

TEAGASC, Grange, Animal Bioscience Research Centre, Dunsany, Co. Meath, Ireland

<p><b>Research topics:</b></p>	<p>Grange research facility focuses on different components of the overall beef cow production system from a predominantly pasture based diet. Currently the research programme at Grange is dedicated to i) grassland and grazing management, ii) beef cow/ cattle nutrition, iii) beef suckler cow genetic evaluations, iv) animal health and welfare, v) meat quality, vi) beef cow reproductive efficiency, and vii) determining the onset of puberty for bulls and heifers.</p>
<p><b>Activities and services currently offered by the infrastructure/installation:</b></p>	<p>Routine animal measurements are carried out at Teagasc Grange - cow and calf live weight, milk production (using the weigh-suckle-weigh technique), reproductive efficiency and body condition score. Current research at Grange is also examining lifetime production efficiency of cows of diverse genetic merit. This work is centred on sustainable pasture based systems of production. Currently, difficult to measure phenotypic measurements such as milk yield, which is determined using the weigh-suckle-weigh technique, are recorded three times throughout the lactation cycle on a large number of cows (n=120). Unlike terminal traits for beef cattle, maternal characteristics are difficult to discern and are confined to a research setting.</p>
<p><b>Description of the access to be provided under SmartCow TNA calls:</b></p>	<p>As part of the access all experimental data will be recorded on the Teagasc database, and the information gathered within SmartCow will be available to all project partners to be integrated into the project cloud-based data platform. If users wish to undertake a meta-analysis project, they may be given access to the Grange database on specific aspects. The details of any meta-analysis will be discussed prior to it being undertaken.</p> <p>Users will be given office and lab bench space as well as access to the Teagasc computer system. A full induction course will also be given to visiting researchers. Although free accommodation cannot be offered assistance will be given to locate suitable lodgings. In relation to animal experiments measurement protocols, equipment access and technician time will be available. All projects will also be planned with members of the grassland department and there will be constant interaction between the visiting scientist and members of the department.</p> <p>The unit of access for this installation is defined as <b>one cow.week</b>. One typical access for a project consists of 960 units of access. One typical access covers time at the centre to prepare for the experiment, if a licence is required to undertake animal measurements this will need to be applied for prior to the visit in order to maximise experimental time. Users will have the opportunity to overlay measurements across on-going experiments which investigate the maximisation of production efficiency from a grazed grass diet. As part of the access users will have access to dairy cows,</p>

	<p>rumen fistulated animals, facilities to undertake and analyse specific samples <i>e.g.</i> blood sampling. Access will also be granted to intake estimation facilities. The users will have to complete the required ethics courses (LAST) and to be trained in the measurement techniques in advance of the project start up.</p>
<p><b>Animal types, diets, housing and experimental conditions that can be worked on in this infrastructure/installation:</b></p>	<p>The main resources available to the beef research programme at Grange are 250 ha of grassland, a cattle accommodation capacity of over 1100 animals and facilities to individually feed 300 animals (using Broadbent/Calan Gates). There is also a 16 stall metabolism house for detailed nutrition work. A suite of forage, animal tissue and molecular laboratories are available to support the research programme. Equipment for behaviour (grazing, heat detection and accelerometers) are also available.</p> <p>Grange has 230 suckler cows across two individual research herds. Sixty cows plus progeny are available to execute systems or component type experiments.</p>
<p><b>Travel and subsistence costs:</b></p>	<p>According to Teagasc rules, travel and subsistence costs of applicants can be reimbursed on production of original receipts. Train or flight tickets can be also directly ordered by Teagasc for the successful applicants. According to the amount of money available for this purpose in the project and the expected number of applicants, Teagasc may have to limit user reimbursements to 2 people for a stay of 3 days. This point will be examined on a case-by-case basis, according to the protocol duration and external user involvement.</p>
<p><b>Infrastructure/installation ethical rules:</b></p>	<p>All experiments must obtain ethical approval from the Teagasc Animal Ethics Committee (TAEC). If the project involves licensable procedures (<i>e.g.</i> blood sampling) a project license will be required from the Health Products Regulatory Authority of Ireland (HPRA) <a href="http://www.hpra.ie/homepage/veterinary">http://www.hpra.ie/homepage/veterinary</a> . All individuals taking measurements as part of the project will also need an individual license from the HPRA.</p>