

# **AMERICAN HYDROSOIL**

~ High Performance Soil Amendment ~

## **HOW TO USE**

### **FOR PLANTS:**

4" pot	Use .25 pounds	1 cup (approx)
1 gal	Use 1 pound	1 qt (approx)
2 gal	Use 2 pounds	.5 gal (approx)
3 gal	Use 3 pounds	.9 gal (approx)
5 gal	Use 5 pounds	1.5 gal (approx)
10 gal	Use 10 pounds	3 gallons (approx)
15 gal	Use 15 pounds	4.5 gallons (approx)

### **FOR NEW LAWNS, EITHER SEED OR SOD:**

Use 1 pound per square foot of turf area. Till in to a depth of 4-6 inches. This will equal 10% by volume.

### **TURF AERATION:**

Aerating with 5/8" tines using a 3"x 4" pattern will require 150-200 pounds of Hydrosoil per 1000 sq ft of area. Harvest the cores, apply Hydrosoil. A drop spreader is preferred, then use a rake, broom, blower or water hose to help the Hydrosoil fill the holes. Using water will also clean the area, force more Hydrosoil into the holes and pre-charge the Hydrosoil.

### **HANGING BASKETS:**

We recommend 20% by volume. Other ways to apply are to punch holes in the soil at 5-6 locations around the plant and fill with Hydrosoil.

### **ROOFTOP GARDENS:**

We recommend 20% by volume. Other ways to apply are to punch holes in the soil at 5-6 locations around the plant and fill with Hydrosoil.

### **OFFSITE BLENDING:**

To create a 10% by volume mix, use 88 pounds of Hydrosoil per cubic yard.

For additional help to determine specific volumes of Hydrosoil, or help with unique applications or further assistance, please contact us!

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## **NURSERY STOCK, SEED GERMINATION, CUTTINGS FOR PROPAGATION**

When commercial growers are creating their soil mix to propagate their cuttings or seedlings they use a variety of products that contain sphagnum peat moss, perlite, vermiculite, gypsum, dolomite limestone and fertilizer nutrients.

When the plant seed or cutting is placed in this soil medium, usually in a pot, the key element for success of the plant's survival is to maintain a certain moisture and nutrition level in the soil. American Hydrosoil is the answer to this problem. By incorporating American Hydrosoil into the soil mixture, you are now going to water and feed the roots as they need it.

American Hydrosoil will absorb the excess nutrient solution and release it back into the soil as the pot begins to dry out. This unique feat allows the necessary oxygen to get to the seed or cutting allowing the roots to grow at maximum performance. You are not overburdening the seed or roots with too much moisture which impedes the necessary oxygen penetration. In addition, too much moisture could pose a problem of root rot.

American Hydrosoil will not cause root rot, it brings root rot under control. The root rot spore requires "free water". American Hydrosoil will not release its absorbed moisture until the plant medium is dry enough to accept it. Now the grower can expect to receive a very healthy plant, higher yields, and a stronger root structure.

In the event the grower wishes to ship his product via a non-refrigerated truck to the point of destination, American Hydrosoil will continue releasing moisture back to the plant's roots keeping the plant's roots cooler and out of a state of shock. This should reduce plant losses to less than 5%. In addition, the cost savings of a non-refrigerated truck should more than offset the cost of American Hydrosoil.

To recap, by using American Hydrosoil in the growing medium, the grower should expect:

1. Increased yields up to 30%
2. No problem with root rot
3. A healthier plant
4. A stronger root structure
5. A plant that is taller, healthier and more fruitful should bring you a higher price
6. Irrigation and fertilizer savings

For nursery stock seed germination and cuttings, a 15% mixing ratio is recommended, one part American Hydrosoil to six parts planting mix.

Growers have shown good results with only a 7% mixing ratio. Clay pots, due to their porosity, need a 25% mixing ratio.

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## **ESTABLISHED TURF**

### ***LOW SPOTS HOLDING WATER***

Established lawns through lime with trees, pets and children will create low areas that hold pooled water. As the water gathers in these areas, the weight of the water compresses the soil further making it more dense, not allowing the oxygen requirements to instill healthy growing conditions and reducing the water percolation ability. Since the area has been compressed, when it rains or is irrigated these areas cannot absorb this excess moisture. The areas maintain a wet consistency and are the most susceptible to fungal disease in the early Spring and early Fall seasons. In addition, the root mass stays at the soil surface because it is always moist.

These areas can be brought back to a healthy deep rooted turf area as well as eliminate this standing water by implementing American Hydrosoil into the soil layers below. The American Hydrosoil will act as a drainage system by strategically placing the American Hydrosoil in these low areas in the turf acting like a sump pump absorbing and transposing this moisture to the lower soil layers.

By implementing the American Hydrosoil product in this manner, you are saving the time and expense of a pipe drain system and you are getting the added benefit of knowing your turf is getting healthy again in these areas. This process is a tremendous cost saver and a permanent solution to the problem.

### ***REDUCE IRRIGATION WATERING TIME***

Since you already have an established turf in place, you must use a method to get the American Hydrosoil below the thatch layer to allow the needed moisture back to the roots when the soil begins to dry out. This method is recommended:

1. Mow the turf as low as possible without doing harm to the turf.
2. Aerate the turf areas.
3. Perform a topdressing with six parts sand and one part American Hydrosoil mixture.
4. Drag the topdressing mixture into the aeration holes and leave a small topdressing on the surface.
5. Water the area for approximately 20 minutes.

### ***APPLICATION INSTRUCTIONS***

100 Square feet of area topdressed at one inch depth is equal to 1/3 cubic yard of sand; mix this sand with 2 pounds American Hydrosoil.

Thus one cubic yard of sand will cover 300 square feet. Mix six pounds of American Hydrosoil per cubic yard of sand and topdress one inch.



## **GOLF COURSE, SPORT & PARK TURF INFORMATION**

American Hydrosol is amorphous silica ash derived from a patented burning process using the 'biomass', rice hulls, to generate electricity to run the rice mill. The by-product of this burning is rice hull ash (RHA). The RHA is 98% hollow and will absorb water at a ratio of about 1:1. As the surrounding soil dries, the RHA releases water to the plant as needed. It is designed as a soil amendment for use in the soil profile as a one time application that aerates, waters and stimulates deeper roots and microbial activity. RHA accomplishes this by extending the time between watering along with aeration of the roots. This application promotes a stress free plant with optimum growth using less irrigation thus conserving water and other resources, i.e., electricity, labor, plants, etc.

### ***COMPACTED SOIL SOLUTION***

When RHA is amended into the soil profile, it brings the necessary oxygen to the lower soil layers to aerate and stimulate deeper watering and develop denser roots while simultaneously enhancing microbial activity that assists to breakdown fertilizers and salts in the lower soil layers.

### ***WATER DEFICIENCY SOLUTION***

RHA will absorb moisture from the humidity, dew, condensation and rainfall. This allows the irrigation cycle to be reduced and extend the time between watering. Moisture is being fed continually to the roots from both surface and subsurface soil layers through reverse capillary action.

### ***GOLF COURSE, SPORTS TURF, & PARK APPLICATIONS***

**Practical Water Management:** The objective of a turfgrass manager is to provide as fine a lawn or playing surface as desired with a minimum use of labor and resources, i.e., water, fertilizer, etc. In situations where the rootzone is very shallow, leaching losses must also be taken into consideration.

From observations in Texas, we know that Bermuda grass will survive with about 20 inches of water per year. From research, Bermuda grass can be kept green during the growing season with only 50% of the potential water use rate or approximately 30 inches per year if the applications of water are consistent. A lawn may only require 30" of water per year. A sports field or golf course where growth is needed for recovery, more than 30 inches may be needed. Therefore, if your objective is water conservation, 20 inches is needed for survival, 30 inches for acceptable color and about 40 inches for adequate color and growth. These are common values for Bermuda grass. Hybrid Bermuda grasses such as Tifway and Tifgreen require slightly more water for the same level of maintenance.

By incorporating American Hydrosol into your soil profile, you are able to extend watering of hybrid Bermuda grass growing in pure sand on a putting green. This allows reduction of water usage, conservation of resources saving labor costs, and minimize fertilizer usage to achieve the same or greater results as are presently obtained. An added benefit obtained from American Hydrosol is reverse capillary action which will translocate moisture from a lower soil layer to a higher soil layer making it available to surface roots.

### ***HEAVY TRAFFIC/PLAY AREAS***

American Hydrosol is 98% hollow and has a compression rate of only 12% which maintains an oxygen level in the soil to keep it from compacting. Incorporating American Hydrosol into high traffic and play areas reduces compaction of the soil, improves drainage in those areas and promotes deeper root structure while enhancing the turf area. Golfers will notice a turf with bounce due to the constant supply of oxygen to the soil and elimination of hard and compacted areas reducing sports injuries and turf which seems to never repair itself.

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## **AMERICAN HYDROSOIL, FLOOD CONTROL AND MORE**

### **ADVANTAGES:**

1. Slows rain water from entering the storm drains.
2. Return rain water into the ground for future use.
3. Retains the rain water for 30 - 36 hours.
4. Retained water never gets to the storm sewers/under 2" rainfall.
5. The yard injected needs only 15 minutes of water a week during drought.
6. The yard is self watering most of the year.
7. Fewer grub worms, fire ants and other critters.
8. Harmless to pets and children.
9. Underground water does not breed mosquitoes.
10. Stops long term standing water anywhere, around play sets, water bibs and between houses.
11. Ideal for waterlogged playing fields.
12. Stabilizes muddy areas. Acrates permanently.
13. 100% Non-toxic.
14. Will last in place indefinitely.
15. Currently sold to golf courses and professional landscapers to eliminate water pooling and reduce watering needs and improve grass and plant health.

### **INSTALLATION FOR PROBLEM AREAS:**

Where there is water pooling, use a post hole digger or auger, dig from 18" to 2 or more feet and fill with American Hydrosoil. The standing water will be wicked down into the subsoil.

We hope that this will give you some idea of the uniqueness of this product.

For more information, email [jotive@organicdistributors.com](mailto:jotive@organicdistributors.com) or call us at one of the numbers listed below.



October 23, 1997

To whom it may concern:

\* Eco Dirt has been used by me John Teas to germinate tomato seed using little more water than the initial watering. \*Eco Dirt was used, down two and one half feet around one end of my home in Sharpstown to counteract the settling of the soil causing the foundation to settle. I noticed water soaking into the ground faster on that side than before.

The flower beds at my new home were made by incorporating \*Eco Dirt into the soil. I am a fourth generation nurseryman and believe I know how to water, but my wife and I had to learn to cut back on the watering in those areas.

We at Teas Nursery recommend and sell \*Eco Dirt to go into the soil of pot plants and hanging baskets to cut down on the frequency of watering.

Rose lovers who garden by raising their rose beds up two feet above the lawn level also use twice the normal amount of water. They find that \*Eco Dirt incorporated into the bed preparation cuts down on the water needed.

I would suggest that anywhere you have a moisture imbalance in the soil, \*Eco Dirt can help bring it into balance.

\* Eco Dirt has been re-branded as American HydroSoil



Nursery Locations

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