

Improved Technique for Harvesting Amur Honeysuckle Seeds

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Pruning the branches of Amur honeysuckle, followed by mechanical removal of the fruit, reduced harvest time compared to handpicking. Although the pruned plants produce seed only in alternate years, they then produce seeds in greater quantities than unpruned plants. Because of this and the higher seed recovery rate using mechanical methods, the overall seed orchard productivity was increased.

Amur honeysuckle (*Lonicera maackii* Maxim.) is a desirable shrub for its wildlife and ornamental values. It is characterized by white fragrant blossoms in the spring, dark green leaves during the summer, and bright red fruit in the late fall (1, 3). The branches provide good nesting sites and the leaf canopy is protective cover for songbirds.

In 1970, the U.S. Department of Agriculture, Soil Conservation Service (SCS), released the Rem-Red variety, which is characterized by its long period of fruit maturity (2). Like the fruit of other varieties, Rem-Red fruit turns to a semihard "raisin" and hangs on the branches until consumed by wildlife or into the later winter. The fruit is beneficial as food for wildlife

when other sources are depleted or covered with snow. These shrubs establish well as specimen plants grown in blocks or planted in a row for a hedge or screen.

Amur honeysuckle is propagated from seed. Mechanical seed harvest is not feasible. The fruit matures during the late fall when weather conditions are often cool and wet, which makes handpicking inefficient. This slow and tedious task (fig. 1) has resulted in the development of an alternate method for

removing the fruit from the Rem-Red branches.

Method

A Rem-Red seed orchard was established in 1967 at the plant materials center (PMC) operated by SCS in Cape May, N.J. The orchard consisted of 10 rows of 7 plants each for a total of 70. Fruit production began in 1969 and leveled off in 1973.

By 1974, the plants had grown too close together for easy harvesting. One-half of the plants were removed to facilitate fruit



Figure 1.—Ripe Rem-Red fruit has an attractive red color, but contains a sticky jelly-like pulp that makes hand-harvesting slow and tedious.

collection and to eliminate competition among plants. The fruit was ripe at the time the thinning operation took place. In an effort to save the seeds on these plants, the shrubs were cut off at the base and transported to a building for fruit removal. Through trial and error, it was found that the fruit could be removed by beating the branches against a hard surface. As a result, of all the fruit harvested in 1974, none was picked by hand. Based on this experience, the improved method for collecting seeds was also used to collect a portion of the seed crop the following year.

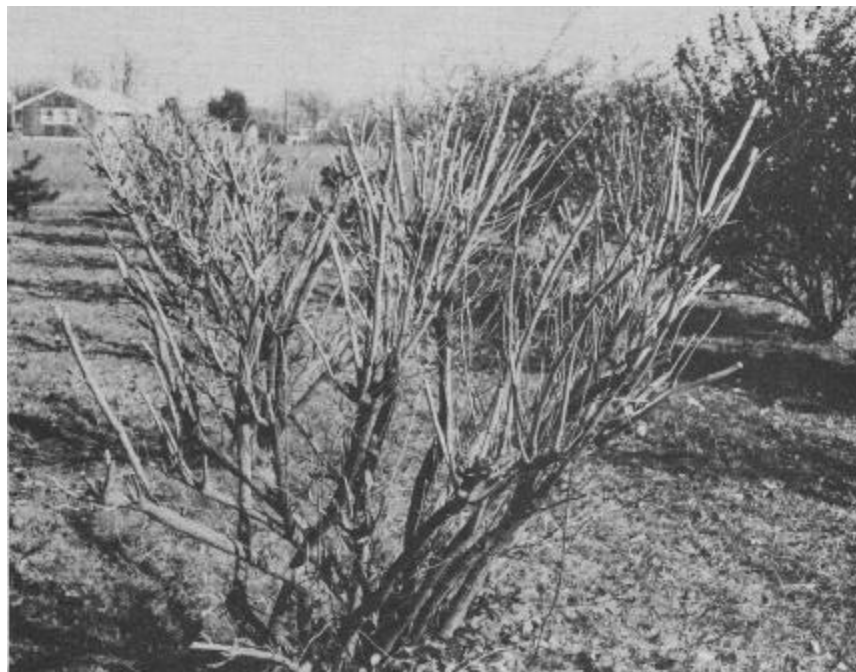


Figure 2.—*The Rem-Red plants are severely pruned during fruit harvest.*

In 1975, branches were pruned from 14 plants when 90 percent of the fruit on them was mature (fig. 2). The severed branches were transported to a processing area. There they were whirled against the inside wall of a 30-gallon, hard plastic container until the fruit dislodged. Since leaf fall was not complete at harvest time, leaves mixed in with the fruit had to be floated off with water. A macerator was then used to separate the seeds from the fruit pulp and other debris.

The plants pruned in 1975 produced only a small fruit crop in 1976 (table 1). However, re-

growth was vigorous and a good crop of fruit was produced on the regrowth in 1977 (fig. 3).

Twenty-one plants were handpicked in the field in 1975. In 1976, these same plants were pruned and the new method of fruit harvest was used.



Figure 3.—*In the year following pruning, Rem-Red plants produce vigorous regrowth, but few flowers. However, seed production in the 2d year is usually prolific.*

Results and Discussion

Whirling the pruned branches of Rem-Red against the inside wall of a container removes practically all of the fruit. The hand-harvesting method is boring and tiring. As a result, worker efficiency decreases rapidly and some fruit is always left on the branches. In 1975, hand-picking produced 0.175 kilogram per plant, while the pruning method produced 0.228 kilogram per plant (table 1).

Besides being less tedious and uncomfortable for the workers, the pruning method is

Table 1. —Average results in comparisons of Amur honeysuckle harvested by handpicking and pruning methods

Year	Seed harvest per plant		Seed harvest per hour		Harvest work-hours per plant	
	Hand-picking	Pruning method	Hand-picking	Pruning method	Hand-picking	Pruning method
	Kg	Kg	Kg	Kg	Kg	Kg
1975	0.176	0.228	0.06	0.11	2.86	2.14
1976	— ¹	.605	—	- .22	—	2.79
1977	—	.643	—	- .18	—	3.57
1978	—	.324	—	- .14	—	2.38
1979	—	.479	—	- .10	—	4.93

¹— = not applicable.



Figure 4.—Rem-Red plants do not bloom the year after pruning. Therefore, only one-half of the plants are pruned each year to provide a stable seed yield.

faster. In 1975, handpicking produced an average of 0.06 kilogram of clean seeds per work-hour and pruning and whirling produced 0.11 kilogram of clean seeds per workhour.

Since the pruned plants do not produce a fruit crop the year after pruning (fig. 4), one might conclude that twice as many plants would be required to produce the same number of seeds. However, since recovery growth is considerably greater by the 2d year after pruning, the number of seeds produced overall is about the same.

Conclusion

Through the use of the pruning method, fewer workhours are needed for harvesting and processing Rem-Red Amur honeysuckle seeds and the quantity of seeds harvested per plant has increased.

Literature Cited

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3. Schopmeyer, C. S., ed. Seeds of woody plants in the United States. Agric. Handb. 450. Washington, DC: U.S. Department of Agriculture, Forest Service; 1974; 515-519.