

bunkers. Its slow lateral growth habit makes zoysia easier to keep under control.

Zoysiagrass can also be used to collar bentgrass greens. The golden winter color makes zoysia a very attractive alternative. One thing must be kept in mind, however, when using zoysiagrass as a collar: avoid over-maintaining the zoysiagrass when watering and fertilizing the green. Disease and thatch problems will arise if the zoysia is given putting-green level

maintenance.

Bowyer recommends the use of a drop-type fertilizer spreader on greens with zoysia collars, to avoid over-fertilizing the zoysia. Zoysia is a good choice in the rough areas of a golf course. Because of its low growth habit, it can sometimes be left in an unmowed state on roughs. Some of the finer textured zoysia varieties, like Cashmere, a proprietary zoysia available from one sod source in Florida, can be used on both tees and greens.

Engelke has seen Cashmere successfully used on the tees of the Chi Chi Rodriguez Golf Course in Clearwater, Fla. "You are not going to stimp a 9, 10 or 11 on greens planted to zoysia, but it definitely is useful on a municipal course, or a course that doesn't have the championship putting on it that demands very high stimpmeter readings," says Engelke.

The general mowing heights for zoysiagrass are 0.3 to 0.5 inch on golf course tees; 0.5 to 1 inch on golf course fairways; and 1 to 2 inches in general

## A quick look at an interesting grass



It often takes two years to produce a zoysiagrass sod crop, which is why it's an expensive commodity.

### What is zoysiagrass?

Zoysiagrass, also known as Japanese lawngrass, is a warm-season, creeping perennial, native to the Far East. It has been grown in the United States since the 1940s, when it was introduced from Japan and China.

Like other warm-season grasses, zoysiagrass goes dormant every winter. But its yellow-white winter color is more pleasing than other warm-season turfgrasses. Furthermore, zoysiagrass possesses incredible cold tolerance for a southern turfgrass. It has been grown in Pennsylvania and parts of New York for many years with no winter injury. Unique strains of zoysiagrass from northern Japan are winterhardy clear into North Dakota.

### How does zoysia spread?

Most strains of zoysia are slow spreaders, creeping about six inches laterally per year. Contrast that with Bermudagrass, which can creep six inches in a weekend!

The slow spreading of zoysia limits its establishment via sprigs. Sprigging is the most common method of establishing Bermudagrass, but it works poorly with zoysia because it's slow creeping. This slow spreading also makes for expensive sod prices.

### What does zoysia sod cost?

Because of zoysia's slow spreading ability, it takes 1½ to 2 years to produce a sod crop. Bermudagrass, on the other hand, can sometimes yield two to four sod crops

per year. Therefore, there's quite a difference in price. Zoysia sod sells for upwards of \$1 per square foot installed—often more than the real estate it's planted on!

Tests at Southern Illinois University have shown that seeded zoysia can be established in as little as six weeks.

### How delicate is zoysiagrass?

In trials at Texas A&M University by James Beard, Ph.D., zoysiagrass was the most wear-tolerant grass tested. Drs. Beard and Bob Shearman (now at the University of Nebraska) developed a wheel device that continuously rolls around in circles, wearing grass out. They timed the roller to see how many revolutions it took to wear out a certain species of grass.

Most cool-season grasses bit the dust in a few hours or days. Bermudagrass lasted a few days or weeks. With zoysiagrass, the wheel just kept turning and turning until they shut the machine off several weeks later. It never wore out.

### What are its maintenance requirements?

Zoysiagrass is one of the lowest maintenance turfgrasses available. Natively, it grows only a few inches tall, so mowing is sometimes unnecessary. Zoysia needs little or no fertilizer after establishment and is incredibly drought-tolerant.

### What about weeds?

Until a few years ago, there was no known disease of zoysiagrass. Now it is known that zoysiagrass will get many of the same turf diseases as other warm-season species. High temperature and humidity can occasionally bring on disease. Mostly, these diseases occur because the zoysia has been given too much care.

### Where can I get zoysiagrass?

Jacklin Seed's JM-107 is the world's first and only proprietary, seed-propagated variety of zoysiagrass. It is moderately fine-textured and uniform, and medium dark green in color.

One source of seeded zoysia available in the United States is Korea common zoysia, which originates in South Korea. Because it is a common type, it is variable in growth habit. In 1988, the Korean government shut off supplies of this grass to America, which makes the little bit out there very expensive.

As far as vegetatively-propagated zoysias, Meyer zoysia has been a mainstay variety since it was released by the U.S. Golf Association Green Section in 1951.

Midwest zoysia was released from Purdue University in 1963, but has gained little use. Bellaire is a new variety recently released by Beltsville USDA. El Toro, a new release from University of California, has been gaining acceptance in the southern part of that state.

—Doug, Judy Brede □