

Pickling your Paperwhites

Ginning Up Paperwhites That Don't Flop Over

Using Alcohol to Reduce Growth of Paperwhite Narcissus

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The paperwhite narcissus is a popular bulb for indoor forcing in the winter months. Unlike most other daffodils, paperwhites (*Narcissus tazetta*) do not require a cold period. They are simply planted in pots with soil, or even more commonly, in dishes or bowls with gravel, marbles or other decorative material. With a little water, they rapidly form roots, grow leaves and shoots. The white, fragrant flowers usually open up within 2-3 weeks of planting.

A common problem with paperwhites, however, is that they often grow too tall and flop over.

Recent research conducted by the Flowerbulb Research Program at Cornell University has found a simple and effective way to reduce stem and leaf growth of paperwhites. The “secret” is using dilute solutions of alcohol. Properly used, the result is paperwhites that are 1/3 to 1/2 shorter, with equal sized flowers that last as long as normal.

What to do

We suggest planting your paperwhite bulbs in stones, gravel, marbles, glass beads, etc. as usual. Add water as you normally would, then wait about 1 week until roots are growing, and the shoot is green and growing about 1-2” above the top of the bulb. At this point, pour off the water and replace it with a solution of 4 to 6% alcohol, made from just about any “hard” liquor. You can do the calculations to figure the dilution, but, as an example, to get a 5% solution from a 40% distilled spirit (e.g., gin, vodka, whiskey, rum, tequila), you add 1 part of the booze to 7 parts of water. This is an 8-fold dilution yielding 5% alcohol.

Then, simply use this solution, instead of water, for further irrigation (watering) of your bulbs. It's as simple as that. The result will be a plant that is 1/3 shorter, but with flowers just as large, fragrant, and long-lasting as usual. But, the plant will be nicely

proportioned and won't need support stakes, wires, or other gizmos to keep it upright. You will see results within just a few days. You can have some fun by doing a simple experiment having one bowl of bulbs given normal water and the other given the alcohol. You will see a dramatic difference, as shown in the picture. This could be a neat activity to occupy kids during the upcoming holiday season!

A few other thoughts

- Do not use beer or wine, as the sugars in them will cause major problems with the plants
- As with humans, paperwhites can also suffer alcohol overdoses! We suggest 4-6% alcohol as a normal and safe range. If plants are given much more than 10% alcohol, growth problems will start, and 25% alcohol is dramatically toxic. So, moderation is the key!
- It is not strictly necessary pour off the water after the plants are rooted (as we suggest above). You can just as well add your 5% alcohol without pouring the water off. The result, though, will be a lower than optimal alcohol concentration around the roots, and, ultimately, growth will not be reduced as much as you expect. The reason to pour off the water is to simply maximize the alcohol level around the roots.
- Basically, the higher the alcohol concentration (within reason), the shorter the plants. So it is not critical whether you use 4, 5, or 6% alcohol. Just stay well below 10%, where growth problems become noticeable.
- If you do not have alcohol for consumption in your household, rubbing alcohol (isopropyl alcohol) works just as well. Since this is usually 70% alcohol when purchased, a dilution of 1 part rubbing alcohol to 10 or 11 parts water is appropriate.
- Why does this happen? We are currently working on this, but we feel it is simply "water stress", where the alcohol makes it more difficult for the plant to absorb water. The plant suffers a slight lack of water, enough to reduce leaf and stem growth, but not enough to affect flower size or flower longevity.
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The effect of alcohol on growth of 'Ziva' paperwhite narcissus. Left: Untreated plant, growing in pebbles with water. Right: Plant in pebbles, grown with 5% alcohol instead of water.