



LiveRoof[®]
Texas BRAND
LLC
Hybrid Green Roof System
Natural Function
Natural Beauty



**FULLY-GROWN INVISIBLE
MODULAR GREEN ROOF SYSTEM**
"The Hybrid System"

SIMPLE

EFFECTIVE

ATTRACTIVE

Getting to Know the Grower

David Scott, owner of Joss Growers, Inc. in Georgetown, Texas, is highly regarded for his knowledge of drought-tolerant species native to Texas as well as new plant materials adapted to the wide range of Texas environments.

Scott started his nursery business in 1993 from his backyard where he quickly found success in his ability to focus on successful plant selections for the ever-changing Texas environment. It was this ability to stay ahead of the growing trends that has led to the current 65,000 square foot under cover nursery along with eight acres of open space that makes up the Joss Growers nursery today.

Scott's expertise in drought-tolerant plants has made him a valuable commodity when it comes to green roof design and plant selection in Texas. He's been involved with supplying plants to multiple green roof projects around Austin, TX since 2003 including the Lady Bird Johnson Wildflower Center and Austin City Hall to name a few.

After a West Austin green roof project, Scott traveled to a trade show in Vancouver where he first saw the LiveRoof Hybrid Green Roof System. "I knew this was a product I wanted to sell my customers," he said. "LiveRoof establishes a green roof as a naturally functioning ecosystem with the soil unified between modules across the rooftop. I could see it would install easily and seamlessly and, most importantly, that it would work."



Hipolito F. Garcia Federal Building and U.S. Courthouse
San Antonio, TX - 13,400 SF
LiveRoof Designer: Trivers Associates
Certified Installer: ValleyCrest Landscape Companies

LiveRoof[®] Components & Accessories

Texas
LC BRAND

LiveRoof Texas Soil

It is no secret that the best gardens are only realized when a high quality soil is paired with proper plant selection. Most growing media in green roofs are 80-90 percent inorganic material, so they do not decompose or settle very much. LiveRoof Texas Engineered Green Roof Soil™ sets the industry standard.

LiveRoof Texas Engineered Green Roof Soil is designed to be sustainable, used in conjunction with the LiveRoof module and to be the best green roof soil on the market. LiveRoof Texas Engineered Green Roof Soil™, a proprietary blend of the finest inorganic and organic materials, is formulated under strictly controlled standards.

LiveRoof Texas Engineered Green Roof Soil™ is designed to:

- Be approximately 94+% inorganic by dry weight, as is the case with ecologically stable, sustainable, mature green roofs.
- Conform to German FLL granulometric standards.
- Filter rainwater and buffer acid rain.
- Effectively grow LiveRoof Texas plants.

LiveRoof Texas Engineered Green Roof Soil™ weighs approximately 27-29 lbs./sq. ft. fully saturated at 4¹/₄" depth when fully vegetated with LiveRoof Texas plants.

“Peat-based soil with compost and perlite will decompose and wash away during rains and blow away when it is dry and windy. The volume of material in that kind of mix will shrink, and a year after installation, the green roof will look long gone”

David Scott



LiveRoof soil is engineered, using local components, to be sustainable and horticulturally sound.



LiveRoof® Plant Mix Texas BRAND LLC

Plant Basics

Not all green roofs are created equal, or are equally green. The rooftop is an unforgiving environment for plants. Our knowledge of your local conditions is essential for figuring out what plants are best for your project. That's why we customize our plant and grass selections for your specific area, unlike other vendors who recommend a sedum roof consisting of exotic species that may have performed well in other states but are known to do poorly in Texas.

Why Don't Sedums Work in Texas?

Sedums are succulent, water-holding plants that have a special type of metabolism called Crassulacean Acid Metabolism, CAM for short. CAM plants are unique in that under drought conditions their stomates (leaf pores) are open at night rather than during the day (as is the case with most plants). This allows CAM plants to be much more efficient with water conservation than non-CAM plants. **So why don't they work on roofs in Texas?**

Most sedums come from dry temperate climates. They do very well during the cooler months in Texas when the high temperatures and humidity are not around. But when those summer afternoon temperatures reach between 90 F to 100+ F and the air water vapor is high, sedums struggle to keep their cover and then invasive species can take over. But it is not the high heat and humidity, itself, that causes sedums so many problems. These two factors simply provide the perfect environment for the real sedum killer, Southern Blight Fungus, also known as 'crown rot' and 'white mold', to thrive. This fungus is practically impossible to keep at bay once the hot, humid summer months arrive and it will decimate even a well established roof of sedums.

An extensive green roof study was conducted at the University of Texas at Arlington by associate professor and landscape architect, David Hopman, ASLA, in 2008. Part of this study included the testing of five sedum plants. The results of the sedums testing produced two major issues. First, the sedums required watering in order for them to not go dormant or die in the summer. The second, and more concerning problem, was that during hot rainy weather some sedums began to rot.

The study concluded that the use of sedums on green roofs in Texas should be avoided due to the two limitations and the non-regional origins of sedums.

Recommended Plants

LiveRoof Texas approaches each green roof project from a horticultural point of view. We see the rooftop environment as a biological system, and understand what it takes to produce a horticulturally sound, sustainable system designed so plants will flourish.

We provide regional pallete plant mixes with plenty of native xeric groundcovers, several ice plants, succulent perennials with good colors, and short-stature grasses. Please see our plant list page for more details on what plants will work best for you.

"Most green roof systems have been designed by people in the roofing business, not people rooted in horticulture. Growers ought to look for green roof manufacturers who can see the rooftop environment as a biological system, who understand that a green roof has to be green --- a horticulturally sound, sustainable system designed so plants will flourish"

David Scott



LiveRoof Texas Project Installation San Antonio, TX 6.01.12



LiveRoof Texas Project San Antonio, TX on 10.31.12



Berkeley Sedge (*Carex divulsa*)
Drought Tolerant; Average water needs
Perennial, Evergreen
Color: Green
Size: 12-18 inches tall, spread 24 inches
Full Sun to Light/ Partial/ Full Shade



Blackfoot Daisy (*Melampodium leucanthum*)
Drought Tolerant; Average water needs
Perennial
Color: Bright green with white flowers (central yellow discs)
Bloom Time: Early Spring to Late Fall
Size: 8 inches tall, spread 12 inches
Full Sun
* Not recommended for Houston



Blue Grama (*Bouteloua gracilis*)
Drought Tolerant; Low water needs
Perennial, Grass
Color: Gray-green
Size: 12-14 inches tall, spread 15-18 inches
Full Sun



Deer Grass (*Muhlenbergia rigens*)
Drought Tolerant; Low water needs
Perennial, Grass
Color: Light-green
Size: 36-48 inches tall, spread 24-36 inches
Full Sun



Dove Weed (*Croton monanthogynus*)
Drought Tolerant; Low water needs
Annual, Forb
Color: Light green with white flowers
Size: 8 inches tall, spread 12 inches
Full Sun



Four Nerve Daisy (*Hymenoxys scaposa*)

Drought Tolerant; Low water needs

Perennial

Color: Green with bright yellow flowers

Bloom Time: Early Summer to Early Fall

Size: 8-10 inches tall, spread 12 inches

Full Sun

* Not recommended for Houston



Gregg's Mist Flower (*Eupatorium greggii*)

Drought Tolerant; Average water needs

Perennial

Color: Green with purple-blue flower clusters

Bloom time: Late Spring to Early Summer

Size: 12-24 inches tall, spread 12-36 inches

Full Sun to Partial Shade

* Recommended only for Houston



Hamlin Grass (*Pennisetum alopecuroides*)

Drought Tolerant; Medium water needs

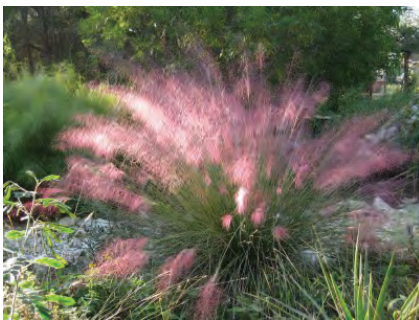
Perennial, Grass

Color: Soft green with cream panicles

Size: 24-36 inches tall, spread 24-36 inches

Full Sun

* Recommended only for Houston



Gulf Muhly (*Muhlenbergia capillaris*)

Drought Tolerant; Low water needs

Perennial, Grass

Color: Bright green with purple spikelets

Size: 18-36 inches tall, spread 15-18 inches

Full Sun



Horseherb (*Calyptocarpus vialis*)

Drought Tolerant; Low water needs

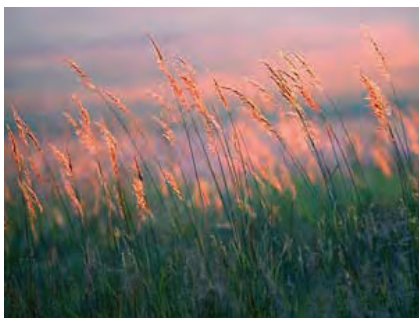
Perennial, Evergreen

Color: Bright green with yellow daisy flowers

Bloom time: Off and on all year

Size: 6-12 inches tall, spread 24-36 inches

Full Sun to Shade



Indian Grass (*Sorghastrum nutans*)

Drought Tolerant; Low water needs
Perennial, Grass
Color: Blue-green to deep orange (Fall)
Size: 36-72 inches tall, spread 18-24 inches
Full Sun to Partial Shade



Trailing Lantana Purple, New Gold, White (*Lantana montevidensis*)

Drought Tolerant; Average water needs
Perennial, Semi-Evergreen
Color: Green with several clustering flowers
Bloom time: Mid Spring to Early Summer
Size: 12-16 inches tall, spread 36-72 inches
Full Sun to Partial Shade
* Recommended only for Houston



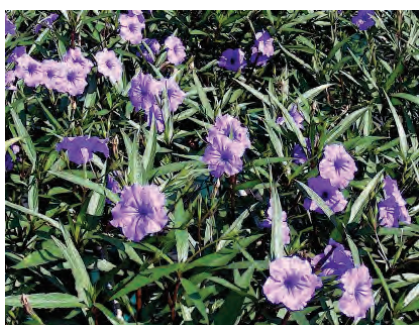
Lindheimers Muhly (*Muhlenbergia lindheimeri*)

Drought Tolerant; Average water needs
Perennial, Grass
Color: Light gray-green to light blue-green
Size: 36-48 inches tall, spread 36-48 inches
Full Sun



Little Bluestem (*Schizachyrium scoparium*)

Drought Tolerant; Low water needs
Perennial, Grass
Color: Blue-green to mahogany-red (Fall)
Size: 24-36 inches tall, spread 24-36 inches
Full Sun to Part Shade



Mexican Petunia 'Katie's Dwarf' (*Ruellia brittoniana*)

Drought Tolerant; Average water needs
Spreading Perennial
Color: Green with purple flowers
Bloom time: Mid Spring to Early Summer
Size: 6 inches tall, spread 10 inches
Full Sun



Orange Bulbine (*Bulbine frutescens*)

Drought Tolerant; Low water needs
Perennial, Evergreen
Color: Succulent foliage with star-shaped yellow-orange flowers
Bloom time: Mid Spring to Late Fall
Size: 6-12 inches tall, spread 12-24 inches
Full Sun to Partial Shade
* Recommended only for Houston



Ornamental Peanut (*Arachis glabrata*)

Drought Tolerant; Average water needs
Spreading Perennial
Color: Green with yellow flowers
Bloom time: Off and on all year
Size: 6-12 inches tall, spread 12 inches
Full Sun
* Recommended only for Houston



Palisades Zoysia (*Zoysia japonica*)

Drought Tolerant; Low water needs
Turf Grass
Color: Bright green
Size: .5 -2.5 inches tall
Full Sun to Partial Shade



Pine Muhly (*Muhlenbergia dubia*)

Drought Tolerant; Low water needs
Perennial, Grass
Color: Bright green
Size: 24-36 inches tall, spread 48-72 inches
Full Sun
* Not recommended for Houston



Purple Heart (*Tradescantia pallida*)

Drought Tolerant; Low water needs
Perennial, Evergreen
Color: Deep purple with pale pink flowers
Bloom time: Off and on all year
Size: 12-18 inches tall, spread 9-12 inches
Full Sun to Partial Shade



Red Apple Ice Plant (*Aptenia cordifolia*)

Drought Tolerant; Low water needs
Perennial, Evergreen
Color: Bright green with red daisy flowers
Bloom time: Off and on all year
Size: 6 inches tall, spread 12-24 inches
Full Sun to Partial Shade



Red Yucca (*Hesperaloe parvifolia*)

Drought Tolerant; Low water needs
Perennial, Evergreen
Color: Green with coral colored, tubular flowers
Bloom time: Early Spring to Summer
Size: 36-48 inches tall, spread 24-36 inches
Full Sun



Rocky Point Ice Plant (*Malephora luteola*)

Drought Tolerant; Low water needs
Perennial, Evergreen
Color: Bright green with yellow daisy flowers
Bloom time: Off and on all year
Size: 6-10 inches tall, spread 24-36 inches
Full Sun



Seep Muhly (*Muhlenbergia reverchonii*)

Drought Tolerant; Medium water needs
Perennial, Grass
Color: Green to blue-green to grey-green
Size: 18-24 inches tall, spread 24-36 inches
Full Sun

* Not recommended for Houston



Sideoats Grama (*Bouteloua curtipendula*)

Drought Tolerant; Medium water needs
Perennial, Grass
Color: Blue-green, sometimes turning purple/red in fall
Size: 12-24 inches tall, spread 12-15 inches
Full Sun to Partial Shade



Society Garlic (*Tulbaghia violacea*)

Drought Tolerant; Average water needs

Perennial, Semi-Evergreen

Color: Grayish-green with violet flowers

Bloom time: Mid Spring to Early Summer

Size: 12-24 inches tall, spread 6-12 inches

Full Sun

*Recommended only for Houston



Texas Bluegrass (*Poa arachnifera*)

Drought Tolerant; Medium water needs

Perennial, Grass

Color: Blue-green (spring silvery flowers)

Size: 12-24 inches tall

Full Sun to Partial Shade



Texas Frogfruit (*Phyla nodiflora*)

Drought Tolerant; Low water needs

Perennial, Semi-Evergreen

Color: Green with white flowers

Bloom time: May to October

Size: 3-6 inches tall, spread 9-12 inches

Full Sun to Partial Shade



Texas Sedge (*Carex texensis*)

Drought Tolerant; Average water needs

Perennial, Evergreen

Color: Light green

Size: 6-12 inches tall, spread 6-9 inches

Partial to Full Shade



Woolly Stemodia (*Stemodia lanata*)

Drought Tolerant; Low water needs

Perennial, Semi-Evergreen

Color: Silver, greyish with white or purple flowers

Bloom time: April to November

Size: 4-10 inches tall, spread 24 inches

Full Sun

* Not recommended for Houston

LiveRoof® Plant Mix

Texas
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White Yarrow (*Achillea millefolium*)

Drought Tolerant; Low water needs

Perennial, Evergreen

Color: Green, lacy foliage with white flowers

Bloom time: Spring to Fall

Size: 12-18 inches tall, spread 9-12 inches

Full Sun

**Please call us for a hands-on demonstration,
catalog, pricing and specific plant recommendations.**

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Hybrid Green Roof System
Natural Function
Natural Beauty

LiveRoof, LLC
A Subsidiary of Hortech, Inc.

See Inside Back Cover
For LiveRoof Texas contact
information, and to arrange
for a personal consultation.

See LiveRoof.com
For Additional Information

PREVEGETATED INVISIBLE
MODULAR GREEN ROOF SYSTEM
(Patent Pending)

SIMPLE

EFFECTIVE

ATTRACTIVE