

level late in the season. Only two of the newcomers survived.

A year later, the five that had made late new growth, had died also, as they evidently should have received protection like young plants. Out of my 50 camellias, only 10 have survived, and even these had lost up to half their branches during the 1984/85 winter. They were not affected by the conditions of last winter, and half of them have produced flowerbuds. A group of six survived in a very cold and uncomfortable corner near the house, subject to strong north-west winds, but in good soil with afternoon sunshine.

I can understand now why the I.C.S. has so few Dutch members, and I wonder how our Greman friends, with their even more extreme continental climate, suffered the last two winters. The books could tell one more about camellias' resistance to low temperatures and sunshine, and also about the environmental requirements of the different species from which the hybrids derive. I have the impression that strong winds are less of a hazard than the books suggest, provided that the plants are staked; also that the old-fashioned varieties may have more stamina than some of the new and more sophisticated ones. Young plants are evidently more at risk than those that are well-established. It is perhaps not very wise to plant out before Christmas.

I am afraid that my garden will not be a suitable venue for an I.C.S. visit in this century. The fruit growers and their advisers think that a disaster like the 1984/85 winter will not occur more than once in forty years, and so they have decided to carry on or start again, and I have also. In 40 years, when the plants are old and tough enough to survive such a winter, to the enjoyment of the next generation, I shall ask them to submit a report to your successor.

Camellias which survived the hard winter (1984-85)

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Wings, near Cuxhaven, West Germany

Camelias que sobrevivieron el riguroso invierno de 1984-85

Des camélias qui ont survécu au dur hiver (1984-1985)

Camelie sopravvissute al duro inverno (1984/85)

Kamellien, die den harten Winter (1984/85) überlebt haben

The range of really hardy sorts and hybrids is greater than supposed. But even two decades of trials with camellias in the open are not sufficient to give conclusive results as to the suitability of these shrubs as garden plants.

After a winter like the last one, 1984/85, this became especially clear.

Devastating winter damage in the whole of Western and Southern Europe dissolved old camellia dreams. The great optimism for the cultivation of outdoor camellias must surely have had a strong damper in Europe.

Claude Thoby, perhaps the world's biggest camellia grower at Carquefou near Nantes (France), suffered great damage this winter at all stages of cultivation when the temperature dropped to an unprecedented -18°C . In Brittany, after -25°C this year, super specimens of up to 4 metres high were wholly or partly defoliated. One must expect that some of the plants so damaged will be grubbed out. Also a casualty after this winter was the usual camellia blossom in the well known areas. Only Portugal and Cornwall registered hardly any bud losses, because they were spared the extreme conditions.

It is possible that I have fared relatively well because of my closeness to the North German coast, my choice of varieties and precautions learnt from experience. No reason for euphoria, but far from "throwing in the towel".

In order to understand the following list of sorts, first a little about the precautions, which in the meantime have been taken during the year.

Planting out in the open goes on from April until early July at the very latest. Well furnished plants, at least two years old make up the first condition for certain winter hardiness. A semi-shaded spot, protected from the east wind and morning sun is another vital matter. With guaranteed good drainage the soil type is less important than a pH of 5.5. Osmocote 14-14-14 at a rate of 2 kg per cubic metre of compost proves to be positive. A lightly rotted cowdung layer of up to 10 cm thick on the bed after planting gives, besides a little flow of nutrient and protection from evaporation, an outstanding winter protection for shallow rooted plants like camellias. This cowdung manure is replenished once a year.

Had there in previous years been intentional exposure in winter, then this measure was followed only for plants of under 80 cm. The short summer, with little sunshine, gave above average yearly growth, but disappointing bud set.

The camellias entered the winter much too soft, though the early part of it was quite favourable towards the plants. -20°C with plenty of snow caused no damage. The really serious damage was caused in February by four weeks of continual frost, without any protective snow cover. Maximum day temperatures of only -10°C at its most severe, constant easterly winds with 40% humidity put all evergreens back a lot. Also the typical "turning in" of the leaves, as is familiar with rhododendrons, was not sufficient to prevent serious damage. A thick tent of upright spruce branches round the whole plant averted the worst during the period of naked frost. With the first blossom at the end of March this tent was removed. The list of plants contains some which have been in the open for years as well as others which were only planted out last year for the first time. In every case it is a question of genuine plants from my own production. After the first year in the nursery these camellias overwinter in unheated boxes under glass, which, especially after this sort of winter, produce hardy stock. Warmer or frostfree cultivation leads undoubtedly more quickly to larger plants, but these camellias, after being planted out show considerably greater winter damage. After this winter camellia hybridisers are striving all over the world, and not for

the first time, to produce hardier camellias for our latitude. Should we get them, it could become tedious. Perhaps a pity when no more courage, optimism and patience is needed in the first place in order to open up the gardens of the northern world to the camellia which is such an exciting plant family.

The author's experiences in his garden with the winter-hardiness of *Camellia japonica* and its hybrids

Cultivar	Cover	Vegetative Damage	Bloom Damage
<i>Camellia japonica</i>			
'Adolphe Audusson'	with	Leaf & new shoot damage	Bloom loss
'Alba Simplex'	without	Little leaf damage	Bloom loss
'Apple Blossom'	with	Little leaf damage	Hardly any bloom damage
'Are-jishi'	without	Little leaf damage	Bloom loss
'Apollo'	with	Little leaf damage	Hardly any bloom damage
'Donckelarii'	without	Little leaf damage	Hardly any bloom damage
'Elegans' (Chandlers Rustique)	without	Little leaf damage	Hardly any bloom damage
'Eximea'	with	Little leaf damage	Bloom loss
'Mathotiana'	without	Heavy leaf damage	Bloom loss
'Magali'	with	Little leaf damage	Little bloom loss
'Spring Sonnet'	without	Probable total loss	
'Lady Campbell'	without	Probable total loss	
'Tricolor'	with	Little leaf damage	Heavy bloom damage
'Guilio Nuccio'	without	Little leaf damage	Little bloom damage
'Mattie Cole'	without	Leaf and shoot damage	Bloom loss

Variety	Cover	Vegetative Damage	Bloom Damage
<i>Camellia hybrids</i>			
'Anticipation'	with	Heavy leaf damage	Bloom loss
'Brigadoon'	with	Little leaf & new shoot damage	Hardly any bloom damage
'Debbie'	without	Little damage	Hardly any bloom damage
'Donation'	without	Little damage	Hardly any bloom damage
'E. G. Waterhouse'	without	Heavy leaf/new shoot damage	Hardly any bloom damage
'Elegant Beauty'	with	Leaf & new shoot damage	Bloom loss
'Spring Festival'	with	Little leaf damage	Hardly any bloom loss
'Hiraethlyn'	with	Little leaf damage	Hardly any bloom loss
'Dream Boat'	with	Little leaf damage	Hardly any bloom loss
'Golden Spangles'	with	Little leaf damage	Hardly any bloom loss
'Freedom Bell'	with	Little leaf damage	Hardly any bloom loss
'Leonard Messel'	without	Probable total loss	
'St. Ewe'	without	Leaf & new shoot damage	Bloom loss

Camellia oleifera Absolutely without damage, probably the hardiest of all the Camellias, unfortunately insignificant in flower.

A cross-breeding by Dr. Ackermann, USA, (*Camellia sasanqua* × *Camellia oleifera*) could possibly in the near future give us the most winter-hardy camellia.