

- Plant Propagation Workshop. 33rd Tissue Culture Association Meeting. San Diego, CA.
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Tuesday Afternoon, December 9, 1986

The afternoon session was convened at 2:00 p.m. with Carla Patore serving as moderator.

MODIFIED SIDE GRAFT FOR DECIDUOUS TREES

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Our basic approach to outdoor grafting of deciduous trees had always been coupling or triangling. When the scarcity of good, capable grafters to make intricate triangle grafts became a problem, we decided to try modified side grafting. We felt that this procedure would solve two of our problems; the need for experienced and skilled grafters, and the poor “takes” that we encountered with various species. This resulted in the loss of the full standard. When only a portion of the stem is lost, the tree is made less uniform and not as readily saleable.

To overcome both of these problems we decided to see if side grafting, as we were using in evergreen grafting, might work. We were grafting around 30,000 evergreens at that time, had plenty of experienced help, and time to train more, as grafting is done during our slacktime—winter.

Let me describe to you the procedure using *Morus alba* ‘Pendula’, which is grafted onto *M. alba* or *M. alba* var. *tatarica* as

an example. When top grafting it is important that understock and scion heal as fast as possible, yet does not interfere with other more urgent tasks in the spring.

Scionwood is gathered early in the season before there is any active growth. The beginning of April is a good time in our area (Mississauga, Ontario). Scionwood is kept moist and refrigerated at -1°C until needed. The stems of the understock have been cleaned up the previous fall to 20 cm above the grafting height of 1.8 m and the top branches reduced to between 20 and 30 cm.

When we actually see sap exuding from a cut we commence grafting. The scionwood is taken from storage and cut into two bud sections. This length is sufficient as seldom will more than two buds sprout. Longer scionwood also dries out and reduces "take". It is important that only well-ripened, one-year wood is used.

A long sloping cut, placing the knife at an angle of approximately 30° , is made on the scion with a bud opposite. The scion is finished by cutting the lower portion on the other side of the first cut at a fairly blunt, short 60° angle. The understock is cut from above at a very shallow angle downward, best from where a branch has been removed. This cut should be slightly longer than the long cut on the scion and the resulting flap is trimmed to the length of the shorter cut on the scion. What we are doing essentially is to use a woody scion in the manner of chip budding.

The scion is placed into this cut making sure that all cut surfaces match and is then tied and waxed. Great care should be given to proper waxing, especially the area where stem and scion meet. When the scion starts to sprout after 4 to 5 weeks the top is cutoff and the wound dressed. Regrafting can be carried out in the same season for any scions that have obviously not taken, or the tree can be left to be redone the following year, by letting the top grow on. Besides *Morus* we also use this procedure for *Euonymus* standards and I can recommend modified grafting for other difficult subjects.

We found this procedure quite workable and, in addition to not losing a standard that had taken 3 to 5 years to grow, we added the benefit of a growing top. This draws sap to and past the graft, resulting in better takes and not spoiling expensive understocks.

VOICE: Does "bleeding" inhibit the formation of the graft union?

JOERG LEISS: No, in my opinion it does not. In fact, if they do not "bleed" it is too early to graft.