FORAGE *for* PROFIT

Farm Advisory Service

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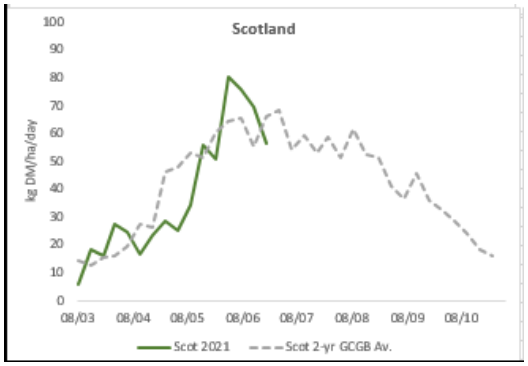
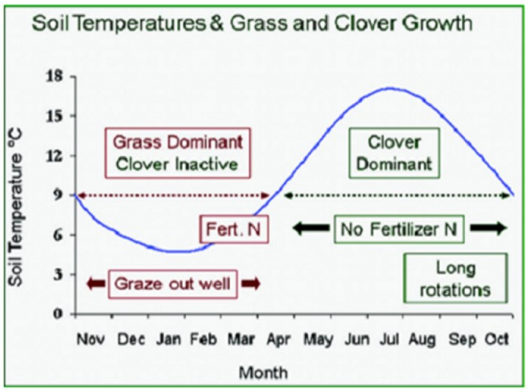
The Forage for Profit Discussion Group are a group of beef and sheep producers based in South West Scotland with a common desire to improve business profitability through improved utilisation of grass and forage crops.

2021 has been the driest and possibly coldest Spring in the last 50 years having a significant impact on grass growth, as demonstrated in the following graph. Grass growth from Grasscheck GB farms in May was 50% **lower** than the two year average before recovery in June where growth was 20% **higher** than the 2 year average. This is a massive change over a matter of weeks, reflected in first cut yields which were taken in late May and early June. SEPA recorded rainfall of 14.6mm at their Minnigaff site in April, 111mm in May and 24mm so far in June so no surprise we have seen such erratic grass growth. Current total rainfall is 515mm and based on typical annual rainfall, we could be facing an average of 160mm of rain per month for the next 6 months!



White Clover Growth

Clover populations in swards has increased dramatically this year—most likely due to the lack of grass in the early Spring enabling sunlight into the base of swards to stimulate clover growth. With this in mind tailor your fertiliser applications to promote the clover growth (see chart below).



Clover will grow at temperatures 5 degrees higher than that of grass so it will sustain growth through warm spells. Clover is highly digestible so animals will preferentially graze it and with a D value 5% higher than ryegrass alone this will provide high quality grazing. It maintains leaf and nutritious value at a time when grass plants are seeding and reducing in feed quality. Key minerals such as calcium, phosphorous copper and selenium are also greater in clover plants than in ryegrass.

Heading Dates

Perennial ryegrasses can be split into 3 categories—early, intermediate and late varieties. This reflects their heading date (50% ear emergence) relative to 1st May. There can be 4 weeks of a difference between heading dates of early and late varieties. The order in which varieties head stays relatively consistent whilst the actual heading date varies depending on weather conditions, season and altitude.

Traditionally silage mixtures would be formulated with a short spread of heading dates to enable the crop to be cut with all varieties at a similar growth stage, however this leaves a harvesting windows of around 4 days which with more frequent unpredictable weather patterns can be very difficult do. Some seed growers are spreading the heading dates in silage mixtures to extend the harvest window with the later leafier varieties balancing out the early varieties which may already have headed.

Within each group there is a close relationship between heading date and plant characteristics such as herbage quality, seasonality of growth and persistence.

White clovers are listed in order of leaf size. The small leaved are prostrate types, persistent and suited to continuous grazing, while large leaved are more erect and better suited to cutting or rotational grazing.

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FORAGE *for* PROFIT — Managing Grass Growth

Managing Surplus and Deficit Growth

Measuring grass and using the data in a software programme to create a feed wedge gives you a snapshot of the future and enables you to make management decisions earlier. Grass growth has been very varied and we are still experiencing quite dry conditions so it is difficult to predict whether we will remain in surplus or fall into deficit quite quickly. Having a contingency plan will ensure the impact is minimised. Some management options for both scenarios are considered below:

Surplus	Deficit
Make extra silage/Hay	Apply fertiliser
If not enough to cut but quality suffering—topping	Sell some tradeable livestock earlier
Take field out for reseeding/forage crops	Wean early and prioritise grass to lambs/priority stock
Take on additional tradeable stock	Look at markets for forward buying forage/feeds
Use rotational grazing to give grass a rest and	Use rotational grazing to give grass a rest

Winter Feed Budget

After such a long winter the buffer silage stocks have been depleted and with rising costs for purchased feed and straw it is critical we rebuilt these stocks. The first step is actually knowing how much forage you need as a minimum and then adding a buffer stock. The following steps give me information on how to do this:

1. Calculate the volume of forage available – clamp length (L) x breadth (B) x height (H). Calculate the wedge and sloped sides separately (L x B x H ÷ 2), before adding onto the total cubic meterage (m3).

2. Convert volume (m3) into estimated tonnage – assume 600kg/m3 for dry silage, grass (wholecrop and maize silage have similar crop densities). Therefore, if 1,000m3 x 0.6t = 600t forage freshweight. And if there is no effluent it will be +30%DM i.e. 600t x 0.3 = 180t dry matter. Refine this stage once a silage analysis is available. Similarly, weigh a few bales as they can differ significantly.

3. Calculate silage demand – the size of animal, body condition, stage of pregnancy, liveweight gain etc all impact actual demand. A formulated ration will be required to better match silage(s) to stock-class. In the meantime, let's assume the dry matter required for 100 cows and 86 weaned calves is 9kgDM/d and 4kgDM/d from grass silage (including 10% for wastage) over 180d winter. That is 224t DM demand. A rough table is provided below to support individuals calculations:

Estimated forage dry matter intakes per day:

Spring calving beef cows	8kg DM/d
Autumn calving beef cows	10kg DM/d`
Store cattle	1.5kg/100kg lwt
Ewe	1.4kg DM/d

No. of cattle	x	DM intake/ head/day	=	Total intake	x	No. of days	=	Total (t)
100	x	9	=	900	x	180	=	162
86	x	4	=	344	x	180	=	62
						Total (t)		224

4. Adjusting for a shortfall—there may still be time to take another cut of silage or wholecrop spring cereals. To calculate requirements reverse stage two above i.e. with a 44t DM shortfall, if budgeting on 30% DM forage = 44 ÷ 0.3 = 147t freshweight. Supposing a yield of 12t FW/acre of Spring Barley Wholecrop, 13 acres would be required.

NB. this is a budget that should be refined once more accurate information becomes available and revisited in the early months of feed-out. It is recommended to analysis the silage as soon as possible and build those figures into ration formulations.