



Chiefs practice twice a day on the Liberty fields starting in July but the maintenance program starts months before.

## Milkshake Turf Stands Up To Downpours and The Kansas City Chiefs



The father and son team responsible for all Kansas City Chiefs playing fields is George and Chip Toma. When Chip completes his work on the Liberty fields, he returns to Arrowhead Stadium to help his father.

**T**he Kansas City Chiefs play on artificial turf in Arrowhead Stadium. So why is George Toma praising grass playing fields? After all, he's the team's director of fields and landscaping.

The reason is simple. Real sod still plays an integral part in the team's training schedule. The Chiefs' training camp fields at William Jewell College in Liberty, Mo., are green with living grass.

Both Toma and his son, Chip, who is responsible for maintaining the Liberty practice fields, praise their playability and safety—while admitting they're sometimes a headache to maintain.

To the Tomas, father and son, real turf

is well worth the trouble.

Nevertheless, when spring rolls around and it's time to get the practice fields back in shape, Chip must sometimes wonder whether he's in charge of turf renovation or out-and-out reincarnation.

For instance, it took Chip and his assistant fully two months last spring to renovate and groom the three fields. Then, just when the grass had come beautifully back to life, the rains came.

The Tomas remember it well. Last July 18—the night before the Chiefs' first preseason practice, as luck would have it—nearly five inches of rain deluged the

*continued on page 28*

Liberty training camp fields.

At best, it seemed, the fields would need a couple of days to dry out, since they are built on heavy clay soil that tends to hold moisture like a porcelain saucer holds tea. That meant that if practice were to begin on schedule the Chiefs would have to pack up all their gear and make the trek to the artificial turf at Arrowhead Stadium, which is located just outside Kansas City.

However, the dawn that followed the downpour brought a happy surprise. Early in the morning, when the Tomas inspected the Liberty gridirons, they were delighted to see that the fields were already playable. Not a lake in sight.

Chip cites two reasons for this—"the way they were built and the way we baby those fields to compensate for the abuse they get."

Indeed, the three training fields are in constant use eight months of the year. Not only the Chiefs, but the William Jewell



Profile of the milkshake soil containing gypsum, sand and topsoil.

College football team as well, pound up and down their length for six or seven hours a day all through July and August. The college's intramural teams crush them in the fall and spring. Then, adding insult to injury, the fields become parking lots for college football fans during the fall and winter.

Most sports fields subjected to such intensive use and abuse would be unable to support turf at all, yet the Liberty fields are in top condition every July when the Chiefs return—"because the coaches expect them to be perfect," Chip explains matter-of-factly.

The Chiefs' head coach, John Mackovic, insists on well maintained fields because he firmly believes they help prevent sports injuries. Or, as George Toma puts it, "If the turf doesn't give when a player makes his cuts, he could blow out a knee."

With utter candor—for a man whose team stadium is paved in plastic—he explains, "During the regular season the players take enough of a beating on artificial turf. It's our job to make sure that these natural fields are in excellent shape so that the players stay healthy and perform to their potential."

In Arrowhead Stadium, of course, they are on their own.

Five years ago, after conducting training camps at Liberty for more than 16 years, the Chiefs' management decided to upgrade their training fields. With a budget of \$25,000 per field—that was for everything, including drainage and irrigation—the Tomas went to work.



Chip Toma regularly checks Liberty fields with soil probe to check root depth, soil moisture and insects.

"We took an unconventional approach to constructing these fields in 1980," says Chip. "We call it the three-tier process, or milkshake for short, and it has worked well for us every season."

No soda fountain ever saw the likes of Toma's milkshake, but it works just fine on football fields.

He gladly discloses the recipe. "We brought in eight tons of gypsum and tilled



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it into all the fields to about six inches deep. Then we added three inches of sand and tilled again to six inches deep.

"Another two inches of sand was lightly mixed into the top four inches with a rotary harrow. Finally we topped off the field with one inch of sand and carefully crowned the field."

Chip directed every step and maintained close control over the components and the labor during the rebuilding. The care taken in constructing the fields is only half the story, however. A heavily used field will deteriorate fast if it is not properly maintained, wasting all the time and money that were invested in the original construction.

With a modest budget, Chip begins his maintenance program as soon as the weather breaks with an early-season application of 500 lbs. of Andersons Tee Time 10:15:30 fertilizer per field.

On May 15 the renovation begins in earnest. Each field is topdressed with one inch of sand mixed with one ton of Milorganite. Chip then applies Bov-A-Mura from P.B.I Gordon to "liven up" the beneficial soil bacteria.

Since Kansas City, which is in the transition zone, is known for its hot and dry summers, Chip plants Tifway II and Midiron bermudagrass sprigs. Soil moisture is critical for the sprigs to take root and spread aggressively, so he applies Aqua-GRO soil wetting agent. Another applica-

tion of fertilizer is made after June 1, this time with 500 lbs. of 18:5:9.

By the time the players report to camp, the bermudagrass is well established. "Ideally we'd like to have a year to get the turf in shape, but that's not realistic," concedes the younger Toma.

Every Friday through August 20, Chip applies between 220 and 230 lbs. of ammonium nitrate fertilizer to each of the fields. "That may seem like a lot of nitrogen," he allows, "but we've got to keep the turf growing fast to compensate for the abuse and damage from such heavy use—and to replace the nitrogen leached from the sandy soil."

Between the rapid growth of the turf and the coach's requirement that the bermudagrass be kept at about 3/4 of an inch, Chip often has to mow the fields every day from June through August.

Since the fields have to sustain such heavy traffic, he gives special attention to preventing compaction before it has a chance to begin.

"You don't have to deal with compaction if you begin aerifying from the start," he explains. "I make sure that we slice-aerify a couple of times a week. We also slice before fertilizing and then follow up with water."

Before the fields were rebuilt, it took two 55-gallon drums of water atop Toma's aerifier to make it penetrate the compacted soil. These days, however, he

doesn't need any weight. He claims that his frequent aerating, plus regular use of the wetting agent and gypsum, keeps his fields from becoming compacted and also encourages deep root growth.

During the last week of preseason practice, Toma overseeds with perennial ryegrass. This keeps the fields green after the bermudagrass goes dormant. He counts on the players to clear the seed into the soil. Then, after the team leaves Liberty in late August, he overseeds again.

During midseason he makes another wetting agent application. By September he applies Tee Time 10:15:30, which helps the ryegrass get established for fall use and hardens it off for the winter.

Training camp ends the third week of August and the Chiefs return to Kansas City to begin their regular season. Chip turns over field maintenance responsibilities to the college personnel and rejoins the crew at Arrowhead Stadium.

Although their employers have chosen artificial turf for Arrowhead, George and Chip Toma share the belief that a properly constructed and well maintained grass athletic field provides more than just aesthetic pleasure. It can help prevent sports injuries and add to the athletes' enjoyment of the game.

That's why the practice fields at Liberty hold a special place in their affections. Milkshake, anyone? ▶

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