

ARTIFICIAL TURF vs. NATURAL GRASS

12-YEAR COST COMPARISON

Cost per hour of use tells the story: what a field costs to build and maintain, divided by the hours communities can actually play on it.

NATURAL GRASS

\$383.38

cost per hour of use

12-yr cost ÷ ~6,000 hours of use

~10x

SYNTHETIC TURF

\$39.03

cost per hour of use

12-yr cost ÷ ~42,000 hours of use

Natural grass costs nearly 10 times more per hour of use.

Total cost of ownership over 12 years

(bars scaled separately)

Natural grass

\$2,226,681

Synthetic turf

\$1,656,175

Synthetic turf costs \$570,506 less over 12 years, even with a higher upfront installation cost.

Hours of permitted use in a 12-year cycle

(bars scaled separately)

Natural grass

~6,000 hours

Synthetic turf

~42,000 hours

Synthetic turf delivers about 7 times the playable hours on the same footprint. Hours are rounded; cost per hour is calculated from the study's exact figures.

HOW HOURS OF USE WERE CALCULATED (CHA CONSULTING)

Natural grass: 20 hours per week for 32 weeks per year, less 15% for rain, with downtime for resodding. Synthetic turf: 68 hours per week for 52 weeks per year, with no rainouts and no downtime for replacement. The cost per hour depends on these assumptions.

Higher upfront, far lower ongoing

Expense	Natural grass	Synthetic turf
Initial installation	\$1,386,681	\$1,644,175
Total annual maintenance (incl. water)	\$70,000	\$1,000

Sources: Study by Tom Diehl of CHA Consulting examining actual costs of ownership of public natural grass sports fields in Los Gatos, CA. Natural grass installation and maintenance costs provided by Byrom-Davey, a natural grass and artificial turf installer in Southern California. Synthetic turf figures reflect Pivot turf.

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INDUSTRY CLAIMS

How a turf manufacturer compares the two surfaces. These are industry claims, so read them alongside the peer-reviewed research in this toolkit.

COMPARABLES	NATURAL GRASS	SYNTHETIC TURF
 PLAYING TIME	600 hours of play per year. Can be affected by inclement weather and requires rest and downtime for resodding.	Unlimited hours of play per year, unaffected by inclement weather and no rest required.
 MAINTENANCE	Requires mowing, watering, seeding, fertilizing, pesticides, and aeration, which increases labor costs.	Pivot Performance Turf requires periodic sweeping of debris, with no need for infill management.
 REVENUE GENERATION	Fewer opportunities for events due to the rest time required between play time or inclement weather.	Can be used 24/7/365 for sports, community events, or other revenue generating activities.
 ENVIRONMENTAL ADVANTAGES	Preserves the natural environment of the soil and vegetation while sequestering carbon and releasing oxygen; requires pesticides.	Promotes water conservation (up to 1 million gallons per year depending on climate and soil conditions) and requires no pesticides.
 COST PER HOUR OF USE	HIGH due to limited hours of availability and resource-intensive maintenance.	LOW due to increased hours of availability and limited maintenance requirements.
 COMMUNITY USE	Cannot withstand heavy use for multiple sports and events on one field.	Will allow for multiple sports and events on one field.
 LAND UTILIZATION	Use can be limited due to necessary rest time.	Can achieve more use with the same amount of space.

Source: Adapted from TenCate Grass, "Synthetic Turf vs. Natural Grass" (2026). Manufacturer-supplied claims, not independent research.

Looking for independent evidence? See "Artificial Turf 101" and the Annotated Bibliography in this toolkit.