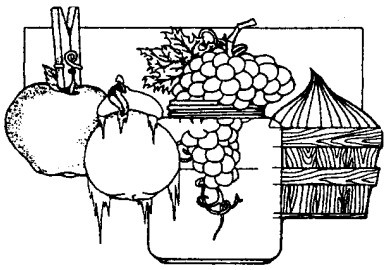
UNIVERSITY OF MISSOURI
Extension

Quality for Keeps



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Information for those who produce and preserve food

Spinach is the goddess of green

Welcome to the first issue of Quality for Keeps for 2010! We look forward to another year of bringing you the latest and safest USDA-based information and to hearing from you. Please note, there is a handy food preservation resource guide on page 3 of this issue!

As a cool weather crop, spinach and other greens grow well in early spring or late fall, with supplies peaking at farmer's markets in May and June.

Spinach is a dark green leaf vegetable with slightly bitter taste that is a rich source of vitamin A, C, and iron. Serve raw spinach in salads, or on sandwiches. Cooked spinach may be used as a side dish, or added to soups, lasagna, or vegetable recipes. Dishes which end in "a la Florentine" have spinach as a key ingredient.

There are three basic varieties of spinach:

- Flat or smooth leaf unwrinkled, spade-leaves (usually used canned and frozen, or in other processed foods)
- Savoy — has crinkly, dark green curly leaves (usually sold fresh)
- Semi-Savoy — has slightly curly leaves (usually sold fresh)

Crinkled-leaved varieties tend to catch soil during rainfalls. Plant a plain leaved variety to avoid a "gritty" spinach when chewed.

Harvest spinach, collards, kale, mustard leaves and leaf stems of greens when they reach suitable size. Either harvest the whole plant or the outer, larger leaves. Greens do not store well, but may be kept in plastic bags in the refrigerator for 2 to 3 days. Freeze any surplus.

Harvest Swiss Chard, a summer green, continuously. Merely break off the outer leaves. Swiss Chard is a beet relative developed for its top.

A spring planting will provide greens from early summer to the first moderate freeze. Store in plastic bags up to 2 weeks in refrigerator.

Selection. Select bunches with crisp, dark leaves. Avoid limp bunches with yellowing leaves or insect damage. Fresh spinach should have a sweet smell, never sour or musty. Stems should be thin. Coarse, thick stems indicate overgrown spinach, which may be leathery and bitter. For loose spinach, look for small fresh green leaves that are not limp, damaged, or spotted. Leaves should be dull green on top and bright green on the underside.

Wash thoroughly under clean, running water to remove any soil or sand particles. Store fresh spinach in a plastic bag in the refrigerator for up to 3 days.

Before freezing, keep in mind the approximate yield of frozen vegetables from fresh:

- **Spinach and kale:** 1 bushel (18 pounds) yields 12 to 18 pints; 1 to 1-1/2 pounds yields 1 pint.
- **Greens (chard, collard and mustard):** 1 bushel (12 pounds) yields 8 to 12 pints; 1 to 1-1/2 pounds yields 1 pint.

Freezing. Although spinach may be canned, spinach like other greens are best frozen.

Beet, chard, collard, kale, mustard, and turnip greens may be frozen using the same directions used for spinach.

Select young, tender green leaves. Wash thoroughly and cut off woody stems. Cut leaves of chard into pieces.

Water blanch collards 3 minutes and all other greens 2 minutes. Blanch tender young leaves 1-1/2 minutes. Cool, drain, package, seal and freeze. *Do not steam blanch greens.*

Inside this issue:

Blanch vegetables first, freeze them fast

Vegetables benefit from a brief treatment in boiling water before freezing. Blanching inactivates enzymes in vegetables and is necessary for top-quality, frozen vegetables.

To blanch vegetables, place them in boiling water, or steam, for a brief period of time. Next, cool the vegetables rapidly in ice water (this prevents further cooking). Blanching also helps to destroy microorganisms on the surface of the vegetables. It makes vegetables like broccoli and spinach more compact, and as a result, they take up less room in the freezer.

Follow the recommended time for blanching each vegetable carefully. Over-blanching results in a cooked product and a loss of flavor, color and nutrients. Under-blanching speeds up enzyme activity and is worse than no blanching at all.

Water blanching. For home freezing, the best way to blanch vegetables is in boiling water. Use a blancher with a basket and cover, or fit a wire basket into a large kettle with a lid. Use one gallon of water per pound of prepared vegetables. Using these proportions, the water should continue to boil when vegetables are lowered into it.

To water blanch, lower vegetables in blanching basket into vigorously boiling water. Place a lid on the blancher. Start counting blanching time as soon as the water returns to a boil. Keep heat high so that water continues to boil throughout the blanching process. See recommended blanching times for specific vegetables at: http://extension.missouri.edu/publications/DisplayPub.aspx?P=GH1503.

Steam blanching. Heating in steam is the recommended method for grated summer squash and sprouts. Steam blanching takes about 1-1/2 times longer than water blanching.

To steam, use a pan with a tight-fitting lid and a basket that holds the food at least three inches above the bottom of the pan. Use 1 to 2 inches of water in the pan, bring to a boil and leave on high throughout the blanching process. Place vegetables in the basket in a single layer so that steam reaches all parts quickly. Cover the pan and start counting time as soon as the lid is on.

Cooling. As soon as blanching is complete, cool vegetables quickly. To cool, plunge the basket of vegetables immediately into a large quantity of cold water. Change water frequently, or use cold running water, or iced water. If ice is used, about one pound of ice for each pound of vegetable is needed. Cool vegetables for the same amount of time as they are blanched. Drain vegetables thoroughly after cooling. Extra moisture can cause a loss of quality when vegetables are frozen.

Freeze Fast for Best Quality. Freeze foods at 0^0 F or lower, as soon as they are packaged and sealed. Set the temperature control at -10^0 F or lower for about 24 hours in advance to help food freeze rapidly.

Do not overload your freezer with unfrozen food. Add only the amount that will freeze within 24 hours, which is usually two to three pounds of food per cubic foot of freezer space. Overloading results in a long, slow freeze and a poor quality product. Place packages in a single layer so that air can circulate freely. When the food is frozen, packages may be restacked.

Store frozen foods at 0^0 F or lower. Use a freezer thermometer for accuracy. Frozen foods do not keep as well at temperatures above 0^0 F. Green beans that will normally keep well at 0^0 F for one year, will start to lose quality in three months at 10^0 F, in three weeks at 20^0 F, and in five days at 30^0 F.

If temperatures fluctuate up and down (during a power failure, for example), food can thaw slightly and refreeze, forming new ice. Each time this happens, smaller ice crystals become larger, reducing the quality of the frozen food.

For highest quality and nutritive value, use home frozen foods within the recommended storage times. In general, frozen vegetables will keep for 8 to 12 months at 0^0 F. For more information, see GH 1503 Quality for Keeps: Freezing Vegetables http://extension.missouri.edu/publications/DisplayPub.aspx?P=gh1503.

Following are blanching times for some vegetables. The times listed are for blanching in boiling water.

QUICK BLANCHING GUIDE

Green Beans, 3 minutes

Broccoli, chopped or stalks, 3 minutes

Beets, small, 25-30 minutes; medium, 45-50 minutes

Brussel Sprouts, small 3 minutes; medium, 4 minutes; large, 5 minutes

Carrots, tiny, whole, 5 minutes; diced or strips, 2 minutes

Cauliflower, 3 minutes

Greens like spinach, 2 minutes

Shelled Peas, 1-1/2 minutes

Snow or Sugar Snap Peas 2-3 minutes

Summer Squash like zucchini, slices or chunks, 3 minutes; grated, 1-2 minutes

Home Food Preservation Information

If you're planning to preserve fruits and vegetables, make sure you're using techniques and recipes that yield safe, high quality products. Check out the following resources for the most up-to-date, research based home food preservation information.

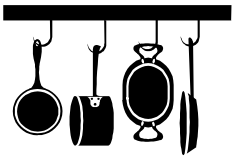
If you have Internet access, you can print MU guide sheets and find other great information that can assist you in preserving foods at home:

http://extension.missouri.edu/publications/ search for "food preservation"	MU Extension publications on all areas of home food preservation
http://missourifamilies.org/ search for "food preservation"	Articles and frequently asked questions about home food preservation
http://nutritionmythbusters.blogspot.com/	Mizzou Nutrition Mythbusters Blog from MU Extension Human Environmental Sciences
http://extension.missouri.edu/franklin/QFK/index.shtml	Quality for Keeps – Food Preservation Regional Newsletter
http://uga.edu/nchfp/ National Center for Home Food Preservation	University of Georgia site. Publications, Q/A source, free online food preservation home-study course
http://www.freshpreserving.com/ Ball Canning website	Search for tested recipes, order supplies and publications (please note that recipes submitted by consumers for this website may not be tested)
http://www.extension.org/search search for topic of interest	eXtension search webpage – searches all landgrant university publications
http://www.usda.gov/wps/portal/usdahome U.S. Department of Agriculture	Food Safety information on a variety of topics
http://agebb.missouri.edu/fmktdir/ search for local farmer's markets	Searchable database of farmer's markets across Missouri
http://foodcircles.missouri.edu/sources.htm	Food Circles Networking Project, identify local producers
Recommended References:	"So Easy to Preserve", 5th edition, Univ of GA. Ball Bluebooks since 1989 USDA Complete Guide to Home Canning, 2009 Recipes from National Center for Home Food Preservation, USDA, Cooperative Extension, land grant Universities

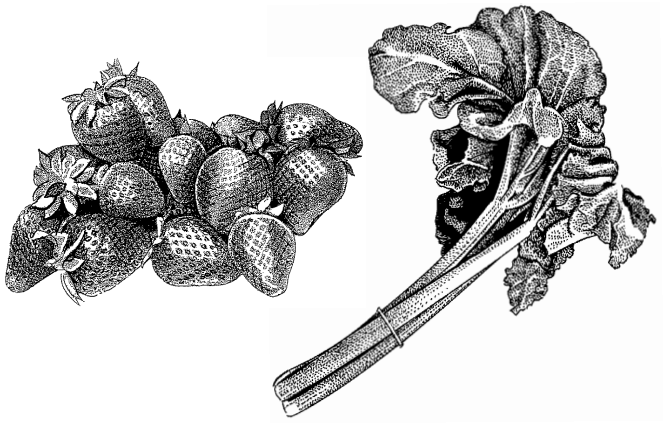
To obtain home food preservation MU Extension guidesheets and/or have your pressure canner dial gauge tested, contact your local county Extension Center.

NOTE: These links are provided for your general information. The links provided are maintained by their respective organizations and they are solely responsible for their content and policies.

THE RECIPE BOX



Strawberry Spinach Salad w/ poppy seed dressing



- 2 cups strawberries, sliced
- 2 lb spinach leaves

Dressing:

- 1/2 cup sugar
- 1/4 tsp Worcestershire sauce
- 1/4 cups cider vinegar
- 1/2 cup olive oil
- 1 tablespoon poppy seeds

Heat the ingredients for the dressing until the sugar dissolves. Add the poppy seeds and cool. Toss dressing over strawberries and spinach. Enjoy!

Source: Seasonal and Simple, A guide for enjoying fresh fruits and vegetables, University of Missouri Extension Guide MP909 new 08/09

Quality for Keeps, published monthly, April through October, is made available to residents of East Central and Southeast Missouri by their Extension Councils. Contact your county Extension office to subscribe or visit our website http://missouri.extension.edu/franklin. Questions may be directed to:

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