

FLOWERING CHERRIES FROM CUTTINGS

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When we first decided to try to grow flowering cherries from cuttings, we knew that at least a few nurseries were already doing this with some success. Our aim was to try to find a method of rooting and growing these plants, one of which would fit in with our conditions and our procedures.

Naturally, this work was started with some preconceived ideas as to what the major problems and the best means of solving them would be. Our first consideration involved the type of cutting and the best time for taking them. For some reason or other it was assumed that the problem of timing would be similar to that of Pink dogwood, and the Japanese red maples. From what we had heard and read of these, and from a little experience with Pink dogwood cuttings, we felt sure that the answer would be to take soft tip cuttings in June and place them under mist.

This problem was solved in a rather unique way. Since 1957 was the first year of the existence of the Nursery Department at Longwood Gardens, our propagating house was not completed until late July. We decided to go ahead anyway, and on August 1st, we took and stuck 50 cuttings each of the following 3 varieties or species: *Prunus serrulata* "Kwanzan," *P. yedoensis*, and *P. Sargentii*. The stock plants were all 3 years old or less.

Since our timing had of necessity been changed, we also decided to modify the type of cutting. In addition to the tips which were quite soft at this time, we also took a quantity of cuttings from below the tips. The tip cuttings were treated with Hormodin #2 and the harder ones with #3. All cuttings were 6 to 8 inches long from current season's wood and were heavily wounded. One half of each variety were inserted in sand and the other half in a mixture of 50-50 sand and peat. They were all under intermittent mist controlled by a Watco Timer set to come on for approximately 8 seconds every 3 minutes from 7 AM to 8 PM. After a week this was reduced to once every 6 minutes.

The initial results were very encouraging. In four weeks something like 90 percent of all varieties were heavily rooted and on September 1st were potted into 3 inch pots. They were placed on a bench where they received intermittent mist (once every 6 minutes) during the hottest part of the day for one week and were then placed on an open bench in the greenhouse where they were given shade and syringed according to the weather. The mortality the first three weeks or so was quite high, but it was noted that by far the highest mortality was in the tip cuttings, in fact, very few of the tip cuttings lived and very few of the others died.

The next factor to be dealt with was over-wintering. Again we likened the problem to that of the dogwoods, feeling that they would have to make some new growth before they would be able to go through the first winter. We tried supplemental lighting (both lengthening of the day and interrupting the night). There was no response, not even

any noticeable swelling of the buds, and the plants were placed in a deep coldframe in late fall with some misgivings. However, when they were removed from the frames in the spring, it was found that survival had been surprisingly good and a little better than 75 plants were planted in beds in early June. These plants are now on the average 3 to 4 feet in height.

While we do not consider 50 percent survival from cutting bench to field a good average, it was at least encouraging. We therefore decided to try again this year applying what we hoped we had learned to better our rooting and survival percentages.

In addition to the young stock plants mentioned earlier, we have at Longwood, some very old specimens, many of which were injured quite severely in a snow storm last March. These of course had been pruned heavily and had produced a quantity of water sprouts. Some of these water sprouts were used as cutting wood. The varieties were Shiro-Fugen and Beni-Higan.

On July 27th of this year, cuttings of the varieties used the previous year plus cuttings from these older trees were stuck in plain sharp sand, since no appreciable benefits were noted from using the sand-peat mixture. Although results from tip cuttings had been poor, it was decided to try a few as a test in case last year's results were not conclusive. These were even less successful this year, since most of them rotted and died in the bench.

Following the suggestion by Mr. Wells in his talk here last year on the "Propagation of Hollies," hormone treatment varied with the condition of the wood at the discretion of the operator. Three strengths were used, i.e. Hormodin #2, #3, and 2 percent IBA. Again a heavy wound on both sides of cuttings was used.

The cuttings again rooted rapidly and heavily and were potted up at the end of four weeks. It was noted that the heaviest cuttings gave the best results, in fact, cuttings 1½ pencil thickness and up at the base rooted extremely well.

After potting, the plants were hardened off using the same methods as last year and after a week or so of this occasional misting were placed in a deep coldframe and shaded heavily the first week or so. At the present time they look quite good and if over-wintering is as successful as last year we should have some nice flowering cherries to plant out in the spring.

For those who like statistics, data from the notes on one variety which are fairly typical of the results obtained from all varieties are included in Table I.

Table I.—Rooting of PRUNUS SERRULATA, Shiro-fugen*

	No	Hormone**	No Potted	Percentage
	20	#2	16	80%
	25	#3	23	92%
	25	2% IBA	25	100%
Total	70		64	91%

* Data does not include results with tip cuttings

** Strength of hormone correlated to hardness of wood

I realize that these tests have been on a small scale, but I hope that they will be of some help to some of the members. By the same token, if anyone has any suggestions as to how our methods could be improved, I would be very happy to hear them and try them.

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MODERATOR HALWARD: We now have time for a short question period here. Has anyone any questions to ask Richard Hampton, Bill Cumming or David Paterson? If there are no questions, we will continue with the second half of our program this morning, which comes under the heading of "Hardwood Cuttings."

Our first speaker is Mr. Phillip Worth, Kankakee Nursery Company, Kankakee, Illinois, who will discuss "Growing Fall Stock Hardwood Cuttings." Mr. Worth

MR. PHILLIP W. WORTH (Kankakee Nursery Company, Kankakee, Illinois): This is nothing that can be called a new procedure or new method, but possibly some of the techniques that we have used may be of interest to you. There is nothing at all technical about the way we propagate plants from hardwood cuttings

As a matter of fact, it could all be summed up in four words, that is, we *take* them, we *saw* them, we *stick* them and we *dig* them

GROWING FALL STOCK HARDWOOD CUTTINGS

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The history of our procedure started as a result of the poor stands we had been getting by taking the cuttings and storing them over winter. We knew we had a soil that was, you might say, a natural rooting medium, being very sandy, light and well drained. About three years ago we stuck possibly around 10,000 cuttings of the more or less easily rooted common shrubs in the fall. This was done at a time when in our operation we had approximately two or three weeks in between additional evergreen diggings and before we were able to start digging deciduous material. In these two weeks we would usually have five or ten men standing around doing only fill-in jobs. We were very elated with our results this first year but still were a little pessimistic because we realized that the excellent results we obtained may happen this time and maybe never again. However, we again had very good results.

The next year we went into it a little more extensively, sticking three or four times as many cuttings, and again we had very good results. For us it is a labor saver. There is no need for costly storage. We take the cuttings, process them, and they go directly into the field. We were losing many of our cuttings handled overwinter because of the lack of mechanical refrigeration.

We generally take all one-year-old wood which is produced on mother block or cutting block plants reserved for this purpose. Although only experimental, we have tried applying a water soluble fertilizer to these stock plants in an effort to condition the cuttings for root-