

This research project in partnership with



# A touch of COLORANTS

Turf colorants have gained in popularity and have become a go-to tool for many superintendents. Our exclusive research offers some insight into this trend.

## THE EDITORS



It seems colorants are having a real impact on the superintendents who are using them, and influence those who aren't to get with the program, according to recent research.

Golf Course Industry, in partnership with BASF, engaged in a three-year research project that identified superintendent trends with regard to colorant use as a turf management tool and how those attitudes changed during that time.

The research identified that the majority of superintendents (70 percent) are using colorants at their course, primarily to enhance their turf's aesthetic look. Secondary uses include as a marking agent for pesticide apps, and for colorants' plant health benefits.

This was a 5 percent increase from three years ago, when about 65 percent of superintendent respondents indicated they used turf colorants.

More than half (56 percent) of superintendents say that they use colorants for their plant health benefits, primarily to protect turf from sun damage and stress. In addition, superintendents say they also utilize the benefits colorants provide in improving turf growth in the spring.

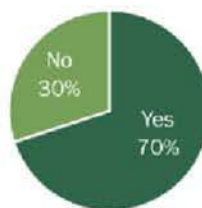
On average, superintendents are budgeting around \$2,900 annually on colorants. This spending has increased over the last three years for 56 percent of superintendents. Of those superintendents, 22 percent indicated they're

## COLORANTS: By the numbers

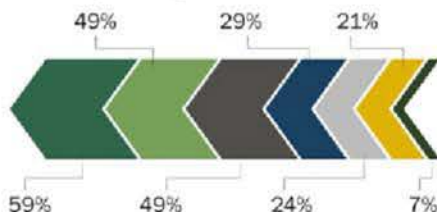
The majority of superintendents (70 percent) indicate they are using colorants at their course, primarily to enhance their turf's aesthetic look. Some secondary uses include as a marking agent for pesticide apps, and for colorants' plant health benefits.








On average, superintendents are budgeting around \$2,900 annually on colorants. This spending has increased over the last three years for 56 percent of superintendents. Of those superintendents, 22 percent indicated they're spending 20 percent or more than they were three years ago.

Do you use colorants at your course?



How are you using colorants?



-  Enhance aesthetic look of turf
-  Marking agent for pesticide applications
-  Plant health benefits
-  Mask discoloration of damaged turf
-  Avoid and/or reduce overseeding
-  Special events or tournaments
-  Other

*"Other" included divot mix, sand colorant, and warming up turf as it emerges from winter.*

# BAD WATER?

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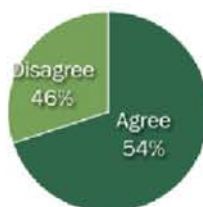
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### Add Pigments vs. Pre-colored

Slightly more than half (54 percent) of superintendents say, for tank mix solutions, they prefer to select and add pigment colorants with other products over pre-colored, pre-mixed products.

**AVERAGE ANNUAL AMOUNT BUDGETED FOR COLORANTS \$2,900**

spending 20 percent or more than they were three years ago.

We sat down with Joe Lara, the senior product manager for BASF's turf and ornamentals group, to discuss some of the findings.

**GCI: THE RESEARCH INDICATES AN INCREASE IN THE NUMBER OF SUPERS WHO ARE USING COLORANTS AS A TOOL IN TURF MANAGEMENT SINCE WE FIRST CONDUCTED THE SURVEY THREE YEARS AGO. WHAT DO YOU THINK ACCOUNTS FOR THIS INCREASE IN POPULARITY?**

**JOE LARA:** Even before the recent elevated interest in pigment colorants, many superintendents were looking at colorants as a way to add a green hue in to some of their fungicide tank mixes that would leave a residual color on their golf greens. Some premix fungicide products on the market contain a green colorant and I think superintendents were looking for a way to simulate that residual colorant effect.

That said, and to address your question,

I would account the recent increased interest to a couple of factors.

From our view, I think a key influence that pushed the early-adopters in the superintendent ranks was related to constricted or reduced maintenance budgets during this last economic recession. I don't think anyone would disagree that during this time superintendents were expected to accomplish the same or possibly more with lower budgets. The superintendents who had some working knowledge and experience with colorants were the first to consider these products as one way to way to manage through maintenance cut-backs and provide an acceptable cosmetic appearance to their properties. Responding to an even more challenging decision, there were turf professionals who made changes to their fall overseeding practices for economic reasons. As a result, I believe this gave them the opportunity to experiment with colorants to see what could be possible and acceptable to their club members and golf clientele for winter play.

### Plant health

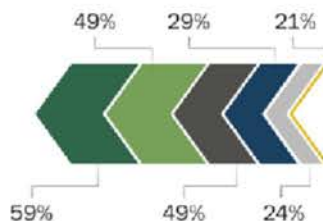
More than half (56 percent) of superintendents indicated they use colorants for their plant health benefits, primarily to protect turf from sun damage and stress. Coming in a close second, superintendents say they also utilize the benefits colorants provide in improving turf growth in the spring.

I use pigment colorants in my turf management practices primarily for plant health benefits.

**DISAGREE 44%**    **AGREE 56%**

What plant health benefits do you derive from the use of pigment colorants in your turf management practices?

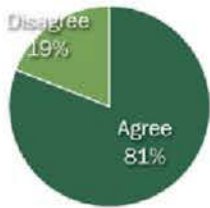
- Protection from sunlight damage/stress
- Improved turf growth in spring
- I don't use pigment colorants for plant health benefits
- Protection from cold damage/stress
- Improved turf growth in fall
- Other



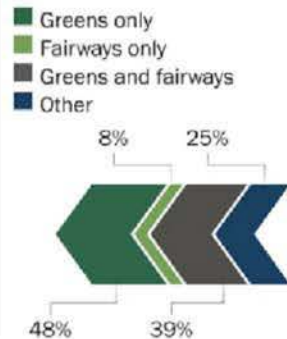


## Dye vs. Pigment

You understand the difference between dye colorants and pigment colorants and how they're used in turf management.

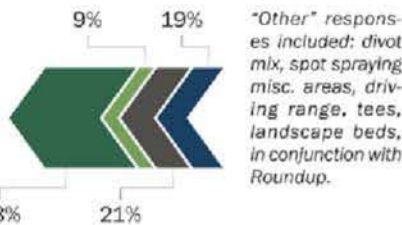


### Where do you use pigments?



### Where do you use dyes?

- Greens only
- Fairways only
- Greens and fairways
- Other



*"Other" responses included: divot mix, spot spraying misc. areas, driving range, tees, landscape beds, in conjunction with Roundup.*

SOURCE: GCI research

Underlying some of these changes to traditional fall overseeding practices was the expectation of a potential agronomic benefit in an improved spring emergence of their warm-season turf without the presence of a competing cool season perennial rye stand. I think the tough economic conditions provided the momentum for proponents of this concept to actively put out trials on the golf course for closer evaluation. Many I know have found success in taking this approach and have embraced the addition of a pigment colorant to this program, creating a very acceptable green appearance on dormant winter turf

The second factor contributing to what we see is the attention now from regional university and independent turf researchers. In the past few years we've seen field trial work performed by institutions like North Carolina State, Purdue University, Clemson University, University of Florida, The Ohio State University and the University of Arizona in collaboration with USGA turf agronomists. Their efforts have helped golf course superintendents and other turfgrass professionals gain a better understanding of the performance characteristics of turf colorants. What we see today is increased confidence by superintendents to






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## ALUMNI UPDATE

**T**he leadership discussions have already proven to be valuable. I started the year developing goals and objectives for the upcoming season and I incorporated several leadership goals and objectives that we discussed during the institute.

One technique that I put into action was to engage the entire team. I spend more time getting to know them and drawing out their ideas on all things golf-operations related. We have already implemented some of their suggested changes and as the season progresses I am sure there will be more.

The quality of the program and the presenters was outstanding. This is not just another seminar. The overall organization and logistics of the event were outstanding.



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use colorants in a variety of ways as these independent field research trials provide more information about the choices they have and what can be expected from these products.

**WE KNEW ENHANCING TURF'S AESTHETIC LOOK WOULD BE A TOP USE, HOWEVER, TIED FOR SECOND WAS USING COLORANTS FOR HEALTH BENEFITS. IS THIS A NEW TREND AND WHY?**

There is more discussion today among suppliers and turf professionals around the topic of plant health. Quite frankly, there are many ways to influence the growth and health of plants – starting with the basic foundations of what is required for plant growth, i.e. soil, water, air, nutrients, sunlight. Many different cultural practices and commercial products can be introduced into a growing environment to influence the performance and ultimately the health of plants.

What you are referring to today are the claims made by a few manufacturers that pigment colorants influence the way a plant functions. I think there is a trend to use pigment colorants predomi-

nantly to create a visual effect. Is there something more than cosmetic? I think there is still a lot of discussion and debate around factors like preferred color hue, canopy and soil temperature, and light levels that may directly or indirectly create a plant response. From my experience, the environmental growing conditions, time of season, and cultural practices are the larger external drivers that set the stage for how a plant grows and performs. Any physiological responses initiated from topical additions of a pigment colorant may be temporal, transitional, or incremental at best. It's not a substitute for practicing the essentials and fundamentals of turfgrass management, much of which includes cultural practices to move air and water into the profile, a proper regiment of nutrients, and management of disease and insect pests. Healthy resilient plants begin with strong active root systems that are necessary to help the turf plant growth through various stress events. It may be found that colorants, under certain conditions initiate *(COLORANTS continues on page 62)*

RE LISTEN HERE LISTEN HERE LISTEN HERE LIS



**SUPERINTENDENT**  
R·A·D·I·O N·E·T·W·O·R·K

### For more

**C**heck out the Superintendent Radio Network for additional information about colorant use. BASF's Joe Lara breaks down the research and what it means for your turf management program.



that then influences some growth metric.

But I am not convinced that colorants grow roots. There is more work to be done to better understand how the use of pigment colorants applied to a plant leaf surface influence all the ways a plant could respond.

**THE MAJORITY OF RESPONDENTS INDICATED THEY WILL CONTINUE TO USE COLORANTS AS A TURF MANAGEMENT TOOL. WHAT CAN WE EXPECT TO SEE IN THE COMING YEARS?**

We see today that colorants do have a place in the bigger picture of turfgrass management practices by golf course superintendents. Their current uses have expanded considerably in these recent years, largely driven by economic forces. Where there was once much skepticism and avoidance, there is now general acceptance of these pigment colorants as a result of early-adopters looking for new ways to not only solve turfgrass management problems, but to maintain and even enhance the game experience by their golfing clientele. I would say the place of colorants and how they may be used in more innovative ways will depend on where they fit as a component that superintendents use to create the kind of golf experience that draws greater participation and enjoyment of the game by future generations. **GCI**

(KAMINSKI continued from page 48)

down the street didn't lose turf and you did. They need to realize that there's a real difference between the creeping bentgrass greens on the neighboring course and the annual bluegrass on yours. They need to realize that the hybrid Bermudagrass they thought was a bulletproof choice on their greens may be challenged in a winter like this.

They need to know that it's not your fault that one of the greens on your course died while another didn't. They need to understand that variation in drainage or shade on golf course surfaces as well as microclimates from one green to the next can have a tremendous impact on plant health and survival.

They need to understand that preventive maintenance practices help to reduce

improve irrigation scheduling. They can perform preventive maintenance, such as cleaning out controllers, exercising gate valves, tightening grounding clamps, replacing and leveling valve boxes, and cleaning and painting the pump house and pump station.

Above all else, patience is necessary to provide these services. Troubleshooting a strict sequence and customer service as the irrigation technician is always out among the members and players making repairs.

Of course, being mechanical oriented and not being afraid to get dirty doesn't hurt, either. Wire tracking and fault finding is a necessary skill, but unfortunately it is one only perfected with experience. With new technologies – such as integrated decoder type systems and the use of HDPE pipe – more skills and training are needed because these systems use more sophisticated equipment.

Most superintendents determine the watering schedule and have the irrigation central control system in their office. However, in some cases, the irrigation technician may be watering or implementing the schedule. Usually the technician maintains the irrigation system central controller database. As we have discussed in this space before, it is es-

sential to have an accurate database. The irrigation technician is best positioned to ensure that the correct sprinkler, nozzle and arc that they have serviced in the field are reflected in the database. By performing audits, they can also use the data collected to fine tune precipitation rates and runtimes.

Unfortunately, good irrigation technicians are hard to find and they are beginning to earn higher salaries. There is no real training program other than experience. Much like a spray technician, if you can identify someone on your staff with the right skillset you can train them on irrigation repair and send them to electrical troubleshooting or auditing classes.

Irrigation technicians can be well worth the cost especially if you have an aging irrigation system that has continual problems as they are less expensive than a new system.

If you have the budget to hire or the available staff, an irrigation technician will improve the operation and lengthen the life of your irrigation system. It should also provide for better playing conditions as the irrigation system will cause less issues on the course and have improved uniformity when compared to an irrigation system only maintained and/or repaired when necessary. **GCI**

the possibility of these dramatic events, but that even the best laid plans are sometimes not enough.

Hopefully one thing that will come out of a winter like this one is that clubs will start to realize the potential negative impacts of a harsh winter (similar to harsh summer) and allow for modifications. These may include converting from annual bluegrass to creeping bentgrass or installing internal drainage to improve water movement. Each case is different and the only person who knows what best for the course is the individual superintendent managing the course.

The bottom line is that the members and golfers out there need to realize a few things.

- The death experienced this winter was unavoidable
- Recovery is going to cost money and take time
- Reconditioned greens will struggle this year, especially in the summer
- The superintendent's recommendations to improve the overall growing conditions of the turf (e.g., internal drainage, tree removal, etc.) should be taken into serious consideration

Although the golfers will likely feel angry and upset about the conditions and/or delays in course opening, I can assure you that the superintendent and their staff will be feeling 10 times the pressure and stress. Believe me, they hate losing turf more than you. **GCI**