SUCCESSFUL COPPICE REGENERATION OF SECOND-GROWTH REDWOOD

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Sprouts are important to rapid regeneration of cutover old-growth redwood *(Sequoia sempervirens* (D. Don) Endl.). A recent paper notes that generally half the stems of second-growth redwood are sprouts (4). Coppice regeneration after harvesting these second-growth stands has received little attention, however.

As many as 95 percent of second-growth stumps sprout, according to one report (1). These sprouts grow rapidly and constitute most of the crop trees after clearcutting of well-stocked second-growth stands. Though few species are easier to regenerate, several problems do exist:

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1. Wood quality. Redwood coppice stems are usually well-formed. The wide-ringed wood characteristic of second-growth is lower in density and strength than the narrow-ringed wood from oldgrowth trees. After stands close in and radial growth slows down, the quality of second-growth wood approaches that of old-growth (2). If quality wood is desired, rather than pulp and stud material, rotations must be extended past the period of maximum growth; pruning may be necessary. Decay resulting from coppice origin is not nearly as serious in redwood as in most hardwood species, but does occur. Sprouts originating low on the stump are most desirable; thus, stumps should be cut low.

2. Thinning of sprout clumps. Experimental pinning of sprout clumps is being conducted. Barrette (1) found that the large number of sprouts on old-growth stumps may be necessary to keep the massive root system alive. Early thinning may cause much of this root system to die, reducing sprout growth. This problem is less significant in smaller second-growth stumps.

3. Repeated coppicing. Repeated coppicing, especially on short rotations, may cause progressive decline in the vigor of successive crops (3). The vigor of sprouts from old-growth stumps tends to decrease with increased stump age (4). Seedling regeneration should be encouraged to supplement sprouting after harvesting second-growth stands.

Conclusions

Redwood can be successfully regenerated by the coppice system. The problems are few compared to the opportunities for prompt regeneration and accelerated wood production.

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