Stop the Insanity

By Scott Bills, CSFM

As a Certified Sports Field Manager (CSFM), I consult with dozens of municipalities, schools and private sports organizations each year regarding problems with their ball fields. If I only had a nickel for every time I heard, "My infield mix doesn't dry out", or "My infield mix turns to concrete in the summer", or "My infield mix is like a sand box" or "How do I keep weeds from growing in my infields." Sound familiar?

Despite all of the inventions and historic moments in the last century, curing polio, sending a man to the moon, Facebook (Yuk), we couldn't figure out what makes a quality infield mix.

In 2007, two Major League Baseball head groundskeepers had serious problems with their infield skin surfaces. After calling most of the major manufacturers of infield materials, the only answer was to completely tear out the mix and start from scratch. Unfortunately, time and expense didn't allow for that option. Convinced they could somehow salvage or 'amend' the mix they already have, they didn't stop inquiring. The symptom on both fields was 'chunking out.' In other words, the infields would not stay together without a lot of moisture. Experience working with many materials, told both groundskeepers, they needed more clay.

Persistence led them to Grant McKnight, The Natural Sand Company. For several years Grant had been trying to figure out why there wasn't an agreed upon standard for infield mixes. He concluded that because there was not a single source of ingredients that could be reproduced nationally, the industry relied on regional sources. When Grant received the phone call from two prominent groundskeepers, he felt it was time to reach out for additional help. Grant contacted Dr. Norm Hummel of Hummel and Company. Dr. Hummel is one of the country's most respected soil scientists.

The Natural Sand Company owned a natural source of clay, plus a sand source that could be screened to meet specific standards. Before any amendment could be formulated to help these fields, he needed to know the analysis of the existing infield mixes on each field. The mixes were sent to Dr. Hummel for analysis. Dr. Hummel provided a report indicating the percentage of sand, silt and clay, a breakdown of the sand gradations, from fine to coarse, plus the ratio of silt to clay. After consulting with Dr. Hummel and discussing the test results with each groundskeeper, Grant manufactured an amendment for each field. The prescription was to blend a specific amount of amendment into the top 2-3 inches of existing infield mix. The goal was to reduce the overall amount of sand, specifically fine sand, increase the amount of clay and reduce the ratio of silt/clay to less than one.

After installing the amendment, both groundskeepers noticed a significant improvement in the performance of their infields. The fields were staying together, they were able to absorb and hold moisture longer, the playing surface was consistent throughout the infield and overall maintenance requirements were greatly reduced.

As a result of those two success stories, now 16 of 30 major league teams have either amended their existing infields or in the case of the new Miami Marlins stadium, installed the product within the complete profile.

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In the past, local sports field managers were fearful of installing the same type of infield mix used in professional stadiums.

Through continued research and understanding the resources available to each groundskeeper, now specific infield mix blends and amendments can be installed on college, high school and municipal ball fields. More importantly, the fields can be improved without having to completely replace the existing infield mix or spend $500 to $600 per ton on conditioners.

But the title of this article is "Stop the Insanity". So far, it doesn't sound so insane. I'll get there.

Although I am mostly familiar with field issues in the Mid-Atlantic and Northeast region of the country, believe me, there are infield problems in all 50 states.

In our area of the country, most of the indigenous infield mixes that are produced have too much sand, too much fine sand, too much silt in relation to the amount of clay and not the right type of clay. Most of the producers of local infield mixes find a source of sand that has some percentage of silt and clay. These materials are harvested, not engineered. Since most of these companies are large sand producers for other industries like masonry, concrete, asphalt and glass, these sands with too much silt and clay become waste. Well someone much smarter than me figured out that if you screened it a little bit, have it analyzed, keep it somewhat consistent and give it a fancy name related to the game of baseball, they could add $10 to $20 per ton or more and sell it as infield mix.

So over the years engineers and architects have specified these materials because that's what was available. Now with a little more knowledge, we have figured out these high sand and high silt mixes cause a lot of problems on our fields.

OK – Here it is.

Because these materials have characteristics that don't allow them to manage moisture efficiently, can be easily migrated during grooming or from wind and water erosion, plus are relatively cheap, we have ruined our fields.

Here are a couple examples of the insanity.

Case Study #1 – I was asked to look at a field for a local little league in an upscale town in Bergen County. The field had such a significant lip that an infielder actually broke a small bone in his neck when he fell chasing a pop up into the outfield. I was asked to contact the township engineer and discuss my recommendations. Before calling him I checked the depth of the infield mix and found the area behind second base was 19 inches deep. I didn't need to survey the field to determine there were grade problems. While on the phone with the engineer, he advised me they were planning to build a new softball field in town. I joke and told him there was enough infield mix on this field to build 3 new fields.

Here's the insanity. While on the phone with the engineer I hear a back-up beeper. Following the sound, I realize it is a tri-axle backing into the park maintenance yard. Reluctantly, the engineer admitted it was a load of infield mix. After doing some quick math, this 11,000 square foot infield had 15 inches of infield mix it didn't need. At a conservative cost of $40 per ton, that was about $30,000 of wasted money, not including the labor to install over the years and now a potential lawsuit.

Case Study #2 – I was asked to survey the ball fields for a county park system. I am sure when the fields were originally designed and constructed, the grades allowed for water to drain off the fields. Well after about 10 years the county now had over 40 ball fields that were bowls or saucers. Not one field allowed for surface run off. Here's the insanity. The grass lips were so severe; one county worker admitted they need to use a trencher to cut through the lips to help get some of the water off the fields. In addition, they spend thousands of dollars on drying agents.

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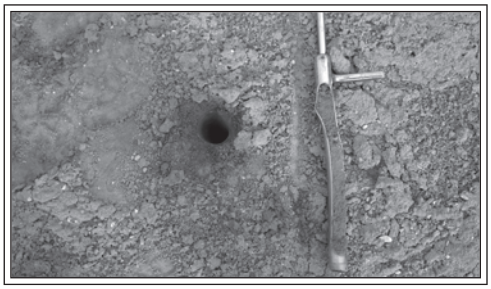
Case Study #3 – I recently visited a little league complex in Central New Jersey. My first observation was the fields had major grading issues. As in Case Study #1, I checked the depth of the infield mix. My probe is 12 inches deep, I didn't hit bottom. See included picture. After surveying the first field, I noticed all of the bottom rails of the backstop and player bench fences were buried by about 6 to 8 inches and a considerable amount of infield mix had washed into the dugouts. Here's the insanity. While walking from field to field, I noticed tire track damage from double gates in the outfield fence towards the infields. Not only were they adding infield mix they didn't need, they were damaging the turf to do it. Assuming there was at least 12 inches of infield mix on each field (actually there was more), these four infields had about 1,200 tons of excess infield mix. Again, using a conservative cost of $40 per ton, this equates to $48,000 of wasted money. Now let's throw in tens of thousands of dollars to fix them.



Case Study #3

I could go on and on. Here's the scary part. There are 566 municipalities and 416 high schools in New Jersey. With a fair estimate of at least four fields per town and school, that means there are about 4,000 ball fields in the state, not including counties, colleges, middle schools or private little leagues. Again using conservative estimates, let's say each field has twice the amount of infield mix it should have or an additional four inches. Using an average infield size of 8,000 square feet, that would equate to 600,000 tons of infield mix that has been added to ball fields unnecessarily. At $40 per ton that's $24 million dollars. No wonder the schools and towns have budget problems.

The take home message here is that we need to change our way of thinking. Albert Einstein said it best: "We can't solve problems by using the same thinking we used to create them."

More importantly, there is a practical solution to this problem. It has been tested at the highest level of play and is available to improve all little league, recreational, high school and college fields. Plus, there are groundskeepers who have changed their thinking and are practicing better techniques to reduce unnecessary expense.

Let's stop the "Insanity."

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