



Grassland management

Maximise growth with a fertilising plan

Teagasc equine specialist Wendy Conlon and soil and plant nutrition specialist Mark Plunkett explain what steps you can take to get the best out of your land this spring

GRASS supply in general is not an issue. February was one of the wettest months on record in the last 150 years. Fertiliser applications have only commenced on many farms in recent days due to improvements in soil conditions. However, given stock have been stabled for an extended winter there is, in general, grass available. Ground has dried out significantly over recent weeks in most parts, though heavy poorly drained ground may continue to pose traffic-ability challenges. Turning horses out to grass will reduce at least some of the workload and stress impinged by the requirement of exemplary hygiene relating to touch zones in the yard. With shows, and other training activities at a standstill and the advice to not engage in risk activities while health care services are under extraordinary pressure, it is logical that many horses will have had their concentrate feed inputs reduced or altered in recent weeks and be well positioned in that regard for turn out to grass.

Soil testing
Following on from the advice offered in the Horse Sense pages last autumn to carry out soil testing, now is a good time to take out the soil test results and prepare a fertiliser plan to guide lime, nitrogen (N), phosphorus (P) & potassium (K) applications for the year ahead. Aim for pH 6.3 on mineral soils and 5.5 on peaty soils for grass production. This is essential for soil nutrient availability (N, P, and K) and will increase the productivity of the grass sward annually. A maximum single recommended application of lime is 7.5tonne /ha with any remaining advised lime applied in year three. Lime may be applied at any time of year. The soil test will show the soils P

Table 1: Annual nutrient excretion rates of nitrogen for horses

Horse age	Total nitrogen excreted kg/ year
> three years old	50
Two to three years old	44
One to two years old	36
Foal < one year old	25
Donkey/ Pony	30

and K status. On productive rye grass swards we aim for P and K Index 3 which is the agronomic optimum. Maximising grass production on the silage/hay area will be important for both grass yield and quality. However, on the grazing areas this may not be required and maintaining soils P and K (table 2) may be sufficient depending on grass production requirements.

Applying fertiliser without soil test information is akin to shooting in the dark. In the absence of a soil test it is best to assume soil table 3 to determine current fertiliser application.

Where soil test information is available a nutrient management plan can be prepared. This is a written plan calculating maximum farm N and P allowances and planning how major nutrients such as lime, N, P and K will be delivered during the growing season.

Meeting demand

The nitrates directive sets an organic N limit of 170kg Org N/ha for farm holdings. This is based on the type and number of livestock on the holding each year. Table 1 shows the Organic N and P produced by different types of equine stock during the year. To calculate the farm organic N value on a holding multiply the annual average number in the various stock categories, described in the table below, by the total nitrogen excreted value, and then add these all together. Values are also available for other livestock that may be present on the farm (i.e. cattle and sheep).

The total nitrogen produced by all livestock on the holding divided by the hectares (ha) of the farm determines the nitrogen from livestock manure produced on the holding (kg Org N/ha/year). This figure is then adjusted for any imports or exports of livestock manure to determine the whole farm stocking rate. For example one mare and foal (50 plus 25 Org N) on one ha of land will equate to a stocking rate of 75kg Org N/ha.

Research has shown that there is significant scope to improve farm nutrient management planning, on Irish farms, and soil testing is central to achieving this. Having a nutrient management

Figure 1
Teagasc Pasture-Base grass growth (kg DM/ha/day)

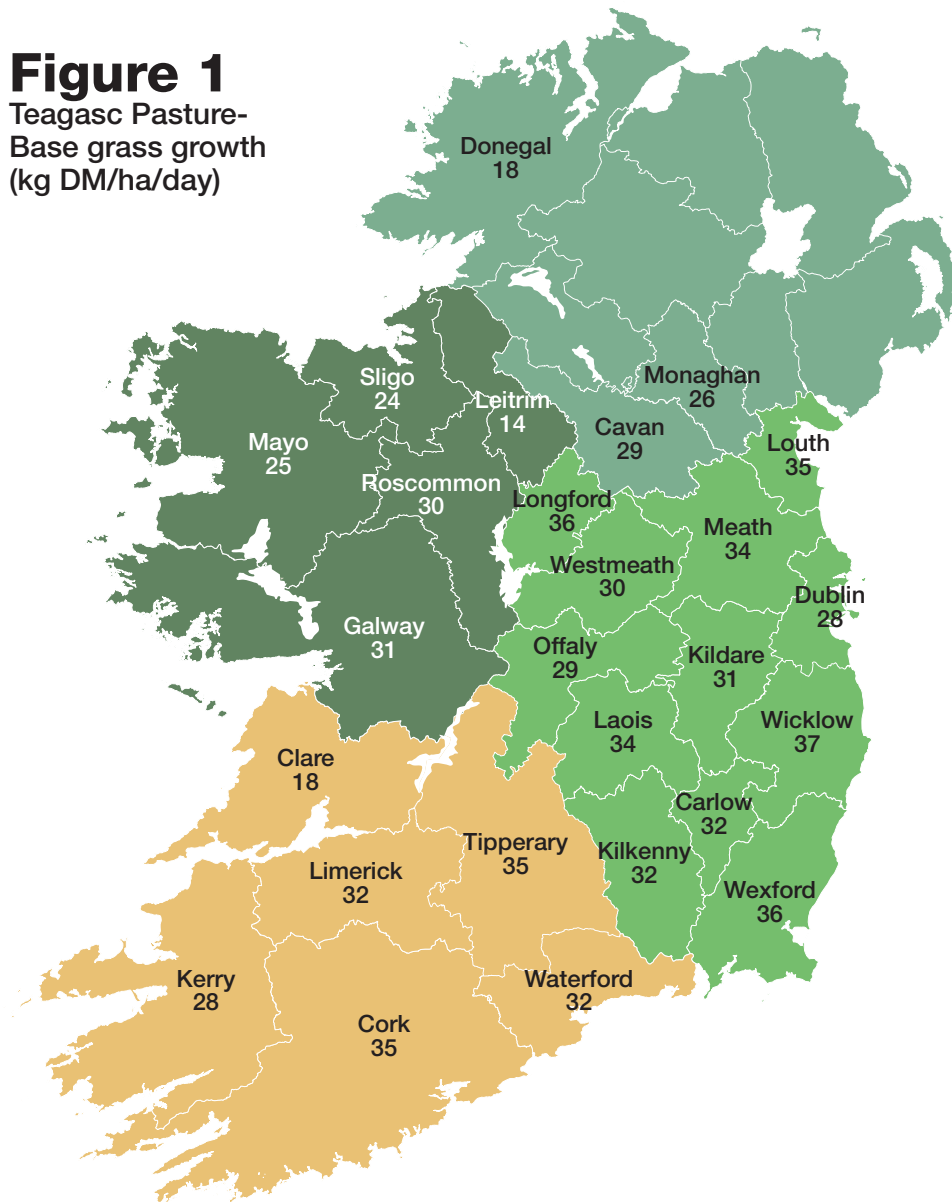


Table 2: Recommended rates of N, P and K kg/ha at 1.0LU /ha (units/ac)

Soil index	N	P	K	Suggested fertilisers
1	25 (20)	23 (18)	64 (51)	2 bags/acre 10-10-20
2	25 (20)	13 (10)	34 (27)	1 bag/acre 10-10-20 + ½ CAN
3	25 (20)	3 (2.5)	4 (3)	1 bag/acre 27-2.5-5.0
4	25 (20)	0	0	¾ bag/acre CAN

plan for your farm is the best way to: Identify soil fertility problems, make the best use of the available nutrient resources on your farm, calculate your fertiliser requirements for the year, and increase farm productivity

The aim should be to only apply sufficient nitrogen, and phosphorous, to meet annual grass demands which tend to be low on equine farms. (See table 2).

Table 2 shows the recommended levels of N, P and K for a farm stocked at 1 LU/ha (mare and foal). The suggested fertiliser examples in the table above do not take into account farm adjustments to N and P allowances and it is therefore advisable to work from a fertiliser plan on actual farm N and P allowances.

Time to fertilise

If you haven't already fertilised your early grazing paddocks do so now, ground conditions permitting, and ensure that the fertiliser applied is washed in before turning horses out. Spread fertiliser when soil and

weather conditions are suitable i.e. soils at >5 degrees celsius, good traffic ability where machinery can work without damaging soil structure; and with 48 hours dry weather after application (check Met Éireann in advance).

Well-rotted farmyard manure (FYM) can be used very successfully on grass for horses. It has the advantage that it releases nutrients over a longer time period than chemical fertilisers. It contains the following available nutrients – three units N, 2.5 units P and 12 units K/tonne. An application of 25 tonnes per hectare (10 tonnes /acre) is beneficial and should be targeted to areas of the farm that are cut for silage/hay. Manure varies widely in composition depending on its origin and storage. Cattle or pig slurry may be used where available.

Assess your grazing paddocks and turn animals out on the driest ground available. Strip grazing may be necessary to protect damaged areas or where parts of paddocks remain at risk of poaching. In these challenging times when incomes may be affected, every action to control costs will help.

Grass is the cheapest form of nutrition, though continued concentrate supplementation will be required for certain categories of horses, for example lactating mares. Weather conditions also need to be appraised for the suitability of overnighting foals outdoors. At the time of writing it would be preferable to continue to house foals at night. A sensible approach to husbandry is required.