

Plants 4 bees – Dandelion

Common Name: Dandelion, also called lions tooth, puffball, blow-ball

Scientific Name: *Taraxacum officinale* Weber



Dandelion with beetle pollinator.

Description: *Taraxacum officinale* Weber is the most familiar species of the 40 to 60 member dandelion genus; a complex and evolving taxonomy that has some scientists identifying over 250 species in the genus. The dandelion can be recognized by its solitary, yellow circular flower (15 to 25 mm across) composed of a compound inflorescence or head made up of 100 to 300 ray flowers. The number of flowers is one reason why bees can spend so long on each blossom.

Deep tap-roots with virtually no stem lead to the leaves which form a rosette, 5 to 35 cm in diameter. The leaves are variable in shape, and generally serrated. One or more stems grow from the center of this rosette. The stem is hollow – 30 to 45 cm in height - and oozes sticky white latex when broken. The flowers are produced on this upright stem.

The tap-root is long, commonly 15 to 45 cm deep but occasionally over 100 cm. This length is also a weakness as it provides an effective means of biological control — tillage that cuts the root 10 cm below the crown will generally kill the plant.

The Latin name means “official remedy for illnesses”. The word dandelion comes from the

French name for the plant, dents de lion. This means teeth of the lion and refers to the jagged edges of the leaf of the plant.

Native Range: A perennial weed, *T. officinale* is an aster of the family Compositae. Although the dandelion is a plant native to Eurasia, it is now common throughout the world, particularly in the temperate regions of the Northern Hemisphere. It has not become well established in most of South America.

In Roman Times it became a standard potherb and medicinal plant and as a result was moved across Europe to France and the British Isles. During the colonial era, settlers took the dandelion around the world. The first recorded appearance in Canada was by the French settlers in the 1700s. It was brought to the new world for use in salads and as a health remedy.

Canadian Distribution: The dandelion is found across Canada from Newfoundland and Labrador to British Columbia and through most of the USA.

Ecology: Dandelions are hardy forbs that grow best in moist areas with full sun. They are found in most regions of Canada in nearly every habitat. The rosette of leaves forms a funnel shape that brings rainfall to the center at the tap-root. This simple tap-root allows the dandelion to adapt to various soil types and moisture regimes. Once established they can survive dry conditions.

Multiple blossoms one single plant.

Dandelion leaves are edible. They are used in salads and provide good quality grazing for animals. Their presence in forage does not significantly reduce the nutritive value of the crop. The dandelion is related to chicory, which is why the root is often used as a coffee substitute.

Flowering begins in early spring. Often it is one of the first blooms, but limited flowering can continue throughout the growing season with a limited 'second' bloom at the end of summer. Dandelion seeds are an important food to many small birds.



Methods of Reproduction and Spread: *T. officinale* can reproduce asexually by new shoots from the root crowns or sexually by seeds (3 to 4 mm). The seed head comprises a ball-shaped cluster of about 200 small, long - white, tufted, one seeded fruit. The seeds or achenes are attached to small parachute-like hairs that allow the seed to be spread by the wind.

Honey/Pollen Potential: The dandelion produces abundant pollen and nectar. Colonies rarely produce a surplus of dandelion honey because it is used in the early spring build up. The sugar concentration of the nectar is about average, less than most of the clovers but greater than the goldenrods at about 20% to 50%. Pollen production is high, up to 1.2 mg/ flower/ day, with a high protein content. The blossom can be so attractive to honey bees that it may cause problems for pollinators in orchards where fruit trees and dandelions often bloom simultaneously.

Although every homeowner's nightmare is endless fields of dandelions, such expanses are rare. When concentrations of blossom are available, honey production can range from 100 to 200 kg/ ha. Yields per colony can range from 9 to 95 kg per season. In Europe, a surplus of dandelion honey is expected only once in ten years.

Dandelion honey is light coloured, yellowish orange, and can have a peculiar taste, very sweet but also with the slight aromatic scent of the dandelion

flower. It has a high glucose level, thus there is a reported tendency for unisource dandelion honey to granulate easily, although this is generally not a problem as the honey is usually a spring mixture. Crystallization of honey is related the glucose/fructose ratio and having a high glucose level would increase the tendency to granulate. Spring honey, often comprised of dandelion and various trees sources (e.g. apple, chokecherry, maple, etc.), when produced in surplus is considered a specialty honey for its light colour and mild flavour.

Although honey allergies are rare, in Europe, it has been found that 3/4 of people with such allergies are sensitive to what is identified as dandelion honey. The cause is generally believed to be the dandelion pollen.

Other Uses: Dandelions are sensitive little weather instruments that respond to precipitation, sunshine, temperature and humidity as they grow. All of these factors affect when a dandelion will produce its first bud and when it will blossom into a flower. If a winter has been long and cold, and the spring has been cloudy then the flower will bloom later. If the spring is early, sunny, warm, and with enough rain then the dandelion will bloom earlier. The wide distribution, early bloom, and sensitivity to weather has made the dandelion a selected indicator that Environment Canada has used with school children across Canada to monitor climate change. More information can be found at the DandelionWatch web site: http://www.naturewatch.ca/english/plantwatch/dandelion/why_watch.html.

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References:

Helbling, A., C. Peter, E. Berchtold, S. Bogdanov, and U. Muller. 1992. Allergy to honey: relation to pollen and honey bee allergy. *Allergy* 47(1):41-49.

Lovell, J.H. 1926. *Honey plants of North America*. A.I. Root Company. Medina, USA. 408pp.

Morse, R. 2000. Making Cremed Honey. *Beeculture* 128(6):43-45.

Ramsay, J. 1987. *Plants for beekeeping in Canada and the northern USA*. IBRA, Cardiff, UK. 198pp.

White, J.W. Jr. and L.W. Doner. 1980. *Beekeeping in the United States: Honey composition and properties*. USDA Agricultural Handbook No. 335. [Chapter available on the internet at: <http://maarec.cas.psu.edu/index.html>]