



PHILADELPHIA CACTUS & SUCCULENT SOCIETY  
founded 1942 [www.philacactus.org](http://www.philacactus.org)

## 2nd MEETING OF 2022/23 SEASON OCTOBER 16

11:00 am (plant set-up)

noon (meeting)

[the discovery center](#) - [philadelphia](#)

### ----- **MAIN PROGRAM** -----

## VIRTUAL LECTURE WITH MATT OPEL "Conophytums of Distinction"

<https://us02web.zoom.us/j/85692034777?pwd=RmdmL2NjL25vR1puYVNyN2U1d3VDZz09>

Meeting ID: 856 9203 4777

Passcode: 384150



Conophytum is a genus of southern African succulents, with low-growing, chunky leaves that in some species are camouflaged like rocks, earning them the common name "living stones." CCSS vice-president Matt Opel studied the evolution and anatomy of Conophytum in graduate school, has traveled to South Africa to see the plants in their habitat, and has given numerous presentations on the genus to local, national and international audiences.

Matt's presentation this month will focus on a selection of especially beautiful or unusual Conophytum plants, including cultivars (selected cultivated forms), artificial and natural hybrids, and other special forms and varieties.

# MAKING SOIL

There was an overwhelming response to wanting soil. We brought approximately 96 gallons to distribute at our first meeting. Everyone was able to take some home and we're working hard to fill the remaining pre-orders.

Frank Straup said he'd help make the soil again and we're planning to generate another double batch. Soil will be brought to each meeting except December. Pre-orders are recommended. Cost is \$7 per gallon for members whose dues are paid for the 2022-2023 season otherwise its \$10 per gallon.

At our meeting we had a discussion about pots and soil. We had samples of different additives and each additive's purpose. Try out some of the enclosed recipes or develop your own mix! There are alos plenty of videos on YouTube to peruse ..

Thank you Paul for helping with the demonstration!!

## Irene uses:

2 parts - pumice  
1 part - Turface  
1 part - granite  
3 parts - MetroMix 3 Sun-COIR

You can also create a leaner mix:

1 part each:  
Turface,  
granite,  
pumice,  
MetroMix,  
perlite





## Paul's Cactus Soil Recipe

Links to Amazon are to provide illustrations, 3rd-party reviews, and additional background info. Prices are often cheaper in local garden centers, and products are also available in smaller packages. Using these packages will produce about 50 dry gallons of potting soil mix.

### Basic mix is 1 part each:

#### Foxfarm Coco Loco Potting Mix

<https://www.amazon.com/Foxfarm-Coco-LoCo-Potting-Mix/dp/B00MKBE4VI/>

#### Extra coir

(rehydrate in a recycling bin or kitchen trash can; pour off excess water after decompression, for long-term storage)

<https://www.amazon.com/dp/B004T0G67S/>



#### Turface MVP

<https://www.amazon.com/Turface-Regular-Mvp-Model-BFMVP5004P/dp/B001O83M0W/>

#### BuddyStone

(break larger pieces with a hammer)

<https://www.amazon.com/dp/B08TZSH5LR>



#### Grow!t (use straight from the bag)

<https://www.amazon.com/GROW-GMC40I-Decoration-Aquaponics-Hydroponics/dp/B00MHQ0IHA/>

For a cactus or succulent that needs more organic material, add extra Coco Loco and/or coir when potting.

For a cactus or succulent that needs more drainage, add extra Turface MVP, BuddyStone and/or Grow!t when potting.

### Deb D's mixes:

for haworthias:

50% pro mix,  
25% akadama,  
25% mix of smaller sized pumice & gran i grit



For other succulents

50% pro mix  
25% both sizes gran I grit  
25% both sizes pumice  
(If it's a pup I normally just use smaller sizes of gran I grit and pumice )



granite

For cactus

25% pro mix  
25% gran I grit, both sizes  
50% of pumice, both sizes



pumice

*My cactus vendor near Oakland gave me tip to use lots of pumice!*

# Glossary of Potting Soil Amendments

Copied from the The Eastern Spine  
Newsletter of the National Capital Cactus & Succulent Society  
Volume XLIX, No. 8 October 2022

## **Calcined Clay** (inorganic)

Clay aggregates can be fired (calcined) at high temperatures to form stable, hardened particles. Calcined clays increase drainage and improve soil aeration. These materials look very similar to kitty litter but the firing process makes them much more rigid and they do not turn to mush when wet. One commercial product available is Turface. It is sold in 40 pound bags and is carried by some of the larger garden centers.

## **Coir** (organic)

Coir originates from ground-waste coconut husks. Coir has a high water-holding capacity, higher than peat and can be easily rewet after drying. Over the past few years, it has increasingly been used as a potting soil component, primarily as a substitute for peat moss.

## **Crushed Granite** (inorganic)

This is sold as chicken or turkey grit and usually is sold in several sizes. The granite pieces have been screened and are uniform in size. This is generally better than coarse sand because there is little fine material present.

**Peat moss** (organic) This is the most common peat found in commercially sold potting soils. It is dark (usually almost black) in color and has a large proportion of fine, decomposed, particles. It does not improve the drainage of potting soils and often holds too much water. It is not recommended as a potting soil additive.

**Perlite** (Inorganic) This is a lightweight, porous material produced by heating volcanic type rocks. Its use increases the drainage ability of the potting soil. It is readily available at most garden centers.

## **Pumice** (inorganic)

In the west pumice is one of the most commonly used potting soil additives for succulent plants. Pumice is a light-colored, frothy volcanic rock formed by the expansion of gas in erupting lava. Pumice increases soil mix drainage and improves soil aeration. It is very lightweight and similar to the calcined clays in that it does not deteriorate when wet, nor breakdown like vermiculite when under pressure. Unfortunately, pumice is not readily available on the East Coast, and although it can be shipped here from the west coast, the shipping cost greatly increases its cost.

## **Sand** (inorganic)

The word sands means different things to different people. Play sand or sea sand (neither should be used in potting soils,) is an entirely different creature than builders sand or concrete sand. When used for improving drainage, sand must be used in large amounts; usually making up more than 50 percent of the potting mix. Coarse sand, the type appropriate for potting mixes, is often sold at the large home improvement stores. While inexpensive, it is usually only sold in large amounts.

## **Sphagnum peat moss** (organic)

This type of peat is coarse and light brown in color. It is the most widely used additive in commercial greenhouse and nursery potting soils. It improves soil drainage and holds appreciable amounts of water and plant nutrients. When dry it becomes hydrophobic and does not absorb water. For this reason, many succulent growers do not recommend it for use in potting soils.

## **Vermiculite** (inorganic)

This is made by heating mica minerals, which expand into porous particles. Vermiculite has a high water holding capacity and initially increases drainage. However, it tends to collapse and compress over time and is only used in potting soils that are intended for short-term (less than 6 months) use.

# Potting Soil Components: Calcined Clay / Turface

By Bob Stewart NCCSS

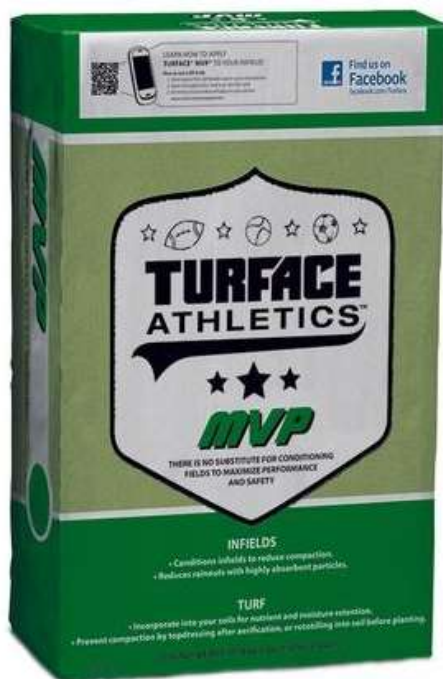
The Eastern Spine  
Newsletter of the National Capital  
Cactus & Succulent Society  
Volume XLVIII, No. 7 September 2021

I am always playing around with potting mixes for my cacti and other succulents, seeking the mix that can be used for everything, and of course, never finding it. People always ask where they can buy a good commercial potting mix for their succulents, and the answer is always the same, there is no such thing, you have to make your own.



While a potting soil can be a single component, it is usually several components blended together. One component that I have used over the years is calcined clays. Think kitty litter. However the calcined clays I use have been heated to a high temperature and unlike most kitty litter products, they do not turn to mush when they get wet. With the ability to absorb water but maintain their shape and integrity, calcined clays make a good potting soil component.

In the last several decades these heat-treated calcined clays have found an increasing use in athletic areas to keep soils dry and provide better footing. More recently, they have begun to be used for landscape soil improvement. Currently, calcined clays are used in soil mixes for growing various potted plants, including bonsai and cannabis.



The calcined clay product I initially used was called MVP from the company Turface Athletics. It improves the aeration of a potting mix and provides a reservoir for plant nutrients from applied fertilizers. However, the primary use intended for the MVP product is use on athletic fields, thus it has not made its way into the general gardening supply chain and only available in large quantities via landscape supply companies. The Turface Athletics Company now has several additional calcined clay products, but again they are targeted for athletic field use, or the commercial landscape industry.

I have recently obtained a bag of their new **"All Sport"** product that has a smaller sized clay particle than the MVP. I am evaluating this product now in comparison with the MVP product.

## **Growing in the Desert Series:** **Coir (Coconut Husk Fiber): A Universal** **Potting Medium?** *by Mark Dimmitt*

What is coir?

Coir (pronounced "koyer") is the fiber from the husk of the coconut, the part between the hard inner shell and the outer coat. It has long been used to make doormats, mattress and upholstery stuffing, rope, and fishing nets. But mainly it is a waste product of the coconut industry; mountains of the stuff have accumulated in tropical countries where coconut palms abound.

Coir has been used in the USA as a potting medium for a variety of plants for at least two decades, especially in Florida. Until recently its availability has been undependable and the quality highly variable. These problems have been solved, but few horticulturists are aware of recent developments.

### **Dispelling coir's bad rap**

#### **1. Coir is soggy muck that drowns plants.**

Until a few years ago the main coir product sold in the USA was "cocopeat", a fine dust that looks much like horticultural peat moss. This product holds even more water than peat, and because of its fine texture, it remains saturated for days after irrigation. I have tried it, and even when mixed 1:3 cocopeat:pumice or perlite, it killed nearly every plant that requires good drainage. This stuff is indeed deadly.

The product discussed in this article consists of fiber and small chips, with almost no dust. Even when it's saturated, it contains abundant air pockets and therefore roots will not suffocate.

#### **2. Coir is dangerously salty.**

Coir used to be washed in seawater, and was therefore quite toxic to most plants. It had to be thoroughly leached before use, especially the larger chunks used for growing orchids. Modern coir processed for horticultural use has been fresh water washed, and is very low in salt. Tucson tapwater is five times more salty than today's coir.

#### **3. Coir comes in hard bales that must be laboriously broken up by hand.**

Cocopeat was usually sold in compressed bales. The bales were very difficult to moisten, and even after soaking for several days they had to be physically broken up. This was difficult and time-consuming. The newer fiber and chip products often come in compressed blocks of one-half cubic foot. When a block is submerged in water, it saturates and falls apart in a few minutes, expanding to two cubic feet (15 gallons). It's very easy to use.

### **My experience with coir**

Potting medium is a common topic of discussion whenever and wherever horticulturists gather. A huge variety of ingredients have been used, with varying degrees of success. I've been growing plants since the 1960s, and have spent most of that time experimenting in the hope of finding the ideal medium for my growing conditions and the plants I like. For the past 15 to 20 years most of my media have used peat moss as the primary organic component, amended with different proportions of pumice or perlite for aeration and drainage. (The product is Sunshine Mix, which is about 90% peat with some perlite and pH buffers.) I had good success with these ingredients, but I was never completely satisfied. One of my two main complaints is that the peat retained moisture too long during cool weather, encouraging root rot of sensitive plants. The other complaint is that peat breaks down in a couple of years in our hot climate, so plants needed to be repotted regularly even if they had not filled the pot.

Now I have found a product that thrills me. I discovered good coir in 2008, when I visited Tropica Nursery near Mumbai, India (with Kevin Barber). The nursery covers many acres and produces a wide range of plants, including tropical foliage and flowering plants, succulents, food plants, and orchids (Figure 5). All of them are grown in 100% coir. Owner Dr. Ashish Hansoti has been a pioneer in developing coir as a growing medium. One of his contributions is his research to determine the nutritional needs of plants grown in coir.

I began experimenting with coir when I returned home the same year. After one growing season I was so pleased with the results that I began repotting almost my entire plant collection into coir-based mixes. After four years' experience with it, I have concluded that coir is by far the best all-around organic potting medium that I have ever encountered. Succulents that have performed superbly in media consisting of from 30% to 100% coir include: Adenium, Pachypodium, Plumeria, Aloe, Agave, Sansevieria, Trichocereus, Mammillaria, Stapeliads, Caralluma, Bursera, Boswellia, Fouquieria, Haworthia, terrestrial and epiphytic bromeliads, terrestrial orchids, and some Euphorbia (I have only a few). Nonsucculents have done excellently too, such as citrus, figs, peaches, blackberries, melons, tomatoes, corn, Asclepias, Hibiscus, and many bulbs including Gladiolus, Lachanalia, Scadoxus, Hippeastrum, and Boophone.

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I have been using 2/3 to pure coir for tropicals, including tropical succulents such as adeniums. For more xerophytic species I use 25-30% coir, with the rest being perlite and/or pumice. The only plants that have not done well are some extreme xerophytes such as Mohave Desert cacti, Ariocarpus, many mesembs, and Caralluma socotrana. But I have never had much success with these plants in any medium.

### **Horticultural properties and availability of coir**

I have found coir to have numerous advantages over all other organic components of potting media that I have ever used, and few drawbacks. ...The number one best trait is that it has both high water-holding capacity and simultaneously retains plenty of air. This means that it's nearly impossible to overwater most plants during their growing season – you simply cannot suffocate the roots. It is highly resistant to oxidation and microbic breakdown; it lasts at least four years with tropical plants when it's kept continuously moist, and longer for more xerophytic ones. Unlike peat, it does not shrink when dry, and is easy to rewet when it's time to awaken a plant from dormancy. Since I eliminated peat-based media, I have had almost no problem with fungus gnats, although others have reported that these flies can live in coir.

In my four years of experience with coir, loss from root rot has fallen to a small fraction of that with peat media. In fact, I have had almost no root rot of most plants including adeniums, cacti (except extreme xerophytes), aloes, and agaves. Research indicates that coir suppresses the growth of several pathogenic fungi.

Coir lasts two to four times longer than most other organic potting components. In our hot desert climate peat will break down into muck or oxidize to nothing in only a year or two. I have had adeniums in the same pot for four years so far, and the coir is still largely unchanged after all this time of being watered three times a week during the hot season.



# OCTOBER PLANT OF THE MONTH

The categories can be found here: [www.philacactus.org/plant-of-the-month/](http://www.philacactus.org/plant-of-the-month/)

If competing, please try to arrive at 11 to set-up ..

## CACTUS

### Echinocactus II

**subfamily** Cactoideae, **tribe** Echinocactae

**examples:** Echinocactus, Ferocactus, Leuchtenbergia, Stenocactus  
(Echinofossulocactus), Ariocarpus, Obregonia, Aztekium

## SUCCULENTS

### Aloeacea 2

### Haworthia only

**examples** Haworthia

## SPECIAL CATEGORIES

### Oldies But Goodies

Subdivided into two groups.

Plants in your possession for 10 years or more.

Plants in your possession for 20 years or more.

**We are collecting dues  
for 2022/2023  
\$20 per household**

## ELECTIONS

We will vote for offices at this meeting. Transition will occur for the rest of the year then jobs will start in January ....

Still looking for someone to do the newsletter & manage POM!!

## HOSPITALITY

Since we're going strong with in-person meetings, please bring food to share. This was always a big part of the meeting and we're looking forward to bringing it back!



COMING ATTRACTIONS  
**COMING ATTRACTIONS**  
COMING ATTRACTIONS  
COMING ATTRACTIONS

## Holiday Party

December 11





Check us out on FACEBOOK!!



Check us out at:

[www.facebook.com/groups/202733996526503](https://www.facebook.com/groups/202733996526503)

It's a way to share photos and ask questions about all things cactus and succulents!

## PCSS Officers

<b>President:</b>	Irene Cassidy (latte_datte@yahoo.com cell: 302.883.4644)
<b>Vice-President:</b>	Jeff Sedwin
<b>Treasurer:</b>	Renee Thompson
<b>Recording Secretary:</b>	Paul Wesolowski
<b>Communications:</b>	Timothy Day (timothyday@outlook.com)
<b>Affiliate Representative:</b>	Christina Day
<b>Newsletter:</b>	Irene Cassidy
<b>Judging Coordinator:</b>	Barry Bush
<b>Flower Show Exhibit:</b>	Paul Wesolowski
<b>Hospitality:</b>	Jeff Cades
<b>Library:</b>	Bridget Irons
<b>Flower Show Ribbons:</b>	JoAnn Schailey

