THE SEASONED SPOON OUTREACH PROGRAM *Resource Manual*

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ERST 334 – Canadian Food System
Community Based Research Project

As a group, we have developed an interactive program designed to educate students about the relationships within the current food system. Each lesson provides an opportunity for teacher-student engagement through hands-on, participatory approaches. Lessons are designed to reflect the principles of The Seasoned Spoon. We have worked closely with Sylvia Dick, the Outreach Co-ordinator of The Seasoned Spoon.

CONTENTS

A Journey of Food Discovery

GRADE LEVEL
- 1-2

LENGTH
- 1.5-2.5 hours

GROUP SIZE AND LOCATION
- Any group size (material provided for up to 30 students)
- Indoor Setting

KEY CONCEPTS
- Local and non-local food choices
- Identification of food
- Environmental costs of food

OBJECTIVES

The objective is to teach students about the basic sources of food, the identification of these food sources, and to develop an understanding that food can be produced both locally and non-locally (imported).

METHOD

Three interactive activities will lead the students on an adventure of food discovery. The first activity will be focused on the identification of food and determining the location of its production. The second activity will introduce the idea that environmental costs are associated with every meal, but that these costs are far larger when buying non-local food. The third will challenge students to apply their newly gained knowledge of local foods.

BACKGROUND

Our food systems are becoming increasingly global due to growth in technology and communication, which has given individuals choices that have international implications. This in turn means that the decisions we make, regarding food choices, can have overwhelmingly negative and far-reaching impacts. Hidden social and environmental costs are often associated with eating foods that have been grown in certain ways and that have traveled great distances to reach our kitchen tables. If however, we become aware of the costs associated with eating non-local foods, the decisions we make can have fewer impacts and can even be beneficial to the communities we live in.

Many people do not understand the source of their food beyond the supermarket. The truth is that food comes from a variety of sources in nature. Bringing awareness to this reality can be made by helping to distinguish between some of these sources. We then can begin to recognize various characteristics unique to foods that grow in the different regions of the world. In the end, we see the diversity of food that is derived locally. This provides an opportunity to make meaningful changes towards healthier, more environmentally and socially responsible food systems. By doing so, a link between individuals and the greater community is also established.

ONTARIO CURRICULUM LINKS

Health and Physical Education Curriculum

Grade 1 and 2: Healthy Living

- Identifies healthy eating habits and practices.

Grade 1 and 2: Fundamental Movement Skills

- Students perform basic physical activity movements.

Language Curriculum

Grade 1 and 2: Oral Communication

- Demonstrates that listening must be done to understand information and respond appropriately to the situation.
- Student also uses speaking skills to effectively communicate information orally.

Grade 1 and 2: Reading

- Demonstrates an understanding of information and ideas through reading.
- Students read and identify words.

Social Studies Curriculum

Grade 1: The Local Community

- Students identify physical and social need of residents in a community.
- Allows students to ask question to gain information about their local community.
- Uses pictures and key words to obtain and sort information about their local community.
- Demonstrates an understanding of scale in terms of local and non-local food sources.

Grade 2: Features of Communities Around the World

- Students recognize that the world is made up of different countries and regions.
- Demonstrate an understanding between location, climate, and in turn the foods that can be produced.
- Identifies similarities and differences between their communities and communities around the world.
- Allows students to sort and classify information through comparison.

Science and Technology Curriculum

Grade 1 and 2: Understanding Life Systems

- Identifies personal actions that students can take to help maintain a healthy environment.
- Students investigate the physical characteristics of plants, animals, and insects.
- Students identify what living things provide for other living things.
- Identifies positive and negative impacts that humans have on the environment.

Grade 1 and 2: Understanding Matter and Energy

- Students examine some of the ways energy is used to obtain food.

Grade 1 and 2: Understanding Earth and Space Systems

- Students assess ways in which seasonal changes have an impact on society and the environment.
- Allows students to assess the impact of human activities on the environment.

ACTIVITY PREPARATION

This program requires classroom preparation before the activities can start. Below is a description of what is needed for the three planned activities.

Activity #1

Before Class

- Obtain the book entitled *Let's Eat!* By True Kelly (1989)
  - This book is available at the Peterborough Public Library in the Children's Department.

For the Activity

- Place 4 food category posters near the four corners of the room.
- Place all of the food item cards in a draw bag.
- Draw a T-chart on the blackboard with the headings – "Local" and "Non-Local"
- *Optional Activity 1*: Prepare food slices for tasting from 4 of the food source categories (E.g. Local: cheese, apples, carrots, and cucumbers)

Activity # 2

For the Activity

- Place the pizza cut-out near the front of the room.
- Place local toppings closest to pizza.
- Place non-local toppings farthest from the pizza.
- *Optional Activity 2*: Scatter fish and bird cut-outs between the pizza and the non-local destination.

Activity # 3

Option – 1

- Obtain and place paper plate and crayons on student desks.

Option - 2

- Prepare pizza dough using recipe provided (divide dough into desired amount of portions) and cut-up ingredients for students to make the pizza.

PROCEDURE

Introduction

- Introduce yourselves and The Seasoned Spoon. Tell the students that the goal for today is to have fun with food!

- Read the *Let's Eat* book to the students to introduce the topic of food. While reading the book, emphasize the message that everybody eats (including animal, plant, and humans) and that food comes from many different places (including the farm, the sea, the garden, and the orchard).

- Initiate a discussion surrounding the topics that were covered in the book. Facilitate this discussion by asking the students' what are their favorite foods, while pointing out any obvious plant and animal sources. Draw a connection that foods come from plant and animal sources.

Activity #1 – *The Great Food Source Challenge: See How Well They Know*

- Drawing students attention to the 4 corners of the room, explain that no matter where you are in the world food can come from 4 different sources –
    1. On trees
    2. In the ground (e.g. food item grows *in ground*)
    3. Above the ground (e.g. food item grows *above the ground*, however not on a tree)
    4. From animals and insects

- Explain that each student will be given a food item. They will then be challenged to find the appropriate food category poster to place their food item underneath. Emphasize the need to look closely at the food item and ask for friends help. Once this is complete, the students should sit down.

- Begin the activity by distributing 1 food item to each student. Have the students walk around the room, discuss with other students, and then place themselves under the appropriate category.

- As the activity is taking place, filter through the room to ensure that all of the students are in the appropriate category. Prompt students to correct their choice if incorrect.

- Once each of the foods has been categorized have the class walk around the room, examining the food items that have been placed within each category. *Optional Activity 1:* At this point, food samples from each of the sources could be given to students to taste.

- Students will then be asked to grab their food item, take it to the front of the room and decide whether or not this food item can be grown locally or not. The food item cards will then be placed on the t-chart as a group to demonstrate that some foods grow locally in Peterborough, while others do not.

- Wrap up this activity by correcting the misplaced food items using the "Locally and Non-Locally Produced Foods and Their Sources" resource provided. While doing so, mentioned why some foods can grow locally and others can not (e.g. climate). Emphasize that many foods can grow locally in Peterborough.

Activity # 2 - *Pizza of the World*

- By now students understand what types of places food comes from and that some foods grow locally while others grow far away. The present activity will expand on the idea that food comes to our kitchen from all over the world by having students shop for local and non-local (exotic) pizza toppings in the classroom.

- The activity will also introduce the concept of environmental cost through the expenditure of energy by having student 'drive', 'fly', or 'boat' to each location while cashing in energy tokens along the way.

- Gather the students in a circle around the large pizza board. Introduce the activity by stating something along the lines of - "Now we will be making a pizza - not a real pizza, but a very special pizza! This is because we will be grocery shopping all over the world for the ingredients!"

- Read the shopping list to the students, while showing them the items that will be purchased:
    1. Pineapple
    2. Tomato
    3. Mushroom
    4. Green Pepper
    5. Olive
    6. Hot Pepper

  Remind the students that not all of these foods can grow locally in Peterborough. So, the student will need to travel far distance to get some of the toppings.

- Prompt students for a list of modes of transportation needed to transport food (car, truck, plane, train, boat). Introduce the idea of energy/fuel (e.g. ask students where a car needs to go ever so often in order to keep running?). Connect the concept of a car needing fuel to run with all other modes of transportation (How does an airplane get off the ground? What makes a boat move?).

- Handout 2 energy tokens to each student, explaining that this will be their fuel for their travels.

- As a class, go on a world grocery shopping tour to retrieve all of the pizza toppings. If the item is local, the students must deliver 1 energy token in exchange for a topping. In order to obtain this topping, the student may drive – by cupping their hands on steering wheel and saying "Vroom, Vroom!". If the item is non-local, the students must deliver 2 energy tokens in exchange for their topping. In order to obtain their topping, the student can fly – by stretching their arms on either side of themselves, or can travel across the ocean by boat – by either swimming or rowing.

- At each destination, 5 different students (or any predetermined number of students) will be responsible for cashing in their energy tokens before they can each obtain 1 topping (5 students, 1 toppings each/trip). The class must then travel to and from the destination together, coming back to the pizza in between trips. By the end of the activity, every student will have one topping. Depending on whether the food came from a local or non-local destination, some students (the local shoppers) will also have 1 energy token left.

- Together the students can now place their food item on the pizza to create an appealing meal from a variety of food sources and locations.

- *Optional:* Every time a long distance is travelled, students that run into fish or birds must take it with them. This can be done as a way of demonstrating that travelling far to get your food results in pollution and environmental degradation that is harmful to wildlife.

- Wrap up the activity by highlighting that students who bought locally have energy left-over, while the students who bought from far away had to use up all of their tokens.

Activity #3 - *Making a Local Pizza*

Option 1 -

- Using paper plates and crayons have students draw a pizza.
- Ask students to consider the different foods that they have learned about and ways to make this pizza better for the environment by using ingredients that are produced locally such as green peppers, mushrooms, tomatoes, pepperoni, cheese, and onions.

Option 2 -

- Using the local pizza recipe provided, prepare dough and toppings using locally produced foods. Have the students prepare the local pizza by adding the ingredients to the dough.
- Cook and enjoy the locally produced meal!

Conclusion

- Ask the students what the 4 sources of food were as previously presented, revisiting the idea that some food grows locally while other food does not. Ask the student what their favourite local food is now that they can make the differentiation between local and non-local food items.

FOLLOW UP ACTIVITY

Planting and harvesting food in the classroom is a great follow up activity. This could be achieved by planting seeds in small containers, placing them beside the window, and watching the food grow!

ADDITIONAL RESOURCES

Kawartha Choice Farm Fresh
Kawartha Choice is a grassroots, volunteer initiative that supports local farmers by promoting the wide variety of agricultural products grown in the Kawartha Region. This source serves as a great resource for determining what is grown locally as well as where to buy these locally produced foods.
Website: www.kawarthachoice.com

Sustainable Table: Serving Up Healthy Food Choices
This resource provides additional background information regarding food miles and the reasons to buy locally produced foods.
Website: www.sustainabletable.org/issues/buylocal/

The Edible Schoolyard: Martin Luther King Jr. Middle School
The Edible Schoolyard is an urban public school with a one-acre organic garden and kitchen classroom. At this public school, "students learn to grow, harvest, and prepare nutritious meals using seasonal produce", while also "developing a deep understanding and appreciation of how nature sustains life".
Website: www.edibleschoolyard.org/homepage.html

APPENDIX 1b

A Journey of Food Discovery
Grades 1 – 2

REQUIRED MATERIALS

This Package Contains

- 4 Food Category Posters
- 30 Food Item Cards
- 30 Pizza Toppings
- 12 Energy Tokens
- 1 Pizza of the World
- "Making a Local Pizza Recipe"
- List of "Locally and Non-Locally Produced Foods and their Sources"

Still to be obtained by teacher/Seasoned Spoon prior to day of activity

- Book: "Let's Eat!" By True Kelley (available at the Peterborough Public Library)
- Tape

Materials for Activity # 3

Option 1 -

- Crayons and paper plates

Option 2 -

- Ingredients for pizza, and any other materials required (newspaper, containers for sauce, etc)

Optional Materials

- Actual food examples from each of the 4 categories (something that grows on trees, in the ground, above the ground, and something that comes form insects or animals).
- Fish and bird cut-outs (small laminated pictures of fish and birds to be used in activity #2).

MAKING A LOCAL PIZZA RECIPE

Ingredients

- 3 cups lukewarm water
- 1 tablespoon yeast
- 1/4 cup sugar
- 1 tablespoon salt
- 8-10 cups flour
- 2 tablespoons cornmeal
- 3 (8 ounce) cans tomato sauce 6 cups shredded mozzarella cheese

Directions

1. ***Add water, yeast, sugar, and salt to mixing bowl.***
2. ***Let sit 10 minutes. You should see bubbles of yeast (if not, you may have the wrong water temperature: start over).***
3. ***Mix in flour conservatively - don't add too much. After mixing it in, keep adding until dough is not wet looking and can be kneaded.***
4. ***Knead dough until smooth.***
5. ***Let rise at least 30 minutes (ideally 1 hour) at room temperature.***
6. ***Pre-heat oven to 475 degrees.***
7. ***Split dough into pieces (3-5 depending on size of pizza).***
8. ***Roll dough out each to the size of your pan (toss if desired to help reach appropriate size).***
9. ***Sprinkle corn meal onto each pan.***
10. ***Place dough onto pans, stretching or squeezing if necessary to fit properly.***
11. ***Spread some tomato sauce onto dough, leaving about an inch around the outside without sauce.***
12. ***Spread some cheese on top of the sauce.***
13. ***Add additional toppings as desired.***
14. ***Bake for 8-12 minutes or until dough is fully cooked. The bottom of the pizza should be at least a little crispy.***

The ingredients for the local pizza may be obtained from:

- ***JoAnne's Place Health Foods***
  - ***Located at 904 Water Street, Peterborough (742-6456)***
- ***The Main Ingredient***
  - ***Located at 326 Charlotte Street, Peterborough (745-5271)***
- ***Peterborough Farmer's Market***
  - ***Wednesday Market - Located on Charlotte Street between Water Street and George Street***
  - ***Saturday Farmer's Market – Located at Morrow Park at the corner of George Street and Lansdowne Street (Brenda McAdam 932-3166)***

Note: Not all ingredients may be sourced locally such as the sugar, salt, and yeast; however all toppings can be obtained at either of the Farmer's Markets (cheese, peppers, pepperoni, mushroom, tomato, etc).

LOCALLY AND NON-LOCALLY PRODUCED FOODS AND THEIR SOURCES

On Trees

Locally Produced Foods

- Pears
- Apples
- Maple Syrup
- Walnuts

Non-Locally Produced Foods

- Coffee - Latin America, Southeastern Asia, and Africa
- Oranges - Europe, Asia, Africa, South America, and United States
- Chocolate – Mesoamerica
- Olives - Mediterranean, Africa, and Asia

In the Ground

Locally Produced Foods

- Beets
- Carrots
- Potatoes
- Peanuts

Non-Locally Produced Foods

- Yams - Africa, Asia, Latin America, and Oceania
- Ginger Root - Asia

Above the Ground

Locally Produced Foods

- Strawberries
- Cucumbers
- Tomatoes
- Asparagus

Non-Locally Produced Foods

- Bananas - Central and South America, Asia, Africa, etc.
- White Rice - Asia and Africa
- Pineapple - Australia, Hawaii, Africa, and Asia
- Pepper- South India
- Sugar Cane - Europe, Asia, and Africa

From Animals and Insects

Locally Produced Foods

- Turkey
- Honey
- Milk
- Eggs

Non-Locally Produced Foods

- Tuna Fish - Atlantic, Pacific, and Indian Oceans
- Cod - Northern Atlantic
- Cheese - Indian Cheese from Sirohi Goat

Breakfast: A Global Affair

GRADE LEVEL
- 7-8

LENGTH
- 1.5 hours

GROUP SIZE AND SETTING
- Any group size
- Indoor setting

KEY CONCEPTS
- Local food systems versus global food systems
- Climate
- The role of stakeholders within food chains
- Importance of food labels
- The role if economic and transportation systems

OBJECTIVES

Students will understand **where their food comes from** and how their choices affect relationships within the food system.

METHOD

An interactive activity will teach students to recognize the origin of particular foods and why that environment enables food to grow there. The final activity will ask the students to work together to make something yummy!

BACKGROUND

As a Western culture we seem to have arrived at a place where whatever native wisdom we may once had about our eating practices has been replaced with confusion and efficiency. Defining features of the Western diet is fast, easy and cheap food. How does our decision to eat fast, easy and cheap food affect the relationships within the food system? Human survival depends on the consumption of food; therefore the complex relationships between food, health, environment and culture dictate who we are as a human society. Putting Costa Rican Bananas on cereal not only tastes good but presents a case study that deals with a variety of social, economic and environmental issues (i.e. transportation network of a banana). A wonderful alternative to the global food system is the local food choices that surround us.

Local food choices have a set of their own relationships; mostly beneficial ones. Socially, it requires greater interaction between community members (farmers and the consumers) to acquire the food. Environmentally, there are less harmful emissions released into the air during the transportation of the food and there tends to be less packaging when transporting the food. And economically, local food strengthens the local economy because money is exchanged directly between the consumer and the producer. Local food tends to be grown on a smaller, more sustainable scale, which means that pesticide, fertilizer, and Genetically Modified Organisms(GMO) would not be as prevalent compared to conventional farming. Eating locally is a way to engage students and teachers with their local environment and to gradually become less dependent on the global food system.

ONTARIO CURRICULUM LINKS

Geography

Grade 7: Patterns in Physical Geography, The Themes of Geographic interaction, and Natural Resources

- Explain how natural vegetation patterns result from the interaction of several factors, including climate, landforms, soil types, and competition for available nutrients.
- Identify the characteristics of the three types of agriculture- subsistence, commercial and specialized- and the different climate, topography, and the soul conditions that are favorable to each type.
- Explain the geographic concept of interaction
- Explain the geographic concept of movement of goods.
- Explain the concept of sustainable development and its implications for the health of the environment.
- Describe ways in which technology has affected our use of natural resources

Grade 8: Economic systems

- Outline the fundamental question that all economic systems must answer: what goods and produced; how they are produced; by whom they are produced; and how they are distributed.

Health and Physical Education

Grade 7 and 8: Healthy living

- Describe how our body image influences our food choices
- Identify factors affecting healthy body weight
- Adopt personal food plans, based on nutritional needs and personal goals, to improve or maintain their eating practices.

Science and Technology

Grade 7: Understanding life systems and Interactions in the Environment

- Assess the impact of selected technologies on the environment (pesticides, GMO's)
- Use appropriate science and technology vocabulary (ex. sustainability)
- Use a variety of forms to communicate with different audiences and for a variety of purposes.

Grade 8: Understanding Structures and Mechanisms

- Assess the impact on individuals, society, and the environment of alternative ways of meeting needs that are currently met by existing systems, taking different points of view into consideration.
- Identify the purpose, inputs, outputs of various systems
- Identify the various processes and components of various systems

ACTIVITY PREPARATION

This program requires classroom preparation before the activities can start. Below is a description of what is needed for the three planned activities.

Activity #1

For the Activity

- Hang a large map of the world at the front of the classroom. Other ideas for a map: draw a general map of the continents on the blackboard or obtain a transparent copy of a world map and put in on an overhead projector to make it bigger.
- Collect popular food products (i.e. Fruit Loops, Chocolate Bars, and Juice Boxes) and their nutritional facts/ingredients. For a class of 30 students, 15 food products with nutritional facts will be needed.

Activity # 2

Before the activity

- Make two copies of the apple cut out for every participant (apple cut out provided)
- *Optional activity:* give the students apple slices from a local farm just for fun and taste!

Activity # 3

Before the activity

- Ask the teacher to tell the students to bring in their "most favorite recipe" for the day the program is run. It can be anything from a meal, to a desert.
- Decide what ahead of time what the class is making and prepare the ingredients. Examples of some recipes are provided. Be aware of the facilities the school offers (i.e. oven, no oven). Bake time should be approximately 15minutes.

For the activity

- Kids must wash their hands!
- Set up two stations: (1) cooking station and (2) 'recipe revamping' station

PROCEDURE

Introduction

- Introduce yourselves and The Seasoned Spoon. Tell the students that the goal for today is to have fun with food!

- Explain to the class that the purpose of the lesson is to learn about local food choices and their relationships with the surrounding environment. Ask the class what their favorite foods are to get a general idea of their appetite.

Activity #1: ***What did you have for breakfast?***

- Direct class attention to the map of the world. Begin by asking students to write what they had for breakfast on the piece of paper provided. Call out common breakfast food such as, cereal, peanut butter, oranges, eggs, and have the students who wrote that food on their piece of paper to come up and place it on the map where they think it came from. Let the students place the food where they think it originated from. Don't forget to break down the ingredients in the food (i.e. cereal =wheat, sugar, milk).

- Discuss some of the food origins of breakfast foods (see Breakfast Foods in resource package). Ask the students if anyone wants to change the placement of their breakfast on the map. Anyone who wants to, have them come up to the front to do so. This is the time to discuss why certain foods grow in specific conditions and environments. Draw relationships between climate and food production. How does the cold climate inhibit food production in certain regions?

- Discuss with students why foods like, oranges, sugar and bananas cannot be grown in Canada. The reason is due to the long, cold winters. These types of food need constant heat and sunlight. Ask the students what types of food we can use to replace exotic and non-local choices. Bring in local apples, pears, strawberries, blueberries, grapes, cantaloupe, oatmeal, eggs etc. (obviously dependent on growing seasons). Explain to the students that food choices in Canada have limited growing seasons –certain foods are not available at certain times of the year.

- Tell the students that the location of where we live does not affect our food choices because we can get the food we want at anytime due the global food system. Food is produced in factories on conveyor belts. Ask the students if they provide any examples of a food that is produced in a factory.

- Tell the students that we are going to do an activity that will require them to read nutritional facts and ingredient lists of a specific food product. All of these products were produced in a factory. All students must help one another match the food product (i.e. Fruit Loops™) with the matching nutritional information/ingredient list. Go over the important characteristics of nutritional information:
    - High fat content
    - Sodium is used to preserve food –shelf life
    - Carbohydrates are things like, pasta and bread
    - Nuts have a high fat content, but GOOD fat!
    - Ingredients are listed from the most used to the less used
    - Keep your eyes open for the "Made in" label

- Hand out nutritional information cards and food products. Example, 30 students in the class: 15 common food products are given to half of the class and the other half of the class gets the matching nutritional information/ingredients to those common food productions. Students holding the nutritional information must figure out what food product they are

holding and find their match. Give the students a hand if they ask for it. Should not take longer than 10minutes to find matching pairs.

- Once every student has found their match, ask the pairings to tell the class (1) what food product they are, and (2) what are some key ingredients in that food product (what makes that food different from the others). Ask the students if they can pin point one region where all of the ingredients come from. They should not be able to do that because factory produced food gets its ingredients from all over (i.e. sugar from Brazil, wheat from Western Canada, chocolate from West Africa).

Activity #2 – *Apple from Iran: so what?*

- Discuss social, economic, and environmental impacts of the global food system and the consequences of factory production of food. It causes a disconnect between the farmer and the consumer. The global food system is mass produced without much care to local communities. Economic- It costs a lot to ship food overseas and therefore the people working on the farm are not being paid very much because costs have to be cut from somewhere so that the food is still affordable to the consumer. Environmental- Pesticides and the energy used to strengthen crops and ship them overseas wreaks havoc on our environment. Consider the packaging the food requires and its effects on landfill sights and animals.

- Knowing some characteristics of the global food system, discuss the difference between a 'local food system' and the 'global food system'. What are some characteristics of a local food system? Locally grown food supports your community. Local produce is often better for you because it is fresher and has less pesticides and chemicals on it because the food does not need to be protected for an extended trip from the farm in other countries, often overseas, all the way to your grocery store. Consumers and producers often develop a relationship. Ask the students whether their parents (or them) buy their food locally or globally.

- Introduce the idea of a stakeholder. It is considered to be "any person, group or organisation with an interest in, or who may be affected by, the activities of another organisation. Tell the students we are going to brainstorm who the stakeholders are in each food system. Who are the stakeholders in the global food system and what are their responsibilities? Get a student to write them on the blackboard for future reference.

Farmers - Grow food under various regulations from the company that they are selling to.

Transporters - Transports products from the farmer to the warehouses of the wholesaler.

Wholesalers - Owns a chain of grocery stores and acts as the middle man between the farmer and grocery store (i.e. Loblaws)

Retailers - This refers to the grocery store where the consumer goes to buy their food (i.e. Sobeys)

Consumers - People who purchase food for consumption.

- In contrast, ask the students who are the stakeholders in the local food system? The food chain is shortened, thus the farmer and consumer are the main stakeholders in the local food system. In some cases, transportation might be needed depending on where the food was purchased. Even though there still may be transportation costs associated with locally grown food there is an important comparison to be made in terms of the degree of transportation required.

- Handout two apple cut outs to each student (see Apple Cut out in the resource package). Tell the students that they are the consumer of the apple and that they just paid a dollar for each apple. One apple traveled from Iran (2nd largest apple producing country) and the other apple traveled from a local farm.

- Ask the students to section off on the Iranian apple how much of that dollar each stakeholder got. Quickly, get the students to share their answers with the class. After, tell the students the actual answer:

Farmer = 5cents Transportation = 44cents Wholesaler = 17cents Retailer = 34cents

- Ask the students to repeat the exercise with the apple from a local farm. Quickly, get the students to share their answers with the class. After, tell the students the actual answer: 90 cents to the farmer and 10 cents goes to the person or organization that brings the apple from the farmer to the consumer (usually someone picks up apples and brings them to the farmers market).

- Now that students know the effects of local food systems versus global food systems, discuss how individuals actually buy local food. Local food options: Community Shared Agriculture (CSA) programs, farmers market, community and personal gardens, locally owned butcher/baker (i.e. Sticklings) and independent restaurants. Give a brief description of each.

Activity #3: ***Stop Talking about Food, You are making Me Hungry!***

- Tell the students that it is time to cook! And that we are making a Seasoned Spoon special recipe: what recipe we are following, what foods we are using and the rules when cooking. Have all students go to the washroom to wash their hands. Split the class in half with each leader taking half the class. Both groups are cooking the same thing! Divide the tasks equally. If one person does not want to cook, have him or her read out the recipe. Once both groups are finished put the final product in the oven.

- While waiting for the food to bake, inform the students that it is time to revamp their favourite recipes to be more 'local food friendly'. Explain to the students that their job is to recreate the recipe using only locally grown ingredients. Get creative! Fill in the recipe handout with guidance from program leaders and teacher. Tell the students to write a paragraph explaining what changes they made to the recipe and why they made the changes they did?

- Serve food. While enjoying the food, have the students share their recipe and what changes they made.

Food Fight! A Debate Activity

GRADE LEVEL
- 9-12

LENGTH
- 1hour

GROUP SIZE AND SETTING
- Small to medium group size to encourage participation
- Indoor or outdoor setting

KEY CONCEPTS
- Local food systems versus global food systems
- Factory farming and organic farming
- The role of ecological agriculture

OBJECTIVES

Students will understand the difficult choices that they must make as consumers in terms of how to choose which food to purchase based on their understanding of economic, environmental, and social issues surrounding where and how food is produced.

METHODS

A role-playing activity in which students will be provided with some preliminary research materials and asked to conduct further research on their own with respect to the merits of choosing locally-grown food versus imported, and organic food versus conventionally produced food. They will then engage in a teacher-facilitated debate in which they must argue whether it is better to purchase conventional, locally-grown food, imported or organic food based on the merits of their opinions and research.

BACKGROUND

People as consumers are faced with a number of difficult decisions to make every day: What and how much to buy? Which brands to support? Which stores to shop in? How much to spend? And do ethical considerations factor into our decision making? In grocery stores we have seen a verifiable revolution in how foods are being marketed in terms of their healthiness and nutrition, their environmental impacts, and their social impacts as well. Labels have popped up such as “Fair Trade”, “Organic”, “Pesticide-Free”, “Product of Ontario,” and perhaps in the future, “Genetically Modified Organism (GMO) Free”.

Amidst this mire of labels, what do they all mean? Secondary school students will need to be educated about distinctions between locally-grown vs. imported foods, and organically farmed vs. conventionally farmed foods if they are to be informed consumers in the future. Most importantly, they will need to be able to develop a capacity for judgment and be able to exercise that judgment based on their own intuitions and as well as available information.

The focus of this activity plan is on examining the benefits and consequences of buying local vs. imported foods and organic vs. conventional foods. This activity is intended to be versatile, allowing for the ability to adapt it according to the audience being addressed. For example, for grades nine and ten students, the teacher/facilitator may choose to focus on one of either comparing the reasons for

purchasing different categories of food. Students would do this by comparing the benefits and problems associated with organic and conventional agriculture; or consuming imported foods compared to locally produced foods.

The main arguments for buying local are that by doing so, one helps to support the local community and region where the consumer lives. Thereby buying local supports the local economy meaning that money spent stays within the region as opposed to being shipped off to a far away location. Buying local food encourages local businesses to continue operating in the face of intense competition from firms abroad which often have the benefits of providing lower prices due to more relaxed environmental and worker health regulations.

There are ethical issues with purchasing foods grown halfway across the world in developing nations, where farmers are often exploited by agri-food corporations. The Fair Trade movement has sought to alleviate this problem by trying to ensure a fair price is paid for goods produced by the farmers in these exploited regions, but one way to avoid this altogether is to purchase food grown locally. However, a downside to purchasing locally is that in northern countries such as Canada with long winters, the growing season is not particularly long. So in order to get fresh fruits and vegetables all year-round especially during the winter months, consumers must make the decision either to limit the varieties of foods they consume to that which is produced seasonally in the region, or to eat imported foods from abroad.

There is currently insufficient scientific evidence to say conclusively whether either conventionally-grown or organic foods are actually more nutritious than one another. The main arguments for buying organic foods are that organic farming uses less if not zero pesticides, chemical fertilizers, and fewer fossil fuels in the case of smaller farms and no-till operations which is better for the environment and for human health. Organic farming tends to be done on a smaller, more labour-intensive scale than conventional farming which makes it more environmentally sustainable. Organic farming practices such as crop-rotation and planting multiple crops on the same land instead of conventional large-scale monoculture helps to suppress weeds, pests, and losses in soil fertility by avoiding excessive soil disturbance and pesticide and herbicide use. However because of stringent government regulations and certification conditions, organic farming tends to be more labour-intensive and therefore produces smaller yields and higher food costs than conventional farming.

Also there have been some concerns about the use of animal manures as fertilizers because of the risk of health problems arising from contamination by bacteria such as E. coli in wells contaminated by agricultural run-off in Walkerton Ontario. Arguably though, the practice of composting on organic farms helps to mitigate this issue. Conventional agriculture produces higher yields in terms of food quantity and has become the norm in Canada, but consequently requires large amounts of chemical inputs such as fertilizers, as well as pesticides and herbicides to fight off pests and weeds.

In light of the conflicting information and values at play, we as consumers still need to decide for ourselves which food we should buy. A good way to balance the different sides is to hold a debate and let the merits of the arguments help us to decide. This is exactly what the debate activity is intended to achieve for secondary school students, as well as by helping them to develop critical thinking and communication skills.

ONTARIO CURRICULM LINKS

**It is important to note that this is a short summery of the curriculum links to grades 9 through 12 as there are to many links to list.

Geography

Grade 9: Systems and Structures, and Interactions and Interdependence – trade/exchanges (food production & imports), farming methods as human and environmental processes

Food and Nutrition

Grade 9 and 10: Informed food choices, Canadian food heritage, food industries, and global food issues.

Canadian and World Issues

Grade 12: Human-Environment interactions, global relationships with respect to agricultural practices, and local food and globalization movements.

Food and Nutrition Sciences
Grade 12: Factors affecting food choices, hunger and food security.

PROCEDURE

Note: One of the skills that developed through debate activities is that students need to learn to listen to different and often opposing points of view while being respectful of the persons speaking. The intent is to provide an avenue by which students may learn tolerance in the recognition that disagreement is not a justification for disrespectful or demeaning behavior in a civil society. In order to encourage civil behavior, only one student may speak at a time during the debate. A tool, which helps to indicate whose turn it is to speak, is the use of an apple or other object. The optimal context of the debate would be for it to take place in a classroom (or other room) setting, with the facilitator having access to a desk with the two teams facing each other on either side of the facilitator (left hand, right hand). The facilitator would place the apple on the side of the facilitator's desk corresponding to the side of the room of the team whose turn it is to speak. For the purposes of this exercise, the tool is called the "Apple Rule".

- Explain that the students will learn about making choices as consumers with respect to the differences between local food, imported food, and organic and conventional agriculture.

- Using a sheet of chart paper or a blackboard, allow the students to get a feel for what they will be dealing with by giving them an argument statement (see below #4) and asking them some of the following questions:

Introduction

- Food differs in two fundamental ways:
  1) Where it is grown or produced: Which country produces the food? What kind of climates do different countries have? How does where food is grown impact the availability of certain foods? How does the climate in a country like Argentina differ in its ability to produce food from the climate in Canada? Why is imported food sometimes cheaper than food grown in Canada?
  2) How it is grown or produced: What is "organic" food? What are the differences between "organic" food and "conventional" food? What are the benefits and risks of consuming organic or conventional foods?

- Explain to the students that they are to participate in a debate activity. They will be split up into two groups, each taking one side of an issue to be assigned to them. The students are, with the help of the research material package to be given to each group, to research information to help support their side of the argument in preparation for the debate.

Debate Topic Groups

Note: It is recommended that the simpler issue topics found in groupings 1 and 2 should be used for students in grades 9 and 10. If the teacher considers it appropriate to do so, it is suggested that the more complex compound-issue topics found in grouping 3 might be used for a grade 12 level course to add further challenge if desired.

Grouping 1

Students should be assigned to one of two groups:

a. Argument 1: "Food that is organically produced is better than conventionally produced food because…"
   - OR -
b. Argument 2 (Counter-argument to Argument 1): "Food that is conventionally produced is better than organically produced food because…"

Grouping 2

Students should be assigned to one of two groups:

a. Argument 1: "We ought to eat food that is sourced locally 100% of the time."
   - OR -
b. Argument 2 (Counter-argument to Argument 1): "We should not limit ourselves to only local food, it is a good thing to import foods from around the world"

Grouping 3

Students should be assigned to one of two groups:

a. Argument 1: "It is preferable to eat food that is conventionally produced, but is also grown locally"
   - OR -
b. Argument 2 (Counter-argument to Argument 1): "It is preferable to eat food that is organically produced, and it does not matter where it was grown (includes the idea of importing food from abroad)"

- One week in advance, hand out the reading package to the students. This package should include the three charts "Industrialist & Environmentalist Visions for Agriculture", "Conventional vs. Organic Farming", and "Organic and Conventional Food – Which is Better?" along with two readings "Eating Better Than Organic" by John Cloud, and "Local or Organic" by Mindy Pennybacker, as well as the recommended resource list.

- The suggested debate format is a modified version of the International Debate Education Association's Middle School Format. This format is given below:

  a. The team supporting the resolution in middle school debate is referred to as the proposition. In this case, it would be the team supporting Argument 1. The team negating the resolution is referred to as the opposition. In this case, the opposition would be the team supporting Argument 2. The proposition team makes a case for the motion for debate (i.e. their thesis). The opposition opposes the case made by the proposition team. Each team will begin with an opening statement outlining their main arguments in support of their position.

  b. This is to be followed by a point-by-point exposition of those arguments with an opportunity to rebut by the opposition. Once each team has made the points they wished to make and the opposition has had opportunity for counter-argument, then each team is to give a closing statement. The closing statement is intended to make a final appeal to the moderator/judge outlining why each team should be considered the winner of the debate.

  c. It is recommended that judgment might be based upon the formulation of the arguments made and how well students are able to argue for their side. The recommended scoring method is to use a vegetable of some sort, such as a potato for each team. This is in part to maintain the emphasis on the fact that the topic relates to food. Whenever a strong point is made, a push-pin would be placed into the potato of the opposing team, and if that point is refuted effectively, that push-pin would be removed.

  d. The team with the fewest push-pins in their potato would therefore be considered to have won the debate.

  e. Some potential criteria to keep in mind while judging the outcome of the debate includes the literacy of the students; individual students' discomfort with public speaking, and relative unfamiliarity with the subject. Two goals of this exercise are, in addition to teaching students about the differences in food production methods and origins, to help foster critical thinking skills and facilitate presentation skills in a collegial environment.

FOLLOW UP ACTIVITY

- What do you feel you have learned after doing this exercise?
- Off the top of your heads, what kinds of foods do you like to eat?
- What do you think should matter more – how far and how long food traveled to get to you (i.e. freshness; local/imported) or whether or not the food has some pesticide residues on it or is genetically modified?
- Since we live in Peterborough, and we can have some cold winters, this means that not all types of foods can be grown locally or are not available all year round – would you consider changing your diet and giving up some of the foods you love in order to try to eat more locally?
- Suppose you were to go grocery shopping tomorrow, knowing what you do now, would you do anything differently than you would have before?

- Suggestion: Talk to OPIRG about arranging a Supermarket Tour for your class!
  Website: http://www.opirgpeterborough.ca/
  Phone Number: (705) 741-1208
  Email address: opirg@trentu.ca

A Few Tips for Facilitators

- It is important that all students participate in the debate. Since one of the goals of the debate exercise is to help develop public speaking and communications skills, students should be encouraged to speak during the debate.
- Encouraging participation can take the form of sending positive messages to a reluctant student that their contribution is valued as part of the team effort.
- The facilitator may at times find it necessary to reinforce order or the rules of the debate; the Apple Rule is a good example of where facilitator intervention may be required to ensure that only one person speaks at a time with minimal interruption.

APPENDIX 3b

Food Fight! A Debate Activity

Grades 9 – 12

FOOD FIGHT! A DEBATE ACTIVITY: REFERENCES and RESOURCES

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Cloud, John. (2007). "Eating Better Than Organic" in Friday, Mar. 02, 2007 Online Issue of *Time Magazine* http://www.time.com/time/magazine/article/0,9171,1595245,00.html

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Foodland Ontario Website: http://www.foodland.gov.on.ca/english/index.html

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Pennybacker, Mindy. (2006). "Local or Organic? I'll Take Both" From the September/October 2006 Issue of the *National Geographic Green Guide* online at http://www.thegreenguide.com/doc/116/local

University of the Sciences in Philadelphia. (2008). "Teaching Tips: Student Participation/Active Learning." http://www.usp.edu/teaching/tips/spal.shtml

Chart One:

INDUSTRIALIST & ENVIRONMENTALIST VISIONS FOR AGRICULTURE (With some local context)

Level: Local ➔ Global	The Industrialist Vision "BIGGER IS BETTER"	The Environmentalist Vision "SMALL IS BEAUTIFUL"
1: Field and Farm	• Using methods aimed at reducing soil erosion, and soil nutrient loss, while making farming more profitable at the same time by introducing techniques such as no-till farming • Careful use of pesticides	• Using organic farming practices such as crop rotation to encourage many different types of crops and other plants. • Protection of genetic diversity by farming with rare and traditional breeds of crops
2: Farm Finances	• Fewer, larger, more efficient farms are to be expected and should be encouraged	• More, not fewer, environmentally friendlier and efficient small and medium-sized farms
3: Bio-region	•Using innovations like biotechnology to bring together and integrate environmental and business goals.	• Adopting more careful practices and limiting potential harms to bring together and integrate environmental and business goals.
4: Economy	• Globalization of markets will lead to efficiency • The Kawarthas are simply not meant to be a large food producing area, except for certain commodities (hay exports, cow-calf, dairy) • Export-driven economic growth will help the poor get better access to food.	• Globalization of markets will result in more environmental damage, no accountability, and less employment in the Kawarthas • Regions and countries should work towards reducing their reliance on other countries for food
5: Biosphere	• Energy from fossil fuels like oil and gas are best used and distributed by the market forces of supply and demand. • "Climate Change" is simply not as bad for the economy as environmentalists present it	• Everyone including businesses needs to significantly cut back on the use of fossil fuels. For the food system, this means reducing the use of fuels, fertilizers, pesticides, and food transportation distances

Adapted from: Peter Andree. "Cultivating Sustainability: Strategies for Agriculture in the Kawarthas" in *Occasional Paper No.1,* pp. 5-32. © 1997 Frost Centre for Canadian Heritage and Development Studies.

Chart Two:

CONVENTIONAL VS. ORGANIC FARMING

Conventional Farmers	**Organic Farmers**
Apply chemical fertilizers to promote plant growth	Apply natural fertilizers, such as manure or compost, to feed soil and plants.
Spray insecticides to reduce pests and disease	Use beneficial insects and birds, preventing pests from mating or traps to reduce pests and disease.
Use chemical herbicides to manage weeds	Rotate crops, till, hand weed or much to manage weeds
Give animals antibiotics, growth hormones and medications to prevent disease and spur growth	Give animals organic feed and allow them access to the outdoors. Use preventive measures - such as grazing in different areas, a balanced diet and clean housing - to help minimize disease.

Adapted from: Mayo Clinic. "Organic foods: Are they safer? More nutritious?

Chart Three:

Organic or Conventional Food - Which is Better?		
	Conventional	**Organic**
Nutrition	Not enough proof to say that either Conventional or Organic food is more nutritious	
Quality and Appearance	Quality and safety standards are the same for both Conventional and Organic foods	
	Conventional fruits and vegetables may look better aesthetically than organics because of the use of pesticides and waxes on them	Organic fruits and vegetables may spoil faster than conventional food because they are not sprayed with waxes or herbicides
	Can tend to be more uniform in colours, shapes, and sizes than organic fruits and vegetables. Otherwise identical.	Some organic fruits and vegetables may come in odd shapes, varying colours, and perhaps smaller sizes compared to conventional. Otherwise identical.
Pesticides	Conventional growers use pesticides to protect their crops from molds, insects and diseases. Spraying pesticides can leave residues (left-over pesticides) on fruits and vegetables. The amount of pesticides found on produce poses a very small health risk.	Some people buy organic foods to limit their exposure to pesticide residues. Organic farmers limit their use of pesticides to the minimum or use eco-friendly alternatives such as crop-rotation and inter-planting other plants between rows.
Environment	Conventional farming can use up a lot of water and lead to problems like water pollution as well as other problems like soil erosion. Pesticides and fertilizers can run off into lakes and streams leading to water quality problems.	Organic farming practices are designed to benefit the environment by reducing pollution and conserving water and soil. Organic farming uses fewer pesticides than conventional farming. Many pesticides and fertilizers are derived artificially from oil
Cost	Conventionally grown and produced foods tend to be less expensive than organic foods because the use of pesticides makes pest control less labour-intensive. Also government subsidies (money given to farmers) tend to mask the true cost of conventional foods in the market which would otherwise be higher.	Most organic foods cost more than conventional food products. These higher prices are due to more expensive farming costs, tighter government regulations and lower crop yields. Since organic farmers do not use herbicides or pesticides, pest management tools used to control weeds and pests tend to be labour-intensive such as pulling weeds by hand.
Taste	Some people say they can tell a difference between conventional and organic foods, others say that there is no difference. Taste is a subjective thing (each person experiences it differently), but freshness tends to be a major factor for taste for both organic and conventional foods.	

Adapted from: Mayo Clinic. "Organic foods: Are they safer? More nutritious?

Background Article

Local or Organic? I'll Take Both

by Mindy Pennybacker

From the September/October 2006 Issue of the National Geographic Green Guide

http://www.thegreenguide.com/doc/116/local

Organic food is popping up everywhere these days, including the once-inhospitable shelves of chain supermarkets. Organic Rice Krispies and Organic Frosted Flakes now compete for prime retail space with their pre-organic cousins. Organic Oreos are due out soon, signaling agribusiness' final capitulation to the organic onslaught. *Consumer Reports* tells us that nearly two-thirds of Americans bought organic foods and drinks in 2005. Organic foods sales have been expanding at a rate of five to 21 percent per year since 1997, compared with two to four percent for the overall food industry. Meanwhile, the price of Whole Foods Market stock has shot up like Jack's beanstalk. Since organic represents only 2.5 percent of the total food market, there's plenty of room to grow. And big business is hungry for the profits.

Good news, right? For years now, we've tried to buy organic, locally grown food—and, at last, the free market is giving us exactly what we want. Not so fast, say nutritionists and environmental activists, who warn that an overemphasis on buying organic could bring a host of unintended consequences. These critics caution that local organic growers, who practice a community-based agriculture system valuing small diversified farms and humane animal husbandry, are rapidly being edged out by "Big Organic" firms, whose business practices, fossil fuel consumption and focus on highly processed foods are indistinguishable from the industrial food system.

So what should concerned shoppers do?

The conundrum deepened last spring, when Wal-Mart announced its plans to add 1,000 new organic products in all its stores and "democratize" them by charging only 10 percent more than it asks for comparable conventional foods. (Currently, consumers pay an average 50 percent premium for organic.)

The shiitake really hit the fan with food writers and small farmers issuing warnings that Wal-Mart's well-documented tactic of squeezing its suppliers to lower prices would further imperil and threaten the existence of small diversified farms and compromise the integrity of organic agriculture itself. "Wal-Mart will likely be buying from large farms, but that won't necessarily harm smaller farmers since their sales channels are growing too," Samuel Fromartz, a business reporter and author of *Organic, Inc.: Natural Foods and How They Grew*, told *The Green Guide* in a recent telephone interview.

As for the National Organic Standards that forbid the use of synthetic pesticides and fertilizers and anything other than organic vegetarian feed for animals, "the drive to produce organic food cheaply will bring pressure to further weaken the regulations," wrote Michael Pollan, author of the delightful book, *The Omnivore's Dilemma: A Natural History of Four Meals*, in *The New York Times Magazine* in June. "It's hard to believe that the lobbyists from Wal-Mart are going to play a constructive role in defending those standards."

I found myself agreeing with Pollan's argument. But then I ran into my friend Donna, an editor at a mainstream magazine. "How can you know it's bad if it hasn't even happened yet?" she asked. "Isn't it a good thing if more people can afford to buy food with fewer pesticide residues?" Fewer pesticides is good,

indeed. And although 20 percent of retail sales in the U.S. take place at Wal-Mart, consumers still have a choice, and a role to play in what happens next. "You can make an impact," Fromartz says.
At the Union Square Greenmarket, which carries only food produced within 170 miles of New York City, I asked a few shoppers what they thought of the Wal-Mart news and whether, given a choice, they would prefer local or organic. By the Ronnybrook Farm Dairy table, which sells products from cows free of genetically modified growth hormones, Siobhan Fagan paused, holding the handlebars of a bike affixed with a laden basket. She said she shopped at the Greenmarket because she lived nearby and liked the relationship with the farmers. "I prefer to support local produce. It's better for the environment because it uses less fuel. And I don't want to give Wal-Mart my money," Fagan added. At the Hawthorne Valley Farm counter, Manena Frazier, pregnant and pushing her young daughter in a stroller, also mentioned shipping distance as a reason she chose local food. "I look for things that are not 'shallow organic,' things not made in a mass-produced way. Large farmers are pushing the limits of organic, pricing out smaller organic farms," Frazier said as her child took a big bite of a whole wheat bun spread with fresh organic cheese from a grass fed cow.

The child's happy expression, as she took another bite, testified to the pleasures of freshness, taste and feel. Sam Fromartz had said, "I raise the question in my book, as organic gets bigger, as it mainstreams, is it going to lose what gives the consumer a sense that the food is really different?" At another stand, Grace Darde appraised some bulging bags of spinach. "The big stores, I don't like the way they sell organic. There's too much water. It's as if there's no life in it anymore," Darde said of the greens she shops for. Nearby, Benjamin Heller was also buying greens. "I don't shop at Wal-Mart. I prefer small, neighborhood stores to big stores. I don't even think of local versus organic. I buy local—in season, in summer—because it's better, for the most part," Heller said.

There are no Wal-Mart stores in New York City, so it's arguably easy to say one doesn't shop there. Meanwhile, demand for local food is so great that this summer, the Greenmarket, a project of the Council on the Environment of New York City, added 10 new farmers' markets, making a total of 45 throughout the five boroughs. Many of these new markets are sited in low-income neighborhoods that have had little or no access to fresh local foods, and some farmers are accepting electronic benefit cards, an ATM version of food stamps. Local food is a growing trend nationally, as well. From 1994 to 2004, the number of farmers' markets nationwide grew from 1,755 to 3,706, according to the U.S. Department of Agriculture.

"Given the choice, I usually go local," Pollan told *The Green Guide* in an interview. "It often is organic, even if not certified, and you can always ask the farmer." (The cost of organic certification can also become burdensome for a small grower.) "Plus, local supports so many more values that I care about: preserving the agricultural landscape near where I live, keeping farmers in the community and energy conservation," he said.

Pollan, however, agreed with Donna that the expansion of organic acreage to satisfy Wal-Mart's 4,000-store demand will benefit the environment and human health. "It's a good thing because organic will not be an elitist food—people will have access to it who never did before. And it will educate. Many people don't know what organic is," Pollan said. But then he struck a cautionary note: There's also "how they drive the price down to 10 percent above conventional food, which is itself already too cheap," he added, explaining that conventional food would be much more expensive if the environmental and health costs of pollution, soil depletion and processed foods were included.

A Patchwork of Values

"Sometimes, though, local versus organic is a false choice--sometimes you can't find organic, or the local choice is bad," Pollan said. Fromartz argued that local and organic not only cannot but should not be mutually exclusive. For one thing, each represents such a tiny fraction of the food market. For another, in *Organic Inc.*, he profiles a small southeastern Minnesota farm that sells locally, but also ships its tomatoes 600 miles to a Whole Foods distribution center in Chicago, to be sold at their stores throughout the Midwest. In other words, it's possible to do both.

In the "Big Organic" chapter of *The Omnivore's Dilemma,* Pollan criticized Whole Foods' "supermarket pastoral" signage that waxes poetic about small family farms and happy chickens and cows, while the reality is often the industrial feedlot rather than the pasture, and produce that "comes primarily from the two big corporate organic growers in California..." This resulted in an e-mail exchange with John Mackey, Whole Foods CEO, in which Mackey vowed to let individual store managers do more business with local farmers, and to provide a $10 million loan fund for small farmers. "I'm very impressed by the steps they've taken. Since Mackey's letter, I've talked with produce managers in a few Whole Foods stores and the rules of buying have changed," Pollan says. And, he pointed out, now that Wal-Mart has entered the mix, Whole Foods will "need to distinguish themselves from cheap organic. With local, they can."

Small farms can also distinguish themselves and are doing so, by delivering on values that go beyond organic. "Other concerns are coming into play and will be reflected in labels," says Fromartz.

For example, the Association of Family Farms is developing a new seal for food produced by small family farms. "Consumers are wanting to know where food comes from, rather than distance," says Fred Kirschenmann, Ph.D., an organic farmer and distinguished fellow at the Leopold Institute for Sustainable Agriculture at Iowa State University. The institute is helping develop the seal with the National Farmers Union and the Food Alliance, which will serve as an independent third-party certifier that standards are met. Criteria will include environmental stewardship, humane animal care, fair labor standards and ethical business standards. The new seal will provide "full transparency to bring food from farm to table with values consumers want to support," Kirschenmann says.

As shoppers, we're lucky. We're being courted by producers big and small, and we have a plethora of choices. From them, we can fill our baskets with foods from a variety of labels, farms and retailers that reflect the colorful patchwork of farm fields. All we have to do is stay informed and follow our values as well as our own good taste.

What You Can Do

*Think, but don't fret about what you eat. "It's difficult to eat 100 percent organic. There are trade-offs. If you buy salad mix from California, that's a lot of food miles, but a lot of acres in California aren't going to be covered in pesticides," Fromartz says.

*See if you can eat more locally, especially in the season of abundance, from summer through fall. For inspiration, read the adventures of Sue Kiyabu, a Honolulu writer who, inspired by *The Omnivore's Dilemma*, resolved to eat nothing but food organically grown in Hawaii for a week—no small task in a state that grows only 25 percent of its food. See "No Shoyu. No Milk. No Bread. No Rice. The Gas-Saving, All-Organic 100-Mile Hawaiian Diet," at www.honoluluweekly.com.

To find a farmers' market near you, go to www.ams.usda.gov and www.localharvest.org.

*It's harvest season. Go to a nearby farm and pick berries, apples or pumpkins. And visit your local harvest fair. See www.foodreference.com/html/upcomingfoodevents.html.

*Ask your local farmer how he farms and raises animals. "Don't ask, 'Are you organic?' That's the wrong question. Ask, 'What pesticides and fertilizers do you use?' They'll tell you," Pollan says. For the worst agricultural pesticides, see the Lawn Care Product Report at www.thegreenguide.com/reports.

*Learn to separate marketing hype from meaningful words. "I'd encourage people to look beyond the language; read carefully," Pollan says.

*Look for labels that reflect your values. Know which labels are meaningful by downloading the Food and Drink Label Choices Smart Shoppers' Card.

Recommended Reading

Books can be ordered at www.thegreenguide.com/books

Organic, Inc.: Natural Foods and How They Grew by Samuel Fromartz (Harcourt, 2006, $25)

The Omnivore's Dilemma: A Natural History of Four Meals by Michael Pollan (Penguin, 2006, $26.95)

What to Eat: An Aisle-by-Aisle Guide to Savvy Food Choices and Good Eating by Marion Nestle (North Point Press, 2006, $30)

The Way We Eat: Why Our Food Choices Matter by Peter Singer and Jim Mason (Rodale, 2006, $34.95)

"Breaking the Chain: The Antitrust Case Against Wal-Mart" by Barry C. Lynn, *Harper's Magazine,* July 2006

Article Summary

Main Points Made in *Local or Organic? I'll Take Both* by Mindy Pennybacker (2006)

- Organic food is popping up everywhere these days, including the once-inhospitable shelves of chain supermarkets.
- *Consumer Reports* tells us that nearly two-thirds of Americans bought organic foods and drinks in 2005.
- Organic foods sales have been expanding at a rate of five to 21 percent per year since 1997, compared with two to four percent for the overall food industry.
- Organic represented only 2.5 percent of the total food market in the US in 2006
- Nutritionists and environmental activists warn that an overemphasis on buying organic could bring a host of unintended consequences.
- One such consequence is the displacement of small, local, multi-crop farms that practice community-based farming by "Big Organic" firms who do business differently than small farms, consume large amounts of fossil fuels (which is bad for the environment) and focus on highly processed foods (such as soy).
- These practices makes "Big Organic" firms comparable to conventional farming with respect to environmental problems like pollution and soil erosion, and social and economic problems like the loss of communities' connections to local farms and the ability for local farmers to stay in business.
- Currently, consumers pay an average of 50 percent more for organic foods than for conventionally-produced foods.
- Companies like Wal-Mart have moved into the organics market, bringing along business practices such as supplier price-squeezing to try to get lower prices for products based on quantity sold, which is bad for independent organic farmers who, for the most part, are unable to cater to such demands.
- Likewise, Big Organic firms face the same problems as conventional agri-business firms – their products are often shipped long distances from the farm to the family via trains, trucking, and large grocery store chains which can produce large amounts of greenhouse gases in the process.
- However, a good thing about the introduction of bigger organic food companies along with the lower prices and greater distribution they bring means that more people will be able to access organic foods with lower amounts of pesticide (chemical) residues which can be bad for human health and the environment.
- If organic foods continue to spread through wide distributors like Wal-Mart or other large grocers such as Loblaws, it would help to remove the reputation organic food has as being elitist and something only rich people can afford to buy.
- However, conventional food is already too cheap (though some might disagree) .The price of conventional food does not include the environmental and health costs of pollution, soil depletion, and processed foods.

Background Article

Eating Better Than Organic

By John Cloud Friday, Mar. 02, 2007 ***Time Magazine***
http://www.time.com/time/magazine/article/0,9171,1595245,00.html

Not long ago I had an apple problem. Wavering in the produce section of a Manhattan grocery store, I was unable to decide between an organic apple and a nonorganic apple (which was labeled conventional, since that sounds better than "sprayed with pesticides that might kill you"). It shouldn't have been a tough choice--who wants to eat pesticide residue?--but the organic apples had been grown in California. The conventional ones were from right here in New York State. I know I've been listening to too much npr because I started wondering: How much Middle Eastern oil did it take to get that California apple to me? Which farmer should I support--the one who rejected pesticides in California or the one who was, in some romantic sense, a neighbor? Most important, didn't the apple's taste suffer after the fruit was crated and refrigerated and jostled for thousands of miles?

In the end I bought both apples. (They were both good, although the California one had a mealy bit, possibly from its journey.) It's only recently that I had noticed more locally grown products in the supermarket, but when I got home I discovered that the organic-vs.-local debate has become one of the liveliest in the food world. Last year Wal-Mart began offering more organic products--those grown without pesticides, antibiotics, irradiation and so on--and the big company's expansion into a once alternative food culture has been a source of deep concern, and predictable backlash, among early organic adopters.

Nearly a quarter of American shoppers now buy organic products once a week, up from 17% in 2000. But for food purists, "local" is the new "organic," the new ideal that promises healthier bodies and a healthier planet. Many chefs, food writers and politically minded eaters are outraged that "Big Organic" firms now use the same industrial-size farming and long-distance-shipping methods as conventional agribusiness. "Should I assume that I have a God-given right to access the entire earth's bounty, however far away some of its produce is grown?" asks ethnobotanist Gary Paul Nabhan in his 2002 memoir, Coming Home to Eat: The Pleasures and Politics of Local Foods. Nabhan predicted my apple problem when he vacillated over some organic pumpkin canned hundreds of miles from his Arizona home. "If you send it halfway around the

world before it is eaten," he mused, "an organic food still may be 'good' for the consumer, but is it 'good' for the food system?"

I had never really thought about how my food purchases might affect "the food system." Even now I don't share the pessimism and asceticism of the local-eating set. In her 2001 memoir, This Organic Life, Columbia University nutritionist Joan Dye Gussow writes that her commitment to eating locally "is probably driven by three things. The first is the taste of live food; the second is my relation to frugality; the third is my deep concern about the state of the planet." I don't have much relation to frugality, and, perhaps foolishly, I'm more optimistic than Gussow about our ability to develop alternative energy sources.

But I care deeply about how my food tastes, and it makes sense that a snow pea grown by a local farmer and never refrigerated will retain more of its delicate leguminous flavor than one shipped in a frigid plane from Guatemala. And I realized that if more consumers didn't become part of the local-food market, it could disappear and all our peas would be those tasteless little pods from far away.

Still, the fact that not all locally grown products are organic had me worried. Even if most Americans wanted to buy locally grown organics, they wouldn't be able to find many. In a few not-too-dry, not-too-wet, not-too-warm regions--central California is one--it is possible to find abundant organic produce grown locally. But if you live in a humid climate, say, the moisture that encourages bacteria and fungi means that growing without pesticides is much more risky, expensive and rare. Consequently, in the Hudson Valley of New York, near me, it's very difficult to find fruit that hasn't been sprayed with chemicals at least once. In other regions, like the upper Midwest, most big farms don't grow any vegetables for local markets, conventional or organic. Instead, they produce commodity crops like corn and soybeans for sale to food processors. At a large Hugo's grocery store in Jamestown, N.D., last summer, I noticed only one local product: flour, which is milled in-state from local wheat. But there were organic apples and oranges from out of state.

Farmers' markets often feature organic produce from nearby farms, but not everyone lives near a farmers' market--and most products at the markets aren't organic. "I've been to farmers' markets, and there's people hauling stuff from the truck that they got at a wholesaler," says Joseph Mendelson III, legal director of the Center for Food Safety, a liberal Washington group that supports strong organic standards. Mendelson prefers the "gold standard" of locally grown organics, but he is rather frightening on the subject of nonorganic food, whatever its origin. When I asked him whether I should favor local products, he replied, "I don't know what local means. Do they use local pesticides? Does that mean the food is better because they produce local cancers?"

All of which further tangles my original question: The organic apple or the conventionally grown local one?

It turns out to be a frustratingly layered choice, one that implicates many other questions: What's the most efficient way to grow food for all? Should farms be big or small, family- or corporate-run? How do your choices affect the planet? What tastes better? And then there's that little matter of cancer.

Let's get that one out of the way at the start. If scientists could conclusively prove that agricultural chemicals are harmful, we would all go organic. But it's not clear, for instance, that the low levels of pesticide typically found on conventional produce cause cancer. The risks of long-term exposure to those residues are still undetermined.

Even if conventional foods don't turn out to be as dangerous as organic advocates claim, several recent studies have suggested that organic foods contain higher levels of vitamins than their conventionally grown counterparts. In a paper published in October in the Journal of Agricultural and Food Chemistry, a team from the University of California, Davis, demonstrates that organically grown tomatoes have significantly more vitamin C than conventional tomatoes. Even so, the same study shows no significant differences between conventional and organic bell peppers.

"We're just beginning to understand these relationships," says U.C. Davis food chemist Alyson Mitchell, one of the paper's authors. "We understand, and have understood for a long time, that there is some relation between soil health and plant quality, but we still don't have a solid scientific database to link this to nutrition."

Organic adherents take it on faith that the way food is grown affects its nutritional quality. But advocates of local eating are now making another leap, saying what happens after harvest--how food is shipped and handled--is perhaps even more important than how it was grown. Locavores.com a site popular among local purists, asserts that "because locally grown produce is freshest, it is more nutritionally complete." But Mitchell says she knows of no studies that prove this.

In short, science can't tell you what to eat for dinner. Many of us end up relying on the government to keep food safe, or we just don't think about it. For those who do start to think--nervous new parents, say, or McDonald's burnouts--there are more alternative grocers than ever. There are online purveyors of gourmet health foods (pricey), the old food co-ops (too political for me), and of course those farmers' markets, which--in spite of basic limitations like not being open every day--have grown larger and more sophisticated. (According to Samuel Fromartz's valuable 2006 history Organic Inc.: Natural Foods and How They Grew, there were 3,706 U.S. farmers' markets in 2004, double the number there were a decade earlier.)

But for the past few years, the easiest answer for food-baffled Americans has been a single company: Whole Foods Market.

Whole Foods now has 190 locations from Tigard, Ore., to Notting Hill in London. In fiscal 2006 the chain's sales grew 19% (to $5.6 billion), a bit lower than 2005's 22% growth. Fretful about increasing competition from mainstream grocers who are offering more organic products, investors have punished Whole Foods in the past year; its stock price has fallen more than a third since February 2006.

Still, Whole Foods is expanding rapidly. It recently said it would acquire Wild Oats Markets Inc.; the merger would give Whole Foods an additional 112 locations in North America. Already, many Americans have come to see Whole Foods as the repository of both their dietary hopes and fears--the place we can buy not only organic arugula but a decadent chocolate bar too. I have shopped at Whole Foods off and on since 1990, when I had a summer job in Austin, Texas, where Whole Foods began in 1980. If I was going to decide whether to buy organic or buy local, I figured Whole Foods' ceo, John Mackey, could help me. After all, he is vegan, and his politics lean libertarian, so he thinks hard about different paths. And he has made a great fortune by joining two previously antagonistic alimentary impulses--health and excess.

When we spoke last fall, Mackey was at first diplomatic about the organic-local choice. He told me that when he can't get locally grown organics--and even he can't reliably get them--he decides on the basis of taste. "I would probably purchase a local nonorganic tomato before I would purchase an organic one that was shipped from California," he said. He called the two tomatoes "an environmental wash," since the

California one had petroleum miles on it while the nonorganic one was grown with pesticides. "But the local tomato from outside Austin will be fresher, will just taste better," he said.

However, he also noted that products like hard squash that can last months in storage don't taste so different for being shipped. In that case, he said, "I might purchase the organic version from California." Mackey acknowledged that organic agriculture is "flawed"; he criticized organic-milk farms where cows are pumped with feed in factory settings just like conventional-milk cows. But he also bristled at criticism from local activists. He noted that just because a farm is near your home doesn't mean it practices sustainable farming. "There's an assumption that small is beautiful and big is industrial, and that's not necessarily the case," he said. Whole Foods could not keep growing without supplies from large international farms, which is one reason the organic-vs.-local debate is a delicate issue for Mackey.

At least at my Whole Foods--the one in Manhattan's Union Square, where I shop once or twice a month--most of the available produce comes from California or some other distant land, even during the local growing season. Like all other Whole Foods locations, the store began to push local products more aggressively last summer. A placard was posted above the escalator exhorting customers to BUY LOCAL, and all the cash registers were changed to show photos of area farmers.

These days, in the final weeks of winter, it would be unfair to ask Whole Foods to sell predominantly local produce at my store, because so little can be grown in the Northeast right now. But even during verdant summertime, the vast majority of products sold at my Whole Foods (fresh or otherwise) aren't from the Northeast. Actually, it would be more accurate to say that the packages in which most Whole Foods groceries are sold say nothing about the food's origin. For instance, in the freezer section you can find Whole Foods' Whole Kitchen brand Breaded Eggplant Slices with Italian Herbs. The box tells you a wealth of information about the eggplant slices--that they contain wheat, dextrose and annatto (a dye); that they can be fried, baked or microwaved; that they have no trans fat; that they are "flavorful" and "versatile." But you don't learn where the eggplant comes from.

A Whole Foods spokeswoman told me the eggplant was grown in Florida, which is too bad because eggplant grows easily in the Northeast. But in the company's defense, very few customers care whether their food is local. Most who do, shop at farmers' markets. Also, there's not even a standard definition of what local means. To Nabhan, who inspired many local activists with Coming Home to Eat, it means eating within a 250-mile radius of his Arizona home. Many who blog at a site called eatlocalchallenge.com aim for a stricter "100-mile diet."

My favorite definition of local comes from Columbia's Gussow, a reporter for Time in the 1950s who went on to become a local-eating pioneer. For 25 years, Gussow has lectured on the environmental (and culinary) disadvantages of relying on a global food supply. Her most oft-quoted statistic is that shipping a strawberry from California to New York requires 435 calories of fossil fuel but provides the eater with only 5 calories of nutrition. In her memoir, Gussow offers this rather poetic meaning of local: "Within a day's leisurely drive of our homes. [This] distance is entirely arbitrary. But then, so was the decision made by others long ago that we ought to have produce from all around the world."

On his blog, Whole Foods' Mackey has used a radius of 200 miles to mean local. Measuring from my home, that includes not only much of New York State, New Jersey and Connecticut but also parts of seven other Northeastern states. Such a large food shed produces a great variety of fruits and vegetables, and Whole Foods has said it wants to increase its percentage of local produce. (Of the roughly $1 billion in produce the

company sold last year, 16.4% came from local sources, up from 14.9% in 2005.) Last year Mackey announced a $10 million loan program for local farmers.

But Mackey also knows that most Americans will never eat a purely local diet. "One of the challenges of being a retailer is you don't want to offend people," Mackey told me. "Some customers want to eat apples year-round, and they're willing to pay more for a New Zealand apple." Finally, he offered a defense of the global food economy: "When I was a little boy--I'm 53 years old--being able to get oranges from Florida or produce from another state was a very big deal because the local-produce availability where I lived in Houston wasn't great. People back then didn't have nearly as diverse a diet as we do now, and you might also point out their life spans weren't as long."

That made me wonder if purely local eating was even possible--or healthy. Could I get everything I needed from the Northeast? What would I have to give up? For gustatory reasons, I long ago stopped eating out of season--I have no interest in those hard Canadian tomatoes my Whole Foods was selling in February. But would I have to forgo coffee? What would replace my breakfast cereal? How much would all this cost? I wasn't sure. So like everyone else, I went to Google.

I mean, I literally went to Google, to the company's Mountain View, Calif., campus.

I had read that one of Google's new cafeterias, Café 150, served only food originating within a 150-mile radius of Mountain View. I knew this radius included a glorious fund of farms, ranches and fisheries, the Salinas Valley food shed that Steinbeck made famous in East of Eden. I also knew that as one of the most successful companies of the era, Google could afford not only to pursue such a whimsical culinary ideal as total locality but also to do so in the form of a fine-dining restaurant. (Café 150 is one of 11 employee eateries on the Google campus, all of which famously charge nothing.)

Still, I wanted to see how Café 150's founding chef, Nate Keller, managed to serve more than 400 purely local meals a day. Most chefs simply place orders with suppliers. Good cooks understand that quality and origin are related because of the toll extracted by transportation, but in the end, if Emeril Lagasse wants to serve wild salmon one night, he can just order it from Alaska. Keller, who recently became the chef at another Google restaurant, couldn't do that. Although just a freckly 30-year-old, he had to plan his menus the way preindustrial cooks did, according to whatever local vendors offered that day.

"These guys have to be so flexible with their menus, it's unreal," said Café 150's fishmonger, Tim Zamborelli of Today's Catch in San Jose, Calif. "We have to find out what's coming in on that particular day and let them know so they can change." Café 150, which opened a year ago, can serve no shrimp or scallops, since they can't be found in the area, and tuna was available only from August through October, when currents brought bluefins into the radius. The day I visited, Keller hadn't learned what vegetable he would be serving until the night before. (He got baby red chard.)

It's a radically new way of thinking about cooking because it's so very old. But I was surprised to learn that Café 150 was the brainchild not of some anticorporate artisan but of John Dickman, 51, Google's food-service manager. Dickman not only worked for 14 years at the food giant Marriott--he even trained flight attendants to cook plane food. I was curious how he had created such a radical restaurant.

Dickman says he was inspired by chef Ann Cooper, whose 2000 book, Bitter Harvest, is well described by its subtitle: A Chef's Perspective on the Hidden Dangers in the Foods We Eat and What You Can Do About It. Cooper, who now runs the acclaimed meal program of the Berkeley, Calif., public schools, writes passionately against industrialized farms that "inhabit a flattened landscape dotted not with trees, farmhouses [and] animals ... but with huge motorized vehicles." After meeting her, Dickman began to go to farmers' markets.

When Dickman arrived at Google in 2004, he says, "organic was the cool thing," and the company's chefs were buying organic whenever they could--even if that meant flying in Chilean nectarines. Dickman worked with the team to write new standards that place local before organic for all Google eateries. "You're using X amount of jet fuel to get it here, and that doesn't make sense," he says. "So forget the nectarines. Buy something local. Get some plums." Of course, this doesn't work in, say, Dublin, where Dickman also helped set up a Google café. ("Everything is flown in there," he said.) When I asked if he thought a restaurant as strictly local as Café 150 would be possible anywhere outside central California, he answered, glumly, "Probably not."

But others are trying. Restaurants from Cinque Terre in Portland, Maine, to Mozza in Los Angeles are run by cooks who strive always to find local products first. Some chefs are not only buying locally but actually growing the food. The two Blue Hill restaurants in New York--one in Manhattan and the other in Pocantico Hills--buy less than 20% of their ingredients from outside the New York region, according to chef Dan Barber. Much of both restaurants' food (including all the chicken and pork) is raised on about 20 acres next to the Pocantico Hills location. In the 31/2 years since the farm was launched, Barber has become one of the nation's most eloquent pro-local spokesmen, not least because he makes local eating profitable (and delicious--his restaurants win raves). But his commitment to locality means that Barber can't always serve beef, since the quality and availability of steers in the Northeast are uneven.

Café 150 has access to local beef from Bassian Farms in San Jose, Calif., but the restaurant can't obtain everything it needs from the valley. Take salt. "There are salt flats a quarter-mile that way," said Keller, pointing to the horizon, "but they're for industrial purposes." So he buys salt "off the truck," from a food-service deliverer.

Still, apart from such staples, Café 150 is living up to its name. It never serves tropical fruits, and it has planted lemon and lime trees just outside to ensure local citrus. The restaurant grows many of its own herbs and makes its own ketchup. And last fall Café 150 jarred tomatoes and fruit so that even though it's March, Googlers can get a taste of the local harvest every day. Imagine that: a company as ostentatiously hip as Google canning fruit in its kitchens.

Could I do this? Could I operate my own "kitchen 150"?

Following Café 150's lead, I decided to keep basic dry goods like coffee, chocolate and spices. But since I have no interest in gardening (and no yard, for that matter--I live in an apartment), I needed a source of produce. I find farmers' markets inconvenient, if only because you have to pay each farmer separately for items, which can mean a lot of waiting in the cold. Then I heard about the farm shares run by Community Supported Agriculture (CSA) programs.

They sounded a little lefty to me at first, but it turns out CSA’s are a wonderfully market-driven idea: you join with others in your community to invest in a local farm. At the beginning of the season, members pay

the farmer a lump sum. Each week, or perhaps once a month in the winter, the farm delivers fresh vegetables (and, for more money, items like fruit, eggs and flowers) to a central location. Prices vary widely depending on where you live. The CSA in the Mott Haven neighborhood of the Bronx costs just $220 for five months for those with a low income (food stamps accepted). The CSA run by Angelic Organics in Caledonia, Ill., starts at $600 for 20 weeks of vegetables and goes north of $1,000 when you add fruit.

There are some lefty aspects: You don't choose what the farmer grows. He does. You might get lettuce one week and then--if, say, a hailstorm hits the lettuce patch--none for several weeks after. Also, you're locked into a fixed amount of food each week, so if you don't feel like cooking for a couple nights in a row, you feel guilty. A farmer sweated over these beautiful ears of corn, and I'm going to throw them out so I can pick up riblets at Applebee's?

The benefit is that the food is affordable--for $40 a month at my CSA, I get (to take February as an example) four bunches of winter greens, a head of red cabbage, 5 lbs. of apples, and about 2 lbs. each of beets, onions, carrots, turnips and Yukon Gold potatoes. The stuff is phenomenally fresh. I once discovered a nine-day-old head of lettuce from my CSA farm at the back of the refrigerator. Because it had come to me just 24 hours after being picked, it was still crisp.

But how local was my CSA farm? And was it organic?

Windflower Farm is in Valley Falls, N.Y., 185 miles northeast of my apartment. Mapquest calls it a 3 1/2-hr. drive, but if you leave on a weekday at 5:30 p.m., as Windflower's Ted Blomgren and I did, it can take closer to five hours. That meets Gussow's definition of local--"within a day's leisurely drive"--although our drive through Manhattan wasn't leisurely.

Blomgren runs Windflower with his wife Jan. He is 46, and on the day we rode to the farm, he wore sandals and glasses. Ted, who has a degree from Cornell, is balding and studious, and might pass for a professor if he didn't have so much dirt under his toenails. Ted and Jan--who has lovely bright blue eyes perpetually fixed in a startled expression--have operated Windflower for eight years with their sons Nathaniel, 14, and Jacob, 11. On the day I visited last summer, I watched a barefoot Nathaniel walk to the henhouse to collect eggs in an old white bucket, as he did every day. I had been eating those eggs most days--that's how I had replaced cereal. Seeing Nate carry that bucket into the smelly humidity of the chicken coop, I realized I had never before felt so connected to my food. I had not only seen the chickens that produced my eggs but had also met the person who gathered them.

That's a core goal of CSAS--to remind you that your food originates in some place other than a grocery store. There are now some 1,200 CSA farms in the U.S., according to the Robyn Van En Center at Wilson College in Pennsylvania. Van En helped start the first American CSA at her Massachusetts farm in 1985 after hearing about the idea of farm shares from a Swiss friend. (You can find a CSA near you at sites like localharvest.org.

So I was finally eating local, and it tasted great. Ted's yellow wax beans last year were so crisp and oniony sweet you could eat them directly from the field. During the winter months, Ted has delivered sturdy vegetables from his cold storage that look as good as anything at Whole Foods and seem to taste better, if only because they remind me of a warm day on the farm. And yet I do worry that the Blomgrens aren't certified by the Federal Government as organic growers. They say they don't use synthetic pesticides or fertilizers, and Ted's policy is that any CSA member can come to his farm to check his growing practices. "I

couldn't show up at my local Agway and buy a jug of herbicide without it getting told to everybody," he said. Like many small farmers I met, Ted felt that organic certification would be too costly and time consuming.

Having met Ted, Jan and their sons--and having spent the night in their barn--I trust they don't use chemicals. But the Blomgrens don't grow fruit for the CSA. They buy it from other local growers, and most of them use sprays because of the humidity. Ted's hens were free-range--they strutted around eating the grass behind his house. But pastured chickens still require some grain feed, and the grain Ted bought was mostly conventionally grown, industrially processed corn.

I was deflated to hear that I had ingested chemicals with my fruit and eggs. But at this point I threw up my hands. If I wanted total purity, the only option was to grow my own food. Forget it. Farming is dirt-under-the-toenails hard work, and the Blomgrens are by no means making a vast fortune.

But I had arrived at an answer to my question: I prefer local to organic, even with the concessions local farmers must make. I realize there's something romantic about the desire to know exactly where your food is from. Among true agrarians, that desire carries a reactionary strain, a suspicion of modernity. "Instead of relying on the accumulated wisdom of a cuisine, or even on the wisdom of our senses, we rely on expert opinion," journalist Michael Pollan wrote in last year's acclaimed book The Omnivore's Dilemma. "We place our faith in science to sort out what culture once did." But science should trump culture on matters of nutrition. The problem is that science offers no clear guidelines yet on how beneficial organic food is.

When asked years ago whether she preferred butter or margarine, Gussow famously remarked, "I trust cows more than chemists." For my part, I do not. I will still go to Whole Foods to buy the mass-produced Organic Food Bars I eat for breakfast when I don't have time for eggs. I am happy that food scientists are finding ways to produce everyday products like cereal with organic ingredients. (How about organic Froot Loops? I have a weakness for Froot Loops late at night.) But when it comes to my basic ingredients--literally, my "whole" foods rather than my convenience foods--I would still rather know the person who collects my eggs or grows my lettuce or picks my apples than buy 100% organic eggs or lettuce or apples from an anonymous megafarm at the supermarket. Choosing local when I can makes me feel more rooted, and (in part because of that feeling, no doubt) local food tastes better.

Eating locally also seems safer. Ted's neighbors and customers can see how he farms. That transparency doesn't exist with, say, spinach bagged by a distant agribusiness. I help keep Ted in business, and he helps keep me fed--and the elegance and sustainability of that exchange make more sense to me than gambling on faceless producers who stamp organic on a package thousands of miles from my home. I'm not a purist about these choices--I ate a Filet-O-Fish at McDonald's on the way to Ted's farm. But in general, I have decided that you are where you eat.

Article Summary

Main Points Made in *Eating Better Than Organic* by John Cloud (2007)

- Consumers sometimes have to make a tough choice between buying organic (with reduced amounts of pesticide residues) which possibly could have been shipped from across the continent, and buying conventional food which may have been sprayed with poisonous pesticides, but was grown locally.
- It is thought that food generally tastes better when fresh; there is a possibility that taste may suffer if crated, refrigerated, and transported for long distances. This is why some tropical fruits like mangos and bananas, as well as other foods like tomatoes are picked green, shipped, and allowed to ripen in transport or on the grocery market shelf.
- Local food is becoming the rising trend after the realization that "Big Organic" food producers use the same industrial-size farming and long-distance shipping methods as conventional agribusiness.
- Not all locally grown products are organic.
- If you send organic food halfway around the world before it is eaten, it still may be healthy for the consumer to eat it, but questionable whether it is healthy for the food system (producers, processors, distributors, and consumers).
- People might choose to eat locally produced food for a number of reasons including taste, saving money, and concern for the environment.
- Rhetorical question: how much of a food's flavour might be lost during preservation such as freezing, and transportation in the cargo hold of a ship or in a crate on a plane?
- It is sometimes difficult to find locally-grown organics; the majority of it in the United States comes from California due to its ideal climate and long growing season.
- [Aside: there are organic farms in the Peterborough region though, so we can buy local organic food here]
- Most big farms plant monoculture crops (only one type of crop) with many growing high-value "cash crops" such as soybeans and corn.
- This means that these farms do not produce vegetables for local markets, neither conventional nor organic.
- Farmers markets are great places to find local organic produce [Peterborough has two excellent farmers markets – one on Wednesdays and one on Saturdays] but not everyone lives near a farmers market, so accessibility can be a problem.
- Food at these farmers markets may be certified organic – which means the food has met a set of production standards from a certifying organization, whether by the government such as in the United States or by an independent certifier in Canada.
- Many consider the best-case scenario for purchasing food is to buy both local and organic because you can be guaranteed low pesticide content and that your money will stay within the local community economy.
- The problem is with scientific certainty: if scientists could prove beyond doubt that the small amounts of chemicals sprayed on conventionally grown food cause cancer, then people would probably convert to organic foods in a hurry. However, this is not the case – there is still some doubt.
- There is some evidence from recent scientific studies that show that organic food may be more nutritious with respect to some vitamins and minerals than conventional food.
- In a paper published in October in the Journal of Agricultural and Food Chemistry, a team from the University of California, Davis, demonstrates that organically grown tomatoes have significantly more vitamin C than conventional tomatoes.

- Even so, the same study shows no significant differences between conventional and organic bell peppers.
- Scientists have been able to link soil health to plant quality, but have been unable to link that to foods being more nutritious.
- Science cannot tell you what to eat for dinner.
- Both local conventional produce and imported organic foods carry baggage from petrochemicals (derived from oil).
- The local conventional food with some pesticide residues, and the imported organic food that doesn't have pesticides, but has travelled a long distance and thereby burning gas and oil during transportation.
- Just because a farm is local does not means it practices sustainable farming.
- Local food, at least produce, tends to be a seasonal thing in colder regions like Ontario and the North-eastern United States, but you can still get local meats and milk during the winter.
- Shipping a strawberry from California to New York requires 435 calories worth of fossil fuel (oil and gas) to transport 5 calories worth of nutrition.
- People define "local" differently: for some people it's 100-miles, for others, 200, and further still "local" might be defined as within a watershed's boundaries, or within a county, a province, a state, or even a country.
- Some of our everyday processed foods are available as organic now too: foods like cereals, breads, meats, even frozen dinners are made from organic ingredients.