

# Foliar Feeding of 'Sulky' Magnolias

by Sir Peter Smithers

In the past seven years we have planted a few short of 100 Magnolias in this garden in Canton Ticino, Switzerland, in the mild climate overhanging the Lake of Lugano. All except one have been imported from England, which seems to be the only source of supply in Europe for named clones of Magnolias in the *M. campbellii* and *M. sargentiana* complex of plants, and for the newer and better *M. X soulangiana* forms. In consequence, all have had to make a difficult journey by rail and air across frontier formalities and through doubtful weather. Some have been in containers and some on root-ball in sacking. It is quite evident that the container-grown plant has a better chance of getting away in the first season than one from the open ground, but even container plants have not all proved immune from the "sulks," that failure to grow away which often seems to afflict newly planted Magnolias, and which is particularly annoying to those of us who are on the wrong side of sixty and think a year's delay a serious matter.

The orthodox advice on planting Magnolias is well understood and has been followed here. In addition in cases of the "sulks" we have always resorted to severe cutting back. If however even this fails, the plant gets smaller and smaller year by year until there is nothing to cut! A bad case of this was our plant of 'Kew's Surprise,' an elegant *M. campbellii* hybrid which, being planted at the same size and time as *M. campbellii* alba 'Lanarth,' stood 12 inches high in 1975 at a time when the latter mentioned plant had already reached fifteen feet. There have been other sulkers in our collection with similar performances.

In midsummer of 1976 there fell into my hands a supply of Murphy's "Foliar Feed" which is formulated as follows:

N	22%
P <sub>2</sub> O <sub>5</sub>	21%
K <sub>2</sub> O	17%
Chelated Iron	370 Parts per million
Magnesium	790 PPM
Copper	76 PPM
Cobalt	20 PPM
Boron	33 PPM
Zinc	68 PPM
Molybdenum	50 PPM

"Sulky" and backward Magnolias were sprayed weekly with this solution at sunset. There were about eight applications in all. No noticeable effect was visible other than an improvement in leaf colour, the growing season being nearly

at its end when feeding was begun. However, when spring 1977 arrived (and early spring was somewhat dry and unfavourable to growth) it was at once apparent that out of a total of nine "sulky" Magnolias, eight intended to grow away with the greatest vigour. Of these nine plants, five were planted in spring 1976, were cut down, but had failed to respond with vigorous growth. The other four had been sulking for periods ranging from six to four years in spite of cutting down.

Since early spring we have, admittedly, had an exceptionally good growing season. Nevertheless growth has been phenomenal to normal on all of the former "sulkers," barring one.

Encouraged by this early promise we this year foliar fed all of our newly planted Magnolias, that is to say, those planted in April, 1977. Out of six new plants, none have sulked, and the leaves on *M. campbellii* 'Ethel Hillier' measure at this writing 12 X 7 inches, and this bearer of a distinguished name, which started from a not-too-good plant suffering from last year's drought in the nursery, has already put on 26 inches of heavy growth and shows no sign of slowing down.

Throughout our collection of young Magnolias, in fact, the growth looks magnificent, and my only misgiving is that some, notably Gresham hybrids, which have already put on about four feet in some cases, may overdo it and need support for longer than they should.

Now the foregoing is not offered as a scientific experiment with a proved result. We have no "control," our experience is limited to two years, and the number of plants involved is relatively small. Nevertheless to me as a gardener it is a convincing enough demonstration of the value of foliar feeding on Magnolias, and of the attraction which it has for those of us who have reason to want results from our plants rather quickly.

Having become interested in the subject I then engaged in some correspondence with Murphy technicians, who provided me with their experience of application of foliar feed to other plants, and with references to some scientific papers on the subject. From this the following practical gardening conclusions emerge:

1. It appears that much of the nitrogen in foliar feed is absorbed within the first hour, and most of it within four hours. Therefore if one can be sure of at least an hour before rain, and preferably four hours, much good is done.

2. Absorption by the underside of the leaf is as good as that from the upper surface, but both are improved if a "wetter" or "spreader" is incorporated in the feed.

3. Trace elements as well as other major components of the feed continue to be absorbed for as long as four days. If therefore application is followed by four rainless days, the full benefit of the feed is obtained.

4. Application at sundown seems to assist absorption, since the leaf surfaces