

# Synthetic Grass Sports Surfaces: Trends

## Hockey and Bowls

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# Overview

- Similarities / differences
- Synthetic surface affects on the game
- Hockey
- Bowls
- The urban myths
- Where we are heading?
- The main issues



# Bowls and hockey: Similarities and differences

- Nature of the sports demand short pile vertical draining systems
- Surfaces have include sand filled turf, and non filled carpet style turf in both sports, wet and dry
- All international hockey games currently played on wet pitches
- Synthetic surfaces speed up play
  - Good for hockey
  - Not good for bowls
  - Speed increases as carpet ages!
- Synthetics surfaces have allowed
  - People using wheel chairs to be include more easily
  - older people longer
  - more practice
- Both sport played on synthetic surfaces - 15yrs
- In both sports clubs have made major investments;
  - used to earning their own keep
  - generally very well administered
  - can make it happen- not all sports will
  - funding : debentures, loans, 3 way grants
- Local inventive machines - billy goat vacuum cleaner, smudger
- Competition has to deal with different surfaces

# Changes in surfaces

- **1966- Nylon**
- Early issues for players: abrasion, knee /ankle injuries
- **1990's**  
**Sand and rubber infill products**
- shoes, scratching of bowls
- issues with base
- **Wet based products**
- lack of water, salt, iron, calcium

## 2000's

- **More fibre, less fill**
- **Move away from wet pitch-hockey**
- **Won't return to sand infill**
- **Hybrid products (can play wet or dry)**
- **Move to carpet in bowls**

# Surfaces have changed the game

- Economics -shift in costs from mainly recurrent to large capital every 7-10yrs
- Scheduling needs to change to earn money from the surface
- Allows longer on field time for hockey & winter for bowls
  - but cant use 24/7 all year round
  - Some bowlers go away in winter
  - increased cost of scheduling later under lights
  - use affects maintenance & replacement period
- Affects other clubs/ association scheduling
- Schedules change social aspect
- Affects the way maintenance is done

## The urban myths

- Doesn't need any maintenance
- New is always better
- Doesn't need water

# Maintenance

- Adds say “**virtually maintenance and upkeep-free, they effectively allow for a single area to be utilised for a number of purposes**”
- **Weekly**
  - Inspect for algae invasion on unfilled pitches, especially in warmer climates
  - Dosage in watering system for algae, moss, weeds, etc
  - Broom -to keep pile upright
  - Groom - keep sand loose & evenly distributed (infilled turf )
- **Rejuvenation**
  - replace infill
- **Maintenance increases as surfaces ages**

## Daily

- Visual examination especially seams and along line markings: loose seams can run quickly -must be repaired
- Using a leaf blower or by hand: collection of litter, canteen waste, tape, gum, etc;
- Sweep grass, leaves, twigs and cones;
- Clean up food, faeces, compost, mud, etc.
- Brush-suction machine (unfilled turf)
- Machine (filled turf) remove coarse mud from surface and deeper layers

# Hockey

- Synthetic 15 years ago
- Changed the game
- More in Australia/ Vic than anywhere else
- No games above local club played on natural turf
- Embraced by FIH
  - Have performance standards
  - Provide maintenance guide
  - Is to review whether countries can select preferred surface- like tennis
- Wet pitches
  - high performance
  - must lay on sealed surface
  - short life- 8 years
  - higher cost,
  - can't play dry
  - FIH to move away from wet
  - Issues with hard water (salt, iron or calcium) from recycled water / bores
- Hybrid surfaces
  - not a proven surface
  - can play dry
  - longer life-15yrs
  - cost > than sand filled < than wet
  - lighter, less stable, pressure on seams
  - issues with base

# Hockey con't



Photo TEAMsports

- FIH 3 categories of synthetic turf: global, standard and starter
- Very good guidance to testing, includes:
  - ball rebound
  - ball roll
  - ball-to-surface friction
  - underfoot friction
  - impact response
  - pile / pad deformation
  - surface colour
  - surface gloss
  - pitch porosity
- Standards relate to performance of manufactured product: not mechanics of the game

# Bowls Surface types

- **Carpet style surfaces**
  - laid diagonal pile
  - higher capital cost
  - less maintenance
  - has shock pad (underlay) and hard base
- **Sand filled**
  - lower capital cost
  - lower maintenance cost than natural turf
  - laid on well drained base of crushed rock with stabiliser -forms honeycomb effect



# Bowls

- **Reasons to go synthetic**

- not just water
  - winter bowls
  - cost & shortage of Greenkeepers or those skilled in turf/warf greens
  - maintenance they or contractors can do
  - country clubs - consistent surfaces - club viability
  - better for older players, less impact of dumping
  - club is going under - last gasp!
  - **Player preference changing**
  - **Some new natural turfs**
  - **Under surface irrigation**
    -
  - **Now 140 clubs with synthetics**
  - **Most only 1 - some metros 2**
  - **Transition problems more evident than in hockey**
    - Many different surfaces
    - No guide to maintenance
    - Past practices problem i.e. excessive watering & rolling impacting on drainage
  - **Maintaining green speed 13-17secs**
  - **No performance standards**
  - **Clubs can't tell if well installed**
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## Recent issues

- **Increasing issues related to rubbish**
- **Hockey and soccer**
  - cigarette butts, lollies, gum
  - bird droppings perching on the goal frames
- **Bowls**
  - dust and pollution from freeways- need to shampoo carpet
- **Siting near trees & roads:**
  - organic mud stresses the synthetic turf with potentially significant lasting effects
- **“Splash” “fly out” of rubber infill**
  - gets in eyes, and drains
  - movement causes uneven surfaces

## Not all grass is green

- Polyurethane backing traditionally made using petroleum-based polymers
- New ones incorporates soybean polyols as a substitute for polymers made from fossil fuels
- Cushion backing use a felt-type fabric that is made from 100% recycled plastic bottles
- Rubber is extracted from recycled tyres to make durable cryogenic rubber infill
- 27,000 tyres to make enough infill for a soccer pitch

## Where we are headed

- Softer, less abrasive, more natural look, less infill surfaces
- The three different dimensions: strength, density, and cushioning
- Move away from polypropylene yarns to polyethylene
- Some development in nylon fibres stabilizes the longer polyethylene fibres and provides durability and strength
- Still no standards for bowls
- More definitive management
- Better advice re surface grading, sub base and internal drainage
- Testing processes

# Surface life- the major issue

- **Due to high cap cost - (\$600,000-1m) hockey need to increase time between resurfacing**
  - **Water - how and when**  
Using water wisely: and ensure that whole pitch is consistently watered before match & practice
  - **Sub base issues**
  - **Wear and tear**
  - **Management, & regular cleaning / maintenance**
- **Advice:Guides manufacturers/ peak bodies expertise to ensure proper maintenance, testing and performance**

## Key strategies

- **Do not install a high category of turf than is necessary**
- **Design to facilitate simple and effective maintenance**
- **Synthetic turf practice/warm-up areas – to reduce wear on the turf**
- **Provision of markings and extra goals for cross-pitch practice**
- **Keep wear away from main pitch markings / seams in practice (risk if patched more than once)**

# Surface life - the major issue cont.

## Strategies (cont'd)

- Regular emptying of rubbish bins
- Routing of player traffic to minimise tracking of impurities
- Food and beverage well off-pitch
- Vehicles: observe recommended static and rolling load limits
- Very regular cleaning, brooming and grooming of surfaces with infill
- Installation of boot cleaners
- Educate players /spectators: signs eg no glass, no sharp tags on boots, or stiletto heeled shoes



Thankyou



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