

## **Cost Analysis of Synthetic and Natural Grass Athletic Fields**

B. Daviscourt, A. Kowalewski, Micah Gould, Brian McDonald  
Oregon State University, Corvallis, Oregon

<https://scisoc.confex.com/scisoc/2015am/videogateway.cgi/id/22900?recordingid=22900>

The popularity of synthetic infill turf systems is on the rise in the USA, for instance 1,200 synthetic fields were installed in 2013. The purpose of this study is to investigate and compare the costs associated with installation and maintenance of third-generation synthetic infill and natural turfgrass systems. In September 2014 installation costs and maintenance budget information was gathered from managers of 5 synthetic and 5 natural grass fields at 3 different locations. Locations included Sheldon High School, Eugene, OR, Oregon State University, Corvallis, OR and Tualatin Hills Parks and Recreation, Tualatin, OR. Information was collected from 1 natural grass and 1 synthetic field at the Eugene location, and then 2 natural grass and 2 synthetic fields at both the Corvallis and Tualatin location. Installation costs and maintenance budgets were compiled and analyzed using Agtools software ultimately providing 20 year budget cycles for the individual fields, which includes the cost of installation, maintenance and renovation. Usage hours and participant numbers for the fields described above were collected from athletic directors, coaches, online schedules, and player rosters. Player numbers and usage hours will be used to create a dollar per player use hour value. These findings will be used to generate budget/player use models for those looking to purchase a new athletic field. Findings from this work determined that the average cost of installing a synthetic field is \$1,149,750 and the average 20 years budget cycle is \$5,160,857.75. The average cost of installing a natural grass field is \$464,000 and the average 20 year budget cycle is \$2,767,796.40. When dollar per player hour use is taken into consideration the synthetic fields averaged \$8.36 per player use hour. Natural grass fields averaged \$14.00 per player use hour and had values as high as \$22.03 per player use hour at the Eugene location.