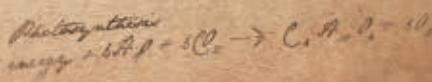


# Rooted in Science

## Periodic Table Atomic Properties of the Elements

Elements essential to plant health

Group	1 IA	2 IIA	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8 VIII	9 VIII	10 VIII	11 IB	12 IIB	13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 VIIIA		
1	<b>H</b> Hydrogen												<b>B</b> Boron	<b>C</b> Carbon	<b>N</b> Nitrogen	<b>O</b> Oxygen	<b>F</b> Fluorine	<b>He</b> Helium		
2	<b>Li</b> Lithium	<b>Be</b> Beryllium											<b>Al</b> Aluminum	<b>Si</b> Silicon	<b>P</b> Phosphorus	<b>S</b> Sulfur	<b>Cl</b> Chlorine	<b>Ar</b> Argon		
3	<b>Na</b> Sodium	<b>Mg</b> Magnesium											<b>Ga</b> Gallium	<b>Ge</b> Germanium	<b>As</b> Arsenic	<b>Se</b> Selenium	<b>Br</b> Bromine	<b>Kr</b> Krypton		
4	<b>K</b> Potassium	<b>Ca</b> Calcium	<b>Sc</b> Scandium	<b>Ti</b> Titanium	<b>V</b> Vanadium	<b>Cr</b> Chromium	<b>Mn</b> Manganese	<b>Fe</b> Iron	<b>Co</b> Cobalt	<b>Ni</b> Nickel	<b>Cu</b> Copper	<b>Zn</b> Zinc	<b>Ag</b> Silver	<b>Cd</b> Cadmium	<b>In</b> Indium	<b>Sn</b> Tin	<b>Sb</b> Antimony	<b>Te</b> Tellurium	<b>I</b> Iodine	<b>Xe</b> Xenon
5	<b>Rb</b> Rubidium	<b>Sr</b> Strontium	<b>Y</b> Yttrium	<b>Zr</b> Zirconium	<b>Nb</b> Niobium	<b>Mo</b> Molybdenum	<b>Tc</b> Technetium	<b>Ru</b> Ruthenium	<b>Rh</b> Rhodium	<b>Pd</b> Palladium	<b>Ag</b> Silver	<b>Cd</b> Cadmium	<b>In</b> Indium	<b>Sn</b> Tin	<b>Sb</b> Antimony	<b>Te</b> Tellurium	<b>I</b> Iodine	<b>Xe</b> Xenon		
6	<b>Cs</b> Cesium	<b>Ba</b> Barium		<b>Hf</b> Hafnium	<b>Ta</b> Tantalum	<b>W</b> Tungsten	<b>Re</b> Rhenium	<b>Os</b> Osmium	<b>Ir</b> Iridium	<b>Pt</b> Platinum	<b>Au</b> Gold	<b>Hg</b> Mercury	<b>Tl</b> Thallium	<b>Pb</b> Lead	<b>Bi</b> Bismuth	<b>Po</b> Polonium	<b>At</b> Astatine	<b>Rn</b> Radon		
7	<b>Fr</b> Francium	<b>Ra</b> Radium		<b>Rf</b> Rutherfordium	<b>Db</b> Dubnium	<b>Sg</b> Seaborgium	<b>Bh</b> Bohrium	<b>Hs</b> Hassium	<b>Mt</b> Meitnerium	<b>Uun</b> Ununium	<b>Uuu</b> Ununium	<b>Uub</b> Unbinium	<b>Uuq</b> Unquadrium	<b>Uuh</b> Unhexium						



*Symptoms of nutrient deficiency include chlorosis, necrosis, stunted growth, lack of growth or maturity of plant resulting in yield loss.*

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# Ad Index

Advertiser	Page No.
Agraquest	37
Agrium Adv. Tech.	35
Andersons	CV4
BASF	5, 14-15, 29
Becker Underwood	13
DuPont	17
Hustler	12
Jacobsen	5
Klingstone	24
LebanonTurf	32, 36, CV3
Linear Rubber	55
Mauget	19
Milorganite	4
Nival	27
PBI/Gordon	9
Phoenix Environmental	7
Plantstar	36
Primeraturf	44
Sipcam gro	33
Smithco	Reg Insert, 54, 55
SolarBee	30
Syngenta	21
Target Specialty Products	42
Tee-2-Green	Insert, CV2-1
Valent	11, 43
White Metal Golf	39

## TURFGRASS TRENDS

Bayer Environmental	52-53
Floratine	51
John Deere	49

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## Old Fred & Young Jeff

**O**ld Tom and Young Tom Morris. Old Fred and Young Jeff Klauk.

Bet you'd never think of hearing those names in the same breath. But since Jeff made his Players Championship debut on TPC at Sawgrass in Ponte Vedra Beach, Fla., the course his dad so lovingly maintained for 26 years, the world of golf hasn't seen a father-son greenkeeping duo get so much attention.

After Lee Westwood withdrew from the Players, 31-year-old Jeff was assured a spot thanks to his solid FedEx Cup points standing after a stellar West Coast swing, earning him a spot in golf's biggest event not designated a Major. It also happened to be the course he grew up around, playing about 1,000 times by his estimates.

Old Fred was the central figure in TPC Sawgrass' evolution and the prime supervisor of Pete Dye's 2006 renovation that converted the greens to a MiniVerde bermudagrass and fairways and tees to 419 bermudagrass.

The 35-year GCSAA member retired after the 2008 Players to open his own consulting business, Off Course Consulting, and to watch his son play the PGA Tour.

Like all great things, this didn't come easy.

Jeff was a top American Junior Golf Association (AJGA) prospect and graduate of Florida Southern before toiling on the Hooters and Nationwide tours, missing out on a PGA Tour card by two shots in 2002. Making matters worse, Klauk led during the last round of that year's Nation-

### HOME COURSE TAKES ON A NEW MEANING

### FOR THE KLAUK FAMILY DURING THE PLAYERS

### CHAMPIONSHIP

BY GEOFF SHACKELFORD



wide Tour Championship through 10 holes, but the round was wiped out because of weather and a chance to move into the top 20 and onto the PGA Tour was gone.

Then the injuries started, with shoulder surgery and several mysterious seizures that still haven't been diagnosed. But Jeff finally earned his card after \$400,000 in 2008 Nationwide winnings. The week before the Players, he received official confirmation that he was in.

"I've always dreamed of playing this tournament, having grown up out here, and mown the fairways and greens," he said before the tournament last month. "It's going to be awesome."

Fred only put Jeff to work on his staff after the young lad earned his first speeding ticket on the way back from a Hilton Head AJGA event.

"I had to tell dad I got a speeding ticket," Jeff said.

The next day he was mowing greens. Another time he was stuck with a more dangerous gig.

"I had to fly mow one time on a lake bank, and I'm like, this is not going to help my golf game whatsoever, pulling this thing up and down the lake bank. It wasn't much fun at all. I was pretty sore the next day."

But he eventually worked off the speeding ticket and continued the part-time crew work to earn spending money until college.

When Players tournament time arrived, Klauk attended a mandatory rookie's press conference where he was the most popular interview as other no-names sat and punched their cell phones. He was asked about players criticizing his dad's work in the past.

"To see guys complain at times just made me upset because I know how hard he works to make it what it is," Jeff said.

Klauk finished with rounds of 72-71-71-71 and tied for 14th. But it was his first shot to the island green 17th that had everyone anxious. Well, everyone but Fred.

"I was more nervous for his opening tee shot on the Tour," Fred said.

Back when he was 10, Jeff knocked it in the drink his first time on the 17th tee. But in round one of his first Players Championship, he used his effortless swing to knock it about 20 feet. Fred's wife and Jeff's mom, Peggy, watched with pride. Just as she has in all the years she has watched her son play.

---

*Geoff Shackelford can be reached at [geoffshac@aol.com](mailto:geoffshac@aol.com).*

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