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Stick to Greens

Golf Course Superintendents & Managers Association of India

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FROM THE PRESIDENT'S DESK

Dear Readers,

Wish you all a Very Happy & A Prosperous New Year

It is with great pleasure and satisfaction that I address you today in regards to the present state of activities since my message in the last News letter.

2011 has been an eventful year for GCS & MAI as we were able to consolidate and firm-in our planned activities. The Asia Golf Industry Show and its success depend essentially on the Seminar organized by GCS&MAI. I inform you with sincere satisfaction that the Green Keepers Seminar went through with real pomp and show leading to a resounding success. We received appreciation from all for having been able to share critical issues faced by golf courses in the Country. This year we had speakers from India in great strength which indicated the depth of knowledge and understanding of the regional turf related issues. My sincere appreciation to all the speakers and with humility I salute them. The Organizers led by Mr. Anil Dev had given us unstinted support towards the success of the GCS & MAI Seminar. My gratitude and appreciation to Mr. Anil Dev and his Team.

GCS&MAI has finally been able to make a major progress forward for its registration as an Official Society. My sincere thanks to Mr. Anit Mehrotra and Mrs. Mehrotra, whose contribution towards the registration of our Association is sincerely appreciated.

Indian Golf Union has been gracious enough to consider GCS&MAI as a support organization towards Green Keeping and its furtherance in the Country. We assure the Indian Golf Union our whole hearted support in all their future venture towards improvement of Golf canvas in the country.

I strongly feel that our members must contribute to our News letter bringing in specific issues that can benefit all Golf courses without exception. Let us not shy away to contribute to the Golf fraternity by projecting our hidden talent to indicate adequate knowledge base within the country.

We are planning for a General Body Meeting for which the Secretary General shall be in touch with all members to have a great interactive session to take our Organization forward.

Happy Golfing!!!!!

Sincere good wishes,

Col (Retd) S.K.Bhattacharya
President

CHIEF EDITOR'S NOTE

India's official Golf Trade Show was conducted by Asian Golf Industry. The city of Delhi played to host to the 4th Asian Golf Industry Show from the 23rd to the 25th of September, 2011 at Hotel Ashok. This Asia Golf Industry Show was the biggest golf exhibition in the Indian Subcontinent showcasing merchandise, industrial equipment and facilities providing a perfect platform for all golf businesses from golfing equipment to Golf Course construction. It was aimed to provide an all encompassing platform. with that in view, the show was brought to India from Beijing. This show was jointly supported by The Indian Golf Union, the Asian Golf Course Owners Association and of course, the Golf Course Superintendents & Managers Association of India referred to as GCS&MAI.

The show provided access to the Indian Golf Industry. It invited all those associated to be a part of the monstrous golf pie growing at a phenomenal rate. With the Indians now getting increasingly aware and committed to promotion of the sport, fitness and health, the Asia Golf Industry Show delivered the pie on a platter providing an ideal access to this market core. This exhibition incorporated a Seminar and conferences over the period of 3 days and saw participation of individuals and organizations that are of significance to this market.

It was a specialized Trade and Industry show, dedicated to serve the booming Asia's Golf Industry, in particular the South Asian countries viz, India, Pakistan, Bangladesh, Nepal, Sri Lanka, Maldives, etc with approximately 240 Golf Clubs in this region, and growing. With the great support from these 3 key organizations viz, Asian Golf Course Owners Associations, Golf Course Superintendents and Managers Association of India and Indian Golf Union. This show has now become an important annual meeting point for both Asia and Indian Golf Industry professionals to learn and to trade. Many golf Industry professionals from all over the world visited the Show.

The Seminar on Green Keeping was of special significance as it highlighted the issues related to Green Keeping in its entirety Mr. Tony Taylor spoke on 'Choosing the Appropriate Grass'. 'Irrigation, Water Quality & its role in sustaining Golf Courses' was dealt by Dr. H.K. Singh, Mr. Pradeep Joshi spoke about 'Turf Diseases'. Mr. John Truttman talked on 'Evolution of Golf Irrigation'. Mr. Sunil Khanna talked about 'Reel Technologies', while Col. Ravi Rana, Vice President GCS&MAI stressed on 'Putting Green Consistency'.

On the next day of the Seminar Mr. Anil Kumar spoke on 'Aeration Technology' and Mr. S. Natarajan talked about 'Indigenous Technologies' while Col. S.K. Bhattacharya, President GCS&MAI dwelt on 'Cultural Practices', Mr. Stuart Hackwell talked about Conserving Valuable Resources' while Wg. Cdr. Satish Aprajit touched upon 'Upgradation and Refurbishing of Golf Courses'.

In the end a panel discussion was conducted by me where the panelists viz, Mr. Joel Lander, Mr. Anit Mehrotra, Mr. S. Natarajan and Mr. Jon Turttman took the discussion to new heights. There was general consensus that Golf Courses will now become integral part of town planning. With the rapid urbanization taking place Golf Industry will play a major role in days to come to meet aspirations of 300 millions middle class Indians. Remember United States was constructing 200 to 400 golf courses per year between1980-2000. Are we ready for such a task ahead? Do we have sufficient skilled manpower, managerial skills to meet this challenge? Is our Country prepared with necessary reforms related to Land, Labour & Capital to enable the entrepreneur to facilitate this great transformation from one agro India to one of developed India? I am confident that GCS&MAI and its associates will have much greater role to play in future.

In this issue our Vice President Col Ravi Rana is sharing his views on Maintaining Greens vis-à-vis speed which is so characteristic of a consistent green. Mr Bhupendar Singh has pen down his thoughts on "Nature of Golf" while Mr N S Sengar is talking about "Role of Various Nutrients". I hope it makes an interesting, informative and an educative reading for all those who are charged with the responsibility of maintaining golf courses.

Here is wishing you all good golfing throughout the year...

Col (Retd) S K Sharma,

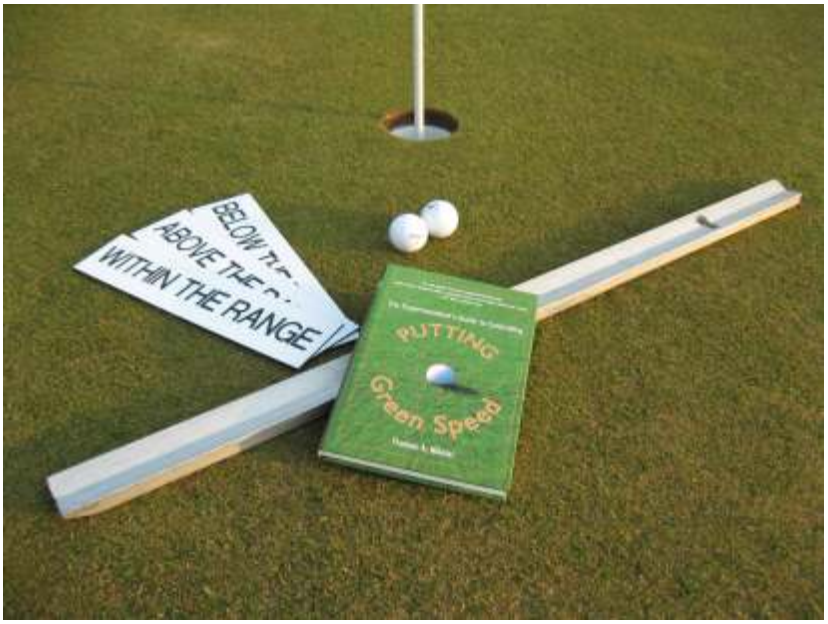
PUTTING GREENS : SPEED KILLS

By Col Ravi Rana

The putting greens are your business card and resume. But focusing on greens speed alone can kill your greens *and* your job. Instead, follow this step-by-step procedure for developing a comprehensive greens management program that will result in great putting greens without scalping them to death.

Greens Speed : Speed and stimpmeter readings have no place in greens performance discussions. The stimpmeter was never meant to be, nor should it be used as, a speedometer to compare greens performance at different golf courses. Great greens are firm, smooth and consistent, and should be your primary objective.

Evaluating Putting Greens : Assess each of your greens for grass type, rooting depth, overall health and golfer perceptions. This process should include a visual assessment of the soil profiles of each green to compare construction, organic-matter layering and depth, rooting depth and putting-surface consistency. Research over several decades has shown that the best-performing greens need a minimum 12-inch depth of sand consisting of appropriate textural size ranges for adequate porosity to meet the turf grass root-gas exchange and water requirements. These textural-size construction recommendations are designed to minimize root zone compaction tendencies over time. The USGA putting-green construction recommendations provide guidelines based on physical parameters that have consistently produced good putting green performance. Using the USGA Green Section Turf Advisory consultative services is an excellent way to get a report card of your greens' condition. For maximum results, couple an onsite consultative visit with lab reports of your greens from one of the many labs throughout NCR. These labs specialize in providing a physical assessment of your putting green root zone material.



Golfer Expectation & Ability : Talk with the golfers, including your Professionals, who regularly play your golf course. These discussions provide a good resource for learning how your greens are performing, how they performed in the past, how golfers would like them to perform in the future, which greens perform better than others and what the golfers use to gauge greens performance. The key to the success of these discussions is to develop a two-way communication between your customer golfers and the superintendent hired to meet their golfing play expectations.

Tournament Plans : When golfers see the outstanding playing quality of a major tournament on television, they wonder why their course doesn't play like that. A good analogy for comparing tournament golf to regular golf conditions comes from football. Few would expect an injured football player to continue playing a regular season game, especially if doing so might mean permanent player disability. But if the game is for a championship game like the Super Bowl, the player may choose to get the injury taped up, have a special pain-killer injection and get back in the game. Like the injured player, your golf course can only sustain tournament-like conditions during special occasions. Tournament golf-playing conditions are for exceptional circumstances only and should not occur more than two to three times per year. Putting your golf course into severe tournament stress makes it much more susceptible to turf death from any additional stresses that the turf grass would otherwise easily tolerate. Golf course members who expect tournament-like conditions year round are dooming their golf course to massive and repeated turf death.

Develop Your Maintenance Program : Once you have gathered and analyzed information about your golf course and identified expectations for your greens, you are ready to develop a maintenance program for them. Greens benefit from two distinct maintenance programs that are tailored to the specific needs and conditions of your golf course. The *regular* maintenance program outlines the primary maintenance procedures that you'll use during most of the year. The *tournament* maintenance program is one you'll use only for those exceptional circumstances, a maximum of one to three times each year, when golfers expect tournament f

conditions. For an effective management program, take into account these factors: putting green construction and age; grass species and variety; climate and time of year (soil and air temperature, precipitation amount, growing season, etc.); mowing height; mowing frequency; core aeration diameter, depth and frequency; sand topdressing rate and frequency; vertical mowing depth and frequency; rolling frequency; fertility level and grass succulence; and irrigation practices and root depth. Integrating these factors into a customized maintenance program is another good use of the service of Col Ravi Rana located in close vicinity. Your maintenance program goal should be to get the most from your greens for the best overall performance. Use these guidelines to focus your management program for producing outstanding greens.

Mow Properly : You should routinely mow each turf grass at its physiological optimum, taking into consideration its variety, local climatic factors and expected playing quality. Only under tournament conditions should you mow below this optimum level. For example, creeping bent grass putting greens mowed at ⅛ inch showed a 40 percent reduction in photosynthesis compared to greens mowed at 5/32 inch. The grass mowed lower was significantly less vigorous and not as healthy. Monitoring your turf density is a good way to assess optimum mowing height. Poor turf density is many times the result of excessively low mowing height.

Roll Regularly : Rolling will improve putting surface smoothness and firmness. The turf is much healthier when mowed higher and rolled compared to being mowed lower. Research shows that frequent rolling (even five times per week), will not cause compaction or other turf health problems. Rolling is a great way to get fast, smooth greens and still maintain healthy turf grass.

Cultivate Frequently : Putting greens produce the highest quality putting surface when you cultivate them frequently. The best quality putting surfaces develop on greens where you core aerify or deeply vertical mow at least 20 percent of the putting surface area each year. Vertical mowing and sand topdressing in conjunction with core aeration produce the best quality putting surfaces, resulting in firm, smooth, well-drained and fast putting surfaces. Golf courses throughout the Southwest with high standards may core aerify, vertical mow, and top-dress weekly during optimal growth periods. Putting greens with adequate routine cultivation maintenance have an unlimited life expectancy.

Apply Turf Growth Regulators : Applications of turf growth regulators are the new magic bullet for high-quality putting greens maintenance. Turf growth regulators that are safe for your putting surface turf species will increase putting surface density and smoothness ..

Water Properly : Reduce putting surface irrigation by implementing deep, infrequent irrigation supplemented by hand watering of hot spots. Ensure green surrounds are watered separately from putting surfaces. These procedures conserve water, increase surface firmness, reduce plant succulence and improve turf health.

Fertilize Properly : You should apply fertilizer only to meet the metabolic plant requirements. Excess nitrogen, for example, causes increased plant succulence, decreased drought and wear tolerance, and increased disease incidence and severity. The best putting green fertility programs apply required nutrients as foliar applied fertilizer at low rates to match the growing needs of the plant.

This is the final step of your greens management program. A successful maintenance manual will integrate the maintenance procedures, budget and schedules concerning golfers and golf course event and play. The document will provide a good reference for everyone and synchronize efforts for putting green performance success. It also will serve as a guide to direct you concerning what changes are needed when targets are not being satisfactorily met. Maintenance manuals also serve as great tools for developing realistic expectations, budgets, schedules and procedures to achieve these goals. The combination of good agronomics and effective communications will allow both your putting greens and your golfers to be champions.

Asia Golf Show 2011

23rd-25th Sept'11, Hotel Ashok- New Delhi

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THE NATURE OF GOLF

By Bhupendra Singh

In the past human habitat was abundantly rich and replete with natural streams, forests, wildlife and landscapes. But now we are living in an era of ecological-emergency as the woods have withered away to give way to forests of concrete, meandering streams are swallowed by a criss-cross of metaled roads and the proliferating glass-concrete has consumed away the lush landscapes.

Natural landscape is now a scarce resource especially in urban sprawls and so it has acquired an economic value for which people are ready to pay be it in the form of parks, gardens or golf-courses.

Golf might had been played for different reasons in the past but today the rising popularity of golf is a manifestation of human desire to be with nature. Golf is emerging as a promising sport as it is philosophically as well as practically closest to nature than any other major sport. Golf is not only a sport but is much more than that. In fact golf is all about being with nature.

However the paradox is that in spite of having closest connection with nature and environment, golf is being tagged as anti-ecological by some environmental-conservationists. They argue that golf courses use chemical fertilizers and pesticides which pollute environment.

Golf is 'nature crafted consciously in miniature'. Golf is natural but it is not wild and so cannot grow on its own. It is consciously cultured and needs a regular care like any other agro-ecosystem similar to the crops raised in a field. All agro-ecosystems depend on timely inputs of chemical fertilizers, pesticides and irrigation for rendering the desired yield.

Chemical fertilizers and pesticides are the indispensable inputs of todays crop culture throughout the world and efforts are being made to minimize their use without affecting productivity. This may be a distant dream in case of commercial crops but for golf this is a practical proposition because the game of golf is rapidly evolving in the changing times and so is the attitude of the golfers. The time is not far when eco-sensitive golfers will drop the pursuit for 'green colour' & learn to play and enjoy golf on the 'greens which are true and consistent and not necessarily deep green in colour'.

Golf industry is also signaling its environmental sensitivity and social responsibility by actively indulging in R&D so as to innovate methods and technology to sustain golf courses with minimal resources. Evolution of grass species with lesser water requirement is an outcome of this commitment of golf industry. Almost all golf courses now use efficient automated micro-irrigation systems. Use of organic substitutes in conjunction with chemical fertilizers and pesticides is being explored and embraced by the golf courses around the world. With innovative eco-friendly design, construction and management practices there is a possibility to evolve 'maintenance mixes' that will make golfing a more organic experience in the times to come.

Environmental pollution and water crisis are the byproducts of industrialization, rapid urbanization and unplanned exploitation of natural resources which had continued for long. To address these issues a holistic planning for sustainable development and natural resource utilization needs to be evolved. In fact for ameliorating the ecological losses a paradigm shift from 'material-economy' to 'green-economy' is needed and golf definitely fits better in the latter.

Every economic production right from a can of a deo-spray to the paper on which this article is printed draws something or other from the nature and in return what good it does to the environment, other than satisfying a human need, I fail to figure out! And a golf course even if depends on environment in anyway in return it synergistically strengthen it in many ways other than satisfying the human need of being with nature.

An area of 150 acres under a golf course is an ecological reserve by the very virtue of golf course being an ecological entity. Its green grass cover conserve soil which otherwise might be lost with the runoff of water during rains or blown away by strong winds. It supports percolation of rain water which recharges ground water table. It is a home to native flora and fauna where they can flourish freely under human security and support. Away from bustling streets it is an ideal place for native birds to build nests and a seasonal sojourn for migratory birds to settle and multiply. It harbours a diverse aquatic life in its water bodies and streams. In golf courses it is a pleasure and satisfaction watching 'nature in action' which improves our mental and physical health.

To add more, golf courses are natural air conditioners, air purifiers and sinks for the urban noise pollution, the list continues...True, golf is much more than a mere sport, it is a lifestyle, a natural lifestyle.

Bhupendra Singh, B.Sc. (Agriculture) and is presently working as Assistant Course Superintendent with Delhi Golf Club.

ROLE OF VARIOUS NUTRIENTS

By N S Sengar

It has been observed that dense and healthy turf is less prone to diseases, pests, weeds and other stresses including environmental stresses. A healthy turf system always help in reducing weeds and disease problems whereas weak and low density turf will create more and more trouble for golf managers.

Nutrition management, water management, and the inter-culture operations management i.e. mowing, aeration etc are the most important tools for maintaining a golf course with superior quality turf which is the USP for any golf course.

During my engagement in turf management at classic golf resort, I always focused on making the turf system very strong by providing balanced nutrition which yielded excellent results in avoiding various stresses which generally occurs in weak turf system and this also helped us in reducing expenses in controlling the diseases/pests etc. I am of very firm opinion and always recommend that treat the turf and plants like children and provide them best possible balance diet/nutrition for their growth and development so that they can grow and fight all the stresses including environmental.

Plant nutrients requirements depends on - specific requirements of the type of turf; usage of turf; climatic conditions; plant growth phase etc. and can be assessed by testing the soil. However, for a golf course manager knowing the role of various nutrients and their deficiency symptoms in the turf is very important for achieving superior quality results which is the ultimate goal of any golf manager. Description containing the important role of the following nutrients with their deficiency symptoms may help in knowing the specific requirement and managing the nutritional balance in the turf system and also in reducing the dependency on test labs -

1. Nitrogen (N) - Role of Nitrogen :

   a. Nitrogen is a key element in turf grass nutrition
   b. Promotes vigorous leaf and stem growth to improve the overall quality of turf
   c. Essential component of the chlorophyll molecule which gives turf its dark green color
   d. Involve in regulating the uptake of other key nutrients

Occurrence & Deficiency Symptoms

Frequency of occurrence of N deficiency is high specially in coarse, sandy soils due to of high leaching from intense rain fall, excessive irrigation etc.

- Stunning of shoot growth
- Decreased tillering
- Older leaves turn pal green
- Very high deficiency leads to older leaves become tan, necrosis of leaves and decreased shoot density

2. Phosphorous (P) - Role of Phosphorous :

   a. Phosphorous is used in the formation and transfer of energy within the plant.
   b. Encourage plant establishment
   c. Phosphorous influences early root development and growth

Occurrence & deficiency Symptoms

It occurs in cold temperature, acidic and extremely alkaline soils.

- Reduction in shoot growth
- Leaves turn dark green
- Plant tend to be spindly
- Dull reddish color progress from leaf tip to base and followed by necrosis and leaf tip withering

3. Potash (K) - Role of Potash :

   a. Encourages wear tolerance and rooting
   b. Enhances drought and cold tolerance
   c. Plants use this element in large quantities and second only to nitrogen
   d. Key component in formation of carbohydrates (food for the plant)
   e. A key component in cell wall strength and resistance to disease

Occurrence & deficiency Symptom

Generally occurs in sandy and coarse soils due to high leaching from intense rainfall and irrigation.

- Initially excessive tillering and soft leaves
- Interveinal yellowing in older leaves
- Leaf tips withering and rolling

4. Magnesium (Mg) - Role of Magnesium

a. Magnesium plays an important role in photosynthesis and chlorophyll production
b. A necessary component in many essential enzyme systems within the plant,
c. Also important in aiding the translocation of phosphorus.

Occurrence and Deficiency Symptoms

This occurs generally in coarse, sandy soils and acidic soils specially after high leaching from intense rainfall.

- In initial stages of deficiency older lower leaves turn cherry red along margin extending to midvein;
- Shoot growth reduced as leaves turn pale green.
- In advanced stages it develops necrosis.

5. Calcium (Ca) - Role of calcium :

a. Calcium is essential for cell division and strong cell wall structure
b. Influences proper soil pH
c. Important in improving the soil structure, infiltration and water retention

Occurrence and Deficiency Symptoms

Deficiency occurs in highly acidic soils and in light, coarse as well as sandy soils due high leaching from heavy rainfall and irrigation

- Initially younger and upper leaves turn reddish brown along the margin
- Leaf tips become withered

6. Sulphur (S) - Role of Sulphur :

a. Sulphur is very important in influencing the level of activity of soil microorganisms
b. Also plays an important role in the utilization of oxygen by the plant
c. Sulphur works with nitrogen to produce new proteins for plant growth

Occurrence and Deficiency Symptoms

Deficiency occurs in coarse, sandy soils having low organic matter content. High leaching from intense rainfall or irrigation

- Older leaves start showing pale green color
- Interveinal areas of leaf blades become yellowish green
- Scorching of leaf tips and entire leaf withering

7. Iron (Fe) - Role of Iron :

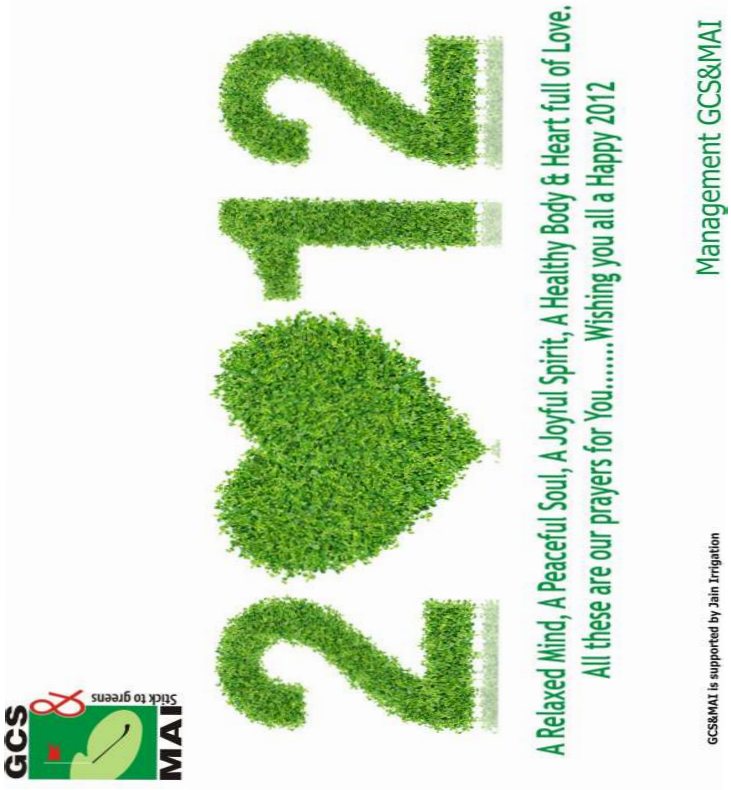
a. Iron is necessary for formation of chlorophyll
b. Aids in the activation of many biochemical processes within the plants

Occurrence and Deficiency Symptoms

High soil pH, high soil phosphate, high organic matter, water logging and excessive thatch conditions.

- Initial deficiency shows interveinal yellowing in youngest leaves
- Chlorosis spreads to lower older leaves
- Ultimately plants become spindly and leaf blades turn nearly white or ivory.

N S Sengar M.Sc.(Ag), having more than 23 years experience with a track record in the field of Golf Project Planning.



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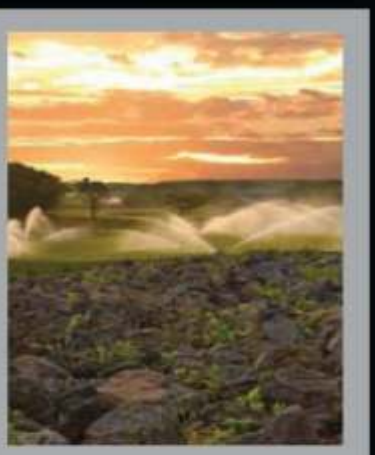

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