

# False Unicorn or Fairy Wand (*Chamaelirium luteum*)

## Introduction

### Botanical Information

False unicorn or fairy wand [*Chamaelirium luteum* (L.) A. Gray], member of the Liliaceae family, is native to North America with a natural range stretching from Florida north to New York and west to the Mississippi River. Most of the significant wild populations of this plant exist in the southern portion of its range. An herbaceous perennial, its leaves form a basal rosette with an emerging flower stalk that bears either a male or female flower spike about two feet tall. Flowering occurs from May to June. False unicorn likes to grow in moist, acidic soil located in partially to fully shaded areas in meadows, thickets, and rich woods. Harvesting of the roots usually occurs in autumn, after flowering is complete, and when plants are about four to eight years old.

False unicorn is known by many common names, including: fairy wand, star grub root, devil's bit, false unicorn, and blazing star.

### Bioactive Components

The main bioactive components of false unicorn are a mixture of steroidal saponins, including chamaelirin and aglycone diosgenin. The effects of these bioactives include acting as an emmenagogue, diuretic, and emetic.

### Uses and Treatments

False unicorn is widely used by North American Indians as a woman's herb. Traditionally, it was used to prevent miscarriage, treat menstrual problems, and to improve fertility. In Western herbal medicine, it has been used to treat pregnancy problems and ovarian cysts and used as an anti-inflammatory and diuretic.

## Cultivation Practices

### Site Selection

False unicorn grows in rich open woods or under the shade of hardwood trees or a mix of hardwoods and conifers. It prefers a moist, acidic soil, which drains well. Richo Cech (2002) recommends a soil pH ranging from 4.5 to 6, with a high humic content. If planting in a natural woods setting, he suggests locating the planting beds in a conifer or mixed hardwood-derived loam, a sandy loam (like in the North Carolina piedmont region), or bottom land, where leaf mulch does not accumulate. Look for a site where other woodland plants grow such as Solomon's seal, lady's



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slipper orchid, hepatica, or perhaps a native stand of false unicorn.

If an open field is used for production, shade structures should be erected. Typically, a wood lath or polypropylene shade structure is used. For artificial shade, make the structure seven feet tall or higher with two ends open to the prevailing breeze.

### **Planting**

Propagation is typically done through seed or root division, though large quantities of seed are not readily available commercially. False unicorn can be propagated by dividing the rhizomes in early spring or in fall. Plants can be started from seed, but the rhizome divisions may allow for a faster harvestable plant.

The surface of the rhizome is covered with small eyes that have the ability to produce growth buds and roots. Cech recommends cutting rhizomes into sections as narrow as one-quarter inch, leaving the disk-shaped pieces to callus overnight. Plant in pots, keeping soil moist and pots shaded until the new plants emerge. In a well-prepared three-foot wide bed with high organic matter, transplant young plants six to ten inches apart by staggering the plantings. Top dress beds with a light covering of mulch. Cech recommends pine needles, bark mulch, or rotted conifer-derived sawdust. Add mulch as needed throughout the growing season. Plants should be ready to harvest four to six years after planting.

Germinating false unicorn seed is difficult for some and easy for others. The seed does need to go through a period of cold then warm stratification (Baskin et al. 2001). Baskin et al. also found that germination of false unicorn seed was much higher when seeds were exposed to light. Cech recommends seeding flats with a high organic soil mix comprised of two parts peat moss, one part decomposed pine needles, one part perlite, and one-half part sand. In late fall or early winter, gently

sow the newly harvested dried seed approximately one-eighth of an inch deep in flats or in prepared outdoor, shaded seedbeds. When the seedlings emerge in spring or early summer, Cech suggests leaving the young seedlings undisturbed for at least one growing season before transplanting out into permanent beds.

### **Pest Control**

Weed control is very critical the first few years. This is usually accomplished with mulching and hand-weeding. Currently, there are no herbicides approved for use on this plant.

Snails and slugs can be pests to this species under moist conditions. If they are problem, several control methods can be tried including; beer traps, diatomaceous earth and copper strips. Straw mulch can aggravate the problem if slugs and snails are present. Deer have been observed feeding on the flower stalks. Standard deer control methods can be tried, including fencing or providing an alternate food source.

### **Harvesting, Cleaning, and Drying**

False unicorn is usually harvested in the fall. This allows for the seed to be collected before digging the roots. Since rhizome pieces are small and generally measure less than three inches in length, digging is easiest with a spading fork or smaller digging tool.

Shake the roots free of dirt and carefully remove roots making sure they are false unicorn. It is not acceptable to include foreign roots. Protect from the sun and heat; do not allow the roots to dry out.





Since fresh roots are susceptible to mold, keep unwashed roots stored in sphagnum moss until ready to process. Check often to ensure the roots are moist but not wet, and stir the roots to allow for aeration. When ready for processing, it is recommended to wash false unicorn roots with a pressure hose or root washer. Take great care to not damage the roots as they are cleaned and to remove all particles of dirt.

Once the roots are cleaned, dry the roots in a warm place with adequate airflow. False unicorn roots are quite small and should be dried whole. If a drying unit is not available, a dehydrator, converted greenhouse, or converted rooms in a barn are areas that can be used for drying. According to Cech, "Dry for one day with low temperature (70<sup>0</sup>F) and high air flow. Then, turn up the temperature to 100<sup>0</sup>F until roots are dried thoroughly." Once the roots are completely dry, put in cardboard boxes, cloth bags, or polypropylene sacks. Store in a cool, dark, and dry location. Stored like this, false unicorn should keep for two to three years.



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## Marketing and Economics

### Annual Consumption and Dollar Value

Approximately 6,200 pounds of false unicorn were consumed in 2003. Consumption waned to just under 5,000 pounds in 2004, and went up again to 6,000 pounds in 2005. About 80% of the harvest came from wild harvested sources. The dollar value over these three years was about \$218,300 in 2003, \$243,600 in 2004, and

\$239,000 in 2005. These figures are significantly lower than those reported in the late 1990s and early 2000, where consumption reached 13,500 pounds and was valued at about \$700,000.

### Supply and Demand

Demand for false unicorn continues to increase at a slow, but steady rate. Supply of this material is harvested from stagnant to declining wild populations with about 20% of the supply coming from cultivated sources. The heavy harvests in the late 1990s and early 2000s have put strain on the wild populations, particularly in the southeastern United States.

A wild harvester can easily collect entire populations in a short period of time. Large harvest volumes can only be consistently achieved with the incorporation of cultivated material into the supply channel.

In recent years, there has also been a rising demand for false unicorn plant starts as dormant roots or small plants in flats, for those growers who are attempting to cultivate this plant.

### Pricing

From 1995 to 1999, collectors sold false unicorn to dealers for about \$25 to \$35 per dried pound. In 2001, prices ranged from \$40 to \$50 per pound of dried root and in 2003, reached \$45-\$65 per pound. At the time of this writing, prices paid to growers and wild harvesters had fallen back to the \$30 to \$50 range after reaching a high of \$85 per pound in 2007.

At the time of this writing, false unicorn retailed for an average of around \$200 per pound for \$13 per ounce of dried root. Wholesale price ranges from \$95 to \$140. Seeds sold for over \$200 per ounce.



## **Distribution Channels**

Buyers of false unicorn are widely dispersed throughout North America and Europe, but suppliers are highly concentrated. Current supplies are wild-harvested on a very small-scale throughout its natural range, particularly in the southeastern United States. Experienced brokers and professionals move the material through the supply chain. The market, in terms of pounds, is small relative to other botanicals.

## **Commercial Visibility**

This material does not have a great deal of visibility beyond a small core of botanical users and herbalists, but its visibility is growing stronger. There are only a few companies selling dried false unicorn root. Of the top manufacturers and distributors of nutraceuticals/botanicals in North America and Europe, 8% offer this material as a stand-alone product, and 11% offer this material as either a stand-alone product or as part of a multi-constituent supplement.



Source: Wise Woman Herbs

## **Conclusion**

Demand for false unicorn continues to increase at a slow but steady rate. Supply is harvested exclusively from native sites, putting strains on wild populations, particularly in the southeastern United States. An increasing number of buyers, who fear the exploitation of natural populations, are stipulating that the false unicorn they purchase be supplied through cultivation or by sustainable wild-harvest techniques. Growing support among conservation groups are considering petitioning CITES (Convention for International Trade on Endangered Species of Wild Fauna and Flora) to include false unicorn in Appendix II which would put restrictions on international trade.

## **Resources**

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