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# **A-REST\* SG Plant Growth Regulator Seed Treatment**

Soluble granules

## **NOT FOR SALE OR USE IN CANADA**

For use only by the Ball Horticultural Company  
For height control in container-grown ornamental plants including foliage and bedding plants grown in a greenhouse.

## **COMMERCIAL**

**READ THE LABEL BEFORE USING  
KEEP OUT OF REACH OF CHILDREN**

**ACTIVE INGREDIENT: ancymidol.....99.6%**

**REGISTRATION NO. 28968 PEST CONTROL PRODUCTS ACT**

**NET CONTENTS: 11 Kg**

**WARNING (Inverse triangle, Skull and Cross-bone symbol)**  
**Causes substantial, but temporary eye irritation. May cause skin irritation. Harmful if swallowed or inhaled.**

**SePRO Corporation  
11550 North Meridian Street – Suite 600  
Carmel, IN, USA 46032-4565  
(317) 580-8282**

**PRECAUTIONS:**

KEEP OUT OF REACH OF CHILDREN. Avoid contact with skin, eyes or clothing. Avoid breathing dust, vapor or mist spray. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instruction for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**FIRST AID:**

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**If swallowed**, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. **If on skin or clothing**, take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. **If inhaled**, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**If in eyes**, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

**STORAGE:**

Keep in original container during storage. Store product in a cool, dry, well-ventilated place away from seed, feed, fertilizer and other pesticides. In case of leak or spill, use absorbent materials to contain liquids and dispose of wastes. Do not contaminate water, food or feed by storage, by cleaning of equipment or disposal of wastes.

**DISPOSAL:**

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

In case of emergency endangering health or the environment involving this product, call INFOTRAC at 1-800-5355053.

**ENVIRONMENTAL PRECAUTIONS** DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

**TOXIC** to aquatic plants.

## **DIRECTIONS FOR USE**

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your region, consult the agency responsible for pesticide regulation.

## **GENERAL INFORMATION**

A-Rest SG Plant Growth Regulator Seed Treatment is to be applied only by the Ball Horticultural Company. A-Rest SG Plant Growth Regulator Seed Treatment is for use as a seed treatment on ornamental plants only to be mechanically sown in containers in greenhouses. Do not apply A-Rest SG Plant Growth Regulator Seed Treatment to plant seeds of any plant that may be used as food or feed. Use of A-Rest SG Plant Growth Regulator Seed Treatment treated seed effectively reduces internode elongation, resulting in a more desirable compact plant. Growth regulation effects produced by A-Rest SG Plant Growth Regulator Seed Treatment are the result of inhibition of gibberellin biosynthesis.

### **FACTORS AFFECTING PLANT RESPONSE TO A-Rest SG Plant Growth Regulator Seed Treatment**

There are many factors that can affect a plant's response to seed treatment with A-Rest SG Plant Growth Regulator Seed Treatment. They include proper application, environmental conditions, plant/container size and cultural practices after sowing treated seed. These factors can affect the amount of A-Rest SG Plant Growth Regulator Seed Treatment that is required to be applied to seed for the desired plant height.

**CULTURAL PRACTICES** may affect the plant's response to seed treatment by A-Rest SG Plant Growth Regulator Seed Treatment. Plants which are grown at close spacing or in small pots and using high water and fertility levels may not respond to seed treatment by A-Rest SG Plant Growth Regulator Seed Treatment.

**DIFFERENT SEED LOTS, VARIETIES OR CULTIVARS** within a given plant species may require a higher or lower rate of A-Rest SG Plant Growth Regulator Seed Treatment. Seed lots within the same variety will vary in their response to treatment by A-Rest SG Plant Growth Regulator Seed Treatment. Seed lots, which are naturally more vigorous and/or varieties that are taller and more vigorous generally require a higher treatment rate of A-Rest SG Plant Growth Regulator Seed Treatment than do the naturally short, less vigorous varieties.

**TEMPERATURE** can be the overriding factor in determining the response to seed treatment by A-Rest SG Plant Growth Regulator Seed Treatment. Stem elongation increases with increased temperatures.

### **MIXING INSTRUCTIONS**

Be sure the seed treating equipment is clean and not contaminated with any material. A-Rest SG Plant Growth Regulator Seed Treatment can be added to solutions used for priming seed, or to liquid or powder components used to coat or pellet ornamental plant seeds

### **Stock Solution Preparation and Use**

Prepare an A-REST Stock Solution using a standard laboratory fume hood with workers wearing protective hand and eyewear. Dissolve A-REST SG Plant Growth Regulator Seed Treatment in a minimum volume of ethanol and then dilute it with water to prepare a stock solution of 264 ppm. This A-REST Stock Solution is used for all subsequent applications.

### **Priming Applications**

A-REST Stock Solution (264 ppm) should be diluted with aqueous osmotic solutions to a maximum concentration of 100 ppm. This solution is then used to wet filter paper at an appropriate volume to apply

according to application rates in Table 1, on which seeds are placed. Seeds on filter paper should be placed in controlled environments for various periods of time. Remove treated/primed seed from the filter paper and then rinse and dry.

### **Coating Applications**

For seed coating, A-REST Stock solution (264 ppm) is diluted with aqueous binder solutions and suspended fillers to a maximum concentration of 100 ppm. This suspension is applied at an appropriate volume to apply according to application rates in Table 1 to ornamental plant seeds in either a side-vented pan or fluidized bed. In both cases, the heated air used to dry the seed during the coating process should pass through a dust collection system.

### **Pelleting Applications**

For seed pelleting, A-REST Stock solution (264 ppm) is diluted with aqueous binder solutions to a maximum concentration of 100 ppm and sprayed on seed at an appropriate volume to apply according to application rates in Table 1 during the pelleting process in a rotating pan. Workers should use protective eyewear and dust masks. A vacuum system should be used throughout the process with an inlet positioned in the pan opening to capture stray dust and atomized spray. Air collected with the vacuum system should then pass through a dust collection system.

### **APPLICATION TECHNIQUES**

Plants absorb A-Rest SG Plant Growth Regulator Seed Treatment directly through seed coats, germinating seed, or through roots. Optimal treatment techniques may vary from species to species.

### **PRIMING APPLICATIONS**

A-Rest SG Plant Growth Regulator Seed Treatment can be introduced to ornamental plant seed by absorption during priming. When applying during seed priming, the following should be noted:

- Use of high application rates may adversely affect germination.
- Refer to the DISPOSAL section for disposing of priming solutions.

### **COATING OR PELLETING APPLICATIONS**

A-Rest SG Plant Growth Regulator Seed Treatment can be introduced to ornamental plant seed by adhering to seed in a coat or pellet. Once sown, A-Rest SG Plant Growth Regulator Seed Treatment is absorbed by the germinating seedling and/or roots. When applying during coating or pelleting, the following should be noted:

- Use of high application rates may adversely affect germination.
- A-Rest SG Plant Growth Regulator Seed Treatment may be added to either powder or liquid components of coatings or pellets.
- Refer to the DISPOSAL section for disposing of remaining components containing A-Rest SG Plant Growth Regulator Seed Treatment.

### **DETERMINING OPTIMUM RATES**

The amount of A-Rest SG Plant Growth Regulator Seed Treatment required for an optimum growth response will vary among growers and will depend upon several factors: the final desired height, length of control desired, pot size, stage of growth, method of application, season, varietal, and seed lot response. Species-specific cultural practices such as watering, potting media, fertilization and temperature and light conditions will also affect the growth response to a given dosage. Therefore, prior to applying A-Rest SG Plant Growth Regulator Seed Treatment to seeds, specific application rates should be established based on small-scale treatments under actual use conditions and keep records as to plant species and variety sensitivity before A-Rest SG Plant Growth Regulator Seed Treatment is applied to a large quantity of seeds. **The rates recommended on this label are rate ranges and should be used as a guideline. Do not exceed the maximum rates outlined in Table 1. For plant species listed on the label, the user should run initial trials using the lowest recommended rates. For plant species not specifically listed on the label, the user should run initial trials on a small quantity of seed using**

**the guideline rates in Table 1.** The maximum rate, which may be applied to any crop is 5 mg active ingredient per 1000 seeds.

**Table 1: GENERAL GUIDELINES RATES BY ORNAMENTAL PLANT TYPE**

Plant Type	Mg Active Ingredient per 1000 Seeds
Ornamental Bedding Plants*	0.05-0.6**
Ornamental Millet*	0.5-5.0**

\*\*Application rate per 1000 seeds will vary with seed species, type, and size.

\*Includes Ornamental Plants, such as:

ABUTILON	CLEOME	HIERACIUM	PLECTRANTHUS
ACAENA	COBAEA	HYPERICUM	PLUMBAGO
ACANTHUS	COLEUS	HYPOESTES	POLEMONIUM
ACHILLEA	CORDYLINE	IBERIS	POLYGONUM
ACONITUM	COREOPSIS	IMPATIENS	PORTULACA
ACROCLINIUM	CORONILLA	INCARVILLEA	POTENTILLA
AGAPANTHUS	COSMOS	INULA	PRIMULA
AGASTACHE	CRAMBE	IREGINE	PRUNELLA
AGERATUM	CRAPE MYRTLE	ISOTOMA	PULSATILLA
AGROSTEMMA	CRASPIDIA	JACARANDA	PUNICA
AJUGA	CROSSANDRA	JASIONE	PYRETHRUM
ALCEA	CRUCIANELLA	KALANCHOE	RADERMACHERA
ALCHEMILLA	CUPHEA	KNAUTIA	RANUNCULUS
ALSTROEMERIA	CYCLAMEN	KNIPHOFIA	RATIBIDA
ALTERNANTHERA	CYMBALARIA	KOCHIA	RESEDA
ALYSSUM	DAHLBERG DAISY	KOHLRABI	RHEUM
AMARANTHUS	DAHLIA	LAMARCKIA	RHODANTHE
AMBROSINIA	DANDELION	LARKSPUR	RHODOCHITON
AMMI	DATURA	LATHYRUS	RICINUS
AMMOBIUM	DELPHINIUM	LAURENTIA	RODGERSIA
ANACYCLUS	DIANTHUS	LAVANDULA	ROSA
ANAGALLIS	DIASCIA	LAVATERA	RUDBECKIA
ANAPHALIS	DICENTRA	LAYIA	SAGINA
ANCHUSA	DICHONDRA	LEONTOPODIUM	SALPIGLOSSIS
ANEMONE	DIDISCUS	LEPIDIUM	SALVIA
ANGELONIA	DIGITALIS	LEUCANTHEMUM	SANTOLINA
ANTENNARIA	DIMORPHOTHECA	LEWISIA	SANVITALIA
ANTHEMIS	DOLICHOS	LIATRIS	SAPONARIA
ANTIRRHINUM	DORONICUM	LIGULARIA	SAXIFRAGA
AQUILEGIA	DRABA	LILY	SCABIOSA
ARABIS	DRACAENA	LINARIA	SCHEFFLERA
ARALIA	ECCREMOCARPUS	LINUM	SCHIZANTHUS
ARCTOTIS	ECHEVERIA	LISIANTHUS	SCORZONERA
ARENARIA	ECHINACEA	LOBELIA	SCUTELLARIA
ARMERIA	ECHINOPS	LONAS	SEDUM
ARNICA	EMILIA	LUNARIA	SEMPERVIVUM
ARTEMISIA	EREMURUS	LUPIN	SETARIA
ARUNCUS	ERIGERON	LYCHNIS	SIDALCEA
ASARINA	ERINUS	LYSIMACHIA	SILENE
ASCLEPIAS	ERODIUM	LYTHRUM	SISYRINCHIUM
ASPHODELINE	ERYNGIUM	MALVA	SNAPDRAGON
ASTER	ERYSIMUM	MARIGOLD	SOLIDAGO

ASTILBE	ESCHSCHOLZIA	MATRICARIA	SPILANTHES
ASTRANTIA	EUCALYPTUS	MATTHIOLA	STACHYS
ATRIPLEX	EUPATORIUM	MECONOPSIS	STATICE
AUBRIETA	EUPHORBIA	MELAMPODIUM	STOCK
BALSAM	EXACUM	MESEMBRYANTHEMUM	STOKESIA
BAPTISIA	FELICIA	MIMOSA	STRAWFLOWER
BEGONIA	FLOWERING CABBAGE	MIMULUS	STRELITZIA
BELAMCANDA	FLOWERING KALE	MINA	STREPTOCARPUS
BELLIS	FREESIA	MIRABILIS	SUNFLOWER
BERGENIA	FUCHSIA	MOLUCCELLA	SWEET PEA
BIDENS	GAILLARDIA	MONARDA	SWEET WILLIAM
BRACHYCOME	GALIUM	MONSTERA	SWISS CHARD
BROOM	GAURA	MYOSOTIS	TAGETES
BROWALLIA	GAZANIA	NASTURTIUM	TALINUM
BUPHTALMUM	GENTIANA	NEMESIA	TELOXYS
BUPLEURUM	GERANIUM	NICANDRA	TETRAGONIA
CALANDRINIA	GERBERA	NIEREMBERGIA	TEUCRIUM
CALCEOLARIA	GESNERIA	NIGELLA	THALICTRUM
CALENDULA	GEUM	NOLANA	THUNBERGIA
CALLA	GLOXINIA	OENOTHERA	THYMOPHYLLA
CAMPANULA	GODETIA	ORNAMENTAL GRASSES	TIARELLA
CANNA	GOMPHRENA	ORNAMENTAL NICOTIANA	TITHONIA
CARDIOSPERMUM	GREVILLEA	OSTEOSPERMUM	TORENIA
CARLINA	GUNNERA	OXYPETALUM	TRACHELIUM
CARNATION	GYPSOPHILA	PANSY	TROLLIUS
CARTHAMUS	HELENIUM	PAPAVER	TUNICA
CATANANCHE	HELIANTHEMUM	PASSIFLORA	VALERIANELLA
CELOSIA	HELIANTHUS	PENSTEMON	VERBASCUM
CENTAUREA	HELICHRYSUM	PENTAS	VERBENA
CENTRANTHUS	HELIOPSIS	PERILLA	VERONICA
CERASTIUM	HELIOTROPE	PETUNIA	VINCA
CERINTHE	HELIPTERUM	PHILODENDRON	VIOLA
CHAENORRHINUM	HELLEBORUS	PHLOX	WAHLENBERGIA
CHEIRANTHUS	HEMEROCALLIS	PHOENIX	WALLFLOWER
CHRYSANTHEMUM	HERNIARIA	PHYSALIS	XERANTHEMUM
CINERARIA	HESPERIS	PHYSOSTEGIA	YUCCA
CIRSIUM	HEUCHERA	PIMPRENELLE	ZINNIA
CLARKIA	HIBISCUS	PLATYCODON	

#### **USE AND RATE RECOMMENDATIONS BY ORNAMENTAL CROP**

A-Rest SG Plant Growth Regulator Seed Treatment is effective in controlling the height of most ornamental crops. The use and rate recommendations for the species that follow should act as a starting point in determining the best rate for the specific cultural and environmental growing conditions. Before applying A-Rest SG Plant Growth Regulator Seed Treatment to a large quantity of seed, be sure to read and understand the section titled **Determining Optimum Rates**.

#### **ORNAMENTAL BEDDING PLANT PLUGS**

Seed treatment with A-Rest SG Plant Growth Regulator Seed Treatment is effective in controlling the height of bedding plant plugs. The optimum rate for the species grown under the cultural and environmental conditions should be determined by running trials on a small amount of seed prior to use as a general practice.

**ORNAMENTAL FLOWERING PLANTS/ORNAMENTAL FOLIAGE PLANTS**

Seed treatment with A-Rest SG Plant Growth Regulator Seed Treatment is effective in controlling the height of many flowering and foliage plants. The optimum rate for the species grown under the cultural and environmental conditions should be determined by running trials on a small amount of seed prior to use as a general practice.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.