Eating Outside the Pipeline

Our guiding principals must be: 1) As frequently as possible we need to eat the best quality food at the peak of freshness. 2) We need to eat as close to the farm as possible. 3) Eschew foods that require more energy to make, transport or store than they give back.

Joining the 'Eat Local' Movement

Follow the links below to numerous websites that can inform your eating choices:

http://www.eatwild.com/index.html

http://www.farmtoschool.org/ma/

http://www.thefoodproject.org/

http://www.ams.usda.gov/farmersmarkets/States/Massachusetts.htm

http://www.nofamass.org

http://www.eatwellguide.org

http://www.ediblecommunities.com/members/boston/

http://attra.ncat.org/attra-pub/localfood_dir.php

Connect to a Farmer

- Get involved in 'Community Supported Agriculture'. This economic model of farming is an alternative to commodity crop farming. Folks like you and me buy a share in a farm at the beginning of a growing season. Then we are entitled to a box of fresh produce every week throughout the growing season. Here's a list of Massachusetts CSA Farms:
  - http://www.nofamass.org/programs/csa.php
  - http://www.umassvegetable.org/food_farming_systems/csa/farms_ma.html

For further reading on the pipeline...

Books:

Fast Food Nation

-Eric Schlosser

ISBN: 0060838582

Food Inc

-Peter Pringle

ISBN: 074326763X

Seeds of Deception

-Jeffrey Smith

ISBN: 0972966587

The Omnivore's Dilemma

-Michael Pollan

ISBN: 1594200823

Food Politics

-Marion Nestle

ISBN: 0520240677

Fat Land

-Greg Crister

ISBN: 0618380604

Appetite for Profit

-Michele Simon

ISBN: 1560259973

Mindless Eating

-Brian Wansink

ISBN: 0553804340

Economic Concentration and Structural Change In the Food and Agriculture Sector: Trends, Consequences and Policy Options

http://www.agribusinessaccountability.org/bin/view.fpl/1198/cms_category/1846.html

HUGE report issued by Senator Tom Harkin (D-IA) on the threats that concentration and vertical integration pose for agricultural producers, rural communities and consumers.

Jason Ryan

www.gastromancer.com

Modern Food Issues

Lecture Handout

What are they...? Why are they Important...? What can we do about them...?

What is a Modern Food Issue?

A modern food issue is a health, environmental or economic concern caused by the modern food pipeline, or caused by the food that is the product of that pipeline.

Factory Farming

Environmental Damage

- Industrial farming practices are causing a hypoxic 'dead zone' the size of New Jersey in the Gulf of Mexico.

Resource Depletion

- Our food production practices burn more calories than can be derived from the food creating an overall energy deficit in that system.

Economic Consequences

- Modern food oligopolies are destroying family farms.
- Controlling the genes of foods threatens subsistence economies in developing nations.

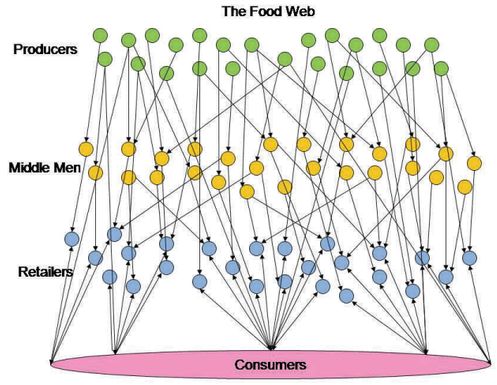
Obesity

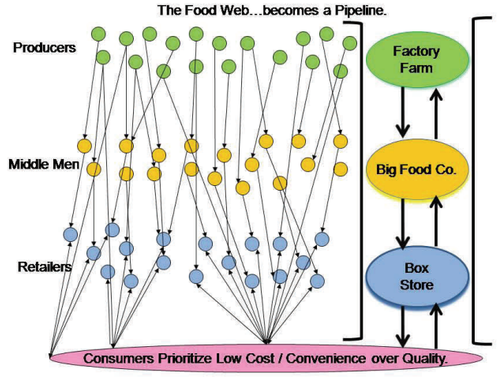
- Studies show that the quality of the calories we eat is as much a factor as quantity when it comes to Obesity.

Diabetes

- High Fructose Corn Syrup, the quintessence of a 'modern' food, may be a causal factor in diabetes

The Food Web becomes a Food Pipeline...





For the vast majority of our history people were the producers of their own food. As societies evolved and became more complex an entire web of relationships developed to support non-food producing members of society.

A structure such as the one to the left linking people and food through retailers and middle men (wholesalers, import/export businesses) has been in place for millennia and still characterizes the vast majority of human food relationships.

In the last thirty years huge food retail box stores and fast food restaurants have emerged as the dominant players in the nation's food economy.

Consumer insistence on the high availability of low cost convenience foods has, in part, driven this phenomenon.

Massive retail operations loathe passing their costs to consumers and instead force consolidation in upper tiers of the food web.

Enabled by advances in chemistry, refrigeration, transportation, and computerization, food moves to us through a tightly controlled pipeline that treats meats and grains as inputs to a vast food assembly line. Consumer costs are low...but what are the hidden costs?

Factory Farming

Since 1978 Farm Sales have increased by 90 billion dollars, yet 346,000 farms have disappeared. This is illustrative of the forces of consolidation at work in the food pipeline.

Farms and farm product sales by farm organization, 1978-97						
	Farms			Farm sales		
	1978	1987	1997	1978	1987	1997
	Thousands			Billion dollars		
U.S. total	2,258	2,088	1,912	107	136	197

From: http://www.ers.usda.gov/Briefing/FarmStructure/Data/farmorganization.htm

In the table below you can clearly see all the trends created by the modern food pipeline...

100 years of structural change in U.S. agriculture					
	1900	1930	1945	1970	2000/02
Number of farms (millions)	5.7	6.3	5.9	2.9	2.1
Average farm size (acres)	146	151	195	376	441
Average number of commodities produced per farm	5.1	4.5	4.6	2.7	1.3
Farm share of population (percent)	39	25	17	5	1
Rural share of population (percent)	60	44	36(1950)	26	21

- The total no. of farms decreases
- The acreage of existing farms increases
- Farmers grow fewer foods, focusing on commodity crops

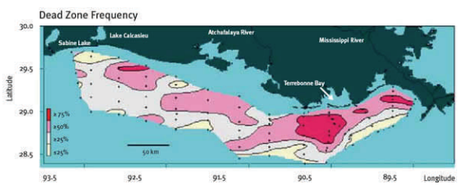
From: http://www.ers.usda.gov/AmberWaves/June05/DataFeature/

Fast Facts:

- The two biggest grocers in America? Walmart & Kroeger both with $50 Billion dollars gross sales and 30% of the market between them.
- In 1968 McDonalds bought meat from over 175 local suppliers. Today it buys hamburger from 4 huge meatpacking companies
- These same companies own some of the largest feedlots in the country and control 20% of the live cattle in the USA.
- 4 Companies control 75% of the US Corn Market: Cargill, Louis Dreyfus, Andrei & Cie, Bunge North America
- 4 Companies control 80% of US Soybeans: ADM, Cargill, Bunge North America, Continental
- In 1950 farmers grossed .41 cents of each food dollar, in 1994 it's down to .21 cents.
- 80% of Soybeans and 38% of corn is Genetically Modified
- Derivatives of the two crops named above find their way into 70% of processed foods.
- In March 1999, the year GM soy was allowed in the UK, York Laboratory scientists discover that soy allergies in the UK jump 50% and soy makes the top ten list of allergens for the first time in the history of testing.
- GMO crops are part of a 'crop system' requiring 'trigger' fertilizers, herbicides (you've must only spray round-up on 'round-up ready' GMO crops) and irrigation. Also, you've got to sign a contract with the supplier to not hold part of your crop for replanting next year.
    - These and other factors make GMOs anything but the promised end of famine in Africa. If anything, the release of GMO crops on that continent would further economically beholden subsistence agricultural systems to western corporations.
    - Most non-government relief agencies are against the distribution of GMO crops for famine relief.

The Dead Zone

- Fresh water loaded with nitrogen from farm fertilizers and factory farm effluent pour into the Gulf of Mexico each summer creating an oxygen depleted area the size of New Jersey (8500 square miles) where almost all marine species are absent.
- In 1950 less than 5 million tons of nitrogen-based fertilizers are used in the Mississippi watershed, today eighty million tons are used.



http://www.lacoast.gov/watermarks/2004-09/index.htm

Obesity

Fast Facts:

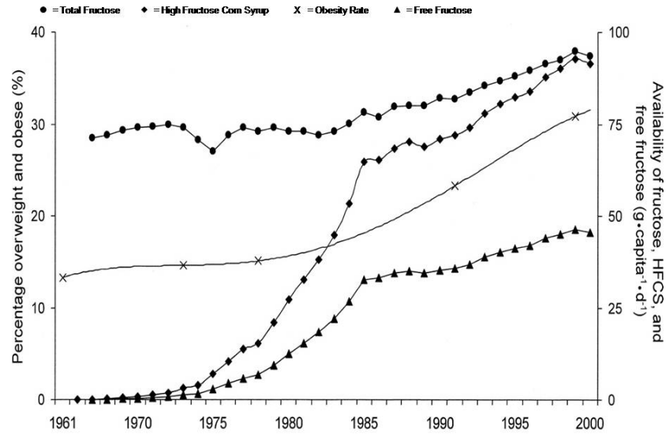
- From the Centers for Disease control:
    - 1991 Overall Obesity Rate 12%
    - 2001 Overall Obesity Rate 21%
- Societal Costs of Obesity :
    - Direct Costs $61 Billion
    - Indirect Costs $ 56 Billion
    - Total Costs $117 Billion
    - Comparable to societal costs of smoking
- 2001 Children's Hospital Study, Soda Consumption's relation to weight.
    - 548 Ethnically Diverse MA Kids age 11 tracked for 19 months
    - 1 extra soft drink a day increased likelihood of obesity by 60%
- 2004 "American Journal of Clinical Nutrition" Study
    - Correlation study, not causal, looking at HFCS consumption rates as compared to obesity rates.
    - Study shows that as consumption rates grow from 0.6 pounds per person per year in 1970 to 73 pounds in 2000 that the rates of obesity track along the same vector.
    - 1980-1985 is when soda manufacturers shift from using sugar to HFCS in their formulas. Remember *New Coke* in 1985? It was a reformulation based on HFCS, which supposedly made it sweeter.

What is High Fructose Corn Syrup?

- Corn derived manufactured sweetener
- 55% Free Fructose, 45% Glucose roughly the same as table sugar except that the fructose is not chemically bound to the glucose as it is in natural sugar.
- Cornstarch is broken down with alpha-amylase, industrially produced by a bacterium resulting in short polysaccharides (sugars).
- Glucoamylase, derived from a fungus, breaks down the polysaccharides into glucose.
- Glucose-isomerase converts glucose to fructose.
- The sugars are separated, then blended to the correct ratio.
- 85% of the $2.6B business is controlled by 4 companies

Temporal Correlation between 'Free' Fructose and Obesity Rate

Source: *Am J Clin Nutr* 2004;79:537–43. Printed in USA. © 2004 American Society for Clinical Nutrition



Diabetes

Fast Facts:

- 1992, 2-4% of new cases of type 2 'adult onset' diabetes were pediatric cases
- 1999, 45% of new cases of type 2 are pediatric.
- Soda consumption during the same period, up 134%

American Journal of Clinical Nutrition, Vol. 76, No. 5, 911-922, November 2002

Fructose, Weight Gain, and the Insulin Resistance Syndrome

"Fructose consumption induces insulin resistance, impaired glucose tolerance, hyperinsulinemia, hypertriacylglycerolemia, and hypertension in animal models."

Whoa...lot's of info there...

- Free Fructose cannot be burnt as energy as other sugars can. Too big a molecule...
- Insulin is not released to move Fructose energy into our cells. Over time this decreased insulin response to meals can lead to insulin resistance...
- Instead Fructose moves to the liver and is converted to a fat.
- These fats move into the blood stream as triglycerides.
- Constant elevated levels of Triglycerides release C-Reactive protein a protein that indicates to scientists that the vascular system is inflamed.
- Low Level inflammation has been identified as a contributing factor to type 2 diabetes.

Joslin to study a diabetes pill

By Alice Dembner, Globe Staff | January 15, 2007

Building on evidence that low-level inflammation contributes to the development of Type 2 diabetes, Joslin Diabetes Center researchers are launching the first major study of an inexpensive, safe pill that they hope will be a new treatment for diabetes.