



# ASCEND<sup>1</sup>™ NTC

Nursery and Turf Concentrate VA Mycorrhizal Soil and Root Inoculant<sup>2</sup>  
Auxiliary Soil and Plant Substance, Biotic

**READ ENTIRE CONTAINER LABEL BEFORE USING THIS PRODUCT**

### STATEMENT OF COMPOSITION:

Glomus intraradices.....2.00 propagules/cc

“NONPLANT FOOD INGREDIENT”

NET WEIGHT: 8.39 lb./gal. (1.00 kg/l)

### GENERAL INFORMATION

First Choice Ascend™ NTC is a Vesicular-Arbuscular Mycorrhizal soil inoculant for use in deficient soil conditions, such as artificial or sterile growth media, soils that have been flooded or fallowed for extended periods, solarized, fumigated, and pasteurized sterile media. First Choice Ascend™ NTC can also be used following applications of soil pesticides that reduce VAM populations. First Choice Ascend™ NTC can also be used following applications of soil pesticides that reduce VAM populations. First Choice Ascend™ NTC is labeled for use in greenhouse, nursery, ornamental, vineyard, orchards, and turf applications; excluding treatment of ecto-endo and ericoidal Mycorrhiza plant families. First Choice Ascend™ NTC can be applied prior to planting, at planting, or during the growing season. Do not apply First Choice Ascend™ NTC prior to soil sterilization. To achieve best results, this product should be used in an integrated management program and early in the plant's development.

### MIXING INSTRUCTIONS

First Choice Ascend™ NTC is not ready for use until First Choice Ascend™ NTC and First Choice Ascend™ Dry Concentrate (DC) are mixed. Your packet of First Choice Ascend™ DC is attached to this container and has further mixing instructions. Mixing should take place just prior to application, and at the quantity to be used. Combine ingredients at the concentrations specified by the First Choice Ascend™ DC label and shake, stir or agitate for five minutes before use. First Choice Ascend™ NTC is ready for use after mixing and when the liquid has turned green in color. *Do not use First Choice Ascend™ NTC if liquid is not green in color.*

First Choice Ascend™ NTC is compatible with a wide range of soil applied fertilizers. To assure compatibility of First Choice Ascend™ NTC with new fertilizers and other soil conditioners, pour the components into a small container in the correct proportions. After a thorough mixing, let stand for 5 minutes. If the combination remains mixed, or can be readily remixed, the mixture is compatible. The following are a short list of incompatibilities: Maintain a pH between 6-8 by avoiding strongly acidic/basic conditions and biocides such as chlorine, free ammonia and some fungicides. Do not mix with Aqueous Ammonia, Sulfuric Acid, Urea Sulfuric Acid, Phosphoric Acid, Soil Fumigants or Soil Fungicides. When using First Choice Ascend™ NTC following pesticide and fumigant treatments make applications after the toxicant has dissipated (Refer to pesticide label for guidelines). There are, at the time of this printing, no other known incompatibilities.

### HANDLING

Follow appropriate general safety procedures. In case of accidental exposure, flush with plenty of water. Refer to Material Safety Data Sheet for additional information.

### SHAKE, STIR OR AGITATE BEFORE USE.

When handled in bulk quantities, storage in a cone-bottomed tank is recommended to facilitate agitation. When stored in a cone-bottomed tank, agitate 10 minutes prior to use. When stored in a flat-bottomed tank, agitate 1 hour before use. Avoid air blast agitation as foaming may result. If foaming does occur through normal agitation, use an approved agriculture grade defoamer. Agitation is recommended once every month. Storage past the expiration date is not recommended.

### APPLYING FIRST CHOICE ASCEND™ NTC

First choice Ascend™ NTC is designed for use as a Vesicular-Arbuscular Mycorrhizal soil and root inoculant for deficient soils. Apply First Choice Ascend™ NTC in close proximity to the seed and newly developing root system. First Choice Ascend™ NTC can be applied via seedline shank injection, drip chemigation, subsoil drip line chemigation, drenching, mixing in the transplant water or using a soil covering method, or in the media preparation.

**Soil Moisture:** Application should be made under “good seedbed conditions”. This includes thorough cultivation of the soil and pre-irrigation to 50 to 75% soil moisture conditions. Soil moisture can be estimated by squeezing a handful of soil into a ball. Of the ball holds its shape and then easily breaks up, moisture is sufficient.

**Environmental Factors:** First Choice Ascend™ NTC may affect crop nutrient response through increased root surface area, caution should be applied using a subterranean technique or in sufficient water to move the product off the soil surface and into the plant root zone. To get the optimum results from First Choice Ascend™ NTC apply when the soil is between 50 and 100 degrees Fahrenheit.

**Note:** The use of First Choice Ascend™ NTC may affect crop nutrient response through increased root surface area, caution should be exercised when applying First Choice Ascend™ NTC with fertilizers to prevent “fertilizer salt” induced phytotoxicity. Where fertilizer salts are the combination of Nitrogen, Potassium and metal salts, do not exceed 5 lb. of total salt on the seedline and/or 10 lb. of salt per inch away from the seedline and roots. Where warranted, adjust fertilizer rates and replace with a maximum of a 1:1 ratio of up to 15 gallons of First Choice Ascend™ NTC/acre/application.

### GENERAL RATE DETERMINATION GUIDELINES:

#### GENERAL APPLICATION GUIDELINES:

Use 15 to 30 gallons per broadcast acre equivalent early in the growing season, or as needed. See the placement specific and crop specific guidelines below for further efficiency. As this product is only of benefit to plant roots: *Applications of high placement accuracy will allow lower rates, while low placement accuracy will necessitate a higher rate.*

#### SPECIFIC APPLICATION GUIDELINES:

**BANDING:** For banded (shank injection, band drench, or drip) applications, the area actually is the area covered by the band, not the total cropland planted. Some application recommendations are based on treating in the root zone and these rates are generally specified as amounts of product per treated acre. If rates are expressed as amount per treated area and banded applications are used, the amount of product used will be proportionately less. The following formula can be used to calculate the amount of First Choice Ascend™ NTC needed per acre of crop when banded applications are made:

Band width in inches		Broadcast rate/A	=	Total needed
-----	X	-----		-----
Row spacing in inches		Per number of acres in field	=	Per one acre of field

**Drenching Method:** Apply First Choice Ascend™ NTC in sufficient water to move First Choice Ascend™ NTC off the soil surface and into the root zone, but not beyond. See band application calculations above for instructions for calculating the amount of product to apply in a drench application.

**Soil Covering Method:** At planting time apply 30 gallons of First Choice Ascend™ NTC per total acre equivalent. Please reference the banding application notes listed above concerning band application calculation efficiencies. Apply the specified dosage to the soil around the seed and to the covering soil as it fills the furrow. The product should be below the seed and roots as much as possible.

**Chemigation Application Guidelines:** Apply 15 – 30 gallons of First Choice Ascend™ NTC per acre depending on the crop, depth of application, and water holding capacity of the soil. For proper application:

1. Determine the area (length X width) to be treated, divide by the number of acres and multiply by the rate per the number of acres to be treated. This number is the total gallons of First Choice Ascend™ NTC needed to treat the field or irrigation block.
2. First Choice Ascend™ NTC can be safely metered into drip systems. Determine the amount of water needed to saturate the root zone (0.5" to 1.25" of water), divide this by the time needed to apply the necessary water. This number is the time required to make the application of First Choice Ascend™ NTC.
3. Divide the number of gallons from Step 1. by the treatment time in Step 2. This number is the rate of First Choice Ascend™ PA per unit of time. Apply First Choice Ascend™ PA at this treatment rate until desired application rate has been reached.

**Drip Chemigation Calibration Instructions:** During pre-irrigation check drip tape for uniform distribution (See calibration information below) and repair if necessary. Once the system is calibrated add the amount of First Choice Ascend™ NTC required for treatments as calculated above, or generally 3-8 gallons per total acre, to the middle third of the irrigation set. Follow these guidelines:

**Step-by-Step Instructions**

- Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters are putting out the same amount of water.
- Before starting to calibrate, operate the system until all emitters are putting out equal flow rates or until the system is operating at full pressure.
- Only pressure injected or venturi equipment is recommended.
- Determine the area to be treated in each irrigation run.
- For calibration, substitute a concentrated detergent or a soluble fertilizer in the injection tank. The detergent will bubble as it leaves the emitters. If these times re not within two minutes of each other, adjust the dilution rate and/or the injection rate. If a soluble fertilizer is used, measure the time intervals with a salt bridge.
- If the period of detection of the indicator solution between the emitters are within two minutes of each other, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ration, using more water per part First Choice Ascend™ NTC or adjust the injector to a slower rate.
- Once the system is calibrated, dilute the needed amount of First Choice Ascend™ NTC with water using a minimum of 5 parts water/fertilizer solution to 1 part First Choice Ascend™ NTC.
- Do not begin to inject First Choice Ascend™ NTC into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
- Inject First Choice Ascend™ NTC into the system in the middle of the irrigation set of a ½ - 1 inch of irrigation water. With at least ¼" of additional water to move product off the surface.

**CROP SPECIFIC USE RATES**

**NURSERY (Greenhouse Agricultural, Horticultural or Ornamental)** applications include, but are not limited to:

- MEDIA INOCULANT – Apply 4-10 oz. Per cubic foot of media just prior to planting.
- SOIL DRENCH – Apply 5 oz. Per square yard or see examples below. Apply in sufficient water to move product into the root zone without excess leaching at the rates below:
- CONTAINERIZED – In flat trays with cell sizes below 2 square inches apply product at 16 to 24 oz. First Choice Ascend™ NTC per 100 plants. For pot applications see the table below:

Applications of First Choice Ascend™ NTC should be made each time the root zone is disturbed of a plant is moved from a flat to a pot and into a field.

**For a 100 pot application:**

-- 4-5"	pots use	100 oz.
-- 6-7"	pots use	80 oz.
-- 8-10"	pots use	60 oz.
-- 12"	pots use	50 oz.

**Transplants and At Planting:** When used in transplant operations apply First Choice Ascend™ NTC with enough transplant water/fertilizer solution to move into and/or infiltrate the root zone. Following the rate guidelines below:

**Trees, Shrub and Vines:** First Choice Ascend™ NTC should be applied to the planting site, but can be applied in the transplant water or as a basal drench following planting. For deep root feeding apply product in sufficient water to move First Choice Ascend™ NTC into and throughout the root zone. First Choice Ascend™ NTC should be applied at ½ fluid ounce product per quarter inch of stem diameter (at the soil surface). One half ounce, per plant, is the minimum application rate recommended.

**Turf:**

- General: Applications to grass should be made on newly planted, renovated (aerated, plugged), or during a root flush on established grass strands. Apply as a broadcast application at 0.5 to 1.25 quarts per 1000 square feet in enough water to ensure movement away from sunlight and into the root zone. For low volume spray applications, hand watering or brief sprinkler irrigation may be used to immediately after application to move product off surface. Best results are obtained with early spring through summer, primary inoculant, applications coinciding with root flush.
- Turf Applications:

Greens and tees	0.5 to 1.25 quarts per 1,000 sq. ft.
Fairways or Overseeding	5 gallons per acre
Athletic turf	0.5 to 1.25 quarts per 1,000 sq. ft.
Sod installation / planting	1 quart per 1,000 sq. ft.

**CROPS THAT CAN BE TREATED WITH FIRST CHOICE ASCEND™ NTC:**

Below is a partial list of the nursery, turf and ornamental plants that can be treated with First Choice Ascend™ NTC. For a listing of Agricultural crops refer to the First Choice Ascend™ PA label.

Acacia	Euonymus	Pistachio
Agapanthus	Fig	Photinia
Alder	Fescue	Poa anua
Almonds	Fern	Pittosporum
Apples	Forsythia	Pome fruit, all
Apricot	Fountain Grass	Podocarpus
Araucaria	Fuchsia	Poinsettia
Artichoke	Gardenia	Poplar

**CROPS THAT CAN BE TREATED WITH FIRST CHOICE ASCEND™ NTC (CONT.):**

Ash	Geranium	Prunes
Asparagus	Grape, All	Raphioliapis
Avocado	Grapefruit	Raspberry
Bamboo	Grass	Red Maple
Banana	Green Ash	Redwood
Basil	Guayule	Roses, All
Bayberry	Hibiscus	Rosemary
Beans, All	Holly	Russian Olive
Begonia	Hoop Pine	Ryegrass
Bent Grass	Impatiens	Sagebrush
Bermuda Grass	Jojoba	Saltbush
Black Locust	Juniper	Snap Dragons
Blackberry	Kinickinik	Sourwood
Blue Grama	Kiwi	Sprengerii Fern
Blue Grass	Lemon	Strawberry
Box Elder	Lingustrum	Stone fruit, All
Boxwood	Live Oak	Sudan Grass
Brazil, Rubber Tree	Magnolia	Sumac
Bulbs, All	Mahogany	Sunflower
Cacao	Mahonia	Sugar Maple
Cactus	Maiden Grass	Sweet Gum
Camellia	Marigold	Sycamore
Carrisa	Maple, All	Tulip
Cassava	Mimosa	Taxus
Ceanothus	Mondo Grass	Tea
Cedar	Mesquite	Texas Mountain Laurel
Cherry	Morning Glory	Trumpet Creeper
Chinese Tallow Tree	Nasturtium	Virburnum
Chrysanthemum	Oil Palm	Vinca
Citrus, All	Olive	Walnut
Clover	Oregano	Yellow Poplar
Coconut Palm	Orange	Yew, Pacific
Coffee	Palms, All	Yucca
Coral Tree	Pampas Grass	Xylosma
Cotton Easter	Passion Fruit	
Cottonwood	Papaya	
Crabpeas	Parsley	
Crab Tree	Paw Paw	
Creosote Bush	Peach	
Currant	Peas	
Cypress	Pecan	
Date Palm	Petunia	
Dogwood	Pacific Yew	
Dwarf Burning Bush		
Elm		

**DO NOT USE FIRST CHOICE ASCEND™ NTC ON THESE PLANT FAMILIES:**

- Betulaceae (Birch)
- Caryophyllaceae (Carnation)
- Brassica (Broccoli, Cabbage, Cauliflower, Turnip, & Mustard)
- Chenopodiaceae (Beet and Spinach)
- Cruciferae (Melon, Pumpkin, Squash, and Zucchini)
- Cyperaceae (Sedge)
- Ericaceae (Blueberry, Cranberry, Heath, Rhododendron, & Azalea)
- Fagaceae (Beech, Oak)
- Juncaceae (Rush)
- Myrtaceae (Eucalyptus)
- Orchidaceae (Cattleya, Orchid, and Phalaenopsis)
- Pinaceae (Pine, Fir, and Spruce)
- Proteaceae (Protea)
- Salicaceae (Willow)

**STORAGE AND DISPOSAL**

STORAGE: Store Dry Concentrate packets in a cool dry place out of the sun. Although not necessary, storage between 40 to 70 degrees Fahrenheit will extend the products potency. First Choice Ascend™ PA should not be allowed to freeze. Keep containers tightly closed when not in use.

CONTAINER DISPOSAL: Triple rinse (or equivalent), then puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**SALES AND WARRANTY INFORMATION**

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use contrary to such directions. Seller makes no other warranty of representation of any kind, expressed or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE. No such warranties shall be implied by law and no agent of the seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive remedy against seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort. Any controversy of claim arising out of, or relating to this contract or breach thereof, shall be settled by arbitration in accordance with the commercial arbitration rules of the American Arbitration Association, and judgment upon the award rendered by the Arbitrator (s) may be entered in any court having jurisdiction thereof.

Manufactured for:  
**WESTERN FARM SERVICE, INC.**  
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NET CONTENTS: \_\_\_\_\_ gal. ( \_\_\_\_\_ l)

LOT NUMBER: \_\_\_\_\_

1. Ascend™ is the trademark of BioScientific, Inc.
2. "With Mycorise inside"

FIRST CHOICE® is a registered trademark of Western Farm Service, Inc.