

HIGH PERFORMANCE TURF RHIZOSPHERE BIO-INOCULANTS

The high demands placed on turf managers to grow and maintain high performance playing surfaces in Australia means that turf roots must be functioning in peak condition. Healthy soil biology plays a major role in the health and vitality of turf roots. The Bio-GUARDIAN™ range of bio-inoculants ensures that your turf is performing at its peak all year round. RhizoVital Turf™ and Rhizo-Versity™ is a result of 20 years of local *Trichoderma* spp. research combined with the knowledge and expertise of one of Germany's leaders in *Bacillus* spp. bio-fertiliser research, ABITEP GmbH.

The Bio-GUARDIAN range was developed with the specific aim of correcting rhizosphere biology in a way that creates a disease suppressive rhizosphere but also promotes healthy turf growth. The combination of the highly rhizosphere competent RhizoVital *B. amyloliquefaciens* FBZ42 with the locally sourced isolates of *T. koningii* and *T. hamatum* ensures that when used as directed your turf will perform at its peak when put under any sort of cultural or environmental stress.



INCREASED SWARD & ROOT GROWTH

By production of

- phytohormones
- vitamins
- siderophores

By plant health enhancement

- Induced systemic resistance (ISR)



REDUCED PLANT PATHOGEN

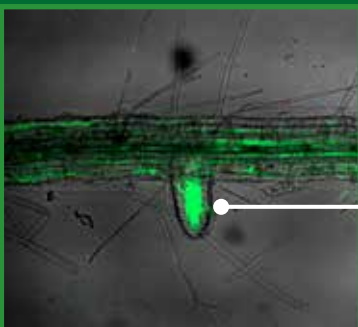
By competition for

- space
- nutrient

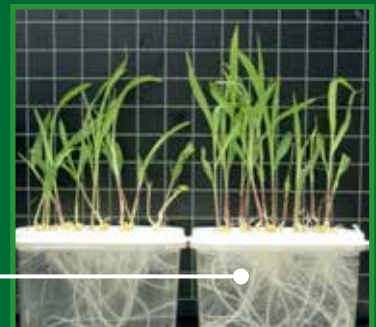
By antibiosis

- production of anti-fungal substances
- enzyme activity

RhizoVital Turf & Rhizo-Versity In Action



The rhizosphere is the centre of all interactions between the turf and the soil. Colonisation of root hairs and root tips by good bacteria and fungi is critical to the healthy growth and vitality of your turf. The photo on the LHS shows RhizoVital colonisation of a root hair and the photo on the RHS shows the growth effects generated by *B. amyloliquefaciens* rhizosphere colonisation.





OCP RhizoVital Turf

CONTAINS: 2×10^{10} cfu/ml *Bacillus amyloliquefaciens* (STRAIN FBZ42)

Bacillus amyloliquefaciens FZB42 is a natural soil bacteria that rapidly colonises new root growth, supporting healthy turf growth, improving plant vitality and resilience to stress. RhizoVital Turf should be applied preventatively as part of an integrated approach to plant and soil health. **RhizoVital Turf can be applied all year round to support a healthy rhizosphere.**



SITUATION	RATE	CRITICAL COMMENTS
Turf establishment Seeding, Sodding, Stolonizing	1L/100kg	Seeding: Mix 1L RhizoVital Turf with 1L of water. Spray on the seeds and mix well. Spread seed out to dry if appear to be wet.
	2-4L/ha	Sodding, Stolonizing: Apply as a drench at 200-400ml/1000m ² immediately after planting.
Turf maintenance Boom spray or through irrigation system	2-4L/ha	Apply with normal spraying equipment. Jet size should be bigger than 60 meshes (0.25mm). In order for the product to reach the root zone, the treated area needs to be irrigated after the application. The product can be injected into irrigation systems using a "Dosatron" or similar fertilizer injector equipment.

OCP Rhizo-Versity

CONTAINS: 2×10^9 cfu/gram *Bacillus amyloliquefaciens* FBZ42, 1×10^9 cfu/gram *Trichoderma koningii*, 1×10^9 cfu/gram *Trichoderma hamatum*

Rhizo-Versity contains a blend of *Bacillus amyloliquefaciens* FZB42 and two Australian isolates of *Trichoderma koningii* and *Trichoderma hamatum*. When applied to the soil they work synergistically to support healthy plant establishment and growth while improving the plant's resilience to stress and disease. Rhizo-Versity is a powder-based formulation using a high protein, amino-acid food source. Like RhizoVital, Rhizo-Versity is part of a soil biodiversity management strategy and needs to be applied preventatively. **Rhizo-Versity is best applied during the spring/summer months when the demands on the turf are at their peak and a high performance, healthy root system is required.**



SITUATION	RATE	CRITICAL COMMENTS
Turf establishment Seeding, Sodding, Stolonizing	1kg/100kg of seed	Seeding: Mix 1kg Rhizo-Versity with 3L of water. Spray on the seeds and mix well. Spread seed out to dry if appear to be wet.
	2-4kg/ha	Sodding, Stolonizing: Apply as a drench at 200-400g/1000m ² immediately after planting.
Turf maintenance Boom spray or through irrigation system	2-4kg/ha	Apply with normal spraying equipment. Jet size should be bigger than 60 meshes (0.25mm). In order for the product to reach the root zone, the treated area needs to be irrigated after the application. The product can be injected into irrigation systems using a "Dosatron" or similar fertilizer injector equipment.

APPLICATION: In order to be effective, the spores of both FBZ42 and *Trichoderma* need to come into contact with the roots. Thus foliar application should be supported by effective run-off to get the product into the turf root zone. Application can be made any time of year as long as soil temperatures and moisture levels are adequate.