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# PROPAGATION OF HIGHBUSH CRANBERRY, VIBURNUM EDULE, BY STEM CUTTINGS

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Highbush cranberry, Viburnum edule, is a native shrub that has potential as an ornamental, particularly in woodland landscapes. In addition, this shrub may be used as revegetation material in severely disturbed areas such as mining, highway, pipeline or similar construction sites. Highbush cranberry may be propagated by seed, but because of a deep physiological dormancy, germination is often difficult and slow. An alternative to seeds is vegetative propagation by stem cuttings. Previous research has shown that successful rooting occurs if cuttings of new growth are collected during the summer, but that rooting of cuttings collected in winter is poor. The purpose of this study was to identify summer rooting patterns of one-year-old and new growth, and determine the best timing of cutting collection for maximum rooting and cutting survival.

Stem cuttings were collected from native stands near Fairbanks throughout the summer of 1986. The leafy stems were placed immediately into plastic bags and were processed as soon as possible after collection to avoid excessive moisture loss. Two types of cuttings were made on each date: new growth and one-year-old growth. All cuttings were treated with a rooting powder, then stuck into flats of perlite. Cuttings were rooted in an intermittent mist propagation bench, and the percentage of rooted cuttings was determined after 8 weeks. Following rooting, cuttings were transplanted to flats of potting soil and cutting survival was evaluated after an additional 4 weeks of growth.

Rooting was best when cuttings of new growth were collected on August 15 (Figure 1). At this time, plants in the wild had completed most of their stem elongation; stem length was ideal for cutting handling; and all cutting had fully developed leaves. Rooting of one-year-old cuttings was best on the July 12 and August 1 collection dates. There was no consistent pattern of rooting when comparing new growth to one-year-old growth. New growth exhibited better rooting early in the season, but with the exception of the Aug 15 collection date, rooting percentages were slightly better for the one-year-old cuttings after Jule 28 (Figure 1). Survival of rooted cuttings after transplanting into potting soil was best for new growth collected on July 25 and August 15 (Figure 2). Best survival for one-year-old cuttings was slightly earlier on the July 12 and July 25 collection dates. For best rooting percentages and optimum survival after transplanting, collect cuttings of new growth from well developed wild stands from July 12 to August 15.

Figure 1. Rooting percentages of highbush cranberry stem cuttings collected from new growth and one-year-old growth at various times during the growing season.

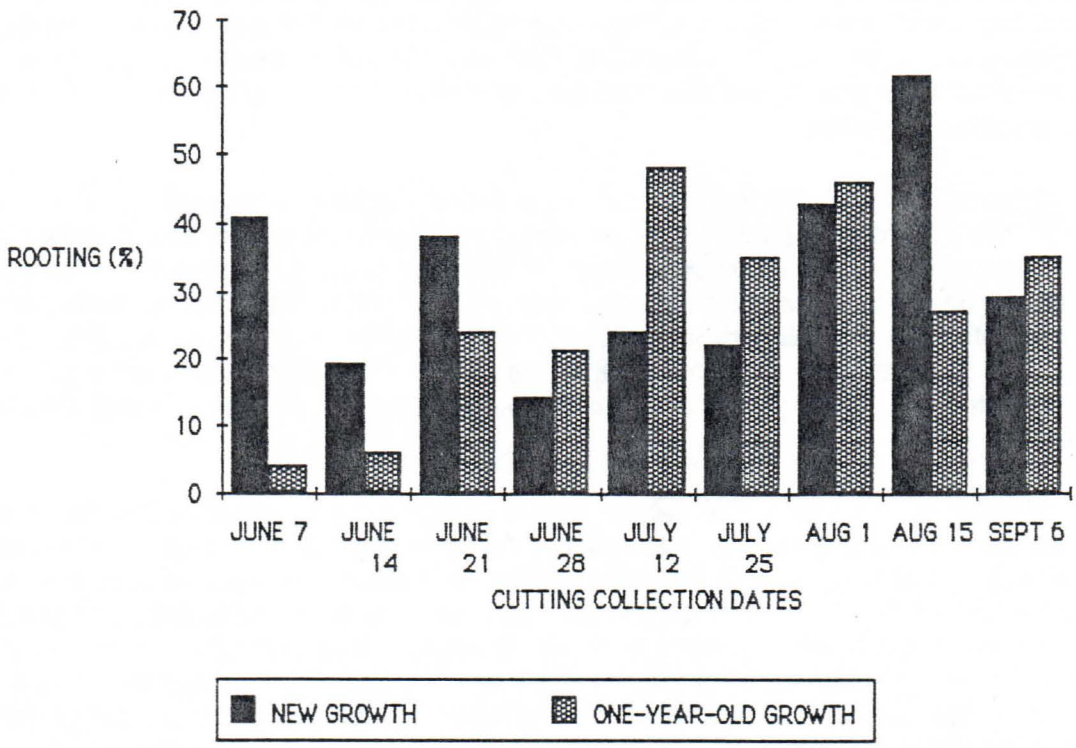

Figure 3. Percentage of empty container cells of 6-packs seeded with Alaska iris. Iris seeds were stratified; soaked in water or 1000 ppm gibberellic acid; sown in a commercial peat-lite seed germination mix; then germinated beneath black or clear plastic coverings.

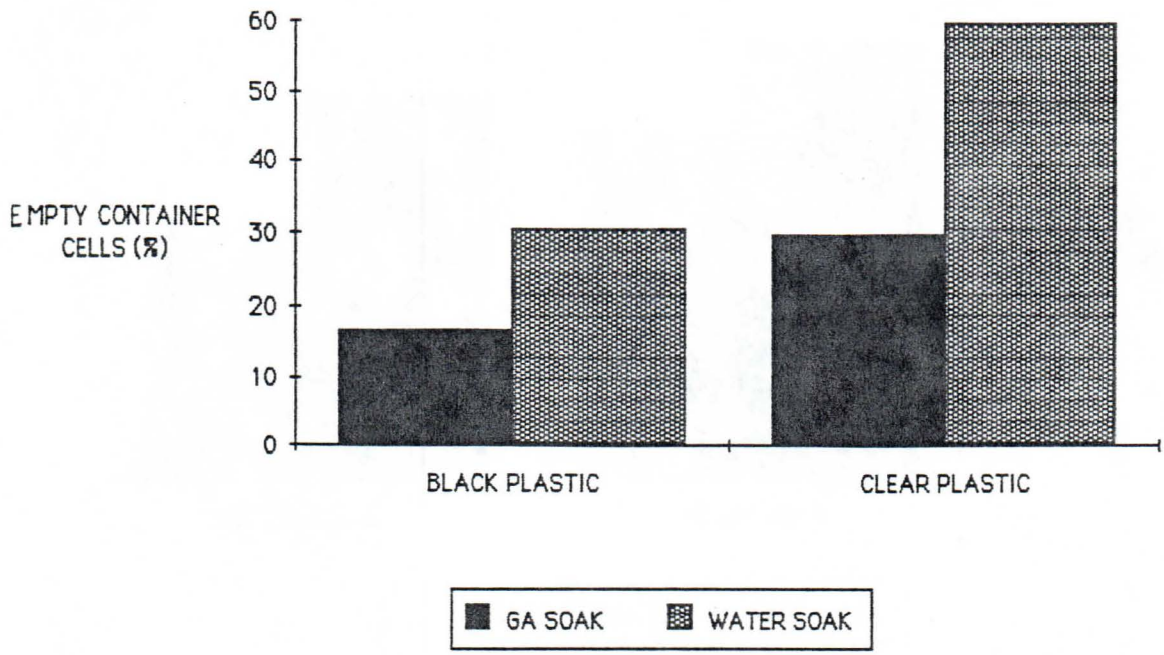

Figure 2. Percentage emergence of Alaska iris seeds that were stratified for 125 days, soaked in water or 1000 ppm gibberellic acid; sown in flats of a commercial peat-lite seed germination mix; then germinated beneath black or clear plastic coverings.

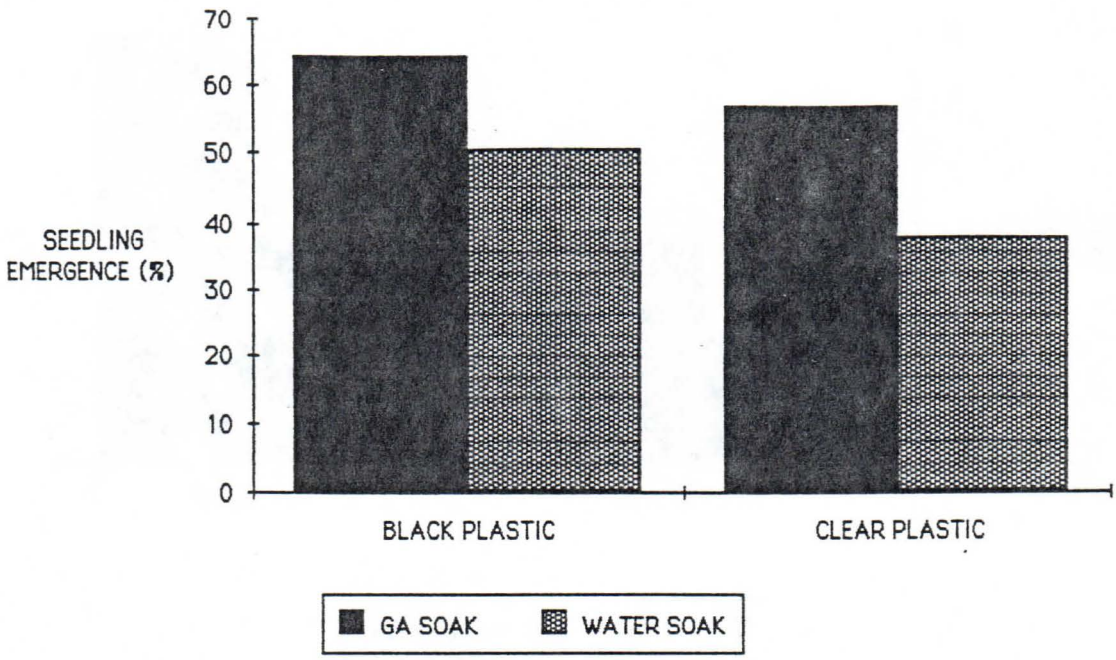

Figure 2. Percent survival of rooted highbush cranberry cuttings collected from new growth and one-year-old growth at various times during the growing season.