a nice variety of organic seeds. You can also read through the catalogs of the seed companies we carry and special order any variety you would like. I always find something in those online catalogs that I seem to be unable to resist. Last year it was Glass Jewel Corn. Who knows what it’ll be this year.
I have been the Outreach Coordinator at LifeSource for a few years now and we do a lot of work with kids in the community. These interactions have definitely held a big learning curve for me as I had actually never hung around with kids before.

I do now! Everything from bike rodeos (teaching kids how to safely ride and make sure that their helmets and other gear fit properly), using games to teach about recycling, and educating kids on how healthy eating can be fun. And I was bombing—big time. Once they got over the excitement of getting free goodies, I no longer existed. Finally, out of desperation, I pointed to my knee brace and asked if any of them had ever had to wear a brace or cast. It was quiet for a second and then everyone started talking at once. What followed was 45 minutes of rousing discussion about everybody's previous injuries, accidents, and scars.

We had a difficult time stopping them when it was time to leave. It was a big success, but I felt a little guilty that I hadn't really taught the kids anything. A few months later, my husband and I had two children from Vietnam and I decided to try again. The kids had just arrived in Oregon and it was hard for them to adjust.

I never would have guessed that these "tasting tables" would become one of the highlights of my job. Don't get me wrong—nobody can stare you directly in the face and ignore you like a middle school boy. One of the boys looked at me and said "Yo, Jicima Lady, you got any jicama?" As I started to shake my head and go into jicama logistics, another boy says "Dude, she already told us at school, there is only one farm where she can get organic jicama. It's special. Not like she carries it in her pocket."

During the summer I was at an event with kids at school. It was a Title 1 school and they had never been around kids, to someone that loves helping to bring up strong, smart, and amazing kids. Thank you so much for all of the wonderful things we are doing.
Connecting Local Farmers & Eaters

By Lindsay Trant · Oregon Pasture Network Program Manager

In June 2016, Friends of Family Farmers, a nonprofit organization that supports and advocates for family farms, launched the Oregon Pasture Network (OPN). The program connects Oregon’s pasture-based producers to each other, as well as resources and expert assistance on sustainable grazing systems that are healthier for animals, the environment, and their farms. The OPN also connects these producers to the growing crowd of eaters who care about the source of their food and want to purchase their meat, eggs, and dairy from pasture-raised animals.

Two years later, there are now nearly 60 members of the Oregon Pasture Network and the benefits keep growing. Every member of the OPN is listed in the OPN Product Guide for free (available at www.oregonpasturenetwork.org), allowing Oregonians to locate and purchase products raised in a more environmentally sound manner—on pasture. We plan to keep evolving this Product Guide as the program grows.

InFARMation events in the Portland area through the Fall of 2018 for a deep dive into the benefits of raising animals on pasture— for the environment, for farmers, for animal welfare, for consumers, and for your health. Local eaters came out to hear about pasture-raised beef, poultry, pork, and dairy directly from members of the OPN, restaurant owners, health professionals, and other experts.

For farmers, being a member of the OPN means access to a number of benefits. We sponsor classes to provide expert assistance for producers dedicated to continually improving their pasture-based systems and want to deepen their understanding of the art and science of responsible grazing. Last year we worked with Dr. Woody Lane, of Lane Livestock Services, to offer an 8-week in-depth forage and pasture management course. OPN members got a 50% discount on course fees. One member who took the course said that the course inspired him “to get out and do some of things I already knew needed to be doing. Case in point: Get an updated soil test! It really helped me up my pasture management game and it started paying off in the first season.”

We also provide a place where pastured producers can get together and learn from one another. We host a producer listserv to share tips and information, and we launched a Potluck and Pasture Walk series this summer, hosted by different members of the OPN. The first of these were hosted in Beavercreek and Scio, and over 20 producers came out to each location to learn from one another and talk pasture. One OPN member said that they “gained tremendous value from attending a pasture walk. It was awesome to see how another farmer approaches challenges that are similar to ours, and to get inspired to try some new things.” Since pastures can vary from place to place and seasonally, these walks will continue in different parts of the state and at different times of the year.

Our long-term vision for the Network is to include every Oregon producer who raises animals in a pasture-based system that places a high value on the land, animal welfare, and the well-being of their local communities. We recently opened up the membership to include ‘aggregators,’ those who sell products from other pasture-based producers solely, or in addition to their own. Interested aggregators can now apply!

If you are a producer or aggregator interested in joining the Oregon Pasture Network, you can read more about our program and apply to join at www.friendsoffamilfarmers.org/OPN. Please reach out if you have any questions. Email us at OPN@friendsoffamilfarmers.org or call us at (503) 581-7124.

spotlight on evanhealy

Evanhealy skincare is first and foremost rooted in an appreciation for nature. Esthetician Evan Healy, who for decades cared for every kind of skin, observed that the skin has its own intelligence and responds to ingredients that recognize, rather than challenge this reality.

Incorporating a love for and understanding of plants, evanhealy products bring the skin into optimal balance utilizing beautiful plant oils and waters, and mineral rich clays. All skin types can benefit from these simple ingredients. Evan partners with communities all over the world, including farmers here in the Pacific Northwest, who provide pure, efficacious ingredients for her formulations. Oregon Tilth is the organic certifier.

True beauty, in spite of what the beauty industry would have us believe, is defined from the innate health and vitality that comes from a connection to nature and a recognition that who we are, is enough.
SPRING FOOD FAIR
Saturday, May 18th · 11-4pm

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