



# PLANTER GUIDE

This guide is for professionals who design and specify, or install container gardens or larger planters for long-term plantings with perennials, shrubs and trees, or as vegetable gardens in outdoor environments.

Whether these planters are freestanding containers or built in place they are a limited and difficult place for plants to grow. Therefore, optimizing the performance of materials that go into the planter or container is crucial.

This guide provides valuable practical advice on how to make your container garden or planter a thriving long-term success.

# 10 Tips for Successful Planters

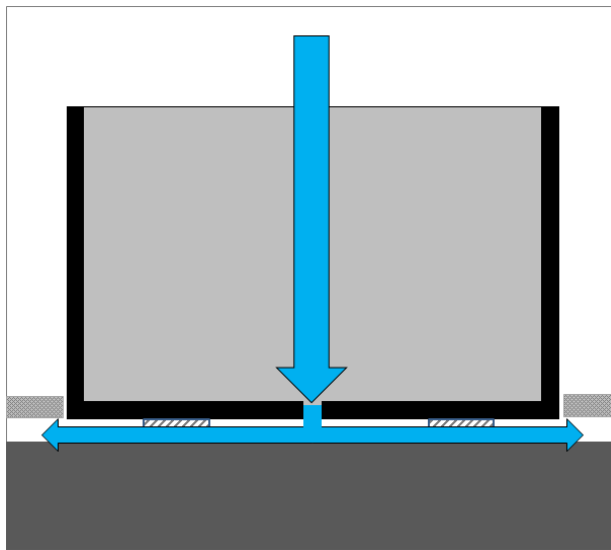
Whether the planter that you have chosen is for aesthetics or just functional, whether it is a freestanding container or built in place, its main purpose is to let plants thrive and flourish in a location far away from their natural environment.

However, there are many possible reasons why your planter may fail. Here are 10 tips on how you can guarantee that your planter will look great and work well long term:

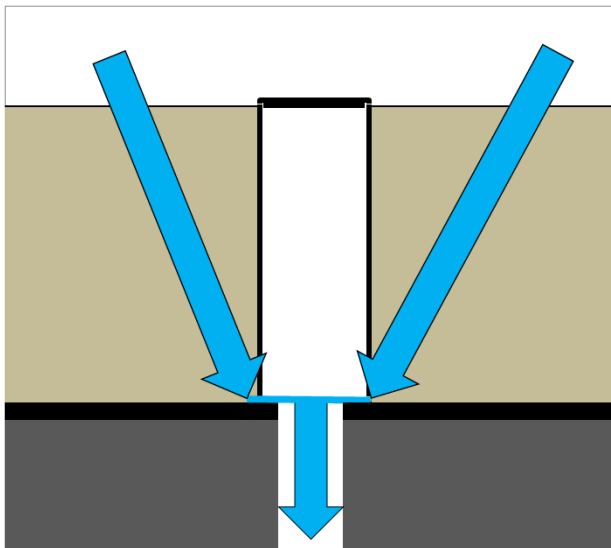
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# 1. ENSURE WATER RUN OFF

For all outdoor planters ensuring the drainage of excess water is crucial. If excess rain or irrigation water cannot flow away freely, your precious plants will die.



Make sure your planter has at least one drain hole of sufficient size before you start filling in soil. If the drain hole is in the bottom of your planter, do not place it directly on an impervious surface. Place your planter on spacers to ensure water run-off. Do not let run-off water flow across paved areas to avoid the potential staining of visible surfaces.



For larger built in place planters it is advisable to install inspection boxes for the water outlets, especially if the planter is located above a roof drain. Inspection boxes must be perforated and need a lid which should be lockable if the planter is publicly accessible.

## 2. PROVIDE PROPER DRAINAGE

Planters and containers require a drainage layer to be placed at the bottom to enable excess water to flow freely to the drain holes. Ideally, a granular drainage media is used which fits well into any shape and can be adjusted in depth easily. Drainage should be the first material that goes into the planter.



The Terramenta drain layer is an excellent drainage material because it is lightweight and porous. It can retain almost 20% of its volume in water and creates a natural environment for healthy root growth. At the same time, sufficient pore space allows excess water to run off reliably. If the

drain hole of your planter is rather large you can avoid loss of drainage particles through the drain hole by placing a piece of separation fabric over the hole before filling in the drainage material.



The Terramenta drain layer can also be used in containers with elevated water overflows that create a water reservoir at the bottom of the container. If this is the case then the drainage layer has to extend at least 2 inches above the maximum water level as it is defined by the location of the drain hole.

### 3. SEPARATE MEDIA LAYERS

Depending on the depth of the planter or container, two or three different media layers are needed for a perfect system build-up. In any case, the drainage layer at the bottom must be separated from the growth media layer(s) above by a filter fabric.



The Terramenta filter fabric is thin yet durable and can be cut easily with scissors. Placed on top of the drainage layer its function is to separate the coarser aggregate below from the media layers above.



The Terramenta filter fabric is root-permeable so that plants can use the total system depth for root growth. At the same time, the fabric works as a filter, which keeps the finer particles contained in the growth media or base layer from migrating into the drainage layer. The Terramenta filter fabric will not

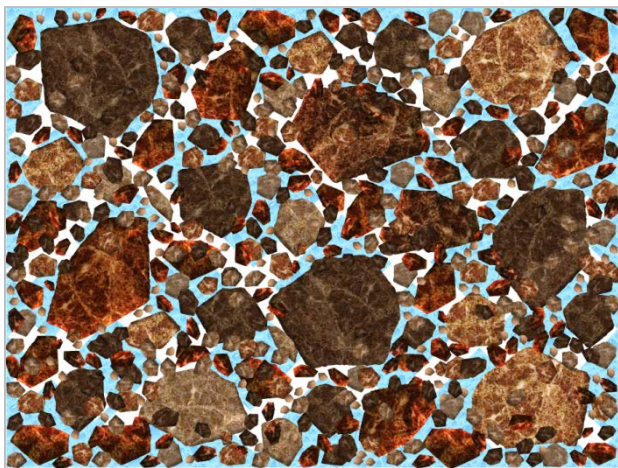
clog or degrade over time. It is a non-woven, mechanically strengthened endless fiber fleece with certified water performance values.

## 4. PAY ATTENTION TO SOIL STRUCTURE

Native soil is the product of a natural process that has occurred over thousands of years. Although native soils work perfectly in their natural environment, they are not ideal for planters and containers due to excessive weights, their inability to retain sufficient amounts of moisture, as well as their inability to drain surplus water properly.

Potting mixes as they are used for seasonal plantings in smaller pots also do not work well for larger planters and containers planted with perennials, grasses and woody plants. Typical potting mixes consist mainly of peat moss, coir, and bark. These organic materials may work well short term but will break down over time. As they shrink and compact they will jeopardize the longevity of your precious plants.

Growth media can be defined as engineered soils that both mimic and improve on the properties of native soils. They are sophisticated blends of lightweight mineral components with premium compost products. For the mineral aggregate, the right particle size distribution is crucial for structural stability, water retention, and porosity of the growth media.



Terramenta offers three growth media products for planters and containers that optimize the performance of your project. Read more about the Terramenta base layer and Terramenta top layer options in the next chapter.

## 5. OPTIMIZE SOIL FUNCTIONS

Taller plants in containers and planters have limited root space. Therefore, optimizing both physical and chemical properties of the growth media is crucial to ensure long lasting, healthy plant growth.



The Terramenta top layer meets the specific requirements for container gardens and planters. It is a precisely balanced blend of lightweight mineral aggregates and premium organic components like USCC STA approved compost. Due to its stable mineral structure, this blend will not lose volume over time and will enhance the health and longevity of your precious plants.



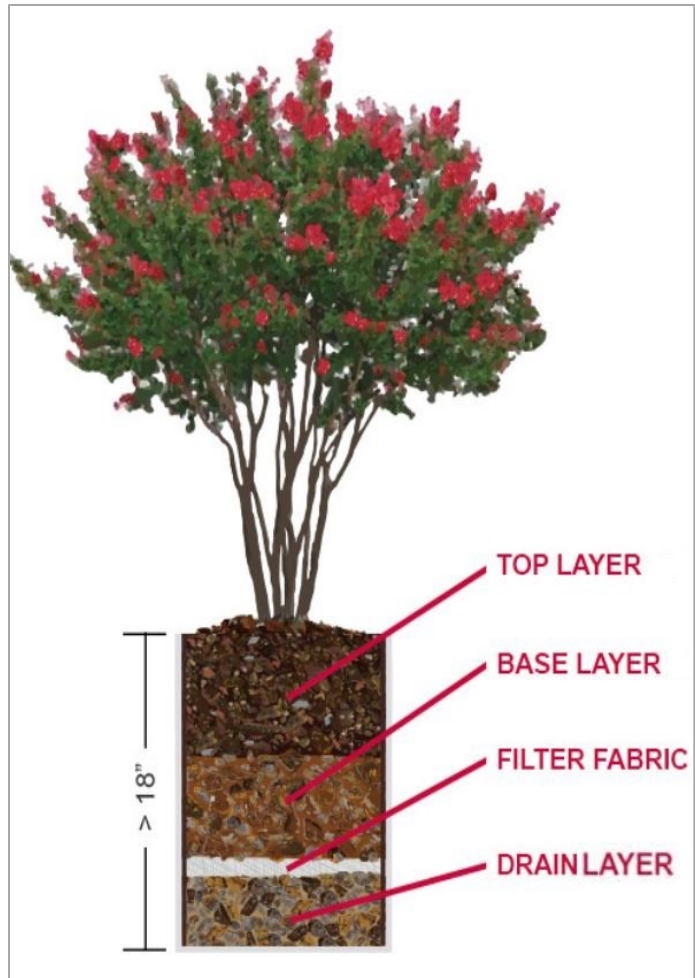
If the total depth of your planter is between 14 and 18 inches the top layer can be placed directly on the the filter fabric. Compress the growth media during installation and around the root balls after planting. Proper compaction is crucial to avoid loss of volume. Keep the final surface level of the compressed top layer one or two inches below the edge of the container. This creates a helpful

buffer zone for watering and other maintenance work.

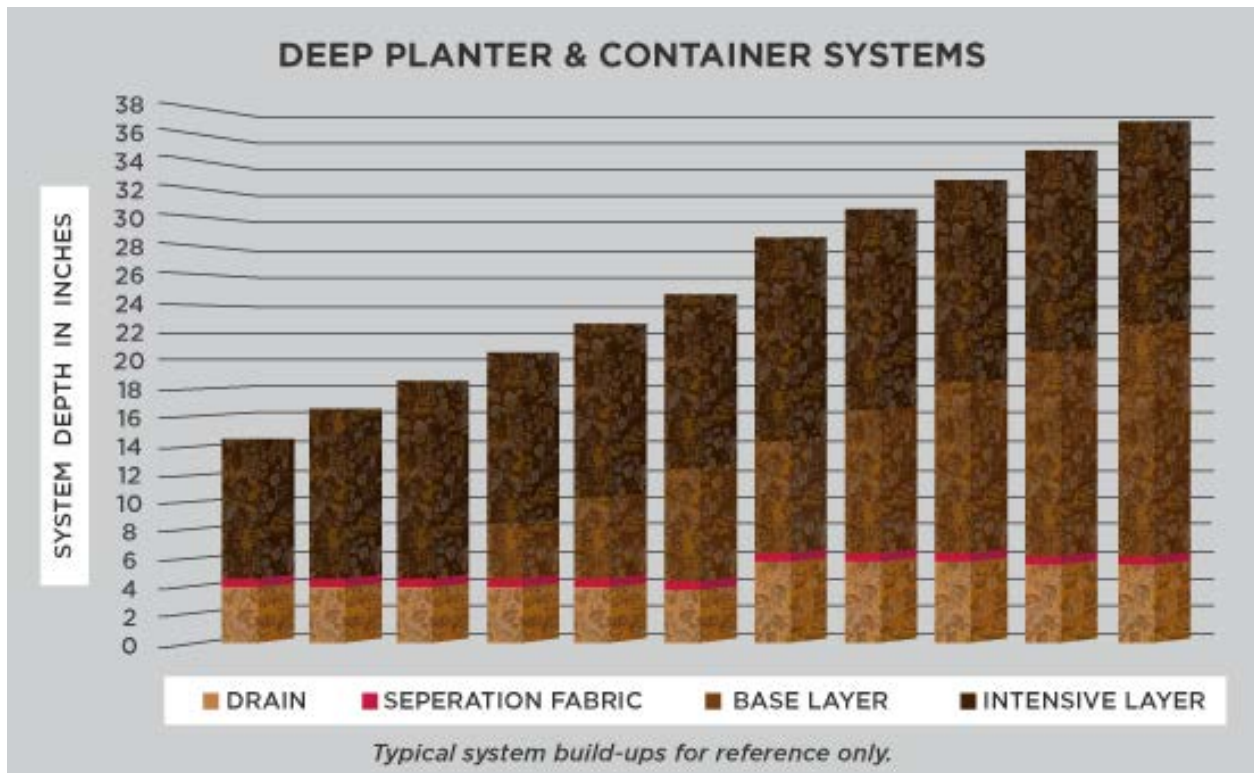
If the total depth of your planter or container is more than 18 inches, it is advisable to work with two different growth media to mimic a natural soil profile where there are different soil horizons with specific properties. At the deeper root zone horizon, Terramenta base layer, will provide better aeration and have less organic matter than the top layer. Place the Terramenta top layer directly on the rooflite base layer.

Terramenta base layer has the ideal performance characteristic for the deeper root zone below the top layer. Similar to a natural soil profile, this design mimics the different horizons and their specific properties. Apply this combination on top of the separation fabric.

For example, if the planter or container is 22 inches deep, it is advisable to work with two different growth media since the deeper root zone will require better aeration and less organic matter than the top layer. In this design the top layer would be applied 12 inches deep directly on top of the base layer without using a separation fabric. Please note that base layer is an additional layer and does not replace the drainage. The graph below identifies application build-ups and media depths for use in deep planters and containers.



Please refer to the following graphic to determine the best system build-up for your project:



Container gardens and planters can also be used for farming. Terramenta offers an adjusted top layer that is optimized to grow vegetables, herbs, and fruits.



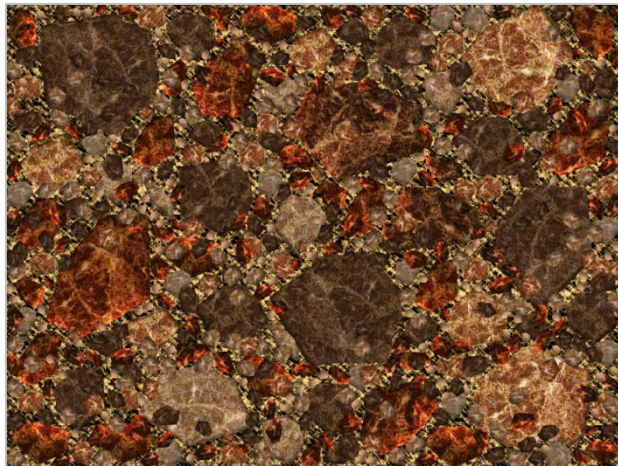
For agricultural applications, the top layer can be even deeper than 12 inches. Adjust the planter size and system build-up to the crop you want to grow.

## 6. UNDERSTAND SOIL FERTILITY

An ideal growth media for planters and containers is rich in nutrients and contains sufficient minerals and trace elements. pH value and salt content have to be considered as well. At the same time, microorganisms have an immense influence on soil fertility and plant growth.

Make sure the growth media you are using contains adequate amounts of premium compost. This is the best way to get a balanced blend of nutrients with plenty of beneficial microorganisms. At the same time, the compost's organic matter content will improve soil structure and water retention.

The Seal of Testing Assurance (STA) can identify premium compost, which is a program of the U.S. Composting Council (USCC). It requires regular testing of compost products by certified laboratories.



The basic components of a good growth media for planters and containers is a well-balanced blend of carefully selected lightweight aggregate with sufficient amounts of premium compost.

The Terramenta planter performance system is charged with sufficient nutrients for a minimum of one growing season. After this initial period nutrient levels may have to be replenished. The type and amount of nutrient replenishment needed will depend on project specific parameters and should be adjusted accordingly.

## 7. SELECT THE RIGHT PLANTS

Plant selection not only depends on the design intent of the planner but also on many factors like region, climate, and location. In general, plants should be selected which fit to the size of the container and can live together in tight quarters as good neighbors.



The size of your planter will determine which kind of plants you can use. The smaller the container is the more restrictions there are regarding plant selection. While small containers may only work for single plants, larger and taller planters may allow for several plants and even shrubs or small trees.

It is important to consider the potential development of plants as well. Over the years, some plants can gain substantial height or volume that can lead to various problems and even hazardous conditions. For example, on rooftops or exposed locations strong winds can tip over mobile planters easily if the plants are too tall in relation to the size of the container. Trees, shrubs, and evergreens, which can tolerate trimming, are a good option to prevent excessive growth. However, the need for continuous trimming will require additional maintenance.



Planters and containers offer a good opportunity to display plants that cascade over their edge and grow into the open air space. However, the combination of woody plants like deciduous shrubs and evergreens with colorful annuals only works in large containers where the root pressure is not as big as in smaller ones.



If you are designing a whole group of planters, you should consider the option to separate taller plants like shrubs and evergreens from smaller plants and seasonal plantings. This way there is less competition among the different kinds of plants and they have more space to grow.

## 8. CONSIDER IRRIGATION

Due to the artificial environment and the limited root space, most plants in containers and planters need additional water to survive. Regardless, whether you water by hand or install any kind of irrigation system, a reliable water supply is a key factor for success.



Using the right growth media can make irrigation easier and more effective because irrigation water will spread out quickly and evenly. A high percentage of water will be retained within the growth media while at the same time, surplus water will drain off allowing for open pore space filled with air.

Soils that do not drain well may become over saturated and develop unhealthy conditions for roots to grow. At the same time, these kinds of soils shrink significantly when they dry out. This will result in cracks and open gaps at the edges of the planter, which will allow irrigation water to run off quickly, before the soil can soak up the moisture.

## 9. CHOOSE THE RIGHT LOCATION

Selecting the right spot for a planter is crucial for good looks, plant health, ease of care, and long-term success. Although the main focus may be on aesthetics it is important to consider accessibility, lighting conditions, wind exposure, and building structures as well.

Planters and containers need maintenance. Whether it is watering or checking on irrigation systems, removal of spent flowers or dry leaves, weeding or trimming, all these activities can be performed much easier if the planter is readily accessible.



Exposure to wind and sunlight have to be evaluated as well. While some plants can tolerate shade and/or high wind pressure, others will suffer or even die if the surrounding microclimate is too extreme.

Generally, as a rule, wind speeds and turbulences will increase at the higher floors of a building and closer to roof corners and edges. Depending on the size of the planter and the size of plants additional measures to prevent damage may be necessary. Ideally,

high parapet walls will create a more sheltered scenario for rooftop planters and container gardens.

For planters located on a roof other building structures can be important too. For larger planters and containers a structural engineer may have to determine whether the additional roof load is acceptable or not.

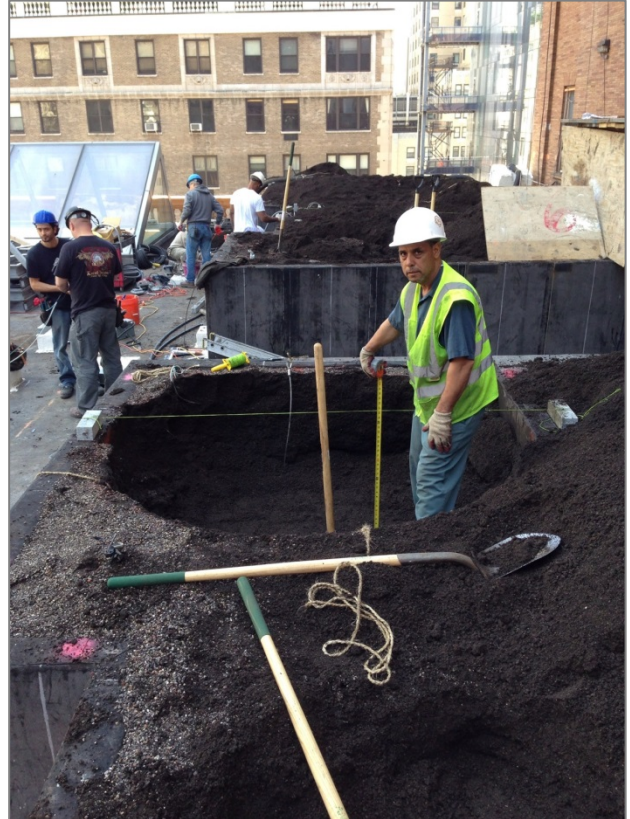
Overhanging structures or technical equipment such as exhaust outlets can also have a negative effect on plants. This is especially the case, if they diminish or increase the amount of natural precipitation reaching the plants or if they blow air at the plants.

## 10. FOLLOW INSTRUCTIONS

These are general instructions on how to fill planters and containers properly:

- Locate drain hole(s) and check for proper water run-off. Drain holes of freestanding containers should be covered with a piece of filter fabric to prevent loss of granular drainage particles. For larger built in place planters it is important to ensure accessibility of all water outlets. Protect roof drains or drain holes through the surrounding planter edge by inspection chambers. Drain boxes prevent the clogging of water outlets by roots or soil and allow for inspection of these critical points.
- Fill in the drain layer and level the surface. The depth of the drainage layer depends on the depth of the total system. Please refer to page 9 for details.
- Cover the drainage layer with filter fabric. Overlap joints by at least 6 inches. Let filter fabric stand up tight at least two inches at all planter edges and secure position with duct tape to keep soil particles from migrating into the drainage layer.
- For planters with a depth of 18 inches or less the top layer can be placed directly on the filter fabric.

- Compress the growth media properly to avoid later loss of volume. Stay at least one or two inches below the edge to create a buffer zone between the surface of the media and the top of the container.
- For planters with a depth of more than 18 inches the base layer is the first material to be placed on the filter fabric. The depth of the base layer depends on the depth of the total system. Please refer to page 9 for details. Compress the base layer properly and level the surface evenly. The top layer can be placed directly on the base layer. Compress the growth media properly to avoid later loss of volume. Stay at least one or two inches below the edge to create a buffer zone between the surface of the media and the top of the container. This creates a helpful buffer zone for water management and maintenance work.



**Note:** Depending on the type and size of the planter or container, it may be necessary to make some variations. There may also be deviating specifications by the project designer or other instructions from the manufacturer. The instructions outlined above are a general guideline only.

*DISCLAIMER:*

*The instructions contained within should only be considered as guidelines provided by Skyland USA, LLC. Under no circumstances should these guidelines be considered as all-encompassing or all-inclusive.*