

Nutrition and Immunity: 6

Randy Pendergrass LSN, CSCS, LMT

randycscs@gmail.com

Water

- Makes up 60-70% of body weight
- Regulate body temperature
- Flush out waste
- Transport nutrients
- Lubricate joints
- Prevent constipation
- Maintain blood volume
- And on, and on, and on.....



Water

- Water is the universal solvent
- Pure water absorbs whatever it comes in contact with
- Current water municipalities work to remove heavy metals like lead, add chloramines to manage microbes, and add fluoride (fluorosilicic acid)
- Water may still contain hormones, other medications, pesticides, industrial chemicals, microbes, and other heavy metals



Water Choices

- Spring Water (Glass)
Look for those with silica/magnesium
- Distilled
- Reverse osmosis
- Structured/Vortex/ E Z water

Use caution with high alkaline water

www.findaspring.com



Micronutrient Dense Whole Foods



Immune Supporting Diets

- At least 50% veggies (above ground preferably, below ground if no metabolic damage like obesity , diabetes, high triglycerides, etc.
- Protein sources (preferably wild or pastured)
- Healthy fats supplying the fat soluble vitamins A, D, and K
- Whole fruits
- Healthy plant fats: nuts, seeds, avocados, etc.
- Grains and beans sparingly if prepared correctly by sprouting and/or fermenting



Protein

- Animal sources have higher levels of essential amino acids than plant sources
- Around 75gms/day minimum
- 1-2gms/kg Bw
- Stress, exercise, illness, injury increase needs
- Severe kidney and or liver disease may decrease needs



Protein

- meat: 21gms per 3oz.
- egg: 7gms
- cheese: 5gms per slice
- milk: 8gms per 8oz.
- yogurt: 12-15gms per 4oz.
- beans: 5-8gms per cup
- Protein powders: whey, egg, pea

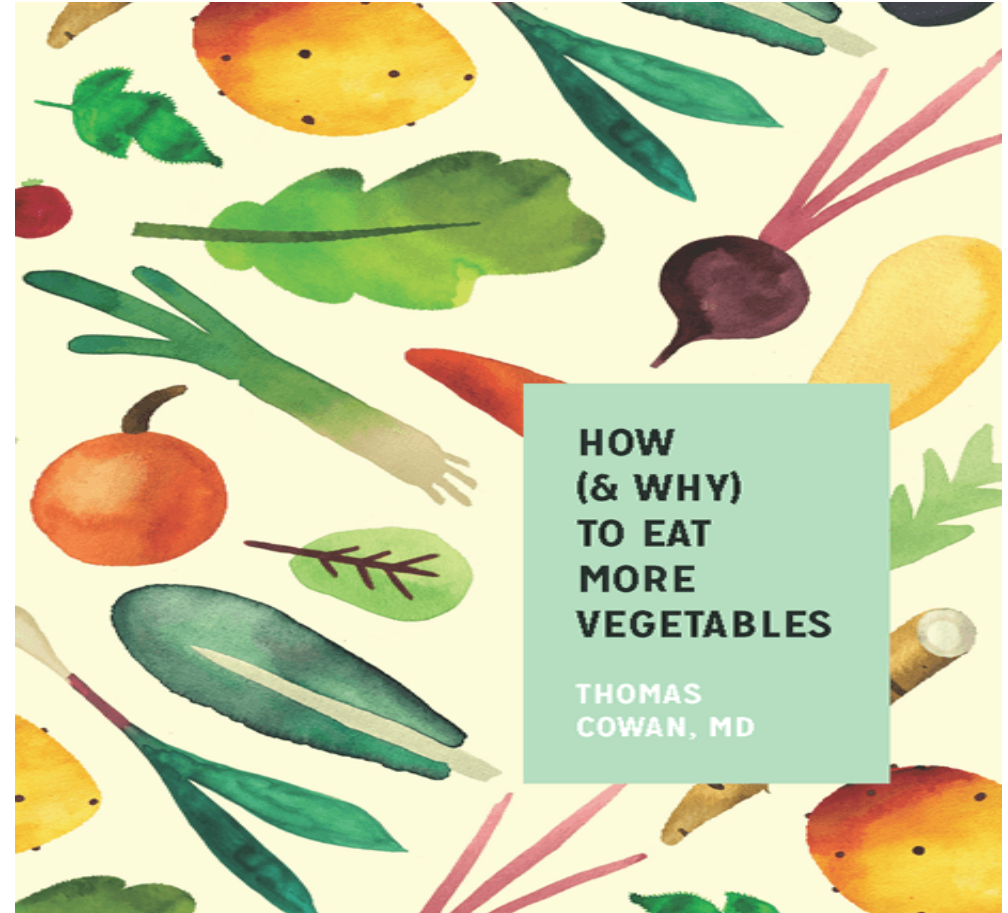


Nutrition Recommendations

- You are unique- age, gender, health, activity, genetics
- Eat real food
- Minimal work from farm to table
- As little processing as possible
- Get involved in the making/preparation of your food
- Get connected with your food- garden, know your farmer, etc.
- You are what you eat and what it eats
- Stay Hydrated- Don't drink calories

The Importance of Vegetables

- Consume a variety of types and colors
- Colors are nutrients for animals but are produced by plants to attract insects for reproduction
- Colors are produced by chlorophyll, carotenoids, polyphenols, etc.
- Red, blue, and purple plants contain anthocyanins
- Orange and yellow contain carotenoids
- White plants contain polyphenols like anthoxanthin
- Green plants have chlorophyll which is a major detoxifier for humans and contain magnesium
- Book on drcowansgarden.com



Perennials and Wild Vegetables

- Micronutrient dense giants
- Perennials do not produce seeds so they live many years
- Perennials produce rhizomes (root) which causes a new plant to grow (ginger and turmeric)
- Produce food year after year with little work and are very hardy
- Ashitaba and tree collards
- Wild vegetables include burdock root, dandelion, and nettles
- These micronutrient powerhouses are less sweet and slightly bitter compared to their cultivated cousins



Is There A Difference?

Polyculture



Monoculture



Is There A Difference?

Pastured



Feedlot



Is There A Difference?

Pastured



Caged



Is There A Difference?

Wild



Farmed



Is There A Difference?

The Bread of Yesterday



The Bread of Today



Preparation Is the Key

- Modern Processing:

Stone grinding, soaking, and fermenting has been replaced by high temperature drying, chemical extraction, added preservatives, added synthetic vitamins and minerals, and added refined ingredients.



Sourdough Culture



Bread Comparison

Sara Lee 100% Whole Wheat

Whole Wheat Flour, Water, **High Fructose Corn Syrup**, Wheat Gluten, Sugar, Yeast. Contains 2% or less of each of the following: Soybean Oil, Calcium Sulfate, Salt, Dough Conditioners (May Contain One or More of the Following: Mono- and Diglycerides, Ethoxylated Mono-and Diglycerides, Sodium Stearoyl Lactylate, Calcium Peroxide, Datem, Ascorbic Acid, Azodicarbonamide, Enzymes), Wheat Bran, Guar Gum, Distilled Vinegar, Calcium Propionate (Preservative), Yeast Nutrients (Monocalcium Phosphate, Calcium Phosphate, Ammonium Phosphate), Corn Starch, Vitamin D3, Soy Lecithin, Milk, Soy Flour.



Ezekiel 4:9® Sesame Sprouted Grain Bread

100% Flourless, Complete Protein

Item #123

Serving Size:	1 Slice (34g)	Potassium:	75mg
Calories:	80	Carbohydrates:	14g
Total Fat:	0.5g	Dietary Fiber:	3g
Cholesterol:	0mg	Protein:	4g
Sodium:	80mg	Net Wt:	24 oz (680g)

INGREDIENTS: Organic Sprouted Wheat, Filtered Water, Organic Sprouted Barley, Organic Sprouted Millet, Malted Barley, Organic Sprouted Lentils, Organic Sprouted Soybeans, Organic Sprouted Spelt, Fresh Yeast, Organic Wheat Gluten, Sea Salt. Rolled in Organic Unhulled Sesame Seeds.

The New Farm

- Farming techniques
 - chemical fertilizers*
 - pesticides*
 - genetic engineering*
 - polyculture to monoculture*



GMO (GE) crops

- * First introduced in 1996
- No human studies
- Corn, soybeans, canola, Sugar beet, alfalfa, cotton are major crops
- Wheat? GE wheat found in Oregon and Washington
- Most GE crops have been modified to be resistant to herbicides like glyphosate or glufosinate
- Glyphosate disrupts shikimate pathway in plants and bacteria
- Glyphosate was patented as an antibiotic in 2010
- Banned in many industrialized countries
- Patented



GMO Wheat

- **USDA investigates unapproved GMO wheat found in Washington state**

- Reuters June 2019
- 3 Min Read
- CHICAGO (Reuters) - The U.S. Department of Agriculture has confirmed the discovery of unapproved, genetically modified (GM) wheat plants growing in an un-planted agricultural field in Washington state.
- There was no evidence the wheat had entered the food supply, the USDA's Animal and Plant Health Inspection Service said in a statement on Friday. The wheat is resistant to glyphosate, a widely used herbicide commonly referred to as Roundup.
- There are currently no commercially approved genetically modified wheat varieties, and incidences of rogue plants are rare. However, unapproved plants were found in 2018 in Alberta, Canada, in 2016 in Washington state, in 2014 in Montana and in 2013 in Oregon.

- **Genetically Altered Wheat Flagged; Thailand Detects Shipment Not Cleared for Commercial Sales**

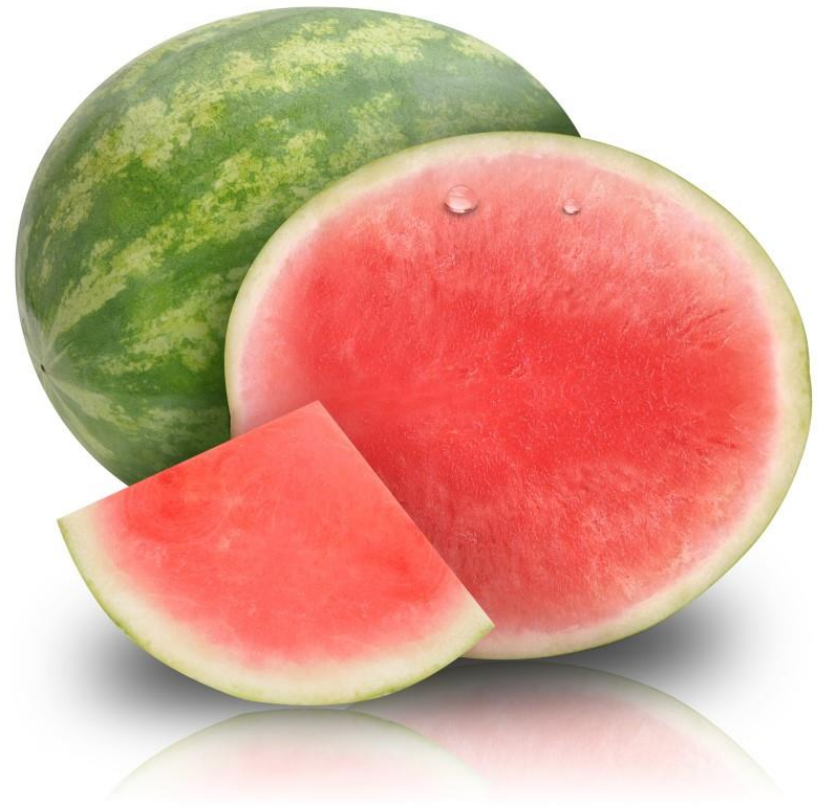
- Oct 18, 1999
- Spokesman Review (Spokane, WA) | October 14, 1999 | Hannelore Sudermann, Staff writer
- Scientists in Thailand claim they found genetically modified wheat in a recent grain shipment from the Pacific Northwest.
- The discovery may jeopardize Northwest wheat exports at a time when a growing number of foreign governments and consumers are rejecting genetically altered products.
- "This is not good for the two countries at all," said Prakarn Virakul, minister for agriculture with the Royal Thai Embassy in Washington, D.C.
- The Thai government hasn't said what it plans to do with the suspect shipment. But the country wants to work with U.S. grain marketers to ensure that genetically modified wheat, called transgenic wheat, isn't shipped again, he said.
- The news shocked Northwest agricultural interests because transgenic wheat hasn't been approved for commercial sales and is grown only in test plots.

Improvement?

- Hybridization

Breed out characteristics we don't want (bitterness, seeds, tough skins, etc.) for characteristics we do want (sweetness, size, high yield)

We have bred out many of the beneficial nutrients.



Pastured

- You are what you eat and what it eats
- Healthier animals produce healthier dairy and meat
- Grass finished and pastured has more omega 3 fats, vitamins, and antioxidants (carotenoids)
- Grain feeding herbivores can create health issues in the animal
- Feedlot and confined animals need more antibiotics



Pastured

- Commercial feed has pesticides
- Growth Hormones in cows
- Breeding practices to get more meat, dairy, and eggs
- Organic animal products over organic plant foods?



Seafood

- Farmed fish topped farmed beef in production in 2012
- Alaskan over wild over farmed
- Farmed fish tend to have fewer omega 3 fats and more omega 6 fats (grain feeding)
- Depleting smaller fish like anchovies and sardines
- Mercury? Selenium to the rescue
- All seafood tends to be mineral dense



Farm Raised

- Higher fat (mostly omega 6), lower protein
- “Wild” labeling is only half truth as many are born and partially raised in hatcheries
- Studies show higher levels of PCB's (polychlorinated biphenyls) and other contaminants in farmed fish due to fishmeal
- Sea lice treated with pesticides or pressure washing
- GMO fish



What To Do

- Buy local (Farmers Markets)
- Grow your own
- Choose fresh or frozen
- Choose organic (animal/plant)
- Choose pastured
- Confirm if it is wild
- Proper storing techniques
- Better preparation and cooking techniques



Nutrient Dense Superfoods

- Bone and gelatin broths
- Liver- from healthy animals
- Eggs- from healthy animals
- Fermented vegetables- sauerkraut, kim chi, etc.
- Wild oily fish- sardines, anchovies, wild salmon
- Dark green leafy veggies
- Brewer's yeast
- Raw local honey
- Blackstrap molasses
- Herbs and Spices
 - turmeric, cinnamon, black pepper, coriander, sage, etc



Mushrooms

- Mushrooms have many immune enhancing functions:

Shitake

Maitake

Turkey tail

Reishi

Cordyceps

Lion's mane

Chaga

Most mushrooms contain glycoproteins which are involved in cellular communications. Cells use these glycoproteins to tell other cells when they are damaged, infected, etc.



Supplements

- Focus should be on eating right first
- Go for food sources first
- Be aware of supplement interactions
- Watch combinations of multiple supplements: A good multi may provide everything
- Magnesium, Vitamin K2/D, Omega 3 fats, B12/folate(sublingual)
- Get the right form
- Get a good brand:
 - Thorne
 - Pure Encapsulations
 - Designs for Health
 - Biotics Research
 - Jarrow
 - Metagenics

Summary

- Drink clean water: spring, distilled, reverse osmosis
- Eat real food: local, fresh, not overcooked, prepared by you
- No grain and seed oils
- Minimize refined carbohydrates
- Focus on nutrient dense foods
- Minimize toxin exposure: food, water, air, skin products
- Sleep: “recharge the batteries”
- Activity
- Spend time with loved ones
- Spend time outside