

'Shiloh Splash' River Birch^{PPAF}

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Significance to Industry: 'Shiloh Splash' river birch^{PPAF} (*Betula nigra* 'Shiloh Splash'^{PPAF}) is a new, variegated cultivar of river birch that has utility as a shrub, small tree, or hedge in the landscape. Propagation studies found that this cultivar roots readily from terminal, softwood cuttings (taken in mid July) with optimal treatments consisting of basal dips of 2,000 - 4,000 ppm of either KIBA or IBA in 50% isopropyl alcohol.

Nature of Work: 'Shiloh Splash' river birch^{PPAF} (*Betula nigra* 'Shiloh Splash'^{PPAF}) is a new, variegated cultivar of river birch that was discovered by Mr. John Allen at Shiloh Nursery in Harmony, N.C. This cultivar is distinct with its attractive leaf variegation (an ivory-yellow margin and green center) and smaller size and growth rate compared to typical river birch. 'Shiloh Splash'^{PPAF} can be used as a shrub, hedge, or small tree. The purpose of this project was to develop propagation protocols to optimize rooting of stem cuttings.

Terminal, softwood, cuttings were collected on 13 July, 2004. Cuttings were pruned to approximately 5" with the lower leaves removed. The basal 1" of the stems were dipped for 5 sec. in treatment solutions ranging from 0 to 10,000 ppm auxin formulated as either indole butyric acid (IBA) dissolved in 50% isopropyl alcohol or the potassium salt of indole butyric acid (KIBA) dissolved in water. Cuttings were stuck in a medium of 50% peat : 50% perlite and placed under intermittent mist in a shaded (~50%) glass-covered greenhouse. Cuttings were arranged in a completely randomized design with 15 replications. Data were analyzed using regression analyses.

Results and Discussion: There was no influence of auxin concentration on percent rooting for either IBA or KIBA (Fig. 1A and 1B); cuttings rooted between 70% and 100% regardless of treatment. However, root number was influenced by auxin concentration. Root number followed a cubic trend in response to IBA concentration with the highest root number between 2,000 and 4,000ppm (Fig. 1B). Root number increased in response to KIBA, but there was no significant trend in root number between 2,000 and 10,000 ppm KIBA (Fig. 2B). In general, root numbers per cutting were maximized with approximately 2,000 - 4,000 ppm of either formulation.

For more information on this study or on 'Shiloh Splash' river birch^{PPAF}, contact Tom Ranney at the above address or 828-684-3562.

Figure 1. Rooting percent (A) and root number (B) in response to a range of IBA (in 50% isopropyl alcohol) treatments applied as a liquid, basal dip. Symbols represent means (n~15) +/- 1 SEM.

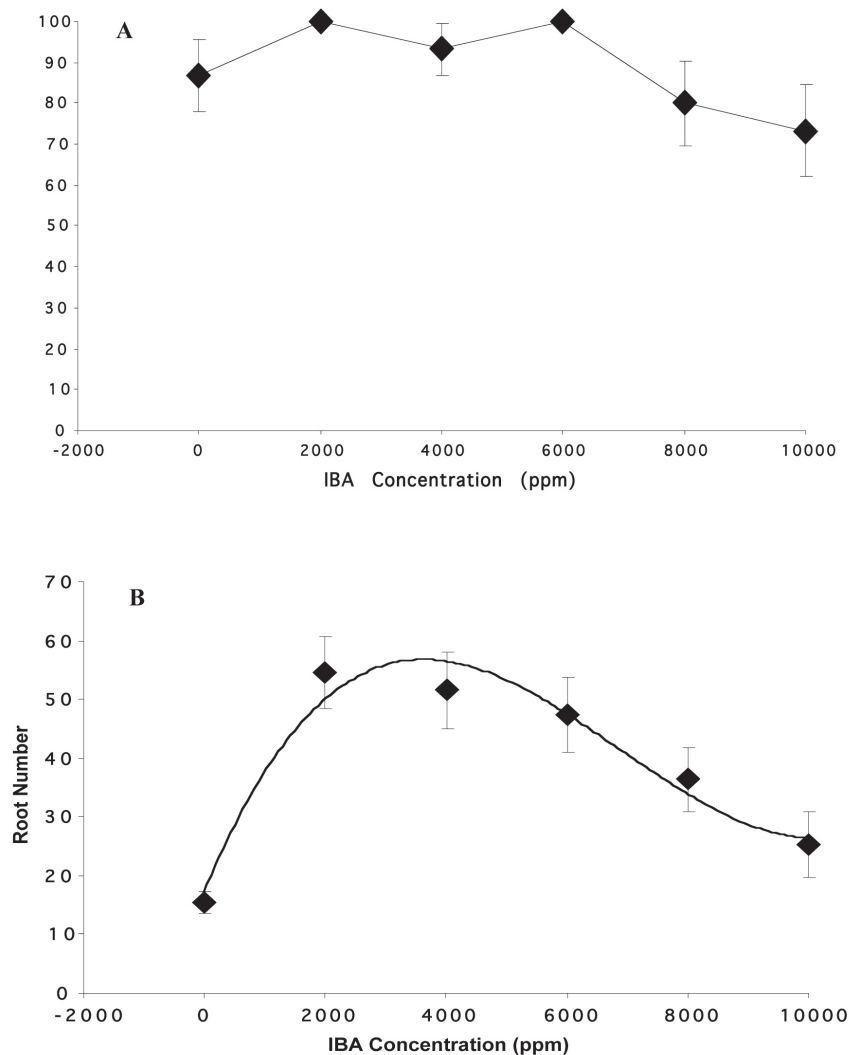


Figure 2. Rooting percent (A) and root number (B) in response to a range of KIBA (potassium salt in water) treatments applied as a liquid, basal dip. Symbols represent means (n~15) +/- 1 SEM.

