SOCIETY OF GARDEN + LANDSCAPE DESIGNERS

Sustainability Guidance Notes

19th March 2019

Note No. 001: Artificial Turf, Plants & Walls

Guidance Notes are intended to examine the sustainability or otherwise of types of materials, products and practices currently used by designers and the landscape industry at large.

A list of pros and cons is presented, together with references where available for further reading.

No reference is made or to be inferred to any company, brand or trademark.

The SGLD may make a recommendation or have a preferred position on the use or non-use of the material in question.



Introduction

Artificial grass has seen an almost exponential rise in popularity and use in recent years, moving from sports stadiums into domestic garden use. It appeals to users for convenience and the supposed lack of mess or upkeep. It has however an range of negative environmental consequences that are little discussed or taken into consideration prior to use. These must be understood and balanced against the personal convenience factor.

The same arguments hold true for artificial green walls and plants generally.

The pros and cons of this product are listed both on a personal level and an environmental one.

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Positives

Personal

- No need to mow the lawn or own a lawnmower
- No mud or mess when wet
- Grass for roof gardens

Environmental

- No fossil fuels used for mowing
- No water use (except for cleaning)

Negatives

Personal

- No contact with real grass, earth, daisies
- Still needs cleaning as debris builds up on the surface and can't be integrated into the soil. Retains faecal matter, moss, seeds
- Can get extremely hot, causing burns
- Will need replacement after some years
- Prevents contact with soil which is essential for psychological and physical health (ie soil contact required for good gut bacteria, especially in children)

Environmental

- Made from fossil fuel based plastics with high carbon-miles in shipment (China)
- Mixed plastic polymers & rubber crumb underlayer make it difficult to recycle
- Industry does not appear to take responsibility for its product after-life
- The ground becomes unable to sequester carbon, lawns are surprisingly good at this
- Artificial lawns remove a local wildlife food source from birds & small mammals
- Plastics emit air pollution in the form of Volatile Organic Compounds and microfibres (as airbourne particles) throughout their life
- Dies used in manufacture contain lead and heavy metals
- No permeation of water into the soil

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Recommendations

Due to the environmental damage caused by this product the SGLD does not recommend its use. Consider natural lawns without irrigation (cut high, 30mm), wild flower areas or the use of gravel to reduce mowing. Preferably keep it permeable, alive, healthy and carbon absorbing.

References and further reading

Apart from industry-led literature there is very little reliable or impartial information available. The following links may be useful:

https://www.telegraph.co.uk/news/2019/09/13/artificial-grass-row-conservationists-say-trend-plastic-lawns/

https://www.theguardian.com/environment/2016/jul/04/growth-in-artificial-lawns-poses-threat-to-british-wildlife-conservationists-warn

https://www.treehugger.com/green-food/artificial-turf-versus-real-grass-which-is-greener.html

https://www.huffingtonpost.co.uk/2015/06/09/artificial-turf-drought-california (link shortened)

https://www.kcet.org/agenda/artificial-turf-regulation-based-on-industry-supplied-data-alleges-group

http://www.turfgrasssod.org/pages/resources/serious-questions-about-newgeneration-artificial-turf-that-require-answers/

https://homeguides.sfgate.com/cons-artificial-grass-60179.html

https://www.momsteam.com/health-safety/turf-wars-pros-and-cons-of-artificial-turf

http://www.connectionnewspapers.com/news/2013/jan/02/column-examining-artificial-turfs-environmental-is/

https://njwec.org/PDF/Factsheets/fact-artificialterf.pdf