

Best Maintenance Practices for Warm Season Grasses

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- 25 years experience in golf.
- 20 years experience in golf course management.
- Certified Golf Course Superintendent (CGCS) Class A member with the GCSAA.
- Graduate from University of Hawaii; WCC campus Turf, Agricultural, and Plant Landscaping programs.
- Graduate Ohio State University Golf Course Management on-line Program.
- Extensive experience with various turf types and various golf courses around Hawaii.



Tips for good greens

- ⦿ Rotate mowing angles each mowing.
- ⦿ Rest occasionally when mowing the cleanup cut.
- ⦿ Always visually and physically inspect for mower quality, health, and debris on greens for best quality of cut.
- ⦿ Have a good and balanced fertility program.
- ⦿ Monitor heights and adjust them accordingly with weather and growing patterns. Lower is not always the answer.

More Tips

- ④ Have a consistent and effective cultivation program. This is to include, aeration, verti-cutting, slicing, topdressing and brushing.
- ④ Have a good irrigation program. Deep and infrequent should be your goal. Typically in Hawaii this is every 3-5 days depending on weather conditions.
- ④ Plug replacement should be prioritized and be set as perfect as possible.

Aeration



Tips for improving ball speed and trueness of ball roll

- ⦿ Lower heights. Be careful when considering this as lower heights can cause turf to decline quickly under the right circumstances.
- ⦿ Double-mow.
- ⦿ Brush up grain and follow up mow behind it in one direction to remove turf lean over and extra leaves.
- ⦿ Dusting with a spin top dresser.
- ⦿ Grooming or light verti-cutting.
- ⦿ Growth regulation. Ex. Primo Maxx.
- ⦿ Regulation of irrigation.
- ⦿ Rolling.

Spin-Topdressing



Cultivation tips

- ① Set annual plan for aeration for both coring and solid tines. Smaller aeration tines are less disruptive and are becoming more and more popular as it can be done more frequently and recuperates quicker.
- ② When topdressing after a coring type aeration, applying sand in layers rather than all at once may be more practical.

Running a verti-cutter over the final topdressing layer after coring helps to distribute sand into the holes



Cocoa Mats



Changing holes



More tips

- ⦿ Rotate pins placements regularly.
- ⦿ Take the time to properly compact and level older plugs.
- ⦿ Be sure cup is set to USGA 1” standard.
- ⦿ Be sure to “stitch” and mend turf plug edges smoothly for faster recovery.
- ⦿ The addition of a wetting agent and foliar fertilizer will help with plug recovery.

Different Turf Types being used

Bermudagrass Types

Tifton 328



Common Bermudagrass



TifEagle



Tifdwarf



Miniverde



Tifway 419



Celebration



Seashore Paspalum Types

Salam



Seaspray





SeaDwarf







Turf Test... Take a guess...



Answer:

Bermudagrass
contamination in Salam
Seashore Paspalum

Zoysia Grasses

Emerald Zoysia



Japonica Zoysia



El Toro Zoysia



Kikuyugrass



Fairway s



Tips for good fairways

- ⦿ Rotate mowing angles every mowing. Mowing the “3-9” angle as well as mowing in a circular pattern can also help to even out grain and thatch.
- ⦿ Verti-cutting as necessary helps to improve fairway firmness and health. Using a circular pattern as well helps to stir up grain.
- ⦿ A regular aeration program should be incorporated. Be sure to identify all sprinkler and valve locations to minimize damage to them.
- ⦿ Drag fairways with drag mats for to disperse clippings.

Verti-cutting fairways



Fairway Aeration



Scalping

Drag Mats



More tips...

- Fill divots whenever feasible.
- Monitor mowing cutting quality to ensure turf health.
- Grooming helps to improve density.
- Growth regulation also helps to improve density.
- Have a good irrigation program. Deep and infrequent should be your goal. Typically every 3-4 days in Hawaii.
- Have a regular and balanced fertility program. Testing soil, water, soils, and turf tissues are always beneficial in creating any fertility program.

Irrigation

- ④ Deep and infrequent should be your goal. Encourage deep rooting.
- ④ Be sure to clean and level sprinkler heads to grade for best irrigation efficiency.
- ④ Be sure to make it a point to inspect your system regularly.
- ④ Take advantage of new technology with irrigation systems and sprinklers.

Irrigation Technology

- ① Sprinkler heads that have adjustable trajectories and interchangeable nozzles.
- ① Microsoft central based programs allow for precise management of water and its allocation.
- ① Advanced Electrical troubleshooting tools can assist with electrical issues.

irrigation technology



Electrical Troubleshooting Tools



Ground Fault Detector



Pulser

Other Devices



Miniature Pulser



Multi-meter

Bunker Liners



Better Billy Bunker Liner



$\frac{1}{2}$ " – 1" thick

Fabric Liners



Sand Rakes



Questions?