

Problems With Young Magnolias

by Peter Smithers

Wishing to grow and flower as many magnolias as possible in the remainder of my allotted span, and in the small space which we have available, we have used some unorthodox techniques and have encountered some unusual problems.

We have a total of about 4,500 square meters, a good quarter of which is occupied by the house. The old vine terraces and newer ones constructed above them are straight and the total number of terraces, hence rows of magnolias, is eight. There are about nine magnolias in each row and others are worked in around the periphery wherever there is space, at about 18 feet spacing.

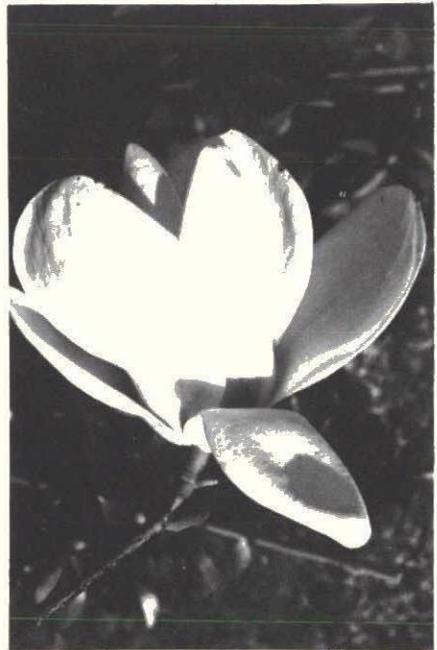
Our climate is very favorable: 75 inches of rain well distributed and 2001 hours of sunshine. The soil, just on the acid side of neutral, is also very favorable. The exposure, southeast on a steep slope, enables us to capture more sun and indirect light than would be possible if it were flat. Consequently, it was decided to canopy-plant, each terrace taking a row of magnolias at a spacing of 18 to 20 feet. I did not at first realize what a lot of plants we would be able thus to accommodate, and made the mistake of planting only about a quarter of the hundred magnolias now growing here, during the first year. It would have been better to err on the side of overplanting in 1970: one never has any difficulty giving away a surplus magnolia, and the cost of plants is an insignificant part of the expense of a garden over the years.

Some of our plants grew away rapidly and others hardly moved, and for the first four years of cultivation we did not understand why this was. I am not sure we do now, but we have learned some of the counter measures which induce growth.

It is part of conventional wisdom that one should cut down a magnolia after planting to stimulate growth. If it is a plant from a root-ball in open ground and not a container-grown plant, I dare say that some reduction of the plant above ground is a good idea. On the other hand a container-grown plant ought to go away without check, provided it is already growing

vigorously in the container. Personally, I prefer to wait a little before cutting down to see what the plant itself wants to do, and then when its preferences are known to encourage them. If a plant consists of a rather substantial twiggy top, with a shoot emerging from above the graft which has evidently grown much more vigorously than the twiggy top, it may well be right to cut off the latter and leave the vigorous young shoot. But the intentions of the plant will soon be seen when growth begins, and if the twiggy top shows signs of vigorous action it may well be right to keep it and stop, but not cut off, the young shoot. This will give further time in which to observe without robbing the twiggy top. If the latter proves disappointing by the end of May or mid June, then it can be sacrificed.

Also, being cautious by nature, while plants are quite small I prefer in any case to keep a second growth, pinched back to keep it small, at the base of the plant. With heavy



'Rouged Alabaster' is a Gresham hybrid in the Smithers Garden.



'Sayonara' is another Gresham hybrid in the Smithers garden.

snow, animals, clumsy people and other mechanical menaces, small magnolias are easily broken, and should such an accident befall the main growth then there is something in reserve to begin again with and all is not lost. While on the subject of mechanical damage, it is important to preserve carefully the terminal bud on a small grafted plant through the first couple of winters. If it is lost the plant will be obliged to manufacture a new leading growth bud, thus losing energy and a few weeks of valuable growing time.

As for pruning, we have given ourselves some nasty frights by pruning when the sap is rising but before much if any leafage is carried. This is a dangerous moment and results in bleeding of an uncontrollable kind. Painting with sealant will not hold it, and it will probably be necessary to make a very tight binding over the cut with adhesive tape until bleeding stops. It is absolutely safe to prune in autumn and winter, when the process is not particularly stimulating to the plant, or any time after the plant is in full leaf when pruning will have a powerful stimulative effect.

The response of young magnolias to feeding is spectacular. We have made a practice of feeding ours in March with

rhododendron fertilizer on the root. We never plant with fertilizer below ground but add fertilizer on top of the peat mulch at planting time. The roots thus have time to look around before the fertilizer is dissolved and reaches them. With all young plants, this is followed by weekly foliar feeding with a specially compounded formula including trace elements, as soon as there is some foliage to feed.

In a recent issue I described our experiments and apparent success in foliar feeding sulky magnolias. Feeding at the root and pruning will not alone invariably start off a magnolia. Sometimes a kind of equilibrium seems to set in between the roots and the foliage, each just enough to maintain the other without being sufficient to stimulate one another. Foliar feeding appears to break this equilibrium and send the roots away in style. At least our first foliar feeding, carried out in late summer and autumn, gave spectacular growth right away the following spring. In two subsequent seasons we have had every reason to be satisfied with this procedure when feeding in spring and again in autumn if necessary. The latter does not appear to stimulate untimely growth.

Since the article referred to above, our

own experience has been confirmed by my neighbor Dr. Van Veen, now a society member. On a neighboring mountainside he had a number of the sulkiest young magnolias imaginable, which remained permanently stationary in their places, and which he was considering transplanting to a 'better place.' However, last year I suggested foliar feeding, and this spring one and all have grown away with truly astonishing vigor. There remains in my mind no doubt about the importance of foliar feeding for young plants.

We now have very massive magnolias which, though planted only in 1970 and afterward, are in some cases 22 feet high with trunks 6 inches in diameter. They carry an immense amount of leafage. And here arises a difficult problem. Plants grown so rapidly and putting on at least three feet of growth per year require staking, otherwise they blow about and deform or break. Taking away the stake is a difficult decision, but it has to be done sooner or later. If the plant grows over the top of the stake, the top will probably be blown off, breaking at the highest tie. So this year we removed the stakes from several large magnolias including two *M. campbellii* varieties at over 20 feet.

The plant scientists will probably be able to say whether there is any substance in the belief that a stake inhibits the formation of strong holding roots and the growth of a heavy bole at soil level. Personally I believe this is the case. Therefore the sooner the stake can be dispensed with the better, since the effect of wind will be to strengthen the holding roots and the bole. With great anxiety we watched our two *M. campbellii* varieties in the first high winds and were satisfied with their performance, the stems being sufficiently flexible to save jarring the roots. It is now, unless my imagination is at fault, possible to observe that the bole has strengthened considerably with exercise and we have no worry at all about the strength of the plant frame. For the removal ceremony, I favor spring before any leafage is carried, in a climate such as ours which has heavy snowstorms. But in a climate where there is no snow, probably autumn after leaf-fall would be the best time.

Our climate, good as it is, has a winter menace and a summer menace. The winter menace is the snow thunderstorm, when the

snow comes down with torrential speed in a high wind. Not at all nice for plants. The summer menace is large heavy hail. In late June this year we had a hailstorm which left our plants looking as though they had been shot up by the Red Brigade. So I waited patiently for them to grow new foliage to distract attention from the old. About two weeks later I noticed to my surprise that five or six of our magnolias instead of growing away again had formed terminal buds and stopped growth. This at a time when growth for the whole of July and August was to be expected, was most annoying. None had been newly planted.

Plant scientists more erudite than I am may be able to say whether the formation of terminal buds was triggered by the freezing leaf temperatures which for a short period, perhaps forty minutes, may have prevailed. I have always assumed that the formation of terminal buds and the cessation of growth had something to do with reduced day length and was probably not connected with temperature drops. It may be that the hailstorm and the decision that it was autumn by certain plants, were purely coincidental, and that some other factor was at work. I would greatly value the opinion of Society members on this point. Meanwhile we are doing all in our power to start up growth again. In case the genetics of the plants thus misbehaving may give any clue to somebody erudite in such matters, they are 'Caerhays Belle', 'Kew's Surprise', *M. sargentiana robusta* Chyverton dark flower, *M. × Veitchii* v. 'Peter Veitch,' and 'Rouged Alabaster' (Gresham). I cannot myself detect any factor common to the above which might link them in misbehaviour.

It is still too early to say anything reliable

MAGNOLIAS
AND OTHER PLANTS

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about the success, or otherwise, of growing magnolias as a canopy, that is to say, planted at a spacing which will permit them to grow together, thus forming a continuous 'roof' of leafage over a clear floor. This arrangement, if it succeeds, will suit us, as we look down from the house onto the terraces sloping away below. So far none of the trees have joined up, but it is apparent that they will begin to do so two to five years from now. It will then presumably be necessary to begin eliminating some lower branches if the magnolias do not do it for themselves. It will then also be interesting to see what sort of understory plants can be grown beneath such a deciduous magnolia canopy. We have camellias in place for the experiment, and my feeling is that they will grow nicely but probably not flower as well as we would like them to.

Of course in this type of planting the growth of different varieties and species is very different, and when we planted we did not have the experience necessary to take account of this. Many of the scarcer and better magnolias are practically unknown quantities. Some comment therefore upon



M. denudata (heptapeta) 'Forest's Pink' is not carried in the "Check List."

the relative performance of some of our plants may be worth while.

The most rigid, tree-like, conical, symmetrical, densely leafy and beautiful plant in the collection is certainly the old friend 'Merrill.' It never needed a stake, has never suffered an injury, and is covered in bloom from ground to its 22-foot top.

At the other end of the scale are one or two straggly growers: 'Lennei,' the worst offender, which requires a lot of coaxing to make a good specimen, and 'Grace McDade', rather less difficult. Both have such magnificent blooms, however, that they are worth a lot of trouble. 'Sundew' is a conspicuously successful tree of tall rigid growth, 'Burgundy' is a spreading, densely leafy plant of rounded form, and 'Picture' with us has proved a rather irregular grower, though a very rigid one. 'Purple Eye' is a rather reluctant tree but will eventually become one. 'Verbanica' is a regular, fairly rigid grower. 'Lennei Alba' makes a rather rigid symmetrical tree and 'Rustica Rubra' and some others very similar to it can be made into treelike form without too much trouble. 'Brozzoni,' like 'Grace McDade' a late bloomer though not approaching 'Grace' in splendor of bloom, makes a nice regular tree. We are growing three of the new generation of 'Picture' F₁ selections from the English nurseryman Mr. A.A. Pickard and two similar ones from the Japanese nurseryman Mr. K. Wada. These show signs of growing with immense speed and vigor on a single stem with regular branching, some more dense than others. It is too early to judge, but it looks as if they will make very satisfactory treelike forms.

Amongst species growing here, *M. cylindrica* has proved beautiful but relatively slow and does not look like a tree as yet. *M. obovata* (*hypoleuca*) has grown with great speed into a tall willow plant which, it is to be hoped, will now broaden and thicken: this process seems to have begun. *M. salicifolia* has never needed a stake and makes a narrow densely leafy pyramid. *M. sieboldii* is growing rapidly into a large bush and its offspring *M. × watsonii* has grown very rapidly indeed into an immense rounded open bush with a succession of its splendidly fragrant flowers over a period of nearly ten weeks. However, it needs a good deal of management here to prevent it becoming ungainly.

M. campbellii and its varieties present widely differing problems with the difference in parentage. Typical *M. campbellii* throws a straight leader showing strong apical dominance, but the side shoots swirl and twist in the most graceful and spectacular manner. These, however, have to be pinched occasionally to prevent their offering too much surface to snow, and they also have a tendency to produce vertical watershoots near the bole, which must be frustrated at once unless they are to ruin the plant. Others of the *M. campbellii* group have different growth characteristics, an important element consisting in the amount of *M. sargentiana robusta* blood they may, by design or accident, happen to contain.

Typical *M. sargentiana robusta* seems to desire to grow into an immense goblet shaped tree, with a vertical central leader surrounded by side branches which likewise become vertical and grow almost as vigorously as the leader. Pinching or cutting back these side branches merely encourages their enthusiasm and they grow all the faster. Mr. Ambrose Congreve has had great success pruning his *campbellii* and *sargentiana* magnolias, the trees in his

garden at Mount Congreve in Ireland being beautiful forest specimens with clear boles. But in our softer and more stimulating plant climate I must confess to finding the shaping of these trees quite difficult.

Finally, perhaps I should make a personal comment upon the experiment of planting over a hundred different magnolias in the space of eight years in a rather small garden. Our canopy experiment may or may not succeed. If it does, it will no doubt be unique in horticultural practice, and spectacular. If it does not succeed, we shall have had the pleasure of growing and flowering a great number of these splendid plants which we could not otherwise have seen. They can in due course be thinned out and the 'survivors' can be grown into isolated specimens in the orthodox way. In either case the years of early growth — a decade perhaps — will have been of absorbing interest.

Sir Peter is a retired British politician and diplomat and a gardener since the age of four, now turned to growing magnolias. He holds the Alexander von Humboldt gold medal for services in the conservation of nature and natural resources in Europe.

Watercolor Reproductions of Magnolias

Painted by Kenneth Harms

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