



## HORSERADISH

- Date:** February 15, 2008
- Proper name(s):** *Armoracia rusticana* P. Gaertn. et al. (Brassicaceae) (USDA 2007)
- Common name(s):** Horseradish (McGuffin et al. 2000; Felter and Lloyd 1983 [1898])
- Source material(s):** Root (Barnes et al. 2007; Blumenthal et al. 2000; Grieve 1971 [1931]; Wren 1907)
- Route(s) of administration:** Oral
- Dosage form(s):** Those suited to the allowable route(s) of administration. This monograph is not intended to include food-like dosage forms such as bars, chewing gums or beverages.
- Use(s) or Purpose(s):** Statement(s) to the effect of:
- ▶ Traditionally used in Herbal Medicine to aid digestion (Barnes et al. 2007; Blumenthal et al. 2000; Moerman 1998; Meyer 1993; Felter and Lloyd 1983 [1898]; Wren 1907).
  - ▶ Traditionally used in Herbal Medicine as a diuretic (Barnes et al. 2007; Blumenthal et al. 2000; Moerman 1998; Mills 1985; Felter and Lloyd 1983 [1898]; Grieve 1971 [1931]; Wren 1907).
- Dose(s):** Preparations equivalent to 2-20 g root, per day (Blumenthal et al. 2000; Mills 1985; Grieve 1971 [1931]; Wren 1907)
- See Appendix 1 for examples of appropriate dosage preparations, frequencies of use and directions for use, according to cited references. The purpose of Appendix 1 is to provide guidance to industry.

**Duration of use:**

Diuretic: For occasional use only (Berardi et al. 2002; CPA 2002)

Other uses: No statement required.

**Risk information:** Statement(s) to the effect of:

**Caution(s) and warning(s):**

- ▶ Consult a health care practitioner if symptoms persist or worsen.
- ▶ Consult a health care practitioner prior to use if you have excess stomach acid or gastroesophageal reflux or if you are taking antacids (Brinker 2001).
- ▶ Consult a health care practitioner prior to use if you have hypothyroidism or if you are taking thyroid replacement medications (Barnes et al. 2007; Brinker 2001; Mills 1985).
- ▶ Consult a health care practitioner prior to use if you are breastfeeding (Barnes et al. 2007; Blumenthal et al. 2000).

**Contraindication(s):**

- ▶ Do not use if you are pregnant (Brinker 2001).
- ▶ Do not use if you have stomach or intestinal ulcers or stomach inflammation (Brinker 2007; Blumenthal et al. 2000; McGuffin et al. 1997).
- ▶ Do not use if you have a kidney disorder (Brinker 2001; Blumenthal et al. 2000; McGuffin et al. 1997).

**Known adverse reaction(s):** No statement required.

**Non-medicinal ingredients:** Must be chosen from the current NHPD *List of Acceptable Non-medicinal Ingredients* and must meet the limitations outlined in the list.

**Specifications:** Must comply with the minimum specifications outlined in the current NHPD *Compendium of Monographs*.

**References cited:**

Barnes J, Anderson LA, Philipson JD. Herbal Medicines, 3<sup>rd</sup> edition. London (UK): The Pharmaceutical Press; 2007.

Berardi RR, DeSimone EM, Newton GD, Oszko MA, Popovich NG, Rollins CJ, Shimp LA, Tietze KJ, editors. Handbook of Nonprescription Drugs: An Interactive Approach to Self-Care, 13<sup>th</sup> edition. Washington (DC): American Pharmaceutical Association; 2002.

Blumenthal M, Goldberg A, Brinkmann J, editors. Herbal Medicine: Expanded Commission E Monographs. Boston (MA): Integrative Medicine Communications; 2000.

Brinker F. Online Updates and Additions to Herb Contraindications and Drug Interactions, 3<sup>rd</sup> edition. Sandy (OR): Eclectic Medical Publications; 2007. [Accessed 2008-01-15]. Available from: <http://www.eclecticherb.com/emp/updatesHCIDI.html>

Brinker F. Herb Contraindications and Drug Interactions, 3<sup>rd</sup> edition. Sandy (OR): Eclectic Medical Publications; 2001.

CPA 2002: Canadian Pharmacists Association. Patient Self-Care. Helping Patients Make Therapeutic Choices. Ottawa (ON): Canadian Pharmacists Association; 2002.

Felter HW, Lloyd JU. King's American Dispensatory, Volume 1, 18<sup>th</sup> edition. Sandy (OR): Eclectic Medical Publications; 1983 [Reprint of 1898 original].

Grieve M. A Modern Herbal, Volume 1. New York (NY): Dover Publications; 1971 [Reprint of 1931 Harcourt, Brace & Company publication].

McGuffin M, Hobbs C, Upton R, Goldberg A, editors. American Herbal Products Association's Botanical Safety Handbook. Boca Raton (FL): CRC Press; 1997.

McGuffin M, Kartesz JT, Leung AY, Tucker AO, editors. Herbs of Commerce, 2<sup>nd</sup> edition. Silver Spring (MD): American Herbal Products Association; 2000.

Meyer JE. The Herbalist. Glenwood (IL): Meyerbooks; 1993.

Mills S. The Dictionary of Modern Herbalsim. Wellingborough (UK): Thorsons Publishers Ltd; 1985.

Moerman DE. Native American Ethnobotany. Portland (OR): Timber Press; 1998.

USDA 2007: United States Department of Agriculture, Agricultural Research Service, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). *Armoracia rusticana* P. Gaertn. et al. National Germplasm Resources Laboratory, Beltsville (MD). [Accessed 2008-01-07]. Available from: [http://www.ars-grin.gov/cgi-bin/npgs/html/tax\\_search.pl](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl)

Wren RC. Potter's Cyclopedia of Botanical Drugs and Preparations. London (UK): Potter and Clark; 1907.

### References reviewed:

Hoffmann D. Medical Herbalism. Rochester (VT): Healing Arts Press; 2003.

Mills S, Bone K. Principles and Practice of Phytotherapy. Toronto (ON): Churchill Livingstone; 2000.

Williamson EM. Potter's Herbal Cyclopaedia: The Authoritative Reference work on Plants with a Known Medical Use. Saffron Walden (UK): The C.W. Daniel Company Limited; 2003.

Williamson EM, Evans FJ, Wren RC. Potter's New Cyclopaedia of Botanical Drugs and Preparations. Saffron Walden (UK): C.W. Daniel Company Limited; 1988.

**Appendix 1:** Examples of appropriate dosage preparations, frequencies of use and directions for use

Fresh root: 2-4 g, 3 times per day (Mills 1985)

**Direction for use:** Take before meals (Mills 1985).

Fresh or dried root: 20 g, per day (Blumenthal et al. 2000)

Infusion: 2 g root, several times per day (Blumenthal et al. 2000)

**Direction for use:** Pour 150 ml of boiling water over root and infuse for 5 minutes (Blumenthal et al. 2000).

Tincture: 2-4 g dried equivalent, per day (Grieve 1971 [1931]; Wren 1907)

Syrup: 2 g root, per day (Blumenthal et al. 2000)

**Direction for use:** Prepare a concentrated infusion by steeping root in 150 ml of boiled water in a covered cup for two hours. Strain and add an equal amount of sugar (150 g) to liquid (150 ml) to thicken (Blumenthal et al. 2000).