

MEDIA TEST REVIEW

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Test Parameter or Nutrient	Actual	Recommended	Acceptable	Toxic
pH	5.3	6.2-6.8	6.0-7.0	>7.4
Soluble Salts (SS)	128	70-90	60-100	>120
Nitrates (NO ₃)	190	150-250	100-350	>400
Ammonium (NH ₄)	71	0-10	0-15	>15
Phosphorus (P)	60	10-15	5-20	>80
Potassium (K)	76	50-100	30-120	-
Calcium (Ca)	52	50-200	25-300	>400
Magnesium (Mg)	42	40-50	30-60	-
Sodium (Na)	19	10-40	5-60	>70
Iron (Fe)	.64	.20-.50	.10-.70	>5.0
Manganese (Mn)	.71	.50-1.50	.30-1.75	>5.0
Zinc (Zn)	.30	.10-.50	.05-.75	>2.0
Boron (B)	.27	.05-.25	.02-.50	>1.0

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The pH of this test is on the 'low side'. The grower should water with non-acidified water several times to increase the pH. When the grower begins to acidify again, he/she should consider changing from phosphoric acid to another mineral acid. The phosphorus level is high enough to supply the plant for the remainder of the growing season. A change to nitric or sulfuric acid will supply those nutrients to the plant in small amounts, and will work well for acidifying the water

The ammonium is extremely toxic. Remembering that the toxic level of ammonium is considered 15, the level here is over 4.5 times the toxic level. This is an excellent chance to raise the pH and reduce the ammonium level by leaching. It is also time for this grower to change from a premix fertilizer containing ammonium nitrate, to a premix that has very low levels of ammonium nitrate, or even better to mix their own fertilizer and avoid ammonium nitrate all together. The yellowing the grower noticed on the lower leaves of these plants is most likely due to the high ammonium level.

The nitrates are adequate, however, the N:K ratio is low. The N:K and Ca:Mg ratios should both be about 3:1. Increased use of calcium nitrate is advised in this case. This will increase both the nitrogen and calcium levels. Nutrient levels will be low following leaching. An application of 300-0-250 ppm is practical to improve plant growth. This increases the amount of calcium nitrate added in relation to the potassium nitrate. This also helps with the calcium level, and in the long run help avoid bract edge necrosis.

Another media test should be run following the fertilization to help the grower adjust continuing fertilization to appropriate levels. The grower also needs to be sure that molybdenum is being applied. The level necessary for poinsettias is low, but it is necessary.

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