
Nursery De Groene Prins
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ESPECIALLY …

Devoted to people that love adventurous gardening and playing with plants

Front cover: Callistemon rigidus
left: Nerium oleander “Villa Romaine”
Back cover: trunk of a 16 years old Eucalyptus debeuzevillei, Steenwijkerwold
Flipside back cover: Camellia x Williamsii ‘Freedom Bell’

PREFACE
This is the first English edition of the catalogue of "De Groene Prins", (a PDF-file can be downloaded from the the website).
Due to an ever increasing demand from other countries we have translated our catalogue.

The winter of 2002-2003 showed that extremely dry air with bright sunshine and fierce wind may be lethal for quite a lot of Eucalyptus species and tree ferns. Only the very tough ones survived!
Due to the big freeze in march 2005, when the temperature went down to –22ºC(-8°F), the assortment of bamboos was reduced a little but the best species for the garden have remained.
This last winter of 2008/2009 has forced us to wake up from our 'climate warming dreams'. The south eastern part of the Netherlands was particularly badly hit with severe damage to unprotected exotics; usually it is the northern part that suffers the worst of winter but now it was the other way round. Many gardeners, spoilt by a long succession of mild winters, learnt the hard way that winter protection may make all the difference between life and death. Once again this underlines the necessity of sound winter protection, applied well in time!! Knowledge and experience with exotic plants increases each year, but in their first years many gardeners are too optimistic about plant hardiness.

Here in Steenwijkerwold at the time of writing (15 February) the visible damage is restricted mainly to Southern Hemisphere plants. The minimum temperatures were as low as about -10°C (+14°F), but the wind chill effect made it feel more like -15°C (+4°F). We had quite a long period with temperatures never coming above zero.

In spring, when the first warm days have finally arrived, we can make up the balance.

The complete assortment of plants can be found on the website, click "assortment" on the homepage of www.degroeneprins.nl

In my country gardening is still done the traditional way and changes are rather slow. However, I keep waving the flag for exotic gardening!

Hans Prins, winter 2009

After a record wet autumn
Revision in January 2024

GARDENING KEEPS YOU HEALTHY

For many people gardening has become so important, that they spend all their time (and money) on their hobby. In our own garden, we can be creative; the influence of officialdom is minimal, so we are like a little king in our tiny kingdom. Here we relax and make all kinds of interesting discoveries. Connected with a self made piece of nature, we forget for a while how far away we have drifted from ancient nature, that is long gone in our country. Modern technocratic society has become an unnatural environment for us. Burn-out syndromes and mental problems keep increasing. In this confused society gardening may keep us in balance! The creation and maintenance of our own garden gives us a deep satisfaction.
Exotic gardening has slowly become recognised as a "trend" in the media, and in my opinion may be one of the most important renewals in the gardening world in recent decades.

What is exotic gardening?

"Exotic" means "non indigenous". We all garden with exotic plants, unless we have a specialised garden with exclusively native plants. Indigenousness is defined by the geographical boundaries of the country where we happen to live. In this booklet "*exotic*" means "*having an exotic appearance*". Typically exotica plants (the so called "exotics") are for instance bamboos en palm trees, that remind us of tropical vegetation through their shape and structure.. Magnificent indigenous plants like the famous water lily or the yellow flag have a very exotic look, and thus fit in beautifully in an exotic garden. Exotic gardeners try to create a paradise and are constantly looking for combinations of such plants.
This hankering after tropical paradises, especially strong during never-ending winters, will be familiar with most people. Maybe it has something to do with our colonial past, or with a desire to return to "The" Paradise? Or maybe we realise that unspoilt, pure nature nowadays can only be found in the tropics? Whatever the reason, some people become highly excited when they see a palm or banana growing here in the garden! (Also some purists tell me with disgust that such plants don't belong here …..) The motivation behind exotic gardening has something to do with a longing for the beauty and wildness of luxuriant vegetation as can be found in the tropics. Once struck by this desire, there is only one remedy: create your own exotic garden!

Leaf structures

Leaves are most important for the exotic character of a plant. Just think about a banana or a palm; these plants are in a way the "logo" of the tropics. However, very finely divided leaves like f.i. *Adiantum venustum* (venus hair) or *Albizia* help create a tropical atmosphere. Bold and shiny green leaves like those from tropical *Ficus elastica* are also available with iron hardy *Magnolia grandiflora*, which makes this tree an essential element in many exotical gardens. For a year-round exotic jungle feeling I prefer evergreens. Plants with a distinct beautiful shape, are in England known as *architectural* plants. (There is even a nursery with this name!) In an exotic garden we often try to use plants with contrasts in foliage shape and colour.
There is no ordinary word for the *architecture* of a plant. Plants with a lot of architecture (palms, bamboos) have structures with a great expressiveness.

A jungle garden

If you ever have walked through a virgin forest, you know the feeling of stepping into a different world. It is like diving under water. The familiar world shifts to the background. The past and the future are no longer dominant factors in your mind. The experience of the moment is all that matters. The air is moist and smells like earth and fungi. A monkey or parrot screams in the distance. Light is filtered and

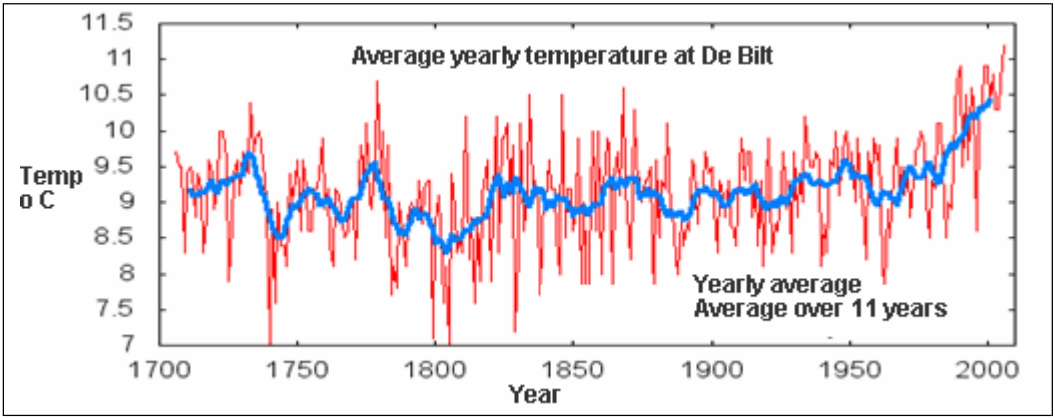
greenish. One becomes part of nature. My preference, (as you by now may have gathered), is for a jungle garden, as an imitation of a rainforest. Such a garden gives peace of mind.
A jungle garden is composed of many shades of green. Flowering plants are part of it, but never become dominant like in many “ordinary” gardens. The shape of the garden: big, bold leaves, liana like climbers, ferns and mosses create the atmosphere.. Winding paths, dripping water, rotting trunks full of mushrooms – those are typical elements of a jungle garden. Obviously, a jungle garden takes many years to mature (it may even take more than one human lifetime). Giant trees like f.i.@@@ , which can be seen in temperate rainforests of New Zealand and Australia are many hundreds of years old and could not survive our climate. Yet it is possible to create the beginning of a jungle atmosphere within 10 years by using a clever selection of plants, gathered from all over the world.
Periodically harsh winters in Western Europe are still possible despite global warming. The last one dates back to 1996/97. This means we need plants able to survive very hard frosts. For tall, evergreen vegetation (necessary for overhead protection of lower plants) the choice is quite limited. The very tallest evergreen bamboos are essential here!
The high canopy is important for an equable microclimate in the jungle garden: the sun is tempered as well as the frost, and the wind is diminished significantly.
Other essential elements in a jungle garden are: water (in the form of one or more ponds, streams etc.. and irrigation) and protection from the wind, especially in the north- and east.
As a jungle garden gets older it begins ever more to live a life of its own: all kinds of animals come to live there and some plants perform better than in a “normal” garden.

Our climate: what is possible here?

Since 1988 the average yearly temperature in our region has risen by 1 degree, and many temperature records have since been broken. This warming is not gradual – experts talk about a sudden change in the trend. This warmer stage of our climate means more precipitation especially in autumn, winter and spring. This is fine for our exotics but incidentally a severe freeze remains a possibility as became painfully clear on the 2nd of March 2005 when the temperature here suddenly dropped to -22°C and in early January 2009 in South Eastern Holland to -20°C!

The climate change is appearing to speed up now. In 2006 and 2007 a record number of records were broken. Pessimists are now warning for a slowing of the Atlantic current that keeps our climate in Western Europe mild, which bring us into the beginning of a new ice age instead of a subtropical future! Optimists are aware of the unprecedented chances , offered by the warming. Ever more palms, eucalyptus etc. can be planted with increasing chances of success!
As the precipitation increases especially in winter, effective drainage of the soil has become much more important.

The average yearly temperature of 2006 was 11.2 – by far the warmest year since measuring started some 300 years ago.
Last year 2023 it was 11,7 ° C in De Bilt !



(Source: KNMI) graph translation

Average yearly temperatures from 1710 onwards in De Bilt, Netherlands

The yearly average temperature of 2007 was once more a record (11.2), which was far above the long term average value of 9.8 . In the year 2008 it was 10.6; This slightly lower value is caused by the cooling effect of La Niña

This is a sensational era for exotic gardeners, as the yearly average temperature in NL (11.2) is now almost on the same level as Christchurch in New Zealand, for example, (11.7) and has become even higher than that of Dunedin (10.2).
Everyone who has seen the 2 cities botanical gardens, knows about the awesome plants growing there. Our precipitation and its yearly distribution is also more and more in line with parts of the South Island. This brings a wealth of rather unknown plants within our reach! In the years to come many Southern Hemisphere plants will be planted in the jungle garden, among them are many Eucalypts.

But beware of extreme temperatures!

Extreme temperatures occur once every 8 a 10 years as gardeners in South Eastern parts of the Netherlands noticed in 2009. Covering plants with something like an old sleeping bag can still help them get them through.

Take Care: frost resistant is not the same as ***winter hardy***!
Take for example *Eucalyptus neglecta*. Many consider this tree as "winter hardy to -18". Strictly speaking this tree is only frost resistant, meaning that it tolerates heavy frost (when there is no wind). *Very heavy frosts* may kill the tree to the ground. Usually it will re-grow from the base and a new tree is formed within a few years, so strictly speaking it is winter hardy, but many people will not consider this tree as winter hardy mainly because of this risk of freezing.

The lowest ever recorded temperature in Holland was -27.4 °C in Winterswijk on 27th of January 1942. Such extreme temperatures will kill the majority of garden plants, even those considered as hardy in our region.

Evergreen plants suffer easily from sunshine and drying wind during severe frost. Keep them out of the wind and in the shade.

Minimum temperatures around -20 °C sometimes occur in our country. Some exotics can withstand this. Near the coast (especially Zeeland) frosts occur less often and are less extreme. Exotics like Camellia and Eucalyptus survive better in this milder zone. It is however not only the temperature that defines the hardiness of a plant. Just as important are:

- good draining soil (many plants will die in waterlogged soil);
- the age of a plant (very young plants are less resistant than mature plants);
- the site (at unprotected spots plants suffer much more);
- health of the plant (hungry plants are more liable to cold);
- a layer of mulch (without mulch the roots suffer more).
- the duration of the frost
- the time the frost occurs (very early or very late frosts are most dangerous)

Most people are aware of these conditions. But other factors are important: a *sudden* severe freeze is always bad. When plants are given time to adapt to lower temperatures, they tolerate much more cold. When cold weather builds up slowly, plants are able to adapt. Sometimes a mild period between two cold periods may wake up certain plants and cause damage to plants that are otherwise frost hardy. Such plants respond to temperature. Many other plants respond to daylight hours and wake up when days are get longer. Such plants are more vulnerable to a late winter than plants that respond to temperature only.

Winter protection

As a protection against extreme winter weather rush-mats, old cloth or other airy fabrics can be used. Often-made mistakes are:

Never "hug" your plants to death by wrapping them in plastic foil!

This mistake is unfortunately often made. In general plants will die when they cannot breathe; they simply rot away. Always allow plants to breathe! Exceptions are tree ferns and bananas that may be temporarily covered in bubble plastic for a short period.

Never defrost your frozen plants in the sun!

Allow the temperature to slowly rise above zero in the shade and out of the wind.

This *Trachycarpus fortunei* is wrapped in a reed mat during winter; this insulates the trunk allowing still some air circulation.

As long as the temperature remains above -10ºC, and there is no wind, this will do. During severe frost the same plant looks like this:

Winter protection only makes sense when the soil is free draining.

Good draining soil is essential for success. Roots that are constantly too wet in winter, will rot and then winter protection is useless.

When you believe that plants have to cope with winter without any help, please put at least a 20-30 cm mulch layer over the soil (pine bark is great) around your plants. The more air trapped within the insulation, the greater it's effect.. In the wild you will usually see a natural covering with leaves and organic litter.

The next step is the protection of the most vulnerable exotics. Wait as long as possible! But when dry, freezing weather is expected, do not wait any longer: start with the smallest plants and cover them with straw, burlap or conifer branches. Any other airy material with insulating capacity will do. Make sure everything is windproof. When a severe continental freeze is expected, use twice as much isolative material, for example old sleeping bags

Important: the chill factor is also determined by the wind. The extra cooling-effect means that a wind velocity of 6 Beaufort and a temperature of –2ºC is equivalent to -12ºC during calm weather
So don't watch the thermometer only, also see this table!

Wind(Beaufort)											
2	8	6	4	2	0	-2	-4	-6	-8	-10	-12
3	7	5	3	1	-2	-4	-6	-8	-11	-12	-15
4	6	4	2	-1	-4	-6	-9	-10	-13	-15	-18
5	4	2	-1	-4	-7	-10	-13	-15	-18	-21	-23
6	3	1	-2	-6	-9	-12	-15	-17	-20	-23	-27
7	2	-1	-4	-8	-11	-14	-18	-19	-23	-27	-31
8	0	-3	-5	-9	-13	-16	-19	-22	-26	-30	-34
temperature=>	**+8**	**+6**	**+4**	**+2**	**0**	**-2**	**-4**	**-6**	**-8**	**-10**	**-12**

Table 1 – the windchill effect

Micro climate improvement in the garden

For maximum advantage of the warmth of the sun, the exotic garden needs wind shelter. Only in a sheltered garden is growth optimum. As long as wind roars through, neither temperature nor humidity can reach high values. Do you feel an enclosed garden is oppressive and do you want to keep the view as wide as possible? Then plant just a few exotics against your house and plant only the very hardiest exotics in unprotected situations. The best improvement of a microclimate is realized with an enclosing wall, mainly on the northern and eastern side of your garden. As an alternative if neighbours or officials don't agree with a wall, one may construct a fence, at least 2 meters tall.

If you have a garden, enclosed with a wooden fence (a so called cigar-box), a lot can be improved by planting climbers. If your garden is enclosed with conifers, they can be improved a lot by planting C*lematis* en *Lonicera* against them. If the hedge is too old and

bare underneath, removal may be the best option. Only *Taxus* may be pruned back a lot, most other conifers won't tolerate this.
Close to a wall, the minimum temperature remains almost 2 degrees higher than in the heart of the garden, because the stones absorb the warmth of the sun during the day, and radiate it again during the night.
In a bamboo grove the minimum temperature is about one degree higher, because the bamboo canopy slows down the drop in temperature. It also retards the warming process in summer and it is often 4 degrees cooler. This provides a good micro-climate for ferns.
Another improvement can be realised by the creation of a small piece of south facing slope. This is especially effective for the creation of Mediterranean gardens. Cover the soil with gravel or basalt shingle, this improves the heat absorption remarkably.

Seedlings of **Cordyline australis "Zuidland"** easily survive a short cold spell in 2005 with minimum temperatures around –10 ºC. Snow gives some protection, but on the other hand causes more frost.

NEW INTRODUCTIONS

At the nursery we do many experiments with newly introduced plants. We propagate those

plants that do well and eventually sell them. But conditions here in Steenwijkerwold can be very harsh! Tender plants may be sold as pot plants only. Tree ferns that died during an extremely dry February in 2003 are safer as conservatory plants but Dicksonia antarctica may still be grown in the garden with adequate protection. This was, incidentally, the driest winter on record. With adequate protection even these vulnerable plants would have survived.

Palms

It is very well possible to cultivate palms in gardens in Holland, however protection with straw and reed mats is advisable during severe frosts. Do not use polythene sheets as this may cause spear rot. Keep the heart of the palm dry in winter by tying up the leaves. The best spot in the garden should be warm and sheltered. Palms require heavy feeding during the growing season. Check the consumption of fertilizer with a fertimeter if you want optimum growth. You will be surprised about the greediness of palms! ***Take care for good drainage and protect palms in winter against heavy rain.***
Cover the new roots near the bottom of the trunk with compost before each winter.
The following palms are usually available:

Butia capitata
A rather fastgrowing feather palm with blue green leaves that curve downwards. This species and the following one need protection from rain in winter.

Butia eriospatha (new introduction in 2006)
A variable species similar to B. capitata, but with green leaves and slightly hardier because of its provenance from 1100 m altitude in the Santa Catarina mountains of Brasil. This beauty performs well in our climate. Growth starts at much lower temperatures than B. capitata and therefore much earlier in the season and continues right into autumn. This is so far the very best feather palm for our climate! We have been observing this plant since 2006. The winter of 2008/2009 was the first serious test, winter protection was necessary.

Butia eriospatha?* Sp. Gigantea *(new introduction in 2007)
A giant palm that can reach proportions similar to *Phoenix canariensis*. I expect this palm to be just as tough as the original species. Availability: very limited.

Chamaerops humilis
This suckering fan palm is indigenous to Europe, and fairly tough. The plant remains bushy for a long time but may eventually develop a small trunk. Requires excellent drainage and some protection against winter rain in the garden. Two beautiful forms are available:
'Vulcano' compact, from Italy with whitish hairy leaves and
'Cerifera' with bluish leaves from the Atlas mountains

Jubaea chilensis
(Chilean wine palm) this slow growing palm grows best in the garden where it has room for enormous taproots and is not suitable for pots or tubs; seedlings always available (bigger plants on request); said to tolerate 15 degrees of frost once a trunk is formed. It may very well be the hardiest (and most expensive) feather palm. When mature, Jubaea attains giant proportions, so choose the right place: perhaps as a specimen in a lawn. This palm is very sensitive to spear rot! An anti-fungal spray in winter is believed to be effective.

Jubutia
Very rare hybrid: *Jubaea x Butia*, sometimes the seedlings from this hybrid palm are

available (known as F2-generation). The search for palms with the fast growth of a Butia and the robustness and hardiness of a Jubaea resulted in this cross. In time more hybrids between related species may become available (Syagrus, Parajubaea)

Sabal minor

With bluish leaves, growth is very slow; does not form a trunk; once survived 20 degrees of frost; has a tendency to sudden death, comes from the South Eastern United States. It is available but is sold without guarantee! It likes lots of water during summer, and a fairly dry winter. Prefers a continental climate. Very frost hardy.

Rhapidophyllum hystrix

Is very hardy (to at least -20 °C) but growth in our country is extremely slow due to lack of heat. This suckering palm looks best in very light shade. Very frost hardy.

Trachycarpus fortunei *(syn. Chamaerops excelsa)*

This palm performs excellently in our climate zone. It grows fast after some years, sometimes producing 30-40 cm trunk per year! It can eventually form a trunk of several meters tall. Hardy to at least -15 °C, but easily survived -22°C several times here at the nursery with winter protection! Growth starts at low temperatures. **Don't buy plants with thin trunks and/or little roots! The tub should be full with light yellow fleshy roots.** This species is extremely variable, and often crossed with:

Trachycarpus 'takil'

Similar to *T. fortunei*, but more robust and said to be even more hardy. Many palms sold as fortunei are probably takils or hybrids.

Most takils in the trade are the form 'Naini Tal', a very vigorous and robust plant, able to produce 50 cm of trunk in a good year under ideal conditions! The right botanical name of this palm is still obscure, as the *real* takil has seldom been introduced into Western Europe. In the meantime seedlings, said to be the *real* takil, have been introduced.

Trachycarpus wagnerianus

Is a compact form of *T. fortunei.* It is as hardy but more wind-tolerant and better suitable for small gardens. This palm is one of the best palms! Hybrids between wagnerianus and fortunei are known as 'Takaghi' and are sometimes available.

Trachycarpus princeps

This recently discovered new quite hardy species has tight leaves (like wagnerianus) with bluish powdery white undersides. Seedlings are usually available; a green, fast growing but less hardy form is also available as 'sp. Nova'. This has caused much confusion. This green form may well be a new species.

Trachycarpus manipur

Seedlings of this newly introduced species from Northern India have recently become available. Like T. princeps the underside of the huge leaves are covered with a bluish white powder. No adult palms are known to exist in Western Europe. Frost-resistance is probably moderate (-10). In the wild this species is rare. A must for the palm-freak.

Trithrinax brasiliensis

This species is said to be suitable for our climate. Rather similar in appearance to a Trachycarpus, but with needles on the trunk.

Trithrinax campestris

A South American species from the mountains, that seems to survive our climate. Seldom available due to export restrictions. It seems unclear whether this palm will be a long-term survivor.

Other palms that may be kept alive with extra heating, with for example Christmas lights, are usually available like *Chamaedorea, Phoenix, Rhapis, Rhopalostylis, Washingtonia, Brahea* and other halfhardy species.

Never sprinkle fertilizer in the heart of a palm!!!

Palms in containers

Be aware that palms in pots are more vulnerable to frost than palms planted in the ground, where stable earth temperatures prevent the roots from being exposed to extremes in temperature. A *Trachycarpus fortunei*-leaf will, for example, be damaged at about – 12 °C, whereas roots already begin to die at -6°C!
Washingtonia's and Phoenix palms don't tolerate root temperatures lower than -2°C.
This explains why palms sometimes look fine after the winter until the first warm weather arrives and as the roots don't work anymore, the leaves start to dry out immediately.

At the nursery I use a so called fertometer. This simple but effective device measures the available nutrient concentration near the roots of a pot plant. It tells whether there is still enough food for the plant or not. A regular check tells you when new fertilizer is needed. Some plants are more hungry than others!

So called 'Anorexia-plants' that have been kept much too long in the same pot, first need fresh soil and a bigger pot before new measurements make sense!!

A young *Trachycarpus wagnerianus*. A mulch of wood chips protects the soil and the roots during winter.

Ferns

Just like bamboos, ferns like regular feeding and water. The majority of ferns don't like direct sunlight, especially not between 10 and 17 hours. Dappled sunlight does no harm. Most ferns grow well without any sunlight at all. I have listed my favourite ferns:
Evergreen species:

Adiantum venustum
The well known maidenhair fern, but this one from the Himalayas is completely hardy!
Arachniodes simplicior
Rather unknown fern, with a yellow midrib. Slow growing fern. Fairly hardy.
Asplenium scolopendrium (syn. Phyllitis s.)
Hart's-tongue fern. Especially fine in group plantings. It is a hardy substitute for the tropical *A. nidus* . A must for the exotical garden!
Blechnum chilense
A suckering fern from Chile with tough, leathery fronds to 1 meter long! This plant needs winter protection; it is really worth the effort. It is a very thirsty fern. The availability is usually limited. In the British isles you may easily find this fern for sale.
Blechnum magellanicum
New from Chile, tougher than *B. chilense* and highly recommended. Limited availability.
Blechnum NovaeZelandiae
Splendid fern in a protected spot, winter protection is advisable.
Cyrtomium falcatum
Beautiful shiny fronds, but only marginally winter green. Hopefully hardier forms do exist, but so far have not yet been introduced. Survives with little light. Try this beauty against the wall of your house with winter protection!
Cyrtomium fortunei
Dull light green fronds, less beautiful than C. *falcatum* but very winter hardy. Can do without winter protection.
Dicksonia antarctica
The most well known Australian tree fern, and a must in the jungle garden with its palm like appearance and impressive giant fronds. Winter protection is essential! Build something with straw and bubble plastic sheets, or overwinter in the conservatory. Zone 8, but tolerates till 12 degrees of frost.
Dicksonia fibrosa
This tough tree fern from New Zealand is less hardy and less winter green in the garden than D. antarctica, and it is advisable to bring this into a conservatory in winter. (probably zone 8 according to Martin Rickard's excellent book "The Plantfinder's Guide to Garden Ferns")

Newly-emerging frond of *Dryopteris cycadina*, the “Black wood fern”. It resembles the trunk of an elephant

Dryopteris erythrosora, the Autumn fern, is a very good fern for the garden

Dryopteris affinis
A native species, very hardy, that is able to cope with dry conditions.
Dryopteris cycadina (syn. D. atrata)
In Dutch called “elephant’s trunk fern” , tough and winter green.
Dryopteris erythrosora
Autumn fern. A tough fern from the far East with coppery pink new fronds changing to bright green that tolerates quite a lot of sunshine. The mature leaf has a deep green colour. Does very well in bamboo groves in my garden. A must in the garden!
Dryopteris sieboldii
A beautiful fern, reminiscent of *Pteris* from Japan, Taiwan and China. Produces thick, leathery fronds. Needs a protected spot and frost protection in winter; grows slow but is soooooooo beautiful …!
A must.
Dryopteris wallichiana
Wallich’s wood fern. Huge vase-shaped fern with black stripes. Doesn’t like hot summers.
Polystichum munitum
Sword fern. Is among the largest Polystichums, striking when mature.
Polystichum polyblepharum
Bristle fern. One of the very best evergreen ferns from Japan and South Korea with shiny dark green leaves. Good for cutting. Very beautiful! Essential fern in the garden.
Polystichum rigens
Nice fern from Japan, grows well under bamboo in my garden. The leathery, toothed leaves are shiny light green. Attractive.
Polystichum setiferum
Soft shield fern. Quite well known fern with many cultivars (over 300 in the 19th century). Needs a sheltered garden. “Plumosum Bevis” is especially recommended! Produces large bi-pinnate fronds.
Woodwardia radicans
European chain fern. Surprisingly hardy fern with some protection. Very jungly, with fronds up to 150 cm it is surprisingly hardy. Produces large buds near the tops of the leaves. As the frond bends over and touches the ground, these buds grow into new plants. *(W. unigemmata* is identical with coppery pink new fronds and slightly hardier, but not yet available)

<u>Deciduous ferns:</u>

Adiantum pedatum
Northern maidenhair fern. From North America, it prefers moist, well draining and rich soil as most ferns do. The finely divided fronds are arranged as fingers on top of a long stem. In time it forms a colony through creeping rhizomes. Young fronds are coppery coloured. Slugs love this one!
***Athyrium niponicum* ‘Pictum’**
Nice blue green fronds with a wine red central vein. In the shade the colours remain good, but in the sun the colours fade quickly. Prefers a moist soil.
Lophosoria quadripinnata
Recent new introduction from Chile, that survived the last 3 winters well. Mature specimens look very much like trunkless tree ferns, but this fern is slightly more wintergreen!

For adventurous gardeners here is some good news: *Dicksonia antarctica* has a better

chance in bamboo groves (as long as it is protected from drying winds) than elsewhere in the garden. Another Australian fern, *Blechnum nudum,* has survived here for many years (but is deciduous). Collecting ferns is a fascinating hobby! Many species have never been tested here, cultivation from spores is very interesting too.

Selaginella kraussiana

This so called spike moss is a fern ally and is popular among florists. The form “Aurea” survives here in the garden despite the havoc, done by blackbirds. Very good for shady, moist places in the garden. Quite a few other species are being tested in the nursery garden.

Midwinter in a jungle garden in Penjerrick, Cornwall with *Blechnum chilense* (right) en *Dicksonia antarctica* (left)

Ensete maurelii is a pot plant in our climate as it is less cold-tolerant than *Musa basjoo.* Only in mild winters with heated horse dung around it is survival sometimes possible.

Bananas and gingers

This most interesting group of exotics is still largely untested, and every year new species are introduced. They have one thing in common: all plants from this group love a rich, moist, welldraining soil and in our climate a warm spot in the garden. They do not thrive in windy gardens! Here in the north bananas can only give ripe fruit when overwintered frost free in, for example, heated greenhouses. Without winter protection in the garden most bananas will sprout again in late spring, in which case you will miss flowers.
Please check the website for the latest news about banana's:
https://en.degroeneprins.nl/garden-bananas/

Musa basjoo
The Japanese fibre banana was unknown only 10 years ago. Each summer this plant re-grew into plants of several meters tall in the garden of nursery Kimmei (Valkenswaard), and became subject to micro propagation. In the mean time it has become an "ordinary" garden plant, for sale in most garden centres. In the extreme winter of 1996/1997 it froze to death *despite* heavy winter protection. It has been replanted and done well ever since. Micro propagated plants are available, non-micropropagated plants only on demand.
Musa sikkimensis
This mountain banana from Northern India starts growing late in the season, but is almost as hardy as M. basjoo. The blue green leaves have a veined underside. The form 'Red Tiger' introduced in 2004, has irregular veined patches on enormous leaves and appears just as hardy .
Other bananas under observation are *Musa 'Helens Hybrid'* said to give edible fruit, *Musa nagensium* and *Musa velutina.*

Hedychium
This rather unknown group of very ornamental plants deserves more attention than it currently receives. The following species are winter-hardy though not winter green with mulch as frost protection:
H. coccineum said to be tough, but needs more testing; 'Tara' is a well known form with orange flowers*;* var. Angustifolium has narrow leaves and grows into a tall plant
H. coronarium is under observation (provenance bot. garden, Utrecht)
H. forrestii , over 2 m tall, one of the giants and very hardy
H. gardnerianum is the most well known species with huge yellow flowers with a strong smell. Survives in the garden but is shy flowering.
H. greenii is a less well known species with leaves that are reddish brown at the underside. Survives in the garden, but is a shy bloomer outside, needs ample water in summer.
H. densiflorum flowers in late summer with yellow spikes reminiscent of Orchis. 'Assam Orange' has salmon orange flowers. 'Stephen' has bigger flowers than the species. All are splendid garden plants!
H. spicatum flowers in summer with white, fragrant flowers with prominent red filament, The very hardiest Hedychium. One of the first to flower. Bright red fruits in autumn.
H. `Dixter` is a recent addition, probably a cross: gardnerianum x coronarium. Vigorous growth and fragrant creamy yellow flowers late in the season.
H. `Pink V` also a recent addition, is under observation. Is probably confused with the old cultivar 'Kinkaku'.

Zingiber
Apart from the well known tropical ginger used in oriental cookery there is:
Z. mioga, 100% hardy. Closed flowerbuds are used as a spice in Japan as the early shoots in spring. A splendid addition to the herb garden!!!

Hedychium 'Gold Spot' is a late flowering, hybrid with a lovely scent (October). Many hybrids have never been tried outside in our country.

Eucalyptus

E. niphophila, E. archeri, E. gunnii 'Divaricata', *E. perriniana, E. parvula(syn. Parvifolia)* and *E. neglecta* are ***frost resistant*** (nearly winter hardy) trees. According to my experience only *E. debeuzevillei* is ***fully*** winter hardy. It remains a big mystery why these varieties are virtually unknown in Holland. Only half hardy forms of E. gunnii may be found in garden centers.

The hardiness of a given species largely depends on the provenance of the seed used. Trees from areas in Australia where extreme frosts occur give very hardy offspring. *E*. *gunnii* not only grows in lowland Tasmania, but also at an altitude of 1200 m where it endures severe frosts. Seedlings originating from these high altitude trees have the best chance of survival in our climate. In very wet winters, there is a risk of bark split, so well drained soils give better results.

Luckily some nurseries are aware of the importance of using seed of good provenance, and "de Groene Prins" sells young trees from these nurseries. Hardiness varies slightly among individual seedlings, and we try to select extra hardy trees in our garden as a seed source for the future.

The altitude where the original seed trees grow in Australia is not the only factor determining hardiness. *E. debeuzevillei,* for example, is hardier than *E. niphophila,* but grows over 400 m lower in the mountains.

Important: *E. debeuzevillei* and *E. niphophila* are the very hardiest species, that often survive harsh winters. The other species easily survive an average winter without harm. They may freeze back every 10 years or so.

Growth

Growth speed can be up to 2.5 m per year! The tallest Eucalypts reach to 10 m so far, because of frost damage or genetical characteristics. Many species may be pruned back harshly in early spring. This is especially beneficial for trees with a tendency to leaning. It applies mostly for E. *archeri, E. gunnii, E. gunnii* 'Divaricata'*, E. glaucescens, E. perriniana.* By hard pruning a strong trunk can be grown.

For cut foliage it is best to coppice the trees yearly at 50 cm above the ground once a 5 cm thick trunk has develloped. *(E. debeuzevillei, E, nitens, E. pauciflora* and E. *niphophila* are not suitable for harvesting cut foliage)

Habitat

Full sun is essential! Never ever plant under the canopy of another tree! For a shelter belt choose wind hardy species like *E. archeri, E. debeuzevillei* and *E. niphophila*. Plant right away at the definitive spot as replanting of Eucalypts frequently fails. Stake the tree at 30 cm above the ground.

E. neglecta and *E. crenulata* tolerate light shadow.

Soil

Soil improvement (except improvement of drainage when necessary) is unnecessary, do not add compost, potting soil, manure or peat. Fertilized trees may easily fall over. On very poor soils a little bit of organic fertilizer may be added. Important is to keep the circle 60 cm

around the trunk free of weeds. This is most important during the first years of growth. Avoid chemical weed killers. Ground pine bark is a good way to suppress weeds.

Eucalyptus for wet soils:	°F	absolute min temp in °C
aggregata	-3 +8	**-19.5**
camphora	+3 +14	**-16.5**
cinerea	+8 +16	**-13.5**
dalrympleana	+3 +12	**-16.5**
glaucescens	-2 +6	**-19**
gregsoniana	+3 +15	**-16.5**
gunnii	-5 +12	**-21**
rodwayi	-3 +6	**-19.5**
rubida	+3 +12	**-16.5**

These minimum temperatures apply only to short periods of time with no wind!
Long lasting frosts between -10 and -15 may still be lethal.

On chalky soils (pH> 7,5) the following species will grow: *E. cordata, E. dalrympleana, E. macarthuri,* E. *nitens* and *E. parvifolia.* The last mentioned is the hardiest one; the others may not survive every winter.

Flowers

All hardy Eucalypts have white or cream flowers. The red, pink and yellow flowering species are not hardy enough here. The flowering age varies between species. E. *debeuzevillei en E. niphophila* usually start from their 5th year. *E. gunnii* en *E. perriniana* may start in their 4th year. *E. archeri* sometimes in the 3rd year. However, pruning inhibits flowering. The flower buds take a year to ripen! Sometimes flowers, flower buds and seed capsules can be seen on one branch together

Winter protection

As long as the trees are still juvenile, winter protection with conifer branches or reed is advisable. Bright sunshine during frost may cause dried leaves. Or the bark may split, causing severe dieback to below the damage. However, many trees will regenerate after winter damage from the roots. The process of selection of the hardiest acclimatized trees has only just begun. With a little bit of luck you will have an awesome tree within just a few years. The trees in the jungle garden of the nursery are the living proof!
The following table shows the provenance of some species and their speed of growth. Hardiness categories are as follows:
"very good" means trees can be planted all over the Netherlands and Belgium, even unprotected spots may be used.
"Good" means the site should be sheltered but extreme winters may still be fatal,
"reasonable" means the spot should be well protected by walls, dense conifers etc.
"restricted" means that only milder coastal areas are suitable
"tender" means the species only survive very mild winters in the garden.
The table is kept short. In a sheltered garden in a city many more species may survive!

Insects

Many insects hate Eucalyptus; I plant these trees to frighten off ticks; at the same time indigenous trees where ticks are abundant are felled. (oak, birch, aspen etc.)

Eucalyptus species

species	growth speed	Hardiness	Provenance	
archeri	moderate	good	Tasmanië	1200 m
aggregata	moderate	good	Tasmanië	900 m
coccifera	moderate	restricted	Tasmanië	1100 m
crenulata	moderate	tender	Victoria	300 m
dalrympleana	fast	reasonable	Tasmanië	1150 m
debeuzevillei	moderate	very good	ACT.	1900 m
delegatensis	vrij snel	reasonable	N.S.W.	1600 m
glaucescens	fast	good	N.S.W,	1700 m
gregsoniana	moderate	reasonable	N.S.W.	1300 m
gunnii 'Divaricata'	fast	good	Tasmanië	1150 m
mitchelliana	moderate	restricted	Victoria	1700 m
neglecta	fast	good	N.S.W.	750 m
nicholii	moderate	reasonable	N.S.W.	onbekend
niphophila	moderate	very good	N.S.W.	2300 m
nitens	fast	restricted	N.S.W.	1400 in
parvula (parvifolia)	moderate	good	N.S.W.	1100 m
perriniana	fast	good	N.S.W.	1600 m
rubida	fast	restricted	N.S.W.	1200 m
saxatilis	moderate	restricted?	N.S.W.	onbekend
subcrenulata	fairly fast	good	Tasmanië	1200 m
urnigera	fast	good	Tasmanië	1000 m
vernicosa	slow	reasonable	Tasmanië	1000 m

Eucalyptus niphophila in flower

Peeling bark of a 15 year old *Eucalyptus debeuzevillei*

Eucalyptus gunnii clone 645, Longages, Southern France. This clone was selected as one of the very best for forestry.

Eucalyptus and global warming

Now that very severe winters no longer seem to occur, Eucalyptus faces a bright future in our country! More and more species are being tested here. To improve the probability of survival of good selections I now plant 5 or more seedlings together..
I expect that in the near future more and more selection work will be done. We can take advantage of 35 years of field trials in France.
In autumn 2007 a hedge of E. Subcrenulata has been planted. In 2008 I planted:
amygdalina, camphora, coccifera, glaucescens, goniocalyx, nitens x perriniana, macarthuri, nortonii, pulverulenta, rubida, saxatilis, urnigera and vernicosa.

Euc. Gundal (gunnii x dalrympleana) clone 121, St. Élix, Southern France, is planted for pulp production. Every 12 years the trees are cut, and regenerate from the roots. We grow now(2024) the hardiest clone 208 in our bot. garden.

Mimosa (Acacia)

I have tested a number of *Acacia* species. So far only *A. alpina* and *A. obliquinervia* survived for many years. The last victim was A. dealbata, a 6 metre tall tree which froze back to the ground in the winter of 2008/2009. Half hardy mimosa's are best planted against a south facing wall of a house; *Acacia dealbata* 'Subalpina' will flower every mild winter. Freezing back happens every five or so years, but re-growth with several meters per year is possible. The superior form "Gaulois Astier" is for sale at the nursery, but is unfortunately tender. In 2008 I planted: *Acacia paradoxa*. In 2009 I will plant *Acacia nanodealbata*, a mountain species that may prove hardy (hopefully …).

Magnolia

The evergreen M. grandiflora with bold, shiny leaves, and huge creamy white flowers with a lovely scent is essential in an exotical garden; it flowers from may till september. Quite a few selections of this tree are extremely hardy down to zone 6B. It grows into a shrub or small tree in our cool climate. It is a lot more beautiful than *Prunus laurocerasus*, yet still not well known. Garden centers sometimes offer 'Galissonière', but this selection is not very hardy and rather shy to flower in our climate.

The soil should be rich, moist but not waterlogged. Light shade is no problem, but flowering is better in full sun. The south or south western part of the garden is usually a good place. The winter '95/'96 caused some die-back of branches (at -22). All varieties recovered well. The big freeze of march 2005 caused no damage at all, no more than the hard freeze of 2009 in south eastern Holland! The tough cultivars from the list below are 100% winter-hardy here.

Pruning should be done in march to avoid leggy branches. Heavy doses of fertilizer during the growing season are appreciated.

Some good forms are:

Alta	compact conical upright growth, very tough, good for hedging although flowering is not profuse, doesn't need much pruning
Bracken's Brown Beauty	compact, pyramidal growth, exceptionally strong, many flowers
D D Blanchard	vigorous growth, beautiful orange brown indumentum, very tough plant forming a balanced crown, good as a street tree
Edith Bogue	vigorous upright growth, profuse flowering
Exmouth	vigorous upright growth, flowers at a young age. An old selection from the 18th century, hardy; needs heavy pruning
Goliath	huge flower, vigorous, upright growth
Kay Paris	Little Gem x Bracken's Brown Beauty. Same as both parents, said to be hardier than Little Gem. Promising.
Little Gem	dwarf form, heavy bloomer, needs some shelter and warmth
Majestic Beauty	very big leaves, pyramidal growth, not really hardy
Maryland	*M. virginiana* cross, grows wide and upright, good bloomer
Saint George	double flower, dark underside of the leaves; profuse bloomer
Tréyvei	waved leaves, profuse flowering, bushy growth
Victoria	upright growth, profuse bloomer. Rusty brown indumentum under the leaves. Very winterhardy.

It is wise to protect young trees in their first winter, especially against drying wind and winter sun.

Important: in early spring the longest and leggiest branches need pruning to at least half of their length. When omitted, than the result turns out to be an ugly, leggy tree.

When a tree has not been pruned for several years, get your saw and cut it back rigourously of it. That is the only remedy to force the tree to grow compactly again. Extra branches mean extra flowers as well.

In spring I usually have some other deciduous Magnolias for sale, like the yellow flowering ones.

Magnolia grandiflora 'Goliath'

Camellia

This plant deserves definitely a come-back! For many years Camellia's have been wrongly presented as houseplants. Indoors is the worst place for a Camellia to be. Like *Rhododendron* they prefer a cool, humid environment (apart from the autumn flowering varieties). Camellias have a reputation of being difficult for the following reasons:

- young plants are not quite fully hardy, and may freeze to death if unprotected
- the planting site should be sheltered from winds and early morning sun in winter
- the hardiest varieties are rather unknown in the trade

The whole spectrum of flower shapes and colours is not represented in the trade. Time for a change!! Why should we deny ourselves the wealth of flowers that Camellia's can offer? Not only as tub plants, but also in the garden. In mild winters flowering may start as early as november! The main blooming period happens about 2 months earlier than Rhododendrons. This satisfies our longing for flowers in early spring quite well.
After an average winter flowering is usually good, but after an extreme winter sometimes flower buds and/or branches may get damaged. As this is also common with Rhododendrons, there really is no excuse for not planting some Camellias. In British gardens Camelllias are much more common and suffer sometimes from hard winters as well. As far as I know there are no old collections in this country. I have now been testing some 80 different Camellias. for about 14 years (still a rather short period of time). I have learned that over-wintering potted Camellias dug from the garden is not a good strategy, even with good drainage. And also that information about hardiness sometimes conflicts with my own experience.
In some English books *"hardy"* means *"tolerates sun and wind",* which is something quite different from winter hardy. "*Hardy varieties"* are not automatically *winter hardy*!
In the trade in many cases plants are wrongly labelled. Many identical varieties circulate under different names. This we knew already of the rhododendrons, where each year new cultivars identical to old existing ones are introduced. It would be good to have a collection planted somewhere to have a reference, but the poor botanical gardens have no room, interest or money for such a project.

Soil

Camellias like acid soils (pH 5 till 6), rich in humus and well drained. Apply organic fertilizer in spring when the blooming has ended. Keep the soil mulched with pine bark or similar material. In summer it is important that the soil never gets dry, as this may cause premature bud fall. Improve sandy soil with a good potting mix. Improve clay or loam with peat moss and coarse sand for better drainage.

Ave Maria

Bob's Tinsie

Cornish Spring

Nuccio's Gem

Berenice Boddy

Waterlily

San Dimas

Rhododendron calophytum

Some very tough ones

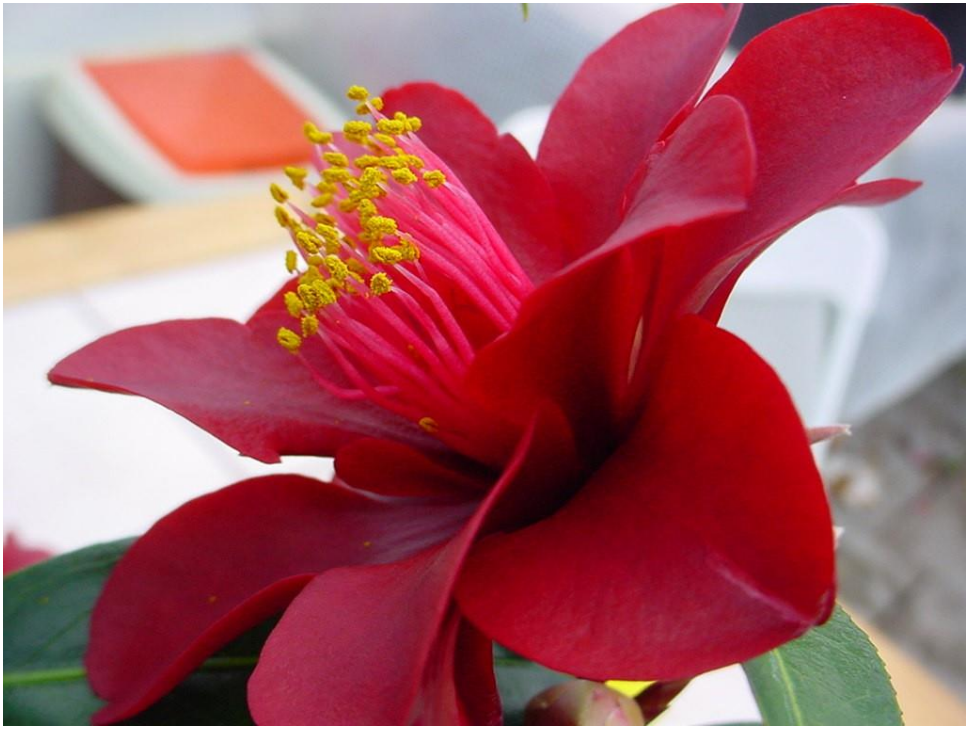
The following varieties survived the extreme winter of '96/'97 rather well:
Miyako Dori (was about 175 cm tall) with magnolia-like white flowers – without extra protection;
Lavinia Maggi (about 175 cm tall) with light pink flowers – without extra protection
Spring Festival (was about 100 cm tall but now about 300 cm) was wrapped in horticultural fleece because it was in a windy location. One of the very best Camellias!
(this plant is mentioned in the book "Camellias", - published by Groene Bibliotheek - wrongly as a plant that tolerates only light frosts ...)
Jupiter (was about 60 cm) has single, coral red flowers – without extra protection
Silvia - same
The last 4 varieties grow under an oak canopy, the first one is planted against a south east facing wall.
(A 15 cm thick layer of chopped branches and leaves is the standard winter protection here)
A few more very hardy varieties are: *Adolphe Audusson, Alba Simplex, Blood of China, Elegans, Eximia, Guilio Nuccio, Hatsu Warai, Hino Maru, Hiodoshi, Inspiration, Jury's Yellow, Masayoshi, Oki No Nami, R.L. Wheeler* and the botanical species *C. oleifera, C. cuspidata, C. sasanqua, C. saluenensis* and *C. japonica.*

As subject to cold, dry wind combined with winter sun no Camellia is winter hardy!

New varieties

New hybrids with increased hardiness are originating from the USA, where sometimes extreme cold waves invade the deep south. A botanical species named C. *oleifera* 'Lu Shan' is said to tolerate -24°C. I usually have seedlings of this one. It is autumn flowering with single, white, fragrant flowers. The best hybrids between this plant and C. sasanqua have been planted in the garden, flowering from October into January.
I have tested some so called Ackerman hybrids with improved hardiness. 'Winter's Interlude' (ground cover) and 'Winter Joy' (good for hedges) are good additions, both tolerating -20°C without problems, as is 'Snow Flurry', flowering in September.
More new species:
C. sinensis 'Korea', a very hardy tea plant, wide growing and vigorous.
C. chekiangoleosa, related to C. japonica and said to have unusual orange flowers. A vigorous, upright growing plant.
C. edithae, with hairy leaves and formal pink flowers.

Many people ask for yellow Camellias. 'Brushfield's Yellow' has a creamy yellow colour, but the flowers soon turn brown after flowering. 'Dahlonega' makes a better choice. Good yellow flowering plants like *C. chrysantha* are not at all hardy.

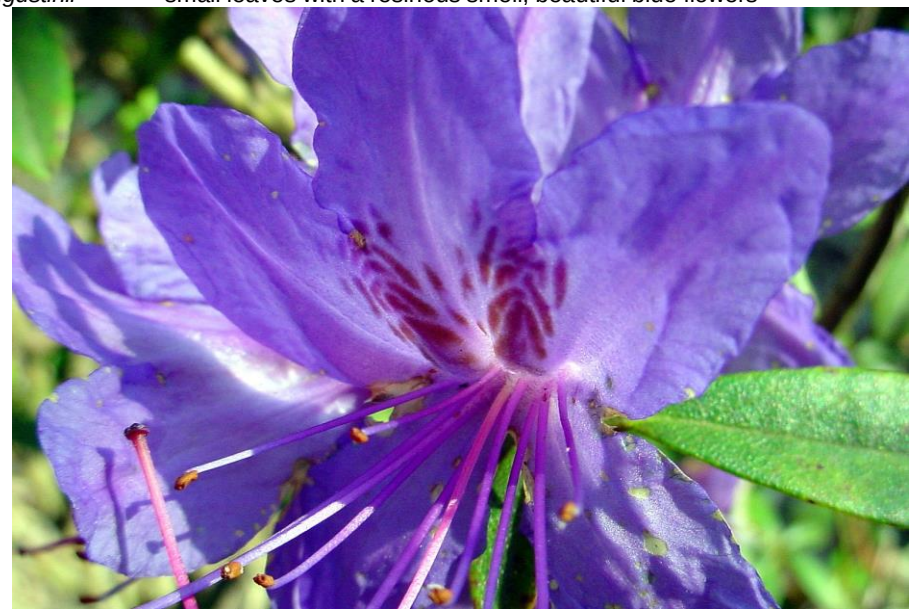


***Camellia* ‘Night Rider’** is a remarkable new cross from New Zealand, with deep dark red flowers , the young new leaves are copper coloured. It grows very slowly, and has survived the last harsh winter of 2008/2009.

Rhododendron

Great plants! Especially the large leaved species that are hard to find make good combinations with bamboo. Often the new young leaves are as beautiful as the flowers. At the nursery Rhododendrons are dug from the garden for sale. This gives a better root system than in pots.
The assortment has been limited a lot over the years:

auriculatum	shrub or small tree, umbrella shaped; it changes all its leaves every year ; flowers white to pink with a green throat in august, with a good scent winter hardy
calophytum	shrub or tree, broader than tall, scented pink flowers, very hardy
rex	big leaves, shrub or small tree, flowers white to light purple with a red throat, hardy
fortunei discolor	fast growing (for a rhododendron), upright, flowers after many years, white to pink
augustinii	small leaves with a resinous smell, beautiful blue flowers



Rhododendron augustinii

Phormium and other plants from New Zealand

Plants from New Zealand survive average winters, but find it hard to cope with a severe winter like the last one in 2008/2009. Quite often plants will recover.
Phormium tenax is also called New Zealand flax. Considered by many as a half hardy tub plant. Yet on a sheltered, well drained spot in the garden they grow well. The bold, sword-like leaves can be over 2 meters tall. I recognize two types, slightly differing in hardiness: a giant form with an orange leaf edge and a smaller form with a black leaf edge. The latter appears to be more hardy. I try to collect as many forms as possible. Phormium is excellent in windy locations. The green and the winered 'Atropurpureum' are good garden subjects. Some other varieties are:

'Alison Blackman'	striped yellow, purple-brown and dark green, red leaf edge
'Blackadder'	dark purple brown
'Crimson Devil'	nice pink red form
'Golden Ray'	striped golden yellow and green, with a red leaf edge
'Purpureum'	grayish purple leaves
'Pink Panther'	pink, not very hardy.
'Tricolor'	striped yellow and green with a red edge
'Variegata'	striped creamy yellow with green

Phormium cookianum is a smaller species from the mountains, may be even hardier

Cordyline australis has been introduced from the coldest provenance in NZ, under the name **"Zuidland"** en **"Groenland".** These plants are hardier than plants from milder areas. Seedlings have survived the long and cold winter 2005/2006 without protection!
Even if Cordylines freeze back, they usually will re-sprout from the roots. The most difficult species is ***C. indivisa***. Although hardy, it is susceptible to fungus.
Several Pseudopanax species have survived the last winter 2008/2009.!
The Kowhai (***Sophora microphylla***) with the beautiful deep yellow flowers has proven that it is fully hardy here.

All these plants can be seen in the NZ border in the garden.

NZ **treeferns** like *Cyathea medullaris, C. dealbata, C. smithii, Dicksonia fibrosa* and *D. squarrosa* are all insufficiently hardy (many people have learned the hard way). *D. fibrosa* is the toughest one, but **D. antarctica** from Tasmania is still the very best tree fern (with heavy winter protection) for sheltered gardens.

This *Cordyline australis* in the garden receives extra warmth with christmas lighting; it illuminates the yard and serves as an alternative type of christmas tree at the same time!

Above –5ºC winter protection is not needed, and then the same plant looks like this:

Phormiums and Cordylines determine the shape of the NZ border. They are no longer protected in winter.

Astelia nervosa

Cordyline indivisa is one of the biggest challenges for adventurous gardeners. As far as I know, nobody has succeeded in the Netherlands: sooner or later the plants die and never become mature.

I keep trying, and I offer seedlings for sale to everybody in need of a real challenge in life every year. (NB all plants in the trade under this name appeared to be *C. australis*; the real indivisa has very broad leaves with an orange midrib)
***Astelia chathamica* 'Silver Spear'** with sword-like leaves survived the freeze of march 2005 without damage under plastic and snow. In 2008 it flowered for the first time. Unfortunately it did not survive the winter of 2008/2009 – neither did *Astelia grandis*.
Astelia nervosa with "metallic" bronze green leaves is winter hardy here.
Pittosporum tenuifolium and some cultivars are hardy and thriving.

New Zealand is a country with volcanic soil, therefore I mix lots of lava powder through the soil. The result is optimum growth and health of the plants.
Several NZ ferns are also fine with some winter protection.

plants from Patagonia

From Southern Argentina and Chile many fairly unknown plants originate. This unfamiliarity may not only be due to the isolation of this area, but also due to the fickleness of these plants. (warning: an extraordinary winter will most likely kill many Southern Hemisphere plants!). Some familiar plants from this region are: *Nothofagus antarctica, Cortaderia* (pampasgrass), *Fuchsia magellanica* and *Araucaria araucana* (monkey puzzle).
There are a lot more Patagonian plants to try! The following plants are evergreen and survived -11°C and many days with sub-zero temperatures:
Fascicularia bicolor is a fairly hardy Bromelia, beautiful as ground cover. It's blue green rosettes spread slowly, and become beautifully pinkish red when flowering. This plant is most effective in Mediterranean gardens. All other hardy members of the Bromeliad family don't tolerate wet winters.
Eucryphia cordifolia is a tree, flowering at an older age with white flowers, reminiscent of Helleborus. In Chile it attains a giant size and here the growth is fairly fast as well.
Drimys winteri is also a white shrub with large leaves and Hellebore-like flowers. The absolute limit for this and most Patagonian plants is -15°C so use frost protection in time.
Crinodendron patagua is a shrub with dark green leaves and big white red bellshaped flowers. It is hardier than the next plant from this list. A welldraining soil is essential.
Crinodendron hookerianum has dark green leaves and beautiful, cherry red hanging flowers it is a real challenge for a protected garden. Not very hardy.
Desfontainia spinosa small shrub with holly-like leaves and orange yellow tubular flowers
Azara lanceolata graceful shrub, flowers like mimosa but hardier
Lomatia ferruginea upright shrub with fern-like leaves, very beautiful!
Alstroemeria (Inca lily) a few selections are tested in the garden, very colourful.

Hardy and Half-hardy Citrus

Poncirus trifoliata is 100% frost proof, deciduous and the fruits are not edible. A cross with an orange results in a so called **"Citrange"**, hardy till about -12°therefore semi hardy. This means frost protection is sometimes necessary. When the temperature drops to -15 or worse, extra warmth with xmas lights may keep the plant alive.
Good Citrusses are "Morton" en "Troyer". Morton sets fruit well, so far Troyer has not flowered yet. Probably against a south facing wall it will. The fruits cannot be eaten raw, but may be used in the kitchen for marmalades etc.

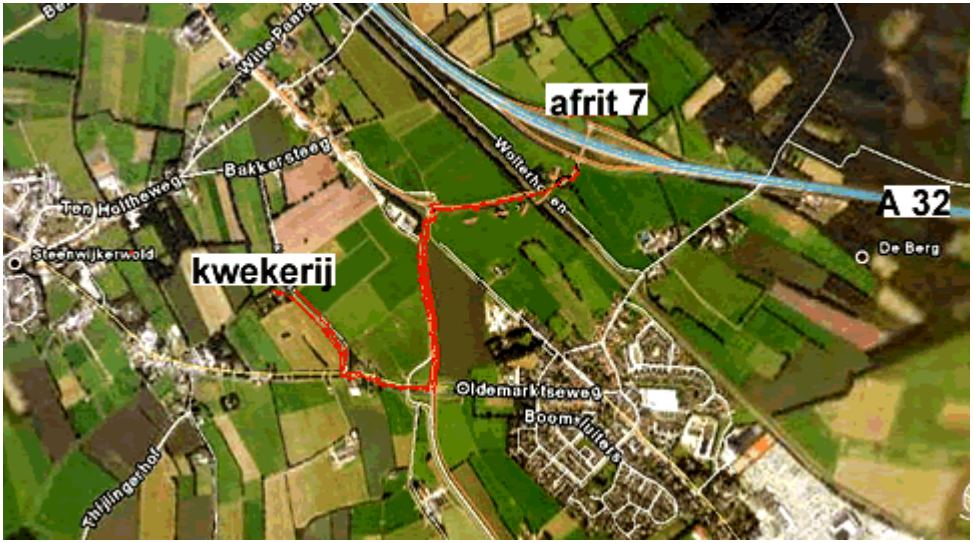
Poncirus trifoliata "Flying Dragon" is a compact variety with twisted foliage.

Citrus ichangensis is winter hardy in this country and evergreen as well. The fruits are hardly edible. Ichangensis-crosses give far better results than poncirus-crosses. A very good hybrid, for example, is **Yuzu**, a lovely lemon that is essential in Japanese cuisine.
In the years to come we will see which varieties are the best for fruit production in our climate zone. In 2024 we will offer the excellent species Citrus taiwanica.

APPENDIX I Recommended books

"Botanica", published by Könemann – without doubt the most important reference book! For sale at price fighting bookshops for a very low price

"Ferns for American Gardens", John T. Mickel, Macmillan Publishing Company, New York
"The Plantfinder's Guide to Garden Ferns",Martin Rickard, David & Charles Publishers,Devon
"The illustrated Encyclopaedia of Camellias", Stirling Macoboy, Timber Press
"The World of Magnolia's", Dorothy J. Callaways, Timber Press
"Hardy Gingers", T M E Branney, Timber Press
"Palms won't Grow Here and other Myths", Francko, Timber Press
"Hardy Palms and Palm-like Plants", Martyn Graham, Guild of Master Craftsman Publications Ltd
"Winterharte Palmen", Mario Stähler&Tobias Spanner, Medemia
"Bananen in Mitteleuropa", Joachim Jäck, Books on Demand GmbH, Norderstedt



How to get here from the A32: take exit 7, turn left at the roundabout, after ± 1 km turn right at the traffic lights. To your left you will see a water tower. Turn right after the tower into the 'Kwikkels'. After 400 m the nursery is at your left.
From the road Blokzijl – Steenwijk: At the roudabout follow Steenwijkerwold; turn left after ± 3 km at the traffic lights. A water tower is at your left. Turn right after the tower into the 'Kwikkels'. After 400 m the nursery is at your left.

This Camellia ‘Freedom Bell’ is not afraid of some cold