"Corn: The Good, the Bad, and the Ugly"

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Ancestral Corn (Teosinte) Versus Modern Corn

http://upload.wikimedia.org/wikipedia/commons/c/cb/Maize-teosinte.jpg
### Corn-Derived Ingredients

Can you find any of the following ingredients in the foods from your kitchen or supermarket?

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Common Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha tocopherol</td>
<td>Ethyl lactate</td>
</tr>
<tr>
<td>Ascorbic acid</td>
<td>Fibersol Z</td>
</tr>
<tr>
<td>Baking powder</td>
<td>Fructose</td>
</tr>
<tr>
<td>Calcium lactate</td>
<td>Fumaric acid</td>
</tr>
<tr>
<td>Caramel</td>
<td>Gluten</td>
</tr>
<tr>
<td>Cellulose</td>
<td>Golden syrup</td>
</tr>
<tr>
<td>Citric acid</td>
<td>High fructose corn syrup</td>
</tr>
<tr>
<td>Citrus cloud emulsion</td>
<td>Inositol</td>
</tr>
<tr>
<td>Corn flour</td>
<td>Invert sugar</td>
</tr>
<tr>
<td>Corn oil</td>
<td>Malt</td>
</tr>
<tr>
<td>Corn starch</td>
<td>Maltodextrin</td>
</tr>
<tr>
<td>Corn syrup</td>
<td>Moninine</td>
</tr>
<tr>
<td>Dextrin</td>
<td>Monosodium glutamate (MSG)</td>
</tr>
<tr>
<td>Dextrose (glucose)</td>
<td>Polydextrose</td>
</tr>
<tr>
<td>Diglycerides</td>
<td>Sorbitol</td>
</tr>
<tr>
<td>Ethylene</td>
<td>Sorbic acid</td>
</tr>
<tr>
<td>Ethyl acetate</td>
<td>Sorbic acid</td>
</tr>
</tbody>
</table>

For more information, see [this handout](http://www.tc.bhs.org/gov/pdf/handouts/foodincorn-derived_handout.pdf).

### Why Is Corn So Relatively Inexpensive?

![Image of a grocery store shelf](http://3.bp.blogspot.com/-6cmgD2-Dx5Y/T73bW6u9sAI/AAAAAAAASQ/DOyJblE-tYc/s1600/06C_0644.jpg)

![Image of a book cover](http://3.bp.blogspot.com/-6cmgD2-Dx5Y/T73bW6u9sAI/AAAAAAAASQ/DOyJblE-tYc/s1600/06C_0644.jpg)

[We Love Cheap](http://3.bp.blogspot.com/-6cmgD2-Dx5Y/T73bW6u9sAI/AAAAAAAASQ/DOyJblE-tYc/s1600/06C_0644.jpg)

**Cheap**

**SALE**

[Image of a grocery store aisle](http://3.bp.blogspot.com/-6cmgD2-Dx5Y/T73bW6u9sAI/AAAAAAAASQ/DOyJblE-tYc/s1600/06C_0644.jpg)
Government Farm Policies

The New York Review of Books
The Food Movement, Rising
June 10, 2010
Michael Pollan

Asked by President Nixon to try to drive down the cost of food after it had spiked in the early 1970s, Agriculture Secretary Earl Butz shifted the historical focus of federal farm policy from supporting prices for farmers to boosting yields of a small handful of commodity crops (corn and soy especially) at any cost.


Are There Any “Costs” of the Green Revolution?
Could the Increase in Production and Consumption of Corn-Fed Beef Be Affecting Human Health?


Does Grass-Fed Beef Have Any Heart-Health Benefits That Other Types of Beef Don’t? Answers from Martha Grogan, M.D.

Grass-fed beef may have some heart-health benefits that other types of beef don’t have. When compared with other types of beef, grass-fed beef may have:
- Less total fat
- More heart-healthy omega-3 fatty acids
- More conjugated linoleic acid, a type of fat that’s thought to reduce heart disease and cancer risks
- More antioxidant vitamins, such as vitamin E

[Article: http://www.patientadvisor.org/diseases-conditions/heart-disease/answers-from-martha-grogan/]

Are There Any “Costs” of the Increased Use of Fertilizers To Increase Crop Yields?

[Graph: Average Nitrogen Fertilizer Use and Yields for U.S. Corn, 1964-2003]

[Graph: Marine “Dead Zones” Resulting From Pollution, Including Excessive Use of Fertilizers]


[Graph: http://www.wrsc.org/attach_image/marine-dead-zone-present.png]
Are There Any "Costs" of the Increased Use of Pesticides?

[Graph showing the increase in pesticide production and imports over time.]

http://www.foodcommodities.com/farmland-supply-and-investment-fundamentals/

Increase in Resistance to Pesticides

[Graph showing the increase in resistance to pesticides over time.]

http://www.biology.ualberta.ca/taylor.hp/Biology381/topic-03

Bees Exposed to High Levels of Pesticides Suspected in Colony Collapse

Los Angeles Times, July 24, 2013
Geoffrey Mohan

Pesticides sprayed on crops could be making honey bees susceptible to a fatal parasite and contributing to recent declines in bee populations, according to a study.

Researchers found 35 pesticides, some at lethal levels, in the pollen collected from bees servicing major food crops in five states, including California.

Photograph: http://blogs.discovermagazine.com/cerebrum/files/2013/03/honeybee-flowert1.jpg

Health Effects of Chronic Pesticide Exposure: Cancer and Neurotoxicity


Pesticides are widely used in agricultural and other settings, resulting in continuing human exposure. Epidemiologic studies indicate that, despite premarket animal testing, current exposures are associated with risks to human health.

Are There Any “Costs” of Monoculture?

Great Irish Potato Famine
About one-third of the population relied on potatoes for food.

Population of Ireland and Europe

http://upload.wikimedia.org/wikipedia/commons/d/d8/IrelandEuropePopulation1750.png

An Improved Green Revolution: Sustainability

People
- Foster well-being of our co-workers and communities

Performance
- Deliver customer satisfaction and strong financial results

Environment
- Be exemplary stewards of our natural resources

http://www.rocktenn.com/images/userimages/SustainabilityFrameworkGraphic.png

Michael Pollan’s 7 Rules for Eating

Don’t eat anything your great grandmother wouldn’t recognize as food.

Don’t eat anything with more than five ingredients, or ingredients you can’t pronounce.

Stay out of the middle of the supermarket; shop on the perimeter of the store. Real food tends to be on the outer edge of the store near the loading docks, where it can be replaced with fresh foods when it goes bad.

http://www.webmd.com/food-recipes/news/20090323/7-rules-for-eating
Don't eat anything that won't eventually rot.

It is not just what you eat but how you eat. "Always leave the table a little hungry," Pollan says.

Families traditionally ate together, around a table and not a TV, at regular meal times. It's a good tradition. Enjoy meals with the people you love.

Don't buy food where you buy your gasoline.

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Michael Pollan’s 3 Rules for Eating

Eat food. Not too much. Mostly plants.

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So, What Is the Omnivore's Dilemma?

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http://www.localresearch.com/site_media/media/uploads/img/2011/Feb/03/DSC00731.JPG