

Hortus IBA Water Soluble

Salts

Water Soluble to Over 100,000 ppm IBA

ROOTING SOLUTIONS MADE USING ORDINARY WATER



Rhizopon AA Water Soluble Tablets Pre-measured - Count and Mix

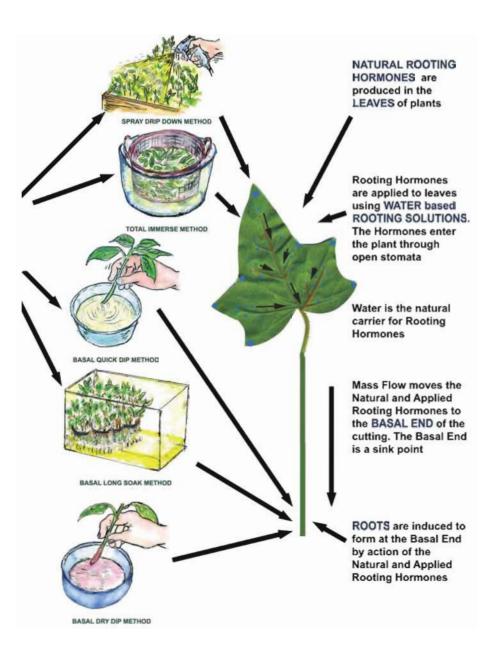


Rhizopon AA Dry Powder Rooting

Hormones

The Most Popular Concentrations

READY TO USE DRY POWDER ROOTING HORMONES



Methods to Propagate Plants from Cuttings

Cutting Types and Methods

USE ON TYPE OF CUTTINGS	Dry Dip	Spray Drip Down	Basal Quick Dip	Total Immerse	Basal Long Soak
LEAFY CUTTINGS Ornamental plants Herbaceous plants In the Growing Season	1	1	1		/
LEAFLESS CUTTINGS Ornamental plants Herbaceous plants All Year Including Winter Cuttings	1		1		1
• EASY-TO-ROOT • HARD-TO-ROOT In the Winter	1		1		1

Basal and Foliar Methods

METHOD		PRODUCT TYPE	PRODUCT	
BASAL METHODS	DRY DIP METHOD	Dry Dip Powder Dip basal end in rooting powder then stick. Powders stay on cuttings a long time.	RHIZOPON AA #1, #2 & #3 Dry Powder Rooting Hormones Use dry > not used to make rooting solutions	
	BASAL QUICK DIP METHOD	Rooting Solution Dip basal end in rooting solution then stick.	HORTUS IBA WATER SOLUBLE SALTS	
	BASAL LONG SOAK METHOD	Rooting Solution Dip basal end of cuttings in rooting solution about 12 to 48 hours (nominal) then stick.	OF RHIZOPON AA WATER SOLUBLE TABLETS	
FOLIAR METHODS	SPRAY DRIP DOWN METHOD	Rooting Solution Stick then spray leaves of cuttings with rooting solution until the solution drips down.	Use to make rooting solutions	
	TOTAL IMMERSE METHOD	Rooting Solution Totally immerse cuttings in rooting solution then stick.		

Using Rooting Solutions made with Hortus IBA Water Soluble Salts

PREPARING A ROOTING SOLUTION

- Weigh the required amount of Hortus IBA Water Soluble Salts. Measure by weight not volume (no scoops).
- Use tap water at about 65-90°F; measure less then the final volume of water. See page 16 for notes.
- Do not dissolve Hortus IBA Water Soluble Salts in liquids other than water.
- Mix: dissolve Hortus IBA Water Soluble Salts in water.
- Add water to the mixing container to bring the Rooting Solution to the final volume.
- Apply the solution by the selected method.
- After use, dispose of the solution as described in the 'Storage and Disposal' statements on the label. See page 55, inside back cover.

AVOID CROSS CONTAMINATION OF SOLUTIONS

- For the Total Immerse, Basal Quick Dip and Basal Long Soak Methods dispose of Rooting Solutions between plant lots to avoid cross contamination.
- Using the Spray Drip Down Method the Rooting Solution is used one time and there is no cross-contamination. Solutions can be used completely. See page 16 for notes.

STOCK SOLUTIONS

Hortus IBA Water Soluble Salts mixed in water to make stock Rooting Solutions can be made in any concentration up to 100,000 ppm IBA!

METRIC SYSTEM

Use the metric system when calculating the *ppm* IBA for Hortus IBA Water Soluble Salts Rooting Solutions. The system allows for easy calculation of liquid volume to concentration.

WETTING AGENTS

Rooting Solutions made with Hortus IBA Water Soluble Salts are specially formulated to have a low surface tension needed for foliar methods. Additional wetting agents are not recommended.

Rooting Solution Rate Chart: Hortus IBA Water Soluble Salts

To make 100 ppm IBA dissolve 0.5 grams in 1 liter water

Parts per million	Hortus IBA Water Soluble Salts			
IBA (ppm IBA)	gms/liter water	gms/gallon water (1 gal = 3.8 liter)		
50 ppm IBA	0.25 grams	.95 grams		
100	0.5	1.9		
200	1.0	3.8		
250	1.25	4.7		
300	1.5	5.7		
400	2.0	7.6		
500	2.5	9.5		
600	3.0	11.3		
700	3.5	13.2		
750	3.75	14.2		
800	4.0	15		
900	4.5	17		
1000	5.0	19		
1500	7.5	28.5		
2000	10.0	38		
2500	12.5	47		
5000	25.0	95		
10,000	50.0	190		
MAKE ANY RATE				
100,000	500	1900		

Using Rooting Solutions made with Rhizopon AA Water Soluble Tablets

- Count the required amount of Rhizopon AA Water Soluble Tablets as shown in the chart below. For example: to make 100 ppm IBA dissolve 2 Rhizopon AA Water Soluble Tablets in one liter of water.
- Use tap water at about 65-90F; The higher temperature improves ability of the Tablets to dissolve. Measure less then the final volume of water. Do not dissolve Rhizopon AA Water Soluble Tablets in liquids other than water. See page 16 for notes.
- Mix: dissolve Rhizopon AA Water Soluble Tablets in the water. A
 small amount of undissolved particles in the solution is normal and
 does not affect results. If precipitation occurs with tap water then
 dissolve in distilled, demineralized, or filtered water. Add water to
 the mixing container to bring the solution to the final volume.
- Apply the solution by the selected method.
- After use, dispose of the solution as described in the 'Storage and Disposal' statements on the label. See page 55, inside back cover (same as Hortus IBA Water Soluble Salts).
- Avoid cross contamination of solutions. For the Total Immerse
 Method and basal methods, dispose of solutions between plant lots
 to avoid cross contamination. Using the Spray Drip Down Method
 the solution is used one time and there is no cross-contamination.

Rooting Solution Rate Conversion Chart:

Parts per million	Rhizopon AA Water	Hortus IBA Water Soluble Salts		
IBA (ppm IBA)	Soluble Tablets per liter water	gms/liter water	gms/gallon water (1 gal = 3.8 liter)	
50 ppm	1 tablet	0.25 grams	0.95 grams	
100	2	0.5	1.9	
200	4	1.0	3.8	
300	6	1.5	5.7	
400	8	2.0	7.6	
500	10	2.5	9.5	
600	12	3.0	11.3	
700	14	3.5	13.2	
800	16	4.0	15	
900	18	4.5	17	
1,000	20	5.0	19	

Handling Dry Products & Rooting Solutions

STORAGE OF DRY PRODUCTS

- Rhizopon AA #1, #2 & #3 Dry Dip Rooting Hormones, Hortus IBA Water Soluble Salts and Rhizopon AA Water Soluble Tablets are provided dry. Store dry products at room temperature. They do not require refrigeration. The dry products will be fully active for many years.
- Hortus IBA Water Soluble Salts and Rhizopon AA Water Soluble Tablets are sensitive to humidity. Store them dry to avoid caking and difficulty to dissolve.
- Store the dry products in their original sealable containers with labels.

ROOTING SOLUTION WATER QUALITY

- Ordinary tap water usually used to make Rooting Solutions.
- If the Rooting Solution is clear, having a small amount of particles, then the active ingredient is in solution and ready to use.
- Hard, well or pond water may reduce solubility; in those cases use another source such as filtered or demineralized water.

AVOID CONTAMINATION OF SOLUTIONS

- The Spray Drip Down Method uses the Rooting Solution one time. The Rooting Solution cannot be contaminated by the dragging-in of organic materials. For storage see below.
- The Basal Quick Dip, Total Immerse, and Basal Long Soak Methods use the Rooting Solution by having the plant material dipped into them. To avoid cross-contamination, use fresh Rooting Solutions between production lots.
- Dispose the used Rooting Solutions at the end of the production day. Do not store used solutions.

DISPOSAL

 See page 55, inside back cover, same as Hortus IBA Water Soluble Salts.

STORAGE OF UN-USED ROOTING SOLUTIONS:

Stock and production Rooting Solutions made with Hortus IBA Water Soluble Salts and Rhizopon AA Water Soluble Tablets maintain full potency for several days when kept in a closed container, at room temperature, and normal light.

For safety, label the Rooting Solution container.