



CASE STUDY: BOXWOOD 'BABY GEM'

IMPROVED ROOTING AND PLANT QUALITY

OBJECTIVE

Boxwoods are the nursery industry's foundation for landscape planting. Evergreen and deer-resistant, they do still fall susceptible to common plant health challenges. Drought stress, large fluctuations in temperature, root diseases and pests are typical for any plant, but for boxwoods, these stressors can lead to further complications.

Even when armed with top-tier genetics and a comprehensive nutrition program in place at the nursery, stressed plants can lead to blights, leaf yellowing, rapid browning, and defoliation. Whether at the nursery or during shipment, these periods of stress will yield an unhealthy plant, making the lack of plant quality obvious in the eyes of the customer.

Assisting boxwood cuttings and transplants through the inclusion of RootShield® PLUS⁺ Granules provides plants with a symbiotic advantage: Rapid root growth, protection from root diseases, and a healthier, more stress tolerant boxwood.

APPROACH

- + A 2022 trial was conducted at a large commercial nursery (1000 + acres). Three acres of boxwood variety 'Baby Gem' were transplanted into media containing RootShield PLUS⁺ Granules at 1.5 lbs. per cubic yard of soil.
- + Transplants were potted into the treated media in mid-October, with a plant health quality check 60 days later. Plants finished 168 days from transplant (late March). No additional RootShield PLUS⁺ applications were applied.
- + RootShield PLUS⁺ is best added at propagation to ensure the early colonization of roots. Growers in this case chose to transplant rooted cuttings into potting media incorporated with RootShield PLUS⁺ Granules.

TREATMENT	ACTIVE INGREDIENT	RATE
RootShield PLUS ⁺ Granules	<i>Trichoderma harzianum</i> T-22 & <i>Trichoderma virens</i> G-41	Soil Incorporation: 1.5 lbs per cubic yard

RootShield PLUS⁺ can tolerate a wide pH range (4-8) and grows at temperatures from 48-97 °F. *Trichoderma* can grow in bark, peat, and coir-based mixes.

1. RootShield PLUS⁺ is applied to growing media, *Trichoderma* spores germinate within 16-24 hours.
2. The emerging hyphae grow around the host plant's roots, occupying space in the rhizosphere.
3. After 24 hours the *Trichoderma* cannot be dislodged from the roots.
4. For up to 10 weeks, a zone of inhibition is maintained around the rhizosphere of the host plant.



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OUTCOME

Sixty days after transplant, boxwoods that were potted in RootShield *PLUS*[®] Granules media showed noticeable differences in root proliferation when compared to untreated control. At finish (168 days after transplant), the plants displayed larger overall size, more uniform growth habit, and improved plant color compared to the untreated control.

TESTIMONIALS

"Looks as if liners were planted weeks before they actually were." – Nursery IPM Specialist

"They grew faster than normal." – Grower



BOXWOOD 'BABY GEM': UTC (LEFT), TREATED WITH ROOTSHIELD *PLUS*[®] GRANULES (RIGHT)



BOXWOOD 'BABY GEM' TREATED; NOTE PLANT COLOR, FULLNESS, AND UNIFORM HEIGHT

INSIGHTS

A more developed root system means a healthier, more stress tolerant boxwood. Despite a later than normal soil incorporation, boxwood transplants inoculated with RootShield *PLUS*[®] in a one-time application experienced a plant health boost, lasting from first transplant to finish.

Rapid root hair proliferation and solubilization of phosphates and micronutrients from the presence of *Trichoderma* strains T-22 and G-41 provides more efficient nutrient and water uptake. A more efficient plant utilizes fertilizers and water more effectively, resulting in higher crop quality and yield.

The application of RootShield *PLUS*[®] provide growers with boxwoods that finish quicker, are larger in size, and have improved plant color.

OTHER HIGH-VALUE NURSERY CROPS WITH FAVORABLE RESPONSES TO ROOTSHIELD *PLUS*[®]

- + Loropetalum
- + Azalea
- + Gardenia



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