



Lily bulbs (Bai He), A super food and A herbal remedy

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Abstract

Traditional Chinese medicine (TCM) which is an essential part of the health care system in most Asian countries, relies on natural products and has been playing a very important role in health protection and disease control for many years. Chinese medicine classifies the lily plant as bitter in taste, mild in nature, and beneficial to our hearts and lungs. The flowers are dried and used in cooking stews or soups. The healing properties of lily include moisturizing the lungs, relieving cough from lung-dryness, clears heart-fire and tranquilizes the mind. Dried lily bulbs are commonly used in herbal formulas for promoting lung health, treating yin-deficiency of the heart which manifests as irritability, insomnia, dreaminess, palpitation and absent-mindedness, and promotes vital fluid and improves skin complexion. Lily bulbs have numerous important pharmacological activities and it can be considered as a valuable source of nutraceuticals.

Keywords: lily bulb, dry Lili, functional food, traditional chinese medicine

Introduction

Traditional Chinese medicine (TCM) has played a positive role in the management of so many diseases (Ogbaji *et al.*, 2018; Shahrajabian *et al.*, 2018; Shahrajabian *et al.*, 2019a,b,c; Sun *et al.*, 2019). TCM is an empirical healthcare system based on human experience dating back several thousand years ago and stands out as the only one with long history among the world's traditional medical system (Ogbaji *et al.*, 2013; Soleymani and Shahrajabian, 2018; Shahrajabian *et al.*, 2019e,f,g,h) [6, 7, 8, 9, 10]. The most important parameter is providing healthy diets for the decades to come in a world with rapid population growth (Soleymani and Shahrajabian, 2012; Shahrajabian *et al.*, 2019i,j,k; Shahrajabian *et al.*, 2020, Sun *et al.*, 2020). The goal of this short paper is review on the most important pharmaceutical properties of lily bulb in both traditional Chinese medicine and modern industry.

Dry Lili Bulb

Origin, health benefits and constitution of Lili bulb

Lilies are attractive economic flowering plants grown in pots or as cut flowers (Pobudikiewicz *et al.*, 2006; Younis *et al.*, 2014). Lily flower has long been used by many cultures as a symbol of tranquility, peace and prosperity. The Roman Catholic Church used lily flowers to symbolize the Virgin Mary and to represent its own state of independence and prosperity. The Chinese culture uses lily bulb to make desserts for festivities and weddings to symbolize good luck and longevity of marriages. *Lilium* is recognized as a valuable cut flower and many breeding companies are working on the development of new cultivars of the species belonging to different sections of genus (Lucidos *et al.*, 2017). Lilies grow best in well-drained soil. Add organic matter to heavy clay or sandy soils before planting. Dry lily buds (huang hua) also known as golden needles and tiger lilies. Dried

lily buds are among the most notable of edible flowers in Chinese cuisine. The lily or *Hemerocallis* to refer to it by its scientific name, has been used in China as both a food and medicinal plant for more than 2000 years. Dried lily buds are typically yellow-gold in color and are generally two or three inches long. They are also known to have a delicate flower, often described as musky, earthy and sometimes even sweet or slightly tart. Dried lily buds are used for their unique aroma which is fruity and flowery. Dried Lily flowers are used in Chinese cooking as a flavor enhancer, primarily in vegetarian dishes, but also in various stews and soups.

They are also very important ingredient in Buddha's Delight (Jai cuisine), moo shu vegetables and Beijing style noodle sauce. The best quality lily buds are produced in the Qu country in the Southwestern Sichuan province which contain 7 stigma and filaments and are always covered by 6-8 petals. In Chinese traditional medicine, lily buds aid the brain functions and help blood clots, and also help to cool your blood and aid urination. Lily-Bulb has three primary sets of active components: alkaloids (steroidal alkaloids, such as etioline as well as small pyrrolines like jatrophine, also called lilidine); steroidal saponins; and phenols (mainly flavonoids). The combination of steroidal alkaloids and steroidal saponins are likely responsible for the treatment of various nervous system disorders. Lilies are good source of starch and protein. Lily bulbs are said to have calcium, iron, phosphorus, folate, potassium and vitamins B1, B2 and C. According to the principles of traditional Chinese medicine, lily bulbs have sweet and slightly cold properties, and are associated with the Lung and Heart meridians. Lily bulbs are used to relieve coughs, dry throats and other respiratory conditions, to clear away heat, and to treat insomnia and heart palpitations. Its tonic properties make it a good herb for promoting restful sleep and

treating restlessness and irritability. Lily bulb is often combined with other herbs, such as scrophularia, rehmannia root and anemarrhena. The health benefits of lily bulb are 1) lily bulb provides protein and starch. Additionally, they contain small amounts of calcium, iron, phosphorus and vitamins B1, B2 and C, 2) In traditional Chinese medicine, lily bulb is considered sweet and cooling in properties. The herb is also associated to the lung and heart meridians and help to relieve coughs, dry throats, clear heat, and moisten the lung. Dried lily bulb is also used as an herb to calm the spirit, promote restful sleep and lessen irritability, 3) Fresh and dried lily bulb can be used in both sweet dessert soups and savory soups in Chinese cooking. Side effects of lily bulbs are 1) as with all herbs, use in moderation and consult with a physician first, 2) according to traditional Chinese herbology, those with wind-cold or diarrhea should avoid using lily bulb. Common TCM formulas in which lily bulbs are used, 1) for lung and kidney Yin deficiency associated with chronic

bronchitis, asthma or chronic pharyngitis combine lily bulbs with prepared rehmannia (Shu Di huang), unprepared rehmannia (Di Huang), dwarf lilyturf roots (Mai Dong), white peony roots (Bai Shao), dong quai (Dang Gui), ningpo figwort roots (Xuan Shen), platycodon roots (Jie Geng), fritillary bulbs (Chuan Bei Mu), and licorice (Gan Cao), 2) for irritability, restlessness, nervous anxiety and insomnia combine lily bulbs with lotus seeds (Lian Zi), glehnia roots (Bei Sha Shen), jujube seeds (Suan Zao Ren), biota seeds (Bo Zi Ren), and poria-cocos mushrooms (Fu Ling), 3) for lung abscesses combine lily bulbs with snow ear mushrooms (Bai Mu Er) and glehnia roots (Bei Sha Shen), 4) for Yin deficiency with dry cough and bloody sputum combine lily bulbs with coltsfoot flowers (Kuan Dong Hua), 5) for mild cases of insomnia and anxiety combine lily bulbs with longans (Long Yan Rou). The most important health benefits of lily bulb is shown in Table 1.

Table 1: The most important health benefits of lily bulb.

1-	Improving sleep quality
2-	Treating low-grade fever
3-	Alleviating symptoms of irritable bowel syndrome
4-	Stopping heart palpitations
5-	Preventing and stopping diarrhea
6-	Improving concentration and focus

Conclusion

Lili flower has long been used by many cultures as a symbol of tranquility, peace and prosperity. In Chinese traditional medicine, lily buds aid the brain functions and help blood clots, and also help to cool your blood and aid urination. Lily-Bulb has three primary sets of active components: alkaloids (steroidal alkaloids, such as etioline as well as small pyrrolines like jatrophine, also called liliidine); steroidal saponins; and phenols (mainly flavonoids). The combination of steroidal alkaloids and steroidal saponins are likely responsible for the treatment of various nervous system disorders. Lilies are good source of starch and protein. Lili bulbs are said to have calcium, iron, phosphorus, folate, potassium and vitamins B1, B2 and C. According to the principles of traditional Chinese medicine, lily bulbs have sweet and slightly cold properties, and are associated with the Lung and Heart meridians. Lily bulbs are used to relieve coughs, dry throats and other respiratory conditions, to clear away heat, and to treat insomnia and heart palpitations. Its tonic properties make it a good herb for promoting restful sleep and treating restlessness and irritability. Lily bulb is often combined with other herbs, such as scrophularia, rehmannia root and anemarrhena. The health benefits of lily bulb are 1) lily bulb provides protein and starch. Additionally, they contain small amounts of calcium, iron, phosphorus and vitamins B1, B2 and C, 2) In traditional Chinese medicine, lily bulb is considered sweet and cooling in properties. The herb is also associated to the lung and heart meridians and help to relieve coughs, dry throats, clear heat, and moisten the lung. Tremella use dates back as far as 200 A.D. when it was including in one of the earliest TCM classics- the material by Shen Nong ben Cao Jing, the father of Chinese medicine

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