



Sensible surface refinement

As golfers demand yet faster surfaces, there is great pressure on greenkeepers to shave greens to excessively low cutting heights which imparts great stress on the turf. To sustain such low cutting heights, more frequent inputs are required of fertiliser, water and pesticides, especially fungicides as more regular outbreaks of disease are likely. Implementing such techniques provides the ideal conditions for annual meadow-grass to flourish. Consequently, this type of management is environmentally and economically unsustainable. It also compromises the aim of producing putting surfaces that can sustain year-round play.

In order to rise to the challenge of Climate Change, stricter pesticide legislation and tighter regulation of water usage, it is essential to select sustainable refinement operations to minimise stress on the turf at the same time as fulfilling the requirement of the golfer by providing consistently true and slick putting surfaces. To do this, sensible heights of cut should be selected and modern turf refinement techniques should be utilised such as rolling, brushing, grooming, top dressing, verticutting and hand mowing.

The following describes these refinement operations in more detail.

Mowing

- **Height of cut**

Optimum cutting heights are dependent upon the sward species composition, firmness of the surface, resources available (i.e. machinery, staff and time) and design limitations. The objective is to maintain surface uniformity at a height that provides sufficient pace but at the same time does not result in excessive turf stress.

- **Frequency of cut**

The closer the turf is mown, the more often you have to cut it to retain consistency of surface. This explains why greens are the most frequently mown area on the golf course and the rough the least mown. Turf can, of course, be mown too often although the damage seen is often caused by tyre tracking from machinery rather than the direct effect of the clipping action.

Top dressing

Regular top dressing helps produce a smooth and true surface which helps improve green pace and general playing quality. It also dilutes thatch and improves the quality of the growing medium which duly increases drainage and underfoot firmness.

Rolling

The use of lightweight units has brought rolling back into vogue. Research work in the US has shown no ill effects on soil or sand based greens when used appropriately. An initial trial carried out at STRI showed that an extra 10% ball roll was obtained after a double pass across a green. Used correctly, rolling may increase green speed whilst allowing slightly more leaf to be left on the plant, thus reducing stress and minimising inputs of fertiliser and irrigation. Rollers are particularly good for settling the surfaces back down after aeration, and vibrating top dressing off the surface and into the base of the turf.



Rolling (left) and top dressing (right) are two refinement operations that improve the smoothness, trueness and pace of putting surfaces

Verticutting

Verticutting is essentially vertical mowing. It thins out the sward, improves its texture, removes lateral growth and controls the accumulation of organic matter at the base of the turf. It therefore improves smoothness, firmness and pace. New verticutting units achieve this essential task to a better standard and with more efficiency than older units. Verticutting must be carried out during periods of strong growth to avoid excessive stress and thinning of the turf.

Grooming

Grooming attachments can be fitted to cutting units, allowing greens to be cut and groomed in one operation. The light vertical cutting encourages an upright growth habit and fines down coarser growth which produces faster and smoother greens. Grooming should be limited to periods of strong growth, as overly frequent or aggressive operations weaken the turf. Groomers are not a replacement for verticutting, but should be considered as an additional refinement tool.

Brushing

The positive effects of brushing are often forgotten. The operation makes the grass blades stand up, thereby minimising lateral growth and improving smoothness and pace. This conditioning operation should be more widely used than it currently is on most courses, particularly during times of stress when verticutting and grooming need to be postponed.