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Kurapia – A Low-Water Use Groundcover and Turfgrass Alternative

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What is Kurapia?

Kurapia is a low-water use creeping groundcover (Figure 1) which may be used as an alternative to turfgrass in warm desert regions of Arizona. Kurapia (*Lippia nodiflora*; synonym *Phyla nodiflora*) is not a grass and not a clover. Kurapia is a broadleaf plant (eudicot) and a member of the Verbena family. Keen observers may notice Kurapia flowers resemble the flowers of Lantana, which is also a member of this plant family (Figure 2). Kurapia is considered non-toxic (Kurapia.com, 2024).

Figure 1. A closeup of Kurapia foliage.

Figure 2. Kurapia flower heads. Each flower head is composed of several tiny individual flowers.

Lippia nodiflora is native and widespread across southern parts of the United States, including several counties in Arizona (USDA Plants, 2024). The plant has a wide distribution and is native in Japan. Kurapia was developed in Japan by Dr. H. Kuramochi of Utsunomiya University. He utilized selections of *Lippia nodiflora* growing natively in Japan (Kurapia.com, 2024). Kurapia has since become a popular groundcover in Japan (Kurapia.com, 2024). Its utility has been investigated in the United States at the UC Davis California Center for Urban Horticulture, the University of California at Riverside (UC Davis, 2023), and by the University of Arizona's Maricopa County Cooperative Extension.

Kurapia prefers warm temperatures (Kurapia.com, 2024). It is hardy at USDA Zones 7b (minimum of 5° to 10°F) (Kurapia.com, 2024). It is considered to survive temperatures as low as 13°F (Che et al. 2012). Kurapia has performed well in the heat of Phoenix, Arizona, even in full sun. Kurapia should not be killed by low temperatures experienced in Phoenix, Tucson, and similarly warm regions of Arizona. However, it will likely die of cold exposure if used in Prescott, Payson, Flagstaff, or other parts of Arizona which experience colder winters.

Are There Different Kinds Of Kurapia To Choose From?

Kurapia differs from wild plants of *Lippia nodiflora* due to horticultural selection and development. The process of selection has yielded several different kinds of Kurapia, which are often noted for differences in the flowers (UC Davis, 2019). Kurapia is sterile and does not produce viable seeds. Plants are propagated by cuttings and are planted as plugs (small rooted cuttings in a cone of soil).

The name Kurapia has been trademarked and is sometime seen noted with a registered trademark symbol as Kurapia® (UCANR, 2023). The name Kurapia

is frequently used without a trademark symbol. Due to its origin as a trademarked name, Kurapia should be capitalized and treated as a common name for the plant. The word Kurapia should not be used as a cultivar name. Cultivated varieties of Kurapia may include both a trade name, such as Pink Kurapia®, together with a non-proprietary cultivar name. For Pink Kurapia® this cultivar name is *Lippia nodiflora* 'Ecolopia2' (UCANR, 2023). Other names which may be encountered include 'Ecolopia1', 'New White' and 'Campagna Verde' (UC Davis, 2019).

Should You Replace Turfgrass With Kurapia?

If you are considering removing turfgrass and replacing it with Kurapia, there are differences to consider. Kurapia has a life cycle, growth habit, and maintenance regime different from turfgrass. The most common turfgrass used in the warm desert regions of Arizona is bermudagrass and this will be the grass to compare with in most situations.

An Overview Of Bermudagrass With Comparison To Kurapia

Bermudagrass is a very tough arid-adapted Old World grass (bermudagrass is not native to Bermuda). Bermudagrass is so tough it has established itself as a weed in natural areas around Arizona, usually in riparian areas. Improved bermudagrass varieties have been developed through selection and hybridizing bermudagrass (Martin, 2017). Some cultivars may perform better in drought than the undeveloped species. Bermudagrass does not grow well in shaded sites. Kurapia tolerates shade better than bermudagrass. Other turfgrass species used in southern Arizona include St. Augustinegrass, zoyziagrass and buffalograss (Martin, 2017). These other grasses and some other groundcovers such as dichondra may be better choices than bermudagrass in some locations, particularly shaded sites. Bermudagrass remains the leading grass for lawns in southern Arizona for good reason. There is no clearly superior turf or groundcover plant more versatile and resilient than bermudagrass in sites which are suitable for bermudagrass. Kurapia may be the leading non-grass alternative to bermudagrass to consider in southern Arizona.

Overseeding bermudagrass with winter ryegrass is a common maintenance practice for bermudagrass lawns. Overseeding maintains a green growing lawn through the winter, but the overseeded ryegrass consumes water and requires effort to maintain. If bermudagrass is not overseeded in winter, this can save on water and save on the cost and labor of planting winter ryegrass and transitioning back to bermudagrass in spring (Martin, 2017). The water savings achieved by not overseeding bermudagrass come with the downside of a brown or tan-colored bermudagrass lawn through the winter. The bermudagrass is not dead, but it may look like it is. Winter dormant bermudagrass can be painted with a green paint made specifically for coloring turf a realistic grass color. The paint lasts through the winter dormant season. Kurapia will stay green year-round when mowed twice a year (Burayu & Umeda, 2021). It is not overseeded with ryegrass in winter.

How Easy Is It To Switch From Bermudagrass To Kurapia?

Kurapia is planted into bare ground. It is not planted or seeded into existing turfgrass. The ground must be made bare by killing and removing bermudagrass and any turf weeds. Killing and removing bermudagrass is a rigorous process as bermudagrass is a tough plant with underground storage rhizomes capable of re-sprouting. The process is usually accomplished using a systemic herbicide which will move through the grass and kill the roots and rhizomes (Kelly, 2005). Mechanical removal of bermudagrass by digging can damage the roots of trees and shrubs in the area. Digging alone will have a low chance of removing all bermudagrass rhizomes. Solarizing bermudagrass can damage the roots of trees and shrubs growing nearby by overheating them. If trees are present near the area where grass is removed, care must be taken to protect the trees during the turf removal process (SNAG, 2022). This includes protection against mechanical damage to trees and soil compaction. Adequate irrigation must be provided to trees during and after the conversion.

Kurapia is planted as plugs (small plants in soil). If spaced 18 inches apart, the plants should establish and achieve coverage of the area in approximately three months (Che et al. 2012).

Do You Value An Immaculate Green Lawn?

Kurapia will produce small flower clusters (usually white, but pink flower colors are available). These resemble pieces of popcorn scattered over the green lawn. The number of flowers and/or dead flowers following bloom has affected consumer ratings of different cultivars of Kurapia (UC Davis, 2019). Mowing of Kurapia can reduce the presence of flowers (West Coast Turf, 2023). If the appearance of scattered flowers is unacceptable, then turfgrass is the better choice for the site.

Does Your Area Receive A Lot Of Activity Or Foot Traffic?

Kurapia is not recommended for sports fields or high traffic areas (West Coast Turf, 2023). If there is regular foot traffic or pet activity in your area, bermudagrass or other grass species will be better for the area (Figure 3).

Figure 3. Kurapia can be damaged by excessive foot traffic.

Are You Considering Switching To Kurapia To Save Water?

Kurapia is often described as using less water than bermudagrass. A water-saving strategy requires more consideration than simply swapping species. Converting an area of turfgrass to the same area of Kurapia might not be the best course in the interest of saving water. A more effective strategy can be found in reducing the area of turf and converting the remainder of the landscape to gravel or xeriscape plantings. Any planted area can overuse water if there are irrigation leaks or if irrigation is not applied with maximum efficiency. In many cases water savings can be found by detecting and fixing leaks, and by ensuring proper irrigation is ongoing. Water savings may also be found through rainwater harvesting or rainwater diversion and direction on a property (Schuch & McCormick, 2021). It may be possible to find water savings through these methods while keeping bermudagrass and irrigating more efficiently.

What Are The Maintenace Needs Of Kurapia?

Kurapia is tolerant of a wide range of soil types, including saline soils. It works well on slopes, where it can serve as erosion control (Kurapia Blogspot, 2015). Kurapia grows to about 3 inches tall (Che et al. 2012). Kurapia does not need regular mowing. Mowing may be done to give it a more manicured look, or to remove the flowers, which stand up higher than the rest of the plant (West Coast Turf, 2023). Kurapia stays green through the winter and is not overseeding with winter ryegrass.

Estimates of Kurapia irrigation needs from California suggest during temperatures 70° - 90°F established Kurapia groundcover should be watered once a week for 20 minutes. Above 90° F it requires watering twice a week for 20 minutes when using an installed overhead sprinkler system (West Coast Turf, 2023). Watering needs will vary depending on soil type, slope and temperature. A detailed Kurapia watering guide, discussing soil types and different irrigation emitter types is presented on the web page of Kurapia.com (2024). The lawn may require additional water during times of extreme heat or dry winds. Newly planted Kurapia will require more water during the establishment process (West Coast Turf, 2023). Kurapia is considered to save on the cost of water, fertilizers, mowing, and labor when compared to bermudagrass (Burayu & Umeda, 2021).

Broadleaf weeds are a common problem in bermudagrass turf. These weeds can be controlled with selective herbicides which target broadleaf (eudicot) weeds but not grasses, or with non-selective herbicides when applied during bermudagrass dormancy. These methodologies do not work to eliminate weeds from Kurapia, which is a broadleaf (eudicot) plant without a dormant period. Studies of herbicide effects on Kurapia by Che et al. (2012) determined that preemergence herbicides Kerb, Gallery, and Barricade were least injurious of the 8 herbidices tested. However they did cause between 20%-25% injury. They determined that Sedgehammer and Certainty were the safest postemergence herbicides of the 12 herbicides tested, averaging below 20% injury. These results suggest that weed control in Kurapia can be more challenging than in bermudagrass.

Where Can Examples Of Kurapia Be Seen In Arizona?

Kurapia test plots are currently maintained at the Maricopa County Cooperative Extension Office in Phoenix. The Japanese Friendship Garden in central Phoenix displays extensive areas of Kurapia in a landscape setting (Figure 4). Kurapia has been adopted as a turfgrass substitute in some new residential developments around Phoenix (Figure 5).

Figure 4. A landscape with Kurapia groundcover at the Japanese Friendship Garden in Phoenix, Arizona.

Figure 5. Kurapia groundcover as a substitute for turfgrass in a residential yard near Phoenix, Arizona. Photo courtesy of Sheila Nelson.

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