

Glyphosate Resistant ProVista St. Augustinegrass

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Introduction

St. Augustinegrass (*Stenotaphrum secundatum*) is a popular warm season turfgrass known for its coarse texture and vibrant green color. Its morphology includes coarse (wide) leaf blades that form a dense, carpet-like mat. St. Augustinegrass has a folded vernation, meaning that new leaves emerge from the bud shoot folded along a prominent mid-rib. Its dense growth habit makes it ideal for lawns and recreational areas. St. Augustinegrass can grow in a wide array of soil types and pHs making it a very versatile turfgrass. Cultivars of St. Augustinegrass are vegetatively reproduced and commercially available as sod or plugs. There are currently over 9 cultivars of St. Augustinegrass that range from cultivars with very coarse leaf textures and thicker stolons, such as Floratam, to dwarf/semi-dwarf cultivars like Seville and Palmetto

ProVista

ProVista is a newer cultivar of St. Augustinegrass that was developed by Scotts. ProVista cultivars in Florida are currently based on genetic modifications of Floratam. They contain gene insertions that confer resistance to glyphosate containing herbicides and a second gene that inhibits a plant growth hormone, gibberellic acid. Inhibition of gibberellic acid means that the leaves don't grow nearly as rapidly as Floratam, or other cultivars. Commercially available ProVista cultivars were selected to reduce mowing by half. You can easily skip mowing for 2-3 weeks without fear of scalping. Mowing heights range from 2.5 and 4 inches, and like all St. Augustinegrasses, ProVista spreads through stolons (above-ground runners), which allow it to cover ground quickly and establish a thick turf. All cultivars of St. Augustinegrass thrive in warm climates and are particularly tolerant of heat and humidity. ProVista's shade tolerance is excellent and superior to Floratam, another effect of

gibberellic acid inhibition. ProVista also has a deep green color that is darker than Floratam. ProVista is still susceptible to common St. Augustinegrass pests and diseases such as chinch bugs, ground pearls, gray leaf spot, large patch, take-all-root rot, and mosaic disease caused by sugarcane mosaic virus (SCMV). Because it is related to Floratam, it is susceptible to lethal viral necrosis caused by SCMV.



Figure 1: Newly cut ProVista St. Augustinegrass
Credit: Steven Kelly from Scotts

Herbicide Resistance

What makes ProVista different from other St. Augustinegrass cultivars is its resistance to glyphosate. However, being resistant to glyphosate and being “Roundup ready” are two different things. The phrase “Roundup Ready” was a term used in the mid-1990s that described commodities like corn, cotton, or soybeans that were genetically modified to be resistant to the herbicide Roundup (with glyphosate as the active ingredient). The glyphosate resistance in these commodities is different than the glyphosate resistance in ProVista each with their own specific patents. However, many of today’s Roundup solutions bought at big box stores contain more than just glyphosate. Taking a quick look at active ingredients on the label and you will see active ingredients such as pelargonic acid, diquat, triclopyr, and fluaziflop to name a few.

ProVista has been developed to be resistant to glyphosate and isopropylamine salt. When ProVista has been sprayed with Roundup that contains active ingredients other than glyphosate, the sprayed turfgrass will more than likely perish. It is important to ensure that if a Roundup product is being sprayed on this turf, that it contains only glyphosate or in its salt formulations (make sure there is only one active ingredient: glyphosate).

If you are looking to remove weeds in this turf using a selective herbicide, make sure that the herbicide label lists

St. Augustinegrass as tolerant of the herbicide in question, otherwise damage to ProVista may occur. It is always a good practice when trying a new herbicide to apply them in a small section of turfgrass to check for any unwanted results.

Also, be sure to read and follow the pesticide label for all important information to include temperature restrictions. Currently on ProVista, glyphosate is the safest herbicide that can be used at high temperatures.



Figure 2: Established field of ProVista St. Augustine grass

Credit: Steven Kelly from Scotts

How to Find ProVista and how do you know if it is ProVista?

To make sure that the turfgrass you are buying is in fact ProVista, look into buying your turfgrass from sod farms that are part of the Turfgrass Producers of Florida (TPF). The TPF website can help you navigate which sod farms specific cultivars of St. Augustinegrass. If you are not sure that the sod you bought is ProVista, try spraying a small 2 foot by 2 foot section with 1.5 – 2.25 ounces/ 1 gallon of 41% glyphosate mixed in a spray tank on established turf. If it is alive 10-days later then it is ProVista.



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