



関東ゴルフ連盟 第61回グリーン研究講習会

「経済危機とコース管理」

“Is Your Course Environmentally and Economically Sound?”
(あなたのコースは経済的・環境的に健全か?)

— 米国での合理化の取り組み —

グリーン委員会参与 木村 正一

日米の経済危機とゴルフ場管理

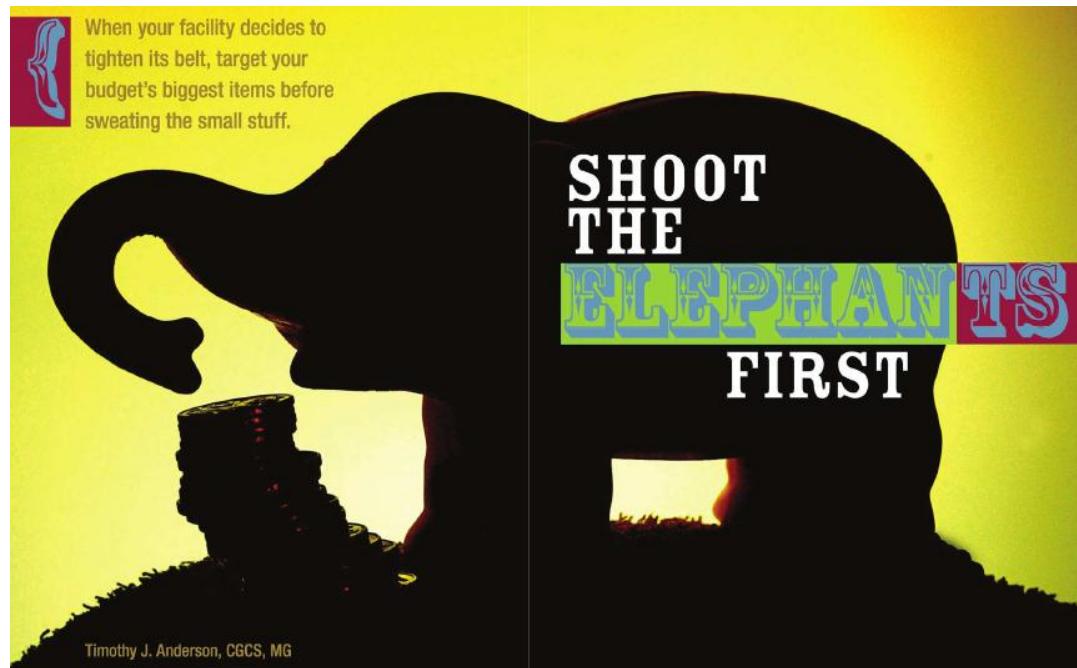
- ・ 日本:「バブル崩壊」 1990年(失われた20年)
 - 業界誌等で多くの特集が組まれた
- ・ 米国:「リーマンショック」 2008年
 - 米国業界誌でも、2009年ごろから特集目立つ
 - USGA Green Section Record誌
(USGA=米国ゴルフ協会)
 - Golf Course Management誌
(GCSAA=米国ゴルフコース管理者協会)
 - 今年に入ってもいくつかの記事が

コース全体費用の削減の記事の例：

「まず象を射よ」(Shoot The Elephants First)

T.J.Andersons. Golf Course Management誌 2011年6月号

- イリノイ州 Naperville CC
- コース管理担当
 - 建物・設備管理
 - レストラン・俱楽部運営も
- 「最も大きな項目」から
- 年間コストの洗い出し
 - 固定人件費の削減
 - 資材調達の入札化
 - 業務の流動化(コース課員でクラブハウス機器補修など)
- 毎年80万ドル以上の削減
- わが国では「当たり前」？



米国雑誌における コース管理費用の削減に関する記事

- ・すべてがわが国に適用可能とは限らない
- ・すべてをわが国に適用すべきとは限らない
- ・日本の方が進んでいる点もある
- ・米国を知る
- ・日本とは異なる視点の記事も
- ・アイディア、ヒントに
 - 特に、コースの「管理基準」の明文化・見直し

「あなたのコースは経済的・環境的に健全か？」

Is Your Course Environmentally and Economically Sound?

(USGA Green Section Record. 2011年3月～4月)

The USGA Green Section Record



March 18, 2011 -- Volume 49, Number 11

Is Your Course Environmentally and Economically Sound?

Questions and answers to some of the most serious challenges facing courses today

by the Green Section Staff

The game of golf faces two difficult issues affecting every course in the country - environmental and economic sustainability - and both require attention. Environmental sustainability is impacted by water and wildlife issues. Economically, the cost of maintenance and shrinking free time for golfers presents challenges. A common obstacle is unrealistic expectations about course conditioning. Fortunately, there is plenty of room to adjust expectations without damaging the integrity of the game.

To help these efforts, the USGA staff has assembled [a list of questions](#) that every facility should consider regarding best management practices (BMPs) for sustainability. The goal is to help courses assess their own situation and develop actions to improve. There never will be an end point; the journey is one of continual progress and improvement.



- USGAのコース管理指導部門(グリーンセクション)のスタッフによる共同連載記事
- イントロダクション
- 質問リスト(考慮点)
- USGA Green Section Record の今までの記事の中から、関連記事をピックアップ
- ウェブで無料配信中



Is Your Course Environmentally and Economically Sound?

イントロダクション

- 今日、米国ゴルフコースは、経済的・環境的な持続可能性(sustainability)という、二つの課題に直面している
- 環境的な持続可能性: 水資源・野生生物
- 経済的な持続可能性: 管理コスト、減収
- 共通の障害: コースのコンディションに対する、非現実的な期待
- ゴルフのゲーム性を損なうことなく、期待度を調整する余地はある
- 各コースで考慮すべき点を「質問リスト」の形にした
- それぞれのコースが、その置かれた状況を確認し、改善策を見つけ、進化し続けるための一助に



Is Your Course Environmentally and Economically Sound?

考慮すべき点(質問リスト)

- 明文化された「管理基準(maintenance standards)」があるか?
- コースの利用可能な予算・労働力に見合った管理がされているか?
- 明文化された環境対策があるか?
- 環境へのリスクをどのようにして最小化しているか?
- コースの水資源はどのように守られているか?
- オーデュボン・サンクチュアリ・プログラム(Audubon Cooperative Sanctuary Program)に入っているか?
- 野生エリアを活用しているか?
- 樹木への投資を精査したか?

Q1: 明文化された「管理基準」があるか?



: 管理基準の必要性

- ゴルフコースは、毎年数千人の顧客を迎えるビジネスである。コース管理責任者(スーパーインテンデント)は、予算と機器とスタッフが与えられ、顧客の期待を超えることを要求される。
- 成功している他のビジネスでは、基準となる業務手順があり、日々の業務を改善し顧客満足度を上げるための長期計画を有している。
- 同様にゴルフコースも、目標とするゴールや日々の業務手順を定めた、明文化された「管理基準(Maintenance Standards)」を持つべきである。



Q1: 明文化された「管理基準」があるか?

: 管理基準(Maintenance Standards)とは

- ゴルフコースの「管理基準」は、そのコースが毎日どのように管理されるのかを詳細に記述したガイドラインである。
- 「それぞれの管理作業のマニュアル」や「従業員の業務内容説明書」といった内容を含めることもできるが、本質的には「コースの管理のゴールを定め、そのゴールを達成するためには必要な作業を示すもの」である。
- こういったものを持つことにより、顧客満足度や予算といった問題に対して、大きな力となる。

Q1: 明文化された「管理基準」があるか?

【関連記事】



- 基準を定める: 効果的な管理基準を明文化するのは、意外と簡単
- 管理基準ガイドラインとは何か
- グリーン委員長の役割: グリーン委員会での30年以上の経験から学んだ教訓
- 形 vs. 機能: 「うわ～、すごい！」は高くつくかも
- 本当に「手ごろな」コースの造成と管理とは
- 完璧は手に入れられない!: けれど、リーズナブルなゴールは、コースの客観的な評価を可能にする
- あるコースの実例: 管理作業の継続性を確保するシンプルな方法

基準を定める

:効果的な管理基準を明文化するのは、意外と簡単

- どのコースにも管理基準はあるはずだが、明文化されていないことが多い
- ゴルファーの期待と実際の管理を一致させる
- 毎年の管理方針に継続性を持たせる
- メンバー代表(グリーン委員会)・管理責任者が中心で作成、規則委員会・USGAアグルロノミストも
- 労務時間分析を元に

Setting Standards

Creating effective written maintenance standards is easier than you think.

BY TODD LOWE

Let's face it; golf courses are businesses that service thousands of customers each year. Golf course superintendents are given a budget, equipment, and staff and are asked to meet or exceed customer expectations. Other successful businesses have standard operating procedures and long-range plans to improve daily operations and customer satisfaction. Likewise, golf courses should also have a set of written maintenance standards that outline the goals and procedures for day-to-day operations.

Golf course maintenance standards are guidelines that detail the manner in which the golf course is maintained on a daily basis. They are not instruction manual for each cultural practice or a list of job descriptions for employees, although these can be included. They are, however, formal documents that outline golf course maintenance goals and the necessary practices for meeting these goals.

There are maintenance standards in place on all golf courses, but most of them are intangible guidelines, developed and implemented by the golf course superintendent. From our experience, only a small percentage of golf courses develop written maintenance standards with golfer input. Why do so many golf courses operate without any tangible guidelines? Perhaps most of us are apprehensive to step into the unfamiliar, and unless you have been involved with creating maintenance standards, it is difficult to know where to begin.

Creating formal maintenance standards is not a difficult task, but it can seem intimidating at first.



Aerial photographs can be taken from mobile platforms, like cherry pickers. This picture helps justify the need for irrigation upgrades.

管理基準に記述すべきもの

- コースの各エリアで望まれる品質・コンディション
- それを実現するために必要な管理作業
- 標準的な構成
 - イントロダクション・目的
 - グリーン
 - ティ
 - フェアウェイ
 - ラフ
 - バンカー
 - 樹木・植栽
 - 池・水路
 - 長期計画
- 各エリアの労務時間分析も

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管理基準： イントロダクション

- ・ 設計者・草種・コースの雰囲気
- ・ 目標設定(Mission Statement)
- ・ 天候や芝の状態に合わせて、基準は柔軟に運用すべきであること

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管理基準：グリーン

- ・ 目標(通常時/トーナメント時)
 - ターフの密度
 - 均一性
 - 面の平滑性・硬さ・スピード
- ・ 管理作業(タイミングと頻度)
 - 刈高・刈り込み頻度
 - コアリング
 - バーチカルカット
 - グルーミング
 - 目土
 - ローラー掛け など
- ・ カラーとアプローチ
- ・ 造成方法

Setting Standards

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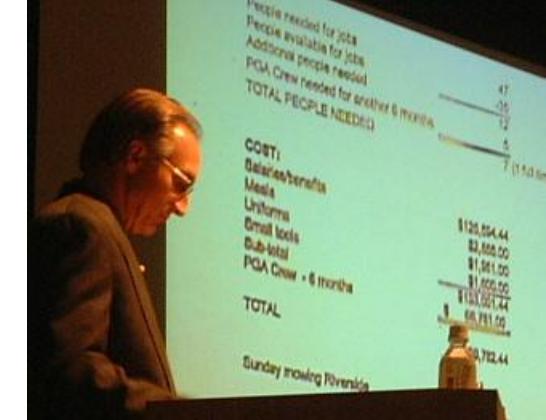
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管理基準の実例

アトランタ・アスレティック・クラブ

目標設定

Ken Mangum, CGCS. Atranta Athletic Club.

(東洋グリーン芝草セミナー2002 ケン・マンガム氏講演より)

- 長期目標：
 - 国内で、そして国際的にも、最高のゴルフ・アスレティッククラブとなること
- 目標(Mission)：
 - ワールドクラスのチャンピオンシップに値するゴルフの地であること
 - ワールドクラスの、トータルなゴルフ経験を提供すること
 - ゴルフの伝統と遺産を引き継ぐチャンピオンであること

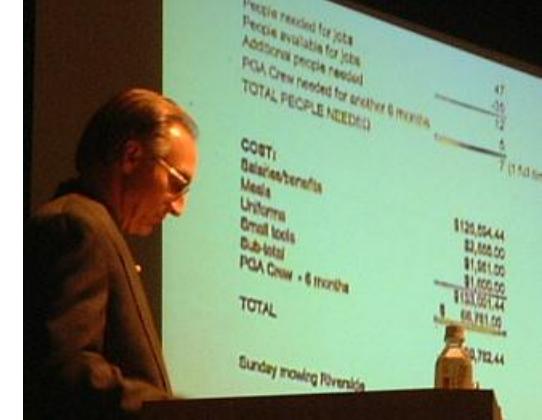
管理基準の実例

アトランタ・アスレティック・クラブ

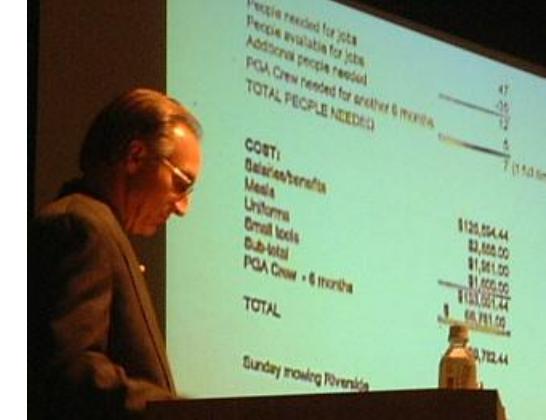
グリーンの管理目標

Ken Mangum, CGCS. Atranta Athletic Club.

(東洋グリーン芝草セミナー2002 ケン・マンガム氏講演より)



- 滑らかで均一な表面、美しい外観
- 均一で健全な色、萎れはゼロ
- くつきりとしたエッジとカラー
- 表面にボールマークや傷は無いこと
- ボールの転がりは均一で、スムーズであること



管理基準の実例

アトランタ・アスレティック・クラブ

グリーンの管理基準

Ken Mangum, CGCS. Atranta Athletic Club.

(東洋グリーン芝草セミナー2002 ケン・マンガム氏講演より)

- 刈り込みは毎日2方向から
- 刈高は3.2～3.6mm
- グリーンおよびカラーに刈りカスが残っていないこと
- 他にローラー掛け、手散水、ボールマーク直し、カラーとアプローチの刈り込み方向やグルーマー掛けの頻度など
 - (例)カラーのゴミをブロアー掛けする場合には葉が立たないよう
にし、もし葉が立った場合はリールを止めたグリーンモアで転圧
する。

管理基準

:ティ・フェアウェイ・ラフ・バンカー・水系・樹木

- ティ
 - 刈高・刈り込み頻度・ディボット直し・ティーマーカーのローション
 - 改修計画(平滑性・拡張)、管理作業(タイミングと頻度)
- フェアウェイ・ラフ
 - 刈高・刈り込み頻度・更新作業・目土・サッチ管理・施肥・施薬
 - 排水改良・灌水設備改良
- バンカー
 - レーキ掛け(頻度・方法:手/機械)・エッジ切り
 - 砂補充・排水改良・改修
- 水系(池・水路)
 - 水質・藻・斜面・縁(エッジ)
- 樹木・植栽
 - 樹木の植栽と除去のポリシー
 - 花壇の品質・手入れ

Setting Standards

Creating effective written maintenance standards is easier than you think.

BY TODD LOWE

Let's face it: golf courses are businesses that service thousands of consumers each year. Golf course superintendents are given a budget, equipment, and staff and are asked to meet or exceed customer expectations. Often superintendents are asked to develop operating procedures and long-range plans to improve daily operations and customer satisfaction. Likewise, golf course owners are asked to establish maintenance standards that outline the goals and procedures for day-to-day operations.

Golf course maintenance standards are guidelines that detail the manner in which the golf course is maintained on a daily basis. They are not instruction manuals for each cultural practice or a log of what was done on a specific date, though these can be included. They are, however, formal documents that outline golf course maintenance goals and the necessary processes for achieving those goals.

There are many other similar plans at golf courses, but most of them are tangible guidelines, developed and implemented by the golf course superintendent. From our experience, only a small percentage of golf courses develop written maintenance standards, and even fewer publish them. Why do so many golf courses operate without any tangible guidelines? Perhaps most of us are skeptical of the need for such standards. And unless you have been involved with creating maintenance standards, it is difficult to know where to begin.

Creating formal maintenance standards is not a difficult task, but it can seem intimidating at first.

Aerial photographs can be taken from modeling platforms, but many pictures like this photo help justify the need for long-term upgrades.



管理基準の作成

: 業務時間分析(Time Study)

- 各作業にかかった時間(人×時)を記録
- エリア・業種・曜日・シーズンで集計
- 管理目標を達成しているか
- 合理的か
- どこに時間がかかっているか
- コースの予算条件から見て適切か
- 管理目標・管理基準・作業計画の見直し

Practice	Required Weekly Maintenance							April-Oct.			Explanation	
	Day of Week							Nov.-March				
	M	T	W	T	F	S	S	Total	Total			
Change cups	4	4	4	4	4	4	4	28	28			
Practice green cups	1		1		1			8	3			
Clean ballwashers		2			2			4	4			
Sandpro	3	3	3	3	4	3		19	19			
Bunker touch-up	6	6	6	6		6	6	36	36	2 employees/3 hours		
Bunker complete					16			16	16	4 employees/4 hours		
Mow greens	16	8	16	8	16	8		72	72	4 employees		
Mow greens & aprons	7	7	7		7			21	14			
84" mower	7	7	7		7			21	14			
Mow fairways	7	7	7	7	7	7		35	21			
5-gang rough	7	7	7	7	7	7		35	21			
Rough trim			7	7	7			21	14			
Spray greens					6			6	2			
Spot water	11	11	11	11	11			55	—	5 employees/4 hours		
Sweeping	4	4	4	4	4			20	20	4 employees/8 hours		
Irrigation maintenance	2	2	2	2	2			10	3			
Tee divots					20			20	20			
Fairway divots		16		16				32	32			
Fairway spot weed	6							6	6			
Green syringe	2	2	2	2	2	2	2	14	—			
Dew removal							8	8	16	16		
Move ropes	3	3	3	3	3	2	2	19	19			
								509	308			
Daily work prep and break times —												
10 minutes morning start-up												
15 minutes morning break												
5 minutes pre-lunch clean/preparation												
5 minutes post-lunch preparation												
15 minutes afternoon break												
10 minutes afternoon preparation												
60 minutes total × 5 days × 15 employees = 75 hours/week												

Taken from "Required Maintenance Versus Available Labor" — Green Section Record 26(1):12-14.

完璧は手に入れられない！

しかし、リーズナブルなゴールは、コースの客観評価を可能にする

- ラフやバンカーにまで、良いライを期待する風潮が広まっている
- ライに合わせてショットの種類を選び、良いショットに報い、悪いショットを罰するのがゴルフ
- また各コースの品質はその経済状態も影響する
- 「完璧」を「すべての要求を満たすこと」と捉えれば、個々のコースの目標設定を明確に記述することで、初めて達成される。

ALL THINGS CONSIDERED

Perfection Is Not Attainable!

However, setting reasonable goals can allow for an objective evaluation of course conditions.

by KEITH HAPP

MANY GOLFERS comment that a well-struck shot should be rewarded. For example, when a well-struck shot from the teeing ground finds the fairway, the player then should have the opportunity to reach the green on a par-4 hole or the landing area of a par-5 hole with the next stroke. However, it seems that no matter where the golf balls may land, many golfers want to have a perfect lie from which to play. It is alarming that having level tees, great greens, and healthy, consistent fairway turf is not enough. It seems that there is an increasing emphasis placed on eliminating small blemishes in the rough or finding the perfect bunker sand that will minimize the potential for a challenging shot. Whatever happened to the saying, "Hit it, go find it, and hit again"? Isn't that what this game is all about?

We often hear the question, "What can we do about the condition of our rough? When my ball lands there I can't play a recovery shot."

I want to respond by asking the question, "What type of recovery shot are you trying to play?" After all, doesn't the lie of the ball dictate the type of shot that is to be played? Where is it stated that there should be no penalty for hitting a shot into the rough? Sometimes a great recovery shot is one that simply positions the player for the next shot to the hole.

As an example, perfection also seems to be a requirement for bunkers. When an errant shot finds a bunker, golfers expect the lie of the ball to be perfect. There also seems to be an increasing demand for absolute consistency from one bunker to another. In many instances, simply raking the sand will never elevate bunker playability to a satisfactory level. Sand may have to be removed, drainage installed, bunker contours may need to be altered, and then new sand can be positioned and readied for play. This is time consuming and, for some, cost prohibitive. Budgetary constraints must be considered so conditioning priorities can



Establish maintenance standards for the golf course. These guidelines provide direction to achieve conditioning goals. Guidelines will vary for day-to-day versus tournament play.

be established. However, establishing priorities is only the first step. Developing realistic and obtainable priorities is the challenge, and this task further identifies the fact that golf course operations are different. Just as the lie of the ball dictates shot selection, economic resources dictate course preparation. All too often an apples-to-oranges comparison is made regarding course conditioning. The manner in which one course is prepared may not be affordable for every course.

For those courses that have focused on elevating playability, agronomic strategies used on greens have been expanded to tees, fairways, and even rough. Tees are fertilized more heavily and are overseeded on an as-needed basis. Fairways are being topdressed so that they are firm and better able to support play, no matter what weather conditions are presented. Rough is being topdressed with composts to improve the quality of the soil in which the turf is grown. Now, all of these strategies improve the health of the turf, but they come at a cost. Not all course operations have the same budget under which to operate, so once again priorities must be established.

It is not possible to achieve the same level of conditioning every day of the year. There are too many uncontrollable factors involved in turfgrass management. Budgetary constraints factor into the programs that can be used throughout the property. Weather pat-

terns impact turf growth as well as course grooming activities. If funds are limited, the scope of what is an "important-to-play area" must be clearly defined. In other words, this may necessitate learning a few different shots when playing from the rough or learning how to play a bunker shot from a less-than-perfect lie.

What are perfect conditions for the game of golf? Webster defines perfect as "satisfying all requirements." This definition suggests that "the committee" needs to provide a clear, well-defined description of the desired course setup. Doing so could allow for a fair evaluation of the course and the manner in which it plays. More importantly, course maintenance resources could be evaluated to determine if playability requirements could be satisfied. If the committee constantly changes conditioning goals, then course conditioning standards will never be met. All things considered, no matter how high the bar is raised, expectations will continue to climb and this is further evidence that perfection is impossible to achieve.

KEITH A. HAPP is an agronomist in the Mid-Atlantic Region, visiting courses in the states of Delaware, Maryland, West Virginia, Virginia, and Pennsylvania. Recently, Keith opened a sub-regional office in the Pittsburgh, Pennsylvania, area, bringing him closer to courses in the western portion of the Mid-Atlantic Region.

USGA Green Section Record 2009年5-6月号 形 vs. 機能: 「WOW Factor」は高くつくかも

- ・ 見た目の「ウワっ」というインパクト(WOW Factor)は、確かに効くが、コストがかかる
- ・ 見た目のインパクトは、ゴルフのゲーム性と、必ずしも一致しない
- ・ 専門誌のレーティング基準も、見た目よりも、フェアウェイの硬さ・均一さなどにシフトし、美観は評価対象から外された
- ・ WOW Factorを追うのを止め、ゲームの本質に貢献するような管理をするべき



Form vs. Function

The "WOW" factor can be costly.

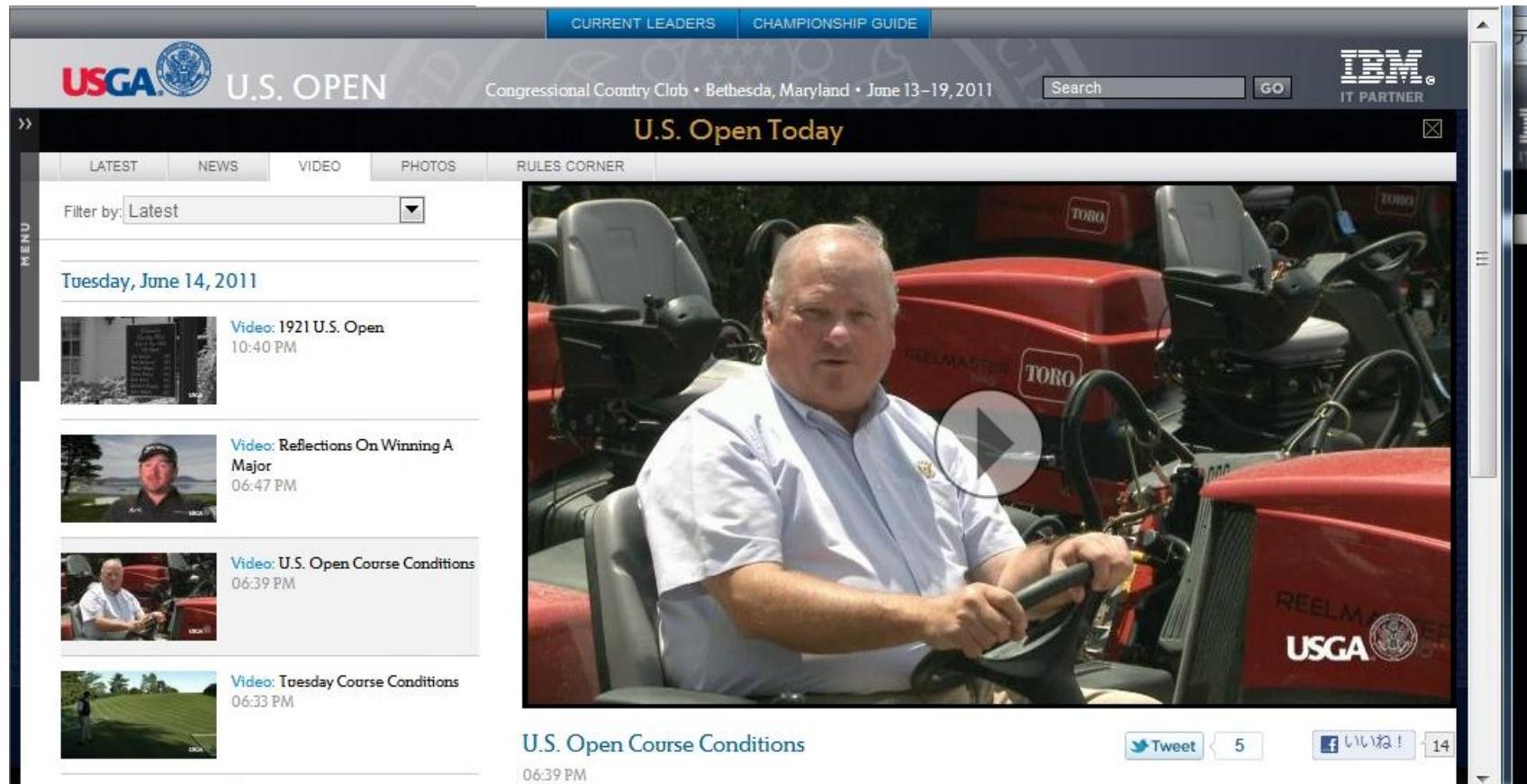
BY KEITH HAPP

The USGA Green Section has always operated under the premise that the Committee should define maintenance standards for the course. These standards define the preparation of the golf course for daily play. With the standards put forth by the Committee, the task at hand calls for allocating the necessary level of funding to achieve the desired outcome. Sounds simple, right? All too often, the ends do not meet.

Mowing patterns can be used to highlight terrain features and accent the landscape. There is a cost involved with the use of smaller, lightweight mowing equipment to create this "WOW" factor.

accentuate bunker features or mounds, and showcase the rough. Areas mowed perpendicularly to play can give the impression that they are narrower than they really are, while longer flowing mow lines may give the golfer the impression that an area is wider. The resulting appearance of the final product can vary, but the function of the mowing strategy is consistent and focused: prepare the area for play of the game of golf.

2011年USオープン公式HP 「USオープンのコースコンディション」 トーナメントと普通のコースの管理基準は違う！



The screenshot shows the official website for the 2011 U.S. Open at Congressional Country Club in Bethesda, Maryland, from June 13-19, 2011. The top navigation bar includes links for 'CURRENT LEADERS' and 'CHAMPIONSHIP GUIDE'. The IBM logo is listed as an 'IT PARTNER'. The main content area features a large video player titled 'U.S. Open Today' showing a groundskeeper operating a red Toro reel mower. To the left, there's a sidebar with a 'LATEST' news feed for Tuesday, June 14, 2011, including video clips about the 1921 U.S. Open, reflections on winning a major, course conditions, and Tuesday course conditions.

- ・「USオープンのコンディションを、ウチのコースでも毎日維持できるか？」
- ・いかに多くの人間・機器・費用で実現されているか
- ・世界一のプレーヤーを決めるために、この1週間にピークをあわせて準備
→ 普段のコースではありえない(し、楽しくもない)ことをアピール

Is the course maintained in a manner consistent with the available budget and labor?

March 18, 2011 - Volume 49, Number 11

Q2: コースの利用可能な予算・労働力に見合った管理がされているか?



- 米国ゴルフ業界が現在直面しているような経済的な困難さが、今後ますます進むという予測が正しいとすれば、労務コストをさらに減らす必要が出てくるだろう。
- 肥料や農薬などの資材の調達を工夫することも考慮すべきだが、管理予算の中で最も大きな比重を占めるのは労務費である。
- 管理予算削減のためには、労務時間の削減が必要
- 労務時間の削減が可能なエリアを探し、プレーイングクオリティやコースの長期的な健全性を保ちながら、期待度を調整していくことが必要となる。

Is the course maintained in a manner consistent with the available budget and labor?

March 18, 2011 - Volume 49, Number 11

Q2: コースの利用可能な予算・労働力

に見合った管理がされているか？

【関連記事】



- 形 vs. 機能: 「うわ～、すごい！」は高くつくかも
- 金と意味: 経済危機を乗り切るには
- 仕事を計画し、計画を実行せよ
- 只で手に入るものなど無い
- 芝を減らす+水を減らす=コストを減らす
- 時は来た: 業務時間分析で限られた資源を活用する
- 協働が今ほど重要な時代は無い(Part1 &2)
- コース管理と予算の調査
- バンカー: あなたのコースでは適正か？
- 精密芝草管理

金と意味：経済危機を乗り切るには

- ・ 条件はコースごとに異なるが、
- ・ 場合によっては役に立ちそうなアイディアを、
- ・ コース内エリアごとに
- ・ USGAアグロノミストが列挙。
- ・ コストの「セーブ」と「カット」は異なる
 - Cost Saving: コースの品質を落とさずに、労務や資材を減らす
 - Cost Cutting: 管理水準を下げることで、労務や資材を減らす



**Dollars and Sense:
Making It in a Tough Economy**

In these hard times, superintendents have to be extra creative.

BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

The current economic recession has touched all parts of the golf industry. Golf course superintendents have not been immune from the reality and implications that forecasted revenues and rounds of golf are down at most golf facilities. There may be exceptions, but the rule is that most superintendents are studying ways to do more with less.

The agronomists of the USGA Green Section recently collaborated on this article, which is intended to provide golf courses with ideas on how to reduce their course maintenance budgets. Each item may or may not apply to your golf course; this list is not all-inclusive, nor is it intended to be a recommendation for your golf course. At a minimum, the ideas presented will encourage creative thinking among superintendents and their staffs as they manage their golf courses

through difficult economic times. When reviewing these ideas, it is up to each individual golf course to determine whether the idea will change the desired standards of the course and whether this is acceptable. Please note — ideas that involve reducing the frequency that something is done only reduce expenses if total payroll hours are reduced as a result.

COST SAVINGS VS. COST CUTTING

Before moving forward, it is important to distinguish between the terms *cost savings* and *cost cutting*. For the purposes of this article, *cost savings* is defined as spending less for a product or service without changing the quality of the course. In golf maintenance, this means the standard remains the same, but a less expensive way has been found to achieve the standard. *Cost cutting* is

defined as spending less for a product or service with a reduction in the standard. In golf maintenance, this means that the standard is lowered and less is spent to achieve the new standard. Always communicate proactively with course officials if the standard is being lowered to cut costs.

USGA TURF ADVISORY SERVICE

The USGA Green Section has been offering Turf Advisory Service consulting visits to golf courses since the early 1950s. Green Section agronomists visit more golf courses each year than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

金と意味：経済危機を乗り切るには

：グリーン

- ・ カップ切り替えの頻度を減らす
- ・ 3連乗用モアにカップ切りを載む
- ・ 生長調節剤で刈り込みを減らす
- ・ 生長調節剤でスピードを上げる
- ・ 刈高を上げてストレスや殺菌剤を減らす
- ・ 刈り込みの代わりにローラー掛けで済ます
- ・ ダブル刈りをやめる
- ・ 3連乗用で刈るのを増やす(外周だけは手刈りで)
- ・ 尿素・鉄剤などを活用する



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The agronomists of the USGA Green Section recently collaborated on a document that provides superintendents with ideas on how to reduce their course maintenance budgets. Each idea may or may not be applicable to your golf course, but it is intended to be a recommendation for your golf course. The ideas presented will encourage creative thinking among superintendents and their staff as they manage their golf courses.

through difficult economic times. When reviewing these ideas, it is up to each individual golf course to determine whether the cost savings from the desired standards of the course and whether this is acceptable. Please remember that the standard is the frequency that something is done only reduce expenses if total payroll hours are reduced as a result.

COST SAVINGS
TRIMMING Before moving forward, it is important to distinguish between the terms *savings* and *cost cutting*. For the purposes of this document, *savings* is defined as spending less for a product or service without changing the quality of the outcome. In other words, if the standard remains the same, but a less expensive way has been found to achieve the standard. Cost cutting is

defined as spending less for a product or service with a reduction in the standard. In general, cost cutting means that the standard is lowered and less is spent to achieve the new standard. Always communicate proactively with your staff about the changes if the standard is being lowered to cut costs.

USGA TURF ADVISORY SERVICE

The USGA Green Section has been offering Turf Advisory Service consulting visits to golf courses since the early 1970s. Green Section consultants provide more than 100 courses per year than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

金と意味：経済危機を乗り切るには ：バンカー

- ・ スポット均しで済ませる
- ・ 手均しを減らし、機械均しを増やす
- ・ 余分なバンカーをつぶす
- ・ バンカ一周辺を生長調節剤で処理し、
エッジ切りや刈り込みの頻度を減らす



**Dollars and Sense:
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In these hard times, superintendents have to be extra creative.

BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

The current economic recession has touched all parts of the golf industry. Golf course superintendents have been faced with the reality and implications that forecasted revenues and rounds of golf are down. While there may be exceptions, the rule is that most superintendents are studying ways to do more with less.

The agronomists of the USGA Green Section recently collaborated on a document that provides nationwide golf courses with ideas on how to reduce their course maintenance budgets. Each item may or may not be applicable to your golf course, but it is not all-inclusive, nor is it intended to be a recommendation for your golf course. Instead, the information presented will encourage creative thinking among superintendents and their staff as they manage their golf courses through difficult economic times.

When reviewing these ideas, it is up to each individual golf course to determine whether the cost savings from the desired standards of the course and whether this is acceptable. Please remember that the goal is to maintain the frequency that something is done only reduce expenses if total payroll hours are reduced as a result.

COST SAVINGS

STANDBY CUTTING

Before moving forward, it is important to distinguish between the terms *cost savings* and *cost cutting*. For the purposes of this document, *cost savings* is defined as spending less for a product or service without changing the quality of the item or service. In other words, if the standard remains the same, but a less expensive way has been found to achieve the standard. Cost cutting is defined as spending less for a product or service with a reduction in the standard. In general, cost cutting means that the quality is lowered and less is spent to achieve the new standard. Always communicate proactively with your management team if the standard is being lowered to cut costs.

USGA TURF ADVISORY SERVICE

The USGA Green Section has been offering Turf Advisory Service consulting visits to golf courses since the early 1990s. Green Section members can request a consultation year-round than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

金と意味：経済危機を乗り切るには

：フェアウェイ

- ・ 刈り込み回数を減らす
- ・ 生長調節剤で刈草を減らす
- ・ 1シーズンくらい窒素だけにしてみる
- ・ 窒素施用量を減らす
- ・ 窒素を減らして、かわりに鉄を増やす
- ・ ギヤングモアを使う
- ・ 効率の良い刈り込みパターンに変える
- ・ 刈草集草をやめる
- ・ ジェネリック除草剤を使う
- ・ 除草剤を減らす
- ・ 早期購入割引を使う
- ・ ファーティゲーションで芝草の生長を安定させる



金と意味：経済危機を乗り切るには

：ラフ

- ・刈り込み頻度を下げる
- ・肥料使用量を減らす
- ・擦り切れる場所だけ施肥する
- ・除草剤使用頻度を減らす
- ・雑草の埋土種子が少ないホールでは土壤処理を抜いてみる
- ・インターミディエート・ラフをなくす
- ・ファーストカット・ラフの刈高を下げ、刈り込み頻度を減らす
- ・ファーストカットの幅を広げ、その外側は刈高を上げ(100~150mm)、刈り込み頻度も減らす
- ・アウトオブプレイエリアでは刈り込まない部分を作る
- ・ナチュラルエリアを設け、除草剤や労務を減らす
- ・ギヤングモアを使う
- ・樹木下のマルチングをやめ、耐陰性草種を植える



Dollars and Sense: Making It in a Tough Economy

In these hard times, superintendents have to be extra creative.
BY THE USGA GREEN SECTION STAFF

Superintendents are an obvious place to save money at many golf courses. Facility expenditures must prove when deciding how green to be maintained.

The current economic recession has touched all parts of the golf industry. Many golf course superintendents have had to implement financial cutbacks to help their facilities survive. While general revenues and rounds of golf are down, the cost of maintaining golf courses is up. There may be exceptions, but the rule is that more money is being spent to maintain courses. Superintendents are studying ways to do more with less.

The agreements of the USGA Green Section are based on this article, which is intended to provide guidelines for superintendents to reduce their course maintenance costs without negatively impacting your golf course; this list is not intended to be a recommendation for your golf course. As a reminder, the ideal practice is to work closely with your superintendents and their staff as they manage their golf courses.

through difficult economic times. When reviewing these ideas, it is up to the superintendent to determine whether the idea will change the quality of the golf course and whether this is acceptable. Please remember that the frequency that something is done only affects the cost of the standard to be maintained. If the cost is reduced, the cost is reduced as a result.

COST SAVINGS VS. COST CUTTING It is important to distinguish between the terms cost savings and cost cutting. Cost cutting is defined as reducing the cost of something without changing the quality of the course. In golf maintenance, this means reducing the cost of maintaining the course and communicating them to those who play the course.

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defined as spending less for a product or service with a reduction in the standard of quality. Cost savings is defined as the standard is lowered and less money is spent to maintain the course. Always communicate proactively with your superintendents about the standard to be maintained. If the cost is lowered to or costs are reduced as a result.

USGA ADVISORY SERVICE

The USGA Green Section has been providing its members with free on-site consulting visits to golf courses since the early 1990s. To request a visit, contact the office of the article, out seap's defined as the area where the majority of the population lives within 50 miles of the course. In golf maintenance, this means the area where the majority of the people play the course and communicating them to those who play the course.

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金と意味：経済危機を乗り切るには

：ティ

- ・ 可能なら目土を1~2年やめてみる
- ・ 手刈りをやめる
- ・ 四角いティの角を丸め、乗用モアで刈る
- ・ オーバーシードをやめる
- ・ ティマークの移動を減らす
- ・ 可能なら施肥を減らす
- ・ 刈り込みを減らす



**Dollars and Sense:
Making It in a Tough Economy**

In these hard times, superintendents have to be extra creative.
BY THE USGA GREEN SECTION STAFF

It's a sobering spot to see money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

The current economic recession has touched all parts of the golf industry. While many golf courses have not been immune from the reality and implications that foreclosed homes and foreclosed jobs have on their communities, others have fared better. Some may have even seen an increase in visitors at their facilities. There may be a silver lining in this, however, as superintendents are making ways to keep their courses open.

The agreements of the USGA and the Association of Golf Courses in this article, which is intended to provide some ideas for cost reduction to reduce their course maintenance expenses, are not intended to apply to your golf course. This list is not all-inclusive; nor is it intended to apply to every golf course or every type of golf course.

At a minimum, the ideas presented here can be discussed among superintendents and their staff as they manage their golf courses.

defined as spending less for a product or service with a reduction in the standard of quality. Cost cutting does not mean that the standard is lowered and less is spent to achieve the new standard. It means that the standard is being met with less cost.

**USGA TURF ADVISORY
COST SAVINGS
VS. COST CUTTING**

The USGA Green Section has been working with the Association of Golf Courses to get courses since the early 1990s to adopt a more aggressive way to maintain their courses. In 2008, the USGA Green Section and the Association of Golf Courses joined forces to develop a guide for superintendents to follow in maintaining their courses and communicating them to those who play the course.

金と意味：経済危機を乗り切るには ：労務

- 季節労務者を減らす
- 特別なプロジェクトをやめる
- ゾーン・メンテナンスを検討する
 - 従業員をクロス・トレーニングし、各ゾーンのリーダーは、グリーン刈り・カップ切り・バンカー均し・ティーマーク替え・ゴミ箱清掃・水補給ができるようにして、燃料消費を減らす。
- バディシステムにして、従業員二人でカート1台を使い、燃料消費を減らす
- 時間外勤務をゼロにする



Dollars and Sense: Making It in a Tough Economy

In these hard times, superintendents have to be extra creative.

BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Routine expenditures must proceed when funding levels are to be maintained.

These difficult economic times have reached all parts of the golf industry. Golf course superintendents have not been immune from the ramifications of the decline in golf participation. Declining allocated revenues and rounds of golf* are down across the country. There are exceptions, but the rule is that most superintendents are studying ways to do more with less.

The arguments of the USGA Green Section remain reflected in this article, as it is intended to provide golf courses with ideas on how to reduce costs without impacting budgets. Each item may or may not apply to your golf course; this list is not all-inclusive. However, the overall message is a recommendation for your golf course to be creative. The ideas presented will encourage creative thinking among superintendents and their staffs as they manage their golf courses

through difficult economic times. When implementing these ideas, it is up to each individual golf course to determine whether the idea will change the quality of the golf course and whether this is acceptable. Please remember that the goal is to reduce the frequency that something is done only to reduce expenses of total payroll hours and supplies.

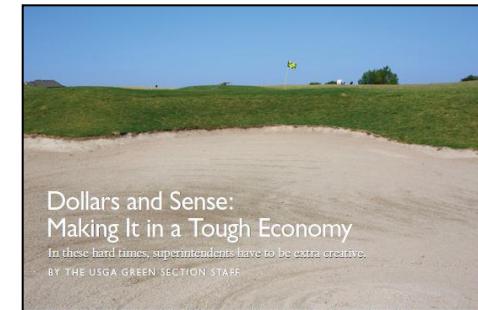
COST SAVINGS VS. COST CUTTING
Before moving forward, it is important to understand the difference between cost savings and cost cutting. For the purpose of this article, our savings is defined as reducing the cost of something without changing the quality of the course. Cost cutting is defined as the standard remains the same, but a less expensive way has been found to achieve the standard. Cost cutting is

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金と意味：経済危機を乗り切るには ：ゴルファーのコントロール

- ・ カートのコントロールを徹底し、
- ・ 芝の擦り切れを減らし、
- ・ 肥料・水を減らす。
- ・ ショットガンスタートをやめる
- ・ 春の開場を一週間遅らす



**Dollars and Sense:
Making It in a Tough Economy**

BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

As current economic recession has touched all parts of the golf industry, golf course superintendents have been impacted from the reality and it makes the forecasted revenues and rounds of golf are down at most golf courses. This may be concerning, but the rule is that golf course superintendents are studying ways to do more with less.

The Superintendents of the USGA Green Section recently collaborated on this article, which is intended to provide some ideas to help golf courses to reduce their course maintenance budgets. Each item may or may not be applicable to your golf course, but is not all-inclusive, nor is it intended to be a recommendation for your golf course. The intent of this article is to send word encourage creative thinking among superintendents and their staff as they manage their golf courses through difficult economic times.

When reviewing these ideas, it is up to each individual golf course to determine whether this idea will change the desired standard of the course and whether this is acceptable. Please note, an idea that involves reducing the expense of maintaining a course only reduce expenses if total payroll hours are reduced as a result.

defend a spending less for a product or service with a reduction in the standard. In golf maintenance, this means that a superintendent would have to go to great lengths to achieve the new standard. Always communicate proactively with course officials if the standard is being reduced due to cut costs.

USGA TURF ADVISORY SERVICE

The USGA Green Section has been providing free turfgrass consulting services to golf courses since the early 1950s. Green Section agronomists are available to provide advice to more than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

MAY/JUNE 2009 31

金と意味：経済危機を乗り切るには ：機器

- ・ モアの刃を鋭く保つ
- ・ クリッププレートと速度を調整し、
切れ味を最高にする
- ・ 散布機のキャリブレーションで、
散布量の過不足をなくす
- ・ 購入とリースの区分を検討する
- ・ 30分前に一人来させて、機械庫からその日必要な機械を
先に出しておく（待ち時間を減らす）



**Dollars and Sense:
Making It in a Tough Economy**
BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

In current economic times, it has touched all parts of the golf industry. Golf course superintendents have been inundated with the reality and seriousness that forecasted reverses and rounds of golf are down across the globe. While there may be exceptions, the rule is that most superintendents are studying ways to do more with less.

The members of the USGA Green Section recently collaborated on this article, which is intended to provide some ideas to help superintendents to reduce their course maintenance budgets. Each item may or may not be appropriate for your course. This is not all-inclusive, nor is it intended to be a recommendation for your golf course. However, we hope that these ideas will encourage creative thinking among superintendents and their staff as they manage their golf courses through difficult economic times.

When reviewing these ideas, it is up to each individual golf course to determine whether this idea will change the desired standard of maintenance and whether this is acceptable. Please note, an idea that involves reducing the expense of maintaining a course does not necessarily mean that payroll hours are reduced as a result.

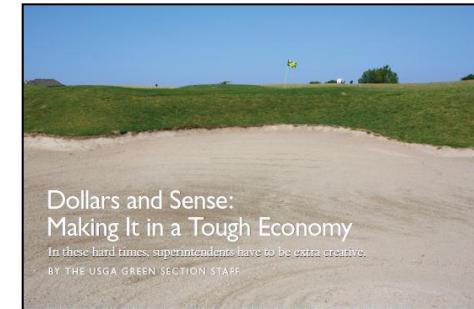
COST SAVINGS VS. COST CUTTING
Before we get started, it is important to distinguish between the terms cost saving and cost cutting. For the purposes of this article, cost cutting means spending less for a product or service without changing the quality of the equipment or service. In other words, the standard remains the same, but a less expensive way has been found to achieve the standard. Cost cutting is defined as spending less for a product or service with a reduction in the standard. In this case, the standard is changed and less is spent to achieve the new standard. Always communicate proactively with course officials if the standard is being changed to cut costs.

USGA
TURF ADVISORY
SERVICE
The USGA Green Section has been providing golf course managers and consulting visits to golf courses since the early 1950s. Green Section agronomists are available to provide services to more than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

MAY/JUNE 2009 31

金と意味：経済危機を乗り切るには ：灌水

- ・ 総散水量を減らす
- ・ 散水面積を減らす
- ・ スプリンクラーヘッドの水平を取り直し、
磨耗したノズルを交換する
- ・ 電力会社の料金プランを精査し、
電力料金が安くなる方法を探す



**Dollars and Sense:
Making It in a Tough Economy**
BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

As current economic recession has touched all parts of the golf industry, Golf course superintendents have been inundated from the realms and recesses that forecasted reversals and rounds of golf are down across golf courses. This may be true, but the rule is that most superintendents are studying ways to do more with less.

The members of the USGA Green Section recently collaborated on this article, which is intended to provide some ideas to help golf courses to reduce their course maintenance budgets. Each item may or may not be appropriate for your course. This is not all-inclusive, nor is it intended to be a recommendation for your golf course. However, we hope that these ideas will encourage creative thinking among superintendents and their staff as they manage their golf courses through difficult economic times.

When reviewing these ideas, it is up to each individual golf course to determine whether this idea will change the desired standard of maintenance and whether this is acceptable. Please note, an idea that involves reducing the expense of maintaining a course does not reduce expenses if total payroll hours are reduced as a result.

COST SAVINGS VS. COST CUTTING
Before we get started, it is important to distinguish between the terms cost saving and cost cutting. For the purposes of this article, cost cutting means spending less for a product or service without changing the quality of the output. Cost savings are those areas where the standard remains the same, but a less expensive way has been found to achieve the standard. Cost cutting is defined as spending less for a product or service with a reduction in the standard. In golf maintenance, this means that a standard is set and less is spent to achieve the new standard. Always communicate proactively with course officials if the standard is being changed due to cost cuts.

USGA TURF ADVISORY SERVICE
The USGA Green Section has been providing its Turf Advisory Service consulting visits to golf courses since the early 1950s. Green Section agronomists are available to provide guidance to more than any other turfgrass consulting organization. Please contact your regional agronomist for more information about tailoring these ideas to your course and communicating them to those who play the course.

MAY/JUNE 2009 21

金と意味：経済危機を乗り切るには ：樹木

- ・芝に悪影響のある木を切る
- ・伐採すべき木は剪定しない
- ・伐採を外注する
- ・ラフまで伸びている根を切り、ラフの水必要量を減らす



**Dollars and Sense:
Making It in a Tough Economy**

In these hard times, superintendents have to be extra creative.

BY THE USGA GREEN SECTION STAFF

Bunkers are an obvious spot to save money at many golf courses. Realistic expectations must prevail when deciding how they are to be maintained.

As current economic recession has touched all parts of the golf industry, golf course superintendents have been impacted from the reality and are noticing that forecasted revenues and costs of golf are down. As most golf courses are not profit centers, the question becomes, what is the role is that the superintendent has? Superintendents are studying ways to do more with less.

The members of the USGA Green Section recently collaborated on this article, which is intended to provide some ideas to help superintendents to reduce their course maintenance budgets. Each item may or may not be appropriate for your course. This is not all-inclusive, nor is it intended to be a recommendation for your golf course. However, we hope that these ideas will encourage creative thinking among superintendents and their staff as they manage their golf courses through difficult economic times.

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USGA
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Is Your Course Environmentally and Economically Sound?

April 15, 2011 -- Volume 49, Number 15

Q3: 樹木への投資を精査したか？



- 樹木はコースの大切な構成要素であり、良い樹種が、正しい場所に植栽されていれば、視覚的にも機能的にも長期の特長となる。
- 一方で、品質が悪い、不適な樹木は、コースにとって悪夢となる。新たに間違った植栽が行なわれ、失敗が約束されているのを見かけるのは、つらいことだ。
- 樹木の植栽や管理を軽く考え、長期的な周囲への影響やコストを熟慮しないと、時間と金の無駄になる。
- 正しい樹木を正しい場所に植栽するためには、樹木やコース設計や太陽の入射角に関する専門的な知識が必要で、経験をつんだプロにも簡単ではないことがある。

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Q3:樹木への投資を精査したか？

【関連文献】

- ゴルフコース樹木の選定と植栽のガイド
- さまざまな手段を利用する
- 「念のための植栽」をやめよう
- 人類の友か、ゴルファーの敵か？
- 「樹木」対「ターフ」:樹木管理で健康なターフを
- 「*Pinus plastica* (プラスチック松)」
- 新たな技術で、古い問題を解決
- 樹木管理計画の策定



バンカー: あなたのコースでは適正か?

- ・ バンカーでのボールライが良く、ハザードでなくなってしまってるコースが多い
- ・ 本来は砂の種類と状態、ボールの埋まり方を、プレーヤーが判断して打つべき
- ・ 「目玉」にならず、平らな底まで必ず転げ落ちるバンカーが、正しいのか?
- ・ グリーンよりバンカーに手をかけてるコースまであり、労務削減・コスト削減の可能性は大
- ・ ゴルファーのバンカーに対する期待度が上がってしまっているが、正すべきではないか

Bunkers: Can Your Golf Course Afford Them?

Due to the high cost of maintaining them, bunkers are an obvious place to look for ways to save money.

BY JIM MOORE



If you are looking to save maintenance dollars in a tight economy, look no further than the nearest bunker.

Should the predictions prove true that the economic challenges already facing the golf industry will continue to worsen, most courses will have to implement steps to reduce labor costs. Buying cheaper fertilizer and using generic pest control products can save some money and are worth consideration, but the "800-pound gorilla" in every maintenance budget is labor. Facilities that have to make big reductions in expenses are almost certainly going to have to reduce the number of hours spent on taking care of the course. The obvious step is to look for areas in which labor hours can be reduced without hurting the playing quality or long-term agronomic health of the course. Fortunately, most courses will not have to look very hard to find such areas — they are called "bunkers."

Many top courses now maintain bunkers to a level that raises the question as to whether or not they are still hazards. The Rules of Golf may continue to define bunkers as hazards, but certainly they are not maintained as such, nor do they pose the challenge of their predecessors. The golfers' incessant cries that the bunkers are inconsistent has been answered with bunkers in which every lie is exactly the same. No longer must the player make a decision about the type of bunker shot he must execute based on varying sand depth, sand moisture, or the makeup of the sand itself. Balls seldom remain on steep slopes and instead roll to the flat bunker floor. Fried-egg lies are considered *unfair* and a sign of poor maintenance.

As usual, the tour-stop courses seen on television set the standards for the

USGA Green Section Record 2009年3-4月号

仕事を計画し、計画を実行せよ

- コスト削減のためには、
- 業務時間を記録し、
- データを分析して、
- コストの行き先を特定し、
- 管理計画を評価し、
- 新たな計画を策定する。

“Data = Knowledge = Power”

「データ = 知識 = パワー」

Plan Your Work, Work Your Plan

Know what it costs.

BY DARRIN M. BATISKY

Golf course superintendents face many challenges, and an uncertain economic climate intensifies the importance of staying current with evolving technology, balancing/managing the cost of course presentation, and first and foremost, meeting the needs and expectations of golfers. Golf course maintenance budgets are being scrutinized more and more each day. The rising prices of supplies, such as pest control products, fertilizers, fuel, parts, topdressing, etc., are making it difficult to maintain the status quo. Without question, these items are important and they significantly impact the budgeting process, but it is the labor-related expense, or human capital, that is the most significant component of the golf course maintenance budget.

Surveys have documented that a typical line item cost for labor to main-

tain a golf course is 50% to 60% of the total operation's budget. Unfortunately, the relative size of this line item, compared to the remainder of the budget, makes it an easy target for reduction by the governing body of the golf course. Being able to quantify labor needs, as based on the members' desired setup of the course, is critical and, in fact, essential to outlining the real cost of maintenance. Labor cost can be reduced, but not without affecting course setup criteria.

The cost of conditioning and presenting the turf in the desired manner needs to be quantified. Doing so provides a mechanism to equate budget numbers for course conditioning to efforts that are, after all, developed from analyzing golfer demands. Sounds simple, right? Most superintendents can approximate this information for each job on their courses, but I believe

that a more formalized and accurate approach should be utilized to track work hours and the cost of operations.

DATA = KNOWLEDGE = POWER

As a student at The Ohio State University, I was exposed to a life equation by my advisor and mentor, Dr. Karl Danneberger: **Data = Knowledge = Power**. There are many applications for this equation. In turf management, we use university or independent research data as a starting point to determine which pesticide or fertilizer to use when formulating best management practices. Reviewing National Turfgrass Evaluation Program results (NTEP) provides information to make selections of grasses that will perform best in our area. Having access to *accurate and reliable* data is critical to make daily decisions, as well as guide



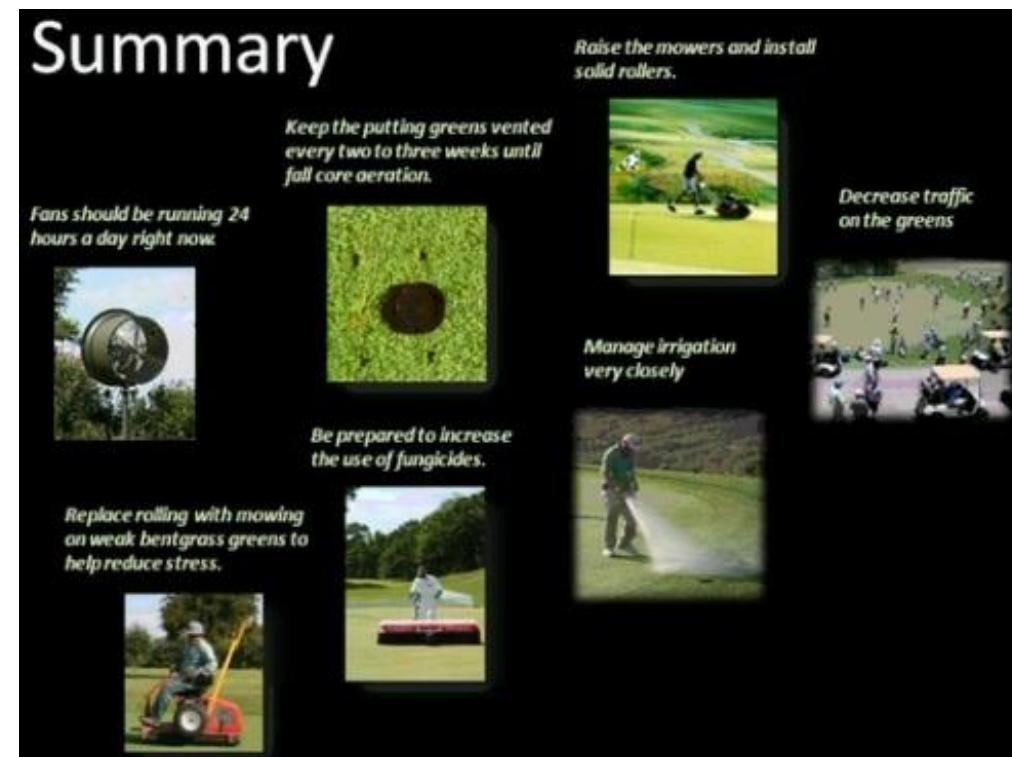
We track as many different mowing tasks as possible. By doing so we are able to quantify every effort, which then can be translated into a dollar cost.

今後のわが国のゴルフ場環境

- ・ 経済危機・原発事故
- ・ ゴルファーの減少
- ・ 客単価の低下
- ・ 収入の減少
- ・ 競争の激化
- ・ ネット掲示板などの「風評」
- ・ 気候変動→コース状態悪化のリスク
- ・ 「目標品質の確保」による「機会損失の最小化」の重要性が増す

USGA 2010年夏『守りの管理』

- 2010年夏、米国でも記録的高温で被害多発
- USGAグリーンセクションでは7月30日に「非常事態宣言」として次の「守りの管理」を推奨
 - 扇風機の利用
 - ベンディング
 - 刈高を上げる
 - 刈り込み回数を減らす
 - 根に合わせた水管理
(手散水・シリnjing)
 - 頻繁な殺菌剤処理
 - 通行の制限



地球温暖化による芝生育への影響

- 変動幅の増大(異常高温+異常低温)

- 四季の不規則化 ('平年'なくなる)

→管理作業実施タイミングの変化

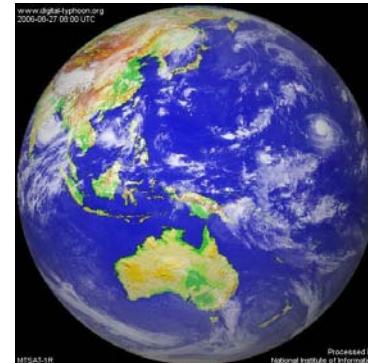
→害虫・病害・雑草発生のタイミング・期間の変化
と、難防除化

→今までの経験に基づく管理で十分か？

- 余裕(マージン)を持った管理へ

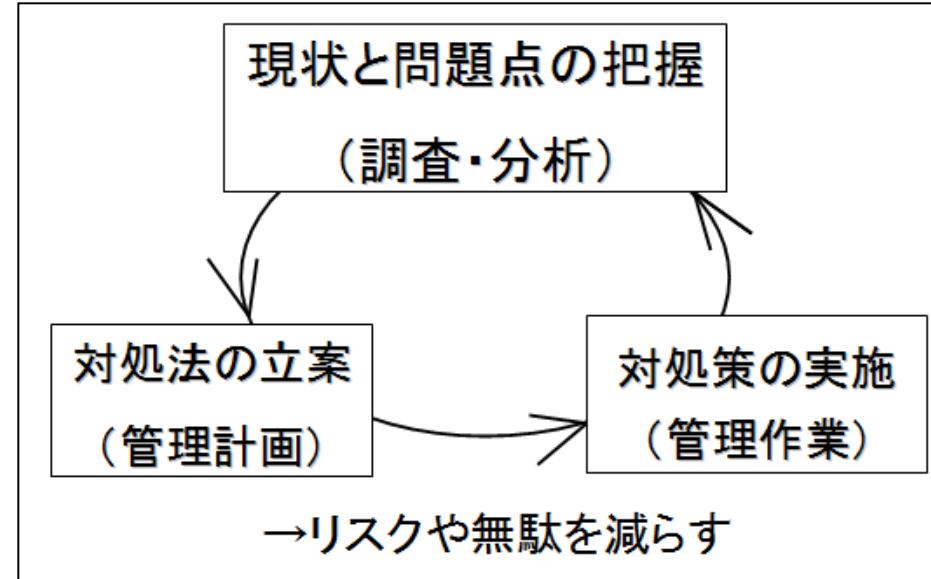
- 生育環境の改善を主眼とした管理へ

- 調査・分析による現状の把握と、対処策の検証に基づく管理へ



「余計な仕事」？ データ収集とフィードバックとコミュニケーションが、 真の合理化・コスト削減を産む

- データの収集と分析
 - 労務時間
 - 芝・土・コースの状態
 - ゴルファーの反応
 - コスト
 - 現在の管理計画の検証
 - 新たな管理計画・管理基準の策定
 - 説明・コミュニケーション
 - 管理方針の継続性・人材の育成
- 決して「余計な仕事」ではない



ありがとうございました

