

Humulus lupulus

Humulus lupulus (**common hop** or **hop**) is a species of flowering plant in the Cannabaceae family, native to Europe, western Asia and North America. It is a dioecious, perennial, herbaceous climbing plant which sends up new shoots in early spring and dies back to a cold-hardy rhizome in autumn. Strictly speaking it is a **bine** rather than a vine, using its own shoots to act as supports for new growth.

H. lupulus is a main ingredient of many **beers**, and as such is widely cultivated for use by the **brewing industry** (for more information, see the main article on **hops**). The fragrant flower cones impart bitterness and flavor, and also have preservative qualities.^[2] *H. lupulus* contains myrcene, humulene, xanthohumol, myrcenol, linalool, tannins, and resin.

1 Varieties



'Golden' hop

The five varieties of this species (*Humulus lupulus*) are:

- *H. l.* var. *lupulus* – Europe, western Asia
- *H. l.* var. *cordifolius* – eastern Asia
- *H. l.* var. *lupuloides* (syn. *H. americanus*) – eastern North America
- *H. l.* var. *neomexicanus* – western North America
- *H. l.* var. *pubescens* – midwestern North America

Many cultivated varieties are found in the **list of hop varieties**. A pale, ornamental variety, *Humulus lupulus* 'Aureus', is cultivated for garden use. It is also known as

golden hop, and holds the Royal Horticultural Society's Award of Garden Merit (AGM).^[3]

2 Pests and diseases

2.1 Animal pests

- Hop leaf aphid (*Phorodon humuli*)
- Red spider mite (*Tetranychus urticae*)
- Japanese Beetle (*Popillia japonica*)

2.2 Diseases

Main article: List of hop diseases

- Downy mildew (*Pseudoperonospora humuli*)
- Powdery mildew (*Podosphaera macularis*)

3 Popularity

H. lupulus was voted the **county flower** of **Kent** in 2002 following a poll by the wild flora conservation charity Plantlife.^[4]

4 Research

- *H. lupulus* contains the potent phytoestrogen 8-prenylnaringenin, which may have a relative binding affinity to estrogen receptors.^[5]
- *H. lupulus* extract is antimicrobial, an activity which has been exploited in the manufacture of natural deodorant.^[6]
- Spent *H. lupulus* extract has also been shown to have antimicrobial and anti-biofilm activities, raising the possibility this waste product of the brewing industry could be developed for medical applications.^[7]

5 See also

- **Green wall**

6 References

- [1] *The Plant List: A Working List of All Plant Species*, retrieved 2 February 2016
- [2] “Antimicrobial screening of essential oils and extracts of some *Humulus lupulus* L. cultivars.”. *Pharm Weekbl Sci*. 1992 Dec 11;14(6):353-6. Retrieved 2010-12-06.
- [3] “*Humulus lupulus* 'Aureus' AGM”. *RHS Plant Selector*. Royal Horticultural Society. Retrieved 24 March 2012.
- [4] Plantlife website *County Flowers page*
- [5] “Identification of a potent phytoestrogen in hops (*Humulus lupulus* L.) and beer”. *J Clin Endocrinol Metab*. June 1999. Retrieved 20 July 2009.
- [6] “Hops [CO2] Extract”. Toms of Maine. Retrieved 2009-06-06.
- [7] Rozalski M, Micota B, Sadowska B, Stochmal A, Jedrejek D, Wieckowska-Szakiel M, Rozalska B (2013). “Antiadherent and Antibiofilm Activity of *Humulus lupulus* L. Derived Products: New Pharmacological Properties”. *BioMed Research International*. Article ID 101089: 101089. doi:10.1155/2013/101089. PMID 24175280.

7 External links

- Purdue University article
- Botanical.com - a wealth of information on the Hop plant and its past and modern uses
- Armeniapedia.org - Medicinal uses of hops in Armenia
- 2005-10-25 Oregon State University *Anti-cancer Compound in Beer Gaining Interest*
- *Humulus lupulus* at the Encyclopedia of Life

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