

# Educating Consumers Using Words we All Understand!

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Dr. Paige Pratt





**HARDWICK BEEF**  
100% GRASS FED

U.S. INSPECTED AND PASSED BY

NO ANTIBIOTICS & NO ADDED HORMONES  
MINIMALLY PROCESSED • KEEP REFRIGERATED • MAY BE FROZEN

ALL NATURAL GROUND BEEF  
LOCALLY GROWN • CUSTOM CUT IN VERMONT

www.hardwickbeef.com

**Clayton's Organic**  
Raised Exclusively for

100% ORGANIC

- Humanely Raised
- No Added Hormones
- Raised Without Antibiotics
- Fed on Organic Corn and Grain

Ingredients: USDA Certified Organic Beef  
Humanely Raised on Family Farm in a Stress Free Environment

**NON GMO VERIFIED**

Product of Ohio

\*BTO

product of Ohio



**HUNTER CATTLE CO.**  
ALL NATURAL GRASSFED BEEF  
GROUND BEEF

NET WT. LBS.

KEEP FROZEN OR SAFE HANDLING INSTRUCTIONS



**CERTIFIED HUMANE**  
RAISED & HANDLED



# Grass-Fed

- Grass and forage make up the animal's diet for its entire lifetime
- Not all grass-fed beef is organic
- All beef spend the majority of their life on a grass-based diet
- Grass-fed beef has a distinctive yellow-colored fat





	Omega-3 fatty acids	Oleic acid	Total saturated and trans-fat
Ground beef from grass-fed (grazing on native Texas pasture)	0.055 grams	6.3 grams	9.8 grams
Ground beef from grain-fed cattle (fed a feedlot diet containing primarily corn and milo)	0.020 grams	8.3 grams	8.2 grams

Texas A&M University

- Grass-fed beef offers nearly double the amount of Omega-3 Fatty Acids than Grain-fed beef
- Salmon offers 1-2 grams of Omega-3 Fatty Acids in the same serving size
- Oleic acid has been shown to lower LDL- and increase HDL- Cholesterol

# Natural

- No artificial ingredient or added color
- Minimally processed (did not fundamentally alter product)
- Label must include meaning of the term natural (“no artificial ingredients” or “minimally processed”)



# Organic - Livestock

- Vaccines allowed
- No Antibiotics
- No Growth Promotants
- Raised on Certified Organic Land
- Fed Organic Feed
- Access to Outdoors (shade; exercise; clean, dry bedding; direct sunlight)



## Organic vs Conventional Beef Production

Item	Organic, Grass-Fed Beef	Natural, Grain-Fed Beef	Conventional, Grain-Fed Beef
Starting Weight, lbs	425	475	475
Days on Feed	366	329	303
ADG, lb per day	1.65	2.36	3.06
Feed:Gain Ratio	11.0	7.1	6.2
Carcass Weight, lb	623	782	876
Land Required, Acre per lb beef	5.04	1.99	1.64
CO2 Emissions, Methane per lb of beef	5.4	2.7	2.2

See Council for Agriculture Science and Technology (CAST) Issue Paper: Animal Feed vs Human Food (eCampus)



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# Organic – Crops/Vegetables

- No prohibited substances for last 3 years
- National list of substances approved to be used for insecticides, herbicides and pesticides
- Organic seeds
- No irradiation
- No genetic engineering
- No sewage sludge



# Organic – Crops/Vegetables

- Researchers at Stanford University evaluated over 250 studies and found:
  - Very little difference in nutritional content
  - Organic produce had 30% lower pesticide residues; both organic and conventional were in the allowable food safety limits
  - Price differences could be substantial



# GMO



 **KANSAS FARM BUREAU**  
The Voice of Agriculture

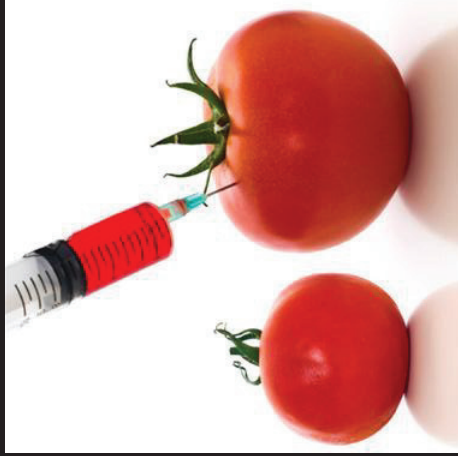


JIMMY

*Kimmel*

LIVE!

Google “Genetically Engineered Food” and  
you will find these pictures first:



 **KANSAS FARM BUREAU<sup>®</sup>**  
The Voice of Agriculture<sup>®</sup>



# Genetically Engineered

Manipulation of an organism's genes by introducing, eliminating or rearranging specific genes using the methods of modern molecular biology, particularly those techniques referred to as recombinant DNA techniques.







GGGTTTAGTT CTTTGAGAGT CAGATCTCTT ATTTGCACCA GTATTAGACG  
 AAGTAAACCC AACCAGACTG TTTCCTGGCA CAGTTGAGTT AAGGGATGSC  
 TTTACAGAGG CATTACACCC TGAAGCTTCA CCGTGGGGAC GTCCTGTAGC  
 GCTCTATCTG GCTTAGCAGG AAGATTGCTT GAGACCTGAC TGCCTTTAGG  
 GAATCCTTAG TAATTTGCTT APTTTGCTGT TATCTGAAA CUCCTTCATX  
 XXXXXXXX XGATGGGTA TGACAGAGGA TGTGGTCTTT TCTGTATGTC  
 TGGGGGAGG GAAAGCTCAG GGCCTGAGCA AAGACATCAA CCTGGACTCT  
 GGCATGGGA TGGCACTGGC AAGCACTGAT CAGTGGAGTG AGCTGAGCGA  
 GGCAGAGCCA CTCAGAGAGA AGCTTCAGCC TTAGCTTACC TTGCACTGTT  
 TGTGTGGCCAG GCTCTTAGAA GACGAGCGAG TGCATTTTAC CCGAAGCGAA  
 GGTGACTTCC ATCAGCTTAT AGTATACCTT CTTCTCCAG TCGCTGCTTT  
 TGCAATACCG ATAGAGGAGT TATGTGATCT CCTGGATAC AAGATCCCGG  
 CCAATGAGGC TGAATGGGATG CCTATTAAAG TTGGAGATGG TGGTCTCTTT  
 GAGAGAGAGC TGTGGGCTT AAGGCTGCTG CAGGAGCTTT CACAGTGGAC  
 AGTAAAGGTC ATCCATGACC TTGGTTTCAAT TTCTTCTCAT CAGACTGGGA  
 TCCGAGCAGC TGGAGCCAT TATATTGCTA ACAAACAGAA AATGTAGCAG  
 TTAGTCCCTT CTCCTCTTCTT TCGTTTCTCT TCTAATGGAA TATGGGTAG



# What food is genetically modified?



The infographic displays a grid of crops, each with a circular icon and a label. A green banner at the bottom indicates that the crops listed below it were recently approved by the USDA, FDA, and EPA and are not likely to be available in stores until 2016.

			
Corn (field & sweet)	Soybeans	Cotton	Canola
			
Alfalfa	Sugar Beets	Papaya (Hawaiian)	Squash
<b>Recently approved by the USDA, FDA and EPA</b>			
Won't likely be available in stores until 2016			
			
Arctic Apples (2016)	Innate Potato (2015)		

# Why Do We Use GMOs?

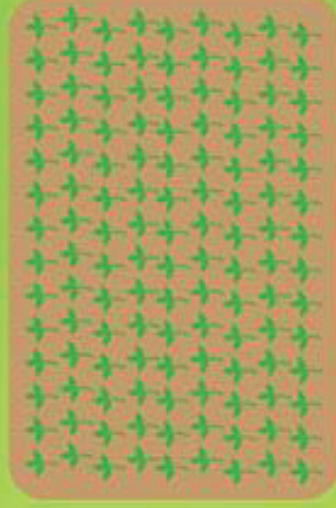
- Insect resistance
- Drought resistance
- Herbicide tolerance
- Disease resistance
- Increased/enhanced nutritional content





98% of farmers believe

GMOs are the most important factor in their ability to lessen environmental impact on their farm.



GMO Survey of Corn Growers\* ©2016 USFRA



Are GMOs **SAFE?** **YES.** The National Academies of Sciences, Engineering, and Medicine 2016 report reaffirms



Over **900** studies and publications were examined



scientists, researchers and agricultural and industry experts **over a 2 year period** reviewed animal studies, allergenicity testing, North American and European health data, and more



Based on **20+** years of data since GMO crops were introduced

**SAFE.**



No substantiated evidence of a difference in risks to human health between current [GMO] crops and conventionally bred crops.

The National Academies of SCIENCES • ENGINEERING • MEDICINE

Full report available at <http://nas-sites.org/ge-crops/>



# Are GMOs Safe?



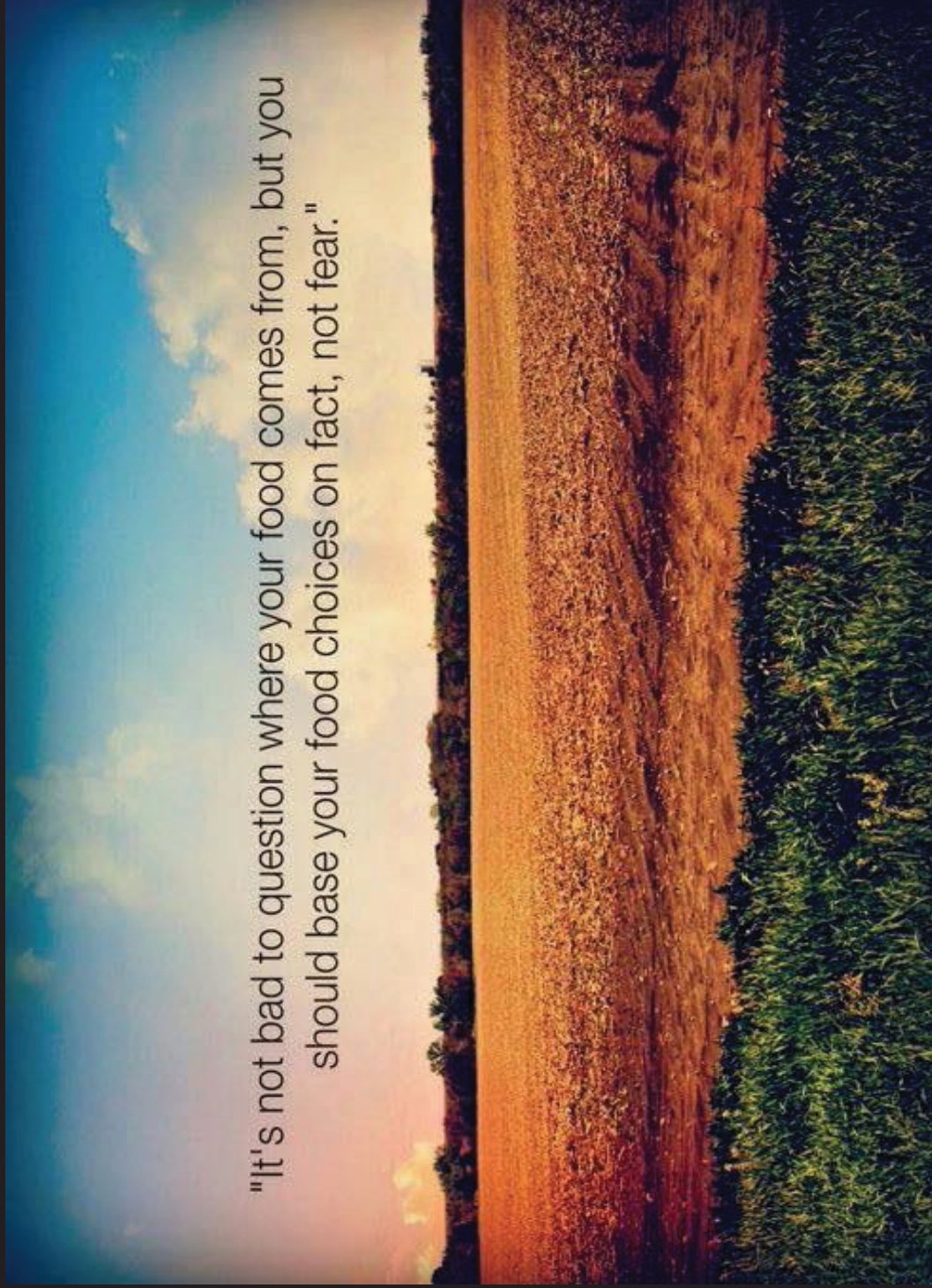
# Organizations that Support the Safety of GMOs:

- American Medical Association
- World Health Organization
- National Academy of Sciences
- American Association for the Advancement of Science
- The European Commission
- American Council on Science and Health
- American Dietetic Association
- American Society for Microbiology
- The Royal Society of Medicine
- International Council for Science
- USDA, FDA, EPA
- ...AND MANY MORE!





"It's not bad to question where your food comes from, but you should base your food choices on fact, not fear."



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