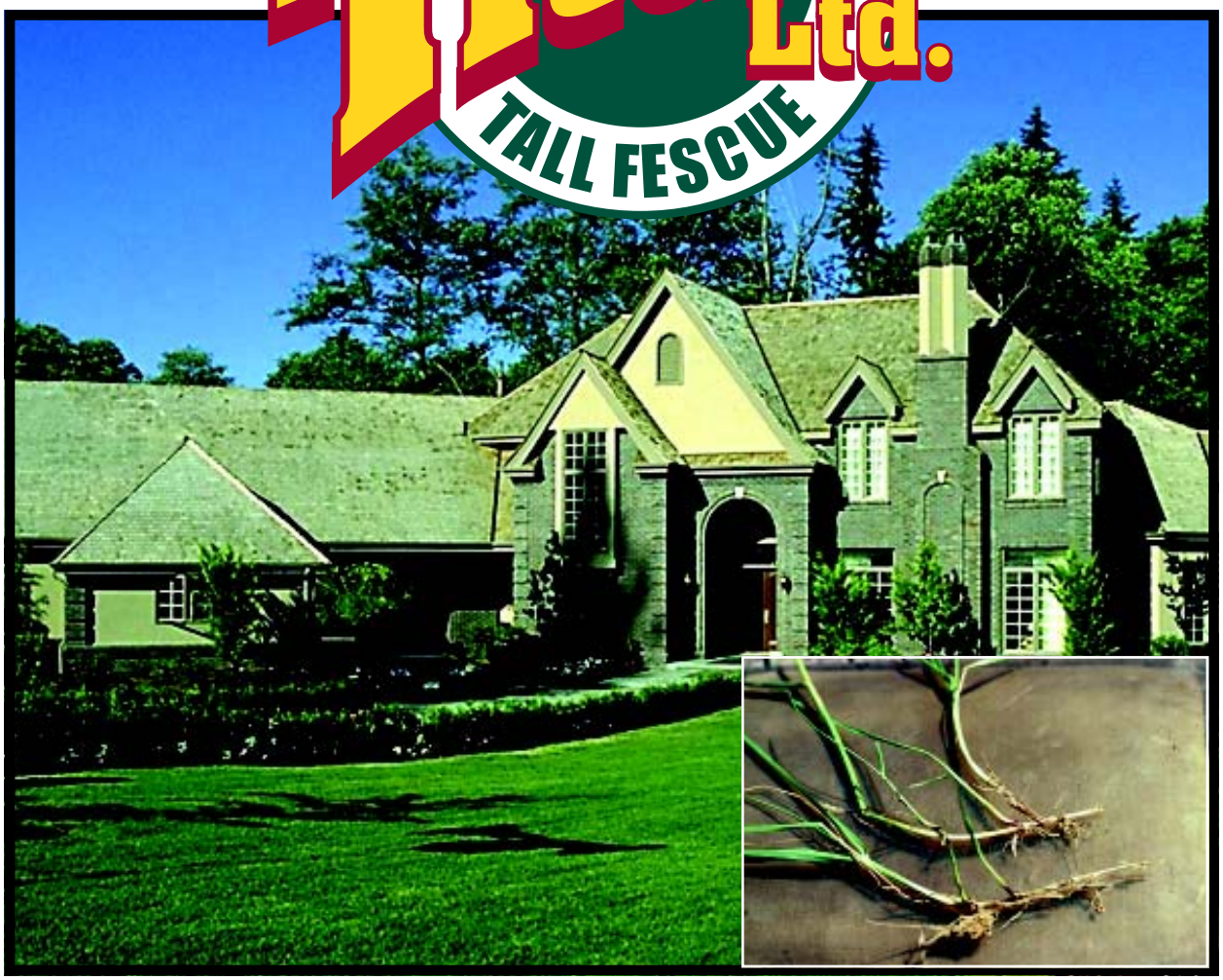
The future of your lawn Depends on its ROOTS.

TURF-TYPE

Titan Ltd.

TALL FESCUE



MORE THAN A FLASH IN THE PAN

Some lawns are very pretty to look at, but can't be played on. Other lawns look real nice for a year or two, but after a season of wear and tear, or a hot, dry summer, or disease pressure, they prove to be simply too weak to survive. If you want more than a flash in the pan turf, **look no further than Titan Ltd.**, an exciting new tall fescue that offers you a beautiful dense, thick turf both now and later.

Titan Ltd. is tough enough to face most anything you throw at it. Go ahead and stomp on it, run over it, kick or bounce on it. Land an airplane on it, or let you baby crawl on it. **Not a problem for Titan Ltd.**

DEEP AND WIDE

So what's the secret? What is different about Titan Ltd.? Like most secrets, it's buried. Underneath each Titan Ltd. plant is an extensive roots system that goes down deep, way deep – many times as deep as 6 feet! That means Titan Ltd. plants can access nutrients far below the surface. It also means you'll have a tough time tearing it up with foot, or wheel traffic.

Sometimes tough play, a neighborhood dog, or some bad disease may come through and wipe out a few plants, potentially leaving your athletic field or home lawn with bare spots. Here's where the real secret of Titan Ltd. comes into play: **Titan Ltd has something that only a few other tall fescues have, an extensive rhizome system.** These horizontal underground stems or "rhizomes" spread out to bare spots and send out new shoots and roots which aid in quicker repair and the ongoing thickening of the turf stand. So even when Titan Ltd. gets knocked around some**, the rhizomes constantly act as self-repairing tools,** ready and willing to create new plants when needed.

Photos coutesy of Leah Brilman

BRED TO FIGHT

Selected for Hotter Climate

Nearly a decade ago, work began to collect germplasm *(or individual plants)* at various sites throughout the country, plant scientists, called plant breeders, were specifically looking for tall fescue plants which had excellent heat and drought tolerance, resistance to diseases, dark green color, high turf quality, and a compact, upright growth habit. Selected plants from these collections were sent to Missouri where they were intentionally infected with six strains of the nasty disease commonly known as brown patch. **Only those plants exhibiting excellent resistance to brown patch, heat tolerance, and stress tolerance were carried through to the next stage.**

TURF-TYPE Titan Ltd. TALL FESCUE

Selected For Quality, Color and High Endophyte
After even further selections and crossings, the best plants – the strongest, most attractive plants – were then inoculated, with nature's own environmentally safe pesticides, called endophytes. These fungal organisms have a natural symbiotic relationship with the grass plants. While obtaining their food from the host plants, these **endophytes produce alkaloid toxins which kill or repel damaging insects (like billbugs, chinch bugs, sod web-worms, army worms, and weevils)** that feed on turf. Not only do the plants benefit from the endophyte, but homeowners also enjoy the benefit of needing to use less chemical pesticides. Endophytes, nature's own pesticides, provide free insect control without harm to plants, household pets, or humans.

Selected for Reduced Mowing and Softer Leaves
Once the breeders had great looking, combat-ready plants, they chose to add three other special characteristics – slower growth, softer leaves, and denser stand. They knew the perfect lawn would be one that was not only tough enough to survive, not only pretty enough to look at and touch, but one that would require less mowing. So, after a multitude of further selections and crossings, they did just that. In fact, according to the 2003 NTEP Report, **Titan Ltd. is one of the shortest growing tall fescues available. Simply put, this means less mowing!**

2002 NTEP DATA	Canopy Height* (in cm)
Shortest	2.7
Titan Ltd	3.7
Tallest	12.7
LSD	2.5

LSD – a measurement of least statistical difference. Varieties within the LSD measurement of each other are statistically equal.

**The trial was planted during fall, 2001. The canopy heights were measured April 12, 2002 before the first mowing of the spring.*

PROVE IT!

It's easy to make claims and promises, but can we back them up? The answer is YES! While there are still many exciting things to learn about this new variety, the initial reports from the independent evaluation group called the National Turfgrass Evaluation Program (NTEP), an independent evaluation program that conducts turfgrass trials at various university sites throughout the country, give us some pretty impressive results, as show below:

Response to disease and stress.
Three measurements that NTEP uses for determining how well a variety will respond to certain disease and stress are 1.) ground coverage ratings, 2.) disease incident ratings, and 3.) special trials using wear or traffic simulating machines.

2002 NTEP DATA			
GROUND COVER	**Spring**	**Summer**	**Fall**
Highest Score	87.0%	94.8%	76.10%
Titan Ltd	82.4%	*94.8%	72.10%
Lowest Score	72.3%	82.1%	60.6%
LSD	6.1%	8.8%	7.0%

LSD – a measurement of least statistical difference. Varieties within the LSD measurement of each other are statistically equal.

Ground Coverage
The NTEP uses the measurement of **Ground Coverage** to track the turfgrass response to various stresses during the growing season. It is generally used to express damage caused by disease, insects, weed encroachment, or environmental stress. Over the entire growing season, **Titan Ltd. exhibited excellent ground coverage, including the highest rating for Summer Ground Coverage!**

Disease

NTEP reports disease and insect injury based on the turfgrass resistance, using a 1 to 9 rating scale with 1 equaling no resistance or 100% injury, and 9 equaling complete resistance or no injury. Patch diseases can be particularly damaging, especially to varieties that do not recuperate very well.

2002 NTEP DATA			
DISEASE RESISTANCE	**Brown Patch (Warm Temp.)**	**Brown Patch (Arkansas)**	**Pink Patch (Georgia)**
Highest Score	7.7	13.3%	5.0%
Titan Ltd	6.8	17.7%	10.0%
Lowest Score	5.2	44.5%	30.0%
LSD	1.0	26.1%	10.0%

LSD – a measurement of least statistical difference. Varieties within the LSD measurement of each other are statistically equal.

At present, there are no varieties available that are totally resistant. **However, Titan Ltd. has shown impressive resistance to both Brown Patch and Pink Patch.**

Traffic

Researchers define traffic tolerance as "the combination of wear and compaction stress that occurs whenever a turf is exposed to foot or vehicular traffic. Wear injury occurs immediately upon trafficking a turf. Wear injury symptoms are often expressed within hours and definitely within days."

The NTEP reports traffic tolerance as visual estimate of turfgrass tolerance using a 1 to 9 rating scale with 1 being no tolerance or 100% injury, and 9 being complete tolerance or no injury. **Titan Ltd. showed exceptional performance under traffic including the HIGHEST RATING of all entries at Rutgers University!**

2002 NTEP DATA		
	North Brunswick, NJ (traffic)	Under Traffic Stress (MI, NE, NJ)
Highest Score	6.8	6.5
Titan Ltd	*6.8	6.2
Lowest Score	2.8	5.0
LSD	2.0	0.6

LSD – a measurement of least statistical difference. Varieties within the LSD measurement of each other are statistically equal.

TRY IT FOR YOURSELF

Now that you've read the facts and seen the data, there is only one thing left to do: Try Titan Ltd. for yourself. Titan Ltd. is recommended for home lawns, athletic fields, golf course roughs, parks, sod production, roadsides and more. A great lawn is waiting for you. **Titan Ltd – Now there's NO Limits!**

Titan Ltd. is available at: