



If You Can Grow Potatoes, You Can Grow Habenarias

by Sue Bottom, sbottom15@hotmail.com



Habenaria crinifera



Habenaria Regnieri



Habenaria medusae

Habenarias have a lot of things in common with potatoes, although their flowers are a lot more attractive. They both go through five distinct stages in the course of their annual development. Once you understand their life cycle, you get many insights into their cultural needs. Here's a side by side comparison of the life stages of growing potatoes and habenarias, and how best to grow them during each stage.

	Potatoes	Habenarias
<p>Stage 1 Sprout Development</p> <p>New sprouts emerge from growth buds on the previous season's mature tubers</p>	<p>When new sprouts emerge from a planted seed potato, the sprouts grow upward and eventually push above the surface of the soil. At the same time, new roots begin to grow from the potato's eye at the base of the sprout.</p>	<p>Habenarias have only one growing tip from which a growth will start. Once you notice the growing tip greens up, it is time to pot the tuberoid. Once potted, a quick sprinkle of water around the edge of the pot is all that is needed.</p>
<p>Stage 2 Vegetative Growth</p> <p>The plant develops its above ground structure, including stems, branches and leaves.</p>	<p>The plant's root system develops at this time, and the horizontal root shoots, called stolons, from which new tubers will grow begin to develop.</p> <p>During the initial part of this vegetative growth stage, the plant gets nourishment from starch and sugars stored in the seed potato. Then, as leaves develop, the process of photosynthesis begins and the plant becomes capable of nourishing itself in preparation for new tuber growth.</p>	<p>As the first rosette begins to form from the growing tip, the plant has no roots. Plant growth is fueled by converting the starch in the tuberoid into sugar. As the roots emerge from the base of the sprout and grow into the media, you can begin to water carefully, keeping water from entering the rosettes. As the leaves develop, the plant generates sugars from photosynthesis, so increase watering frequency to match growth rate. Keep them evenly moist.</p>



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<p>Stage 3 Tuber Initiation</p> <p>Tubers being to form and the plant flowers</p>	<p>The tips of the stolons begin to swell, the first step in the development of new tubers, but the tubers do not yet grow substantially in size. This stage usually happens just before the plant flowers, but there is no direct connection between flowering and the beginning of tuber development.</p>	<p>Keep watering and feeding your habenarias as they reach their full height. Keep them evenly moist. Flowers are going to reward you soon!</p>
<p>Stage 4 Tuber Bulking</p> <p>Most of its energy is directed toward the growth of new tubers</p>	<p>Water, sugars and nutrients begin to build up in the cells of the tubers. The cells swell, and the tubers increase dramatically in size.</p>	<p>This is the time when next year's tuberoids are developing, the future of your plant. After the blooms fade, slowly reduce watering frequency. Let the plant dry slightly between waterings.</p>
<p>Stage 5 Maturation</p> <p>Plant's growth slows and eventually ceases entirely</p>	<p>Photosynthesis in the leaves slows down, and the tubers stop growing. Above ground, the plant turns yellow and starts to drop its leaves, and below ground, the skins of the tubers thicken in preparation for their dormant period. At the end of this stage, the plant dies.</p> <p>During the maturation stage, sugars in the tubers are converted to starch, an efficient source of food for next year's plants.</p>	<p>When the leaves yellow, it is time to stop watering and let the plant dry out. The plant turns brown and dies, while the tuberoids are hardening off for their dormancy. Leave the brown vegetation in place. After several weeks, when a gentle tug separates the dried vegetation from the tuberoid, it is time to unpot the tuberoids and store them for the winter.</p>

Source: Information about potatoes extracted from Life Cycle of a Potato Plant, Evan Gillespie, Updated July 19, 2021, <https://www.ehow.com/13763954/best-indoor-gardening-kits>.

Something About Orchids, Sarah Hurdel's Facebook page (<https://www.facebook.com/askmeaboutmyplants/>) and Rustyexotics Orchid Nursery, Nicholas Rust's Facebook page (<https://www.facebook.com/rusty.orchids>) are great resources with many useful tips and photos for growing habenarias.

Growing and flowering habenarias is pretty straightforward, keep them moist and in brightish light while in active growth. Where it can get a little tricky is what to do with them as they are breaking dormancy at the beginning of the growth cycle and entering dormancy at the end of their annual life.



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The new growth consumes the starches stored in the tuberoid. Once the leaves develop, the plant can start producing its own energy from photosynthesis.



The new roots emerge from the growing tip at the base of the new growth. No point in watering until the roots can absorb the moisture.

Breaking Dormancy. If you store your tuberoids in clear plastic bags, you can check them weekly for signs that the tuberoid is breaking dormancy. You will see the beginnings of green growth at the growing tip of the tuberoid in the spring. This is the time to pot up the tuberoid.

Tall Pots. Use tall pots for your habenaria tuberoids. You want the growing tip at the top of the tuberoid to be about ½ inch below the top rim of the pot. Your hope is that by the end of the growing season, the plant will produce two tuberoids for each one planted, so select a pot that can comfortably hold the tuberoids hoped for at year end. Many use plastic pots which tend to hold more moisture, while clay pots are more stable and resistant to tipping over. Whichever type you use, make sure it is tall.

Bottom of the Pot. Add an inch or so of perlite to the bottom of the pot before adding your potting mix. This gives the tuberoids an airy place to grow into. Don't use peanuts or other drainage materials in the bottom of the pot.

Potting Mix. A peat based soilless mix like Pro-Mix is often recommended. This stayed too dry under my conditions. Perhaps the pot had been overfilled with Pro-Mix so it couldn't be watered properly, or perhaps sponge rock shouldn't have been blended with the Pro-Mix. This year the habenarias were potted in long fibered New Zealand sphagnum moss instead of Pro-Mix. The sphagnum was wound around the tuberoids to about ½ inch of the growing tip. Once the leaves began to emerge, a final layer of sphagnum was added up to the top of the tuberoid/base of the new growth. The sphagnum was prewetted, but water should be added only sparingly, if at all, until the first rosette of leaves appears. The new roots grow from the top of the tuberoid/base of the plant. There is no point in watering until there are roots that can absorb the moisture, although some suggest that a little moisture can encourage the habenaria to break dormancy, while too much moisture will just cause the tuberoid to rot. Once the leaves have formed, keep the plant constantly moist.



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Store your tuberoids over the winter in clear plastic bags so you can check for new growth in the spring.

Entering Dormancy. After flowering, you will start reducing your watering frequency, letting the plants dry a bit between waterings. Eventually the plants will start to yellow, and basically they have stopped growing so you should stop watering them. Let the plants dry out. The leaves will brown and wither. Leave the top growth in place for another couple of weeks, until the plant can be separated from the tuberoid with a gentle tug. That is the time to unpot your tuberoids and store them for the winter.

You might read some recommendations about putting the plant and pot in a plastic bag for the winter, or just isolating the plants and not watering until you start seeing top growth in the spring. This approach worked for me for several years, and then around year three there was a mass extinction event. Unpotting the tuberoids for the winter dormancy has made all the difference for successfully growing habenarias in my growing area.

Habenarias are basically annuals, unlike so many of our other orchids. Pretend you're a potato farmer and grow those tuberoids, the flowers make it all worthwhile.

Acknowledgements: Credit to the Mad, I mean Translational Scientist Brandon Silvester for my potato epiphany. He told me "use blue light for tuber growth, it works for radishes!"