

Appendix VI: Declining Mg concentrations in foods over time have resulted in low Mg intakes for many who consume the modern food diet

As a result of Food processing Mg losses plus declines in minerals in some high yield grains and the Mg declines in vegetables, an assumed rich source of nutritional Mg, many people consuming modern foods are not getting their daily Mg requirement from their foods ([See Figure 7](#)).

1. Mg Loss With Food Processing/Refining

The highest Mg loss in common foods is due to decreases during food processing. Refined grains, for example, lose up to 85% of whole grain Mg during processing. Seeds from which we extract oil have all their Mg removed in the process. Refining sugar from beets or cane has the same effect. These and other low Mg food components are used to formulate modern processed foods. The result: a low Mg diet termed the modern processed food diet. (See <http://www.magnesiumeducation.com/whole-vs-refined-food>)

2. Mg Declines in Modern Food Crops

In addition to losses of Mg due to processing and refining, grains of the Green Revolution (begun in the 1960s) show declining mineral contents, among them Mg in whole wheat grain ([See Figures 8a,8b & 9](#)). In addition, analyses of modern and historic British and American food tables have shown that Mg concentration of some vegetables may have declined during the last 50+ years ([See Figure 9](#)).

3. Other Pressures that Lower Mg Intakes

Additional pressures toward inadequate Mg intake with foods is the growing trend of consuming deionized water which has all Mg removed and the possible impact of pesticides, some of which are chelators (Metal binding) of Mg and Ca (Cakmak et al., 2009).

References:

Rosanoff A 2012 Changing crop magnesium concentrations: impact on human health. Plant Soil. ([See full text](#))

Rosanoff A, Weaver C M and Rude R K 2012 Suboptimal magnesium status in the United States: are the health consequences underestimated? Nutr Rev 70, 153-164. ([See full text](#))

Cakmak I, Yazici A, Tutus Y and Ozturk L 2009 Glyphosate reduced seed and leaf concentrations of calcium, manganese, magnesium, and iron in non-glyphosate resistant soybean. Europ. J. Agronomy 31, 114-119. http://stopogm.net/webfm_send/54