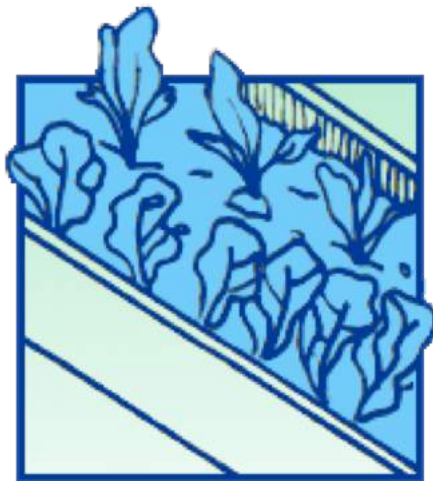


4. Food

TRANSITION



STREETS



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A strong local food system is essential if our communities are to be more self-reliant, less fossil fuel-dependent, and less exposed to weather and price fluctuations. In times of global shortage and local supply disruption, it's important that we be able to feed ourselves sufficient nutritious food at a reasonable cost.

In the past, most communities *were* self-reliant. Foodsheds around the U.S. were diversified, with many regions around the country supplying grains, fruits, vegetables, meat and dairy. Locally-owned farms and small businesses like grocers, meat markets and bakeries were part of a network rooted in community.

The industrialization of our food system brought about huge changes. Big agribusiness and consolidated supply chains dominate. Today, most consumers are disconnected from the source of their food, which is shipped to us via truck, ship or plane from countries around the world. Even food processing has moved overseas! (In 2017, the U.S. began receiving chickens processed in China.)^[1]

Investing in local food systems has multiple benefits. It creates and protects local jobs while supporting, and even rejuvenating, local economies. Not having to ship food hundreds of miles means less truck traffic and less fossil fuel consumption, which means less carbon dioxide being emitted into the atmosphere.

When we grow our own produce, we can eat a great range of fresh, tasty, nutrient-dense seasonal food, often within hours of it being picked, with no processing or excessive packaging required.

Of course, everything can't be produced locally, or even regionally. Bananas won't be coming to the northeast anytime soon. But growing and eating foods suited to your bioregion makes climate sense and gives regional cuisines their unique flavor.



Transition Streets

4.2 FOOD

The Practical
Action Plan

What can you do about it?

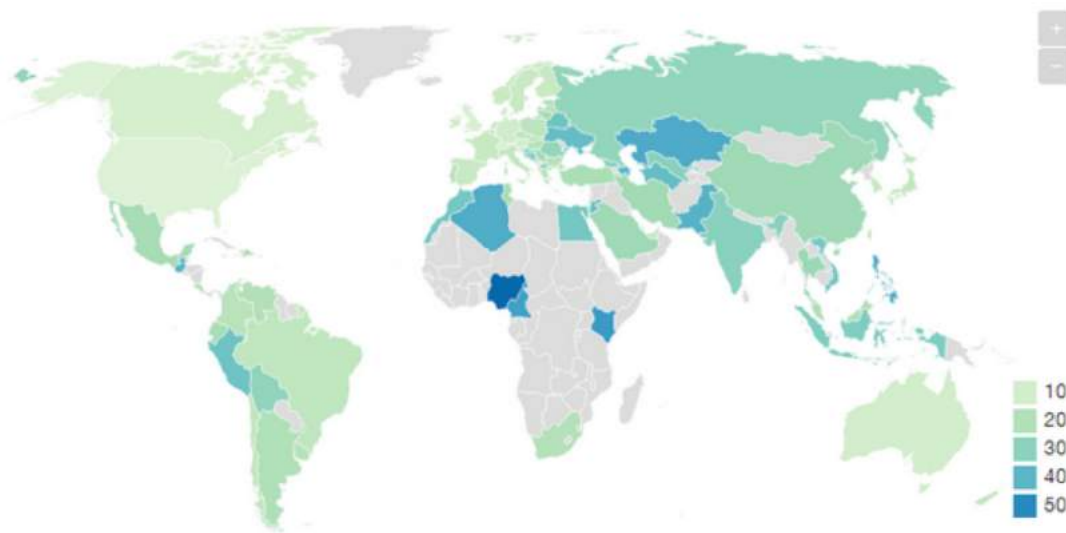
Each of the actions below can give you tasty, fresh food for less money, fewer CO2 emissions, and fewer negative environmental and social impacts, often while helping to build a stronger local food system.

In your group, have a brief discussion about each item and then decide which ones *you* want to tackle and when. Record your action plan at section 4.19.

- **Buy local, seasonal foods** (4.3)
- **Reduce food waste** (4.9)
- **Try organic** (4.11)
- **Grow your own** (4.13)
- **Eating lower on the food chain** (4.15)

Food prices: While food costs have been rising for American households, and now account for 9.9% of disposable income,^[2] the average U.S. citizen still spends a smaller percentage of their total budget on food than citizens in any of the other 83 countries tracked by the U.S. Department of Agriculture.^[3]

by selected countries, 2015



Source: ERS and Euromonitor International [Get the data](#)

Created with [Datawrapper](#)

Image: World Economic Forum

Transition Streets

4.3 BUY LOCAL, SEASONAL FOODS

The Practical
Action Plan

Cost: varies

\$ Savings: low

Effort: medium

CO2 saved:
med-high

Challenge

In the U.S., on average, food travels 1,500 miles from farm to consumer. Your much-loved lettuce and grapes may have flown more than 2,000 miles to reach you.^[4] All those “food miles” add up to CO2 in the atmosphere.

Equally problematic, our industrial food system has contributed to the loss of heirloom seed varieties, family farms, local slaughterhouses, local processing plants, local food distribution systems, and small shops. It’s hard to compete when only a few companies control the market.



Solution

Fortunately, this trend is beginning to reverse as people see that buying local strengthens our economy, and the health of families and communities.

Local food is not just about food miles, it’s also about food that is produced and distributed in ways that contribute positively to people in your state or region. Local food systems help communities to thrive by:

- Providing jobs and supporting business networks.
- Distributing food directly in their area.
- Creating positive social connections.
- Providing healthy, fresh, seasonal food for the community.

Yes, but, ... some food can't be produced locally. Very rarely can a local region be completely self-sufficient. Trade, if carried out in a fair way, also has many positive impacts, including education and improved quality of life. It’s fine to buy things that can’t be produced locally, but we can try to be sure the goods are produced fairly and ecologically, wherever they come from.

Transition Streets

4.4 BUY LOCAL, SEASONAL FOODS

The Practical
Action Plan

Supporting local food systems

Find Your Local Farmers Market (or start one). When the U.S. Department of Agriculture (USDA) began publishing its National Directory of Farmers' Markets in 1994, there were 1,755 farmers' markets. By 2018 that number had grown to 8,740^[5] and some communities are served by spring and winter markets as well. Check out the Directory of Farmers Markets to find one near you: <https://www.ams.usda.gov/local-food-directories/farmersmarkets>.

"Pick your own" options for blueberries, apples, corn, etc. are popular in many regions of the country.

Join a CSA: Another popular way for consumers to access fresh, local, seasonal foods is by joining a community-supported agriculture (CSA) program: a partnership between a buyer and a local farmer that guarantees a market for their crop. In 2015, the number of CSA farms in the U.S. numbered almost 7,400.^[6] Most are located near urban areas in the New England, Mid-Atlantic, and Great Lakes regions, with growing numbers on the West Coast.

Many CSAs sell only organic produce, but not all – so it's important to ask how the produce was grown. CSA produce generally varies from week to week, depending on what is ready to harvest. Most farms sell only homegrown produce, while some source additional products from other local producers. Many CSAs ask for a list of up to three vegetables you don't like so they can swap those out for something you would want.

CSA boxes are competitively priced and may be cheaper than organic supermarket produce. Some CSAs will deliver to your door, while others deliver to a central location for pickup. Local Harvest (<http://www.localharvest.org/csa/>) is a great resource to explore what kind of CSA works for you and your family.

Share information about local farmers markets, farm stands, farm tours, and CSAs with your group members.



Transition Streets

4.5 BUY LOCAL, SEASONAL FOODS

The Practical
Action Plan

Savings and benefits

Eating local food from a nearby farm is more likely to be healthy, fresh, and in season – when food tastes best!

Quality is likely to be higher than what you'd get at a big box store.

Local food can be cheaper.

Community Supported Agriculture (CSA) subscriptions save you time on shopping, and your CSA box may even be delivered to you!

You get the joy of connecting with local farmers or market employees, and knowing you're contributing to growing a vibrant local food system.



Next steps, hints & tips

- Find out if your community has a Local Food Guide.
- Check which foods are in season and how to use them at <http://www.eatwellguide.org/>.
- Do some of your weekly shopping at a local butcher, fish or cheese shop.
- Support local, independent food markets. Ask them to stock local produce.
- Buy direct from a farm stand, CSA or farmers market.
- Try local wine, cider, beer and juice.
- Ask for local, organic food at your school, hospital and workplace.
- Choose restaurants that source their ingredients locally and seasonally (farm-to-table restaurants).
- Visit a local organic farm and learn more about food production (a perfect outing for the entire family).
- Agro-tourism is another way to support a small, local farms. Vacation on the farm this year.

Notes:

Cost: none

**\$ Savings:
low-med**

Effort: low

**CO2 saved:
low-med**

Challenge

Food waste is not only a waste problem, it's a moral issue and a major contributor to climate change. The numbers may shock you. In 2017, when 40 million Americans were "food insecure",^[7] the U.S. threw away between 30 and 40% of the food it grew or imported. About a third of that was lost in the field and on the farm, about 8% was lost while it waited to be sold, and a whopping 39% of it was lost when it came into our homes or in restaurants.^[8]

Food waste is the single largest component (22%) of municipal solid waste reaching landfills and incinerators.^[9] Food waste in landfills produces methane, a greenhouse gas 28 to 36 times more potent than CO2.^[10]

Wasting food also wastes the energy, water and nutrients used to grow, ship and store it. That waste costs the average U.S. family up to \$2,200.^[11]

A number of issues lie at the heart of our food waste problem, including lack of planning when shopping, poor food storage knowledge, a lack of confidence around cooking, and confusion over food date labels.

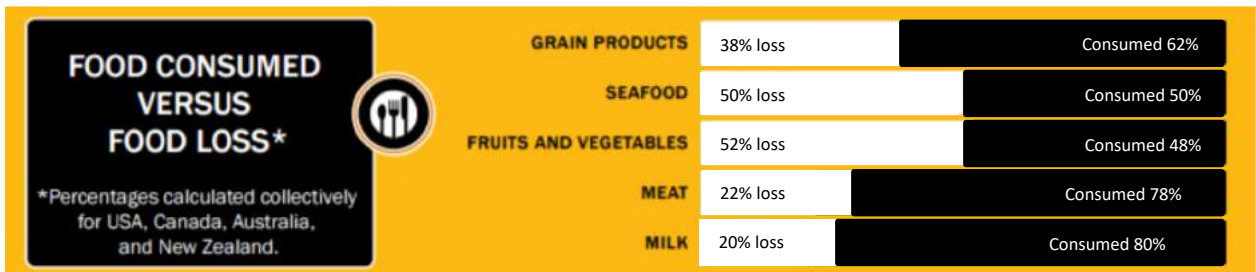


Chart from Food & Agriculture Organization, 2011

Solution

You can minimize food waste by planning ahead, preparing reasonable portion sizes, and keeping an eye on what's in the fridge! See 4.7 for more tips on minimizing food waste.

Some food waste is unavoidable, but composting is a much better alternative than throwing it in the trash and can actually build soil and sequester carbon. See section 5.14 for more information on composting.

Next steps, hints & tips

- We often waste carbs: rice, pasta, potatoes and bread. Measure portions. (If you are unsure what a portion size is, see this WebMD portion guide: https://img.webmd.com/dtmcms/live/webmd/consumer_assets/site_images/med_ia/pdf/diet/portion-control-guide.pdf.)
- Use your freezer. Keep bread in the freezer and take out half a loaf at a time. Too much soup or risotto? Freeze it for a lazy day.
- Plan your meals for a week and write your shopping list accordingly. You will save time and spend less.
- Be careful with “buy one, get one free” offers. Will you eat it before it spoils?
- Set a goal for a “no waste” fridge. Have a “potluck” lunch of dinner leftovers.
- Keep an eye on aging produce and eat it in time or prepare it for storage by canning or freezing.
- Is your fridge set to the right temp? This handy tool is from the U.K. so you’ll have to convert temps but it offers info for many makes of refrigerators. <https://www.lovefoodhatewaste.com/article/chill-fridge-out>. (To get degrees F, multiply degrees C by 1.8 and then add 32. For example, 3 degrees C is 38 degrees F.)
- Learn to love your leftovers. Make (and freeze) stock from vegetable trimmings and chicken carcasses. Add one fresh ingredient to leftovers and repurpose them into a tasty stir-fry. Turn old bread into croutons, savory or sweet bread pudding, or soak in water and feed to your chickens. Find more leftover ideas at www.lovefoodhatewaste.com or on sites like Pinterest.
- For more great tips and ideas for reducing food waste, visit <http://foodshift.net/>.

Notes:

Transition Streets

4.8 TRY ORGANIC

The Practical
Action Plan

Cost: med

\$ Savings:
none-low

Effort: low

CO2 saved:
low-med

There are a lot of benefits associated with eating organically grown food.

- Organic methods produce 40% fewer greenhouse gas emissions than conventional agriculture with uses synthetic fertilizers and pesticides.^[12]
- Organic agriculture builds healthy soil, which stores more carbon. “A study by the Rodale Institute projects that ... if all U.S. cropland—434 million acres—were converted to organic farming, we could reduce nearly 25 percent of our total greenhouse gas emissions.”^[12]
- Organic growing promotes biodiversity, not only of plants but also pollinators, birds and other creatures.

Many people buy organic food because they believe it reduces their exposure to herbicides and pesticides. It’s true that toxic substances can’t always be washed off foods. The Environmental Working Group publishes a shoppers guide to pesticides on produce: <https://www.ewg.org/foodscores>.

Others believe that organic produce is more nutritious (though this is a hotly contested field of research).

- A study in the *British Journal of Nutrition* found that organic growing methods boosted nutrients in some foods. For example, organically raised animals that forage on grass had meat and milk with 50% more omega-3 fatty acids.^[14]
- Another study found that organic produce had substantially higher concentrations of antioxidants and flavonols that protect cells from damage and reduce inflammation.^[14]

And there is ongoing research into the health benefits of organic food. For example, a recent French study followed 70,000 adults for five years and found that the most frequent consumers of organic food had 25% fewer cancers, with a particularly steep drop in lymphomas and post-menopausal breast cancer.^[13]

Do some research on your own. The Environmental Working Group provides a food score that rates food on nutrition, safety and processing:

<https://www.ewg.org/foodscores/content/user-guide>. The Center for Food Safety also shares information about the benefits of organic agriculture: <https://www.centerforfoodsafety.org/issues/306/organic-and-beyond>.

Challenge

“Yes, but ... organic food is much more expensive.” It is true that organic food usually costs more. It’s also true that conventionally grown food costs all of us more than we realize. Here’s why.

The true cost of growing any kind of food includes the cost of seeds/plants/animals, machinery and tools, fertilizers or feed, worker labor, harvest and processing, transportation and storage, and the interest the farmer pays for bank loans.

Organically grown food generally requires more intensive management and more workers to ensure timely weed control and a harvest that meets strict regulations. Organic farming is more complicated because multiple crops are needed to maintain crop rotations, in contrast to simpler rotations or monocrops on conventional farms.

Organic farmers may also need to pay to clean up past pesticide contamination at their site.^[15] Certification is expensive, as is the conversion of land from conventional farming to organic. And yet organic production practices yield important ecosystem services.

Consumers are paying the true cost for their organic food.

On the other hand, conventionally grown food includes hidden costs due to the use of chemicals that can damage the health of farmworkers, people who live near big farms, consumers and the environment. We pay these costs with higher insurance premiums and with tax dollars for environmental cleanup.

Hints & tips for paying less for your organic food

- Buy food in bulk with friends.
- You may be able to get organic (or nearly organic) food cheaper as part of a CSA (see 4.4). You may be able to exchange work for a share or a reduced price.
- Grow your own food organically.
- When shopping at a farmer’s market, talk directly with farmers about their farming practices. It can take years to get organic certification, but in the meantime they may already be using organic growing methods.



Transition Streets

4.10 GROW YOUR OWN

The Practical
Action Plan

Cost: low

\$ Savings: med

Effort: low-med

CO2 saved:
low-med

Challenge

2018 was a year of unprecedented food recalls due to contamination (see <https://www.foodsafetynews.com/food-recalls/> for the latest news.) Lettuce, beef, turkey, canned corn, breakfast cereal ... the list of foods that made people ill was long.

But contamination isn't the only concern. Extreme weather events caused by climate change—droughts and floods, wildfires and extreme heat—are affecting food supplies here and elsewhere. Rising food costs will be felt by everyone, especially the poor.

Solution

By growing and preserving some of our own food, we become more resilient as families and as communities. Home and community gardens alone can't solve our food supply problems, but they can be one part of the needed solutions.

Only have a balcony to grow on? No problem. You can grow in patio pots, window boxes, and hanging baskets. No outdoor space? Try growing nutritious and easy microgreens or sprouts on a sunny countertop. If you have a yard, add food into your landscape. Think big! Vegetables can be beautiful mixed in with a flower bed (think purple runner beans and fire-engine-red peppers). Add berry and nut bushes, grape vines and fruit trees. The sky's the limit!



Yes, but.... I have no outdoor space at all. Join a community garden or a yard-sharing program (where landowners share yard space with landless gardeners in exchange for produce). For tips on urban gardening, see

<https://www.nal.usda.gov/afsic/urban-agriculture>.

Image on right from permies.com



Transition Streets

4.11 GROW YOUR OWN

The Practical
Action Plan

Savings and benefits

While growing your own fruit and vegetables is satisfying, there are some vegetables that are especially cost-effective to grow:^[16]

- Lettuce (no need to worry about a recall of your home-grown lettuce)
- Tomatoes always taste best when sun-ripened and fresh
- Bell peppers can be costly at the store
- Swiss chard is a delicate green
- Broccoli can be harvested more than once
- Asparagus takes two years to grow but you can harvest for the next 20.



Next steps, hints & tips

- Get some seeds, plant them, water them, wait until they grow, then eat!
- Try growing organically. Take a local or online organic gardening course. Your local extension service or Master Gardeners may offer free classes.
- Consider gardening with a partner or another family.
- Join or start a “crop swap” or “produce exchange,” where fellow gardeners exchange what they have too much of (zucchini?) for things they want more of (cauliflower?). This can include items like fresh eggs or honey. Learn more about swaps: <http://cropandswap.blogspot.com/p/what-ithe-crop-swap.html>.

Yes, but ... It's a lot of work! It takes some effort, but gardening can be fun, beautiful, and a great way to relieve stress and stay fit. Take a look at Toby Hemenway's permaculture book *Gaia's Garden* for inspiration.

Notes:

4.12 EATING LOWER ON THE FOOD CHAIN

Cost: none

\$ Savings:
low-med

Effort: low

CO2 saved:
low-med

Challenge

Americans are big meat eaters, with the third highest rate of consumption per capita in the world. That contributes to our oversized carbon footprint. In the U.S. 42% of agricultural greenhouse gas emissions come from animals.^[17]

That's a high price to pay for what turns out to be a low caloric "return on investment" for industrially-produced meat. For example, for every 100 calories of energy put into producing conventional beef, you get only 6 calories of energy back to eat. Apples, on the other hand, yield 110 calories for the equivalent energy input.^[18]

There *are* big differences in environmental impact depending on how animals are raised. Those raised in concentrated animal feed operations (CAFOs, or "factory farms") are not only an environmental nightmare, but can also be a health hazard. Many factory farms pollute the air, contaminate surface and groundwater, and overwhelm the ability of ecosystems to absorb waste.

Animals housed in close quarters are routinely given antibiotics both to accelerate their growth and to keep them from succumbing to disease. Widespread use of antibiotics on farms increases antibiotic resistance in bacteria.^[19]

Half of all the corn grown in the U.S. and most of the soybean crop are fed directly to livestock, even though this is not their natural diet and can cause liver abscesses, digestive distress and excessive gas.^[17] It would be much more efficient—and humane—to feed grains and legumes to people and let chickens and sheep, goats and cattle graze as nature intended. It would also be better for the land itself. Carbon storage is often higher in land used for pasture than those used for annual crops.^[20]



Transition Streets

4.13 EATING LOWER ON THE FOOD CHAIN

The Practical Action Plan

Cost: none

\$ Savings: low-med

Effort: low

CO2 saved: low-med

Solution

Eating lower on the food chain – a primarily plant-based diet -- can help reduce our carbon footprint, especially if we consume food grown locally and sustainably. But a vegetarian diet is not without environmental impacts.

For example, industrially produced soy-based meat substitutes can have a significant carbon footprint.^[18]

If and when we do eat animal products, we can reduce our impact by buying high quality products produced in an ethical and sustainable manner. For example, were the animals raised on small-scale, diversified farms, provided with space and appropriate food? The meat, eggs or milk from those animals will have a lower carbon footprint than that from animals raised in confinement. Since high quality, grass-fed meat and free-range chickens are more expensive, you may eat less of it. That can have health benefits.

Foodprints by Diet Type: t CO₂e/person

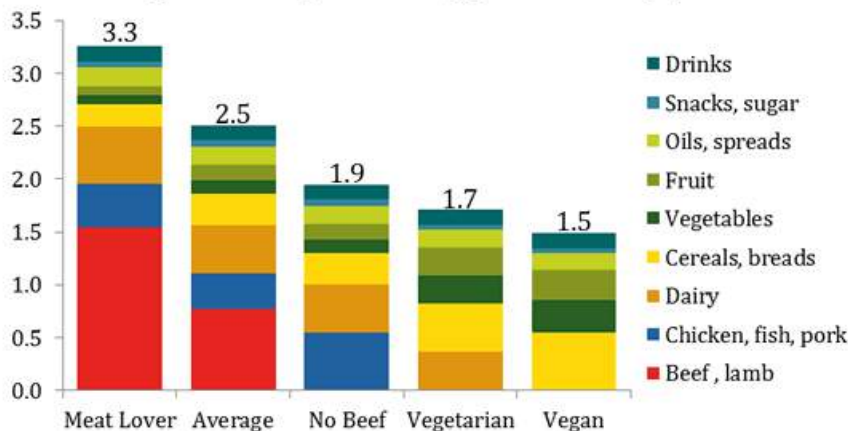


Chart above from shrinkthatfootprint.com

Note: All estimates based on average food production emissions for the US. Footprints include emissions from supply chain losses, consumer waste and consumption. Each of the four example diets is based on 2,600 kcal of food consumed per day, which in the US equates to around 3,900 kcal of supplied food.

Sources: ERS/USDA, various LCA and EIO-LCA data



Yes, but I'm already a vegetarian. Try reducing your impact by going organic with your produce, dairy products and eggs. Buy from local producers. Consider the impact of your meat substitute or protein source.

Savings and benefits

You'll start saving money on your weekly grocery bill when you buy less meat.

You may improve your health and lower your long-term healthcare costs because a diet with less meat generally has more fiber from fruits and vegetables, as well as less saturated fat.

Evidence suggests that eating a diet rich in vegetables and fruits can increase longevity. This dietary pattern helps to reduce the risk of chronic diseases such as cardiovascular disease and some cancers.

Notes:

Next steps, hints & tips

- Change the way you see meat.
 - Move it from the middle to the side of the plate and put vegetables, grains, beans and salads in the center.
 - Use it as a flavouring rather than the main course. In many cuisines, meat is used as a condiment.
- Consider ordering meat directly from a producer you know and trust.
- Eat local, pasture-raised meat. Not only is this meat more climate-friendly, it is from a source you can trust.
- You don't have to give up all meat. Try one meat-free day per week. Check out the site "Meatless Monday" for more information, inspiration and recipes: www.meatlessmonday.com.
- Choose the vegetarian or vegan option when you go out for dinner.



Transition Streets

4.15 YOUR FOOD ACTION PLAN



Reminder

Possible actions:

- Buy local, seasonal foods (4.3)
- Minimize food waste (4.6)
- Try Organic (4.8)
- Grow your own (4.10)
- Eat lower on the food chain (4.12)

What other ideas does your group have that aren't covered above?
Add them below if you think they are relevant for you.

| My actions | Already done | When I'll do this | Notes |
|------------|--------------|-------------------|-------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Group actions

How can you help each other out in your group? List team actions here (with named person and due date):



Transition Streets

4.16 LOCAL RESOURCES

Local resources for food and gardening

Add your own information about local food resources, farms, markets, gardening programs, and more.

CSAs:

Farmers' markets:

Farm stands:

Pick-your-own:

Farm tours:

Gardening resources:

Gleaning and crop swaps:

Transition Streets

4.17 THE BIG PICTURE: FOOD

Questions for discussion

We saw in the first action that buying local, seasonal, organic food from independent shops has environmental benefits and helps our local economies thrive. However, many of us shop at major supermarkets and membership clubs.

- What benefits do these large chains offer us? What are the downsides?
- How important is a strong, local food system to our town and our community?
- How might “eating low on the food chain” factor into your eating habits?
- How can we share the economic and health benefits of eating fresh, local, and organic food with our family, friends, and neighbors?

Notes:

Transition Streets

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Transition Streets

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