NFL grounds crews must maintain the highest standards of quality in their field preparation practices. These professionals maintain the highest profile turf in the country, but they share the same ultimate goals of every sports turf manager: safety and playability.

The following techniques help these NFL groundskeepers maintain professional-quality athletic turf.

Get ready for football
by Ross Kurcab, Denver Broncos Football Club

A high-quality football field management program that uses its resources efficiently and meets the needs of the users is a continual work in progress. Any athletic field is a dynamic and perishable product. It often seems that I never have the same field in any given week during the year.

It is this continual change that draws many of us to the profession. However, this also means that we cannot manage our fields by a simple “cookbook” recipe.

- There's always the budget
I realize that few fields are allocated the kinds of resources that NFL fields receive. Some techniques are simply out of the scope of many turf managers' budgets.

If your administration refuses to fund an upgrade or product that you think will increase quality, try the procedure on just one field, or even just one small part of a field. This way, you can better show the benefits of your request to the money people.

- Develop and maintain a good field log
I know it can seem cumbersome to stop in the middle of a project or application to take notes, but a few minutes spent can be incredibly valuable.

A good field log means never having to calibrate the same application twice. It's a wonderful planning and budgeting tool.

When we topdress the fields, for example, I save a lot of time by simply finding my notes from the last time we did it: "Tractor at 2500 RPMs, low range, 2nd gear, hopper setting of 3; used a total of 75 tons of sand for a rate of 18.75 tons/acre; took three people four hours to spread and two hours to broom in." It took me two minutes to write this down, yet it saves about four man-hours every time we topdress by eliminating the calibration process.

A good way to start is to simply obtain a desk calendar that has enough room each day for some notes, or one that allows you to reference more detailed entries. Give it a try, I think you'll be surprised at how many different ways it will be useful to you.

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it involves much more than the scope of this article allows. Healthy grass contributes strongly to all three aspects of a quality football field: safety, playability, and appearance.

You need to continually educate yourself in turfgrass management. Education can be formal or informal, but it is an absolute must. The technological advances in our industry move fast, so it takes a process of continual education to keep up.

• Be flexible
Troy, Wes, and I often joke that we don’t really make plans, we just develop scenarios and figure out how to address them. I’m sure you can relate!

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Mowing practices
by Steve Wightman, Qualcomm Stadium

When attempting to provide a better and safer playing surface, few things are more important than a thick, dense turfgrass cover. Many factors, such as proper soil conditions, prudent irrigation, and fertility play a major role, but proper mowing practices can contribute significantly to a safe, dense, playable turfgrass cover.

• Height of cut
Different types of grasses prefer different mowing heights. Knowing the predominant turfgrass species on your field is the first step in proper mowing. If your field consists of warm-season turfgrass species, the preferred mowing height is typically lower than that of cool-season turfgrasses.

Warm-season grasses, such as bermudagrass and Zoysia grass, prefer mowing heights between 0.75 inches and 1.0 inch. Hybrid bermuda prefers a 0.5-inch to 0.75-inch height.

Cool-season turfgrasses, such as Kentucky bluegrass, prefer mowing heights between one inch and two inches. Perennial ryegrasses, tall fescues, and others prefer to maintain a 1.5-inch to 2.5-inch height.

Mowing within preferred height of cut ranges will promote a denser canopy without sacrificing root growth. Mowing lower than the preferred height adversely affects root growth, and mowing higher usually promotes a thinner canopy that encourages weed encroachment.

A single field may have many different turfgrass species with both warm- and cool-season grasses. It's important to identify the type of turfgrass you wish to maintain. The time of year play occurs on your fields usually determines which species to promote.

If your field is heavily scheduled during autumn and/or spring, promote your cool-season turfgrasses with mowing heights between 1.0 and 2.5 inches. If your field is heavily used during the summer months, warm-season grasses should be promoted with mowing heights between 0.5 and 1.0 inch.

There are times when it makes sense to manage both warm- and cool-season grasses simultaneously. If this is the case with your field,
choose a height that will provide a happy medium. Your choice should fall at the upper end (if not higher) of the warm-season preferred range, and within the preferred range of the cool-season species.

If heavy traffic is scheduled during the summer months in the northern part of the country, where only cool-season grasses are used, the mowing height should fall at the upper end of the range for the particular species. In fact, the upper end of the height range should be used on any field where heavy traffic dominates. This provides a greater amount of biomass for plant crown protection and player safety.

- **Mowing frequency**

  Mowing frequency is most often determined by other cultural practices and by temperature. It should always be dictated by the 1/3-inch rule, which states that you should never remove more than 1/3 of the total length of the leaf at one time.

  Lack of water and fertility will obviously slow down a turfgrass growth rate. Low soil temperatures also affect growth, particularly in stressed cool-season grasses. However, when adequate irrigation and nutrients are provided during the growing season, you should mow two or three times per week.

  Mowing more frequently will help ensure that you follow the 1/3-inch rule. It will also promote more tillering, which thickens the turfgrass stand for a denser canopy. A dense canopy provides plant crown protection, greater biomass for wear tolerance, and a more resilient playing surface for field safety.

**Practice field renovation**

*by Rich Genoff, San Francisco 49ers*

The San Francisco 49ers are currently growing Tifway II hybrid bermuda at the team's training facility in Santa Clara, CA. I have approximately 290,000 square feet of practice fields.

At year's end, the fields are like most NFL practice fields: beat up and worn out. In my case, they are also dormant.

The bermuda starts going dormant or losing its color at the first frost. This usually occurs toward the end of November, or by mid-December each year. When the season ends, I immediately start my
field renovation, weather permitting.

I have a Turfcat 422D with two decks: one rotary and one flail mower. We attach the flail unit to the tractor and mow the field right down to the sand. We remove all the grass blades, so all that remains are the stolons and rhizomes.

We remove all of the clippings with a Toro 54 HC, and ship them out for recycling. The whole process takes about 14 to 17 days.

After a light verticutting, we core aerate in two directions. We break up the cores and remove them.

When each of these procedures is complete, we topdress the field with approximately 75 to 100 tons of sand. A screen drag helps us fill the aeration holes and float out the field.

We apply approximately three tons of 6-20-20 fertilizer, and approximately five tons of calcium. We then start a light watering program, adding small amounts of ammonium nitrate, and we wait for the temperature to warm up.

We have soil tests done in early summer, after the renovation is complete. By the time August rolls around, my fields are in game day condition. They’re ready to start the cycle all over again.

Ross Kurcab is turf manager for the Denver Broncos Football Club and is a member of STMA’s Certification Committee. Steve Wightman is turf manager for Qualcomm Stadium in San Diego, CA. Rich Genoff is sports turf manager and head groundskeeper of the San Francisco 49ers.

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