

The Effect of Seaweed Concentrate on the Growth of Impatiens Seedlings

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Introduction

Seedlings grown in soilless, peat based media sometimes lack vigor and intense green colour. Soilless media for seedling germination may not have the nutrients and lime evenly distributed. The result is uneven growth of the seedlings. It is critical to the economics of a bedding plant operation that the grower has vigorous, uniform seedlings for transplanting.

Materials and Methods

Impatiens var. Super Elfin Mix were seeded in a 10 row seedling flat. The media used was a peat based mix using the Cornell formula. The seedlings flats were covered with plastic domes and germinated under lights at 22° C. After germination, the domes were removed and the seedlings gradually exposed to natural light and humidity. When the seedlings had formed their true leaf (20 days after seeding), the flats were treated with seaweed concentrate (Kelpak). The seaweed concentrate was diluted 1:200 and the soil soaked to the point of saturation. Three replications of the treated and untreated flats were grown in the greenhouse. All seedlings were fertilized on a regular basis with 20-20-20 at 150 ppm. Two weeks after treatment, the plants were evaluated for colour, vigor, height and root development.

Results and Discussion

It was evident after ten (10) days from treatment that the plants treated with seaweed concentrate were larger and deeper green than the untreated plants. Fourteen (14) days after treatment, the plants were measured and final observations made. Table I show the mean height of the plants in the experiment.

Table I: Effect of seaweed concentrate on mean height of Impatiens seedlings.

	Rep 1	Rep 2	Rep 3	Average
Untreated	5 cm	4.5 cm	5 cm	4.8 cm
Treated With Seaweed	8.5 cm	7.5 cm	8 cm	8 cm

It is evident even without statistical analysis that the seaweed concentrate had a very significant effect on increasing the height of the Impatiens seedlings.

All the untreated flats had plants which were lighter green than the treated plants. This is an indication of vigor.

With regard to root development, no measurements were taken but a strip of plants was removed from each flat and observations were made. The treated plants had a larger root mass, which is indicated by the number of roots showing at the sides and bottom of the strip of plants.

Conclusion

This experiment indicates that treatment with seaweed extract of Impatiens seedlings is beneficial when growing in soilless, peat based media. This may have implications for other plants. Also, it may be beneficial for the production of plug seedlings. This is especially true for specialist plug growers who has to compete on quality. Colour and vigor would be very important to them. More work is needed to study the effect of seaweed extract on bedding plants at the seedling stage and using the plug system of growing.