

PLATINUM TE™ PLANTING RATES

STOLON PLANTING RATE CONVERSIONS

Site	US Bushel (1.24 ft ³)	Georgia Bushel	Litres
Greens	1	4.00	35.24
Tees/Fairways	1	3.85	35.24
	Georgia Bushel	US Bushel	Litres
Greens	1	0.25	8.81
Tee/Fairways	1	0.26	9.15

RECOMMENDED SPRIG PLANTING RATES BASED ON IRRIGATION WATER QUALITY & GROW-IN TIME

Site	<u>TDS</u>		<u>ECw</u>	Expected <u>Grow-in time (weeks)</u>
	<u>1000 ppm</u>	<u>1.56</u>	<u>1.56</u>	
	<u>US Bushels</u>	<u>Georgia Bushels</u>		
	1000 ft ²	100 m ²	1000 ft ²	
Greens.....				
Low	5.00	6.00	20	6-12
High	10.00	11.00	40	5-6
Tees.....				
Low	3.00	4.00	15	6-12
High	6.00	7.00	25	5-6
Fairways/Roughs.....				
	<u>US Bushels</u>	<u>Georgia Bushels</u>		Expected
	<u>/acre</u>	<u>/hectare</u>	<u>per acre</u>	<u>Grow-In Time (weeks)</u>
Low	150	400	600	16-32
High	250	600	900	12-16

Increased salinity in the irrigation water

	<u>TDS</u> 2500 ppm		<u>ECw</u> 3.91	Expected Grow-In Time (weeks)
	<u>US Bushels</u>		<u>Georgia Bushels</u>	
	<u>1000 ft²</u>	<u>100m²</u>	<u>1000 ft²</u>	
Greens.....				
Low	6.00	7.00	25	8-16
High	12.00	13.00	50	6-8

Tees.....				
Low	4.00	5.00	20	8-16
High	7.00	8.00	30	6-8
Fairways & Roughs.....				
	<u>US Bushels</u>		<u>Georgia Bushels</u>	Expected
	<u>/acre</u>	<u>/hectare</u>	<u>per acre</u>	<u>Grow-In Time (weeks)</u>
Low	200	500	750	20-32+
High	300	750	1100	12-16

NOTES:

1. Irrigation water quality should not exceed TDS 2500 ppm or ECw 3.91 for planting plus establishment and subsequent grow-in. If irrigation scheduling includes short duration and frequent cycles, soil salt accumulation can be 2-16 times higher (short term or extending to a longer time frame during grow-in) than the salinity load in the initial irrigation water after 3 weeks, which can cause longer grow-in times to achieve full canopy density. Remember that salt is the ultimate growth regulator and acts just like Primo® in gibberellin inhibition (final grow-in to full canopy density for paspalum is via gibberellin-enhanced stolon growth).

- 2. Platinum TE tolerates salinity and strictly regulates the genetic uptake of specific salt ions such as sodium. Those turf plant excluded non-absorbed salt ions therefore accumulate in the soil. Foliar feeding of irrigation water soluble salt ions directly into Platinum TE shoots is not genetically controlled, and fertility programs must be adjusted to counter any negative effects from the salt loading into the shoots and stolons. However, since Platinum TE has a thick wax load on leaves and stolons, sodium will be complexed in that wax layer and most of the sodium contained in the irrigation water seldom actually enters the internal cells in the grass plant. Plant tissue analysis data will often show very high sodium concentrations, because of the wax layer concentrating the sodium salt ion. Platinum TE has a very high genetic tolerance to magnesium, sulfates, and chlorides.**
- 3. Salt tolerance mechanisms in Platinum TE do not initiate until the roots are about 3-4 inches long after planting sprigs. Foliar sprays and granular applications containing potassium, manganese, and zinc should be applied frequently (to activate the salt tolerance mechanisms), beginning at planting and continuing throughout the grow-in period until full canopy density has been achieved to achieve the fastest grow-in times.**
- 4. The expected grow-in times are based on correct management practices for the specific sites to be grassed. These management practices include irrigation scheduling, fertility program adjustments and flexibility in fine-tuning this program via proactive monitoring, cultivation practices, mowing practices, and insect-disease-weed control programs.**
- 5. The high sprig planting rates should be planted accordingly: plant half the sprigs; crimp 2-3 times; plant the second half; crimp and roll; heavily sand topdress to completely cover all sprigs on greens and tees; on fairways and roughs, hydro-sprig or hydro-mulch during/after sprigging for the most successful establishment and fastest grow-in.**
- 6. For TDS>2500 ppm, increase the sprigging rates a minimum of 25% for each 500-1000 ppm increase in total salts up to 5000 ppm TDS. Establishment and grow-in of Platinum TE with irrigation water quality >5000 ppm is not recommended. Once full canopy density has been achieved, higher TDS irrigation water can be used for long term maintenance of the grass as long as the grass has been nutritionally prepared (the grass may temporarily go**

through a transitioning salt shock as additional genetic salt tolerance mechanisms activate in the plant), the fertility program has been adjusted to effectively counter the salinity load in the water, and the salinity management program has been fully implemented to counter the potential accumulation of salts in the soil.

At all times, an equal concentration of calcium must be applied both to the soil (granular: gypsum, calcite calcium, lime, dolomite) and to the plant (actual foliarly absorbed: calcium nitrate, calcium chloride, calcium acetate, calcium gluconate, calcium chelated with amino acids or alcohols) on an equal meq/L basis to counter any sodium concentration in the irrigation water as well as potential accumulated Na concentrations in the soil profile.

Calcium is the key nutritional stabilizer in the grass plant as well as an essential soil structural stabilizer. Base saturation soil data should range between 65-85% Ca, but if soil pHs are >7.9 (base saturation sodium <5% is preferable), a large part of the calcium in those calcium carbonate soils will not be available for root uptake and additional gypsum or lime may need to be applied based on soil fertility test data or acids injected into the irrigation water to break up the calcium carbonate/bicarbonate complexes in order to provide available calcium.