1 Greenkeeping fundamentals and philosophy

The basic principles of greenkeeping involve modifying the growing environment of the grass to produce a good playing surface for golf. Another way is to think of greenkeeping being simply to modify the growth rate of the grass. Everything else follows from these principles.

Japan has a difficult climate for grass of all kinds. When confronting such challenges, I find it useful to consider the big picture of greenkeeping first. The details come later.

In this chapter I mentioned Hartwiger and O’Brien (2001); Dest et al. (2010); Zontek (2009); Gault (191x); Kussow and Houlihan (2006); and Gelernter and Stowell (2005).

2 Grass, soil, and water

When the grass is supplied with just the right amount of water, things are easy. When there is not enough water, or when the soil is too wet, things can go wrong quickly.

The overall goal is to apply just enough water to keep the soil within the target range. That is how greens are managed for professional tournaments, and I think this approach can be adapted for almost every golf course.

In this chapter I mentioned Allen et al. (1998); Jordan et al. (2003); Karnok and Tucker (2008); Watson and Knowles (1999); Gross (2012); and USGA Green Section Staff (2004).

3 Temperature, light, and climate

I’ve been fascinated by temperature and light and how they influence grass performance and greenkeeping. It is light and temperature that provide energy for plant growth.
Because the temperature and light in Japan are both challenging for the production of excellent turfgrass, and are so different from other places in the world, it is important for greenkeepers to have a thorough understanding of these topics.

In this chapter I mentioned Pote et al. (2006); Xu and Huang (2000a,b); Guertal and Han (2009); Bunnell et al. (2005); Baldwin and Liu (2008); Lloyd et al. (2011); and Bauer et al. (2012).

4 Soil organic matter

There’s nothing like a thick thatch layer to ruin a previously good putting green. And there’s also nothing quite like coring to disrupt the playability of a putting green for weeks.

If I were a greenkeeper today, I would be trying to minimize the organic matter production to begin with. Then I would carefully topdress, and would try to avoid coring altogether. That might not be possible, but that would be my goal.

In this chapter I mentioned O’Brien and Hartwiger (2003); Pippin (2010); Hartwiger (2004); Carrow (2003); Beard and Beard (2005, p. 460); Soper et al. (1988); Ervin and Nichols (2010); and Turgeon (2008, pp. 233–234).

5 Golf course playability

It is important to remember that golf is a sport, and the turfgrass surfaces produced by greenkeeping are really sporting surfaces.

When I was a golf course superintendent, I used to spend a lot of time making sure the grass was growing and healthy.

I wish I would have paid more attention to details of the playability; I think it would have made me a better greenkeeper.

In this chapter I mentioned Nikolai (2004); Piper and Oakley (1921); Nikolai et al. (2001); Hartwiger et al. (2001); Hamilton et al. (1994); USGA (2012); Brede (1991); and Karcher et al. (2001).

6 Fertilizer and soil nutrients

Supplying the right amount of fertilizer at the right time is critically important.

Supply the wrong amount of nitrogen and the grass won’t perform well. Have a nutrient deficiency of any type and the grass won’t perform well.
One needs to make sure that the grass is supplied with nutrients in quantities proportional to the nitrogen supply.
Here’s how to do that.
In this chapter I mentioned Lawes and Gilbert (1859); Hall (1912); Piper (1924); Kaminski and Dernoeden (2005); and Sartain and Kruse (2001).
References


Karcher, D., Nikolai, T., and Calhoun, R. (2001). Golfer’s perceptions of green speeds vary: over typical stimpmeter distances, golfers are only guessing when ball-roll differences are less than 6 inches. *Golf Course Management*, 69(57-60).


