

Notes from the Arnold Arboretum

Propagation of Fothergilla

By Seed

There is little latitude in collection time of *Fothergilla* seeds. In the Boston area the fruits ripen about mid-September. They consist of capsules which shrink as they dry and bring pressure to bear on the seeds within. Finally, with a sharp snapping sound, the smooth, shiny seeds are ejected. By this dispersal adaptation the seeds are propelled away and will not be in competition with the parent plant. Scattering commences about mid-September and in a few days all are dispersed. To harvest the seeds one must watch the fruits carefully, and when they have turned from green to gray-brown, gather them just before they pop. After collection the capsules are placed in a warm, dry location in a container such as a paper bag fastened at the opening with a paper clip. If not confined, the seeds will be strewn all over the area as they are dispelled. In a few days the seeds will have popped and can be separated from the capsules by screening.

Seeds of *Fothergilla major* and *F. gardenii* have proved to be doubly dormant (two year seeds) and pretreatment must be done in two stages. To be prepared for germination they require warm fluctuating temperatures followed by a period of cold. Pretreatment may be done in polyethylene plastic bags which have the property of being air-permeable yet vapor-proof, making them ideal for seed stratification.

The stratification medium can be composed of one-half sand and one-half peat moss mixed together and dampened. Emphasis is placed on the word "dampened" for a wet soggy medium could exclude sufficient oxygen. In proportion the medium should be two or three times the volume of the seeds. The seeds are combined with the medium and the mixture is placed

in the polyethylene bag which is bound with a rubber band making it vapor proof.

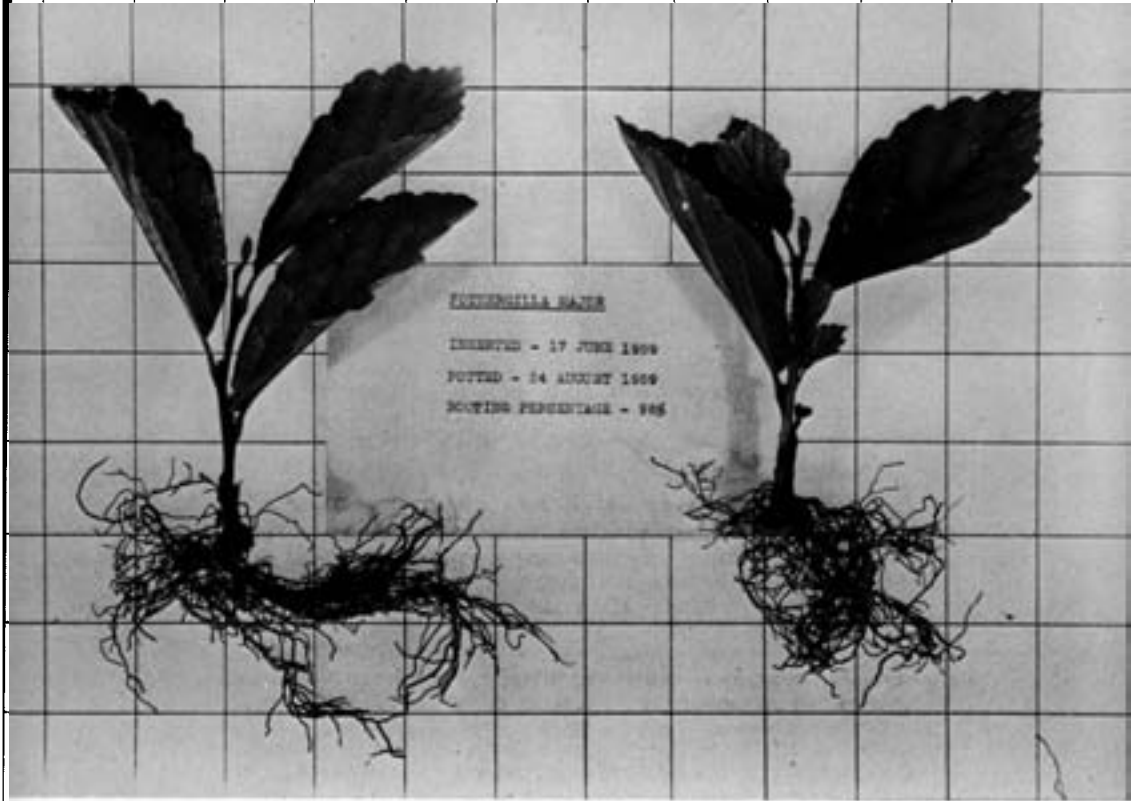
For the warm period of stratification the unit is placed in a location such as a greenhouse bench, window sill or similar site where the day and night temperature will fluctuate. However, direct sun should be avoided for it could lead to a detrimental build-up of heat. *Fothergilla major* seeds have required exceptionally long periods of warm stratification with 12 months being optimum. After warm treatment they are transferred to a 40° refrigerator for 3 months. This satisfies the cold requirement and the seeds are ready to be sown. A high percentage of germination can be expected in about 2 weeks. *Fothergilla gardenii* has germinated well after 6 months of warm pretreatment followed by 3 months at 40°. An alternative procedure to prepare *Fothergilla* seeds would be to sow them out-of-doors. In this case seeds sown in autumn of 1971 would be expected to germinate in spring of 1973.

Layering

Layering provides a simple and reliable method which enables an amateur to produce plants of *Fothergilla*. Any branch pliable enough to be bent to the ground is suitable for layering. Fairly large sized branches can be used and they will lead to faster production of flowering specimens. A favorable time to layer is early spring before the plant comes into leaf. A narrow trench 3 or 4 inches deep and a foot or so long is excavated where the branch arches down to the soil. Place the branch in the trench in such a manner that the last foot or so can be bent to a vertical position. In the area of the bend, remove a 4- or 5-inch slice from the lower part of the branch. Next peg the branch down firmly in the area of the cut with a large wire staple made from a coat hanger or other wire and refill the trench. Filling the trench and placing a stone on the surface of the soil is satisfactory. The branch tip is next brought to a vertical position and staked so it will remain that way. After two growing seasons the layer will have sufficient roots to be severed from the parent plant.

Division

Fothergilla plants can be increased by division. To do this, select a portion of the plant with stems that seem separable. With a spade or mattock, cut it away making certain to retain as many roots as possible.



Fothergilla seedlings two months old. These seedlings did not survive the first winter. Photo: Alfred Fordham.

Grafting

Fothergilla species can be propagated by grafting in winter using established understocks of *Hamamelis virginiana*. This practice is unjustified, however, for *Fothergilla* roots well from cuttings. Shoots arising from the understocks of grafted plants can create a nuisance which is averted when propagants are on their own roots.

Cuttings

Both species of *Fothergilla* root well from softwood cuttings. In the Boston area a favorable time to take cuttings has been in the past about the third week in June. Cuttings can be treated with any of several available root-inducing substances containing IBA at the rate of 8 m. to a gram of talc.

Although *Fothergilla* cuttings form roots readily the resulting plants may have trouble surviving the first winter. When transplanted after rooting they go into a dormancy from which they never recover. Such loss can be avoided if the cuttings are not disturbed after they have rooted. At the Arnold Arboretum we accomplish this by filling plastic flats with a medium consisting of one half sand and one half horticultural grade Perlite. The cuttings are inserted and the units are placed either under mist or in polyethylene chambers. Either has been satisfactory for propagating *Fothergilla*. When rooted, the cuttings are left in the flats and hardened off. In the autumn the flats of dormant cuttings are transferred to our cold storage unit which is maintained at about 34°. In February or March, depending on convenience to the work schedule, the flats are returned to a warm greenhouse. When new growth appears the cuttings are moved to peat pots if they are to be planted out in spring or to two-quart containers in which they can be grown for the first year.

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Correction

Through error the Table of Contents for the January issue of *Arnoldia* lists the author of the article "Robert Fortune and the Cultivation of Tea in the United States" as Robert Gardener. The correct name of the author is William Gardener.