Carbon is the basic building block of all living things. And like other natural systems, carbon is cyclical, moving from the atmosphere to plants, animals, microorganisms and back to the atmosphere.

Plants and forests capture carbon dioxide through photosynthesis, storing it as plant matter, which is added to the soil as organic matter. Fossil fuels are created over millions of years as this plant matter decomposes and becomes trapped below sediment. Combustion of fossil fuels releases carbon back into the atmosphere as carbon dioxide. When forests are razed or land is plowed, microbe respiration also releases the stored carbon back into the atmosphere as carbon dioxide.

As carbon moves through its natural cycle, there are sinks (absorbing more carbon than they give off) and sources (giving off more than they absorb). Depending on how you look at it, oceans, soils and forests represent the largest sinks and, as you’re probably aware, burning fossil fuels is the largest source.

Climate change has been directly linked to the amount of carbon-based greenhouse gas emissions released into the atmosphere. Since the introduction of industrial agriculture, soils have lost 50-70 percent of their original carbon stock, which is primarily attributed to the conversion of native systems to intensively tilled systems.

Given that agriculture has increasing pressure to provide for a growing population, recent attention has focused on the ability to reverse this trend by changing the way agricultural soils

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**Saving & Sharing Seeds: Earth’s Heirlooms**

*Bill Thorsness*

Want to garden like your ancestors? The best way is to save, share and reuse the seeds from your own plants.

As much of your garden goes dormant this fall, leave some seed-heads of waning flowers and a few overripe vegetables to be eaten by the wildlife. That’s a form of saving seeds, as the birds can spread them about. It’s also the easiest way of perpetuating a crop, if the plant is the type that will come up next year from seed dropped at its base. This will happen successfully with many garden treasures, from cherry tomatoes to lettuce to kale.

If you’ve planned ahead, perhaps you bagged some seed from the best specimen of your summer crop, and now it’s waiting in the garage to be shelled or winnowed. That’s the second easiest way to save, just capture the seed in a paper bag as it matures. It’s easy-peasy to do with legumes in their pods. With fruiting crops like tomatoes or squash, scoop out the seeds and dry them properly before storing them away for use next year.

And if you’re really a committed seed-saver, maybe you’ve hand-pollinated or isolated the best plants when they flowered, so you can be certain the seed will be true to type. To ensure genetic vigor, you might need seed from a number of plants of the same variety that have pollinated each other.

*Continued on page 2*
Seattle Tilth Ecosystem Provides a Solution

Andrea Platt Dwyer, Executive Director

Choega Thundrup needed a driver license. After three years with our Seattle Youth Garden Works (SYGW) program, he was ready to take the lead at our weekly University District Farmers Market booth. But without a driver license, he had to rely on other staff to transport the tent, produce and materials to and from the market.

Some of you may already know Choega. He spoke at our Gala Auction in 2011, describing his escape from Tibet and his journey to Seattle via India, Los Angeles and Chicago. He entered the U.S. as an unaccompanied minor, and lived in foster care until he aged out of the system. Picking up the language along the way, Choega completed high school, found a place to live and enrolled in college. For the most part, public transportation got him where he needed to go, but with no car to practice on, attaining a driver license remained elusive. The lack of a license meant he couldn’t accept the increased responsibility that he was so clearly ready for.

After exploring multiple options, the Seattle Tilth ecosystem produced a solution. A volunteer came forward offering a vehicle, time behind the wheel and lots of patience. Within a few short months, Choega was driving!

Choega’s story is unique, but the challenges he faced are emblematic of the challenges faced by many of the youth with whom we work. And the volunteer who made it possible for Choega to acquire a driver license is representative of the many people who help these youth overcome the obstacles that prevent them from becoming self-sufficient and productive. Each year, the auction brings together those SYGW youth who need help with people who can help—people like you. It doesn’t require all of us to become driving instructors (thank goodness!), it just requires us to show up and contribute what we can. Hope you will join us at our Gala Auction this year on October 18th!

SAVING AND SHARING SEEDS: EARTH’S HEIRLOOMS

Continued from page 1

To get those precious heirloom vegetables, with their uniqueness and amazing flavors, somebody has to take these steps, year after year. Seed, after all, is a living organism, so the supply must be regularly renewed.

The last step in the cycle is to grow them again, or share them with others to grow. A properly packaged and labeled seed packet can make a treasured holiday gift. It’s a sought-after commodity at seed swaps and barter fairs. It’s the lifeblood of the seed lending library, where you can get free seed saved by fellow gardeners. It’s the life’s work of organizations like Seed Savers Exchange, which preserves our vegetable heritage and coordinates a giant seed-swap among 13,000 members who save, list and share seeds.

It’s important to support professional seed growers and retailers whose work it is to save and sell seed. But to connect with your own garden, and the legacy of seeds savers throughout history, save a few as well. After all, it’s what got you here.

Bill Thorness is the author of Cool Season Gardener and Edible Heirlooms and is a former board president of Seattle Tilth.

The mission of Seattle Tilth is to inspire and educate people to safeguard our natural resources while building an equitable and sustainable local food system.
Win Auction Adventures

Amanda Boyle, Events Manager

The Gala Auction is on its way! We can’t wait to show you all of the fun and exciting items we have in store. On Saturday, October 18, you will be a part of a one-of-a-kind experience, with a photo booth, local food from Herban Feast and a unique and “tilthy” ambience in Historic Hangar 30 at Magnuson Park.

One item from our live auction in 2013 was our “Seattle Progressive Rooftop Garden Tour.” Colin McCrate, one of the founders of Urban Farm Company, is one of the brains behind the flurry of rooftop gardens popping up at restaurants around the city. This auction item took five friends to Sushi Kappo Tamura and Bastille Café and Bar, where Colin had installed edible gardens. At both of these Seattle-based restaurants, attendees imbibed special cocktails and savored appetizers that use ingredients found in the gardens. At Bastille, the group was treated to a private rooftop tour and dining experience – complete with roasted cauliflower on a garbanzo bean pancake, kale salad with tahini dressing and locally sourced patés. They sipped on creative Pimm’s cocktails accented with rooftop cucumbers and tasted fresh herbs straight from the garden.

I spoke with Liza Turley who won this auction item and invited her friends. Turley raved, “Both of the gardens are private, lush and well-cared for so guests felt extremely special. The food was delicious and so fresh! Colin was an incredibly knowledgeable guide on the politics, permitting and gardening intricacies of establishing a rooftop garden in the city.”

There will be more fun, creative and organic auction items at this year’s event! Scope out the items, register and add more people to your table online. The deadline for registration is early October.

Happy bidding!
Meet a Farmer:
Windy Acre Farm’s Chris Sechrist

Micah Anderson, Seattle Tilth Farm Works Education Manager

Chris Sechrist had a problem: his young turkeys were easy prey for coyotes. And raccoons. Not to mention owls, hawks and the birds’ own calamitous curiosity. Electric fencing wasn’t sufficient; the curious jakes and jennies could easily slip through. Insistent on a pasture system that closely mirrors nature, raising turkeys indoors was simply not an option.

Chris’ surprise solution: two black sheep and a llama. The llama, having killed one coyote already, protects the sheep and the turkeys who share the paddock. Together they stay safe and each animal supports another within the system. Chris arrived at such an elegant solution, in part because he’s a meticulous planner, but also because he cares for his animals and has become intimately familiar with their strengths, needs and habits.

At 19, Chris is easily the youngest farmer at Seattle Tilth Farm Works. He’s earnest and eager to contribute to a food revolution that prizes healthy food that is raised naturally and with care. Chris began Windy Acre Farm in 2009, largely in response to his experience observing the relationship between food and health in the hospital wards where his own mother battled cancer. Windy Acre Farm continues to grow, and with his mother’s support, Chris continues striving to change the way food is viewed and produced in his community. “The most exciting part about farming,” says Chris, “is sharing the food with others.”

Our Seattle Tilth Farm Works staff is pleased that Chris introduced turkeys to our farm in Auburn. Good farms benefit from animals to ensure their ecological diversity, close fertility loops and enrich unutilized pasture. Though our farm staff had always envisioned farming with animals, they’d prioritized getting the vegetable systems in order first. This year, the timing is right to support animal systems and conscientious farmers like Chris.

*If you would like a Broad Breasted Bronze turkey, pasture-raised on organic feed at Windy Acre Farm, to share with family and friends this holiday season, please visit seattletilth.org/csameat.*

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Is Meat a Good Choice?

Chris Iberle, Food Hub Manager

People choose a vegetarian diet for many excellent environmental, health, economic and spiritual reasons. Even so, most people choose to eat meat. What we eat is one of the most personal, ethical choices we can make, and every choice has an option that’s more sustainable for the earth.

Research indicates that meat production, especially beef, contributes significantly to climate change. Factory livestock farms also damage our air, water and soil quality in ways that may be irreversible.

Digging deeper, we find that the type of meat production makes a big difference. Yes, eating less meat would lessen environmental damage. Yet the main problem is that most meat comes from industrial farms, where production and distribution use vast amounts of carbon, not to mention antibiotics and inhumane living conditions for animals.

If you make the choice to include meat in your diet, as many of us do, healthier, more humane and more sustainable meat options exist. Animals raised on rotating pasture systems with organic practices are better for the environment, climate and especially for the animals to be able to live full, happy lives.

If you do eat meat, opt for buying it from small farmers whose practices you can trust and verify. Ask for sustainable choices at the grocery store. Eat meat that comes from animals free to roam on pasture, without antibiotics or hormones, eating organic feed, from heritage breeds – a very different life than on factory farms.

Michael Pollan, pop hero of ethical eating, probably put it the most succinctly: “Eat food. Not too much. Mostly plants.” And when you are eating food that’s not plants, opt for sustainable meat.

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Seattle Tilth Turkeys & Pork

This year, Seattle Tilth is offering pastured, organically raised pork from happy pigs at Feliz Farm and Thanksgiving turkeys from Windy Acre Farm—new farm businesses through Seattle Tilth Farm Works. Learn more at seattletilth.org/csameat.
Getting Good Food

Jess Bitting, Food Hub Coordinator

Good food for all -- this is my mantra and what I work toward every day. But for over 80,000 people living below poverty level in Seattle (per the U.S. Census Bureau), accessing nutritious and culturally appropriate food can be challenging.

Among other factors, food access typically depends on distance to the nearest supermarket, availability of transportation and family income. According to National Geographic, the ratio of federal funding for commodity crops (cotton, soy and corn) versus fruits and vegetables is 7:1, making the cost of nutrient dense produce prohibitive for many families living below poverty level.

Seattle Tilth’s Good Food Bag program works to improve food access by delivering weekly bags of fresh produce directly to hubs like childcare and senior centers serving low-income communities. We save customers time by delivering to places where they are already gathering and we sell the bags at a subsidized rate, which makes it more affordable to eat healthy.

One community-based organization that we deliver to is Tiny Tots Development Center, a childcare in the Rainier Valley serving families of whom over 80% are considered low-income. The past 18 months of Good Food Bag distribution has been a catalyst for change at Tiny Tots. Staff host community dinners and participate in training with our Community Kitchens Northwest program. Children harvest produce from gardens Seattle Tilth helped install. These days, meals and snacks for the kids at Tiny Tots have more fruits and vegetables. They even started a Get Fit Challenge to encourage weight loss and healthy eating. We’re excited that parents and staff have lost a collective 230 pounds in the past year! One of the leading contenders in the challenge is a woman who purchases two Good Food Bags each week.

The enthusiasm surrounding good food is contagious. In addition to cost and time savings, Good Food Bag members are excited to receive unique vegetables like celeriac and sunchoke and to discuss cooking tips with fellow members. One senior center member shared with a smile: “It is always a surprise when I open my bag – it’s like being in a candy store as a kid.” Everyone deserves this right, this pleasure and this access – to good food.

Interested in supporting our Good Food Bag program? We’re always looking for volunteers to help pack bags and financial support to continue offering them at a subsidized rate. Please contact jessicabitting@seattletilth.org.

Garden Bartender

Carey Thornton, Adult Education Program Coordinator

Nights are getting cooler and it’s a great time to cozy up with a fall drink. If you have any carrots slumbering away in your garden and dried coriander from your bolted cilantro, use them throughout the winter to keep toasty with this spicy-sweet beverage.

Carrot Coriander Cocktail

Instructions: Carrot Juice
Grate one large carrot on the fine side of box grater or microplane. Use a small mesh strainer, cheesecloth or your hands to squeeze out the juice. Alternatively, you can use an electric juicer or purchased 100% carrot juice.

Instructions: Coriander Ginger Syrup
Measure 1 1/2 cups of water and pour into a small pot. Add a tablespoon of crushed coriander seeds and a tablespoon of minced ginger and bring to a boil. Lower heat and simmer for 15-20 minutes. Add 1 cup sugar and stir till the sugar dissolves. Remove from heat, cool and strain out the coriander. This recipe makes a little over a cup of syrup. Bottle extra syrup and store in the fridge for up to a week for more drinks later!

Ingredients
2 oz. fresh carrot juice
1 oz. vodka
.5 oz coriander ginger syrup (or more to taste)
Shake in a cocktail mixer with ice. Serve it up in a cocktail glass.

Variations: include other spices in your simple syrup mixture like cardamom, nutmeg or cinnamon.

Cheers and happy fall!
are managed. The main way soils sequester carbon is in the form of organic matter—decomposing plant and animal tissue, microbes and minerals that hold onto carbon molecules and make them less vulnerable to atmospheric release. Ecologically-based soil management represents a huge opportunity to sequester carbon and help offset carbon dioxide emissions. So what are some soil practices that you can put into place to help grow your soil’s carbon bank account?

As gardeners and farmers, we can help build organic matter in the soil and increase carbon sequestration with these practices:

- conservation tillage and cultivation,
- cover cropping,
- crop rotation,
- making and applying compost,
- eliminating synthetic fertilizers, pesticides and fungicides which hurt beneficial microbes.

In many cases these practices are twofold, both limiting carbon dioxide emissions as well as increasing biodiversity, watershed health and crop yield.

And let’s not forget about native grasslands and forests, also a vulnerable carbon pool, often under assault by development and industrial agriculture. According to Nature Geoscience in 2009, worldwide deforestation, whether it be for increased ethanol crop production or rare wood extraction, stands as the second largest contributor of carbon dioxide emissions. All the more reason to advocate for the preservation of these spaces and the treatment of soil carbon as a renewable resource.

Seattle Tilth programs offer a variety of ways to learn about and practice soil carbon conservation activities. You can volunteer at one of our educational gardens or farms which employ organic practices, enroll in our Master Composter/Soil Builder programs, take one of our many classes that teach about building healthy soil—including Composting 101 and Put Your Garden to Bed in October or November—or build soil organic matter at home.

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Garden to Table
From Bone (and Stone) to Bone

Leika Suzumura, Community Kitchens NW Program Manager

The health of our bodies can be seen as a reflection of the health of our soil. Just as soil requires a rich mix of bacteria, nutrients and minerals to grow and thrive, our bodies function in the same way. Here we will highlight the importance of calcium in our soil and its transfer into the foods we harvest from the garden.

With calcium levels often low in the Northwest soils, adding bone meal, oyster shell, limestone or dolomite can be fortifying for your soil. Those nutrients are then routed through the roots into the plants where they are found most abundantly in the leaves. This makes the brassica family, with its high sensitivity to absorbing soil nutrients, a desirable food to enjoy in its many forms. Whether crispy as kale chips, shredded cabbage as coleslaw, stir fried bok choy, the endless potential of brassica greens will not only please the palate but strengthen your bones!

Cabbage Patch Soup with Fresh Dill  Makes 6 servings

Ingredients

- 2 tablespoons olive oil
- 1 pound ground beef*
- 5 carrots, chopped
- 1 yellow onion, diced
- 2 bell peppers, chopped
- 1 head of cabbage, chopped
- 3 green onions, chopped
- 1 teaspoon cumin
- 1 teaspoon chili powder
- 15-ounce can kidney beans, drained
- 2 14.5-ounce canned diced tomatoes, undrained or 3.5 cups fresh tomatoes
- 1 6-ounce can tomato paste
- 1 quart beef broth*
- 3 tablespoons fresh dill, chopped
- Salt and pepper

Instructions

- Heat oil in a large pot over medium heat. Brown the ground beef.
- Add carrots, yellow onion, bell peppers and cabbage. Sauté until the onion is translucent.
- Add green onion, cumin, chili powder, kidney beans, diced tomatoes (with juice), tomato paste and beef broth. Bring to a boil, reduce heat and simmer for 45-60 minutes.
- Stir in fresh dill, salt and pepper, to taste.

*Omit ground beef and use vegetable broth for a vegetarian version.

Recipe by Allyse Ingalls, Community Kitchens Northwest intern.

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**GET IN TOUCH WITH YOUR CARBON**

Continued from page 1
Hot Questions from the Garden Hotline

Protect & Restore Your Soil for Winter

Laura Matter, Garden Hotline Coordinator

Q. I just moved into a house with two raised beds that have nothing in them. What should I do with them this time of year?

A. Fall is a wonderful time to focus on improving your soil or to plant for next season’s harvest.

- Test your soil to get the baseline. Call the Garden Hotline for options on where to send your soil for testing.
- A basic soil test will tell you what your soil needs; organic matter, nitrogen, pH levels and more.
- With test results in mind, amend your soil and protect it for the winter.

Q. What does it mean to “protect your soil”?

A. By protecting your soil you help avoid compaction from winter rain and leaching of important nutrients like calcium from soil over the winter. The loss of calcium is what makes our soils acidic in the Northwest. Here’s what you can do:

- Add compost. This can be done by spreading it on top of the soil or digging it in. If you are not planting anything at all in the beds then do the next option, too.
- Cover your soil with burlap to allow rain through and to keep weeds down. Next spring, simply remove the burlap and loosen the soil to plant. You can also tuck deciduous leaves, like those from a maple tree, under the burlap for the winter.
- Plant a cover crop; try a stand of cereal rye, oats or winter wheat, or legumes like crimson clover, vetch or Austrian winter peas. Or mix it up! Next spring when you are ready to plant just trim the crop down and turn it under and let it decompose for a week or two.
- Plant late winter crops like garlic or fava beans. Fava will also do double duty as a cover crop which can be cut up and turned in after you harvest. Garlic will begin to sprout and then sit quiet for the winter. Mulch around both crops with straw or leaves. Garlic is harvested in early summer, so be sure you can spare the space for that long.
- Fill the beds full of pansies! Edible and sweetly scented, pansies will cover your soil while providing you with a lovely display and fresh colorful petals for a winter salad or holiday dessert topping. Next spring you can move them to shady parts of the yard when you need space for planting.
Learn, Grow, Take a Class!

Three prices are listed for each class: for the general public, for Seattle Tilth members and for two members of a household taking the class together. For example: $45(non-member)/$35(member)/$68(household). Become a member through our website or use the form on page 7. Advanced registration and payment are required for classes. Class details and registration information are found on our website under the “Learn” tab or by scanning the QR code.

Questions? Call (206) 633-0451 ext. 128.

Class venue:
GSC: Good Shepherd Center, 4649 Sunnyside Ave N, Seattle
BGP: Bradner Gardens Park, 1730 Bradner Place S, Seattle
VSP: Victor Steinbreuck Park, 2001 Western Ave, Seattle

Veggie Gardening
Put Your Garden to Bed, $36/$25/$54
Sat. Oct. 4, 10 a.m.-noon, GSC
Sat. Oct. 18, 2-4 p.m., BGP

Build Unique Raised Beds, $45/$35/$68
Sat. Oct. 11, 2-5 p.m., GSC

Composting 101, $36/$25/$54
Sat. Oct. 11, 10 a.m.-noon, GSC
Sat. Nov. 1, 10 a.m.-noon, GSC

Permaculture & Sustainable Landscapes
Urban Weeds & Wild Foods – Pt. 1: Identify & Harvest, $36/$25/$54
Sat. Oct. 18; noon-2 p.m., GSC

Garden Educator Training
The Garden Classroom, $60/$50
Sat., Oct. 25; 8:30 a.m.-4 p.m., GSC

Schoolyards and Sustainability, $36/$25
Sat., Nov. 22 10 a.m.-noon, GSC

Kitchen Classes
Pickles and Fermentation, $45/$35/$68
Sat., Oct. 11 10 a.m.-noon, GSC

Urban Weeds & Wild Foods – Pt. 2: Preparing Your Table, $36/$25/$54
Sat. Oct. 18; 2-4 p.m., GSC

You’re invited to:
Seattle Tilth’s Gala Auction
Saturday, October 18
5-9 p.m.
Historic Hangar 30 at Magnuson Park
Enjoy an exciting night supporting Seattle Tilth!

Go Green for the Holidays
Remember Seattle Tilth when planning your year’s end holiday gifts (books, tees and gift certificates) and charitable giving.

Bring the Whole Class
Talk to your kids’ teachers about visiting our gardens for hands-on learning adventures!