

## Book review

### Fundamentals of Tropical Turf Management

By G. Wiecko. Published by CABI Publishing, Wallingford OX10 8DE, UK, 2006. Price £25.00 (UK), \$50 (USA). Paperback, 205 + viii pages. ISBN 1-84593-030-4.

The title of this book indicates that it will focus on tropical turf management, a specialist topic not hitherto covered in detail by standard turf textbooks. A more disciplined approach might have produced a much-needed specialist text to fulfil the publisher's claim that it provides a practical introduction to all aspects of tropical turf management. Regrettably, the final product lacks a consistent focus in this regard, and its usefulness must therefore be judged against other general turf textbooks.

On page 5, we find the author's stated objective: "This volume will discuss only warm-season species grown in climates where temperature is relatively uniform and warm year-round." From this, one might assume that the scope of the book will relate to the lowland tropics between 23½°N and 23½°S. Yet on pages 34–37, the author digresses to cover the full range of cool-season turf grasses (ostensibly for cool mountain/high elevation sites — p. 18), which are not adapted to such latitudes or climatic conditions. These include very cold-growing species, such as *Festuca rubra* and *Poa supina*, not widely grown outside of Canada and northern Europe.

At the same time, there are some significant omissions among the warm-season turf grasses listed on pages 18–29, most notably *Digitaria didactyla* (blue couch) which grows extensively on low fertility turf sites in north Queensland, Australia, and (as serangoon grass) in South-east Asia as briefly acknowledged only towards the end of the book (pages 133–142) when discussing golf-course management. I would not expect minor turf species used in one country, such as Australia (*Panicum laxum*, *Paspalum nicorae*) or USA (*Buchloe dactyloides*), to be covered in a basic international text. However, *Dactyloctenium australe* (Durban grass) — used in practical turf situations in a number of countries — surely rates mention over the likes of *Distichlis spicata* (salt grass), which has yet to make a significant mark commercially. Surprisingly, *Pennisetum clandestinum* (kikuyu grass), which is better adapted for use in the highland tropics than the cool-season grasses covered, rates only a brief dismissive paragraph on page 29; and *Paspalum conjugatum* (sour grass) rates no mention at all, despite its being a frequent and sometimes major component of "cow grass" in South-east Asia along with *Axonopus compressus* (broadleaf carpetgrass).

From the content and general structure of the book, it would appear to have been developed from notes for an introductory turf course, or as a companion text for such a course. After a brief general introduction in Chapter 1, Chapters 2–8 follow a logical sequence from turfgrass species and their broad adaptation

through soils, establishment, nutrition and fertiliser use, mowing, irrigation and finally to aeration and turf renovation. The major omission from this sequence is pests (*i.e.*, weeds, insects and diseases), which is eventually covered in very general fashion in the final Chapter 11; strangely, there is only brief mention of nematodes in the section on diseases. The two intervening Chapters 9 and 10 briefly cover golf-course maintenance (16 pages) and a range of selected sports and playground uses (10 pages).

The information on general turf management (Chapters 3–8, 11) is essentially accurate, but has been pitched at a rather elementary level. More detail is required before the book would be of lasting practical use to aspiring turf managers or to community-minded persons and parents seeking information to help in managing their local sports-fields. The two summary/overview chapters on golf-course maintenance and sports-turf uses towards the end of the book are inadequate and that space could have been used more effectively to introduce more specific detail into the general turf chapters. It is simply not possible to do justice to the range of turf-management challenges on a golf course — tees, fairways, roughs and greens — in just over 15 pages. Similarly, Chapter 10 covers only some of the wide variety of sports uses, and omits major activities such as horse racing.

Within specific countries, the marketing of turf grasses is focused strongly at cultivar level. In the present book, the various grasses are mostly discussed at species level, which is both sensible and reasonable given the international target audience. Nevertheless, I would dispute the relative rankings of certain grasses in relation to their tolerance of, and adaptation to, different environmental conditions and management practices (Tables 2.1 to 2.3). For example, *Paspalum vaginatum* (seashore paspalum) is decidedly less drought-tolerant and *Cynodon* less salt-tolerant than shown in the tabulated rankings. In the cases of *Axonopus* and *Zoysia*, however, comparisons based on the overall genera instead of the individual species are rather meaningless and potentially misleading, because they mask the substantial differences between species in relation to some attributes. In the case of *Axonopus*, these comparisons would appear to be based more on *A. compressus* rather than *A. fissifolius* (note the change of name from *A. affinis* which was made some years ago). *Zoysia*, for example, is ranked in Table 2.3 as the most heat-tolerant (*Z. matrella*?) and as the most cold-tolerant (*Z. japonica*?) group, based no doubt on the attributes of the main two economic species as indicated.

So how does the reviewed volume compare with the standard general texts currently used in introductory turf courses, notably those by Christians (2003) and Turgeon (2002)? These two books cover both cool- and warm-season turf grasses, with a greater emphasis on cool-season grasses, but do so in greater

(and more appropriate) detail than Wiecko (2006) and with better coverage of turf weeds, insects, nematodes and diseases. Significantly, they also cite major references for the information provided, with which all students should become familiar at a very early stage of their tertiary education. The reviewed book cites no references in relation to the information presented.

The source of many of the numerous line drawings throughout the book is acknowledged only by the statement "Drawing by R. Castro". These include Truog's (1946) diagrammatic representation of nutrient availability versus pH (Figure 3.9), which admittedly is frequently reproduced these days without proper acknowledgment and without appreciating that it is not universally applicable to all soils. Some of the other line drawings (together with their accompanying captions), however, appear very similar to figures already published by Christians (2003), in which case the accepted professional ethical approach is to acknowledge the source by statements like "Adapted from Christians (2003)" or "After Christians (2003)" and, ideally, permissions sought from the previous author and publisher to use those diagrams. In addition to the example shown in Plate 1, other drawings in Wiecko (2006) which closely parallel those in Christians (2003) include Figures 4.1 (Christians'

Figure 5.3), 4.9 (Christians' Figures 5.12 and 5.14 combined) and 6.2 (Christians' Figure 8.5).

In conclusion, I would not recommend *Fundamentals of Tropical Turf Management* as a companion textbook for introductory turf courses, even in tropical countries. Despite their greater emphasis on cool-season grasses, I feel that Christians (2003) and Turgeon (2008) offer better value for money with their more detailed, complete and better balanced coverage of turf grass science at an introductory level, plus citation of the major references consulted during preparation of their books.

## References

- Christians, N.E. (2003) *Fundamentals of Turfgrass Management*. 2nd Edn. (John Wiley & Sons: New York). 368 pp.  
 Truog, E. (1946) Soil reaction influence on availability of plant nutrients. *Soil Science Society of America Proceedings*, **11**, 305–308.  
 Turgeon, A.J. (2008) *Turfgrass Management*. 8th Edn. (Pearson Prentice Hall, Inc.: NJ, USA). 436 pp.

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## Author's response

While I am not euphoric with the review by D.S. Loch, I respect his opinion as a turf-management expert and sincerely appreciate his feedback. I am receiving quite different feedback from South-east Asia where people like the book, especially because it uses simple English and metric measures. Many people in Indonesia, Malaysia, Vietnam etc. do not understand imperial measurements, e.g. yards, pounds, pints, bushels, acres, gallons etc. and Christians' book is loaded with imperial measures. I agree that the books by Christians and Turgeon are more comprehensive and overall probably better than mine. However, they require a certain amount of turfgrass knowledge to successfully separate information that applies to a temperate climate from that applying to the tropics and what material has universal application. Some of my correspondence from Arabic countries as well as from Asia (including southern China) suggests that some readers lack even basic turfgrass knowledge, despite holding serious responsibilities for the maintenance of turf grasses. These readers find my book very useful. I accept that, owing to a better basic knowledge of turfgrass management, Australian readers (and possibly South Africans as well) may find Christians' book much better value for money. However, another review from Australia published in *Grass and Forage Science*, Volume 62, Issue 1 by Dr C. Chivers was much more positive, though it contained some criticism related to sports turf.

When I decided to write a book addressing tropical turfgrass management in 2004, I asked my colleague, Dr Nick Christians, about using his concepts while illustrating my book. He said "feel free to do it".

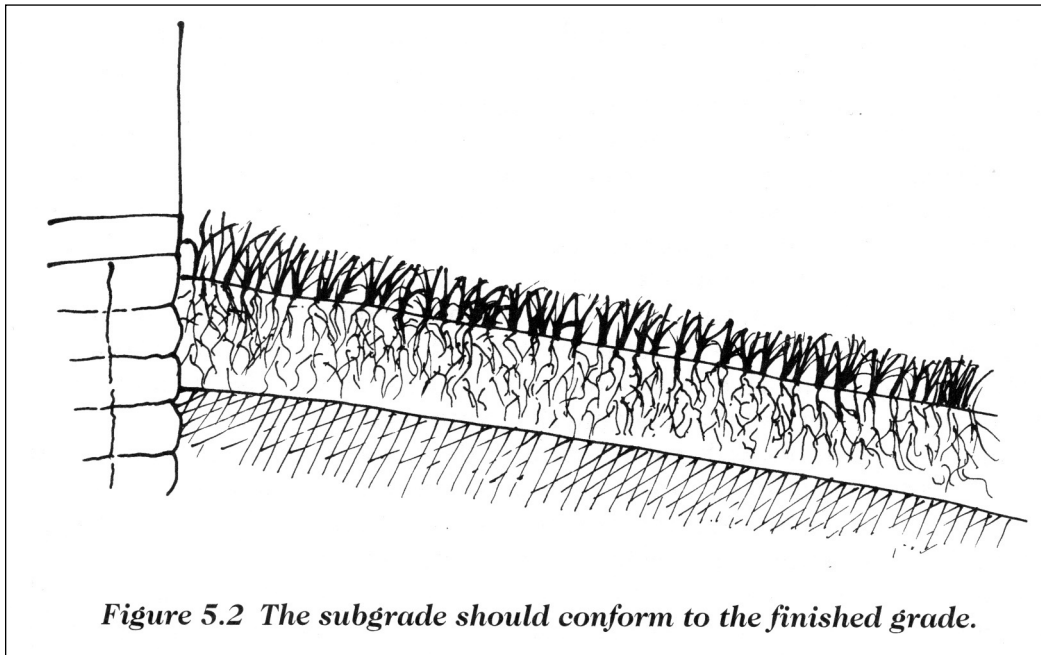
I illustrated my book with more than 120 drawings and pictures (drawings by local graphic artist) using Nick's concepts five times. I regret not acknowledging the source as I appreciate now that it was a breach of professional etiquette. In my defence, many concepts have reappeared in publications without acknowledgement of the original source. For example, photosynthesis has been illustrated many times in books — containing the image of a plant, the sun, CO<sub>2</sub> coming in, O<sub>2</sub> going out and assimilates being stored. I have not seen any acknowledgement of the original author of this concept.

In November 2007, Dr Christians raised the issue with me. While he indicated that he had no objections to my using his illustrations, Wiley and Sons (publishers) owned the copyright to all illustrations published in his book and I should seek their approval if I wished to copy any illustrations. I contacted Wiley and Sons in December 2007 requesting permission to use Christians' concepts. Wiley and Sons granted me permission to reproduce specific figures from Christians' book, provided I acknowledged the source and paid the necessary fees. I regret that I did not seek their permission at the outset.

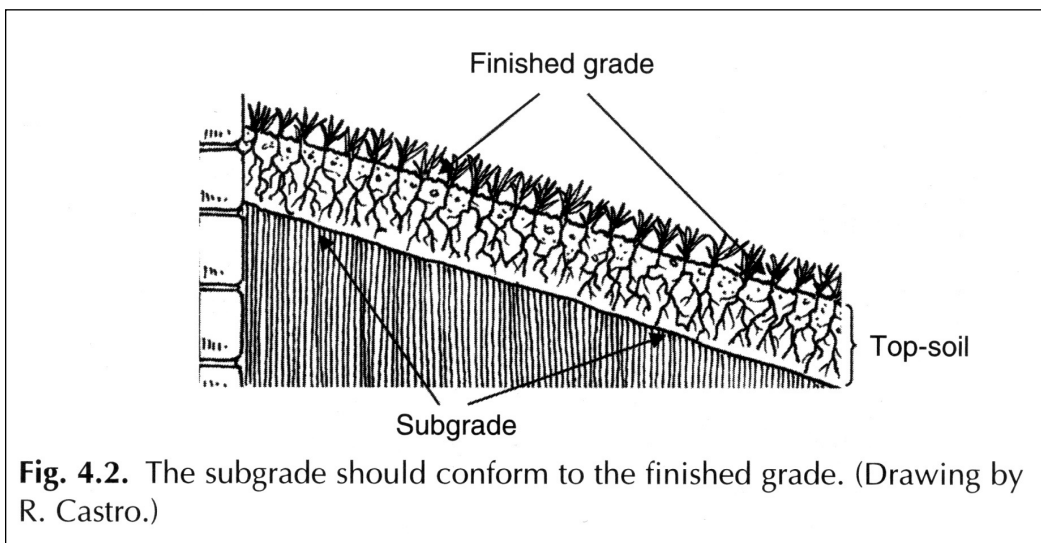
In conclusion, this experience has been a meaningful reminder to me that maintenance of ethical standards is of paramount importance. I apologise that I overlooked or at least underestimated the importance of this principle in this instance.

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(a) Christians (2003) Figure 5.2 (reproduced with permission)



(b) Wiecko (2006) Figure 4.2 (reproduced with permission)



**Plate 1.** Comparison of similar figures published by (a) Christians (2003) and (b) Wiecko (2006).