

## **Nutrient Loss Due To Freezing, Drying, Cooking, and Reheating**

Nearly every food preparation process reduces the amount of nutrients in food. In particular, processes that expose foods to high levels of heat, light, and/or oxygen cause the greatest nutrient loss. Nutrients can also be "washed out" of foods by fluids that are introduced during a cooking process.

For example, boiling a potato can cause much of the potato's B and C vitamins to migrate to the boiling water. You'll still benefit from those nutrients if you consume the liquid (i.e. if the potato and water are being turned into potato soup), but not if you throw away the liquid. Similar losses also occur when you broil, roast, or fry in oil, and then drain off the drippings.

The table below compares the typical maximum nutrient losses for common food processing methods. This table is included as a general guide only. Actual losses will depend on many different factors, including type of food and cooking time and temperature. For additional data on specific preparation methods, please see the USDA Table of Nutrient Retention Factors (2003). **Source:** <http://www.nutritiondata.com/topics/processing>

Typical Maximum Nutrient Losses (as compared to raw food)	Freeze	Dry	Cook	Cook+Drain	Reheat
Vitamins					
Vitamin A	5%	50%	25%	35%	10%
Retinol Activity Equivalent	5%	50%	25%	35%	10%
Alpha Carotene	5%	50%	25%	35%	10%
Beta Carotene	5%	50%	25%	35%	10%
Beta Cryptoxanthin	5%	50%	25%	35%	10%
Lycopene	5%	50%	25%	35%	10%
Lutein+Zeaxan thin	5%	50%	25%	35%	10%
Vitamin C	30%	80%	50%	75%	50%

Thiamin	5%	30%	55%	70%	40%
Riboflavin	0%	10%	25%	45%	5%
Niacin	0%	10%	40%	55%	5%
Vitamin B6	0%	10%	50%	65%	45%
Folate	5%	50%	70%	75%	30%
Food Folate	5%	50%	70%	75%	30%
Folic Acid	5%	50%	70%	75%	30%
Vitamin B12	0%	0%	45%	50%	45%

Minerals	Freeze	Dry	Cook	Cook+Drain	Reheat
Calcium	5%	0%	20%	25%	0%
Iron	0%	0%	35%	40%	0%
Magnesium	0%	0%	25%	40%	0%
Phosphorus	0%	0%	25%	35%	0%
Potassium	10%	0%	30%	70%	0%
Sodium	0%	0%	25%	55%	0%
Zinc	0%	0%	25%	25%	0%
Copper	10%	0%	40%	45%	0%