

Digitalis dubia - New Crop Summary & Recommendations

By Marshall Thomas

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## Investigating the Market Potential of *Digitalis dubia*

Marshall Thomas

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The new crop assigned to me was *Digitalis dubia*, more commonly known as the Spanish Foxglove.

*Digitalis dubia* is a perennial Foxglove in the Plantaginaceae family. Like many other plants, the genus *Digitalis* was one of many groups of plants moved into Plantaginaceae based upon recent genetic discoveries. The genus name can be translated into 'finger-like' and describes the ease with which you can put the tip of your finger into the opening flower. The Spanish Foxglove is native to the Balearic Islands off the eastern coast of Spain in the Mediterranean Sea. It is a naturally dwarfed Foxglove and grows to be about 12" tall under optimal conditions. The sugar-pink tubular flowers are borne on a spike that can be nearly the full 12" height of the plants. It flowers in the late spring or early summer and can be dead-headed to get re-blooming until the fall. The leaves are basal and linear-lanceolate with a gray pubescence that is very soft to the touch. *Digitalis dubia* prefers light shade but can handle full sun. Its native environment is the dry, rocky borders of the mountains on the islands. Many parts of the plant are poisonous for human and other animal consumption, capable of causing cardiac arrest.

The first year of the Spanish Foxglove's life is devoted entirely to root and shoot growth. Flowers will not be produced until a cold period has been induced after sufficient plant growth. 84% of the uncovered seeds germinated successfully while only 26% of the seeds covered with vermiculite germinated. With only ~12 weeks to grow the plants my main goal was to attempt to get the plants to begin flowering before the end of the semester. My plants were vernalized for two weeks starting in week 15 in hopes that there would be enough growth to hopefully start to flower by the end of the semester. The vernalized plants are about half the size of the plants left out and I do not believe that they were mature enough for the cold period to induce flowering. I'm hoping to find a way to give the remaining plants a cold treatment later this summer to bring some foxglove-pots to life.

The largest limiting factor the Spanish Foxglove is facing is its low cold tolerance. It has only been documented down to 10 degrees F, which will prevent it from naturalizing in most of the continental U.S. It is also weighed down in its landscape use by being laden with toxic chemicals that are powerful enough to kill a grown man or horse. Digitalis plants have been called “Dead Man’s Bells” and “Witch’s Glove” because of their poisonous qualities. Market production of the plant is also limited at this time because of its perennial growth habit and how long it takes to reach a flowering stage.

A beautiful perennial plant like the Spanish Foxglove has nearly unlimited potential in the flowerbed industry, particularly because of its ability to flower throughout the summer. It is also a perfect choice as a container-grown Foxglove. *Digitalis dubia*, being extremely drought tolerant, is a poster plant for xeriscaping. The plants in the genus *Digitalis* produce various chemicals like ‘digoxin’ that is extracted for use in heart medicines.

## References

Perez-Garcia, F. "Germination of fourteen endemic species from the Iberian Peninsula, Canary and Balearic Islands." *Seed Science and Technology*, 2008.

Regnart, HC. "Studies of hybrids in the genus *Digitalis*." *Genetica*, 1935.