

**HANDS ON**



*Tim Hiers, CGCS, presented to  
Treasure Coast Chapter FGCSA.*

# Integregated Plant Management

*From a presentation by Tim Hiers, CGCS, to the Treasure Coast Chapter of the FGCSA. Scott Bell, CGCS, and Kevin Downing, CGCS, assisted in providing material for this article.*

BY JOEL JACKSON, CGCS

Tim Hiers never leaves you wondering where he stands on an issue. Speaking with the conviction and zeal of a backwoods preacher and the authority and confidence of a corporate officer addressing a shareholders meeting, Tim delivers his message.

At a recent Treasure Coast GCSA meeting, Tim gave a presentation on Integrated Plant Management or IPM as it is known in the turf industry. Originally called Integrated Pest Management, the name has been changed to Integrated Plant Management to reflect a broader scope of turf management. As Tim put it, "IPM is not limited to the use of pesticides. It includes every practical and efficient thing you do to manage turf!" Tim is convinced, that if you are not paying proper attention to safety, training, record keeping, equipment maintenance, and cultural practices, you can't have a very effective IPM program.

In today's environmentally conscious world, it is imperative to demonstrate our knowledge, sensitivity, and concern for proper stewardship of our natural resources. While understanding and implementing an effective IPM program is essential, it is not enough according to Tim.

"All of us in this room are ultimately responsible for the problems we face from the growing concerns over environmentalism! We have participated in our associations, we have attended meetings and seminars, we have read our trade publications, but we really haven't done our share! If we would have worked half as hard for our position as those who work against us, we wouldn't be in this defen-



*During grow-in, it was obvious that the steep slopes around this tee were going to be difficult to maintain. One solution, shown below, was to use ground cover (wedelia) which only requires mowing twice a year.*



Photos by Tim Hiers, CGCS

# Every practical and efficient thing you do to manage turf

sive position we are in right now. I don't know if the people who oppose golf courses and the use of chemicals operate out of ignorance or are just willfully ignorant. I can't tell the difference. The results is still the same.

"Some folks out there share our philosophies, but they don't understand our business. Just because we have some positive results from an experiment that supports our position, it is not enough. I hate to use this overworked cliché, but we do need to become more pro-active. We have to be able to change people's perceptions of our business. At the same time we must understand their positions and provide them with information that

will enable us to find reasonable, sensible solutions to our differing viewpoints."

Tim didn't want the audience to get hung up on jargon and buzzwords when it comes to IPM.

"While scouting, mapping, and threshold levels are sophisticated aspects of an IPM program, the simple task of making sure your mowers are sharp and set properly are just as important! Dull mowers can injure grass blades making them susceptible to disease." This may require an extra fungicide application to control the disease.

Tim continued, "One of the statements I keep hearing from people about

using IPM is that we will have to sacrifice the condition of the golf course. I totally disagree with that comment! There may have to be some concessions to the speed of the greens and the shade of green of the grass, but the quality of the turf and the traditions of the game can be preserved very easily. Members want to brag about the speed of their greens, but they can't putt them. I observe players every day failing to make putts on these greens that they demand to be kept at speeds of 9, 10, or higher. Maybe a few players can negotiate the ultra fast greens, but the majority can't.

It has been demonstrated that the cost

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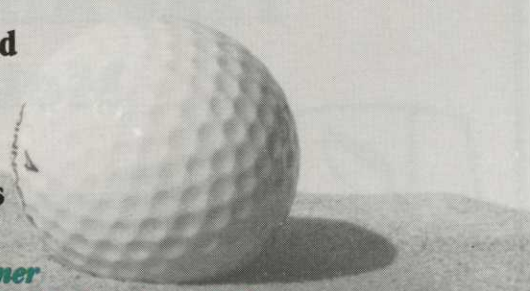
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of maintenance goes up in proportion to the speed. Shorter blade produce shorter roots which makes the turf prone to disease and wear. We can reduce the amounts of water, fertilizer, and pesticides by using sharp mowers, reasonable heights of cut, and consistent cultural practices. At the same time we can produce a consistent, healthy, playable putting surface."

Tim then commented on a series of examples of IPM practices that reduced the use of water, fertilizer, pesticides and labor. I'll call them Tim's Tips:

**OUT-OF-PLAY AREAS**

On every course there are areas that are not in play but are grassed and must be maintained. Some are difficult and time-consuming to mow and keep attractive. Here are some suggestions to deal with those areas.

1. Depending on your region, consider the use of ground covers. We use wedelia with its colorful yellow blossoms. Rather than mowing weekly, we mow it twice a year.

2. Don't fight hard to manage turf in dense shade under a tree. Remove the turf. Try mulch and/or shade-loving native vegetation. Ornamental shrubs or annuals might also be an alternative.

3. Consider seeding out-of-play areas with wildflowers. Some temporary watering may be needed to get the plants established. Our wildflower patch was the talk of the club last year. It made a great accent. We did have to hand weed the taller weeds like dog fennel and remove some oak shoots every two or three weeks, but it was at minimal cost.

4. In some dry weedy areas, it may be prudent to install some low-volume irrigation heads and plant turf if the area is easy to mow. This may save labor in the

long run and definitely gets the mowers out of the sand which is quite harmful to machinery.

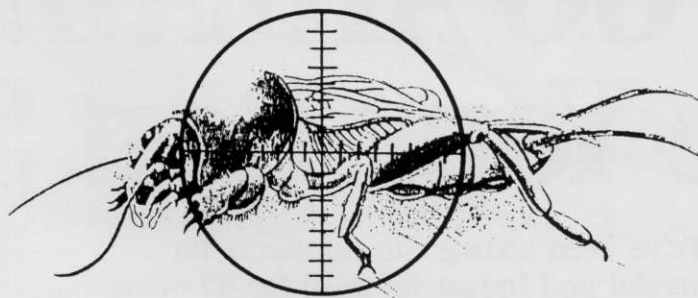
**IRRIGATION**

1. Don't overwater! Overwatering can contribute to compaction and wear problems which can lead to weed problems. Other negatives: poor oxygen levels in the root zone, nutrient leaching, disease susceptibility, and unnecessary wear and tear on your irrigation system.

2. The new computerized irrigation systems have been very helpful in managing energy costs and water usage. Not everyone has this tool, but everyone can customize his watering practices to be as efficient as possible.

3. Test your irrigation water for pH and overall quality. You may be aggravating your turf maintenance problems and costs. There are additives and filtration systems that may be helpful.

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## DRAINAGE

This is a complement to irrigation. Waterlogged areas produce unhealthy and often unmanageable turf. Consideration should be given to installing drainage lines to solve chronic problem areas. You might also look into using wetting agents to help water pass on through the soil profile.

## FERTILITY

1. Take soil samples before major fertilizing. Don't buy and apply materials you don't need.

2. Call your local agriculture inspector and have him come and take a sample of your fertilizer purchase. Sometimes you don't get what you pay for.

3. Gravitate toward using a higher percentage of slow release fertilizer in your blends. This will help prevent the possibility of nutrient leaching.

4. Make sure your fertilizer spreaders are calibrated.

5. Consider the use of new biostimulant and humic acid products. Some research has shown some surprising results.

## TREE MANAGEMENT

Trees can be a very controversial topic at a club. While it may be very desirable and prudent to plant accent trees for aesthetics and screening, it may be equally wise to consider removing trees or thinning out trees that are causing severe turf management problems which translates to higher costs for labor and chemicals to keep the affected areas playable. When tree roots and grass roots are in competition the tree always wins. Here are some ideas to consider.

1. Selective clearing. Remove selected trees that are blocking sunlight and air circulation. To mitigate the removal of harmful trees, plant replacement trees in out of play areas that won't impact the turf.

2. Root pruning. Our root pruner cost \$2,700. It has paid for itself many times over by eliminating the competition between tree and grass roots. I have discovered tree roots that have extended 50 to 75 feet beyond the tree canopy into turf areas. We have achieved some dramatic improvements in turf quality



*This shady out-of-play area between the green and the next tee resulted in thin, weak and worn turf. By removing the turf and then adding some timbers for curbing and mulching the area, the only maintenance required is an occasional inspection for weeds.*



by pruning the roots of the offending tree. There is a new product out called Bio-barrier which can keep tree roots from encroaching where they aren't wanted. It may be something you want to consider.

3. Pine trees. Pines don't like grass around their roots. Keep the root zone mulched with pine straw. Pines also don't like high pH water.

## TRAFFIC CONTROL

Golfers only understand damage they can see. They don't understand the cumulative effect of soil compaction with the reduction of pore space which leads to poor water percolation and poor air exchange.

1. Try to vary traffic patterns using barriers. We use a 4 x 4 timber across the end of our paths, and move it every two or three days. You can also try signs and roping to vary the traffic flow.

2. In severe cases consider redesigning the path.

## PESTICIDES

As you can see by all the topics discussed so far, Integrated Plant Management is more than just managing the use of pesticides. Healthy turf requires less dependence on chemical applications. But when chemicals *are* used:

1. Read the product label. Be aware of and abide by all restrictions on the label with regard to operator safety and product rates and application restrictions.

2. Pesticides should be used only by licensed applicators. Your pesticide technician should be sent to productive seminars for continuing education and training.

3. The decision to spray should be carefully considered and based on weather conditions, acceptable pest threshold levels and damage, and pest life cycles.

4. Spot treat problems rather than apply chemicals wall to wall whenever possible.

5. Rotate products used so that pests don't build up chemical resistance.

6. Schedule chemical applications in conjunction with seasonal turf renovations to maximize their efficiency.

7. Consider the use of biocontrol products to minimize use of traditional chemicals wherever possible.

8. Have your club support turf research by including a line item for turf research in the maintenance budget.

9. Check the pH of your spray water. High pH water reduces the effectiveness of your chemicals. A few drops of muriatic acid if needed can buffer your solution.

10. Scouting and mapping of actual pest populations can help plan your spot treatment applications and save wasted travel time by your operator.

11. Ron Andrews of the Grand Harbour Club achieved significant mole cricket control in his fairways by hand-applying Oflanol or Orthene to nymph tunnels with a one-gallon sprayer during the spring hatching period. To achieve this 60% to 80% control he estimated he only treated 4% of the total fairway area.

## SUMMARY

There are some very sincere people, who out of ignorance or willful ignorance are very vocal about their opposition to the golf industry. We have to be able to talk to these people and educate them about what we do, and about the positive benefits of golf courses in their communities. In order to speak accurately and confidently about what we do, we must go about our business professionally. We cannot proclaim ourselves good stewards of the environment if we aren't good stewards of our own maintenance operations. Attention to details and sound management practices are the cornerstones of a good IPM program.

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