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Effects of boron and light treatments on the ascorbate concentration of alfalfa sprouts

Blair Mobley & Dale Blevins

Alfalfa (*Medicago sativa*) sprouts are an inexpensive, year-round source of fresh produce. Consumption of sprouts could be further advocated if their nutritional benefits were improved. The purpose of this study was to determine if growing alfalfa sprouts with boron and light treatments will increase the ascorbic acid (vitamin C) content of the sprouts. Alfalfa seeds were germinated for 3 days with and without boron. Both +boron and -boron treatments were grown in the dark or given a 3 hour light treatment. Dark germination of alfalfa with boron increased the ascorbate content of the sprouts by 30% compared to those grown without boron. Light treatment increased ascorbate in both +boron and -boron treatments, but boron did not seem to cause a significant difference in ascorbate among the light treated sprouts. These findings may present a method for increasing the ascorbic acid concentration in dark grown sprouts by germination in the presence of boron.