## WHAT AN INDEPENDENT CONSULTANT SAYS...

Alan Hopkins BSc, MPhil, CEnv, MIEEM works as an Independent Consultant, specialising in grassland and related areas of agriculture and amenity land use, prior to this he worked for the Institute of Grassland and Environmental Research for 30 years.

Melissa Jones asked Alan how he felt climate change would affect our greens...

"I guess the specific issues of climate change (in terms of 2020s/ 2050s MH scenarios\*) are that the length of growing season is favoured by warmer conditions in spring and autumn, plus some CO2 forcing, (exactly as for agricultural grassland) which golf greenkeepers might find encouraging. But more frequent and intense summer dry periods could have greater consequences on greens where there is shallow rooting, especially

where sprinklers are used, exacerbated by frequent cutting and any surface fertiliser dressings. There must also be a question over availability of irrigation water in the future in many parts of the UK, not just cost but availability."



"If I were planning golf course management for the future I would be focusing on anything that improved soil structure, including building up soil organic matter thus improving soil available water capacity. This requires an improved soil fauna so greenkeepers will have to learn to love earthworms and deal with worm casts if they get in the way of play. I would also suggest installing



rainwater holding systems (think about how much winter rain lands on a golf clubhouse roof).

"Longer term, and where frosts are less likely we could be looking at alternative species like paspalum or bermuda grass (plenty of overseas experience to draw on). A number of weeds are able to thrive under the conditions where swards get damaged by drought (flat weeds and anything with tap roots) and timing of any spot spraying is critical to avoid damage to a short turf. I think there could be some grass disease issues especially in warm damp autumns, so grass varieties that are less susceptible and the insurance value of complex mixtures are considerations. There is also the question of more frequent windy weather: planting wind breaks is cheap but they may take 20 years to mature."

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\* The UKCIP website gives numerous reports on climate change and they mostly use future scenarios rather than predictions, as used by climate change scientists. These are based on timescales and CO2 emissions levels (low, medium, medium-high, high etc for the 2020s, 2050s, 2080s) and the impacts of climate change associated with such emissions over that time scale. A medium-high emission scenario is assuming no great reduction in CO2 emission, and 2020s-2050s is the medium term and within most peoples' life expectancy.

