conclude that a variety of factors, including the origin of the rootstock and scion, as well as location may influence the long-term survival and growth of grafted black walnut trees in Missouri.

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Progress in Velcro Banding Asian Maples©

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INTRODUCTION

The University of Rhode Island Agricultural Experiment Station is always looking for new plants to increase diversity in the Rhode Island nursery industry. Five different maple species, *Acer tegmentosum, A. ukurunduense, A. capillipes, A. davidii* subsp. *grosseri* (syn. *A. grosseri-davidii*) , and *A. tschonoskii* are new to this area and are being tested for culture and propagation. In 2003 the five maple species were propagated using a banding technique that uses Velcro strips and an early dose of rooting hormone to see if it can enhance adventitious root formation. These maples are believed to be hard to form adventitious roots on. The goal of this project is to increase the rooting percent of these plants so they can be distributed to local nurseries.

MATERIALS AND METHODS

Semihardwood cuttings were prepared 15 May 2003 for *A. tegmentosum* and *A. ukurunduense*. A 2.5-cm square of black Velcro was dipped into Hormodin 3 rooting powder. It was then wrapped around the new spring growth just below the first new node on the twig. *Acer capillipes, A. davidii* subsp. *grosseri,* and *A. tschonoskii* were banded 27 May 2003 because there was not enough new growth 15 May 2003 to attach a Velcro band on. Cuttings from *A. tegmentosum* and *A. ukurunduense* were collected on 23 June 2003. Cuttings were 15 to 20 cm in length. Sixteen controls are taken of each. The soft tips are removed from cuttings back to two nodes. Each cutting was stuck into a 5 × 5 × 14-cm cube filled with 2 perlite : 1 peat (v/v) mix. Thirty-two cubes were placed randomly into a flat. The Velcro bands were removed and cuttings were stuck 5 to 7 cm into the mix. Eight controls of each were treated with Hormodin 2 rooting powder and eight were just treated with water. *Acer davidii* subsp. *grosseri, A. capillipes,* and *A. tschonoskii* cuttings were collected 30 June

Table 1. *Acer davidii* subsp. *grosseri* rooting response, stuck 30 June 2003 and harvested 27 Aug. 2003.

Treatment	Rooting response				
hormone	Banding	(%)	No.	Root (no.)	Root length
Control	no	0	5	n/a	n/a
Hormodin 2	no	80	5	3.5	388
Hormodin 3	yes	80	10	4.8	307

Table 2. *Acer capillipes* rooting response, stuck 30 June 2003 and harvested 27 Aug. 2003.

Treatment	Rooting response				
hormone	Banding	(%)	No.	Root (no.)	Root length
Control	no	0	5	n/a	n/a
Hormodin 2	no	20	5	2	359
Hormodin 3	yes	22	9	4.5	318

Table 3. *Acer ukurunduense* rooting response, stuck 23 June 2003 and harvested 23 July 2003.

Treatment	Rooting response				
hormone	Banding	(%)	No.	Root (no.)	Root length
Control	no	38	8	4	73.6
Hormodin 2	no	63	8	5.8	82.2
Hormodin 3	yes	94	32	19.3	94.9

Table 4. *Acer tegmentosum* rooting response, stuck 23 June 2003 and harvested 23 July 2003.

Treatment	Rooting response				
hormone	Banding	(%)	No.	Root (no.)	Root length
Control	no	25	8	5.5	34
Hormodin 2	no	100	8	13.6	72.8
Hormodin 3	yes	87	31	23.1	78.2

2003 and prepared in the same manner. The flats of cuttings were placed in an outdoor mist bed under a 50% light-transmittance shade in Kingston, Rhode Island (41°29'N, 71° 31'W). The mist cycle was every 10 min for 10 sec. *Acer tegmentosum* and *A. ukurunduense* cuttings were harvested 23 July 2003. Rooting percent, root number, and root length were measured. *Acer davidii* subsp. *grosseri, A. capillipes,* and *A. tschonoskii* cuttings were harvested 27 Aug. 2003. Rooting percent, root number, and root length were measured.

RESULTS AND DISCUSSION

Acer tschonoskii cuttings all died. *Acer davidii* subsp. *grosseri* (Table 1) cuttings rooted well with the control hormone and with the Velcro bands. Both treatments rooted 80%. The banded treatment had a higher mean root number but the hormone control had a higher mean root length. The zero hormone control did not show any rooting activity at all. *Acer capillipes* (Table 2) cuttings had a low rooting percentage with all three treatments. Both the banded treatment and hormone control have similar rooting while the zero hormone control failed to root. *Acer ukurunduense* (Table 3) had a good rooting response from the banded treatment. It rooted 93% with a mean root number of 19.3 roots per cutting and a mean root length of 94.9 cm. All three categories were higher than in the hormone and no hormone treatments. *Acer tegmentosum* (Table 4) had a good rooting percentage from all three treatments. The hormone treatment had the highest rooting percent with 100% root formation. The banded treatment had the highest mean root number and highest mean root length. *Acer ukurunduense* benefited the most from this banding technique. The bands greatly improved all three categories. *Acer tegmentosum* and *A. davidii* subsp. *grosseri* did not benefit from the banding at all. They produced the same results as just using a basal powder dip at the time of sticking the cuttings. *Acer capillipes* needs further work to see if some changes need to be made to promote rooting.