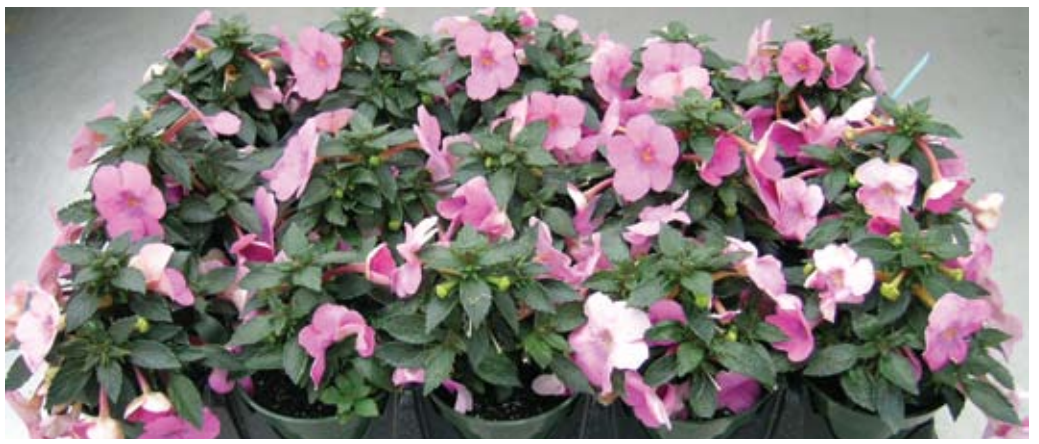
# Achimenes Makes a Comeback

## A renewed interest in achimenes may provide growers with a unique product sure to excite customers.

***By Chad Miller and Mark Bridgen***



*Four-inch pots of achimenes plants.*

Achimenes, commonly known as the Orchid Pansy, Hot Water Plant or Star of India, is one of the "top 10 underused floriculture crops." We recently conducted research on achimenes and agree they are not used enough in the industry. They are a 'diamond in the rough' and have the potential to provide growers with a new and exciting crop that provides interest for their customers. Achimenes is a member of the Gesneriad family, the same as African violets and gloxinias, and have similar growing requirements.

Achimenes were first cultivated in the late 1700s, after being introduced to England. They later became popular as potted flowering plants during the Victorian period, when hybridizers had developed more than 60 cultivars. In the 1940s, more breeding and cultivar selection was undertaken in Germany, the Netherlands and the United States. They have been and are more widely grown and distributed in Europe as compared to the United States, where popularity has both waned and surged.

Achimenes are mostly grown as flowering houseplants, but also lend themselves to be used as flowering plants for mixed containers and in hanging baskets. Plant habits for different cultivars vary, ranging from spreading or pendulous flowering stems to compact, multi-branching flowering stems. Plants will bloom profusely indoors, and when planted outside they flower from early summer to fall outdoors. The trumpet-like flowers can be singles or doubles and grow from 1 to 3 inches in diameter. The flowers are available in a wide spectrum of colors including white, scarlet, salmon, pink, blue, lavender, purple and even yellow. Their pubescent foliage ranges from bright to dark green in color, with some varieties having bronze or burgundy undertones that accentuate the flowers (Figure 1).

### Propagation and Greenhouse Culture

Achimenes plants are generally propagated asexually from pinecone-looking rhizomes (Figure 2) and depending on the cultivar, will flower in two to four months after planting. Stem tip and leaf cuttings are also used for clonal propagation and root readily and produce flowering plants in three months, but axillary branching can be a problem, leading to poor plant stature. Achimenes can be grown from seed, but there can be variability in the resulting plants. Seed-grown plants will flower in five to six months. A faster crop can

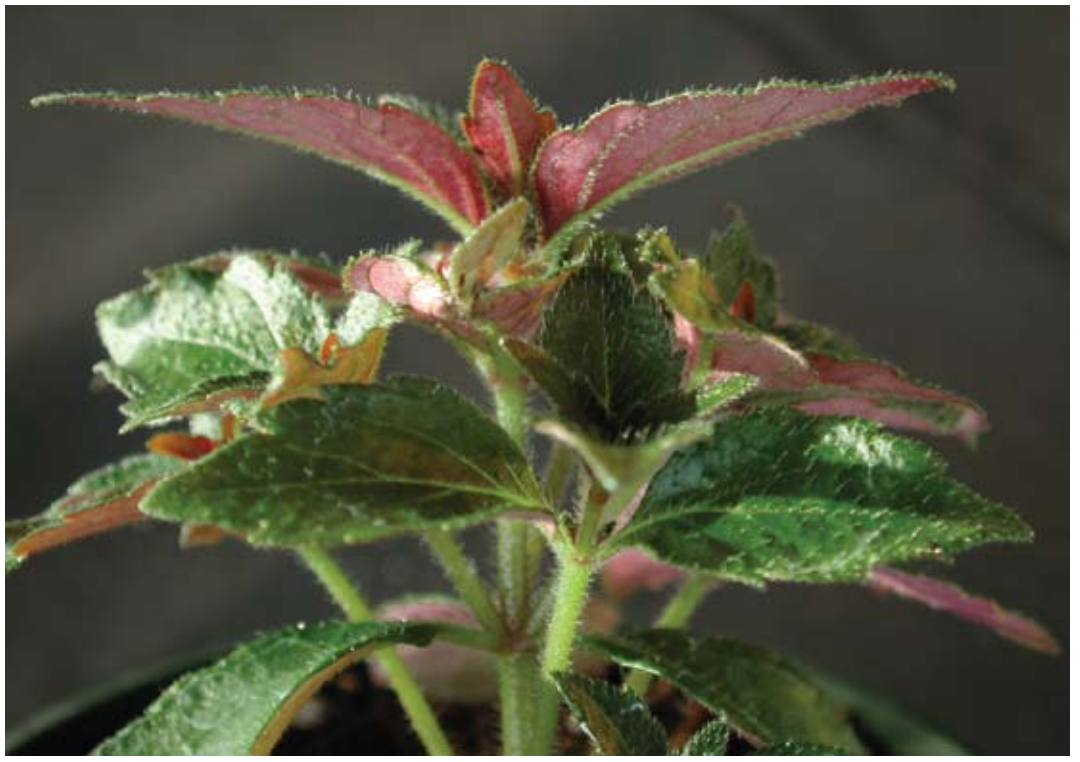


***Figure 1.*** *Close-up of pubescent achimenes leaves. Note the dark-red undersides of the leaves.*

be obtained by planting vegetatively propagated rhizomes. One to three rhizomes can be planted ¾-inch deep in well-drained media in a 4-inch pot. The crop is best grown under high, indirect light intensities (4,000 to 5,000 foot-candles; 800 to 1,000 $\mu mol \cdot m^{-2} \cdot s^{-1}$) because, like other Gesneriads, high intensity direct light can cause leaf and flower burn. Achimenes perform well with a constant feed of 200- to 300-ppm nitrogen. It is important to keep the potting media evenly moist, as premature dormancy is reported to occur when pots are allowed to dry out.

Achimenes are day-neutral plants, and flowers are initiated after the third or fourth leaf node has developed. Plants will be marketable in eight to 16 weeks, depending on whether plants are started from rhizomes or stem cuttings. After flowering decreases, the aerial vegetation of plants begins to senesce and plants enter a dormant phase. Rhizomes can be harvested and stored in dry conditions, where they can remain dormant for a substantial period

***Figure 2.*** *A sprouting pine cone-looking achimenes rhizome.*

of time (one to five months) depending on the cultivar. After dormancy release, rhizomes can be directly planted into pots. Rhizomes that do not receive the minimum dormancy period may pupate, meaning new rhizomes can develop at the apical meristem, further delaying shoot growth. Minimum dormancy periods vary by cultivar, but generally four weeks is a sufficient rest period.

## Pests and Diseases

The long, tubular flower shape of achimenes provides a perfect condition for thrips to feed, which can cause serious foliar and flower damage and reduce marketability. Aphids, whiteflies and cyclamen mites have also been known to be problematic during production. Botrytis can also be problematic, particularly when ventilation is poor and plants are not given enough space during production.

## Postharvest and Other Concerns

Little research has been done regarding the postharvest care of achimenes. It is reported that achimenes are highly sensitive to ethylene. Flowers and flower buds began to abscise within 24 hours when exposed to less than 3-ppm ethylene. Sprays of silver thiosulfate at 0.3 to 0.5 µM decreased negative effects of ethylene and increased plant longevity. To avoid chilling injury, plants and rhizomes of achimenes should not be exposed to temperatures below 41° F, as chilling injury can occur below this temperature. Also, as with other gesneriads, it is important during achimenes production to irrigate with water at ambient room temperature or warmer, as plants are susceptible to leaf spotting due to cold water.

Growers may wonder why there aren't more achimenes grown in the industry? The commercial production of achimenes rhizomes in the United States is limited. However, a few smaller specialty plant growers produce many different achimenes cultivars in the United States. Rhizomes are available in the Netherlands (imported from India), but not cleared (USDA/APHIS approved) for shipment to the United States. Although the demand and interest is there for achimenes rhizomes, the cost of production (harvest and grading) is high, and growers are not willing to pay higher prices for a niche crop. There are also questions and concerns about rhizome storage and maintaining quality.

As is the case with most niche ornamental crops, there is obviously more cultural information that needs to be learned about this crop. It seems that there is a wealth of opportunity for growers and propagators to differentiate and

*Greenhouse bench of flowering achimenes plants.*

offer product that is unique and not readily found throughout the industry.

So, what do achimenes and baggy denim have in common? The fashion world is saying the 90s are back in style. So, as we relive the 90s and we dust off those platform shoes or air out the baggy denims and lovely plaids, perhaps there will be another renewed interest of achimenes.

***Chad Miller is assistant professor of ornamental horticulture at Kansas State University. Mark Bridgen is professor of horticulture at Cornell University. They can be reached at ctmiller@k-state.edu and mpb27@cornell.edu, respectively.***