Propagation Methods for the New Millennium

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To all concerned, the following summery and its findings are based on facts and data collect from production-grown plants. The help of several grower's on the East Coast and Mid West areas of the U.S.A. have my deepest "THANKS" for their belief in myself and my products. Along with those actual growers we are actively looking for university help in trials for two very important reasons. The first is to eliminate the stigma that biologically produced products can not replace chemical or synthetic products in actual production based on past results and costs. The second is to find out which products now on the market and which companies can produce results and are not just marketing masterpieces.

When I set out to find a more natural method other then traditional or conventional chemical means of propagating my thoughts were to list the goals I hoped to achieve. Those thoughts were of faster production from the viewpoint as a grower, and also as a backyard breeder. I also wanted it to work on as many plant taxa as possible. The list grew as my thoughts were also of worker and environmental safety. I set no priority on the list, but cost was something which had to be considered. On the following pages is the objective for the action taken, the methods of application used, and the results. As this is my first paper please read on.

We did a lot of work on perennials because they hold a spot close to my heart and they grow quickly. We know that the sooner cuttings are removed from the mist the losses due to excessive moisture decline. We wanted to increase or maintain an outside humidity level on the leaf surface and cut back on the amount of moisture needed to supply that level. The lignin polymers and surfactants found within the Grower Systems NGC accomplished those goals. But we also wanted to produce roots at the same time using natural plant hormones found in our kelp extract. The use of natural ingredients was a must for worker and environmental issues. Humic acid has an additional role in the rooting process by helping to buffer salts from soluble fertilizers which may be a detriment if the potting medium is allowed to become too dry. It also helps to chelate nutrients and make them readily available to the emerging tender roots.

We decided to use the NGC on Sunny Borders blue veronica, first of all because it was what the grower was sticking that day and had had a problem with damp-off due to excess water. The method of application selected was to use a hose-end bottle feeder set at a rate of 1 fluid oz NGC to 1 gal of water applied over the cutting and into the rooting medium in sufficient amount as to act as the first watering. This method was chosen because the grower was already applying KIBA in this manor and it was cost effective when time is considered. The treated cuttings were placed on the mist table and the mist was set on a 3-sec burst every 8 min. The nontreated cuttings were placed under mist set at 5-min intervals on a 6-sec burst. The treated cutting were taken off of mist in less then 2 weeks a full 8 days ahead of the nontreated and exhibited a larger flush of new growth. The plants were sold with no follow-up on how the plugs preformed.

The second method was to use the NGC as a 5-min soak. We used mini roses for our second trial. Cuttings were prepared for sticking and then immersed in a

solution of 1 fluid oz NGC and 1 gal of water for a period of 5 min and then stuck into 2¼-inch peat pots. The nontreated cuttings were individually dipped in a solution of Dip-N-Grow mixed at the suggested label rate. All cuttings were placed outside under mist and were checked about 8 weeks after sticking. There was very little difference exhibited in the root structure and only slightly in the amount of new growth. We were pleased with the results because we had generated roots in a method that we felt was safer to the workers and the environment, and was slightly less costly to use then their usual method. Again there was no follow-up to see how the rooted cutting transplanted for the next grower.

We completed a study that again used mini roses, this time the method of application was to make a 10% NGC solution mixed in a hand sprayer and applied over the top as a drench. The cuttings were rooted and transplanted before I had a chance to follow-up on the rooting. I was told that they rooted faster then normal and had a much more noticeable flush of new growth. The good part was that they were growing them on as part of their plant selection process and drenched them with a 1.5 fl oz per 10-gal water solution (NGC solution) at the time of transplanting. I was told that we had taken several months off the process.

We also wanted to finish container plants at a faster rate without forcing them with fertilizer, which in my mind is a quick fix. The desired effect were trialed for two reasons. First I wanted stockplants that would produce more cuttings to speed up my own selection process, the more plants produced the faster I could determine if they had the qualities I was looking for. The second motive was one with the grower in mind. If we could finish a plant faster with little extra cost it would open up a new approach to marketing a grower's plants. The plants consisted of a mix of perennials in 1-gal containers transplanted from 2-inch plugs. The potting soil was mixed in house using yard-waste compost, perlite, pea gravel, and silica sand. The treated plants received an over the top drench as a first watering using the rate of 1.5 fl oz (NGC) per 10 gal of water. All containers were topdressed with a granular fertilizer, no supplemental fertilizers were applied during the growing process. The treated plants received 2 oz of Grower Systems 5N-3P-4K plus, the nontreated plants 2 oz of a Scott's 20N-3P-11K 180 daytime-released fertilizer. The Grower Systems 5N-3P-4K plus treated plants were ready for market in 4 to 5 weeks, the others in 6 to 8 weeks.

Mission accomplished.