JOURNAL OF CivilDEFENSE ISSUE 2 | 2010

VOLUME 43

ARE YOUR SHELVES **STOCKED?**



ALL CURRENT TACDA MEMBERS & FRIENDS ARE INVITED TO THE

Annual MEMBERSHJP MEETING O CONFERENCE

Speakers for the conference will be Bron Cikotas, Jonathan and Kylene Jones, Sharon Packer , William Perkins, Paul Seyfried, Jay Whimpey and Gary Sandquist.







Make Reservations at: Courtyard By Marriott 10701 South Holiday Park Dr. Sandy, UT USA 84070 801-571-3600

Friday & Saturday, September 10th & 11th, 2010

The Nominating Committee of The American Civil Defense Association has nominated Jay Whimpey, P.E. to serve as President for the coming two years. Dr. Charles Cox has also been nominated to serve on the Board of Directors – the rest of the board will continue to serve as now constituted.

On behalf of TACDA we also welcome our newest board member, Kirk Paradise, who recently retired from the Huntsville – Madison , Alabama County Emergency Management Agency. We look forward to having his knowledge and expertise in emergency preparedness as part of our team.

We welcome all members to this annual meeting. Your vote will be greatly appreciated.

(For an agenda of the Conference, please refer to the back cover of this issue.)

JOURNAL OF **Civil**DEFENSE









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PRESIDENT'S MESSAGE



t has been an honor to serve as president of TACDA for the past two years. I would like to thank Sharon Packer, Polly Wood and the Board of Directors for their assistance. We are blessed with a very talented staff.

I challenge all members to sign up several new mem-

bers to TACDA in the coming year. Help TACDA help America prepare. Don't forget, as a TACDA member you can get discounted gift memberships for family and friends.

It should be obvious to everyone that our government (local, state, and federal) is not prepared for a very large disaster or one that might include multiple locations across the country. Continue to encourage your family and friends to be prepared. We may be on our own for weeks and perhaps months with little or no assistance from the authorities.

Remember, when the time for action arrives, the time for preparedness will have passed.

I urge everyone to attend our annual membership meeting and conference on Sept. 10 and 11th, 2010. We will elect board members and I think you will enjoy the speakers we have scheduled. I look forward to seeing everyone there.

with S

William David Perkins President, TACDA Email: kd4fjl@aol.com

Dr. Arthur Robinson Receives Republican Nomination for Congress

e would like to congratulate Dr. Arthur Robinson, a member of our TACDA Board of Directors, for his Republican Congressional nomination in Oregon District 4. Dr. Robinson is the founder of the Oregon Institute of Research and Medicine and he, with the help of his children, has developed a home school curriculum. More than 60,000 American children now use this curriculum for grades one through 12.

Dr. Robinson was one of the original founders of TACDA and has been a supporter of Civil Defense issues for many years. He, with his six children, have built civil defense displays and traveled together across the country many times encouraging civil defense efforts. He has published tens of thousands of copies of FEMA instructions and books and has distributed them throughout the United States.

We congratulate Dr. Robinson and his family for this great achievement and wish him well in his nomination efforts

We invite you all to visit his website at http://www.artrobinsonforcongress.com

FROM THE EDITOR

A few years ago while vacationing in Hawaii, due to the aftermath of a hurricane, I experienced the trauma and frustration of standing in a food line with my hungry children. I was comforted in the knowledge that the current conditions would be resolved quickly, as we were residing in a First World Country with abundant food supplies.

Current economic and political conditions of the world have greatly affected our level of affluence and abundance. We are now facing the possibility of war with Iran, which would result in fuel shortages and a huge increase in fuel prices. This, in turn, could lead to higher food prices and food shortages. Andrew Simms, the policy director for the New Economic Foundation, reported in The Guardian that many First World Countries (including the U.S.) have moved away from domestic food production in favor of cheaper and more profitable imports. Some more powerful countries are 'grabbing' control of productive farmland in neighboring poor countries. Simms says climate change and volatile oil prices have destabilized global agriculture. He reminded us that in 2008, the drought in Australia caused a world crisis in grain production that resulted in food riots throughout the world; and that this year is just the 10th anniversary of the Fuel Protests caused by unrest in the Middle East. Simms concluded, in light of the climate extremes, economic instability and resource shortages, that if we are to continue as a civilized society we must replace the philosophy of short-term profitability with resilience of our own food production capabilities.

We hope that this edition of the Journal of Civil Defense will help you with your food storage issues and that you will continue to increase your supplies.

Best Regards,

Sharm Tacker

Sharon Packer Editor, Journal of Civil Defense



Dear John,

Initial radiation has several components to it, but we will focus on prompt gammas and neutrons. Gamma radiations are reduced by roughly 90% for every 90-degree turn in a relatively small diameter tunnel. The problem child is the neutron. Each 90-degree turn, even in a tight entrance tunnel, only provides a 20% reduction for neutrons. Not good

enough to provide adequate protection where there may be millions of rads involved. On one of Sharon's shelters, we designed and built a "T" entrance where there was an 8-foot long extension of tunnel beyond the point were the entrance aimed for the surface.

We built a trolley car holding two 60-gallon drums filled with water, providing about six linear feet of water shielding. Water, as you already know, is an excellent shielding material for neutrons. So, the procedure is to construct a small track from galvanized pipe, used for your typical wire fencing. The trolley car uses the galvanized steel wheels- again, used on wire fencing. The only down side is that you will have to step over the cross braces when you enter the shelter. The cart with the shielding "plug" is nestled in the deadend section of the horizontal tunnel until needed...then it is quickly rolled into place between the 'shelterees' and the entrance. This is only practical with a tunnel diameter of around 30 inches and I would still stack some additional materials in the horizontal tunnel to augment the "plug", were I expecting an imminent attack ... living where YOU do. There is no penalty for overachievement in this area.

Thanks for your interest in shelters!

Paul Seyfried TACDA Advisory Board





This article has been condensed. The complete article can be found at: http://papadutch.home.comcast.net/~papadutch/ Dutch oven cooking is a living skill that every individual can learn and benefit from. As a society I believe we have become too fast paced in our everyday lives and have forgotten or neglected to learn many skills that, 100 years ago, would have been second nature to us. With the Dutch oven cooking skills I have learned over the years I now have an additional confidence that I can cook my family a good hot meal at any time regardless of our current circumstances.

An Introduction To Dutch Ovens:

O ne of the best pieces of advice I can offer anyone looking to purchase their first Dutch oven is to select an oven that is well made. The walls of the oven should be the same thickness all the way around. Inspect the oven's bail, it should be made of sturdy heavy gage wire and be securely attached to molded, *not* riveted, tangs on the side of the oven.

Check the Dutch oven lid to make sure it fits tight. It should lie flush with the lip of the oven all the way around. This is to ensure that the steam created inside the oven does not escape. Make sure the lid handle is a loop attached to the lid on both ends with a hollow center so that it can be easily hooked by a lid lifter. Avoid ovens that have a molded solid tab on the lid for a handle because they are hard to lift and manage when they are loaded with coals on top.

There are two basic types of Dutch ovens. The ovens I like to use are generally made of heavy cast iron, have three short legs on the bottom, and a tight fitting lid with a lip or ridge around the outer edge for holding coals and for keeping ash from falling into the food. These ovens are commonly referred to as "Camp" or "Outdoor" Dutch ovens. The second type of ovens are also generally made of heavy cast iron, have a flat bottom with no legs, and have a highly domed basting lid without an outer rim. These ovens are commonly referred to as "Bean Pots" or "Kitchen" ovens. These ovens can be used with briquettes, but their flat bottom is better

suited for use on a stove top or in your kitchen oven.

Some people recommend purchasing ovens with a smooth cast because they feel food won't stick to it as easily. The rougher surface offers more surface area for oil to adhere to when "seasoning" the oven. As the oil builds up and hardens with cooking use it creates a very smooth surface to cook on.

Dutch Oven Cooking Tips & Techniques

R egulating cooking temperature is by far the hardest thing to master when learning to cook in a Dutch oven. Hopefully the few tips I have to offer will help you out.

First and foremost, always use high quality briquettes. I recommend using Kingsford charcoal. Kingsford is packed tighter than most other brands so it won't pop and spit, and it tends to burn longer than other brands. Avoid using "Match Light" charcoal, as it burns hot so it doesn't last as long. Kingsford charcoal will generate good heat for about an hour's time. For recipes that take more than an hour to cook, after an hour remove the remaining briquettes and ash from the oven and replenish them with new briquettes. Note: because the Dutch oven is already hot, you will not need as many briquettes as when you started cooking. I usually remove 2-3 briquettes from the top and bottom the first time I replenish them.

The general rule of thumb to produce about a 350° heat is to take the size of the Dutch oven in inches, double the number, and use that many total briquettes. So, for a 12″ oven you would use 24 briquettes, for a 14″ oven you would use 28 briquettes, etc.. Remember this is just a rule of thumb and does not work for all makes of ovens!

Generally speaking each briquette will produce about 10° - 15° F. worth of heat on a moderately warm day with no wind. Use this general rule of thumb to calculate the number of briquettes to reach 350° F and then add or subtract briquettes to reach the temperature you desire. Heat placement around the Dutch oven is crucial to yield the best cooking results. Briquettes placed under the oven should be arranged in a circular pattern no less than 1/2'' from the outside edge of the oven. Briquettes placed on the lid should be spread out in a checkerboard pattern. Try to avoid bunching the briquettes as this causes hot spots.

For food you wish to simmer such as soups, stews, and chilis; place 1/3 of the total briquettes on the lid and 2/3 under the oven.

For food you wish to bake such as breads and rolls, biscuits, cakes, pies and cobblers (rising); place 2/3 of the total briquettes on the lid and 1/3 underneath the oven.

For food you wish to roast such as meats, poultry, casseroles, quiche, vegetables, and cobblers (non-rising); use an even distribution of briquettes on the lid and underneath the oven.

The golden rule of Dutch oven cooking is "go easy with the heat". If the oven isn't hot enough you can always add more briquettes, but once food is burned, it's burned.

Tools You Will Need

M ake sure to have some wooden utensils on hand for stirring your food. Avoid using metal utensils in your ovens as they can scratch off the protective coating. Heavy plastic utensils can also be used, but remember, they are plastic and will melt if left resting against a hot oven for any period of time. Plastic is also hard to clean off the oven once it has been baked on.

A good pair of leather gloves will prove invaluable around a hot fire. A pair of work style gloves will do, but I recommend using either camp or welders gloves. Although these typically cost more, they offer thicker leather and an inner insulated lining.

A charcoal starter or "chimney" offers a fast way of lighting briquettes without using lighter fluid. Simply place your charcoal in the chimney, then wrinkle up 3-4 pieces of newspaper and place under the chimney. Light the paper with a match stuck through the vent holes in the side. That's it, in 10-15 minutes your charcoal is hot and ready for use. Charcoal starters can be purchased at most outdoor sporting goods stores.

Long handled metal tongs work well for moving and placing briquettes. The long handle keeps your hands away from the flame and heat. If you are using coals from a fire, you can use a standard garden or fireplace shovel.

Another item that will prove useful is some sort of lid lifter or hook. A large pair of pliers will also do the job. I prefer to use Mair lifters because they allow you to control the lid easily and securely.

A lid stand offers a nice place to rest your lid and keep it out of the dirt while you are stirring your ovens. They can be made easily, a #2 1/2 aluminum can; or they can be purchased on the market.

A whisk broom does a good job removing ashes from the top of your lids before serving your food. This will help keep ashes from falling into your tasty dishes.

Seasoning Your Dutch Oven

ast iron Dutch ovens, if properly cared for, will last for many generations. Constant and proper Dutch oven care beginning from the day the oven is purchased will keep it in service for many years. All quality ovens are shipped with a protective coating that must be removed prior to seasoning. Removing the protective coating requires a good scrubbing with a little soap, some hot water, steel wool, and a little elbow grease. This is the only time you will ever use soap on your Dutch oven. Once the oven has been cleaned, it should be rinsed well, then towel dried and allowed to air dry.

You can use your kitchen oven to season a Dutch oven but just a word of warning, you will smoke up your house if you season your Dutch ovens indoors. I recommend using an outdoor gas barbecue in a well ventilated area. Preheat your barbecue or kitchen oven to 375°. After your Dutch oven is dry, place it on the center rack with the lid ajar. Allow it to warm slowly so it is



The golden rule of Dutch oven cooking is "go easy with the heat."

just barely too hot to handle with bare hands. This preheating does two things: it drives any remaining moisture out of the metal and opens the pores of the metal. Now, using a paper towel or a clean 100% cotton rag, apply a thin layer of cooking oil. I prefer using vegetable oil over peanut and olive oils because the burning point of vegetable oil is lower so it will set up and harden at lower temperatures. Tallow or lard can also be used but they tend to break down over time so are not recommended on ovens that will be stored for long periods of time. Make sure the oil covers every inch of the oven, inside and out and replace it on the center rack, this time upside down with the lid resting on top of the legs. This will keep oil from pooling in the bottom of the oven. Bake the oven for about an hour or so at 375°. This baking hardens the oil into a protective coating over the metal.

After baking, allow the Dutch oven to cool slowly. When it is cool enough to handle, apply another thin coating of oil. Repeat the baking and cooling process. When the oven can be handled again, apply another thin coating of oil. Do not leave any standing oil in the Dutch oven! Standing oil can turn rancid ruining the protective coating you just applied. Allow the oven to cool completely. Now it should have three layers of oil, two baked on and one applied when it was warm. The oven is now ready for use.

This seasoning procedure only needs to be done once, unless rust forms or the coating is damaged in storage or use. This baked on coating will darken and eventually turn black with age. This darkening is a sign of a well-kept oven.

The seasoning's purpose is two fold, first and most important, it forms a barrier between moisture in the air and the surface of the metal. This effectively prevents the metal from rusting. The second purpose is to provide a non-stick coating on the inside of the oven. When properly maintained, this coating is as non-stick as most of the commercially applied coatings.

Note: Avoid cooking anything with a high acid content such as tomatoes, or a lot of sugar such as cobblers for the first 2 or 3 times after seasoning your oven. The acid and sugars can break down the protective covering before it has a chance to harden properly.

Aluminum Dutch ovens do not require a "seasoning". Most aluminum ovens are shipped with a protective coating and a simple washing with soap and hot water will remove it.

Cleaning Your Dutch Oven

D utch oven care starts with the seasoning of the metal, but the second step is to make sure you clean your ovens properly after each use. To remove stuck on food, place some warm clean water into the oven and heat until almost boiling. Using a plastic mesh scrubber or coarse sponge, gently break loose the food and wipe away. After all traces have been removed, rinse with clean warm water. Do not use soap because it will break down the protective covering and will get into the pores of the metal to taint the flavor of your next meal.

After cleaning and rinsing, allow the oven to air-dry. Then heat it over the fire just until it is hot to the touch. Apply a thin coating of oil to both the inside and outside of the oven and the top and underside of the lid. Allow the oven to cool completely. If you do not oil the outside of the oven, the protective barrier will break down and the oven will start to rust.

"Ready To Use" Cast Iron Care:

The manufacturers of "Ready To Use" cast iron products have taken the work out of having to season your new cast iron skillets and Dutch ovens by seasoning them for you. Lodge, Camp Chef, Cabela's, and Cee Dubs are just a few of the manufacturers and retailers of these fine products. With proper care and maintenance these cast iron utensils will service you well for many generations.

Stripping Rusty Or Rancid Dutch Ovens

nevitably there will come a time when you will need to strip and reseason a rusting or rancid Dutch oven. I've found the easiest way to strip an oven is to place it upside down on the bottom rack of a self-cleaning oven with the lid placed on top of the legs. Set the oven to self clean for 2 hours and let it be. Allow the oven to cool completely before removing the Dutch oven.

Once the Dutch oven has been burned and allowed to cool the remaining detritus must be removed wool or a metal scouring pad under hot running water until all surfaces are clean. Once clean, towel dry the oven and then allow it to air dry. The Dutch oven is now ready to re-season.

Storing Your Dutch Ovens

t is important when storing your Dutch ovens to keep the lid cracked so that air can circulate into it. This can be accomplished by laying a paper wick, made from a napkin or paper towel folded accordion style, across the rim of the oven leaving a small amount outside, and then setting the lid down on top of it. The wick also acts to draw any moisture out of the oven. If air cannot circulate into the Dutch oven, the oil used to protect it will turn rancid and will permeate the pores of the metal with a sour odor. DO NOT cook anything in a rancid oven, you will not be able to stomach the food! A rancid oven must be stripped of its protective coating and then be re-seasoned again.

When storing my Dutch ovens I like to put them in a protective cover to keep them from collecting dust, and to keep anything that might brush up against them from getting dirty. The covers also help protect the outside finish on the ovens from being scratched up in transit when camping or transporting ovens.

A Few Cast Iron No-No's

ever, and I repeat, *never* allow cast **N** iron to sit in water or allow water to stand in it. It will rust despite a good coating.

Never use soap on cast iron. The soap will get into the pores of the metal and won't come out very easy, but will return to taint your next meal. If soap is used accidentally, the oven should be re-seasoned, including removal of the present coating.

Do not place an empty cast iron pan or oven over a hot fire. Aluminum and many other metals can tolerate it better but cast iron will crack or warp, ruining the metal.

Do not get in a hurry to heat cast iron, you will end up with burnt food

or a damaged oven or pan.

Never put cold liquid into a very hot cast iron pan or oven. They will crack on the spot!

Note: This section taken from *The* MacScouter.

Campfire Cooking Tips

have received a lot of response from people asking how to use their Dutch ovens over a campfire. I have two separate campfire cooking methods I like to use, each depending on the amount of time I want to spend tending my ovens.

The first method involves using charcoal briquettes which are lit in the campfire. I prefer to use charcoal for cooking as opposed to cooking over an open fire because temperatures can be easily regulated with briquettes whereas an open fire is riddled with hot spots that can lead to burned food if your Dutch ovens are not watched carefully. I simply add a pile of charcoal to the center of the campfire to be started by the flames. Once the charcoal is lit, the briquettes are removed from the fire and arranged for cooking near the edge of the fire pit away from the campfire flames. Then cooking proceeds just like it would at home.

The second method entails burying your Dutch oven in coals and is about like cooking in a crock pot set on low heat. I usually use this method when out hunting or fishing (in a campfire safe area) and I don't want to spend a lot of time over my ovens. It starts by digging a hole 18-20 inches deep and 20-24 inches in diameter in the center of the campfire pit. Line the sides of the hole with flat stones and check to make sure the oven will fit in the hole. Next, start a campfire in the bottom of the hole to get coals going. Keep adding wood to the fire until the hole is 1/2 - 2/3 full of coals. Wait for the fire to go out. Dig a hole in the coals. Set the oven on top of the coals and cover the oven with the remaining coals (you want at least 2-3" of coals on top of the lid) followed by a 2" layer of dirt spread out over the coals. Spread 2 wet burlap bags over the dirt and cover the bags with rocks so they won't

be blown away in the event a wind comes up. The burlap bags will help to hold the heat in. Leave the oven to sit for the day. When you return to camp in the evening the food will be ready for eating. Simply dig the oven up and brush it off with a whisk broom before opening.

Helpful Dutch Oven Cooking Tips

any problems can be avoided by watching your ovens while you are cooking, so don't be afraid to lift your oven lids to check on your food. If you see steam escaping from around your oven lids then your ovens are too hot. Dutch ovens act as a sort of pressure cooker, steaming the food from the inside out.

To keep from generating hot spots which cause uneven browning and burned spots, rotate your Dutch ovens every 15 minutes by turning the oven 90° in one direction. The easiest way to manage this is to lift the lid, rotate the oven 90° clockwise, then put the lid back on so it is facing the same way it was when you lifted it. I usually look at the number cast on the lid when I do this. When rotating the oven properly the number on the lid should stay in the same place during the whole cooking process.

When I lift the lid to rotate my ovens I usually peek inside to see what the food is doing. This way I know if the oven temperature is right or if I need to adjust the number of briquettes.

"Stacking" your Dutch ovens is a convenient way to save space and share heat. Stacking is best done when ovens need the same amount of heat on top and bottom. (I.E. - Do not mix and match ovens that require different amounts of heat on top and bottom. Placing an oven with a cake, pie, or rolls in it, on top of an oven loaded with coals on the lid is not a very good idea.)

A Dutch oven lid can be used as a skillet or griddle by turning it upside down and placing it over the fire or stove. When using the lid in this fashion, you can make virtually error free pancakes and eggs. •



Food SHELF LIFE Studies

http://grandpappy.info/hshelff.htm By Robert Atkins

Canned Food Study One

A Food and Drug Administration Article about a shelf life test that was conducted on 100-year old canned foods that were retrieved from the Steamboat Bertrand can be read at the following link:

http://www.fda.gov/bbs/topics/ CONSUMER/CON00043.html

Following is a brief summary of a very small portion of the above article:

"Among the canned food items retrieved from the Bertrand in 1968 were brandied peaches, oysters, plum tomatoes, honey, and mixed vegetables. In 1974, chemists at the National Food Processors Association (NFPA) analyzed the products for bacterial contamination and nutrient value. Although the food had lost its fresh smell and appearance, the NFPA chemists detected no microbial growth and determined that the foods were as safe to eat as they had been when canned more than 100 years earlier. The nutrient values varied depending upon the product and nutrient. NFPA chemists Janet Dudek and Edgar Elkins report that significant amounts of vitamins C and A were lost; but, protein levels remained high, and all calcium values 'were comparable to today's products.'"

"NFPA chemists also analyzed a 40-year-old can of corn found in the basement of a home in California. Again, the canning process had kept the corn safe from contaminants and from much nutrient loss. In addition, Dudek says, the kernels looked and smelled like recently canned corn."

"According to a recent study cosponsored by the U.S. Department of Agriculture and NFPA, canned foods provide the same nutritional value as fresh grocery produce and their frozen counterparts when prepared for the table. NFPA researchers compared six vegetables in three forms: homecooked fresh, warmed canned, and prepared frozen. 'Levels of 13 minerals, eight vitamins, and fiber in the foods were similar,' says Dudek. In fact, in some cases the canned product contained high levels of some vitamins that in fresh produce are destroyed by light or exposure to air."

Canned Food Study Two

A canned food shelf life study conducted by the U.S. Army revealed that canned meats, vegetables, and jam were in an excellent state of preservation after 46 years. The Washington State University summary article can be read at:

http://www.whatcom.wsu.edu/ family/facts/shelflif.htm

Dry Food Study One

A scientific study conducted at Brigham Young University on the shelf

life of a variety of different dry foods can be read at both of the following links:

•http://ce.byu.edu/cw/womensconference/archive/2005/sharing_stations/pdf/52a.pdf

•http://www.providentliving.org/co ntent/display/0,11666,7797-1-4222-1,00.html

A brief summary of the above web site information shows the following estimated shelf life per dry food item:

- Over 30 years for wheat and white rice.
- 30 years for pinto beans, macaroni, rolled oats, and potato flakes.
- 20 years for powdered milk. All dry food items should be stored in airtight moisture proof containers at a temperature between 40°F to 70°F.
- Salt, baking soda, and granulated sugar still in their original containers have no known shelf life limit if properly stored.

Dry Food Study Two

http://www.sciencedaily.com/videos / 2007 / 0208 - k e e p i n g _ f o o d _ for_years.htm

ollowing are some direct quotes taken from the above web site:

Food scientists now know that, when properly sealed, some dried food that's been sitting on shelves for years, could still be OK to eat.

"It lasts a lot longer than we thought," Oscar Pike a food scientist at Brigham Young University in Provo, Utah, tells DBIS.

Scientists have known certain foods like sugar and salt can be stored indefinitely, but wanted to learn the shelf life of other food like dried apples—stored since 1973 -- tried by taste testers.

"I like to call it the emergency shelf life of the food, food that you'd still be willing to eat in an emergency," Pike says. "It's not as though it were freshly canned, but it's certainly edible."

He says the best foods to store are

low in moisture, like wheat and powered milk. But keep all foods away from heat and light to stop it from going stale and losing nutritional value. "All the foods that we've tested have been stored at room temperature or below, so you want to avoid attic and garage storage."

In the study, researchers taste-tested rolled oats that had been stored in sealed containers for 28 years. Threefourths of tasters considered the oats acceptable to eat in an emergency.

Dry Food Study Three

http://beprepared.com/article.asp?ai =579&sid=INEM327&EID=ALL0608d &lm=emer&bhcd2=1213479534

Following are some quotes taken from the above web site:

It is important to first identify what is meant by 'food storage' and 'shelf life'. 'Food storage' that is intended to be held long-term is generally considered to be low moisture food packed in either #10 cans or in metalized bags placed within large buckets. 'Shelf life' can be defined in the following two ways:

'Best if used by' shelf life: length of time food retains most of its original taste and nutrition.

'Life sustaining' shelf life: length of time food preserves life, without becoming inedible.

There can be a wide time gap between these two definitions. For example, most foods available in the grocery store that are dated have a 'Best if used by' date that ranges from a few weeks to a few years. On the other hand, scientific studies have determined that when properly stored, powdered milk has a 'Life sustaining' shelf life of 20 years. That is, the stored powdered milk may not taste as good as fresh powdered milk, but it is still edible.

Shelf life is extremely dependent on the following storage conditions:

Temperature: Excessive temperature is damaging to food storage. With increased temperature, proteins breakdown and some vitamins will be destroyed. The color, flavor and odor of some products may also be affected. To enhance shelf life, store food at room temperature or below; never store food in an attic or garage.

Moisture: Excessive moisture can result in product deterioration and spoilage by creating an environment in which microorganisms may grow and chemical reactions can take place.

Oxygen: The oxygen in air can have deteriorative effects on fats, food colors, vitamins, flavors, and other food constituents. It can cause conditions that will enhance the growth of microorganisms.

Light: The exposure of foods to light can result in the deterioration of specific food constituents, such as fats, proteins, and vitamins, resulting in discoloration, off-flavors, and vitamin loss.

EXAMPLES OF SHELF LIFE:

Recent scientific studies on dehydrated food have shown that food stored properly can last for a much longer period of time than previously thought. This research determined the "life sustaining" shelf life to be the following:

Dry Food Item	Shelf Life
Wheat, White Rice, and Corn	30 years or more
Pinto Beans, Apple Slices, Macaroni	30 years
Rolled Oats, and Potato Flakes	30 years
Powdered Milk	20 years



Valuable Lessons from



Sir John Franklin and 128 men departed England to navigate an uncharted area of the North West Passage. The motivation was to discover an open sea route for trade through the Arctic thereby connecting the Atlantic and Pacific oceans. A northern route would be much shorter than the currently used southern route around the tip of South America. Besides economics, there was also the drive for discovery, adventure, sailing uncharted territory, and the quest to be first. Like other expeditions of discovery there was much anticipation and excitement. The trip did serve as one of discovery, but it was not until decades later that those discoveries were made, and we have been able to gain knowledge from this Arctic expedition.

Franklin was no stranger to arctic expeditions - his first of many was in the year 1818. The 1845 expedition was to be his last adventure before retiring from the British Navy. Two ships, the Erebus and the Terror were fitted with the latest technology of the time consisting of reinforced steel hulls, central heat, steam engines, and screw propellers. Each ship also boasted a library of over 1,000 books. Enough food was on board to last three years. The foods listed on ship manifests included: lemon juice, raisins, cranberries, canned meats, vegetables, grains, alcohol for medicinal purposes, and even chocolate. Physically and mentally they believed that they were prepared to live comfortably for a long time.

How could this well-prepared expedition fail? After a stop in Greenland, the two ships sailed away into history. Their story has just begun to be told within the last two decades, and it is a story that we can learn much of safety and survival.

In emergency situations, good health and nutrition are vital. A weak body leads to a weak mind. Even with the best equipment and supplies, death can result without a properly functioning mind and body. This was the fate of Franklin and his men. The especially cold, icy winters and the freezing of the water route led to their demise, but was not the sole cause. The story of Sir Franklin and his men has been pieced together from Inuit (the native people) accounts, body exhumations, a small note, and relics left behind.

From the beginning, ill health plagued the crew. Scurvy, tuberculosis, lead poisoning and pneumonia arose early on and continued throughout the three years slowly killing large numbers of men. What was the source of their ill health? Poor nutrition and heavy metal poisoning, both caused by improper storage. Having supplies was not enough. It is critical that we not only have the right foods, but that we store them properly.

Take a visit to your pantry. Does your storage include good sources of vitamins and minerals? The processes used to preserve food items for long term storage are quite damaging to vitamins, especially water-soluble vitamins. Time, temperature, light, and exposure to air will destroy these nutrients. The sailors of the 1800's knew about vitamin C and were prepared to ward off the dreaded scurvy resulting from vitamin C deficiency. Scurvy is caused by the breaking down of cells Initial symptoms are in the body. bleeding gums and eyes which lead to extreme muscle and joint pain. To ward off scurvy, Sir Francis' ships were stocked with 9,300 pounds of lemon juice. However, because it was not stored properly, the juice began to ferment. In an effort to reverse the fermentation process, the men boiled their lemon juice, unknowingly destroying the vitamin C.



ental and physical health is affected by vitamin intake.

vitamin deficiencies are now being looked at as contributing factors in depression. Vitamin D, known for being the sole cause of rickets in children, also is suspected to have a role in depression and osteoporosis. Check nutrition labels and you will find that most canned fruits and vegetables contain very little in the way of vitamins. However, there are some that are enriched with additional vitamins and are good sources of nutrition. Be mindful that as time passes, the vitamin content drops. The best if used by

date printed on the packaging typically indicates the time when the vitamin content on the label is accurate. Unless cans bulge or rust, or if the food is moldy or has a strong odor, the food may still be good for its caloric content, but not nutrient content. Most food storage items will not provide an adequate supply of nutrients. If bunkered down inside a shelter for a long period of time, obtaining vitamin D is a challenge, as the best sources of vitamin D are enriched milk and sunlight. Vitamin supplements are a must and should be stored in a cool, dry place. Like other food storage items, vitamins also, should be rotated frequently. A good multi-vitamin, along with additional vitamin C, Calcium, and Vitamin D, is especially critical for adults and children. As a side note, Vitamin C in the crystalline form, lasts indefinitely.

nother lesson to learn from the doomed expedition regards canned foods. The remains of men found and analyzed all showed high levels of lead in their bones and hair. It is believed that the lead came from the solder of the tin cans, or from the water storage. Commercially canned products are typically safe (beware of bulging, rusted or corroded cans). If cans have frozen and thawed, discard them immediately. The old rule, When in doubt throw it out, is always good advice. When bottling your own food, make sure to follow food safety guidelines available through county extension services or state health departments. The right recipe, temperature, and equipment are vital. Even in properly sealed bottles, the wrong recipe can breed hardy strains of bacteria. The killer bacteria, botulism, can breed in food without any visible sign. Make sure that the food stored to save life, does not ultimately take it. Remember plastics are semi-permeable, hence, water and foods stored in plastics should be stored away from harmful chemicals such as cleaning agents, pesticides, and fuels.

The Franklin expedition ended in

total tragedy. Poor nutrition and lead poisoning lead to weakened immune systems, and disease was rampant among the men. According to accounts from the Inuit population who had some limited contact with the expedition, the men who initially did not die from disease became paranoid and broke into factions. Some groups left the well stocked ship, and resorted to cannibalism. One group made the decision to hike out of the frozen land on foot. They loaded a long boat full of supplies, but never reached their destination. Their remains, along with the boat they took, have since been recovered. They only traveled about a mile each day. Surprisingly, the boat contained over 1,000 pounds of items not essential for survival! The sextant and medicine chest were abandoned for books, carpet slippers, tea, silverware, button polishers, and other trivial items. Imagine a small group of men, wracked with muscle and joint pain and weak from scurvy and lead poisoning, trying to pull a very poor sled; loaded not with survival gear but trinkets, across the brutal arctic terrain. Mentally and physically exhausted, they were unable to complete the task.

All of the top survival equipment and food stores in the world will do no good if we do not have the physical and mental capacity for their proper use. History serves as one of our greatest teachers. In this case, the lesson is to research and carefully prepare, so that in a crisis we can properly nourish our spirits, minds and bodies.

Sources:

•http://www.pbs.org/wgbh/nova/a rctic/provisions.html •http://en.wikipedia.org/wiki/Fran klin%27s_lost_expedition •http://www.pubmedcentral.nih.gov /articlerender.fcgi?artid=1279489 •http://www.duchesnegov.net/exten sion/floodfoodsafety.pdf •http://extension.usu.edu/htm/new s/articleID=3617/print=true •http://archive.deseretnews.com/arc hive/1001449/Home-canning-101-Yes-you-can.html

Excerpts from Survival Rations & Food Security

By J.I.R http://www.survivalblog.com

I think can all agree that a deep We can good insurall agree

I think we larder is ance for bad times. There is some variation on how

we approach this topic, but we probably all have a lot in common. I would like to present my approach to food storage to give your readers (perhaps) a new perspective.

I was able to gain a lot of peace of mind by rationally looking at the threats I face and prioritizing my needs. Preparation is easy if you plan carefully with a clear view of the likely threats. I assessed the risks, set some achievable goals, and executed the plan. Now I spend a lot of time fishing or messing around doing what I want.

Important Caveat: Skills definitely come first! You should never skimp on skills in favor of gadgets. Your best survival kit is your own noggin and what you put inside it. You should frantically be learning new skills all the time and honing your old ones. Use your time and money to learn valuable skills. The rest is just stuff.

I take a fairly flippant attitude about survival gear in general. With the right skills, you need surprisingly little equipment to keep breathing. I have firearms, of course, and some ammunition, a few basic necessities, like a good water filter, a good grain grinder, camping gear, backup power, reliable vehicles and spares for everything. But all of this costs less than you would probably believe, and I think I have my bases pretty well covered on equipment.

Food security is the first and foremost problem the human race has always faced. It's the specter that never sleeps for long. Thomas Malthus was right. Populations tend to increase as long as there is plenty of food. Overpopulate in good years, and then starve when the food supply becomes scarce. You can actually correlate death

rates in medieval England directly to grain prices. It's been that way throughout history and it still is today. We are just enjoying incredible surpluses and record-low food prices right now (for the last hundred years or so) because of technology and new lands coming under development. Predictably, the population has swelled logarithmically to take advantage of that abundant food. Starvation has become almost unthinkable in the western world. Unfortunately, those good times will end if our society ends. We will be back where we were a thousand years ago, anxiously watching the harvest to see if our children will live through the coming year.

Food is the one thing you can't improvise. Any interruption in your food supply will kill you and your family, so you need to store a lot. How much is enough? Simply put, I don't think you are likely to be able to store too much. A five-year supply is not excessive because there are always going to be people less fortunate than





you who need it desperately. Food is wealth. Have you ever worried about having too much wealth?

I take food security seriously enough to make it my top priority. I have a tiered approach to storage that works well for me and I think it has advantages that other methods don't. I have long-term storage, medium term storage and short-term storage. And, I eat what I store.

Short and medium term storage items I keep in my home. Long term storage items, like wheat, beans, rice and white sugar are stored elsewhere in hidden permanent caches. My short and medium term goods are largely to see me through short and medium severity events, like a regional disaster or slow-slide economic decline. I don't intent to raid my long-term storage until I am ready to replace it (in about 25 years, if I live that long) or in the event of an extreme emergency. My long-term supplies are insurance, pure and simple, in case there is a major interruption to my family's food supply. I built my caches well and don't spend much time worrying about them. I don't rotate the food in them regularly or need to check on them often. But they will be a life saver when (and if) I ever need them.

Most of the supplies I keep in my home are more perishable. They have to be rotated regularly. If you can grow a garden and keep some livestock (like chickens), I highly recommend that you do so. I shop every week to get fruit, veggies, potatoes, milk, eggs and cheese. I take that weekly opportunity to top off all of my rotating supplies. Anything we use up, I generally replace within a week or two.

In addition, to the perishables, I probably have about 3 month's supply of most of our semi-perishable staples like canned veggies, meat, pasta and sauces. All of these things, along with most medicines and vitamins, have a shelf life measured in months (or a few years in some cases). Wet-canned foods have to be rotated. You can save a lot of money and (surprisingly) trou-

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ble, by home canning. The price of home canned foods are lower, even if you have to pay full price, plus it allows you to buy things in bulk when the prices are low.

In November 09, I started canning meat instead of freezing it and now I tend to buy about a "canner load" (20 lbs.) every couple of weeks and can it for later use instead of freezing it like I used to do (my stocks of canned meats has been going up ever since). This has already proved to be a wise decision. Our freezer recently got unplugged and we only discovered it because of the smell of a few rotting steaks and the few pounds of fish I keep there. I glanced at my stacks of canned beef, chicken, pork and turkey and smiled. I figure my pressure canner paid for itself that day.

I also maintain about 350 pounds of wheat, 100 pounds of white flour, 150 pounds of dried beans, 100 pounds of white sugar, 150 pounds of white rice, 5 gallons of canola oil, 5-7 gallons of dried milk powder, about 30 pounds of dried eggs, 20 pounds of raisins, 25 pounds of salt, and about 25 pounds of dried corn. I also maintain a fairly large stock of sprouting seeds, garden seeds and vitamins in our spare refrigerator. All told, I figure my wife and I could eat pretty well for many months in an emergency without dipping into long term storage. All of this stuff is rotated and eaten regularly.

Any interruption in your food supply will kill you and your family, so you need to store a lot. How much is enough?

Let me say that again. We live mostly on rice, beans and wheat (in many forms). We eat a lot of potatoes, carrots, onions, cabbage and turnips too, but I will cover that later. The other things we buy at the store are mostly adjuncts. While they would be sorely missed, losing fresh eggs, milk and cheese wouldn't cramp our lifestyle much. We cook with dried milk, cheese and eggs already and only use the fresh variants for fried eggs, sandwiches and drinking milk. We prefer the fresh, but use an awful lot of dried food in our day to day lives, just for the convenience.

I marvel at people who store foods they don't eat and really don't like. This is a serious issue because I have doubts that most folks could easily transition to a "basic food" diet in an emergency. The caloric density of basic foods is about half as much as the diets most Americans currently eat. If you are used to living on fast food and plan to transition to a whole wheat and bean diet once the emergency happens, you are deluding yourself. You have to eat a lot of wheat to equal a double cheeseburger and frankly, If you eat mostly prepared or fast foods, (as most US citizens do) You have a finely tuned digestive tract that can't handle bulk foods and lots of fiber.

If you introduce these foods gradually into your normal diet, you will grow to enjoy them. I highly recommend that every survivalist attempt to live off of his stored foods. See if you can learn to like them. The benefits of doing so are tremendous. First, my grocery bill is tiny. Most of the foods we store are the least expensive food you can buy. Second, a largely vegetarian lifestyle is not bad for you. You will feel better if you get most of your calories from grains and beans and eat more veggies and fruit. You will never buy another antacid or laxative and will have more energy. You might even lose some weight.

I am not advocating giving up meat products! I am a confirmed omnivore and eat more than my share of meat. I am only advising you to cut back on them. Too much meat is terrible for you and probably the most expensive food you purchase. It might also be much too expensive after a crisis. Beef in particular is horribly expensive to produce. In most of the world, meat is too expensive to eat more than a few times a month. If you cut down on meats and other fatty foods now, your digestive system will already be adjusted to living on bulkier grains and other carbohydrates. You also

won't get indigestion or gas from eating beans. Cut down now and maybe you will miss these high calorie foods less if they become scarce or expensive. I enjoy meat, and eat some almost daily, but I don't crave it any more.

FAMEAL: Famine Chow is a good way to introduce storage foods into your diet. This is a slang word for WSB or CSB (Wheat-Soy-Blend or Corn-Soy-Blend) used by NGOs (non-government organizations) in their feeding programs. Most Americans have never heard of (much less tried) this stuff. This is the same gruel fed to starving people in Africa and elsewhere. The only word that describes it is "foody". It's delicious. You can eat it as a thin paste or thicken it up and make dumplings or bread out of it. You can add it to soups and casseroles or even make cookies out of it. Best of all, it's healthy and cheap and made of storage foods. The NGOs buy it premade in big dog-food bags so they can just add water. The pre-made mix is extrusion cooked so it's easier to work with under primitive conditions. You are not going to find this stuff at your grocery store but here is how you can make your own:

50% (by volume) Corn meal or wheat meal. (I prefer corn meal to flour, but both work)

30% (by volume) Bean meal. Any kind--even soy. I use lentils because they are easy to grind.

10% (by volume) Oil. Any cooking oil works.

10% (by volume) Sugar or honey or syrup if you prefer.

Add salt to taste. You can also add vitamins by grinding a tablet with the mix.

(With multi-vitamin supplement, this is a fairly well balanced diet).

To cook it (it will be a powder) mix it slowly (it clumps) with boiling water (three cups of water per cup of meal). Turn off the heat and cover it and allow it to cook for 10 minutes. If you add the powder to the water and then try to heat it, it burns to the bottom of the pot, but a microwave oven works great for cooking the wet mixture. Or, use the powder just like flour for baking. It makes an awesome bean bread. It also makes a wonderful cake mix if you add more sugar and other flavorings. You can vary the amounts of everything, including water to suit your own tastes. Try it. You may find that you really like it. It's fairly tasty, filling and satisfying. My kids ate an awful lot of fameal muffins while they were growing up. They freeze well and make a good quick breakfast food if you are in a hurry.

Fresh Vegetables

We eat a lot of potatoes, carrots, squash, corn, green beans, broccoli, cabbages, greens, tomatoes, onions and turnips. They are all difficult for me to store because they require a cellar or refrigeration, so I buy them as needed. Fortunately, they are cheap and abundant now and will remain so unless there is a major economic crash or other terrible disaster. When this happens, I intend to grow my own. I maintain a rotating stock of heirloom garden seeds for this. Potatoes require a little more work since you must start from root-stock and not seeds, so I will have to try to grow them from storebought roots when I need to. If I am unable to grow any of these crops when I need to, I will have to do without. Until I can get a garden going, I will be forced to substitute a lot of sprouts for other fresh veggies, but I don't expect any insurmountable problems.

A word of caution: Growing a garden is not easy. It requires a lot of physical labor and practical knowledge. I have a solid set of gardening skills and years of experience, so I feel okay about just storing seeds. I have grown several gardens using the same techniques I would have available without modern society. If you have never done any gardening in your area, especially using only hand tools, you really should try it. Your learning curve will be steeper than you probably think. Learning is cheap now, but won't be later. Make your mistakes now, not when you need the food. You will have

to grow a large garden to feed your family. Gardening is a critical skill, and so is food preservation!

Just as important, you need to learn which varieties of non-hybrid plants grow well in your area and the only real way to learn this is to grow a garden. Even a small one can teach you volumes. Your soil also needs building; so every season, your productivity will increase. You might find you enjoy it. Once you get good at it, you might be safe just to stock up on seeds, fertilizers and tools like I do, but build the skills first.

Long term storage foods

Your long-term storage is your capital for the future. We are going to need time to get our permanent food production capacity going again. We may need several years. I expect farmers in the USA to have to re-learn a lot of their skills once the machines don't work anymore. Plowing with a horse team (even if you have horses available) requires tack and harness and tools that don't really exist anymore. My father's generation, in rural Tennessee, were among the last folks who grew most of their own food using a horse team (Amish communities and anomalies like them excepted). Since then, the specialized tools needed have been lost to age, antique shops (and cracker barrel furnishings). Before we can go back to a simpler pattern of farming without modern machinery and chemicals, we are going to need to re-invent the tools and breed and train the livestock. This is going to take time. Your storage food is all you have to give you that time.

Storing food long-term is not easy, but right now, it can be very inexpensive. I store almost exclusively wheat, beans, white sugar, salt and rice. I have stopped using plastic buckets for my long-term storage. They are just not sturdy enough to last several decades and they are not rodent proof. I use two-quart mason jars with a spoonful of diatomaceous earth, sealed with an oxygen absorber and the lids dipped in paraffin. This is a little more expensive,

and the jars are breakable, but they are water and rodent proof and I figure the dry food will last basically forever. Jars are about a dollar each, but worth it for me because I store the bulk of my long term foods underground, where there may be moisture or rodents. Enameled cans are cheaper, shock-proof and probably a better choice for most purposes. If you have a secure environment, plastic pails with mylar liners are a good choice.

I have stored quite a lot of basic foods for a single family and done my best to get others to build up their reserves. But the sad truth is, all of my supplies would still last less than a year for my whole extended family.

My meager supply wouldn't feed a whole town more than a few days. You can't feed the world and can't stop the coming die-off with your storage food. But you might be able to save your family and perhaps help a handful of If you are people. reading SurvivalBlog, then you are at least thinking about the problem and that puts you way ahead of the general population. I encourage you to go overboard. Store many times more than you need. Because you may want it. - J.I.R.

Read the entire article at:http:// www.survivalblog.com/2010/05/survival_rations_and_food_secu.html.





http://www.standeyo.com/NEWS/09_Food_Water/09030 4.food-barter.item.html

Thanks to "just in time" inventory practices; America has an average of just three days of food on its shelves. Inventories are kept extremely well managed and "tight" thanks to the amazing efficiency of modern day transportation and manufacturing systems. But what happens when the system breaks down and the food distribution system gets disrupted?

For the answer, you really only need to think of the previous Katrina television coverage of a few years ago... pictures of bare shelves and desperate brawls as folks argued and even fought over the remaining scraps. Now imagine a disruption in the system that lasts not a few months... but one that could affect our food supply for years to come.

Best Barter Bets In A Crisis

Canned foods grown on gardens or private farms. Especially, vegetables and fruits that haven't been sprayed with pesticides.

Canned meats

Canned meats from livestock pastured on small farms. Canned meats and vegetables bought in stores. Beef jerky and other dried foods make fantastic barter items. pasta of all types seem to last a long time and will be high on the list of desired items.

Dog food

Yep. Just do it. Dog foods, both dry and canned provide essential vitamins, minerals and proteins. Costs are very

reasonable. Shelf life is s e v e r a l years and some of the new "che w y" brands are edible. In a real disaster, with "runs" on food at the grocery store, you may be the only one at the dog food section.

There is just three days worth of food on the shelves of the supermarkets in the average city of America.

Dried beans

Beans are a protein powerhouse. You can

never go wrong by having them as a barter item.

Peanut butter

If you can make your own so much the better. In a disaster, peanut butter will leave the shelves so fast it will make your head spin. Learn how to make peanut butter and buy 50 pounds of peanuts, just in case.

Powdered milk

Another staple that has had tremendous barter value. Buy Carnation brand and get plenty. Then go to your local farm or feed store and buy 25 to 50 pounds of "milk replacement" for calves. Not the greatest tasting but extremely nutritional. And

like dog food, no one will be thinking about hoarding this item.

Vitamin supplements

Have plenty of non-synthetic vitamins stored as barter items. Disease spreads like wildfire in panics and famines. Those with healthy immune systems have a much better chance of surviving to help others.

Pressure Is Building! As this report is written, pressure on some supplies is building. If you are at all interested in securing a food supply

for your family, please don't wait. Get your supplies! If you put this report aside, intending to get back to it in a few months, you could get caught by surprise in the meltdown.

BENEFITS FROM PEANUT BUTTER

- Peanut butter decreases cardiovascular disease risk by an estimated 21% compared to the average American diet.
- Peanuts rival fruit as a source of antioxidants. Peanuts' antioxidants are key to their heart-health benefits.
- Peanuts potentially reduce the risk of stroke based on preliminary animal studies.
- Peanuts help to prevent gallstones
- Peanuts protect against Alzheimer's and age-related cognitive decline
- Eating nuts lowers the risk of weight gain

Peanuts still in their shells can be kept in a cool, dry dark place, but keeping them in the refrigerator will extend their shelf life to about nine months.

http://www.whfoods.com/genpage.php?tname=foodspice&dbid=101



Image by iStockphoto

Crop ailure Possible in Solar Cycle 25

n 2008, NASA predicted that solar cycle 24, peaking in about 2012 could be very strong. This cycle is currently showing signs of increased activity. NASA maintained that solar cycle 25, however, peaking around 2022, could be one of the weakest in centuries.

A new climate change is coming that will bring an extended period of deep

cold to the planet.

Astronomers number each 11-year solar cycle, 1, 2, 3 and so on. Solar Cycle 1 was a cycle that peaked in 1760. Each cycle in turn has lasted for approximately 11 years. Cycle 23, peaked in 2001. We are currently in Solar Cycle #24. Hathaway's prediction concerns Cycle 25. "The speed of the conveyor belt predicts solar activity two cycles ahead," he explains. "The belt was moving slowly during Cycle 23; that means Cycle 25 will be weak."

Willie Wei-Hock Soon is an astrophysicist at the Solar and Stellar Physics Division of the Harvard-Smithsonian Center for Astrophysics. Sallie Baliunas, Ph.D., is a Senior Scientist at George C. Marshall Institute and co-host of TechCentralStation.com. Dr. Soon and Baliunas investigated the correlation between solar variation and temperatures of the Earth's atmosphere. Baliunas and Soon assert that increases and decreases in solar output led to historically warmer and cooler periods. When there are more sunspots, the total solar output increases, and when there are fewer sunspots, it decreases. Soon and Baliunas attribute the Medieval warm period to such an increase in solar output, and believe that decreases in solar output led to the Little Ice Age, a period of cooling from which the earth has been recovering since 1890.

Baliunas asserts that if changes in the energy output of the sun are superposed on the reconstructed temperature record, then the two records show a good correlation and that the ups and downs of each record match fairly well. "The coincident changes in the sun's changing energy output and temperature records on earth tend to argue that the sun has driven a major portion of the 20th century temperature change. For example, a strong warming in the late 19th century, continuing in the early 20th century, up to the 1940s, seems to follow the sun's energy output changes fairly well."

The Space and Science Research Center (SSRC), in Orlando, Florida confirmed the web announcement of NASA solar physicists that there were substantial changes occurring on the sun's surface in 2008. The SSRC concluded that these changes will bring about the next climate change to one of a long lasting cold era.

John Casey, Director of the SSRC, has reaffirmed that these changes were the result of a family of cycles that bring about climate shifts from cold climate to warm and back again.

"They will have only one outcome – a new climate change is coming that will bring an extended period of deep cold to the planet. This is not however a unique event for the planet although it is critically important news to this and the next generations. It is but the normal sequence of alternating climate changes that has been going on for thousands of years. Further, according to our research, this series of solar cycles are so predictable that they can be used to roughly forecast the next series of climate changes many decades in advance."

The NASA announcement for weak cycle 25:

• http://science.nasa.gov/headlines/y2006/ 10may_longrange.htm

Warming Up to the Truth: The Real Story About Climate Change, Sallie Baliunas:

• http://www.heritage.org/Research /Lecture/The-Real-Story-About-Climate-Change

Information on the Space and Science Research center is available at: • *http://www.spaceandscience.net/*

COOKIN' WITH HOME STORAGE



By Peggy Layton

Cookin' with Home Storage is a collection of over 500 favorite food storage recipes. It includes authentic pioneer recipes using very basic food storage, dehydrated foods and how to reconstitute and cook them. Also included are home remedies that grandma used, household cleaners and survival tips.

TACDA Member Price: \$10.50

Fighting the Enemies

of Your Food Storage

By Jonathan B. and Kylene Anne Jones TACDA Board of Directors

eady or not, it happens. You are in a crisis and suddenly need the valuable food which you have faithfully stored. Terror strikes as you realize your grain is infested with insects or disease-ridden rodents making it no longer fit for human consumption. Don't let this happen to you. Storing your food properly is critical to ensure safe, nutritious food when you need it most.

Start by understanding the enemies of your food. Air, chemical contamination, insects, light, moisture, rodents, temperature and time can all damage your food. When stored in optimal conditions, some foods will maintain quality and nutrient contents for over 30 years. Improper storage may result in a waste of resources, serious illness or death from food borne illnesses such as botulism. Don't make mistakes when it comes to this critical investment. Knowledge is power.

ENEMIES & COMBAT STRATEGIES

Air: Air contains about 21 percent oxygen which oxidizes many of the compounds found in foods. Oxygen allows for the growth of insects and bacteria. Removing or displacing the oxygen from the packaging helps increase the shelf life of low moisture foods.

Chemical Contamination: Use only food-grade containers to store food. Never store food in any container



which has been used for non-food items. It is not worth the risk. Do not store food next to any volatile chemical compounds as they may be transferred to the food and affect odor, flavor, and safety.

Insects: Buy fresh quality food products to begin with. Weevils, small flour beetles, dermestid beetles, larder beetles, moths, and other pests will infest, destroy, contaminate, and consume food. Insects come in various life stages and require special handling to destroy each stage. Storing food in a container with an oxygen-free environment will destroy insects in all stages.

Light: Irradiation by sunlight produces physical and chemical changes in food. Light speeds deterioration of both food and packaging. Direct sunlight is especially damaging. Foods store best in a dark environment or in containers which keep light out.

Moisture: Low moisture foods have the longest shelf-life. Good candidates for long term storage should have a moisture content of 10 percent or less. A moisture level over 12 percent encourages mold growth and chemical degradation of all grains. High levels of moisture allow bacteria to grow. This results in spoiled grain which is unfit for use. Caution: Botulism poisoning may occur when moist products are stored in reduced oxygen packaging.

Make sure to package food storage in a dry place with low humidity, such as an air conditioned home. Store containers off of the floor, especially concrete. Concrete can wick moisture to storage containers. Moisture can destroy some food packaging (paper degradation or rust). If you are storing foods in a humid area, it may be wise to invest in a dehumidifier.

Rodents: These critters deposit waste products in stored grains. Mice can chew through a Mylar bag or foil pouch very quickly. They can also chew through plastic buckets. Rats have been known to chew through metal garbage cans. If you have a rodent problem, take care of it immediately. Traps and poison bait can be quite effective. Keep them out of the reach of children and pets! Keep your storage area free from spilled grain or food. We suggest storing rodent bait and traps as part of your basic storage. Don't underestimate how effective a good cat can be at keeping the mice population under control.

Temperature: Storage temperature and temperature fluctuation have a significant effect on the shelf-life of stored foods. The USDA states that every 10°F drop in temperature doubles the storage life of seeds. This also applies to food storage. It is possible to double, triple or even quadruple a product's shelf life by storing at lower temperatures. For instance; the shelf life of foods stored at 90°F will be less than half of those stored at 60°F. Temperature makes a huge difference. Optimal storage temperature for shelfstable food storage is between 40° and 60° F. The cooler the storage area, the longer the retention of quality and nutrients. Freezing or sub-zero temperatures do not damage stored grains. However, never allow canned foods (i.e. canned fruits, vegetables, beans, meats, etc.) or glass jars to freeze. Freezing changes food textures, leads to rust, bursting cans, and broken seals that may let in harmful bacteria.

Time: As food ages; color, flavor, aroma, texture and appearance deteriorate and nutritional value diminishes. Some foods may become unsafe to consume after time. White rice, pinto

beans, corn, wheat, rolled oats, pasta, potato flakes, dehydrated apple slices, and sugar are examples of low-moisture foods which can be stored for 30+ years if stored appropriately. However, foods which are high in fats or oil such as; brown rice, shortening, and vegetable oils will go rancid in a much shorter period of time.

The best way to combat this enemy is to regularly rotate your food stores so it never gets old. This may be challenging if we store foods that we do not eat on a regular basis. Consider rotating by donating items to local food banks while they are still good and replacing with a fresh supply. It is best to "eat what you store and store what you eat." This assures you are not adjusting to a new diet while trying to cope with a big crisis at the same time.

BEST RECOMMENDED FOOD STORAGE CONTAINERS

#10 Cans: Cans are perfect for longterm storage of dry (10 percent moisture or less), shelf-stable, and low-oil content foods. Foods do not react with the metal can due to a food grade enamel lining. All foods, except sugar, should be packed with an oxygen absorber to prevent insect infestation and preserve quality of food. These cans provide true oxygen barrier which make them a great choice. Protect cans from moisture to prevent rust. Do not store in direct contact with concrete floors or walls.

Foil Pouches/Mylar Bags: Pouches are made from multi-layer laminated plastic and aluminum. Foods do not react with the aluminum because they are separated by a layer of food-grade They effectively protect plastic. against moisture and insects. These bags allow for a very small amount of oxygen transfer over time. Pouches are not rodent proof. Consider storing pouches in rodent and other pest proof containers. Do not allow to come in contact with concrete floors or walls. Store only foods low in moisture (10 percent or less), shelf-stable, and low in

oil content in foil pouches.

PETE (polyethylene terephthalate) Plastic Bottles - Use only PETE bottles as other bottles may not provide an adequate moisture or oxygen barrier. PETE bottles will have "PETE" or "PET" under the recyclable symbol on the bottom of the bottle. Bottles must have a screw on lid with a plastic or rubber lid seal. Examples may be some two-liter soda bottles, juice bottles, etc. Never use containers which previously stored non-food items. Make sure to clean bottles well and allow to air dry for several days. These bottles will work to store wheat, corn, and beans for long term storage. They may also be used for short term storage. Use one oxygen absorber packet for each bottle, up to one gallon for foods containing 10 percent moisture or less. Protect from light and rodents.

Plastic Buckets: Only food-grade buckets with gaskets in the lid seals should be used. Dry ice (CO2) should be used to prevent insect infestation. Methods such as oxygen absorbers or nitrogen gas flushing are not effective in plastic buckets as they depend on the absence of oxygen to kill insects. Plastic buckets are not an oxygen barrier as there is a slow transmission of oxygen through the polyethylene walls of the container over time. Store buckets at least ? inch off the floor to allow for air circulation. Do not stack over three buckets high. Check periodically to ensure lids have not broken from the weight.

Dry foods (less than 10 percent moisture) which are low in moisture content are good candidates for bucket storage. Some leaching of the plastic into the food may occur. This is not harmful. You may consider lining the bucket with food-grade plastic or a Mylar bag if this is a concern. The five gallon buckets, as well as polyethylene (plastic) bags, do not maintain an oxygen-free environment. Over time oxygen will re-enter the container which may allow larvae to grow to adults and cause an infestation during storage.



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THE AMERICAN CIVIL DEFENSE ASSOCIATION (TACDA) Annual MEMBERSHIP MEETINGE CONFERENCE

FRIDAY, SEPTEMBER 10TH SATURDAY, SEPTEMBER 11TH

Courtyard By Marriott, 10701 South 160 West, Sandy, Utah



A \$5.00 charge for this twoday conference can be paid at the door. Early reservations are appreciated and can be made by calling the TACDA office:

(801) 501-0077

Rooms are available at the **COURTYARD BY MARRIOTT**

Friday, September 10th

6:00 pm	Annual Membership Board Meeting
	(Open to members and public)
7:00 pm	EMP Resolution Issues: Bron Cikotas
8:00 pm	Water, Water Everywhere & Not a Drop to Drink:
-	Jonathan & Kylene Jones

Saturday, September 11th

- 9:00 am Welcome: Sharon Packer (TACDA Executive Director)
- 9:15 am When Commercial Power Fails: Jay Whimpey
- 11:30 am The Nuclear Renaissance: Dr. Gary Sandquist

Lunch Break

- 2:00 pm Middle Eastern & Korean Trouble Spots: Bill Perkins
- 3:00 pm Civil Defense & the Continuing 9-11 Threat: Paul Seyfried & Sharon Packer
- 4:00 pm Shelter Tour