

Orchid care

Phalaenopsis



The album “Phalaenopsis orchid care”
was brought to you for the 40th
anniversary of JMP Flowers operation

We have been with you since 1977!



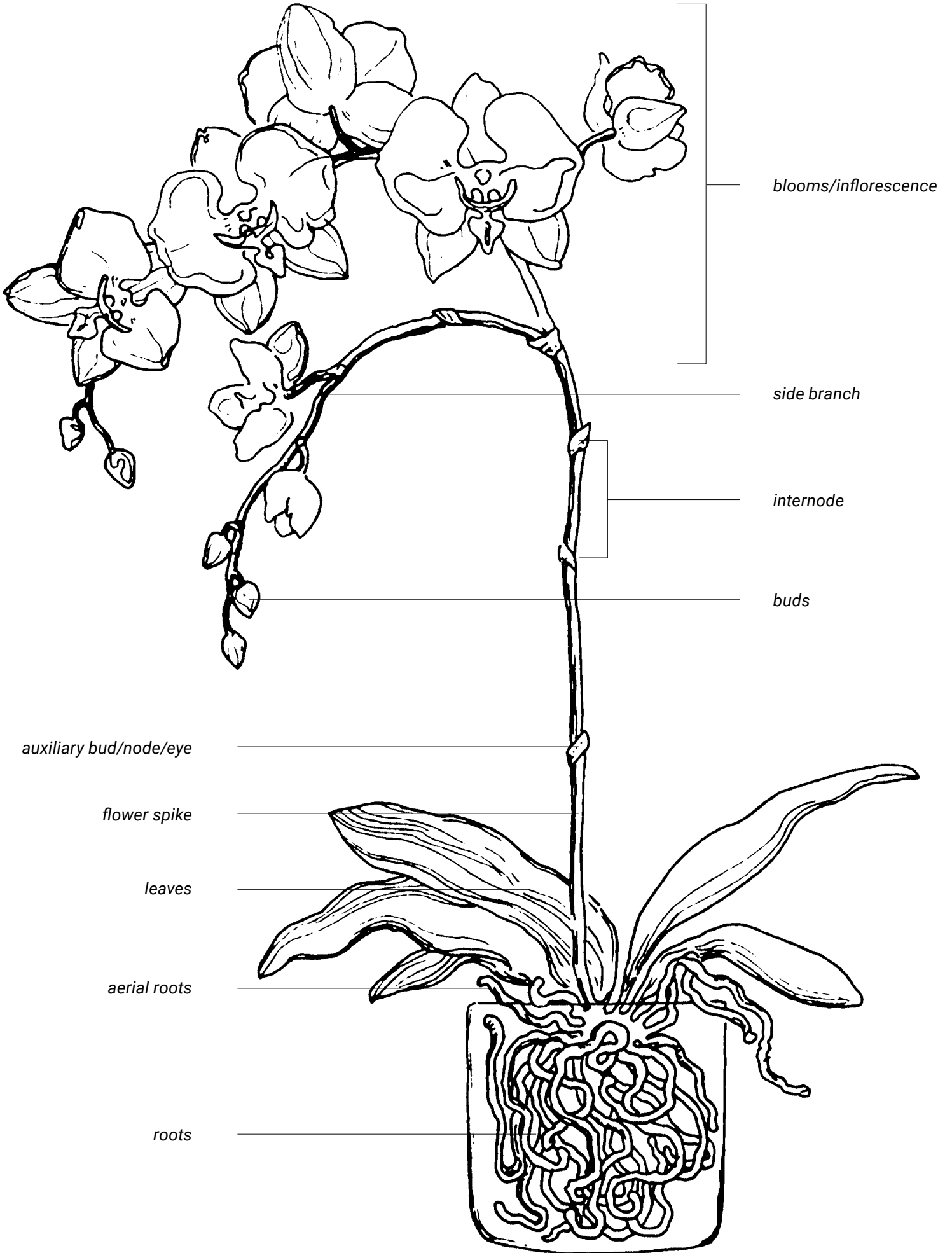
Jarosław Ptaszek and Maria Ptaszek – the founders of JMP Flowers





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blooms/inflorescence

side branch

internode

buds

auxiliary bud/node/eye

flower spike

leaves

aerial roots

roots

Orchid's structure

The specific conditions of a jungle made orchids to develop unusual means of survival, development and reproduction that are reflected in orchid's appearance. Growing among that many flowers makes it quite difficult to spur insects and hummingbirds to pollinate. To do so, orchids developed one of the most beautiful inflorescences present in nature. The unusual way of growing roots – even on higher branches, is mirrored in the specific build of the roots. In their natural conditions, they do not require soil, but they can splendidly wrap themselves around the branches.



Glossary

Moth orchids is an English name for *Phalaenopsis*, which is a kind of plant that belongs to orchidaceous genus (*Orchidaceae*). Generic name *Phalaenopsis* was coined by Carl Ludwig Blume in 1825. In Carl Linnaeus system, *phalaena* is a genus that houses moths and the suffix *-opsis* means “similar.” They are also often referred to by their abbreviated name, Phal.

Keiki – a Hawaiian word for “baby” – grows out of flower spike on one of the nodes or directly from the base of the plant (*basal keiki*). In terms of genetics, it is a perfect copy of its parent.

Epiphyte – also known as epiphytic plant or aerophyte – is a plant that uses another plant as a support. Most often it nourishes itself independently instead of being a parasite.

Turgor is a state of tension in a cell wall caused by hydrostatic pressure inside the cell. It results in turgidity in the plant tissue.

Monsoon is a seasonal wind, which blows between the ocean and the land and changes its direction depending on the season. In winter, it blows from the land towards the sea and it reverses in the summer. This wind shapes the climate of the southern and eastern shores of Asia. It is responsible for rainy season (summer monsoon) and dry season (winter monsoon).

Photosynthesis is a biochemical conversion process that is vital for the life on Earth. During this process, inorganic matter is transformed into organic compounds in cells that contain chlorophyll.

Chlorophyll is a chemical organic compound present i.a. in plants, parts of which get their green colour from (e.g. leaves). It is responsible for commencement of the process of photosynthesis by picking up the photons from its surrounding.





CHAPTER I

The highest quality of JMP Flowers



Passion innovation awards

For 40 years, we have been specialising in floriculture of flowers known for their unusual beauty and superior span. The world of flowers is our passion – we still test new varieties, analyse fresh trends and offer ever increasing choice of varieties. It has brought us recognition and awards from international exhibitions and contests.

Today, our offer includes several hundreds of *Phalaenopsis* orchid varieties and 60 varieties of both roses and anthurium.



Cutting-edge technology for nature

The highest quality is achieved from the use of cutting-edge technology. The three-way system of sun screens allows us to perfectly dose the amount of light needed for our 18-hectare crop field. Combined with a unique air conditioning system and professionally calibrated artificial lightning with the intensity of PAR 285 $\mu\text{mol}/\text{m}^2\text{s}$, our solutions allow us to provide constant quality of flowers throughout the entire year, regardless of atmospheric conditions.

The humidity of air in our greenhouses is regulated by the state-of-the-art dampening and watering systems combined with high-pressure fogging systems. Everything is controlled by computers equipped with dedicated software for climate and fertilization control.









Unique order processing

Since the beginning, reaching back to 1977, we have been driven by the vision of growing top-quality flowers. Currently, there are only few Dutch producers that are on a par with our quality. We provide flowers to hundreds of recipients both in Poland and abroad on a daily basis.

In order to take care of the entire process of our customer service, we have developed a reliable shipment standard, which is based on short terms of executing orders and our own, modern fleet of transport cars.

JMP Flowers in numbers

500

varieties of
orchids



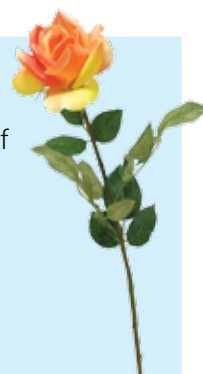
60

varieties of
anthurium



60

varieties of
roses



18

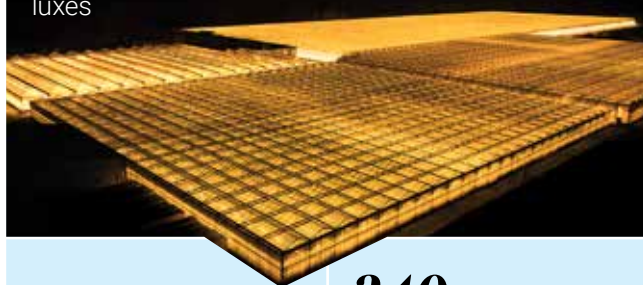
hectares of
crops

1977

year of establishment

20 000

luxes



26

countries,
hundreds of
recipients,
own fleet

240

employees



Benefits of working with JMP Flowers

1.

Guarantee of quality and span of flowers

2.

Working with the highest quality product throughout entire year

3.

Higher spread of sale

4.

Pleased ultimate customers

5.

Gaining market advantage over competitors

6.

Constant access to fresh flowers bought straight from the producer

7.

Extended sales network

8.

Substantive support

9.

Diverse offer

10.

Fast delivery

Exposition in a florist's

When you plan an orchid's exposition at your flower shop, try to find a bright place with diffused light. Put the plants in the brightest part of the shop. If you notice leaves going yellow from the excess of light (especially during summer), move the plants towards a slightly dimmer place. Move them back to the brightest place for autumn. Try to balance protecting against sunburns with finding the maximum possible accessibility of natural light. Owing to that, the plant will get enough energy to sustain and develop every bloom and bud.










CHAPTER II

Everyday care



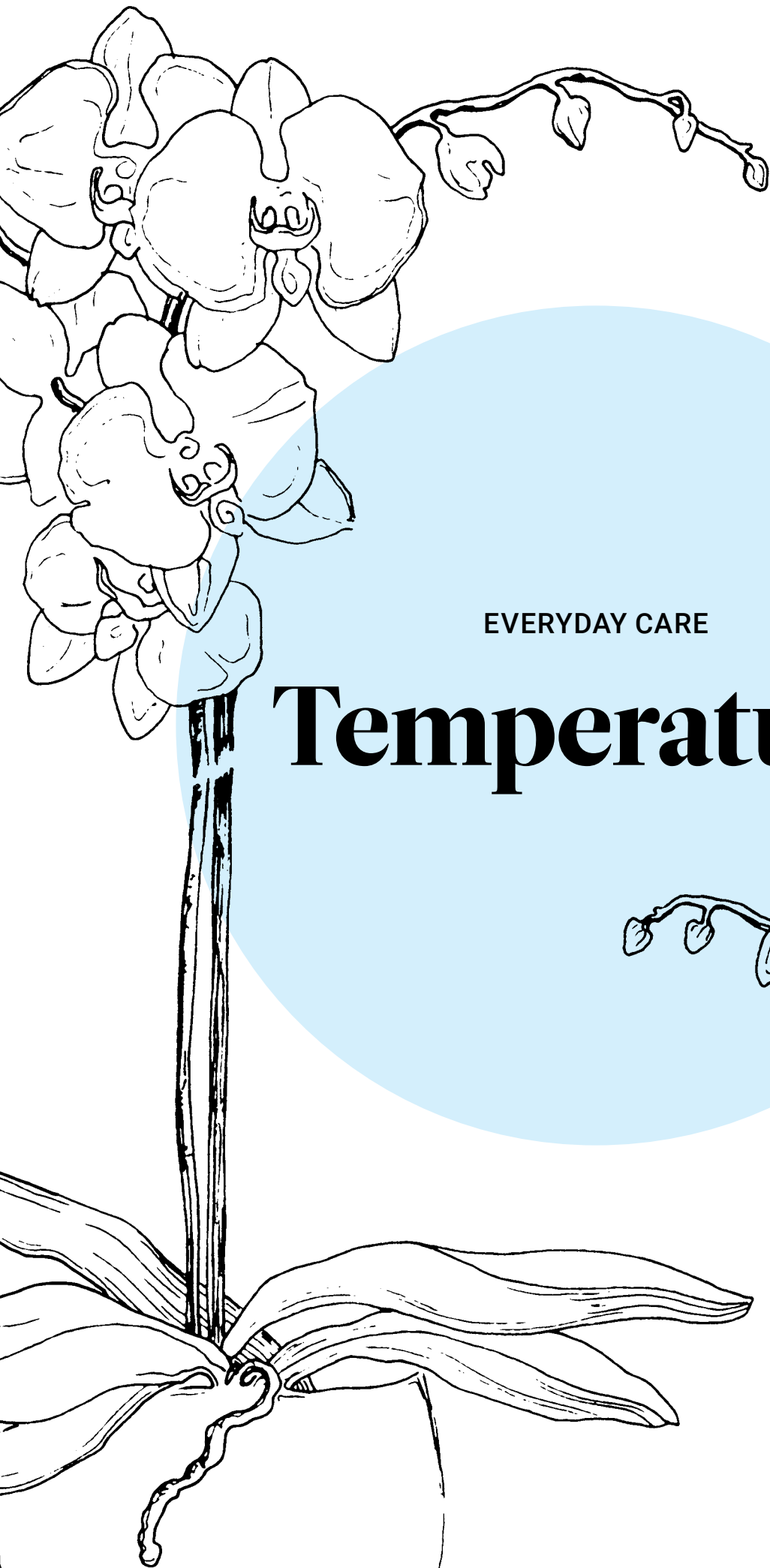
EVERYDAY CARE

Phalaenopsis in nature



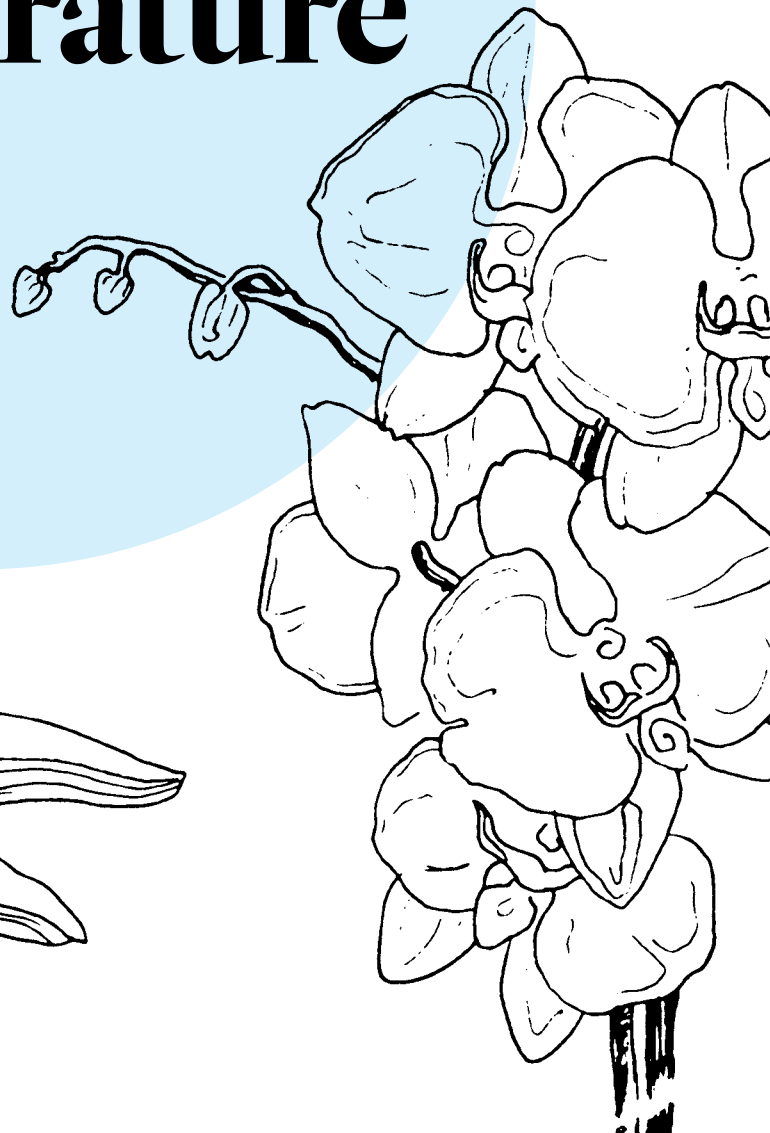
Phalaenopsis, also known as moth orchid, is one of the most beautiful flowers among the Orchidaceae family. This orchid is naturally present in the South-East of Asia and northern Australia, so almost entirely on the other side of the globe.

The monsoon climate, that is present there, provides orchids with constant high temperature and very high humidity during rain season. It is an epiphyte – a plant that grows upon trees. Because of that, it is sometimes considered to be a parasite, but that is not true. It nourishes itself independently through the photosynthesis process and by retrieving necessary elements from rain water.



EVERYDAY CARE

Temperature



Too low temperature is one of the reasons of bud blasts. It can also damage the leaves and blooms. In turn, too high temperature over 22°C is responsible for the shortened blooming period.



Reasons for premature bud blasts

Over drying The most common reason for bud blasts is over drying. Regular watering, which keeps proper level of roots hydration, makes the plant much more resilient to different kinds of stress factors.

Insufficient light Insufficient light is an important factor. In Poland and other countries with temperate climate, especially during autumn and winter, we must take extra effort to provide orchids the most possible level of light, so they could produce enough nourishment through the photosynthesis process.

Cold air Drafts and the presence of cold air below 16°C may also cause the blossom to fall.

Hot air During heat waves, when the temperature is very high, the summer sun can overheat and damage the blooms. Keeping orchids near hot radiators during winter could also pose a problem.

Temperature fluctuation The last of most common reasons for the fall of the blooms is exposing the orchid to sudden temperature changes – whether it is during the move from the florist's to the house or due to the abrupt airing of the room, which houses the orchid.

Prophylaxis

Water the orchids accordingly to the rules presented on the next page.

Move plants closer to the window, preferably to the windowsill and make sure that the curtains and drapes do not obscure the light.

Do not put the plants in a draughty place, e.g. next to the opened window or near the conditioning unit. Make sure that the temperature in the room is between 16°C and 22°C.

Make sure that the temperature in the room is between 16°C and 22°C and that plants are not exposed to heavy sunlight.

While you are moving the plant on a cold day, follow the rules below.

TRANSPORT IN TEMPERATURES BELOW 16°C

When it rains

 cover with foil or paper

Short distance

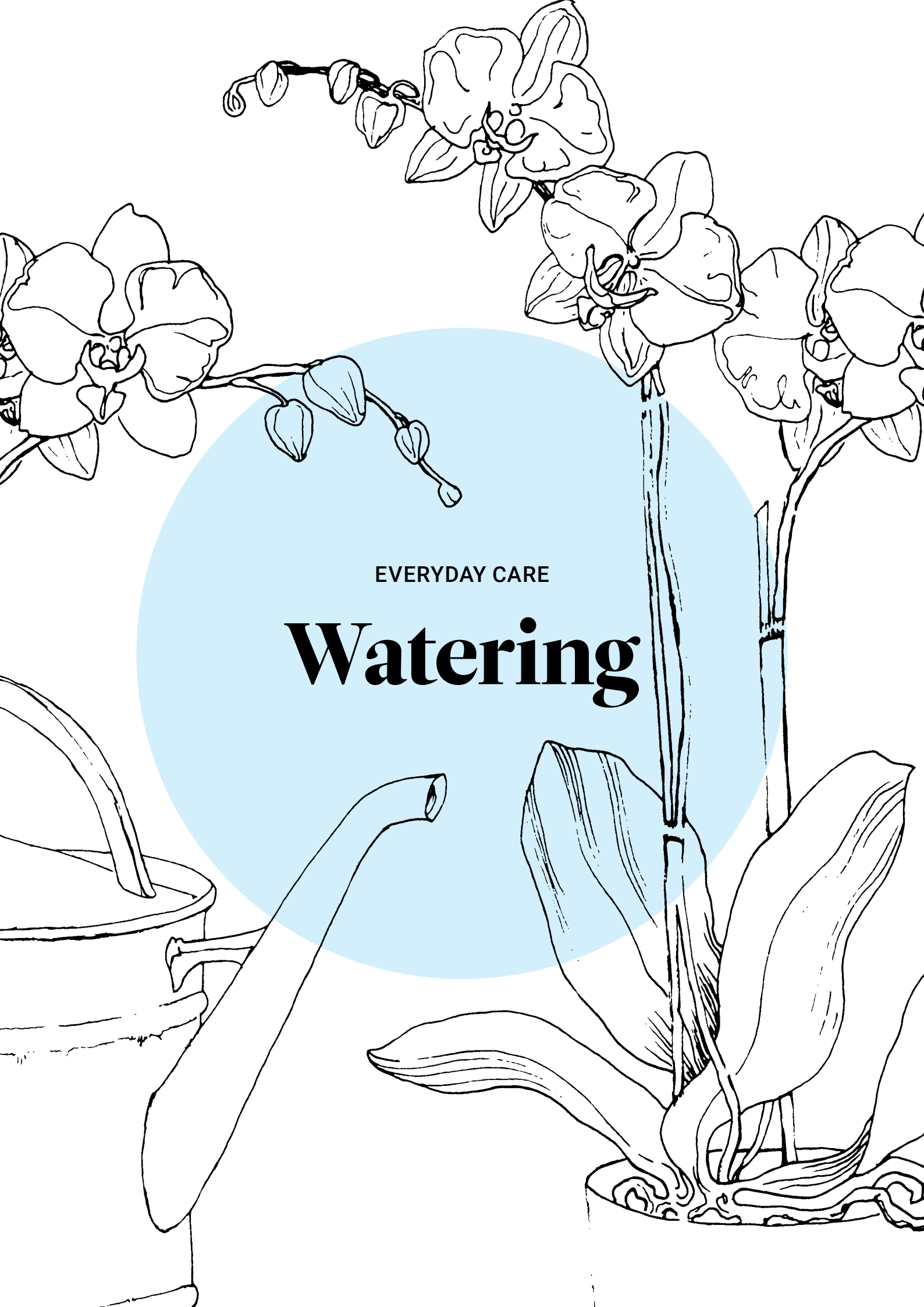
 < 10–15 min.

Longer distance

 warm up the vehicle

Caution

Environment or temperature change causes stress. In these situations, plants release ethylene. It is a natural plant hormone, even though we associate it with exhaust fumes. By releasing ethylene, the plant speeds up its ripening process. For orchids, that means yellowing of the blooms and bud blasts.



EVERYDAY CARE

Watering

Hydrated orchid roots are green. You should water it only when the first roots in the pot start to turn silvery. Watering method is to put the entire pot in water, all the way up to the bark. Proper watering is essential for maintaining right conditions.

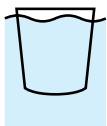


GREEN COLOUR
means that the orchid is properly hydrated



SILVERY COLOUR
means that the orchid needs watering

PROPER IMMERSING



IMMERSION TIME

Roots that are not over dried



10 min.

Over dried roots



1 h

WATERING FREQUENCY

Hot, dry summer



every 4 days

Chilly, wet autumn or winter



every 10 days

? Should orchids be held in water?

In natural conditions, orchids are watered by intense rain, so they function in a phase: quick water gathering in roots during rain – slow releasing of this water to the rest of the plant. It is possible thanks to the unique build of the roots. In our greenhouses, we recreate those conditions as closely as possible, so later on, at florist's or at home, it is best to stick to this cycle. Interestingly enough, there are about 10% of orchid varieties that are capable of staying in water all the time. However, we do not recommend such treatment.

? Can orchids be fertilized?

Of course they can, they actually should be! The most important thing is to use special fertilizer for orchids and not to use too much. But first things first. Every fertilizer producer describes the intended use on the packaging – you need to follow it carefully, but do not forget to observe the plant. If it gets too much mineral salts, it will possibly result in roots damage: yellowing, green tarnish, decay or drying. So again, it is best not to overuse the fertilizer, and to use boiled and cooled clean water to water the plant every now and then.

Caution

Too often or too long watering leads to root damage! Keeping the orchid in water for more than an hour causes micro damages of roots!



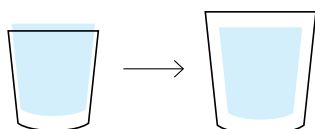


EVERYDAY CARE

Repotting

Orchids can only be replanted 2–3 years after the purchase, provided they have outgrown the pot to the point that it is knocking it over. It is not about aerial roots, which are over the pot from the beginning. Should you decide to repot the plant, remember to put it into a bigger pot. Use only special bed for orchids, e.g. special substrate developed and offered by JMP Flowers. It is inadvisable to use peat or garden soil.

Orchid should be replanted to a bigger pot after 2–3 years



After replanting the orchid to new bed, observe how fast it dries in order to determine whether to change watering frequency. See if the roots are yellowing or silvering faster or slower than before and adjust the frequency accordingly.

Caution

Do not replant orchids when they bloom to avoid damage of spikes and flowers.



Aerial roots – can they be cut?

Aerial roots can be cut in particular circumstances, for example when the plant does not look aesthetic. However, if it is not necessary, it is best to leave them be.

Aerial roots are repositories of water and mineral salts. They can be hydrated in a regular way during watering. Of course, they will get dry faster than those inside the pot, but they should not be watered more often and the need to water the plant should be determined on the state of the roots inside the pot. Do not treat them differently than any other part of the plant. Cutting aerial roots will cause the plant to lose part of its water, organic compounds and mineral salts reservoir system. In the result of cutting the aerial roots, the plant will become more vulnerable to water outage, which can lead to faster falling of the blooms or lesser number.

In nature, plants will extend the number of roots to protect themselves from water outage. If you properly care for your orchid, they won't need high reserves. Nevertheless, removing aerial roots can weaken the plant.

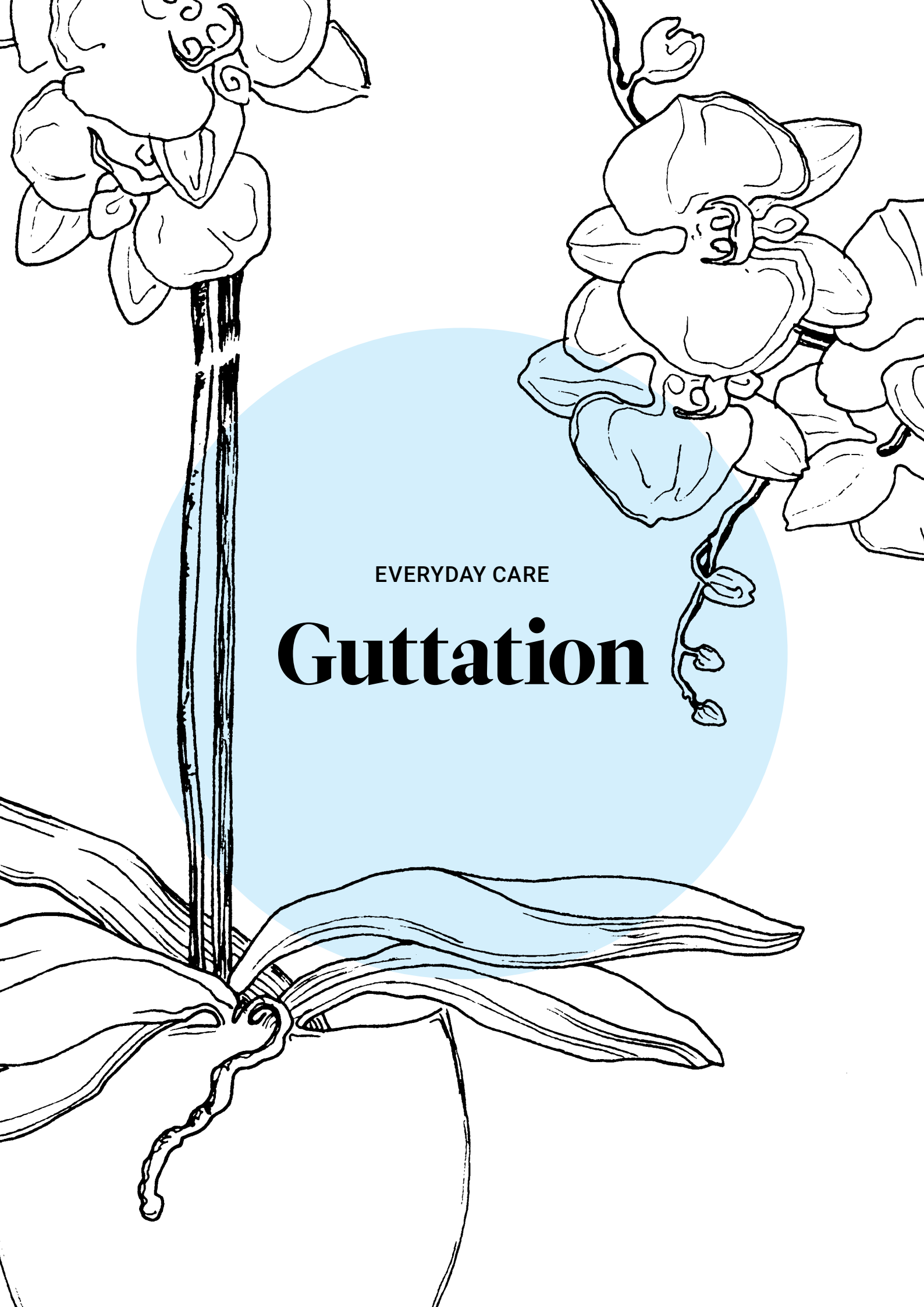
Aerial roots store water and mineral salts.



Is it true that transparent pot covers are the best?

Transparent pot covers are used in crops. Studies have shown that plants in transparent covers grow slightly faster in manufacturing conditions because the assimilative area is bigger by green roots. In addition, it is easier to control the quality of roots and their condition. At home, where aesthetic values are more important, you do not have to use transparent pot covers. The influence of transparent pot cover on growth speed would be infinitesimal. So do not hesitate to use decorative pot covers (e.g. ceramic covers made by Scheurich company). Put your plant and its production pot into the protective cover, which will enable you to easily check the condition of roots.

When you are choosing a pot cover, make sure that the orchid's roots will not stay in the water for a long time. That is why, after watering, you should remove any excess water from the cover. Some covers feature a platform that prevents the roots from staying for too long in water.



EVERYDAY CARE

Guttation

Guttation is the exudation of aqueous solutions of organic compounds (sugars) and mineral salts by the plant. It develops because of increased root pressure when the evaporation from leaves (transpiration) is not high enough to dispose the water excess in the plant.

It is not a disease and guttation itself is not harmful to the plant, but monosaccharides present in the drops are food for fungi. Organisms that grow on this sugary food do not damage plants, but they do not look good. Such moulds occupy the plant area (sugar drop), but not the inside of the plant. They do not penetrate plant tissue.

In order to ensure plants aesthetic values, you should gently wipe it off with water mixed with mild detergent – like washing-up liquid.



1 l of water



a drop of
washing-up liquid



sponge



Guttation drops

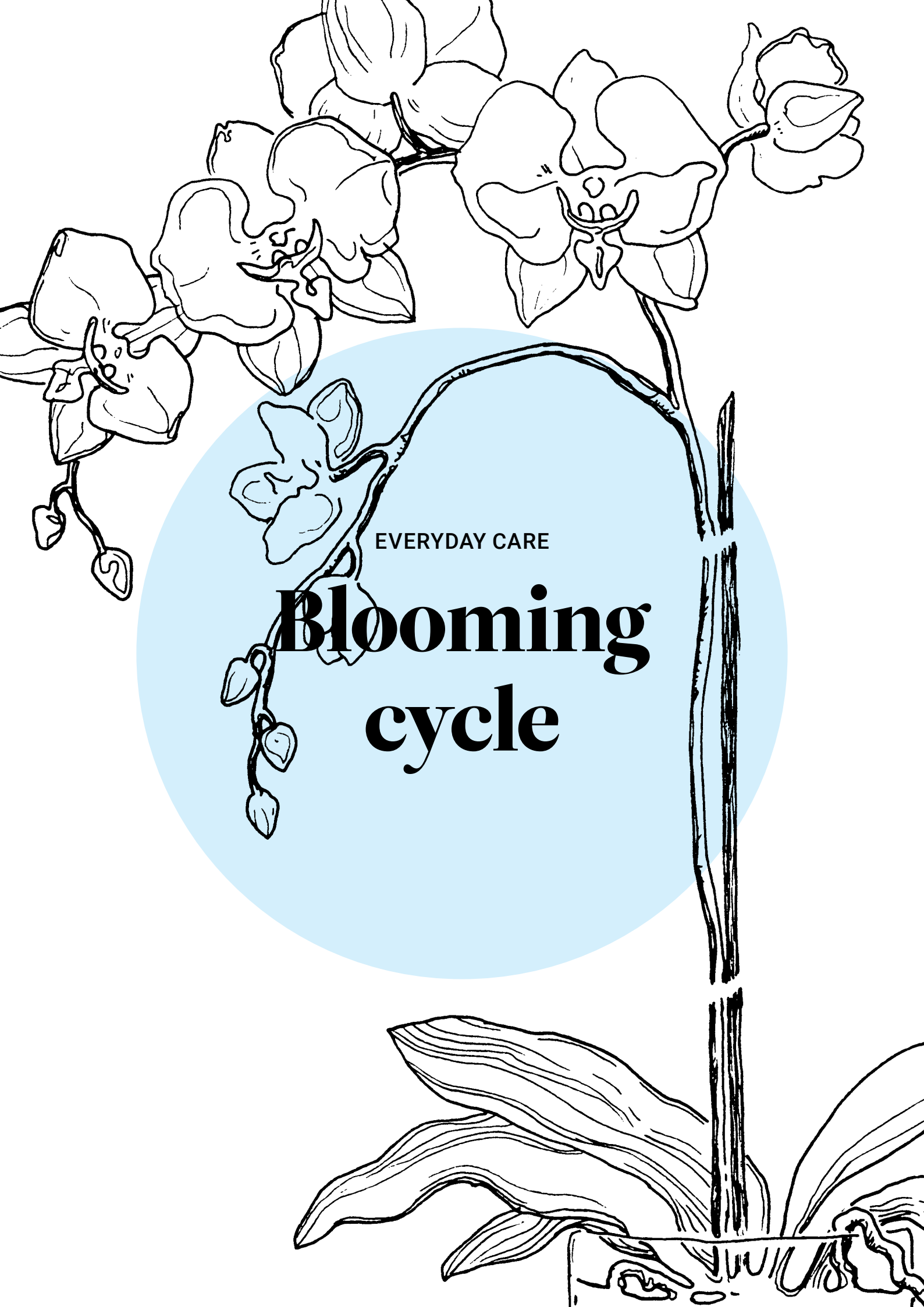


Are drops on leaves the sign of a disease?

They are not. Plant's guttation is perfectly natural. Special structures (*hydathodes*), also known as water pores, are used to exude water with trace levels of sugars, mineral salts, amino acids and other compounds. Those structures can be found near the endings of vascular bundles, usually on the edges of leaves.

Guttation happens when there are insufficient conditions for transpiration, but the effective water drawing through roots is possible. It happens frequently when chill sets in after warm period, which causes the transpiration to slow down or even to come to a full stop.





EVERYDAY CARE

Blooming cycle

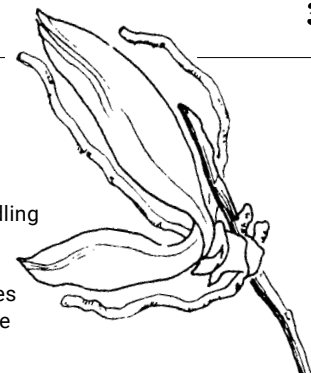
JMP Flowers orchids are under constant care from our team of specialists for 10–12 months before they are delivered to our clients. Because of that, they bloom for such a long time – from 3 months up to even half a year, provided that they are properly cared for. Every orchid that leaves our greenhouses has got at least 3–5 open flowers and numerous new buds, which makes new flowers to constantly develop over following weeks.

Reblooming

JMP Flowers orchids are very strong, so it is relatively easy to make them rebloom.

The easiest method is to use aiding buds and to cut them properly after they finish blossoming. To get brand new spikes you will have to wait a bit longer, because the plant must rest and gather strength first (produce new leaves during that time). If you cut spike that finished blossoming properly, you will have a chance to make the orchid form new side branch. Relatively low temperature (16–18°C) is an important factor that will improve flowering.

keiki – a small seedling that forms on a flower spike or near a base of leaves where a flower spike should be.



How to reproduce orchids at home?

It is very hard to grow an orchid from seeds at home. Even if you succeed in forming seeds, the germination efficiency will be around 0–5% (at lab it will be around 60–95%). To make them sprout, you need to prepare special plant food, provide the right temperature and keep sterile conditions, so the seeds will not get mildewed.

If you manage to get a plant from seeds, in order for it to bloom, you will need to cultivate it for 3–5 years. Such a plant will be a crossbreed (hybrid, half-breed) of parents' features and each seed will be genetically different. In precisely controlled laboratory and greenhouse conditions, time of growth of orchids exposed to light and fertilized is usually 2 to 3 years.

The easiest method is to reproduce orchid vegetatively from *keiki* – a small shoot that grows on a flower spike or near a base of leaves where flower spike should be. *Phalaenopsis* develops such cuttings when it is ready to bloom and the temperature is high enough, so the plant does not go into generative growth phase (flowering). *Keiki* is a clone of parental plant, which means that genetically it is the same as the plant of its origin.

EVERYDAY CARE OF ORCHID THAT FINISHED BLOSSOMING

Watering



putting pot in water every 4–10 days for 10–60 minutes

Fertilizing



orchid's fertilizer in small amounts recommended by the producer

Lighting



lots of diffused light

Lower temperature

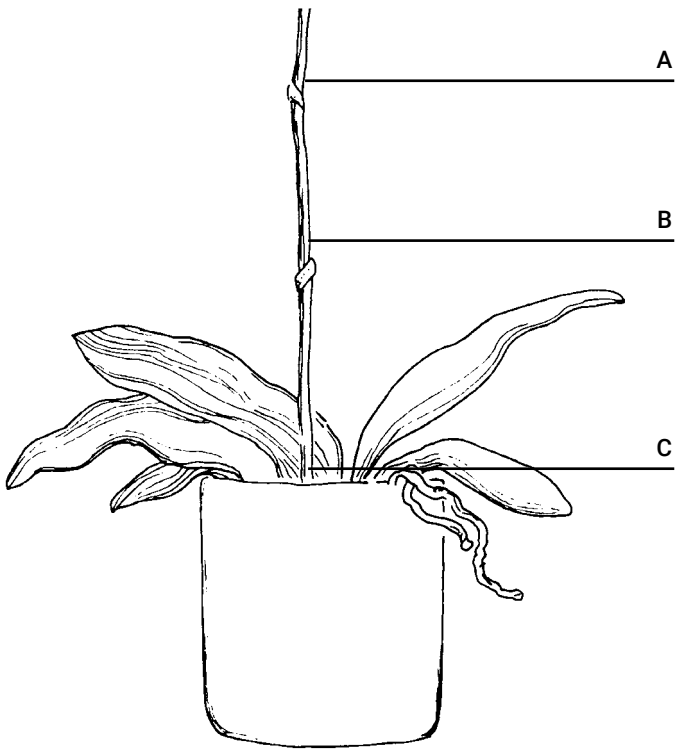


optimal 18°C

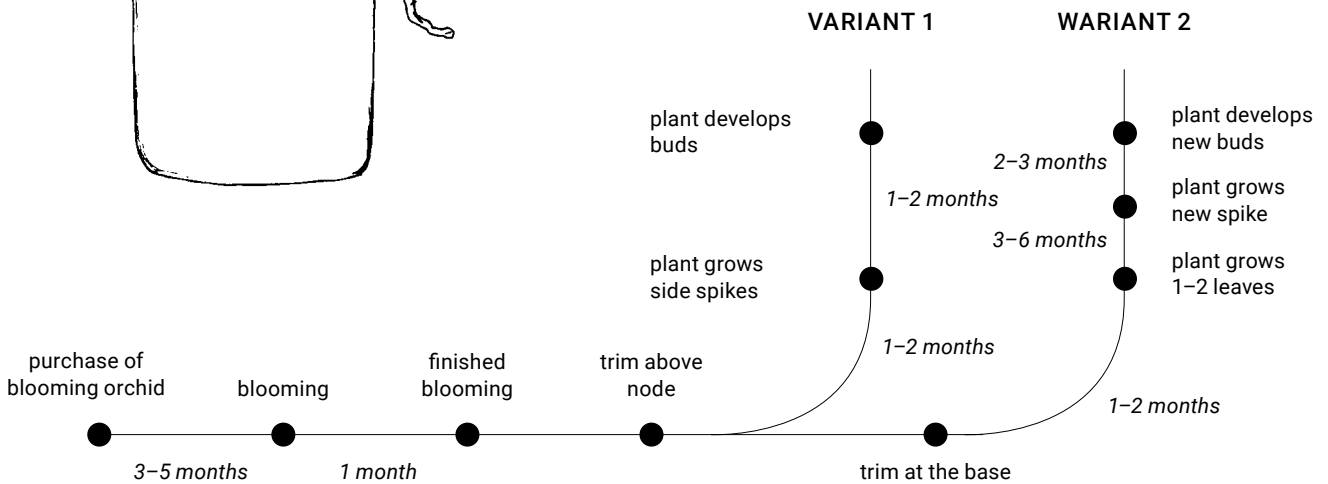
Patience



plant needs time



Reblooming



Variant 1

TRIMMING

When the plant finishes blooming and the spike is still green, trim the spike at the internode, about 1 cm above the highest node (marked as **A** on the picture). If the spike starts to turn yellow after this, trim the spike 1 cm above the next node (marked as **B** on the picture). From auxiliary bud, which is a node, the orchid should grow a new spike after few weeks.

Variant 2

TRIMMING

If spikes are completely or almost dry, cut them at the base (marked as **C** on the picture). Before reblooming, the plant will produce new leaves first. When it happens, it is best to move it to cool, bright room, e.g. on the windowsill of window facing north or the porch. After a few months, the orchid will grow a new spike.







CHAPTER III

Treatment procedures

Most common threats

Orchids are vulnerable to few threats. The most common ones are bacterial and fungal diseases as well as pests. Sometimes, the damage is done by our improper care, e.g. sunburns.



BACTERIA

Diseases caused by bacteria are very rare in flower shops. They are usually caused by *Pseudomonas cattleya* or *Erwinia carotovora*. The latter causes the so called bacterial, soft (wet) rot, which quickly destroys entire plant.



FUNGI

Fusarium is a disease caused by *Fusarium oxysporum* and *Fusarium solani* fungi.



PESTS

Mealy bug is the most common pest, although it doesn't like orchids. It will attack it only when there is no food (other plants) in its vicinity. It rarely happens in crops cultured in greenhouses. The source of infection is usually coming from other pot plants.



BURNS

Leaf damage from sunlight resulted from putting the plant in direct sun (e.g. southern windowsill during hot, summer days).

Symptoms:

Infection is manifested by decay of roots and leaves. It starts with the formation of bright yellow spots that are clearly separated from healthy leaves tissue, which then get darker. Soft rot is also characterised by very specific unpleasant smell. Decay spots move from leaves to other parts of the plant.

Treatment:

Bacterial diseases are easily transmitted and pose a threat to other plants. It happens through e.g. touch or water. Quick diagnosis and reaction is crucial here. The only solution is to remove the affected part of the plant (leave, root) or even entire plant.

Symptoms:

It is manifested by yellowing of the leaves, which is always connected with black spots appearing at their base.

Treatment:

Fusarium is remarkably difficult to treat, in fact it's impossible. This is due to the fact that there are no safe and effective plant protection products. A good preventive practice is to keep proper root humidity – it's the too high humidity of roots and substrate that facilitates Fusarium development. If our plant is affected by fungus, it should be isolated from other plants and if necessary, unfortunately, it should be thrown out.

Symptoms:

Oval, pink insects covered with white dust that looks like wad of cotton appear on leaf recesses and corners. Mealy bug hampers the plant's growth and distorts leaves.

Treatment:

The best way to save other plants is, unfortunately, to destroy affected plant. It is necessary to check whether other plants in the vicinity are infected. Treatment is very difficult, because this pest hides in substrate and recesses of plants. We recommend using available measures such as Provado Plus AE or Actellic 500 EC, which are best when used on the entire plant taken out of the substrate. Next, the plant should be replanted with new substrate.

Symptoms:

Leaf will show yellow-brown spot that won't spread. It's dry and its shape is irregular.

Treatment:

If the burn isn't infected with bacterial disease, the damage won't spread. You can leave such damaged leaf be, so you won't cause any extra weakening. If necessary, damaged leaf can be cut down. But then we are also cutting the green, unaffected area.



Why leaves go yellow?

Cause 1

If leaves start to go yellow from the bottom of the plant, then it is a sign of nutritional elements insufficiency. The plant needs micro and macro elements for proper growth of young leaves. In case of a deficiency of some element, the plant gets the missing ingredient from older parts of the plant. The most active elements include nitrogen, phosphorus and potassium. Symptoms of such deficits will be visible on the oldest (lower) leaves of the plant. In that case, you will save the plant by fertilizing it in recommended concentrations.

Cause 2

Another reason could be fungal plant disease – *Fusarium*. In that case, yellowing leaves will be accompanied by black spots at their base. *Fusarium* grows into plant tissue. External damages are a sign of what happens inside the plant.

Cause 3

If all leaves are getting yellow or turn yellow-pale green, then it is most likely a sign of excess of sunlight, which causes stress in plants. It deactivates and causes decline in chlorophyll. It also leads to slowing down the growth of the plant. In that case move the plant somewhere else (e.g. put it further away from the window, move it to a different windows or cover the curtains).



Why leaves are wrinkled?

Wrinkled leaves are caused by lack of turgor – a hydrostatic pressure of water in plant cells. It's a sign of substantial and multiple over drying of the plant. It could be due to watering too late or very low air humidity of the room that houses the orchid (often paired with too high temperature). In that case you need to adjust the watering method:

- put the entire pot in water, so the highest number of roots could retain water (aerial roots also),
- use air humidifier to make sure that there's a proper humidity,
- water the plant more frequently.

It is very hard to fix leaves damaged in this way. However, a sign of improvement will be the growth of new healthy leaves: green, smooth and shiny.







