

Wilting resistance of drought recovery of Tall Fescue seedlings derived from seed treated with Bolster® Plant Biostimulant

PURPOSE:

Often turfgrass seedlings are subjected to droughty conditions before they become fully established resulting in poor turfgrass stands. This frequently happens on non-irrigated areas such as highway corridors. Reestablishment becomes costly. Not only the expense of renovation could double the initial cost of establishment, but in addition require expenditures for repair caused by erosion resulting from poor turf stands.

This experiment was performed to demonstrate the influence of a biostimulant in reducing the effects of a drought on tall fescue seedlings and the stimulation of subsequent drought recovery.

METHODS:

A balanced biostimulant, Bolster®, was applied to Rebel tall fescue seed at the rate of 0, 100, or 200 cc per kg of seed. The treated grasses were then seeded at 50 kg/ha to 15 cm diameter x 2.5 cc deep plastic containers filled with silt loam soil. Holes in the bottoms of the containers permitted good drainage. A 20-20-20 soluble fertilizer was applied at 160 kg/ha to the soil surface. The seed were germinated and seedlings were grown for one month under a mist system that was programmed so the soil did not dry and cause wilting. After one month, the containers were removed from the mist system and permitted to dry. When grasses from all treatments exhibited severe wilting, the containers were returned to the mist system and the grasses were permitted to recover.

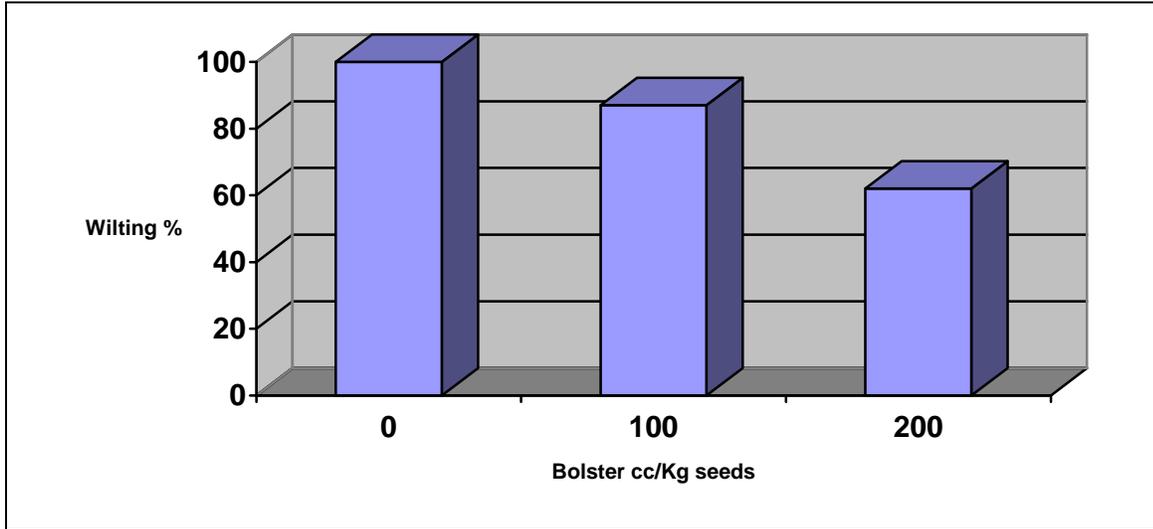
RESULTS:

It was observed that when the control seedlings were severely injured by drought, those plants derived from seed treated with 100 and 200 cc of Bolster® showed 18 and 34 percent less wilting, respectively than the non-treated tall fescue. Recovery after the wilted plants were replaced under the mist system was evaluated as 79 and 129 percent enhancement for the grass developed from seed treated with 100 and 200 cc of Bolster® as compared to the control.

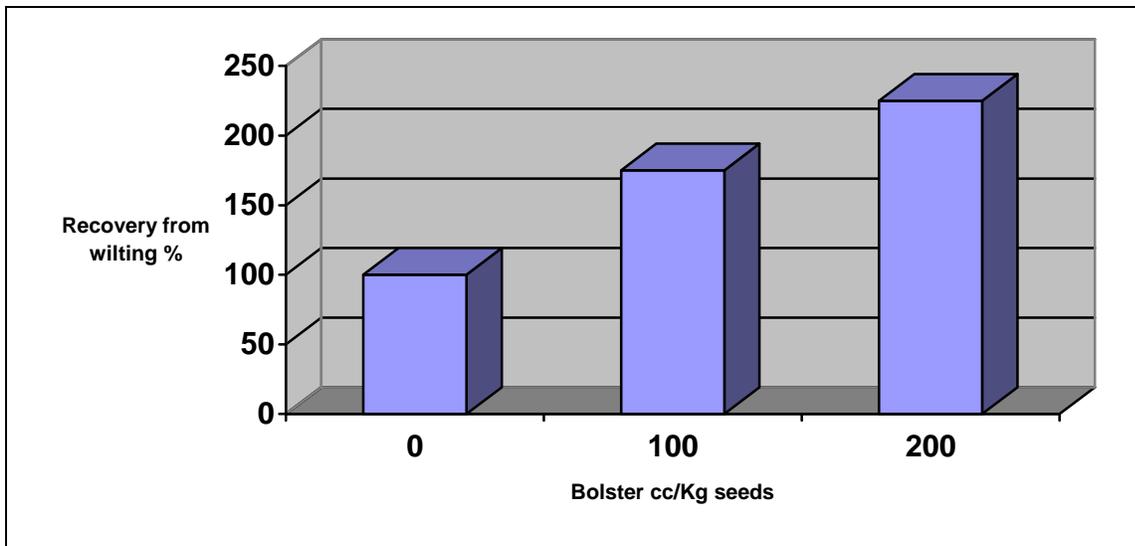
The results show that tall fescue seedlings derived from seed treated with Bolster® are better conditioned to tolerate drought than seedlings developed from non-treated seed. Bolster® may be applied to the seed during hydroseeding operation to insure against severe environmental stresses.

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Wilting of one-month-old Rebel Tall Fescue seedlings derived from seed treated with Bolster.



Recovery from wilting of one-month-old Rebel Tall Fescue seedlings derived from seeds treated with Bolster.