

Beef from grass

The farm

Andrew Crow farms approximately 520 ha at Cherrington Manor, near Newport, in Shropshire. It consists of 256 ha of permanent pasture and 48 ha of grass leys with the remaining ground used for arable crops.

The farm is split into two distinctive blocks, 200 ha of which is farmed on Wilderley Hill at 396 metres above sea level, with an annual rainfall of 60 inches. The remainder is farmed at Cherrington, at a height of 61 metres above sea level and a rainfall of 32 inches.

The current suckler herd, which is made up mostly of Stabilisers, includes 93 spring-calving cows and 24 autumn-calving cows. The spring-calving herd is housed before Christmas and turned out after calving. Autumn calving occurs outdoors with cows and calves being out-wintered. The autumn-born calves are housed at 12 months of age for finishing at 16 months on a diet of silage, barley and protein balancer. The majority of spring-born animals are finished on grass at 18 months, after being out-wintered in their first year.



Andrew also has 280 ewes and his farming system involves calving and lambing all of the stock at Cherrington Manor before moving the sheep and suckler cows up to Wilderley Hill for the summer months. This means that initial stocking rate is very high in the spring with sheep and suckler cows being set stocked, as it is not practical to rotate young lambs and calves around the farm. Andrew then moves all of the suckler cows and calves and sheep and lambs to the hill, freeing up the grass leys for yearling cattle and silage making.

Improvements

Andrew's aim is to start intensive rotational grazing for 60 of his yearling steers, weighing approximately 450kg at the start of the season, on some of the grass leys. Overall, the aim is to maintain a high stocking rate of above 2.2 livestock units per hectare, maximise grass growth rates and achieve cattle growth rates in excess of 1.5 kg per day from grass and clover leys alone.

With help from Marc Jones (ADAS and Beef from Grass project adviser), Andrew will aim to set the rotation up on 17.8 ha of grass leys. The grazing will start on 1 May and finish on 30 September, with the hope that all cattle are finished off grass without requiring housing.



Andrew will aim to move cattle every two to three days. Due to the size of the fields a 25 day rotation has been targeted. However, it is likely that the rotation is slightly understocked and more paddocks may need to be taken out for silage.

The calculations below give a step-by-step guide on how the system will be set up. Andrew will measure the grass covers of ten paddocks weekly so he can estimate grass growth rates and input data into the Irish grass software, AgriNet. From here he will be able to create grass budgets and grazing wedges. This will allow him to make informed decisions about when to shut-out paddocks for silage as grass gets ahead of the cattle, and also when to introduce more land if grass growth slows.

Setting Up a Paddock Grazing System

Step 1 – Establish stock numbers through the planned grazing season
60 yearling steers weighing 450kg on average at the start of the season.

Step 2 – Establish daily feed demand
Animal requires 2.5% of body weight in dry matter (DM)
 $450\text{kg} \times 0.025 = 11.25\text{kg DM per animal}$
 $11.25\text{ kg} \times 60\text{ steers} = 675\text{kg of DM required per day for the group}$

Step 3 – Establish grazing yield
Target residual of 1,500 kg DM
Target graze height of 2,700 kg DM
Grazing yield = $2,700 - 1,500 = 1,200\text{ kg of DM}$
Utilisation target = 80%
Utilised grass = $1,200 \times 0.8 = 960\text{ kg of DM per ha.}$

Step 4 – Establish grazing days per hectare
Dry matter available per hectare = 960 kg
Dry matter requirement from stock per day = 675 kg
Days per ha = $960 \div 675 = 1.4\text{ days}$

Step 5 – Calculate days per rotation
Land available – 17.8 ha
Days per rotation = $17.8\text{ha} \times 1.4 = 25\text{ days}$

Step 6 – Calculate minimum grass growth to maintain rotation
Dry matter requirement from stock = $675\text{ kg (stock requirement)} \div 17.8\text{ ha (land in rotation)} = 38\text{ kg/day}$

The calculations show that the feed requirements of the steers will be 11.25 kg each or 675kg of dry matter (DM) a day and that the cattle will take nearly 1.5 days to graze a hectare. Andrew will target pre-grazing covers of 2,700 kg of DM/ha and will aim for residuals of 1,500 kg of DM/ha to maximise grass quality and growth rates in both the cattle and the grass

More information about the project can be found in December's edition of
[Grazing Club News](#)