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Using Branching Agents on Woody Ornamentals in the Nursery

Professor Joyce Latimer / BLOG /

Once a grower starts using and learning about the variety of plant growth regulators (PGRs) available, he/she becomes interested in testing PGRs to improve plant growth and appearance. And, in how to reduce pruning costs through using branching agents.

Yes, we can reduce pruning labor and its potential for disease spread by using PGRs to enhance branching of woody shrubs grown in the nursery. Remember you have all the same considerations that we discuss with using PGRs on any other crop – crop, cultivar, plant age and stage of development, application methods and drying conditions.

As I said in last month's blog on using growth retardants on woody ornamentals, I don't have my own research results in this area. So again, I've gone to the literature and summarized what I've found. These results will give you some PGRs and rates to test on your own crops.

Note: In many cases, the rate listed is MY assessment of the published data to give you a TEST rate. These rates are NOT RECOMMENDED for production application. TEST THEM FOR YOURSELF!

Table 1. Literature review of effective spray applications of branching agents on woody

Crop	PGR	Spray rate (ppm)	Notes	University
Azalea, assorted	BA	500 x 2	Response varies with cultivar	IR-4*
Azalea, Flame	Dikegulac sodium	4000 x 1	Decreased growth moderately	NC State
Azalea, Formosa	BA	2000 x 1	Moderate increase	Auburn
Crape myrtle	Ethephon	1000 x 2	Apply at first flower flush to abort flowers; stimulates lateral branching	Auburn
Fraser photinia	BA	1000 x 1	Moderate growth control as well	Auburn
Gardenia	BA	600 x 1	Increased branching	CFAHR, CA
Holly 'Helleri'	BA	1000 x 1	Moderate growth control as well	Auburn
Holly Inkberry	BA	1750 x 1	Significant phyto; test lower rates	Auburn
Holly 'Sky Pencil'	BA	500 x 2	Increased branching; phyto in some trials	IR-4
Holly 'Stoke's Dwarf'	BA	1000 x 1	Moderate growth control as well	Auburn
Holly 'Winter Red'	Dikegulac sodium	3800 x 2	Increased branching but significant phyto; test lower rates	Kentucky
Hydrangea macrophylla	Dikegulac sodium	800 to 1600 x 1	Increased branching and symmetry; severe phyto in some studies	IR-4
Indian hawthorn	BA	1250 to 2500 x 2 to 4	Increased branching; phyto on some cultivars	Auburn
Nandina, multiple cultivars	BA	5000 x 5 weekly	Moderate to large increases in branching; some early leaf discoloration/ puckering	Auburn
Magnolia grandiflora	BA	5000 x 3	Inconsistent response	Florida
Roses	BA	500 x 2	Increased branching (cv specific) but phyto and growth reduction; test lower rates	IR-4

*IR-4 Ornamental Horticulture Program: PGR Effect on Branching of Woody Ornamentals – 2012 summary of similar protocols conducted in multiple universities
http://ir4.rutgers.edu/Ornamental/SummaryReports/PGRWoodyBranchingSummary2012.pdf

One recommendation that may be useful in your testing came from an Auburn publication where they evaluated the timing of BA (now available as Configure, Fine Americas) applications relative to plant development (Oates et al., 2005). With three woody shrubs, they found that BA foliar sprays were most effective at increasing branching, and caused the least phytotoxicty, when applied to plants that were actively flushing. These are actively growing plants that have some fully expanded leaves but for the most part still had immature and perhaps pubescent foliage. Treating earlier in plant development caused more phytotoxicity damage and resulted in few breaks. Treating later reduced phyto but resulted in little improvement in branching.

And remember to use good application techniques. If you are unfamiliar with these PGRs, take the time to peruse the previous blogs here on the Fine Americas, Inc. site for details and tips. We have talked about maximizing the effectiveness of Configure (BA) applications in several blogs and videos. Study these so that you can make the most of your time investment and get the most reliable results.

Reference:
Oates, J.M., G.J. Keever and J.R. Kessler.2005. Developmental stage influenced plant response to benzyladenine. J. Environmental Horticulture 23(3):149-152.

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