Keep softball maintenance costs in the ballpark

BY **MARK NOVAK AND PATRICK MAGUIRE**

As the days grow longer, the first signs of spring bring with it the excitement of a new season. Yet, whatever opportunities the season may bring for athletes, athletic fields bring their own set of management challenges: how to increase usage and improve field conditions on limited budgets. With the unique combination of skinned infields, turf areas and other facility elements, softball fields are some of the most difficult athletic facilities to properly maintain. Attention to detail and creative athletic field design can help to reduce scheduling headaches and keep annual maintenance costs in the ballpark. Following are several cost-effective techniques that will help to improve playing conditions and increase the life span of softball facilities:

Customize the infield mix. Composed primarily of sand, silt and clay, the "skinned" area of a softball field might be the most delicate and maintenance intense component of all athletic field surfaces. In fact, many high-level facilities have staff dedicated solely to the upkeep of softball (and baseball) facilities.

Determining the composition of an infield mix directly influences both the playability of the field, and how well it will respond to various weather conditions. Across the country there is an enormous variety in climatic conditions and just as many variations in infield mix design. In New England, weather ranges from cold and wet months in the spring and fall, to hot and dry during the summer. A typical ratio for an infield mix in the northeastern portion of the country also reflects the area's climatic conditions: 60-75% sand, 9-25% silt and 16-25% clay. The high percentage of sand helps keep the infield mix playable in the spring and fall while the percentage of clay helps maintain the skinned area's moisture during the dry summer months. Each softball field is unique and the design of the infield mix should be considered the same.

Water efficiently. Watering the skinned areas is necessary to maintain a consistent infield mix. Water is the glue that holds the components of the infield mix together. During the softball season and the hot, dry months of summer, skinned areas can require water up to three to four times daily.

Springfield College in Springfield, MA, last year experienced an extremely dusty softball infield. The college's president called in a design consultant to assess

and recommend renovation methods for the softball facility. Tests of the infield mix at the softball field showed a high percentage of silt. Dusty conditions on an infield can often be attributed to an infield mix that is high in silt and is not watered enough.

Many natural grass athletic complexes have in-ground, head-to-head irrigation systems. Instead of hand watering the field three to four times per day, consider installing a separate irrigation zone that waters the infield mix at a different time and rate than the turf areas. High-speed irrigation heads should be used in this type of application. Standard irrigation heads provide a slower, more thorough watering which is required for turf areas. The high-speed heads allow sports turf managers to initiate a quick irrigation cycle that will moisten the infield mix without saturating the skinned areas. The incorporation of a high pressure water hook-up near the infield is also advisable to aid in the lip removal process at the border of the infield surfaces and turf areas. Watering efficiently will save time and dollars.

Cover up and support high-use areas. Keep maintenance at a minimum by purchasing a cover. Watering and then covering the skinned areas of a field when the field is not in use will help the infield mix retain its moisture and thereby prevent it from drying up and becoming concrete-like. Once an infield mix is allowed to dry up, it requires a significant amount of man-hours and dollars to return it to a playable condition. Also consider installing clay bricks underneath the infield mix to fortify batters boxes and pitcher's mounds.

Think about the following: What is the first thing a batter does when he/she steps into the batter's box? What is the first thing a pitcher does when he/she takes the mound? They dig themselves a firm foothold. Clay bricks are installed approximately 2 inches underneath the top layer of infield mix and prevent deep ruts that will require repair after every game or practice.

Test the infield mix. Infield mix tests are an essential component in the renovation and maintenance of skinned athletic surfaces. Consider the constantly evolving nature of the natural grass portions of softball (and baseball) fields. Soil tests should be conducted a few times a year to analyze the chemical and physical properties of the turf's rootzone. Much like natural grass, the composition of infield mixes evolves over time and should be tested annually. Annual maintenance of skinned infield areas typically requires the addition of amendments such as calcined clay. Play on the infield, water and wind born erosion, and amendments will change the properties of the infield mix. Annual tests help determine what the skinned areas need to keep their composition in synch with the properties of the original design mix.

Improve drainage. Under perfect conditions, skinned infields with quality infield mixes are exceptional playing surfaces. Unfortunately, perfect conditions

cannot be guaranteed over the course of a softball season. Poor surface drainage is usually the primary reason why a skinned infield area fails. Internal drainage is poor even in the best-designed infield mixes. Considering subsurface drainage has little or no effect under skinned infield surfaces, facilities are better suited spending money and time during design and construction to maintain positive surface drainage away from the infield.

When possible, design swales to intercept water from surrounding areas before it has a chance to cross the infield mix or any of the playing surfaces. Insufficient drainage will only create additional maintenance headaches for athletic and facility departments. If an infield does not drain properly, the condition of the field will deteriorate immediately when used during or shortly after inclement weather. Use of drying agents can help to keep a field playable during a light rain but proper design, intricate grading of the infield during construction and regular maintenance is the best way to ensure your field will be suitable for play in a short period of time after inclement weather.

Poor surface drainage leads to puddles and unplayable conditions in the infield. Photos courtesy Geller Sport

Make the grade. How the infield is graded (the way the ball rolls) significantly affects the playability of the field and thus the potential safety of the athletes. The NCAA provides recommendations and guidelines on how fields should be graded with emphasis on consistency throughout the entire field (www.ncaa.org). Other softball organizations, such as the ASA, also provide design standards that all fields should strive to at least meet. Working with a design consultant to meet and exceed standards will avoid jeopardizing player safety and enhance field playability.

Involve the team. The maintenance required for softball (and baseball) infields can be staggering, especially for understaffed maintenance crews. Consider involving the teams that use your field. Teams taking an active role in maintenance can unload a considerable burden from the staff. Involving the athletes in weeding, raking, watering down, and covering the field can help them get to know the field better, as well as instill a sense of pride in the facility.

Softball fields are dynamic facilities that will always require the attention of a skillful and creative maintenance staff. For programs working with limited funds, good design decisions can improve playing conditions and reduce the chances for serious renovations in the near future.

Patrick Maguire is the president and Mark Novak is a project manager of Geller Sport, a division of Geller DeVellis Inc., a Boston-based landscape