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18. © Direct seeding is more cost effective than container stock across ten woody species in California. Palmerlee, A. P. and Young, T. P. Native Plants Journal 11(2):89-102. 2010.

Direct seeding is more cost effective than container stock across ten woody species in California

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ABSTRACT

The planting of native woody plants is a cornerstone of many habitat restoration projects. Current techniques for revegetating disturbed or reclaimed plant communities often consist primarily of planting trees and shrubs from container stock, which can be costly to buy or produce, time-consuming to plant (an additional cost), and logistically difficult for large-scale restoration projects. We tested whether direct seeding woody species was more cost effective than planting container stock. During fall 2004, we planted 3 sites encompassing the ecotone of foothill riparian and woodland habitats in northern California with 10 native species of woody plants, both as container stock and direct seed. Data on survival were collected over a 2-y period. Across species, the planting success of direct-seeded plants, but not container plants, increased significantly with increasing mean seed size. Although seeds generally had lower individual planting success than did container stock, this was always offset by the higher costs of purchasing and planting container stock. Direct seeding was up to 29 times more cost effective than planting container stock when considering base costs (not including fixed costs of tubes, irrigation, and herbicide). Including these additional costs reduced the cost advantage, but direct seeding remained more cost effective per surviving plant across all species, and especially so for large-seeded species.

Palmerlee AP, Young TP. 2010. Direct seeding is more cost effective than container stock across ten woody species in California. Native Plants Journal 11(2):89–102.

KEY WORDS
planting costs, restoration, native plants, seed size

NOMENCLATURE
Hickman (1993)

Photos by Alex P Palmerlee