What does “safe playing fields” really mean?

I AM THE GROUNDS SUPERVISOR at Pine Hill, a small K-12 school district located in the southern part of New Jersey not far from Philadelphia. The district shares a property line with world famous Pine Valley Golf Club. The grounds department is responsible for maintaining about 60 acres of irrigated turf district wide. The Pine Hill grounds crew members are Carmelo Anguilla, Greg Bunting, Tom Crosby and Bill Loftus.

Over the course of the past year, just about everyone involved in the turf industry most likely has heard the term “safe playing fields” used by a variety of people in regards to the safety of our children. Many times sports field managers have been portrayed as being trained only to apply pesticides on a schedule to deal with pests and not someone who is aware about safer alternatives that prevent these problems long term.

I have heard terms like “careless,” “uninformed” and “misguided” to describe those of us who apply pesticides on athletic fields. These types of statements have led me to stand up and try to bring some clarity to the conversation about safe playing fields in my home state of New Jersey. Lost in this conversation are the dedication, time and energy that sports turf managers put into their craft. Most people don’t see the pre-dawn irrigation checks, the weekend visits on site, and the amount of time spent at home researching, plotting and planning updates to our turf plan, all in pursuit of the safety of the athletes that use
our facilities. With that being said, let's look at what really constitutes a "safe playing field."

Of course I don't know if there is one true definition for a safe playing field but turf quality is a good place to start the discussion. If a field has a smooth, well-rooted and groomed surface it is more than likely to provide a safe playing surface for just about any sport. The key ingredients for quality sports turf are fertility, proper seeding, good cultural practices and responsible pest management (IPM).

In New Jersey, there is a new fertilizer law in place. Every state has different laws; it is always best to stay informed and up to date with current local laws. Our law restricts the amount of nitrogen applied per year, sets blackout dates for applications (12/1-2/28), prohibits potassium without a soil test, and sets standards for professionals and homeowners alike in regards to fertilizer applications. No matter where you are, don't use the law as an excuse to ignore fertility requirements on your fields. It takes some thought and close monitoring to comply with these types of laws but consistent fertility applications throughout the year are very important to maintain quality turf. Spring turf requirements call for moderate amounts of nitrogen (my choice is ammonium sulfate), while summer stress can be dealt with by introducing an organic or slow release product. Fall should be reserved for higher amounts of nitrogen to ensure your fields will survive the demands of the season and falling soil temperatures. This is a very important point that is often overlooked.

Fall fertility serves two purposes. First, nitrogen (again, ammonium sulfate is my choice) availability is crucial to establish new seed and also for recovery from fall sports damage. Secondly, it allows turf growth to extend into the end of the fall sports season. Too often fall fields are allowed to stop growing when temps drop but field use continues. Starting early in the spring and continuing all the way through the fall season will give you maximum results for your fertilizer dollar and provide a dense, consistent turf cover for the entire year.

DEALING WITH CRABGRASS

Dr. Dave Minner from Iowa State University and I talk often about how difficult it is to overcome the amount of seed heads produced by crabgrass. Having large amounts of seed introduced into the soil and then worked in by the athletes seems like a tough thing to deal with. Crabgrass technology can be used by the sports field manager in the same manner. From August through November we live by the motto, "If you see brown, throw it down." This means introducing perennial rye seed any time you see bare soil.

Broadcasting seed during the fall sports season is the key to keeping turf coverage all year long. A common perception is that you are wasting money if you seed during field activity. I disagree. Due to unpredictable weather in the spring and hot/humid conditions in the summer, fall is the season of choice for overseeding. Unfortunately, this is when athletic fields absorb the most abuse and wear. I take a nothing ventured, nothing gained approach. If you don't seed during the fall, you will...
end up with a good deal of bare soil at the end of the season. I believe that it is easier to grow turf from seed during moderate fall weather conditions than any other time of year. Perennial rye is my choice for use during this timeframe due to its wear tolerance even as seedlings.

As the season winds down, we start to introduce turf type tall fescue into the fields. This is done later because tall fescue doesn't hold up to traffic upon emergence as well as perennial rye does. Tall fescue however, has displayed more disease resistance on our fields. It is not a common mix, but it has been working for us. My friend Scott Bills, CSFM, also points out that overseeding regularly allows for the introduction of multiple generations of seeds, including newer varieties. The amount of seed planted in the fall allows our fields to emerge from winter with almost full turf cover. This gives us a better chance of fighting off pests and stress as we enter the height of the growing season.

Speaking of pests, sometimes even with your custom fertility plan in place and an overseeding program enacted things can still go wrong. In New Jersey, the School IPM Act is the law that guides schools through pest issues.

Integrated Pest Management is often a misunderstood term. The EPA has a great definition for IPM. It is an approach to pest management that blends all available management techniques—nonchemical and chemical—into one strategy: Monitor pest problems, use nonchemical pest control and resort to pesticides when pest damage exceeds an economic or aesthetic threshold. Our school IPM law in New Jersey is a little more restrictive than that. If pest problems persist with non-chemical options (proper mowing/irrigation, aeration, seeding with appropriate varieties and soil monitoring/testing) being implemented, the law requires that you consider a low-impact pesticide from a predetermined list of products before making a restricted pesticide application. In my mind it is a very simple process.

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By performing good cultural practices in conjunction with proper fertility and a good seeding program, you can do some impressive things with your turf. However, it is the sports turf manager's job to take responsible action when pest stresses start exceeding thresholds and put field safety at risk. Gaining an understanding of pest
problems through education and knowing where to set your thresholds are the keys to a good IPM program.

We live with a lot of things on our fields and choose to treat only after thresholds are exceeded and field quality as related to safety is in question. We have considered the limited list of low-impact pesticides provided in the law. Reading the Rutgers report: "Managing Turf Using Low Impact Pesticides" was very helpful in shaping our decision. Last year the cost and efficacy of these products did not allow us to use them in our turf program. We are currently evaluating this decision for the upcoming year. To help us make this decision, we asked Brad Park, the sports field extension agent for Rutgers, to come to our site and evaluate our pest issues and the products that are available to deal with them. In the future, I hope there will be an expanded list of products to choose from.

When the decision is made to apply a pesticide, we give consideration to reduced risk products first if they are available. After a product is selected, we look at the field's history to decide what part of the field needs to be sprayed. A spot application may be in order or maybe just the middle of the field is compromised. Sometimes it may be necessary to spray the entire playing surface, but not the buffer areas surrounding the field.

The educated field manager is moving away from blanket spray applications and beginning to treat the field within the field. Every field is different with its own needs and requirements. They need to be treated accordingly. Having a field history report for each field is a great help. In fact it is part of the law for schools. Having a hard copy pest sighting log is too. This is a portion of the law where I have fallen short in the past. Having a field's history in my head or in a notebook does not fulfill the requirements of the NJ school IPM Law.

Moving forward, I have created field log binders for all of our sports fields. It will allow me to track problems and make decisions with all of the information right in front of me. It has taken a long time to get to this point and it wasn't always easy. IPM is a 12-month process that may take some time to implement. A large part of our turf management plan for this year is based on what took place last year. Sometime you need to look back to move forward. This process may seem like a lot of work to some, but the truth of the matter is Integrated Pest Management is here to stay. For some of us it is the law. As I see it, the most important product or tool in providing quality turf isn't something you can buy. It rides on a mower, monitors pests, checks soil conditions and usually is the first one in and the last one done every day. Sports turf managers are getting educated and doing whatever it takes to provide truly safe playing fields.

 Rich Watson is the grounds supervisor for Pine Hill Public Schools, Pine Hill, NJ. He says, "Special thanks to my facility manager Tom O'Donnell. His understanding of what needs to be done allows us to do some pretty great things here."