



# **Egyptian Herbal Monograph**

**Volume 3**

**Medicinal Plants used in Egypt**

**Egyptian Drug Authority (EDA)**

**2023**



# Egyptian Herbal Monograph

## Medicinal Plants Used in Egypt

*Vaccinium macrocarpon* Aiton

توت بري أحمر

### 1. Names & Synonyms (1)

*Vaccinium macrocarpon* Aiton

**Family:** Ericaceae

**Syns.:** *Oxycoca macrocarpa* (Aiton) Raf., *Oxycoccus macrocarpos* (Aiton) Pursh, *Oxycoccus palustris* var. *macrocarpos* (Aiton) Pers., *Vaccinium propinquum* Salisb.

**Arabic name:** Toot barry التوت البري - Toot barry ahmar توت بري أحمر.

**English name:** Cranberry, American cranberry, Large American cranberry, Large cranberry (2-4).

### 2. Parts used for medicinal purpose

Fresh or dried ripe fruits (2-4).

### 3. Major chemical constituents

#### - Flavonoids:

**Flavonols:** Myricetin and quercetin glycosides (2, 5).

- **Anthocyanins:** 3-*O*-glucosides, galactosides and arabinosides of both cyanidin and peonidin (2, 5).

- **Proanthocyanidins:** Condensed tannins of epicatechin and epigallocatechin (2, 5).

- **Phenolic acids and esters:** *p*-Coumaric, caffeic, ferulic and chlorogenic acids (5, 6), caffeoyl hexoside and caffeoyl dihexoside (5).

- **Organic acids:** Citric, quinic, malic and benzoic acids (2, 5).

- **Carbohydrates:** Glucose, fructose and oligosaccharides (2, 5).

- **Others:** Ursolic acid, vitamins (C, E and K) (5, 7, 8) and minerals (Potassium and Nitrogen) (3, 5, 7, 9).



#### 4. Medicinal Uses (Indications)

Prevention of recurrent urinary tract infections in adults (especially in women) (2-4, 10, 11).

#### 5. Herbal preparations correlated to medicinal use

Dry extract refined from the juice of cranberry fruit.

Herbal preparation is in pharmaceutical dosage forms. The pharmaceutical form should be described by the pharmacopoeia full standard term.

#### 6. Posology and method of administration correlated to medicinal use

**Female adults and elderly:** 400-500 mg cranberry extract daily in divided doses equivalent to 90 ml cranberry juice (2).

##### Duration of use

The recommended duration of use for indication A is at least 4 weeks. If the symptoms persist for more than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted (10).

**Method of administration:** Oral use.

#### 7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- The use of cranberry for the treatment of diseases of the urinary tract in pediatric populations is ineffective and is not recommended (2).
- Cranberry should not be used by persons with oliguria and anuria (11).

#### 8. Special warnings and precautions for use (2)

- If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- Patients with kidney stones or impaired kidney function should use products containing the fruit only after consulting their health care provider (10).
- The use in children and adolescents under 18 years of age is not recommended.
- People with diabetes should be aware of the high content of sugar in the juice and use sugar-free preparations (13).



- Consult the physician prior to treatment to rule out serious conditions such as pyelonephritis.
- A physician or a pharmacist should be consulted prior to use in patients taking blood thinners (10).

## 9. Interactions with other medicinal products and other forms of interaction (11)

- **Cytochrome P450 2C9 substrates:** Cranberry may inhibit cytochrome P450 2C9 enzymes.
- **Warfarin:** Cranberry, when given with warfarin, may increase the international normalized ratio and increase the risk for bleeding.
- **Lab Test: Urine pH:** Cranberry decreases urine pH.

## 10. Fertility, pregnancy and lactation

- The use of cranberry during pregnancy is not recommended without medical supervision.
- No fertility data available.

## 11. Effects on ability to drive and use machines

No studies on the effect on the ability to drive and use machines have been performed.

## 12. Undesirable effects

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- At high doses (3 L or greater), gastrointestinal discomfort and diarrhea can occur (13).

## 13. Overdose

No case of overdose has been reported.

## 14. Relevant biological activities

Not required as per Egyptian guidelines for registration of herbal medicines.

## 15. Additional Information

-

## 16. Date of last revision

14/9/2022.

## References

1	<a href="https://powo.science.kew.org">https://powo.science.kew.org</a> .
2	WHO monographs on selected medicinal plants (2009). Monographs on selected medicinal plants, 4, 149-166.
3	Barnes, J., Anderson, L. A. and Phillipson, J. D. (2007). Herbal Medicines, 3 <sup>rd</sup> edition. Published by the Pharmaceutical Press. ISBN 978 0 85369 623 0.
4	Edwards, S. E., Rocha, I. D. C., Williamson, E. M. and Heinrich, M. (2015). Phytopharmacy: An Evidence-Based Guide to Herbal Medicinal Products. 1 <sup>st</sup> edition. John Wiley & Sons, Ltd.
5	Nemzer, B. V., Al-Taher, F., Yashin, A., Revelsky, I. and Yashin, Y. (2022). Cranberry: chemical composition, antioxidant activity and impact on human health: Overview. <i>Molecules</i> , 27(5), 1503. <a href="https://doi.org/10.3390/molecules27051503">https://doi.org/10.3390/molecules27051503</a> .
6	Abeywickrama, G., Debnath, S. C., Ambigaipalan, P. and Shahidi F. (2016). Phenolics of selected cranberry genotypes ( <i>Vaccinium macrocarpon</i> Ait) and their antioxidant efficacy. <i>J. Agric. Food Chem.</i> , 64, 9342–9351.
7	United States Department of Agriculture Food Data Central. (2021). Cranberries, Raw. Available online: <a href="https://fdc.nal.usda.gov/falc-app.html#/food-details/171722/nutrients">https://fdc.nal.usda.gov/falc-app.html#/food-details/171722/nutrients</a>
8	Česonienė, L. and Daubaras, R. (2016). Phytochemical composition of the large cranberry ( <i>Vaccinium macrocarpon</i> ) and the small cranberry ( <i>Vaccinium oxycoccos</i> ). In: Nutritional Composition of Fruit Cultivar. Simmonds M. S. J. and Preedy V. R. (Eds.). Academic Press, 173–194. ISBN: 9780124081178.
9	Karlsons, A., Osvalde, A., Čekstere, G. and Pormale J. (2018). Research on the mineral composition of cultivated and wild blueberries and cranberries. <i>Agron. Res.</i> , 16, 454–463.
10	Natural Health Product, cranberry- <i>Vaccinium macrocarpon</i> (2018). Health Canada, <a href="http://webprod.hc-sc.gc.ca/nhp/nd/nrd/nrdprod/monoReq.do?id=71&amp;lang=eng">http://webprod.hc-sc.gc.ca/nhp/nd/nrd/nrdprod/monoReq.do?id=71&amp;lang=eng</a> .
11	Skidmore-Roth, L. Mosby's Handbook of Herbs and Natural Supplements (2010). 4 <sup>th</sup> ed., ISBN: 978-0-323-05741-7.
12	<a href="https://www.rxlist.com/cranberry/supplements.htm">https://www.rxlist.com/cranberry/supplements.htm</a> .
13	Braun, L. and Cohen, M. (2010). Herbs and Natural Supplements – An Evidence Based Guide. 3 <sup>rd</sup> edition, Churchill Livingstone, ISBN: 978 0 7295 3910 4.