



Nara™ NATIVE TURF

Australia's most beautiful lawn
Zoysia macrantha 'MAC03' (PBR)

Salt Tolerant

Nara™ Zoysia is a low maintenance grass that is naturally very salt tolerant. It is generally a coastal grass but has been proven to work well many hundreds of kilometres inland. Common *Zoysia macrantha* is very salt tolerant, so it is no surprise that Nara™ turf has this quality as well, although it is better watered with fresh water when possible.

In tests, Nara™ turf had much more salt tolerance than Empire™ Zoysia, which is known for its excellent salt tolerance in comparison to other grasses. When Nara™ native turf was tested and compared to a selection of common *Zoysia macrantha* types in breeding, it had salt tolerance at the mid to lower end of the species. Not as high as some, but still much higher than Couch, Buffalo and Empire™ turf.

This is only important because people need to know it cannot handle growing in sea water. However, growing close to the beach or on waterfront properties is not a problem. Nara™ native turf is the best grass for salt areas. It can handle the most salt at 24 dS/m (deci-semen/metre) over 15000 parts per million. Nara™ turf had the best results out of all Zoysia's in this study.

Visit http://naranativeturf.com.au/download/Zoysia_salinity_tolerance_comparison.pdf for more information on this study.

Tolerates More Shade than Couch and Kikuyu

Here's a quick shade comparison for you. Buffalo works in 60-70% shade. Nara™ Zoysia works in 30-50% shade where Couch and Kikuyu only work in 15-20% shade. Nara™ turf is recommended for up to 50% shade in areas with low wear and up to 30% shade in areas with moderate to high wear.

Better Winter Colour than Couch

Better than Couch and many Buffalo types. Nara™ turf browns off quicker than Palmetto®, Sapphire® and Kikuyu which are well known for their excellent winter colour. In western Sydney out at Richmond, it was dormant for about 7 weeks so there are a few grasses that have better winter colour, but compared to many, Nara™ Zoysia wins out.

Fast Establishing and Low Maintenance

Nara™ native turf is fast to establish, yet needs little maintenance. Less mowing, edging, fertilising and watering is needed for this tough native turf to stay alive.

Nara™ turf will need about 20% less mowing than Buffalo, 35% less than Couch and 55% less than Kikuyu plus, it is faster growing than Empire™ Zoysia. It requires less edging than Buffalo, Couch and Kikuyu, making it less invasive for the garden, although Empire™ Zoysia does require slightly less edging than Nara™ native turf.

Nara™ turf only needs one fertilise per year, or more if you want it to be lush and green. As for watering, there is less need to worry about future water restrictions. As Nara™ native turf has vigorous deep rhizomes, it is far more drought tolerant than non rhizome grasses such as Buffalo.

In drought studies, *Zoysia macrantha* was found to be more drought tolerant than Buffalo and Couch turf. Buffalo will hold it's colour in drought a few days longer than Nara™ turf, but will die much quicker in a hot prolonged dry spell.

Rarely Gets Disease or Pests

Nara™ turf rarely gets disease and copes very well with humid and dry climates. In colder areas and in wet winters, like many grasses, it can occasionally develop signs of rust, but this is generally hidden amongst the leaves of a mature lawn.

Nara™ Zoysia hides rust much better than many other types, so it is a safer choice. A Nara™ lawn copes well with our bugs and insects, probably because it built up immunity over the millions of years of development as a native species of Australia. A few introduced pest species and the odd native one may cause problems occasionally.

Nara™ turf seems to be far more resistant to black beetle, army worm, and web worm than Couch, Kikuyu and Buffalo. All Zoysia types seem to be. But resistant does not mean immune, so it can sometimes get munched on. Again, because it has rhizomes, it will re-grow better than Buffalo.

Erosion Control

Nara™ turf was found have excellent erosion control performance, strengthening the soil 58%, which was 10% more than Empire™ Zoysia, 38.3% more than Kikuyu, and 54.8% more than Couch. Nara™ native turf took the soil strength in the test to an estimated 105kPa.

Visit <http://ozbreed.com.au/research-papers/erosion-research.html> for more information on this research.

Better Wear Tolerance

Better wear tolerance than Buffalo, Couch and Kikuyu in full sun, although Couch and Kikuyu recover better from wear as they grow faster. In semi shade Nara has better wear tolerance than Couch and Kikuyu.

Nara™ Native Turf Installation and Care Guide

Soil Preparation

There is no better time to enhance the ultimate beauty and success of your new lawn than by improving the soil before any planting takes place. The benefits of proper and complete soil preparation are:

- Improved uniformity
- Increased density
- Faster recovery from wear
- Reduced use of water, fertiliser and chemicals
- Reduced maintenance

Why Is Good Soil So Important?

For optimum growth, Nara™ grass needs just four things (in the proper balance) to grow: sunlight, air, water and nutrients. Reduce any of these, or provide too much of any one, and the grass may die or simply suffer. In the right proportions, the Nara™ grass will flourish, providing not only beauty to the landscape, but also a clean and safe place to play and many benefits to the environment.

Grass obtains three of these four essential factors (air, water and nutrients) from the soil, but many soils are less than ideal for growing grass. Some soils contain too much clay and may be very compacted. It's great for roads, but bad for grass because air and water aren't available to the roots and the roots can't grow. Other soils may have too much sand. They are beautiful on a beach, but difficult to grow grass because water and nutrients won't stay in the root zone long enough for the plant to use. Another frequently observed problem with many soils is that its pH (the degree of acidity or alkalinity) is too high or too low for optimum grass growth.

What Is The Best Soil For Your Zoysia Grass?

Loams, sandy loams and loamy sands, with a pH of 6.0 to 7.0 are the very best soils for producing a beautiful, high-use, low-maintenance Nara™ lawn. Unfortunately, this ideal soil mixture is seldom found on any property after construction.

How Deep Should The Soil Be For Nara™ Zoysia?

The absolute minimum soil depth for a care-free lawn is 10 cm; however, for deeper root penetration and the benefits that brings, the accepted standard is 15 cm.

Can Soils Be Improved?

Practically without exception, not only can most soils be improved, they usually need to be improved to obtain the maximum results with only a minimum of other on-going effort.

The knowledge of what is necessary, the amount and availability of materials and the immediate costs of time and money are the factors that typically deter people from taking the steps necessary to improving the soil. While some people

do not fully understand the importance of good soils for grass, many also believe they can save time and money by ignoring the need to improve their lawns soil.

The fact is that failing to improve the soil before planting is only inviting a much greater and continual investment of both time and money, that will never return its value as fully as preparing the soil properly before planting any grass.

WATCH THE VIDEO ONLINE: Preparing Your Soil For Your New Lawn

Visit <http://youtu.be/-yIhIGydzPM> to watch the video.

Installing Nara™ Native Turf

When to Install

Nara™ Zoysia prefers to be installed when the weather is not too cold. It is best to avoid laying in the following months in certain regions. Please note these dates are to be used as a guide only.

- Avoid laying 15th March - 15th September: ACT (Including similar climates such as Bathurst, Armidale and Ballarat)
- Avoid laying 25th April - 25th August: Victoria, SA, WA
- Avoid laying 15th May - 15th August: Sydney
- Nara can be layed anytime of the year in Brisbane and north QLD.

This is the same for all Zoysia types. Nara™ turf can actually be laid in the cooler months in Sydney provided the turf is kept moist till it roots out, but as it takes up to 7 weeks to root out in winter, we feel it is best to wait for warmer weather. In warmer weather Nara™ Zoysia will establish relatively quickly from turf. In early spring or autumn it may take a week longer than other turf types to establish, but what's a week compared to a lifetime of low maintenance?

How to Install

- Remove all building waste & weeds
- Spread a free draining soil to a depth of 7-15cm (roots can penetrate much deeper) or loosen ground and mix in appropriate soil conditioners. Phone your supplier for more advice on this option. For sandy soils, simply mix in organic material and rotary hoe.
- Level the surface using a screeding board, lawn leveller or similar device.
- In hot months, moisten the soil but do not make the soil too wet. Do not lay turf on hot, dry soil.
- Lay the Nara™ native turf as soon as possible after delivery.
- On hot days, lay a section of Nara™ grass and lightly water. Repeat until all the grass is laid. On cool days, turf can be laid all at once. Roll and water thoroughly within one

hour of laying turf.

- Water thoroughly for 7-10 days or until turf is established. Take care that the water is saturating the soil beneath the turf. In colder months, the turf will take longer to establish. The turf should not dry out until roots are established.

When the soil has firmed and the Nara™ Native Turf has rooted down, usually 3-4 weeks after laying (longer during winter), mow lightly to tidy up the lawn.

Installing Nara™ in winter in Sydney, Melbourne, Adelaide and Perth

After installing the turf as described in the steps above, top dress with an organic sand or soil mix. Rub the top dressing in so that at least a quarter of the leaves are showing and above the top dressing. Water Nara™ native turf every day for the first week, soaking the turf so the water penetrates and soaks into the soil beneath. Then water every second day for the next two weeks. Continue this until October, however after the first 3 weeks, watering Monday, Wednesday and Friday will suffice. If you have a watering system, simply program it for watering on these days.

WATCH THE VIDEO ONLINE: How To Install Turf Properly

Visit <http://youtu.be/3avu1VTa3uc> to watch the video.

Mowing Your Lawn

- Mow your Nara™ lawn every 7-14 days in the hot months (depending on how manicured you want your lawn to look); mow every 3-8 weeks in the cold months.
- Mowing height will vary: 2-5cm in sunny/lightly shaded situations, 5-7cm in heavier shaded situations.

In general, Nara™ native turf can be mown very short or longer depending on the desired finish. If you want a green manicured bowling green type lawn, regular short mowing will achieve that. As a general lawn, fortnightly spring and summer mowing should be enough, unless it is highly fertilised, then weekly mowing may be needed.

If you want a native looking lawn with a beautiful meadow effect complete with its natural looking flowering seed heads, then mow taller every month or two. Mowing practice can also help keep Nara™ greener in winter. Leave at a moderate length for most of the year.

If after all the recommended fertilising the lawn browns off in winter, lightly mow the turf. Under moderate frosts and even the odd heavy frost, only the tips of the leaf burns on Nara, so a light mow removes most of the burn making the lawn instantly greener.

In our trials we lightly mowed around the 20th of July. To improve winter colour and general health of Nara, it is recommended to dethatch the lawn every second spring. Around the end of August in Queensland or Sydney, or early September in cooler areas like Melbourne dethatch the lawn. The easiest method is to simply mow the lawn very short, and collect the clippings. Another method is to hire a dethatching machine, or simply lightly top dress the lawn.

Watering Tips

- Water thoroughly and regularly after the turf has been laid to encourage a deep and vigorous root system (turf will be able to fossick for water and therefore be more able to withstand hot dry conditions).
- Once the root system has fully established, water thoroughly only when needed (when a slight wilting is visible), usually once every 7-10 days in summer (on sandy soils more often), with much less or no water in cooler months. If water restrictions occur and you can't water, don't panic if the lawn is at least one year old. A mature Nara™ lawn will brown off slightly and when you can water it again or it rains, it will green up. Unlike Buffalos, Nara™ Zoysia is extremely drought tolerant and will survive.
- Remember that infrequent, deep watering promotes a healthy lawn.
- Over watering encourages excessive growth, disease and root rot.
- It is best to water in the early morning; night watering is not recommended.
- Watering your Nara™ lawn in a dry winter can also improve it's winter colour. If the ground or lawn is very dry, frosts have a habit of burning the lawn more.
- Watering after fertilising also helps activate the slow release fertiliser.
- In the warmer months water when the leaves start to dry out. If you get water on Nara™ turf soon after the leaf starts to shrivel, it will quickly green up. It will brown off and go dormant but when it rains again or it is irrigated it will generally reshoot well and green up.
- If you live in desert regions or places like Perth with little summer rain, some top up watering is required to keep Nara™ Zoysia alive.

WATCH THE VIDEO ONLINE: Watering and Fertilising Tips For Your Lawn

Visit <http://youtu.be/iQh7aQvI4Sk> to watch the video.

Fertilising Tips

- Lawns need to be fed to remain strong and healthy. It's important to use a slow release fertiliser one month after laying (applying fertiliser before this time has shown not to make a difference to lawn establishment).
- We recommend fertilising at least twice a year using a slow release fertiliser -Firstly in early April using our summer/autumn blend slow release fertiliser. And again in September using our spring blend slow release fertiliser.
- For a better winter colour, you can use our summer/autumn blend again in June. And if required you can also fertilise again in summer using our summer/autumn blend.
- If you need a quick green up, a high nitrogen fertiliser can be used e.g. Supergreen or an organic based slow release fertiliser, however slow release fertilisers are generally better for your lawn and more cost effective. In the heat of summer avoid over fertilising or using manure based products.
- If you want a native low maintenance lawn, fertilise

sparingly and mow very little. Twice per year in this case.

- As a rule, Zoysia types in general do not need as much fertiliser in summer so for most lawns that's it: an autumn, winter and spring fertilise. However it may be worth considering further optional applications if your lawn receives very heavy wear from dogs or kids, or you really want a dark green lawn all summer.

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Pests, Weeds and Diseases

Nara™ native turf is resistant to pests, weeds etc compared to most other turf varieties, but as with any natural product, occasional problems can occur. If these problems occur we recommend the following:

- Pests - Nara™ turf is less susceptible to lawn grub, however you should still watch for the lawn grub (e.g. web worm or army worm) and african black beetle- apply suitable pesticides according to directions.
- Weeds - if weeds infest, hand eradicate before seed head develops or apply a suitable weedicide (ask your local garden centre.) Nara™ Zoysia is tolerant to a wider spectrum of herbicides than Buffalo.

Chemicals that can be used on Nara™ Turf

For most broadleaf weeds (flat weeds). Use Bromoxynil + MCPA (Domestic and Professional), Dicamba + MCPA (Kamba M) (Domestic and Professional), or Spearhead (CLOPYRALID + DIFLUFENICAN) (Professional).

For many grass weeds, including annual grasses such as Kikuyu, Paspalum, Mullumbimby Couch and Sedges, use DSMA. (Domestic and Professional).

To kill Nut grass and other sedges use Sempra. (Professional).

For a combination of some grass weeds and some broadleaf weeds try Monument. (Professional).

As a Pre-emergent to stop weed seeds germinating, for established grass only, not for use when turf is establishing, use Barricade (Prodiamine) (Professional) or Ronstar (OXADIAZON) (Professional).

WATCH THE VIDEO ONLINE: Lawn Grub and Disease Control

Visit <http://youtu.be/6isTKHlw5tw> to watch the video.

WATCH THE VIDEO ONLINE: Killing and Keeping Weeds Out Of Your Lawn

Visit <http://youtu.be/08IVHpXQ-TU> to watch the video.

Top-Dressing Nara™ Turf

Generally in most circumstances Nara™ native turf will perform fantastically, but sometimes, pH, soil type and other problems can arise and cause a lawn to thin out. With Nara™ turf remedying a problem like this is far easier than most lawn types.

Nara™ turf is a *Zoysia macrantha* and has a natural habitat

near sand dunes, which means it is used to being covered by sand (although it does also naturally occur in heavier soils as well). For this reason it responds extremely well to top dressing, often better than other grass types. Compared to japonica type stolons, the stolons of macrantha have less shoots at the base of the stolon and are generally found higher up, this gives it an advantage when top dressed.

When top-dressing Nara use a mix that is high in organics, with little sand or sandy loam added. Do not use a straight sandy loam mix, as a mix with higher organics will benefit the lawn for years to come. The best time to top-dress is in spring, but summer or early autumn would also be OK. We would advise that you do not top-dress in mid to late autumn or at any time through winter.

1. Spread the top-dressing so the tips of the leaves just poke through, some leaves should be seen. Generally this would be a depth of 7mm to 12mm of top dressing, depending of the thickness of the lawn. For 100 square meters you will require 0.7 of a cubic meter for a 7mm thickness and for a thickness of 12mm, you will require 1.2 cubic metres of organic top dressing material.

2. Rake it in with the back of a rake or a level-lawn.

3. It is also recommended to use a slow release fertiliser at the same time - depending on the time of year we suggest either our Summer/Autumn blend or our Spring blend slow release fertilisers.

4. It is recommended to water every second day for the first week after top dressing, then after that twice per week until the lawn looks lush again. It may take between 2 and 4 weeks for the lawn to look great again.

2 years ago this process was carried out on a Nara Native lawn that was in extremely poor soil, and it came back looking amazing and still looks amazing today.

So if you ever find your lawn not responding to general maintenance the way it should, try this simple trick that will keep your lawn looking great for years to come and you will be thankful you did.