

# Trial Rates: Foliar Methods

## Total Immerse Method

## Spray Drip Down Method

A wide solution trial rate range is indicated for the Total Immerse and Spray Drip Down Methods. Your ideal rates will vary according to specific plant variety, season, quality of the cuttings, and local growing conditions. Prior to large scale production, test a few plants at several rates within the range. If foliar application causes phytotoxicity, try basal applications and/or decrease rates. Use the lowest rate to produce the desired effect.

### TYPICAL SPRAY LIQUID USE

**Spray Drip Down Method: 175-225 sq. ft./gallon**

Trial rates are *ppm* IBA using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets (see conversion chart pg.15)

CUTTING TYPES	Hortus IBA Water Soluble Salts ( <i>ppm</i> IBA)
Annuals, perennials, chrysanthemum	80-250
Herbaceous and hard to root perennial plant cuttings	250-1500
Woody ornamental cuttings	300-1500



Plant cuttings vary in quality. Trial rates shown are from specific lots under the grower's particular facility and environmental controls. Your growing facility and plant lots are different; always perform your own trials for your plants and facility.

## Trial Rates: Woody Ornamental Plants Propagated by Spray Drip Down or Total Immerse Methods

Trial rates are *ppm* IBA using Hortus IBA Water Soluble Salts  
or Rhizonon AA Water Soluble Tablets (see conversion chart pg.15)

Acer	1000-1500	Rhus	500-750
Cotoneaster	500-750	Spirea, Japonica	500-750
Diervilla, paniculata	500-750	Syringa	500-750
Hydrangea	500-750	Thuja	1500-2000
Juniperus, horizontalis	1000-1500	Viburnum	1000-1500
Physocarpus, opulifolius	1000-1500	Weigela	1000-1500
Rosa, varieties	1000-1500		

## Trial Rates: Annual Plants Propagated by Spray Drip Down or Total Immerse Methods

Trial rates are *ppm* IBA using Hortus IBA Water Soluble Salts  
or Rhizonon AA Water Soluble Tablets (see conversion chart pg.15)

Pelargonium geranium		Petunia sp.	150-200
sp. like "Balcon"	50-100	some colors	200-300
zonale	200-300	Osteospermum	150-200
peltatum	300-400	Verbena	200-300
Impatient New Guinea	15-50	Poinsettia	25-100
Fuchsia	15-50		



# Trial Rates: Perennial Plants Propagated by Spray Drip Down or Total Immerse Methods

Trial rates are *ppm* IBA using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets (see conversion chart pg.15)

Abutilon	750	Erodium		Origanum	500-750
Achillea	up to 1000	Dark Eyes	750	Paxistima	1000
Actinidia Arctic Beauty	1000	Erysimum	750	Penstemon	500
Ajuga	up to 1000	Escallonia Comp	500	Persicaria	up to 1000
Amsonia	1500	Eupatorium	500	Phlox	1000
Anisodonteia Tara's		Euphorbia	1000	Phygelius	750
Pink	750	Gaillardia	500	Poinsettia	500-1000
Antennaria	up to 750	Galium		Polemonium	
Anthemis	1000	SweetWoodruff	1500	Bressingham purple	
Arabis Variegata	500	Geranium	1000		1000
Arctostaphylos	500	Geum Rivale	1000	Prunella Loveli.	750
Armeria	1000	Gypsophila		Rosmarinus	500
Artemisia	up to 500	Viette'sDwrf	1000	Rudbeckia	750
Baptisia	3500	Hedera	1000	Ruellia	1000
Basil Kasar	500	Helenium	500	Salvia	500-1000
Buddleia	1000	Helianthemum	2000	Santolina	500
Calamintha Var.	500	Helianthus	1000	Saponaria	1000
Callicarpa	500	Helichrysum	500-1000	Saxifraga	750
Campanula	500-1000	Heliopsis	1000	Scabiosa	1000
Caryopteris	1000	Hypericum	1000	Silene	500
Ceanothus	500	Hyssop PinkDel.	500	Solly Boddy'sCh.	750
Ceratostigma	1500	Iberis	1000	Spilanthes	500
Chrysanthemum		Itea Little Henry	1000	Spiraea	1000
	500-1000	Kerria	1000	Spiraea Gold Flame,	
Chrysogonum	750	Lamiastrum		Magic Carpet, Neon	
Cistus	750	Herman Pride	1000	Flash	4000
Clematis	1000	Lamium	up to 1000	Stachys	1000
Clethra	1000	Lavandula	1000	Stevia	
Coleonema	750	Leptospermum	500	rebaudiana	500
Convolvulus	750	Linaria	500	Teucrium	1000
Coreopsis	500-1000	Lithodora	2000	Verbascum	1000
Correa	500	Lonicera	1000	Verbena	750
Cosmos	1000	Lychnis	1000	Vinca	1000
Cotoneaster		Marjoram		Viola	1500
Coral Beauty	500	Compactum	500	Vitex	1000
Delosperma	1000	Melissa	up to 500	Waldsteinia	1000
Erigeron	750-1000	Mentha	500	Weigela	1000
		Nepeta	500	Westringia	750
		Oenanthe	500		

# Trial Rates: Basal Quick Dip Method

**Make Rooting Solutions using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets. Use the trial rate charts as a starting point.**

Use on cuttings in the growing season and winter dormant cuttings.

- Immerse basal end of cuttings approximately 1" in Rooting Solution a few seconds.
- Stick immediately or store.

**Trial rates are ppm IBA using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets (see conversion chart pg.15)**

CUTTING TYPES	Hortus IBA Water Soluble Salts (ppm IBA)
Annuals, soft perennial, tender cuttings from ornamental plants, tropical house plants	80-200
Herbaceous, perennials, pot rose cuttings	150-1500
Difficult to root herbaceous, perennials, tropical house plant cuttings	500-1500
Softwood cuttings	500-1500
Hardwood cuttings	500-2000
Difficult to root hardwood cuttings <b>SEE THE NOTE BELOW</b>	2000-10,000

**Some cuttings are hard-to-root.** This may be caused by the condition of the cuttings, the maturity of the cuttings, or the timing when cuttings are taken. Some growers *'think'* the answer is to use a high rooting hormones rate. They usually get *in-consistent rooting or no roots at all.*

**A better answer** is to use the Basal Long Soak Method. Even though low rates are used, the cuttings have more Rooting Hormone stored at the basal end so that rooting is successful.

# Trial Rates: Basal Long Soak Method

**Make Rooting Solutions using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets. Use the trial rate charts as a starting point.**

Use on cuttings in the growing season and winter dormant cuttings.

- Immerse basal end of cuttings approximately 1" in Rooting Solution for 12 to 48 hours.
- Stick immediately or store.

**Trial rates are ppm IBA using Hortus IBA Water Soluble Salts or Rhizopon AA Water Soluble Tablets (see conversion chart pg.15)**

CUTTING TYPES	Hortus IBA Water Soluble Salts (ppm IBA)
Hard to root annuals and perennials	25-100
Herbaceous cuttings	50-200
Woody ornamental cuttings, grape, roses	50-400

**Typical annual, perennial and other herbaceous plants using the Basal Long Soak Method**

Aeonium	Dahlia	Heliotropism
Araucaria	Delphinium	Hydrangea
(Norfolk Island pine)	Dracaena	Phaseolus
Aster	Dipladenia	Pittosporum
Azalea	Gypsophila	Rosa (rose)
Cryptomeria (J. cedar)	(baby's breath)	Trachelium
Cupressus (cypress)	Hedera (ivy)	(throatwort)

## Typical hardwood and softwood, difficult to root cuttings using the Basal Long Soak Method

Apple (malus) rootstocks	Elaeagnus	Pseudotsuga (Douglas fir)
Aralia	Ficus (fig)	Rhododendron
Barberry	Forsythia	Ribes (currant)
Callicarpa	Halesia (silverbell)	Robinia (false aralia)
Calocedrus	Holodiscus	Salix (willow)
Carpinus (hornbeam)	Juniper	Redwood, coastal
Cephalotaxus (J. plum yew)	Metasequoia (sequoia)	Taxus (yew)
Centaurea (knapweed)	Nerium (oleander)	Thea (tea)
Chaenomeles (J. flowering quince)	Olive	Theobroma (cacao)
Citrus	Philadelphus (mock orange)	Thuja
Corylus (hazel)	Physocarpus (ninebark)	Thujopsis
Cryptomeria (J. cedar)	Picea (spruce)	Torreya
Cupressocyparis (Leyland Cypress)	Populus (poplar)	Tsuga (hemlock)
Cytisus (broom)	Potentilla (cinfoil)	Ulmus (elm)
Derris (rubber)	Prunus (peach rootstocks)	Viburnum
		Vitis (grape)
		Weigela
		Wisteria



Stock plant house in Holland

## Trial Rates: Dry Dip Method



### Rhizopon® AA #1

Active ingredient 0.1% IBA

**Pink Color Powder**

Use on easy to root cuttings.

### Rhizopon® AA #2

Active ingredient 0.3% IBA

**Green Color Powder**

An intermediate all purpose product.

Use on easy to more difficult to root cuttings

### Rhizopon® AA #3

Active ingredient 0.8% IBA

**White Color Powder**

Use on more difficult to root cuttings

*Rhizopon AA #1, #2 and #3 Dry Dip Rooting Hormones are not used to make Rooting Solutions.*

## SELECT THE RHIZOPON AA ROOTING POWDER FOR MANY TYPES OF PLANT CUTTINGS

SEASON	CUTTING TYPE	Rhizopon AA Dry Powder
In the growing season	Leafy cuttings: annuals	#1 or #2
	Leafy cuttings: perennials	#1, #2, or #3
	Leafy cuttings: woody ornamental and forestry	#2 or #3
All year	Tropical plants	#1 or #2
	Annuals	#1 or #2
	Perennials	#1, #2, or #3
	Woody ornamental and forestry plants	#2 or #3
Winter dormant cuttings	Woody ornamental and forestry plants	#2 or #3
All year	Hard to root cuttings	#2 or #3

# Trial Rates for plants propagated by the Dry Dip Method using Rhizopon AA #1, #2 and #3

**After the plant name is the product number for Rhizopon AA #1, #2 and #3 Dry Dip rooting hormones.**

Various rates may be used for species dependent upon the variety, time of the year, condition of the stock plants, facility, environmental factors, and other variables.

*Rhizopon AA #1, #2 and #3 Dry Dip Rooting Hormones are not used to make Rooting Solutions.*

Abelia	#1	Chrysanthemum	#2	Fuchsia	#1
Acanthopanax	#3	Cinquefoil	#2	Gardenia	#1, #2 or #3
African Violet	#1	Clematis	#2 or #3	Geranium	#1
Ageratum	#1	Clerodendron	#1	Germander	#2 or #3
Andromeda	#1	Clockvine	#1	Ginkgo	#2
Apple, Malus	#2 or #3	Coleus	#1	Golden Chain	#2
Arborvitae	#2 or #3	Cotoneaster	#3	Grape	#3
Arbutus	#3	Crab Apple	#2 or #3	Hawthorn	#3
Ardisia	#2	Cape Myrtle	#1	Hazelnut	#1 or #2
Azalea var		Crassula	#1	Heath	#3
	#1, #2 or #3	Creeper	#1	Heather	#3
Barberry	#1	Croton	#1	Hemlock	#2 or #3
Bayberry	#1	Cryptomeria	#3	Hibiscus	#2 or #3
Beauty Bush	#3	Currant	#1	Holly, Japanese	#2
Beauty Berry	#1	Dahlia	#2	Holly, American	#3
Beech	#2	Daphne	#1 or #2	Honeysuckle	#2
Begonia	#1	Deutzia	#1	Hydrangea	#2
Birch	#3	Dew Berry	#1	Jetbead	#1
Bittersweet	#3	Dogwood	#3	Juniper var.	#2 or #3
Blackberry	#1	Douglas Fir	#3	Kerria	#1
Bluebeard	#1	Dove Tree	#1	Knotwood	#3
Blueberry	#1 or #2	Dracaena	#1	Laburnocytisus	
Bougainvillea	#3	Dutchman's Pipe	#1		#1 or #2
Boxwood	#3	Elder	#1 or #2	Lantana	#1
Broom	#1 or #2	Escallonia	#2	Laurel	#3
Butterfly Bush	#1	False Arborvitae	#2	Lavender	#2
Camellia	#3	Firethorne	#1 or #2	Leucothoe	#2
Candytuft	#1	Flowering Cherry	#1	Lilac	#3
Carnation	#3	Flowering Quince	#3	Lily Scales	#1 or #2
Catalpa	#3	Fontanesia	#1	Linden	#1
Chaste Tree	#3	Forsythia	#1	Locust	#3
Chestnut	#3	Franklinia	#2	Magnolia	#2 or #3
Chokeberry	#2 or #3	Fringe Tree	#2	Manzanita	#3



Maple, Japanese	#3	Philodendron	#1	Springscent	#2
Matrimony Vine	#3	Phlox	#1	Spruce var.	#2
Melastoma	#1	Photinia	#3	St. Johnswort	#1
Mock Orange	#1	Pine var.	#2 or #3	Stevia	#1
Mulberry	#1	Poinsettia	#1	Stewartia	#1
Ninebark	#3	Poplar	#1	Sweet Leaf	#1
Norway Spruce	#1	Prickly Pear Cactus	#1	Trumpet Creeper	#1
Oak	#3	Privet	#3	Tulip Tree	#3
Oleander	#2	Raspberry	#1	Umbrella Pine	#3
Olive	#3	Retinospora	#3	Verbena	#1
Orange, sour	#3	Rhododendron var.	#3	Viburnum	#1
Orixa	#1	Rose	#1, #2 or #3	Waxmyrtle	#1
Osage Orange	#1	Russian Olive	#3	Weigela	#1
Osmanthus	#2	Sage	#1	Willow	#1
Pachysandra	#2 or #3	Sequoia	#2	Wintergreen	#2
Pea Shrub	#1	Snapdragon	#1	Wisteria	#2
Pear rootstocks	#3	Snow Berry	#1	Witch Hazel	#2
Pecan	#3	Sourwood	#3	Yellow Wood	#2
Penstemon	#1	Speedwell	#1	Yew var.	#3
Periwinkle	#2	Spiraea	#1	Zelkova	#2
Petunia	#2 or #3				



# Trial Rates using Rhizopon AA Water Soluble Tablets

To make Rooting Solutions using Rhizopon AA Water Soluble Tablets simply count the tablets and mix in water.

- Mix into ordinary water. Rhizopon AA Water Soluble Tablets are water soluble to 20 tablets/liter (1000 ppm IBA).
- Rhizopon AA Water Soluble Tablets are useful when a scale is not available to measure, and to mix small amounts of Rooting Solution.
- Use the Rooting Solutions by the foliar and basal methods shown in this book.

## Trial rates are using Rhizopon AA Water Soluble Tablets

Hortus IBA Water Soluble Salts can be used in all cases where Rhizopon AA Water Soluble Tablets are used. To use Hortus IBA Water Soluble Salts see conversion chart pg. 15.

<b>BASAL LONG SOAK METHOD</b>	<b>TABLETS/liter</b>
Hard to root annual and perennial cuttings	1/2-2
Herbaceous cuttings	1-4
Woody ornamental cuttings, grapes, roses	2-8

<b>QUICK DIP METHOD</b>	<b>TABLETS/liter</b>
Annual, perennial, tropical plants, chrysanthemums	1-4
Herbaceous, perennials, pot roses cuttings	3-10
Softwood, hardwood cuttings. More difficult to root herbaceous, perennial, tropical house plant cuttings	10-20

<b>TOTAL IMMERSSE &amp; SPRAY DRIP DOWN METHODS</b>	<b>TABLETS/liter</b>
Annual, perennial, tropical plants, chrysanthemums	1-5
Herbaceous and hard-to-root perennial cuttings	5-20
Woody ornamental cuttings	10-20