

Good Food NEWS

ENERGY AUDIT ON OUR FOOD SYSTEM

By Mark-Jan Daalderop

I called up our Food system on the telephone and said in a slow calming tone: You... are getting an energy audit. The Food System took the news quite well and even said it was about time that we called. I told the Food System that I planned to audit one of the Food System's finest products: The Hamburger. Here is my report.

CLIENT: FOOD SYSTEM
Product line: Hamburger (1 quantity)

Early Wednesday, in October, I started my day by visiting a few of the farms that supply the produce and meat for the hamburger. I calculated the amount of energy that goes into growing the lettuce, the cucumbers, the wheat for the bun, the milk for the cheese, and the corn for cattle feed. The lettuce was grown in a local heated greenhouse, which made it the second worst energy guzzler followed by the energy to raise the cattle for the patty. In total 10 MJ of energy were used to grow the food to make a hamburger. For comparison, a small car uses an average of 0.5 MJ per km. Currently 1500-2000 liters of petroleum are needed each year to grow food for each person in Canada, about the fuel we would need to fill up a car tank once per week. This sector of the Food System is due for some major changes. Increasing diversity of crops to reduce insect damage, using compost instead of petrochemical fertilizers, reducing consumption of meat, and purchasing crops that are not grown in green houses are a few recommendations.

Next I took a tour of the grinding, baking and pickling plants. For a hamburger 5.25 MJ of energy go into processing all of the food. I recommend that the Food system moves towards using less processed food or using products like whole wheat, instead of white flour, which requires less processing.

I then went to a giant cold storage facility where I walked down rows and rows of hamburger buns, hamburger patties, and cucumbers ready to order. I calculated that storing all ingredients for 1 hamburger uses 4 MJ. I recommend that the Food

System moves towards purchasing fresh regional produce that do not need to be stored for long periods of time.

The next audit was on the transportation system. Surprisingly of the total amount of energy used in creating one hamburger, from Field to Table, is only 4-5% of the energy total. To transport all ingredients, some from local sources, some from regional sources and some from international sources it takes 0.88 MJ of energy. I recommend that we use a transportation system that uses high efficiency vehicles for the shortest trips possible. A Ship can be as much as 10 times more efficient than a car or small truck in transporting goods. Local food systems reduce the distance but use very inefficient vehicles, while international food systems use great distances with very efficient vehicles. For this reason, according to a study by Rich Pirog at Iowa state University for Sustainable agriculture, a regional or cross provincial system is likely the most efficient.

The final audit was at the consumer level. With a trip distance of 5 km to the restaurant selling the hamburger, a consumer driving a small car uses 2.5 MJ. This is close to 3 times the energy of transporting all the ingredients to the restaurant. My recommendation is that consumers using the Food System should take public transportation or cycle to access food if possible. I also recommend that we have more neighborhood markets to reduce trip distances.

In conclusion, in order for our Food System to be sustainable in the long run, we need to reduce our energy consumption by acting on the aforementioned recommendations.

Sincerely,
The Energy Audit guy

References: Energy Use in the Food Sector by Annika Carlsson-Kanyama

The Localvore's Dilemma by Drake Bennett

Help us Replant ourselves!



Food Share

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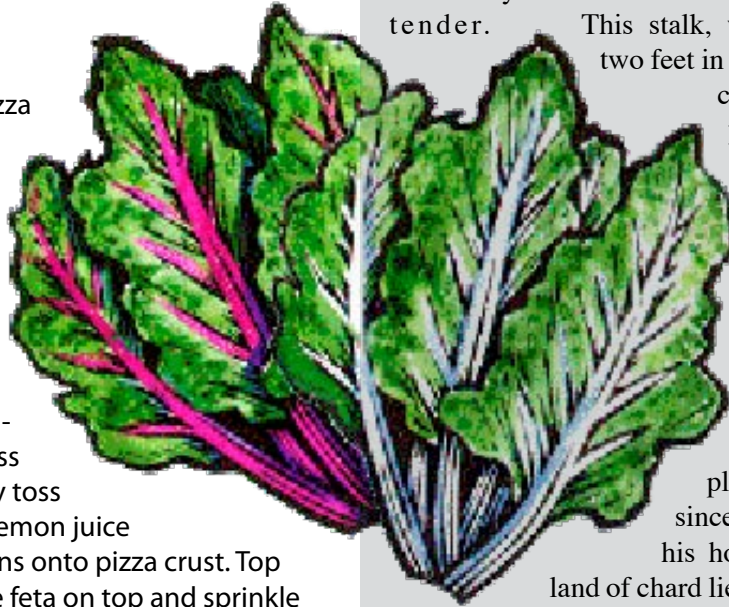


recipes

Greek Pizza with Swiss Chard

- 1/2 cup dry-packed sun-dried tomatoes
- 1 TBS fresh lemon juice
- 2 cups swiss chard, chopped
- 1 TBS minced garlic
- 3 dashes olive oil
- 1 12 inch whole wheat pizza crusts (we used thin crust Boboli)
- 5 kalamata olives, pitted and chopped
- 3 ounces mild feta cheese,
- 2 tsp fresh oregano leaves

Preheat oven to 400F. Soak tomatoes in hot water 10 minutes or until soft. Drain and chop. Chop swiss chard (including stems) and lightly toss with garlic and olive oil. Squeeze lemon juice onto greens and then scatter greens onto pizza crust. Top with tomatoes and olives, crumble feta on top and sprinkle with oregano. Bake 12 minutes directly on rack or until cheese is soft and golden in spots and crust is crisp.



Penne with Swiss Chard and Garlic

This dish can be prepared in 45 minutes or less.

- 1 lb Swiss chard, stems and leaves chopped separately
- 1/8 tsp dried hot red pepper flakes, or to taste
- 3 large garlic cloves, thinly sliced
- 2 tbsp olive oil
- 1/2 cup water
- 1 cup drained canned tomatoes, chopped
- 1/2 lb penne or other tubular pasta
- 1/4 cup freshly grated Parmesan plus additional as an accompaniment

Rinse and drain separately the Swiss chard stems and leaves. In a large heavy skillet cook the red pepper flakes and the garlic in the oil over moderate heat, stirring, until the garlic is pale golden. Add the stems and 1/4 cup of the water and cook the mixture, covered, for 5 minutes, or until the stems are just tender. Add the leaves with the remaining 1/4 cup water and salt and pepper to taste and cook the mixture, covered, for 5 minutes. Stir in the tomatoes and cook the mixture, covered, for 3 minutes, or until the leaves are tender. While the chard is cooking, in a large pot of salted water boil the penne until it is al dente and drain it in a colander. In a large bowl toss the penne with the chard mixture and 1/4 cup of the Parmesan cheese. Serve with the additional cheese. Makes 2 servings.

featured this week: SWISS CHARD

Chard belongs to the same family as beets and spinach and shares a similar taste profile: it has the bitterness of beet greens and the slightly salty flavor of spinach leaves. Both the leaves and stalk of chard are edible, although the stems vary in texture with the white ones being the most tender.

This stalk, which can measure almost two feet in length, comes in a variety of colors including white, red, yellow and orange. Sometimes, in the market, different colored varieties will be bunched together and labeled "rainbow chard."

Swiss chard isn't native to Switzerland, but the Swiss botanist Koch determined the scientific name of this plant in the 19th century and since then, its name has honored his homeland. The actual homeland of chard lies further south, in the Mediterranean region, and in fact, the Greek philosopher, Aristotle wrote about chard in the fourth century B.C. This is not surprising given the fact that the ancient Greeks, and later the Romans, honored chard for its medicinal properties.

Choose chard that is held in a chilled display as this will help to ensure that it has a crunchier texture and sweeter taste. Look for leaves that are vivid green in color and that do not display any browning or yellowing. The leaves should not be wilted nor should they have tiny holes. The stalks should look crisp and be unblemished.

To store, place unwashed chard in the refrigerator in a plastic bag. It will keep fresh for several days. If you have large batches of chard, you can blanch the leaves and then freeze them.

DELIVERIES

for the week of: **Aug. 14**
orders are due
5 pm Tues. **Aug. 7**

for the week of **Aug. 21**
orders are due
5pm Tues. **Aug. 14**



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