

# HOMEMADE DIBBLE

*facilitates planting  
willow and  
cottonwood cuttings*

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Figure 1 • Foot pressure and a rocking back and forth motion are used to force dibble into hard or rocky soil.

## Abstract

An inexpensive dibble, easily assembled from commonly-used pipe and fittings and the directions we provide, can be used to make planting holes for willow and cottonwood cuttings, especially in shallow, rocky soils.

**KEYWORDS:** Salicaceae, *Salix*, *Populus*, riparian, restoration

**NOMENCLATURE:** ITIS (1998)

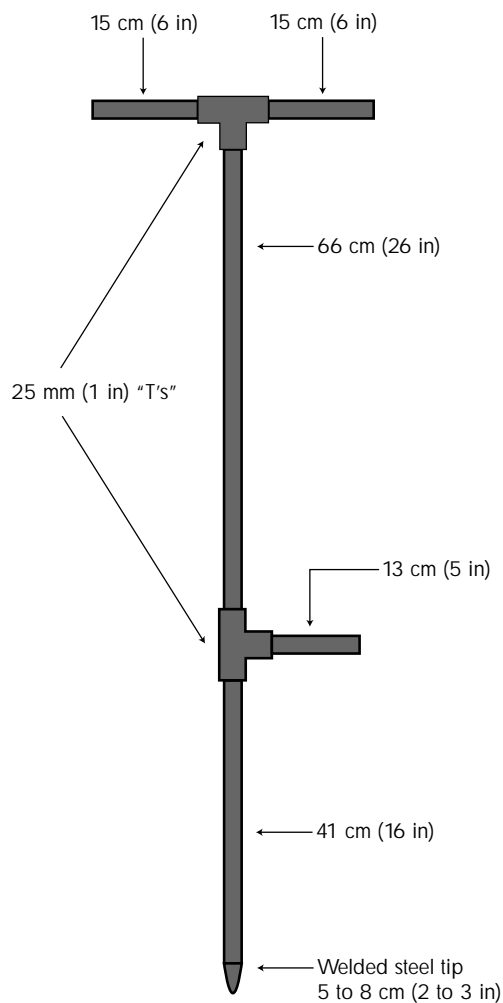
In March 1994, we initiated a riparian restoration project at the University of California Sierra Foothill Research and Extension Center (SFREC), 24 km (15 mi) northeast of Marysville, California (McCreary 1998). We wanted to evaluate several approaches for restoring woody plants along a 610-m (2000-ft) section of perennial stream that was cleared of all woody vegetation 30 y ago. Besides planting oak (*Quercus* L. spp. [Fagaceae]) seedlings, we planted cuttings of 3 Salicaceae species: sandbar willow (*Salix exigua* Nutt.), arroyo willow (*Salix lasiolepis* Benth.) and Fremont's cottonwood (*Populus fremontii* S. Wats.). Willow and cottonwood cuttings were locally-collected, approximately 60 cm (24 in) long and between 1.25 and 2.5 cm (0.5 to 1 in) in diameter.

We wanted to plant cuttings adjacent to the stream, out of standing water, but near enough to the water line so that soil at the bottom of the planting hole would remain wet through most, if not all, of the year. To ensure this, we decided to plant cuttings at least 40 cm (16 in) deep. However, in all but a few of the planting locations, soil next to the stream was shallow and rocky, and we thought light-weight dibles or shovels were out of the question. We therefore designed and built a metal dibble that would allow us to make deep enough holes in spite of difficult planting conditions (Figure 1). Our dibble was made from inexpensive and easily available galvanized pipe and fittings, though we did have the shop crew at the SFREC weld a tip for it (Figure 2). The total material cost, using new

pipe and fittings purchased at the local plumbing store, was approximately US\$25. Except for making the welded tip, the only tools necessary for construction were a vice and a pipe wrench.

Although our dibble would not penetrate deep enough at every location without first trying several "pilot holes" to find a suitable planting spot, it worked amazingly well. Even in very rocky soil it was usually possible to get the dibble in deep enough by maintaining pressure downward (standing on the foot pedal) and rocking back and forth, unless the dibble struck a rock several centimeters wide. Where soil was less rocky and softer, it was possible to just thrust the dibble in to its full depth, since its weight alone caused considerable downward force. Once holes were made and cuttings inserted, we carefully eliminated remaining air pockets (since the dibble hole was usually wider than the cuttings) by either stomping next to the hole or, in some instances, making a second dibble hole next to the initial one but about 5 cm (2 in) to the side. By then pulling back on the dibble, it was possible to force soil into the open cavity and effectively close it.

We found that since the dibble is constantly being set on the ground (sometimes in tall grass) while putting cuttings in holes, it is much easier to find when painted a bright color like fluorescent orange. Needless to say, our dibble is very durable and after being used to plant hundreds of cuttings and thousands of grass plugs, it shows little, if any, wear. Our dibble is fairly heavy (about 4.5 kg [10 lb]) and may be difficult to carry long distances or all day. If one were walking kilometers and only planting a cutting occasionally, a lighter tool might be in order. The basic diameter of the pipe used could be changed to meet the diameter of cuttings being planted.



**Figure 2** • The dibble consists of a handle, a body, a foot pedal, and a point (with a tip). Except for the welded tip, the dibble is constructed entirely from 25-mm (1-in) diameter galvanized or steel pipe and fittings. The tip is a solid piece of steel inserted and welded into the end of the point, and then ground and shaped to a rounded point. Handles are secured to the body using a "T" fitting. At the bottom of the body is another "T" connected to a foot pedal and to the point with welded tip. All pieces are screwed together and tightened with a vice and a pipe wrench.

## References

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