Trust the Process of Good Science

BY KARL DANNEBERGER

Occasionally an agronomic event occurs in the golf industry that generates a considerable amount of interest, confusion and unfortunately, turfgrass death. One of those events, which has been building for the last few years, came to fruition this summer — bacterial disease(s) of creeping bentgrass and/or annual bluegrass greens. What initially appeared, or was first diagnosed in the Southeast and Mid-Atlantic has spread through the Midwest and into the Great Plains (and probably other areas that I am not currently aware of).

Bacteria often have been isolated as the causal agent for the dying greens. Sometimes it has been diagnosed as a secondary agent, with the primary instigator being environmental stress. In other cases no bacteria was present. In some cases the three scenarios are found on the same green where samples were sent to multiple diagnostic laboratories.

At the moment among academic and private researchers, a division exists regarding what role these bacteria play. Now add to the mix researchers, including myself, who are not directly involved in sampling, diagnosing and making recommendations, standing on the sidelines saying, 'I don't know,' and I think you can understand why many golf course superintendents are confused and frustrated.

Do I think there are bacterial pathogens that have been isolated? I think so. At least there is one paper reporting Koch's postulates on a bacterial disease of creeping bentgrass.

Do I know how to control it? No. We do not really have antibiotic products available. However, that does not mean that superintendents are not trying various products, management practices, basically anything to try to control the problem. And who wouldn't? You can't just watch turf die without trying something.

Do I think environmental stress played a role in turf decline this summer? Yes, I saw enough of it.

Do I know how we will figure it out? Yes! It is the process which we have always relied on — good science. We have faced similar situations in the past, especially with turfgrass diseases such as summer patch, anthracnose and bacterial wilt of "Toronto" creeping bentgrass.

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The process is a series of steps. The first step is making the public aware of the importance of bacterial diseases on greens. That will be played out in the coming months at turfgrass conferences and meetings. Turfgrass conferences will address last summer's problems with presentations and roundtable discussions led by industry and academic leaders that have had direct involvement with the bacterial problem. Where formal presentations may not be scheduled the discussion will take place among groups of superintendents during coffee breaks, lunches and dinners. What will hopefully arise is a concensus of how big the bacterial disease issue is and whether it warrants our time and resources.

The next step in the process is where the real battle occurs: determining the role of bacteria as a primary pathogen or a secondary pathogen associated with extreme environmental stress. This will be played out far from the public eye in research laboratories and field facilities. Turfgrass researchers and their colleagues will do what they have always done — test hypotheses, gather data, reach conclusions, report their findings at meetings, and most importantly, publish in refereed journals. Refereed publications are the basis by which confirmation, discussion and consensus can be built among the scientific community, which then can provide answers to our questions.

Unfortunately, the process does not lend itself to fast and quick answers. But the process is not about being first or the quickest. It is about being right.

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