

Research Proves Popularity

Bronnie Allen highlights the key findings from WRAP's latest research and recaps on the recycled products that meet the quality and performance standards required for golf.



Creating markets for recycled resources

Recent research is proving that the awareness of recycled products for golf courses is growing significantly. The results also provide an interesting insight into what greenkeepers prioritise when considering recycled products. In order to gain a benchmark for the wider golfing industry into the current awareness of recycled products among greenkeepers and Course Managers, WRAP recently commissioned research with 100 BIGGA members.

The research focused on identifying which recycled products are most commonly used, how aware greenkeepers are of the range of products available, which sources of information greenkeepers use to find out about new products and what factors would influence their decision to switch to recycled products.

Results showed that more than half of those questioned (53%) were already using recycled products or materials on their courses. Recycled compost was the most commonly used product scoring 43%. This was not surprising, as golf courses have been composting their own grass cuttings for a long time.

Newer products such as recycled woodchip and recycled plastic products such as seating and bins also scored well with 42% and 17% respectively. Processed sand, derived from 100% recycled glass, is a relatively new material to the golfing industry and despite a high demand for the product, it has seen a slow response from suppliers. This will have no doubt contributed to the low 2% usage measured by the research.

However, this figure is likely to rise with several high profile suppliers now sourcing processed sand in response to customer demand. WRAP also has plans for the first ever construction of 'for play' greens and tees constructed using processed sand in rootzone material and bunkers. If successful, this project could see the launch of the first commercially available processed sand based rootzone mix.

Across the 100 interviewees, the research found that there was a very high level of awareness of the range of recycled products available. This could, in part, be attributed to the increase in information available about recycled products - 83% of those questioned said that golf magazines were their main source of information about recycled products, with advertising and existing suppliers also scoring well, 46% and 33% respectively.

However, the research also points to the fact that greenkeepers already using recycled products can help to influence the choices of their fellow colleagues, with 53% of respondents stating that they find out about



An artificial tee

products from other greenkeepers or word of mouth. Respondents were clear about the most important criteria when considering the use of recycled products.

Quality/performance of the product was ranked as the top priority criteria with cost and environmental responsibilities in second and third place respectively.

THE PROOF IS IN THE PRACTICE

This recent research has shown very positive results in terms of current levels of awareness of recycled products. However, the findings also revealed the importance of quality and performance in influencing greenkeepers to choose recycled products over other alternatives.

In order to develop a better understanding of the performance benefits of one particular recycled product WRAP has been working closely with the STRI - Sports Turf Research Institute - on trials assessing the use of processed sand.

Initial trials have already revealed that the characteristics of processed sand make it particularly beneficial when used in certain applications such as:

- **Rootzone** - where it shows significantly improved filtration and drainage rates.
- **A fairway top dressing** - where it can help to improve firmness during the wetter months.
- **Bunker sand** - where its angular nature provides stability underfoot and reduced plugging of the ball on impact.

While these trials firmly established the performance benefits of processed sand, further work was needed to try to alleviate one particular concern relating to the slightly green colour of processed sand. Many



greenkeepers are reluctant to change the visual look of the course where the traditional sand colour is very much seen as the norm.

A second phase was therefore undertaken to identify means of offsetting the greenish colour by comparing different blends of processed sand and conventional sand.

THE RIGHT BLEND

A range of mixes of processed sand and conventional sand were trialled to find the ideal mix in terms of colour as well as ensuring that the benefits of the angular nature of the processed sand were not compromised. Test bunkers containing varying ratios of processed sand to conventional sand ranging from 25:75, 50:50 through to 75:25 were compared with control bunkers of 100% conventional or processed sand. Each bunker was tested for colour values, moisture content, hardness, ball penetration and resistance as well as angle of repose.

The results showed that the optimum ratio was a 50:50 blend. This ratio maintained processed sand's performance advantages - such as firmer underfoot conditions and reduced plugging of the ball - but also significantly reduced the green colouring.

A TRULY NATURAL ALTERNATIVE

One of the most well established recycled products used on golf courses is compost. Over the years, the quality of compost has been greatly enhanced through the development of the BSI PAS 100 standard. This standard ensures that compost is produced to a specified level of consistency, quality and safety.

One golf course that has seen significant improvements in the quality of its fairways and tees since switching to PAS 100 compost is Loughgall Country Park Golf Course in Armagh, Northern Ireland. Opened in 2000, the municipal 18 hole course was previously the site of a Department of Agriculture research centre, where the ground had been subjected to different levels of chemicals, such as fertilisers. As a result, its poor condition made maintenance a challenging task.

In 2004, the course conducted a trial of BSI PAS 100 compost after hearing about the success at Epping Golf Course, in Essex. Sourced from accredited producer Natural World Products, where the golf course already sent its grass cuttings and clippings for recycling, the compost was applied to three fairways and one sand based fairway landing area.

Four different areas of the course with varying soils were selected for the trials to establish the performance of the compost in different conditions. Previously these areas had problems with grass growth and colour, uneven and unhealthy growth in addition to low nutrient levels.

Within a couple of weeks the results were already visible and there was a significant difference in the growth and colour of the grass. The course continues to use compost, especially on the areas where there is a high clay content as the compost improves the soil structure by introducing more oxygen and improving its water holding capacity.

PROVIDING SUSTAINABLE SOLUTIONS TO COMMON PROBLEMS

As well as processed sand and compost, two other recycled products growing in popularity are recycled woodchip and recycled plastic. Recycled woodchip is low maintenance and exceptionally durable, taking up to five years to breakdown. It is also an excellent weed suppressant, reducing the



Woodchip is one of the most popular recycled products

need for regular manual and chemical weeding and unlike many other loose surfacing materials, woodchip tends to stay in place in all weather conditions and prevents damage to mowing equipment. With availability in a range of colours, such as green, black and brown, woodchip can appear natural to its surrounding environment.

Recycled plastic products are also ideally suited for use on golf courses due to their resistance to damp and harsh weather conditions. The material is very low maintenance and does not require painting with varnish or preservative. Products such as artificial golf tees, path edging, fencing and drainage systems are just a few of the recycled plastic products that are suited to golf courses.

MEETING MEMBERS' EXPECTATIONS

It is clear that awareness of recycled products among greenkeepers and Course Managers is increasing and that recycled materials can offer significant benefits over some of the more traditional materials used. However, greenkeepers may still be asking themselves do existing members really care about recycled products?

WRAP wanted to know the answer to this question and commissioned independent research at the start of this year to find out. The findings revealed that far from not caring, 95% of respondents stated that they would want their golf course to use recycled products, assuming no negative performance or cost implications. Furthermore, 93% agreed that golf courses need to minimise any negative impact on the environment and 66% said they would feel more loyal to their club if they knew it was operating in an environmentally friendly way.

Taken as a whole, there is a very strong case for greenkeepers to switch to recycled products. Ongoing research and developments in new products coupled with the significant performance benefits and pressure from various sources to adopt environmental practices, mean that greenkeepers can no longer ignore the opportunities on offer.

Bronnie Allen is Materials Development Manager (Glass) at WRAP - the Waste & Resources Action Programme. Their website, www.wrap.org.uk, has further information about the range of recycled products available suitable for the golf sector.

