

## Cooperative Extension

### Farm-to-School:

## What's the Big Deal?

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As I began my internship at Rutgers Cooperative Extension (RCE) of Gloucester County, I found one of their main focuses was farm to school (FTS), and I was thrilled to become involved with this initiative. Since I have lived in the Garden State my entire life, the idea of utilizing locally sourced food has always intrigued me. Prior to my time working at RCE, I did not know much about FTS programs, but with what I now know, I wish I had the opportunity to participate in one when I was in school.

FTS programs have been around since the 90's, but are recently more popular due to the re-localization movement and the increased prevalence of childhood obesity. Re-localization is a strategy to build societies based on the local production of food, energy and goods, and the local development of currency, governance and culture. Farm-to-School enriches the connection communities have with fresh, healthy food and local food producers by changing food purchasing and education practices at schools and early care and education sites. This movement has helped strengthen relationships between farmers, distributors, and consumers and has allowed FTS to gain traction. There are currently more than 10,000 schools participating in FTS programs in all fifty states. To implement these programs, schools may partner with Cooperative Extension or the Department of Agriculture. Students are given the opportunity to learn through nutrition education, working in a school garden, composting, taste testing with school lunch, hosting a farmer to speak in class, or visiting a farm.

### The Value of Farm to School

You might ask, "Why are farm to school programs so important?" Like me, you may be surprised to learn the many benefits FTS programs bring to schools and their students. Before learning more about FTS, I only knew of the economic benefits to farmers. According to USDA, FTS programs can bring anywhere from \$8,000 to \$55,000 in annual sales to participating farmers and may be significant, to farmers with small scale operations.



It was not long before I realized that there are so many more benefits, not only to farmers, but students as well. Studies show that teaching through school gardens increases vegetable consumption at school and children are able to become more familiar with different kinds of vegetables. This

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familiarity will encourage them to try more foods outside of the classroom, which can increase their overall intake. Since increased vegetable intake has been reported to improve weight, some FTS programs are being used to help manage the increased prevalence of childhood obesity. These programs can also promote physical activity, since gardening alone can be good exercise for students. The Center for Disease Control (CDC) has even named FTS programs as an effective way to improve the overall health of students. FTS programs teach children to make healthy lifestyle changes, so they can continue making healthy decisions as they age, which can reduce chronic disease risk.

### Farm to School and the Classroom

The benefits of FTS programs go beyond health. There are many academic benefits to learning through a school garden. Believe it or not, students can learn math, science, language arts, and more through working in a school garden. Completing hands-on learning activities in the garden allows students to apply what they learn in the classroom, in a real-life environment. Studies show that students involved in programs that use school gardens perform better in school while helping teachers meet the Core Curriculum Content Standards.

The school garden can be used for science class to teach students how plants grow and give them the opportunity to record observations of what can affect their growth, collecting and comparing their own data. During math class, students can practice counting skills while planting seeds, measure ingredients harvested from the garden to create a snack, calculate space for a garden design, or measure to determine the distance between seeds. The garden can be used to teach language arts, too. Students can keep a journal to write about working in the garden and what they learn. Older students could write a report on their observations and reflect on their experience at the end of the school year.

### Farm to School with FCHS

Currently, RCE of Gloucester County is working with local schools through the Grow Healthy school wellness initiative to teach students nutrition education and offering learning experiences in their own school gardens. The Grow Healthy initiative was started by the Department of Family and Community Health Sciences (FCHS) in 2010 and focuses on professional development workshops for staff, school gardens, taste testing, nutrition education, cooking, increasing physical activity in the classroom, and increasing participation in school wellness council/school wellness policy. Through this program, I was able to witness some of the benefits of FTS after teaching lessons on New Jersey peaches at a local school in Gloucester County. I used peaches as a tool to teach students about adjectives. The lesson included a taste test and many of the children never had the opportunity to try a fresh peach before. Some of the children were skeptical, but after they tried one, I could see many of their attitudes change. The majority of the children said they loved the peaches and would eat them again if given the opportunity.

## VISIONS

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If you are interested in learning more about the benefits of FTS and growing a school garden, check out the **Rutgers Cooperative Extension fact sheet, Learning Through the Garden:**

<http://njaes.rutgers.edu/pubs/fs1211/>.

See also: <http://njaes.rutgers.edu/pubs/fs1211/>

<http://growhealthy.rutgers.edu/>

# Practical Ways to Reduce Food Waste

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Awareness of food waste is growing in the US. It is by far the largest waste stream (by weight) according to the EPA (after excluding industrial and construction waste). Food waste refers to any edible item that goes unconsumed due to an undesirable color or blemish as well as any kitchen scraps discarded by consumers. More than 37 million tons of food waste were generated in the US in 2013, which translates to more than 200 pounds per person per year.

Experts estimate that 25 to 40% of food grown and transported for sale or to the consumer will never be eaten. Food waste can also occur outside the home at restaurants, cafeterias, hospitals, universities, prisons, grocery and retail stores, hotels, sporting venues, food processing plants and farms. The story is the same worldwide. The Food and Agriculture Organization (FAO) recently estimated that about one-third of all food produced is either lost or wasted and the total global cost from food waste could be as high as 400 billion dollars a year.

The environmental impacts of food waste are also considerable. Decomposing food in landfills can release methane, a greenhouse gas 20 times more potent than carbon dioxide. Food waste is also a social concern. While a third of the food supply goes to waste, 48 million individuals in the US (including more than 15 million children) suffer from food insecurity and cannot meet their basic food needs.

## Consider these practical ways to reduce food waste--

### → Grocery Trip Planning:

- **Prior to shopping**, assess what you have on hand to avoid buying what you already have.
- **Make a list ahead of time**, taking into account meal frequency and food quantities.

### → Store smartly:

- **Keep fruits and vegetables fresh** by refrigerating at temperatures of 40°F or less.
- **Fruits that are not commonly refrigerated** (like bananas, apples, or tomatoes) should be stored separately from one another. These foods emit ethylene gas while they ripen which can increase their spoilage rate.
- **Freeze foods** that are nearing the end of their shelf life. According to the USDA, food stored at 0°F will remain safe but the quality may suffer with the length of storage.

### → Understand expiration dates:

- **"Use by", "Best by", "Enjoy by"** are not necessarily expiration dates but suggestions as to when the food is the freshest. Many foods can be eaten past those dates. Please refer to USDA's Food Product Dating for more information.

<http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/food-labeling/food-product-dating>

### → Support the community:

- **Consider donating unexpired food** you will not use to your local food rescue organizations instead of discarding.

### → Return nutrients to soil:

- **Consider backyard composting.** You can also send the food scraps to composting facilities.



#### References:

- 1) US Environmental Protection Agency, 2016. Sustainable Management of food. Available at <https://www.epa.gov/sustainable-management-food>
- 2) US Environmental Protection Agency, 2016. Reduce Food Waste at home. Available at <https://www.epa.gov/recycle/reducing-wasted-food-home>

# Functional Fiber - Is it too good to be true?

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Many people know the benefits of fiber as part of a healthy diet such as normalizing bowel movements, lowering cholesterol levels, helping to control blood sugar and helping one to feel full. Functional fiber research also indicates enhanced digestive health, disease prevention, and weight control. But, unfortunately, most people do not consume an adequate amount of fiber each day. Adults, according to the Institute of Medicine, consume only 17 grams of fiber daily, falling short of the recommended 25 grams daily for women and 38 grams daily for men. This is most likely because dietary fiber is only found in the under-consumed food categories of fruits, vegetables, whole grains, nuts, seeds, and legumes.

Since people are not eating adequate amounts of fiber-rich foods every day, manufacturers have started adding “functional fiber”, also known as isolated fiber, to more commonly consumed food items. Functional fiber is isolated or synthetic, indigestible carbohydrate fibers extracted from plant sources and added to foods or consumed as dietary supplements. This means that foods such as baked goods, ice cream, yogurt, candy, salad dressing, juice, and even water now may include fiber on their nutrition facts food labels. There is also an abundance of functional fiber supplements available to consumers so they increase their daily intake of fiber.

**Functional fiber** can have similar digestive effects to dietary fiber with the additional benefit of prebiotic properties including enhanced mineral uptake. A prebiotic is a specialized plant fiber that nourishes the good bacteria in the large bowel or colon.

While probiotics like yogurt may introduce good bacteria into the gut, prebiotics, on the other hand, act as a “fertilizer” for the good bacteria that’s already there to grow and improve the bacteria ratio, which affects a person’s health. However, there are some risks to functional fiber, and more research is needed. Side effects of functional fiber may be similar to food fiber for some and include: gastrointestinal discomfort such as abdominal

cramping; bloating; gas; and diarrhea. Foods high in dietary-fiber, on the other hand, come with the added benefits of vitamins, minerals, phytochemicals, and usually low amounts of added sugar, sodium, and saturated or trans-fatty acids. Many processed foods containing functional fiber help to sell a product but do not have the same natural phytochemicals and micronutrients that are found in foods that contain dietary fiber. Instead, these processed foods have added sugar and high amounts of fat and sodium that are not good for a person’s health.

Ultimately, the problem with consuming functional fiber instead of dietary fiber is not with the functional fiber itself, but the lack of all the additional nutritional components we find in foods naturally high in fiber. Without adequate intake of fruits, vegetables, whole grains, nuts, seeds, and legumes, fiber is not the only nutrient that is missing. Vitamins, minerals, and antioxidants will also be lacking. Remember, it is most important to look at the overall, nutritional profile of a food item. Consuming adequate dietary fiber from whole grains, fruits, vegetables, nuts, seeds, and legumes in your diet on a regular basis is recommended by health professionals, including the Academy of Nutrition and Dietetics. For more information about dietary and functional fiber, visit: <http://www.eatrightpro.org/~media/eatrightpro%20files/practice/position%20and%20practice%20papers/position%20papers/healthimplicationsfiber.ashx>

*The chart below describes the different classifications of fiber, including dietary and functional.*

Classifications of Fiber	Description
Dietary fiber	Indigestible, intact carbohydrates found naturally in plant foods, including whole grains, vegetables, fruits, legumes, nuts, and seeds.
Functional fiber	Isolated or synthetic, indigestible carbohydrate fibers extracted from plant sources or synthesized and added to foods or used as dietary supplements with a physiological benefit to humans.
Total fiber	The sum of dietary fiber and functional fiber in a food item.
Viscous fiber	Thicken and create resistance for intestinal contents in the digestive tract.
Fermentable fiber	Broken down by the gut microbiota to short chain fatty acids (SCFAs) and gases, which lowers the pH in the large intestine acting as a prebiotic. This enhances the uptake of minerals and prevents the growth of pathogenic bacteria.
Soluble fiber	Soluble in water, does not determine physiological effects.
Insoluble fiber	Insoluble in water, does not determine physiological effects.

Reference  
Academy of Nutrition and Dietetics. (2015). Position of the Academy of Nutrition and Dietetics: Health Implications of Dietary Fiber. *Journal of the Academy of Nutrition and Dietetics* 2015; 115(11): 1861-1870.

# Food Safety Tips During Power Outages

Robyn Miranda, Rutgers PhD Student and  
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Emergencies can occur at any time, especially with extreme weather conditions seen recently



in the Northeast. With unpredictable and extreme weather comes the unfortunate threat of power outages. During these emergencies, you may need to quickly make decisions about what to keep and what to throw away if you lose power. Here are some tips to follow at home to keep your food and family safe:

## Power Emergencies

### Plan ahead

- Keep an appliance thermometer in the refrigerator and freezer. Make sure the refrigerator is at 40°F or below and the freezer is at 0°F or below.
- Keep the freezer full! A full freezer will hold temperature for much longer than an empty one, sometimes as long as 48 hours. If you have empty space, fill it with bags of ice or gel packs.
- If a storm is coming, you can freeze refrigerated items that you may not need immediately, such as leftovers, fresh meat and poultry and milk. Plan ahead and allow 24 hours freezing time.
- Consider purchasing a large, insulated cooler and prepare some frozen gel packs in advance. If you lose power, transfer perishable foods from the refrigerator to the cooler after 4 hours.

### During a power outage

- Avoid opening the refrigerator and freezer as much as possible.
- Do not place perishable food out in the snow. Outside temperatures vary and food may be exposed to unsanitary conditions.
- A closed refrigerator will keep food cool for up to 4 hours.

### After a power outage

- Never taste food to determine if it is safe. When in doubt, throw it out!

Food Categories	Specific Foods	Held above 40 F for over 2 hours
Meat, Poultry, Seafood	Thawing meat or poultry	Discard
	Lunchmeats, hotdogs, bacon, sausage	Discard
	Casseroles, soups, stews	Discard
	Salads: meat, tuna, shrimp, chicken or egg salad	Discard
Cheese	Raw or leftover cooked meat, poultry, fish, or seafood; soy meat substitutes	Discard
	Soft cheeses (Blue, Brie, Cottage, Cream, Jack, Mozzarella, Monterey, Munster, Ricotta)	Discard
	Hard cheeses (Cheddar, Colby, Parmesan, Provolone, Romano, Swiss)	Safe
	Processed cheeses	Safe
Dairy	Shredded cheeses	Discard
	Milk, cream, sour cream, buttermilk, evaporated milk, yogurt, soy milk, eggnog	Discard
Eggs	Butter, margarine	Safe
	Fresh eggs, hard-cooked in shell, egg dishes, egg products	Discard
Fruits	Custards and puddings, quiche	Discard
	Fresh fruits, cut	Discard
	Fruit juices, opened	Safe
Vegetables	Canned fruits, opened	Safe
	Vegetables, raw	Safe
	Vegetables, cooked	Discard
Sauces, Spreads, Jams	Baked potatoes	Discard
	Peanut butter	Safe
	Jelly, relish, mustard, ketchup, olives, pickles	Safe
	Worcestershire, soy, barbecue sauce	Safe
	Opened creamy-based dressings	Discard
Bread, cakes, cookies, pasta, grains	Opened vinegar-based dressings	Safe
	Cooked pasta, rice, potatoes	Discard
	Bread, rolls, cakes, muffins, tortillas	Safe
	Cheesecake	Discard
	Breakfast foods – waffles, pancake, bagels	Safe

Refrigerated food - What to save and what to throw out (adapted from [foodsafety.gov](http://foodsafety.gov))

References:

1. Food and Water Safety During Power Outages and Floods. 2016. U.S. Food and Drug Administration. <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm076881.htm>
2. Keep Your Food Safe During Emergencies: Power Outages, Floods & Fires. 2013. United States Department of Agriculture. [http://www.fsis.usda.gov/wps/portal/food-safety-education/get-answers/food-safety-fact-sheets/emergency-preparedness/keep-your-food-safe-during-emergencies/ct\\_index](http://www.fsis.usda.gov/wps/portal/food-safety-education/get-answers/food-safety-fact-sheets/emergency-preparedness/keep-your-food-safe-during-emergencies/ct_index)
3. Food Safety Guidelines. 2016. The American National Red Cross. <http://www.redcross.org/prepare/disaster/food-safety>
4. Refrigerated Food and Power Outages: When to Save and When to Throw Out. 2016. FoodSafety.gov. [https://www.foodsafety.gov/keep/charts/refridg\\_food.html](https://www.foodsafety.gov/keep/charts/refridg_food.html)

# Challenge Yourself to Save Money

Barbara O'Neill, Ph.D., CFP®, Financial Specialist, Rutgers Cooperative Extension



Any time is a good time to save money for emergencies, retirement, or other financial goals. What is the best way to save? There is no one right answer.

**Automatic payroll deductions** work well for many people. Others save loose change in a jar and deposit it periodically in a savings account. A third way to save money is to complete a savings challenge. While many people start challenges in January, as a New Year's resolution, they can begin at any time.

Below is a description of five savings challenges and how they operate:

✓ **The 52-Week Money Challenge-** One of the oldest challenges (original source unknown), a saver begins with a \$1 deposit during Week #1. The weekly deposit rises by \$1 per week and reaches \$52 during the final week of the Challenge (Week #52), with total savings of \$1,378. Some people do the 52-Week Money Challenge in reverse from \$52 down to \$1. A third way is to pick an amount each week that you can afford and complete the challenge in any order. Tracking forms are available at <http://walton.ifas.ufl.edu/fcs/files/2014/01/52-Week-Money-Challenge.pdf>

✓ **The 52-Week Youth Money Challenge-** This challenge is for parents to use with their children. Weekly savings deposits are 10 weeks each of \$1, \$2, \$3, \$4, and \$5, resulting in \$150 of savings. Week #51 is an optional \$25 from birthday gifts and Week #52 an optional \$25 from holiday gifts (\$200 total). There is also an option for parents to provide a 50% (\$100) match, resulting in total annual savings of \$300. See <http://www.slideshare.net/BarbaraONeill/52-week-money-challenge-for-youth0315>.

✓ **The 15-Week Savings Challenge-** This challenge is for high school and college students and adults with short-term financial goals. See <http://www.slideshare.net/BarbaraONeill/15-week-college-student-money-challenge0715>. The **Basic Challenge** includes five weeks of \$10 savings, five weeks of \$20 savings, and five weeks of \$30 savings, resulting in a total accumulation of \$300. The **"Hard Core"** Challenge starts with a \$10 weekly deposit and ramps up the savings deposit by \$5 per week for a final deposit of \$80, resulting in a total accumulation of \$675.

Week #	Deposit	Total	Completion Check-Off	Week #	Deposit	Total	Completion Check-Off
1	\$2	\$2		26	\$52	\$702	
2	\$4	\$6		27	\$54	\$756	
3	\$6	\$12		28	\$56	\$812	
4	\$8	\$20		29	\$58	\$870	
5	\$10	\$30		30	\$60	\$930	
6	\$12	\$42		31	\$62	\$992	
7	\$14	\$56		32	\$64	\$1,056	
8	\$16	\$72		33	\$66	\$1,122	
9	\$18	\$90		34	\$68	\$1,190	
10	\$20	\$110		35	\$70	\$1,260	
11	\$22	\$132		36	\$72	\$1,332	
12	\$24	\$156		37	\$74	\$1,406	
13	\$26	\$182		38	\$76	\$1,482	
14	\$28	\$210		39	\$78	\$1,560	
15	\$30	\$240		40	\$80	\$1,640	
16	\$32	\$272		41	\$82	\$1,722	
17	\$34	\$306		42	\$84	\$1,806	
18	\$36	\$342		43	\$86	\$1,892	
19	\$38	\$380		44	\$88	\$1,980	
20	\$40	\$420		45	\$90	\$2,070	
21	\$42	\$462		46	\$92	\$2,162	
22	\$44	\$506		47	\$94	\$2,256	
23	\$46	\$552		48	\$96	\$2,352	
24	\$48	\$600		49	\$98	\$2,450	
25	\$50	\$650		50	\$50	\$2,500	

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# What is Rutgers Cooperative Extension?

## Part 1 -- Rutgers, the State University of New Jersey: A Land-Grant University

Adapted from *The Association of Public and Land-Grant Universities* ([www.aplu.org](http://www.aplu.org))



As a *VISIONS* reader, you may know what Rutgers Cooperative Extension (RCE) and Family & Community Health Sciences (FCHS) are, but do you know the whole story? Do you know how Cooperative Extension and FCHS began? This article is the first in a series that aims to better explain the national Cooperative Extension system, RCE and FCHS.

### What is a Land Grant University?

A land-grant college or university is an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 or 1890 or the Tribal Land-Grant Act of 1994.

The original mission of these institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics and the mechanic arts as well as classical studies so members of the working classes could obtain a liberal, practical education.

To achieve this mission, the first Morrill Act provided grants in the form of federal lands to each state. The states used the proceeds from selling those federal lands to establish a public institution to fulfill the act's provisions.

Another key component of the land-grant system is the agricultural experiment station program created by the Hatch Act of 1887. This authorized direct payment of federal grant funds to each state to establish an agricultural experiment station in connection with the land-grant institution there.

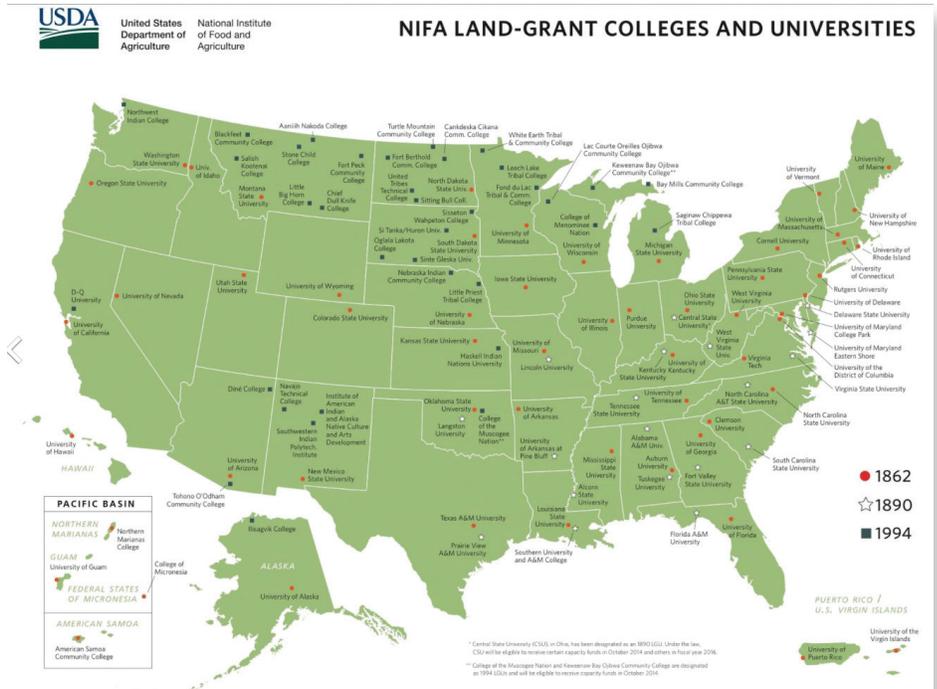
To disseminate information gleaned from the experiment stations' research, the Smith-Lever Act of 1914 created a Cooperative Extension Service associated with each land-grant institution. This act authorized ongoing federal support for extension services.

### Why Were the Land-Grants Created?

While a number of institutions had begun to expand on the traditional classical curriculum, higher education was still widely unavailable to many agricultural and industrial workers. The passage of the first Morrill Act was intended to provide a broad segment of the population with an education that had direct relevance to their daily lives.

To accompany this, the second Morrill Act of 1890 sought to expand upon the first Morrill Act through the inclusion of Historically Black Colleges. Through the Morrill Act of 1890, the same land-grant opportunities were provided to the Historically Black Colleges of each state, which strived to promote the advancement of African Americans in society.

Most recently, the Tribal Land-Grant Act of 1994, was introduced to grant land-grant status to Native American tribal colleges and universities. The goal of this act was similar to that of the Morrill Act of 1890, in that it was designed to promote the advancement of Native Americans in American society.



## Challenge Yourself to Save Money - continued from page 6

✓ **The \$2,500 Savings Challenge-** This challenge begins with a \$2 deposit during Week #1. The weekly deposit rises by \$2 and reaches a high of \$98. There are two weeks “off” at a saver’s discretion and a \$50 deposit during the final week (Week #50), with total savings of \$2,500. Like the *52-Week Money Challenge*, this challenge can be done forward, backward, or in any order that works for individual savers. See <http://www.slideshare.net/BarbaraONeill/50-week-2500-savings-challenge>.

✓ **The 30-Day \$100 Savings Challenge-** This challenge (see <http://www.slideshare.net/BarbaraONeill/30-day-100-savings-challenge-0416>) encourages people to save \$100 in 30 days in a series of gradually increasing deposits: \$1 for five days, \$2 for five days, \$3 for five days, \$4 for five days, and \$5 for ten days. Once the monthly savings goal has been reached, the Challenge can be repeated on a month-to-month basis for total annual savings of \$1,200. When the Challenge starts to feel “easy,” it can be scaled up by doubling or tripling the daily savings amounts.

\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8
\$9	\$10	\$11	\$12	\$13	\$14	\$15	\$16
\$17	\$18	\$19	\$20	\$21	\$22	\$23	\$24
\$25	52 Week Savings Challenge						\$26
\$27							\$28
\$29	\$30	\$31	\$32	\$33	\$34	\$35	\$36
\$37	\$38	\$39	\$40	\$41	\$42	\$43	\$44
\$45	\$46	\$47	\$48	\$49	\$50	\$51	\$52



**Want to save money for future financial goals?** Challenge yourself and/or your children to save by completing one of the five savings challenges described above. For links to all of the saving challenges in one place, visit the **Rutgers Cooperative Extension Money and Investing** web site: <http://njaes.rutgers.edu/money/>.