Five Different Shelf Life Studies: Two on Canned Food and Three on Dry Food

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After granting permission, my Entire Food Shelf Life Summary Article was published in the
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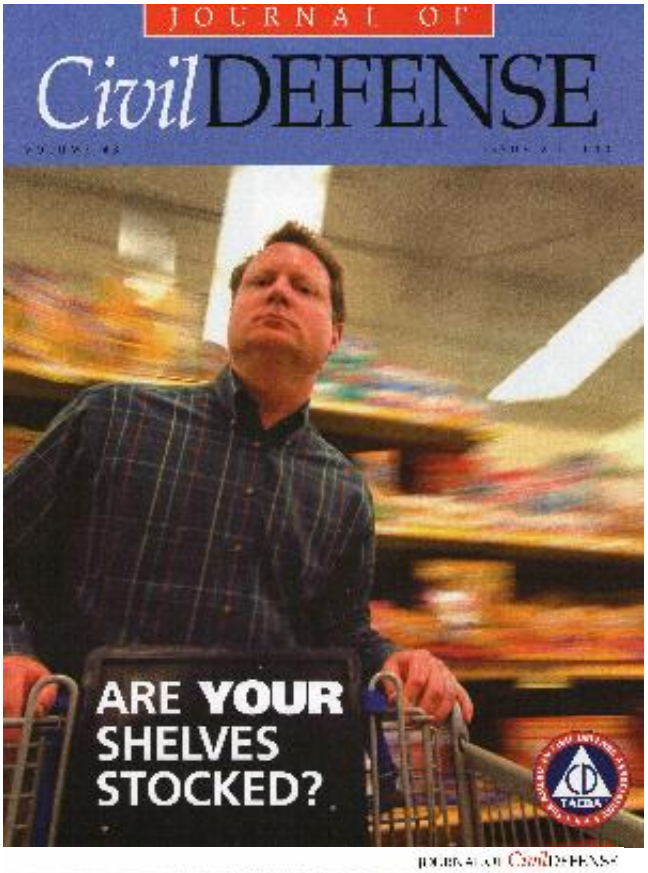
Canned Food Study One

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://web.archive.org/web/20070509153848/http://www.fda.gov/bbs/topics/CONSUMER/CON00043.html



Food **SHELF LIFE** Studies

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: home-cooked 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/content/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 40ſF 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-keeping_food_for_years.htm

Following 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. Three-fourths 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

Revision History:

Revised September 1, 2010 - Added Publication History of my Summary Article at the top of the page.
Revised June 16, 2008 - Added a Third Dry Food Shelf Life Article.
Revised June 12, 2008 - Added a Second Dry Food Shelf Life Article.
Revised December 4, 2007 - Added a New Link to a U.S. Army Canned Food Shelf Life Article.
Revised December 4, 2007 - Added a New Link to a Brigham Young University Dry Food Shelf Life Article.
Fall 2007 - Created this new web page.

Click on **www.grandpappy.info/indexhar.htm** for more Hard Times Survival Tips.

Click on **www.grandpappy.info** for Robert's Home Page.

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