

MEDIA TEST REVIEW

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Test Parameter or Nutrient	Actual	Recommended	Acceptable	Toxic
pH	4.6	6.2-6.8	6.0-7.0	>7.4
Soluble Salts (SS)	97	70-90	60-100	>120
Nitrates (NO3)	155	150-250	100-350	>400
Ammonium (NH4)	40	0-10	1-15	>15
Phosphorus (P)	43	10-15	5-20	>80
Potassium (K)	34	50-100	30-120	-
Calcium (Ca)	94	50-200	25-300	>400
Magnesium (Mg)	14	40-50	30-60	-
Sodium (Na)	13	10-40	5-60	>70
Iron (Fe)	.22	.20-.50	.10-.70	>5.0
Manganese (Mn)	.36	.50-1.50	.30-1.75	>5.0
Zinc (Zn)	.05	.10-.50	.05-.75	>2.0
Boron (B)	.04	.05-.25	.02-.50	>1.0

The pH of this test is low, especially for plants that have been growing for this length of time. The grower is acidifying, and needs to take a break to help raise the pH at least one full point.

This media test is from some hanging baskets. The test was taken to check the basis for poor plant growth. The crop was 6-8 weeks old.

To start, the pH of this test is low, especially for plants that have been growing for this length of time. The grower is acidifying, and needs to take a break to help raise the pH at least one full point. A pH of 6.2-6.5 is more appropriate. Associated with this low pH is the high phosphorus level. While the level is not near the toxic range, the level is high and the addition of more phosphorus will probably not be necessary for the duration of this crop. It is very possible that when the grower resumes acidifying the irrigation water, nitric or sulfuric may be the acid of choice. Since another soil test would be recommended before beginning to acidify again, a decision can be made at that time.

The next, and possibly the biggest, concern is the ammonium level. A level of over 15 is considered toxic and the level on this test is nearly three times that amount. The grower should leach these plants immediately. There is a good chance that the major problems associated with ammonium toxicity have not shown up yet, but as light levels and temperatures increase, the lower leaves of the plants will likely yellow and fall off. With levels this high the plants could easily lose most of their leaves. Ammonium is fairly easy to get rid of with heavy leaching, but this will bring about another concern.

The grower should leach these plants immediately.

With the leaching of the ammonium from the media, other nutrients will also leach. Following the heavy leaching needed to reduce this ammonium level, the nitrate, potassium, calcium and magnesium levels will most likely drop to very low levels. Following the leaching it will be necessary to increase the fertilization levels for one or two applications and then return to the regular fertilization practice. Levels of 300-350 ppm N and K would be appropriate for this heavy feeding. Since ammonium build-up appears to be a problem, the use of calcium nitrate and potassium nitrate would be recommended, at least until light levels and temperatures increase.

The magnesium level on this test is also very low, and the micronutrients are on the low end of the recommended scale. Follow the heavy feeding of calcium and potassium nitrate with a single application of magnesium (8 oz./100 gal water) and trace elements (1/2 rate).

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