

Observations From Rooting Chocolate Cosmos From Tissue Culture

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From 1998 to 2006, we experimented with small numbers of chocolate cosmos (*Cosmos atrosanguineus*). It is not a plant that really fits into our standard bedding plant program, so we have chosen to take it out of production this year. I wouldn't say we have mastered rooting this plant by any means, but I can share a few things that we have learned along the way.

Soil Mix: Electrical conductivity (EC) below 1.0, we usually leach down to 0.5 EC. We like our regular bedding potting mix for cosmos, as it has larger pumice in it, and good drainage. It worked better than our finer propagation mix.

Mist: Keep humidity high (80%–90%) if possible. But, keep mist as infrequent as possible after the first day. Use just enough water to keep things humid and moist. We rooted these in June/July and found white plastic best for shading.

Fertilization: Start with a light feed after 1 week, then feed weekly during rooting process.

Fungicide Drench: The usual preventative for disease.

Hormone: We have used Hormodine 1 and 2, Hormex 3, and Woods liquid on chocolate cosmos. Our best rooting has been at the 1 : 10 rate Woods (Woods is composed of 1.03% IBA, 0.66% NAA) and the 0.30% IBA rate of the powdered products.

Cutting Quality: This seems to play a huge role in our success rate. Straight cuttings with a good caliper perform the best. If the stem has a reddish hue to it, they seemed to be better. Thin, wispy, light-colored cuttings died. Also soft tips did not make it.

Sanitation: Always important, we cleaned and sanitized clippers/tools frequently, and washed hands.

Results: Our best rooting was probably around 60% to 70%. This leaves room for improvement. This plant is not only difficult to root, it can also be a challenge to overwinter and transplant. You can lose another 20% if conditions/timing are not right.

Even though there are some serious challenges to starting these plants (at least in our conditions) once it is up and growing, it is a beautiful product.

Protecting Fingers During Grafting: A Demonstration

Verl L. Holden

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With emergency room costs for a simple 5-stitch cut to a finger or thumb running \$800.00 or more, a simple tape protection to hands is good insurance. Holden Wholesale Growers is using two types of tape to provide both protection and dexter-

ity. One type is Johnson and Johnson 2-inch-wide elastic tape. This is a heavy duty tape which will stretch over the contours of the fingers and thumb. The second type is Modern Aids Inc. $\frac{3}{4}$ -inch-wide green tape which sticks to itself and not your skin. Used together as demonstrated, both tapes will hold for a 10-h day of grafting or making cuttings. The tapes will protect from small cuts and skin abrasions as well as reduce fatigue. Johnson & Johnson elastic tape can be purchased at most drug stores or farm stores with animal care products. The Modern Aids tape can be found in most safety catalogs.

***Fagus sylvatica* for Open-Ground Production**

Don Ekstrom

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A number of years ago, I presented a paper on the summer budding of European beech cultivars using stick budding. The general timing of budding is usually July or August. The two most important factors in timing are the budwood readiness and the trees growth stage. Another way to say it would be will the bud slip into the cambium layer.

The biggest challenge is to get the European beech understock growing the first summer. Beech trees thrive in fertile, well drained soil.

They are late to bud out in the spring usually in mid to late April. We try to plant them as early as possible in the spring. The other option would be to buy a potted liner and plant it in the fall. The first attempt to get a viable bud take would occur preferably in July. We'd let the tree grow that year and cut it off the following spring when we know it is good. If our summer buds didn't take or we were not able to bud the liners that first summer, we will do a spring bud for a second attempt. We collect beech wood in March to bud in May with the dormant wood. If we still have some that have not worked we'll bud them again in July. The spring buds will cut back in July and let them grow. The summer buds won't be cut off until the following spring.

The other change we made is the timing of transplanting the field-budded trees. We had an experience about 4 years ago that was discouraging to say the least. It was the late planting of bare-root beech liners in May followed by 4–5 days of 90+ °F heat.

We now dig the field-budded beech trees in the fall, mid-to-late October. This seems to have really worked well since beech buds are dormant. The leaves will turn brown and look like a pin oak for awhile. Our survivability is nearly 100% and it takes big burden off getting them transplanted in the spring.

The idea of fall transplanting came from another I.P.P.S.-member Guy Meacham. We have used the fall-planting theme for other bare-root field-budded trees also and it has worked out well.

I hope you can use the information and supply it to a plant you are growing.