

Solar farm and solar park grazing

Rob Hodgkins

Field-scale solar panel units are a relatively new concept in England, with the first site developed in 2011. As the number of sites increases, developers and producers are now investigating the potential to utilise the sward beneath the panels as a source of forage which can be grazed by sheep.

Most solar farms have individual photovoltaic (PV) modules that are mounted on metal frames anchored by driven or screw piling, which causes minimal ground disturbance and occupies less than one percent of the land area. The remainder of the infrastructure typically disturbs less than five percent of the ground, and some 25 to 40% of its surface area is over-sailed by the modules or panels. This means that 95% of the area developed for solar panels is still accessible for vegetative growth, and if managed correctly, could potentially support grazing throughout the unit's 25 year lifespan.



Rob Hodgkins currently keeps 1,200 Romney ewes and finishes the majority of their lambs. His plan is to increase the size of the breeding flock by exploiting the development of numerous solar panel sites across the South East. Rob, along with other local producers, has received funding from AHDB Beef & Lamb's farm innovation grant (FIG) scheme to find the most suitable sward mixes that will achieve good agronomic performance and adequate daily liveweight gains for lambs in these challenging environments.



Solar panel site, Wisbridge

After some research and consultation with the solar panel park developers two sites were identified, one at Wisbridge and one in Gosfield. It was decided that a high-protein mix with a low growth pattern would be used. This is to ensure that no sunlight is blocked from reaching the panels. White clover and plantain would be sown at the Wisbridge site, and at the larger Gosfield site a white clover and plantain mix would be sown as well as an area of white clover and fodder radish.

At one of the sites a problem with soil compaction was identified after the solar panels and associated infrastructure was established. Due to the small area between panels, the ability to use cultivation equipment is limited. Instead it is hoped

that crops with good rooting structure will have a beneficial effect on the soil.

Like a conventional sward, the management of the pasture near the solar panel units is key to its longevity and productivity. A number of preliminary studies on the quantity and quality of forage available under a solar panel grazing system suggest that overall production is not much different from conventional areas of land (BRE, 2014).

There is still ample opportunity for sheep producers to utilise the area under solar panel units to increase stocking rates while providing an efficient method of controlling ground herbage for the unit developers.

AHDB Beef & Lamb is planning to hold an event at Rob's farm later in the year to discuss the results. Keep an eye on future editions of *Grazing Club News* and our events page for more information.