



Harmony Valley Farm

An update for our Community Supported Agriculture Members - Since 1993

July 3, 2014

The Future of Food

by Sarah Janes Ugoretz

In April of this year, National Geographic launched an eight-month series aimed at exploring how we eat today and how we might access food in the future. As our population increases and the impacts of climate change become ever more prevalent, this later concern is of growing importance. In addition to each month's featured article, which is included in the magazine, National Geographic launched *NatGeoFood.com*, a dynamic web portal that allows readers to dig deeper into the multitude of issues that fall under this topic. Ranging from climate migration and the rise of suburban agrihoods to culinary adventures in Italy and France, you're sure to find an article or two that attracts your attention.

The inaugural feature, published in the May 2014 issue, provides an introduction to the question of how we will feed nine billion people by 2050. Written by Dr. Jonathan Foley, who directs the Institute on the Environment at the University of Minnesota, "A Five-Step Plan to Feed the World" lays out several major challenges facing us as we try to simultaneously increase the amount of food available and decrease the negative environmental impacts of agriculture. Whether or not Foley's plan is the solution to how to feed the world is up for discussion, but he does raise points that are relevant to anyone who eats—which, to varying degrees, is all of us.

Foley opens the article by saying: "When we think about threats to the environment, we tend to picture cars and smokestacks, not dinner. But the truth is, our need for food poses one of the biggest dangers to the planet." He's right. Agriculture emits more greenhouse gases than cars, trucks, trains and airplanes combined. As an industry, it uses the most water and is responsible for an enormous amount of pollution. As forests have been cleared to make way for grazing and crop cultivation, irreplaceable biodiversity has also been lost. While it is projected that our planet will have 9 billion inhabitants by 2050, Foley points out that an increase in the number of mouths to feed is only one part of the problem. As incomes and affluence have risen across the globe, discretionary income is driving up the demand for eggs, meat and dairy. Since a majority of the eggs, meat and dairy being demanded are the result of grain-based production practices, current trends suggest that to keep pace with this demand, soybean and corn production will have to increase two-fold by 2050.

Faced with this looming dilemma, the widespread response by individuals has been to take sides. Today, it's Big Ag versus local food and organic farming. Instead of further polarizing the issue, Foley emphasizes the need to find common ground. Both conventional agriculture and local and organic production have important know-how and tools to

This Weeks Box

Mini Romaine or Green Boston Lettuce: Tired of salads and wraps? Lettuce is delicious on the grill and drizzled lightly with a balsamic vinaigrette. Rinse and dry well before preparing.

Purple Scallions: Make a quick mix of sautéed vegetables by cooking diced zucchini with sugar snap peas. Add thinly sliced scallions at the end of cooking.

Garlic Scapes: To easily chop the scapes, Cut the curls into 1-2 inch pieces and put them in a food processor. Pulse the processor a few times until the garlic scapes are chopped finely. Now they are ready to add to stir-fry, salad, pesto or other dishes.

Sugar Snap Peas: Don't forget these have edible pods! Simply remove the stem end and the string that runs along the top of the pod. Lightly saute or stir-fry the pea pods, or just eat them raw!

Strawberries: This will likely be the last week for strawberries. If you haven't celebrated summer with a strawberry daiquiri, then this might be the week!

Zucchini or Scallop Squash: Make a raw salad by thinly slicing the zucchini or squash. Toss with oil, a splash of vinegar, red pepper flakes, salt and pepper. Garnish with scallions and feta cheese.

Kohlrabi or Green Top Beets: Cut the kohlrabi into slices and take them with you on your holiday road trip this weekend. They make great finger food! Beets pair well with fennel in a simple salad dressed with a lemon vinaigrette.

Cucumbers: Cool off with a cucumber cooler! Cucumbers are a great vegetable to toss into blended fruit and juice drinks. Check out the recipe in the fruit newsletter for a Blueberry-Cucumber Cooler.

Yukina Savoy: Yukina savoy is closely related to bok choy. It is a great vegetable to add to a stir-fry, but can also be sliced thinly and used as a salad green.

Fennel: Check out the vegetable feature in the newsletter this week.

Napa Cabbage: Wash and dry the leaves well before using. Make a Napa cabbage slaw with cilantro vinaigrette and garnish it with chopped peanuts.

Cilantro: Blend cilantro with garlic scapes, scallions and oil to make a smooth sauce that goes great on grilled meats.

contribute, he urges. "Both approaches offer badly needed solutions; neither one alone gets us there." What he proposes is blending the best of both.

Here is where the five-step plan comes in. While the overall strategy Foley proposes is quite broad, the blueprint is promising and certainly offers a springboard from which to discuss options and move forward. The **first step** in Foley's plan is to freeze agriculture's footprint by putting a moratorium on clearing land for agricultural purposes. We've already cleared areas the size of South America for crops and Africa for grazing, and a majority of this land is being used to produce meat and other non-food items such as palm oil and timber. Not only has this convention of agricultural expansion been devastating for the environment, but the populations who depend on the land being cleared often have little say and even less to gain from this practice.

Step two, you might have guessed, is to focus on increasing yields on the land we currently have in production. Foley is careful to differentiate between this approach and the practices that accompanied the Green Revolution. (Beginning in the 1960s, the Green Revolution promoted a set of ideas and tools to farmers primarily in Asia and Latin America, including high-yielding seed varieties, mechanical irrigation systems, and chemical fertilizers and pesticides, with the goal of increasing food production. Whether yields actually increased over time has been widely debated, and the Green Revolution's negative impacts on the environment and

on farmers' rights have been adverse, to put it mildly.) In places where there are "yield gaps"—basically, where the land could produce more if it were subjected to improved farming practices—technology and mechanization could be blended with best practices from organic production techniques to increase yields.

Using resources more efficiently is the **third step**. Basically, the goal here is to get "more crops per drop." Foley argues that while conventional agriculture has been responsible for its fair share of pollution, technology now exists to help minimize run off and more precisely apply pesticides and fertilizers to crops. Meanwhile, organic farming can be called upon as an example of how to use cover crops, compost and mulches to improve soil health and conserve water. One major concern at this point, however, is that only 55% of the calories grown today feed people directly. Livestock accounts for roughly 36%, while industrial products and biofuels make up the rest. Foley argues that a shift in diets, the **fourth step**, would make it significantly easier to feed the world's population. Consider these stunning figures: "For every 100 calories of grain we feed animals, we get only about 40 new calories of milk, 22 calories of eggs, 12 of chicken, 10 of pork, or 3 of beef." Moving away from grain-based meat production, especially when it comes to beef, would allow us to allocate resources more efficiently. The ultimate result would be an increase in food availability worldwide.

Foley's **final step**, which he believes is one of the most effective ways to increase food

(feature article continued)

availability, focuses on the need to reduce waste. Roughly 25% of the food calories produced globally go unconsumed—either wasted or lost before they can be utilized. In the developed world, food waste occurs in homes, grocery stores and restaurants. Being mindful of portion size, eating leftovers, and buying less could go a long way in reducing waste. By contrast, in the developing world and among least developed countries this waste is often due to inadequate transportation infrastructure and poor or absent storage methods, two factors that make it difficult or impossible for farmers to store their goods and/or move them from field to market. In order to tackle these issues, targeted investment accompanied by long-term efforts is needed.

So that's it—the five-step plan. Does it sound easy? I can assure you that it won't be. There are numerous power issues at play, and on the other end of the spectrum there are countless individuals, especially in the developing world, whose rights will likely need to be protected against high-profit and high-yield driven interests. Businesses will need to be convinced to change their practices, and individuals will need to be convinced to change their eating habits. And don't forget about that changing climate of ours. Many—perhaps at some point, all—of the steps we take going forward will need to be based on projected or observed climate change impacts.

“The good news,” Foley assures us, “is that we already know what we have to do; we just need to figure out how to do it.” In the coming months, we'll continue to build off of many of the points Foley raises in this piece, as we discuss and consider the remaining seven articles in the Future of Food series. By the time we reach the end, our hope is that we—and you—are left with a measured and informed outlook on the future of food.

Featured Vegetable: Fennel

by Andrea Yoder

Fennel is a unique vegetable, unlike any other we grow. It is in the same family as carrots, dill, and parsley which are characterized by their feathery tops and round, flattened flower heads called umbels. Fennel is distinguished by its licorice or anise-like flavor and aroma. For those of you who like the flavor of licorice, this could quickly become one of your favorite vegetables. If you are not a fan of licorice and would rather put your fennel in the swap box, I'd encourage you to read on and consider giving it a try.

Fennel is a crisp, sweet-scented vegetable. The entire plant is usable, starting with the bulb at the base of the plant which is the portion that is most often eaten. The stems extending from the bulb can be used to flavor soups, stocks, etc, but are often too fibrous to eat. The feathery tops are called fronds. They have a mild, fresh fennel flavor and are used more as a seasoning or herb. They can be chopped finely and added to salads, used to garnish soups, or blend them into fruit or vegetable drinks or smoothies. You can also stir the chopped fronds into yogurt or sour cream along with scallions, cucumbers or other herbs and use it as a sauce or dip for vegetables, bread, fish or poultry. If the plant is left to form a flower, the pollen from the flower can be collected and used as a seasoning.

Fennel is common in Mediterranean cuisine including Italian and Greek cooking. It can be eaten raw, braised, grilled, boiled, roasted or sautéed. It is often used in gratins, cream soups, seafood dishes, simple salads and antipasto platters. Fennel pairs well with many foods including: lemons, oranges, apples, honey, white wine, olives, beets, tomatoes, potatoes, fish, seafood, pork, cured meats, beans, cream, Parmesan cheese and blue cheese.

Fennel contains a volatile oil called anethole which is responsible for its licorice flavor and aroma. It has been shown to reduce inflammation and aids in digestion. The flavor of fennel is strongest when eaten raw. When sautéed or cooked, the oils volatilize which lessens the intensity of the flavor and the sugars in the vegetable start to caramelize. Thus, cooking mellows and sweetens the flavor while the color changes from bright white to a golden hue. When eating fennel raw, I recommend thinly slicing or shaving the bulb. Cutting it in this way makes it tender and delicate, as opposed to overwhelming. One of my favorite ways to enjoy fennel is to dress thinly sliced fennel with a simple honey-lemon vinaigrette. So simple, yet very delicious. Store your fennel wrapped loosely in plastic in the crisper drawer of your refrigerator

White Bean & Fennel Salad

Adapted from Deborah Madison's *Vegetable Literacy*

This salad pairs very well with seared salmon or any other fish.

For another variation, consider adding a can of tuna and/or chopped olives to the salad.

Serves 4

1 cup dried cannellini, navy or other dried white beans, soaked overnight in water to cover

2-3 scallions, bulb and green tops

2 small or 1 medium fennel bulbs, with fronds

Grated zest and juice of 1 lemon

2 Tbsp rice vinegar or white wine vinegar

5 Tbsp olive oil

1 tsp fennel seeds, toasted

Sea salt, to taste

Freshly ground black pepper, to taste

1. Pour the soaking water off the beans and put the beans in a pot. Add fresh water to cover by a few inches, bring to a boil and boil hard for 10 minutes. Lower the heat, cover and cook gently until the beans are tender but still hold their shape.
2. While the beans are cooking, prepare the remaining components of the salad. Thinly slice the scallions. Trim off the stalk and fronds from the fennel bulb. Finely chop 3 Tbsp of fronds and set them aside. Cut the fennel bulb into quarters and remove the core. Slice the fennel very thinly and set aside.
3. Whisk 2 Tbsp of the lemon juice with the lemon zest, vinegar, oil, and ½ tsp salt.
4. When the beans are done, drain them, pour them into a shallow bowl and let them cool for 5-10 minutes. Toss them with the lemon vinaigrette, fennel seeds, and sliced fennel. Season well with salt & pepper. Gently stir in the scallions and fennel fronds. Adjust the seasoning to your like with salt and black pepper.
5. Serve the salad at room temperature or just slightly warm.

Blended Lemonade with Ginger & Fennel

by Andrea Yoder

Yield: 3 servings

½ cup honey

2 ½ cups water

1 Tbsp fresh ginger, peeled and minced

½ cup fresh lemon juice

½ cup fennel fronds, tightly packed

1. Combine honey, water and ginger in a small pot. Bring the water to a simmer over medium heat and simmer for 4-5 minutes. Stir to make sure the honey is fully dissolved. Remove the pot from heat and set aside to cool to room temperature.
2. Carefully pour the honey and ginger mixture into a blender. Add the lemon juice and fennel fronds. Blend on high speed until the mixture is smooth and bright green.
3. Serve over ice. Garnish with a stem of fennel fronds or lemon slices.