

Know Your Nutrients Part 2 — Fat-Soluble Vitamins

June 2015

As you will recall from last month, there are two classifications of vitamins – water-soluble and fat-soluble. In the May newsletter I focused on the water-soluble vitamins, B & C. This month, I focus on the fat-soluble vitamins A, D, E, & K.



Ask the Agent



Q: Could you write something about lightbulbs and why our government wants to phase out traditional lightbulbs?

A: Certainly. The US Department of Energy explains that incandescent lighting is the most inefficient form of lighting we have available for home use. In addition to emitting lower levels of light than newer lighting types such as [compact fluorescent lamps \(CFLs\)](#) and [light-emitting diodes \(LEDs\)](#). Over the life of each of these types of lightbulbs, the incandescent costs the consumer the most money due to its inefficient energy use. Most of these types of lightbulbs are no longer legally manufactured in the U.S. (after 2014). There are some exceptions for eliminating the manufacture of certain types of incandescent lighting, such as appliance lights and decorative lighting. See Resource Management section inside to see how lightbulbs compare.

For more information call the Geary County K-State Research and Extension office at 785-238-4161.

Fat-soluble vitamins dissolve in fat. In fact, that is how they are carried into your bloodstream and distributed through your body. These vitamins require moderate fat consumption in order to work effectively. Unlike their water-soluble counterparts, fat-soluble vitamins can be stored in the body. Consuming excessive amounts of any fat-soluble vitamin for too long can actually harm your body. However, these vitamins are essential to healthy body functioning as indicated in the chart below:

Fat-Soluble Vitamins	Why We Need Them	Excellent Food Sources
Vitamin A (Retinol)	Retinol helps the eyes adjust to light changes as well as plays an important role in bone growth, tooth development, reproduction, and regulation of the immune system. Beta-carotene converts into Vitamin A in our bodies.	As a carotenoid in red, yellow, orange and dark green vegetables: carrots, pumpkin and dark green vegetables. Also found in dairy products, fish, and liver.
Vitamin D	This vitamin plays a critical role in the body's ability to absorb and use calcium and phosphorous. It also helps form and maintain bones. Vitamin D plays a role in immunity and controlling cell growth.	Very few foods serve as a good source of Vitamin D unless they are fortified, like milk sold in the US.
Vitamin E (Tocopherol)	Serves as an anti-oxidant and protects vitamins A and C, red blood cells, and essential fatty acids from destruction. Recent research indicates that the full benefits of Vitamin E occur when it is obtained through fruits and vegetables rather than supplements.	Vegetable oil (soybean, corn, cottonseed, and safflower), products made with vegetable oil (margarine, salad dressing), and fruits and vegetables.
Vitamin K	Naturally produced by the bacteria in our intestines. It plays an important role in normal blood clotting, promoting bone health, and helping to produce proteins for blood, bones, and kidneys.	Green leafy vegetables such as turnip greens, spinach, and broccoli are excellent sources. Other sources include soybean oil, olive oil and canola oil.

Source: Colorado State University publication no. 9.315 "Fat-Soluble Vitamins: A, D, E, and K"

Adding variety to your food intake is a great "first step" to improving nutritional intake. As noted, the fat-soluble vitamins play many important roles in maintaining a healthy diet.

Tourette Awareness Month runs from May 15 thru June 15. Tourette Syndrome is a condition of the nervous system. It causes people to have “tics”.

Tics occur randomly and cannot always be prevented or avoided. Much like having the hiccups, you can try to reduce the intensity of a tic through sheer determination, but the body will still move involuntarily.

There are two types of tics—motor and vocal: **Motor tics** are movements of the body. Examples include blinking, jerking, or shrugging the shoulders.

Vocal tics are sounds that a person makes with their voice. It could take the form of humming, clearing the throat, or yelling out a word or phrase.

Tics can vary from simple to more complex. Simple tics use just a few parts of the body whereas complex tics may occur in pattern of several different body parts moving.

Approximately 1 in 360 children in the U.S. ages 6 to 17 years of age have been diagnosed with TS. Boys are 3-5 times more likely to have TS than girls. Among children with TS, 86% have also been diagnosed with at least one additional mental

health, behavioral, or developmental condition such as attention-deficit/hyperactivity disorder (ADHD) or a behavioral or conduct problem.

It is not known what causes Tourette Syndrome and there is no known cure. However, there are some treatments available that help manage the tics.

Parenting children with TS requires patience and satisfaction in achieving small victories such as avoiding meltdowns. You can’t change your child, but you CAN change the environment to make it a little easier for them to adapt to their surroundings.

When your child is having a difficult time, instead of 1st responding with a negative consequence try thinking about what may have caused or triggered their current behavior. Again, YOU can’t change their behavior—they have to do it. You can only expect to influence your child’s behavior by changing your own responses.

Each day offers the opportunity to learn more about yourself and your child so that your home environment honors each person as unique.

It may not be what you want to hear, but incandescent lights are a thing of the past (or at least when purchasing new light fixtures!) Almost 10% of the average household energy use can be attributed to lighting. The types and wattage use of the lightbulbs we use in our homes will directly impact our electricity bills.

Changing over to LED lights make sense because it saves money. The US Department of Energy reports that switching entirely to LED lights by 2030 could reduce America’s electricity consumption for lighting by nearly 50 percent and save \$250 billion in energy costs! Rotating your incandescent lightbulbs out with LED ones is safe and energy efficient. As long as the base of the LED lightbulb fits into the socket properly, it is safe to use with that light fixture.



Comparisons between Traditional Incandescents, Halogen Incandescents, CFLs, and LEDs

	60W Traditional Incandescent	43W Energy-Saving Incandescent	15W CFL		12W LED	
			60W Traditional	43W Halogen	60W Traditional	43W Halogen
Energy \$ Saved (%)	—	~25%	~75%	~65%	~75%-80%	~72%
Annual Energy Cost*	\$4.80	\$3.50	\$1.20		\$1.00	
Bulb Life	1000 hours	1000 to 3000 hours	10,000 hours		25,000 hours	

*Based on 2 hrs/day of usage, an electricity rate of 11 cents per kilowatt-hour, shown in U.S. dollars.

Source: US Department of Energy—www.energy.gov

Healthy Habits

Transitions to Healthy Eating

The conversation started in October of 2013 when an administrator from one of the middle schools contacted the Extension office about providing programming in their building. What emerged from the original conversations is a summer nutrition education program called "Transitions to Healthy Eating".

USD 475 offers incoming 6th grade students the opportunity to experience the middle school environment before they are expected to merge with the 7th and 8th graders the first day of school in August. This program, called Transitions, gives students a taste of the expectations, experiences, and excitement that comes with becoming a middle school student.

This year, Geary County K-State Research and Extension FCS agent, Deb Andres and Family Nutrition Program Assistant Susie Bilderback are working with other community professionals to educate students about how to make healthier food choices and the science behind why it is important to eat health foods. This 5-day, 30-minute lesson series begins with teaching students how to ensure a clean and safe meal preparation environment. They review the MyPlate food plan designed by USDA, learn the nutritive value of fruits and vegetables, and use sensory analysis to evaluate dairy products. Each day begins with a brief, single-concept, nutrition lesson followed by a hands-on food preparation lab to help reinforce what they

learned about that particular day.

Research published by the American Psychological Association states that eating healthy foods as a child has long-term benefits. Following healthy eating patterns as a child leads to a greater likelihood of maintaining those healthy habits as an adult.

Additionally, parents and caregivers of children can have a significant impact on children's eating habits by modeling good choices themselves. Follow these 5 steps to help the children in your life make healthy food choices:

- 1) Keep healthy foods available at home. Avoid highly processed foods by simply not purchasing them.
- 2) Don't use food to reward good behavior. This will follow them into adulthood and undermine their efforts to eat healthy as a way of life.
- 3) Eat meals as a family at least once a day. In addition to spending quality time together, the social aspect of eating together helps promote communication and family connectedness.
- 4) Reduce screen time and promote physical activity. Go for a walk as a family, toss the baseball around, or take a bike ride.
- 5) Include your children in maintaining a clean, healthy home. Include even small children in the process of keeping the home clean and safe for everyone.

Connecting with Kids

As I mentioned in the article above, we are preparing food each day with the incoming middle school students. Here are their two favorite recipes:

Fruit Yogurt Parfait

- 1/2 c. fruit-flavored yogurt (we are using low-fat strawberry)
- 1/2 medium banana peeled and sliced into bite size pieces
- 1/2 c. grapes
- 1/4 c. crunchy granola cereal

Nutrition Facts

Serving Size (278g)		Servings Per Container 1	
Amount Per Serving			
Calories 260	Calories from Fat 15		
		% Daily Value*	
Total Fat 2g			3%
Saturated Fat 0g			0%
Trans Fat 0g			
Cholesterol 0mg			0%
Sodium 55mg			2%
Total Carbohydrate 58g			19%
Dietary Fiber 4g			16%
Sugars 32g			
Protein 7g			
Vitamin A 6%		Vitamin C 10%	
Calcium 10%		Iron 8%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
	Fat 9	Carbohydrate 4	Protein 4

Spoon grapes into a tall plastic glass.

Add 3 spoonful's of yogurt.

Add sliced bananas on top of grapes and yogurt.

Add remaining yogurt to the glass.

Top with crunchy granola cereal.

Enjoy! (serves 1)

Shamrock Shakes

(serves 2)

- 1 c. low-fat milk
- 1/2 medium banana
- 1 c. lime sherbet

Measure milk and add to blender.

Wash, then peel, and place half of the banana (cut in chunks) into the blender.

Measure lime sherbet and add to blender.

Cover blender with lid and blend until smooth.

Pour evenly into 2 plastic cups.

Refrigerate leftovers immediately.

Nutrition Facts

Serving Size (230g)		Servings Per Container 2	
Amount Per Serving			
Calories 190	Calories from Fat 25		
		% Daily Value*	
Total Fat 3g			5%
Saturated Fat 1.5g			8%
Trans Fat 0g			
Cholesterol 10mg			3%
Sodium 100mg			4%
Total Carbohydrate 37g			12%
Dietary Fiber 2g			8%
Sugars 29g			
Protein 6g			
Vitamin A 6%		Vitamin C 8%	
Calcium 20%		Iron 2%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
	Fat 9	Carbohydrate 4	Protein 4

Upcoming Geary County Extension Programs

**Requires pre-registration.

June

** Tues./Thurs weekly — Mommy and Me Cooking Classes—Susie Bilderback and WIC office staff, classes located at the Geary County Health Department each Tuesday and Thursday from 2—4 p.m. Contact the Geary County WIC office to register by calling 785-762-5682.

July

19-23 — Geary County Free Fair, exhibits accepted from active 4-H members and community members alike; fun for the entire family; stop by the Extension Office to pick up the 4-H Fair Book or the Open Class Fair book for more details.

Fair books are available at the Geary County Extension office Monday—Friday from 8:00—5:00. Open class books will also be distributed to area businesses and community centers. Pick one up today and find out how you can be involved in this year's Geary County Free Fair!

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Geary County Office information: **<http://www.geary.ksu.edu/>**

or stop by the office at 119 E. 9th, Junction City, KS 66441

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