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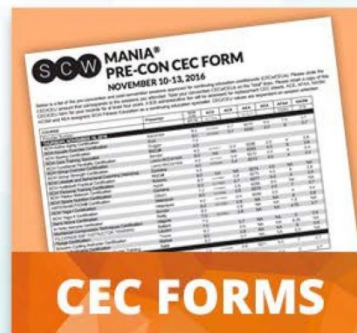
OUTLINES



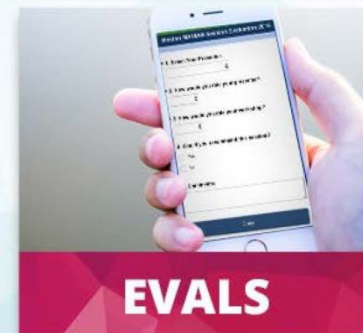
COUPONS



MAPS



CEC FORMS

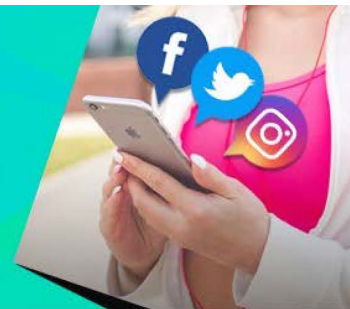


EVALS

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Toxic Dump

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Toxic

- Chemicals or highly processed ingredients that harm health
- Refined grains, trans fats, HFCS, certain canned foods, certain dehydrated foods
 - Over 70% of the population overeats one or more of these categories
- Make up over 60% of the average US diet

Top Ten Food Lies – All in the Name of \$\$\$

- No added growth hormones
 - Used in pork or poultry as USDA policy but antibiotics are often used, permitted in beef and dairy but absolutely no third party validation
- Natural
 - No official meaning – GMOs can be labeled natural
- Grass-fed
 - No farm inspections occur – chicken and pork cannot survive grass – fed
- Antibiotic free
 - Illegal to use on packaging and no official definition
- Nutrition Facts
 - Can use averages and be off by 20% and still pass FDA guidelines
- Gluten free
 - No definition – many use gluten free when it is only wheat-free
- Multi-grain-
 - Can be refined
- Front-of package label systems
 - Advertisement and marketing tool
- BPA free
 - The can may be free of BPA but the plastic lining can may not
- Pesticide free
 - The pesticides found on these foods is equal to conventional foods

Most Toxic Chemicals in Food

- Any GMO
- Artificial sweeteners
- Any trans fat
- MSG
- HFCS
- Artificial colors
- Sodium benzoate and potassium benzoate
- Sodium nitrates and nitrites
- Butylated hydroxyanisole

Artificial Sweeteners

- Enhances appetite
 - Regardless of calories contained
- Raises risk of diabetes
- Alter your gut microflora
 - Decrease both prebiotics and probiotics

Specifically

- Aspartame, acesulfame potassium, sucralose and saccharin
 - Splenda (sucralose) can destroy up to 50% of your gut flora
 - Also alters glucose and insulin function
 - May cause DNA damage because when heated it releases chloropropanols
 - Members of the extremely dangerous class of carcinogens called dioxins

Trans Fats and Veggie Oils

- Hydrogenated veg oils are in most processed foods
 - 7-8% of calories consumed
 - Promote inflammation
 - Interfere with cell membranes
- Veggie oils (even if not hydrogenated) degrade into toxic oxidation byproducts when heated and are often GMOs contaminated with glyphosate
- Another byproduct category is cyclic aldehydes
 - Also highly inflammatory

Artificial Flavors and Colors

- One or hundreds
- Diactyl in microwave popcorn has implications in brain health and may contribute to beta-amyloid plaque
- Sodium benzoate and yellow #5 may increase activity and distractibility in children
- Blue #2 has been linked to brain tumors
- Red #5 is linked to immune system tumors

MSG

- An excitotoxin that does not have to be named as such
 - Glutamic acid, hydrolized protein, yeast extract
- 78% of MSG is free glutamic acid which is the neurotransmitter used to initiate many processes in your body
- Associated with obesity, eye damage, headaches, fatigue, disorientation, and depression

HFCS

- Cheap and easily added to processed foods
- Contains free-form molecules of fructose and glucose which are unlike sucrose because they are linked together
- HFCS causes leptin resistance.
- Fructose is metabolized much like alcohol in the liver because the liver is the only organ with the transporters
- Some fructose is turned directly into fat increasing triglycerides, some into glycogen and some into lactate.
- Fructose does not utilize GLUT 4 transporters but GLUT 5
- Total daily consumption needs to be below 25 grams.
- High uric acid is a potent marker for fructose toxicity
 - 3.5 mg/dl – 4 mg.dl

Preservatives

- Lengthen the shelf life of foods, increasing profits
 - BHA and BHT
 - TBHQ
 - Sodium benzoate
 - Sodium nitrate and nitrite
 - azodicarbonamide

Refined Grains (white foods)

- White flour, rice, pasta and bread
- The bran and the germ are removed and therefore the fiber, vitamins and minerals
- Send blood sugar and insulin skyrocketing
- Large correlation between high blood glucose, high blood insulin, high blood pressure, insulin resistance and high levels of inflammation.

Sugar Alcohols

- Sugars that come from plants and fruits, altered in a chemical process
- Often not absorbed so diarrhea is common
- Used as an additive in sugar free foods
- Often energy bars
- Does not illicit a large insulin response
 - Mannitol
 - Xylitol
 - Sorbitol

Commonly Found while Dining Out

- Potassium bromate strengthens dough, as in pizza
 - Has been shown to cause cancer in animals
- Hydrolyzed protein oil is a flavor enhancer in sauces and soups, especially in Chinese food
 - Repeated bouts of dizziness

Fast/Convenience Food

- Subway sandwich bread contains 105 ingredients of which 55 are dry dusty substances such as
 - Azodicarbonamide – a known carcinogen used primarily to make foamy plastics like yoga mats and it also makes bread fluffy.
 - If you eat a Nutrigrain bar in the morning, a Subway chipotle and cheese sandwich for lunch, and DiGiorno pizza for dinner, you have ingested 68 non-food substances that haven't been tested together.

Genetically Modified Foods (organisms)(GE or GMOs)

- Plants, animals or microorganisms in which DNA has been altered by technology
 - But anything you eat has DNA foreign to you
- The change in genes is not necessarily bad- happens all the time in nature. Our ancestors used to save the seeds from the cream of the crop for the next planting season.
- Does disrupt the DNA in unintended ways
 - Hard to detect antigens
 - May create new diseases and toxins
- Genes are bits of DNA that determine characteristics and traits, often to help them survive
- Today genes are altered with radiation or chemicals, or the old fashioned nip and tuck.

How Does It Work?

- A single gene is removed, forcibly inserted after scientists analyze a gene sequence
- If it comes from a bacteria, the sequence has to be rearranged due to bacteria amino acids
- A promoter, a terminator and an antibiotic marker gene are also added to stop, start and introduce antibiotic resistance

What Does America Know about GMOs?

- 2016 Pew Research Center polled 1480 adults
 - 55% said organic was healthier
 - 41% said no difference between conventional
 - 40% said GMOs are worse for health
 - 10% said GMOS are healthier
 - 34% said some of the food they ate was modified
 - 6% said most was modified
 - Women care more than men
 - 18-49 y/o consider buying organic more often
 - Only 18% of those polled focused on healthy and nutritious eating

GMO Positives

- According to the GMO industry
 - Reduced need for herbicide
 - Reduced need of pesticides
 - However some plants have become resistant to some and heavier applications may be working into soil and water
 - Reduced greenhouse emissions as GMOs need less tillage, therefore less fuel
 - Ability to manipulate traits
 - Increased production of food
 - Doubtful that we will be able to feed everyone in 2050 without GE foods

Negative Studies

- In UK, rats were fed GM potatoes produced to supply a pesticide; showed pre-cancerous cells, smaller brains, livers and testicles within 10 days. This researcher was fired. But in 1999, European products could no longer contain GMOs
- In Russia, rats fed GM soy died within 3 weeks.
- In India, ten thousand sheep died after being fed Bt toxin plants
- The only human feeding study (peer-reviewed) showed genes inserted into plants can transfer to the flora of our guts. You truly are what you eat.

To be Approved by FDA

- FDA has no specific guidelines for approval
- FDA reviews info provided by developer
 - How does it compare to the original
 - Did the new genes introduce something harmful
 - Could animals affect others if fed the gene
 - Is nutritional value the same
 - Is it worse than exposure to chemicals? Or better?

Concerns

- What if pollen and seeds from GMO plants spread from the fields?
- What if GMO animals mate with non-GMO or wild ones?
- Some fear YOU could become genetically modified from eating GMOs. Genes don't fall off and bacteria eating enzymes are designed to prevent invasions.

Legal Aspects

- Fourteen states have introduced legislation to require labeling
 - In a setback, California failed to pass legislation for labeling genetically modified fish
- More than ½ a million people have signed the Just Label It petition.
- A poll conducted by ABC news showed 93% feel government should require labeling

GMO Examples

- Corn is modified to create its own insecticide.
- Soy, papaya and cotton have been modified to resist pesticides.
- Soybeans altered to a type of fat that is heat-tolerate for cooking.
- Bruise-free potatoes supposedly cut down on cancer causing chemicals created when French fries are created.
- Rice is modified to contain a high amount of vitamin A (beta carotene for better vision).
- 22% of dairy cows in the US were injected with recombinant bovine GH.
- Mice fed with potatoes engineered with a bacillus were found to have toxins in systems.
- Peas that have been modified have been found to cause immune responses in mice.
- Morgellons's disease patients contain a fiber belonging to a fungus which can transform cells.
- Biotech companies are experimenting to make meat better by adding essential Omega 3s.
- Ruby red grapefruits were naturally modified.
- Tangelos are crossed tangerines with grapefruits

In the Produce Section:

- Only a few things may be GMOs
 - Edamame
 - Papayas from Hawaii
 - Summer squash
 - Sweet corn
 - Zucchini
- The GMO fast growing salmon will probably be the first animal on the GMO market. It was cleared in November 2015 but there is argument on how to market it.

How to Avoid GMOS

- It is estimated that 75% of processed food sold in the US contain at least some GM food ingredient.
 - Read the PLU number. If it starts with 8, (usually 5 digit)GMO. If it starts with 9, (usually 5 digit)organic. Anything else is traditional (4 digit).
 - Purchase a share of a Community Support Agriculture
 - a farmer's harvest or buy direct from farmer
 - Grow own/ shop specialty stores/avoid processed
 - Buy non-GMO or organic labeled

If It says “Organic” on the label

- 100% organic allows no synthetic ingredients
- Not allowed to contain GMOs
- Organic is 95% organic
- “Made with organic” is 75% organic
- Costs more because growing without pesticides is more labor intensive

Top Modified Foods

- Corn – high fructose corn syrup
- Soybeans – any soy based product
- Canola or rapeseed – olive oil is a better choice
- Cotton seed oil – prime ingredient in shortening, vegetable oil and margarine and chips
- Dairy – some farmers inject cows with GM hormone rBGH or rBSH to boost milk production. Cows are also often fed GM alfalfa
- Sugar beets – can't tell from label so look for 100% cane sugar
- Farm raised fish – are fed GM grains
- Aspartame is made from gene altering
- Beef – most cattle in the US are grassfed until the last 3-4 months of their lives when they are shipped to feedlots and fed GMs
 - Meat from feedlots have higher levels of saturated fat and less Omega 3s.

Bt toxin

- is not fully broken down in digestion and
- has been found circulating in the blood of pregnant women in Canada and in the blood supply to the fetus.
- GM crops have shown clear signs of toxicity in animal feeding trials – disturbances in liver and kidney function and immune responses.

Gene Regulators

- (2012) Chinese researchers found small pieces of rice RNA in the blood and organs of humans who eat rice. This genetic material will bind to receptors in human liver cells and influence the uptake of cholesterol from the blood. MiRNA usually function by turning down or shutting down certain genes.
- first invivo research of MiRNA surviving digestion and influencing human cell function.
- can create toxins or allergens. Over 75% of GM crops are resistant to herbicide so we created a superweed.

The Central Dogma of Genetics

- resembles the ordering of a pizza and postulates a one-way chain of command between DNA and the cells DNA governs. The DNA codes for the kind of pizza wanted and orders it. The RNA is the order slip, which communicates the specifics to the cook. The finished delivered pizza is analogous to the protein that DNA codes for.
- Not this simplistic – MiRNAs that don't code for anything travel within cells silencing genes that are being expressed. So while one piece of DNA is ordering a pizza, it could also be bombarding the pizzeria with RNA signals that are used to turn off certain genes. In RNA interference, these small bits of RNA are knocking down and turning off certain genes.
- (1994) RNA used to create the tomato to increase shelf life.
- (2007) RNA was used to kill insect predators by knocking down certain genes. Cotton plants that silence a gene that allows bollworms to process the toxin gossypol, which occurs naturally in cotton. Bollworms that eat the GE cotton can't make toxin processing proteins and die. Corn plants also silence a gene essential for energy production in corn rootworms, ingestion wipes out the worms in 12 days. Human and insects both can keep these miRNAs alive in the gut. So its not just the end product that is important as MonSanto states – “substantial equivalence”. In other words, as long as the end product is safe, that's all that matters

Fruits

- Excessive fructose creates liver cirrhosis where metabolized.
- Some goes to glycogen
- Some goes to Krebs
- Remainder shunted to denovo lipogenesis
- A fatty liver becomes resistant to insulin
- Fats produced in liver increase LDL and decrease HDL

Miscellaneous

- China, Australia and European union require GMOs to be labeled.
- Agave nectar is 1.5xs sweeter than sugar
- CLA trans fats in mammal guts maybe healthier in 28 forms, 9-12 show greatest satiety
- Most sugar we eat comes from GMO beets
- Harvard study shows 60-80% of dietary estrogen comes from dairy
- Sodium or potassium benzoate is added to soda to prevent mold, it is a carcinogen and can cause thyroid damage
- BHA is butylated hydroxyanisole –prevents spoilage and is a carcinogen and endocrine disruptor
- Vitamin C is often made from GMO corn
- Animal viruses may be used in GMOs

Specifically

- Pasteurization
 - The goal is to kill all the potential dangerous bacteria but also kills all the helpful probiotics and we are introducing more antibiotics and hormones into our food supply.
- Irradiation
 - Produces previously nonexistent chemicals which have potential carcinogenic effects
 - Inactivates several vitamins and minerals
- Additives
 - Impart and maintain desired consistency
 - Impart and maintain palatability
 - Produce light texture and control pH
 - Enhance flavor or provide desired color

Alcohol

- Alcohol dehydrates the skin, increasing leakiness of capillaries.
- Women drink 800 million plus gallons of wine per year. Eating disorders and abused drinking often begins in college. Better educated drink more, white women more. More toxic effects in women, faster liver and brain damage. Twice as likely to suffer from depression and anxiety continues heavily in male dominated cultures and increases as stress mounts. Worrying more about drinking 20%

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