

MAKE HAY WHILE THE SUN SHINES; HAY Paddock PREPARATION

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Quality hay and silage begin with quality pasture. The foundation of any pasture is good fertility. Liebig’s law of the minimum asserts that growth is not dictated by total resources, but rather by the scarcest resource. This is where knowing the nutrient levels in your soils is a key factor in pasture and hay/silage production.

What can we do to ensure quality hay and silage?

Control Weeds & Pests:

Managing weeds in a hay paddock is important as they can greatly reduce quality and compete with desirable species for nutrients and moisture. Pests such as red-legged earth mite, lucerne flea and aphids can quickly decrease yield and quality. Like anything, good management and correct timing make a world of difference.

Hay Boosters are not a replacement for a proper autumn fertiliser plan, rather a way of helping to ensure that quality hay production can be achieved, as a large determinate of quality is crop nutrition.

Regular soil testing will give the best indication of fertility levels and quantify productivity potential or any limiting factors. Regular autumn fertiliser applications are necessary.

It is important to identify and select pastures that can produce high quality forage and have high yield potential.

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THE FERTILISER PROFESSIONALS

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Nutrient Replacement:

In order to properly account for nutrient replacement, hay paddocks should be treated accordingly the following autumn and provided with additional phosphorous and potassium where needed.

Total nutrients removed by 1 ton of hay or silage				
Fodder Type:	N	P	K	S
Pasture Hay	25	2.5	17	2.5
Pasture Silage	30	3	15	3
Cereal Hay	20	2	12	1.5
Cereal Silage	14	2	25	2
Lucerne Hay	34.5	2.7	19.6	3.2
Legume Hay	30	3	22	2

Table 1: Nutrient Removal

The table above is a useful guide to nutrient removal rates.
A 4t/ha pasture hay crop will remove:
100 kg/Ha Nitrogen, 10 kg/ha Phosphorous, 68 kg/Ha Potassium and 10 kg/Ha Sulphur.

Hay production is a particular strain on nitrogen and potassium reserves, therefore applying hay booster helps to cover some of the fertility outputs of making hay. The price of these removals is exacerbated when you have a designated hay paddock that gets cut every year.

It is recommended to rotate hay/silage paddocks. Generally, if removals are not replaced, over time you will end up with decreased paddock performance due in most part to mined nitrogen, phosphorous and potassium reserves. Phosphorous is the main driver of any pasture system and is required for the efficient uptake of other nutrients, especially nitrogen.

Potassium is of particular concern as, unlike nitrogen, it cannot be mineralized in the soil or “fixed” by legumes, such as clover. This means replacement is solely reliant on being put back into the system.

Potassium is important to replace in terms of plant health as it plays a major role in maintaining plant strength; thus, facilitating resilience against pest attacks, as well as controlling water loss through the leaves. However, plants can take up luxury amounts of potassium shortly after application, so ideally it is best to apply potassium in autumn as grass tetany issues can arise from elevated K levels and low magnesium.



Timing:

The ideal timing of a hay booster application is six to eight weeks prior to cutting. As you can see below in Figure 1, growth stage at harvest has a major impact on forage quality and yield. Digestibility, ME & protein levels are highest in the early vegetative growth stage. The optimum stage for harvest is a compromise between quality and quantity. Forage quality drops quickly once maturity progresses from vegetative to reproductive stage.

It is paramount to consider the seasonal forecast and plan accordingly. The potential effects of El Niño this season should factor into the planning of your fodder regime.

How Stage of Maturity Affects Yield and Quality of Annual Forages

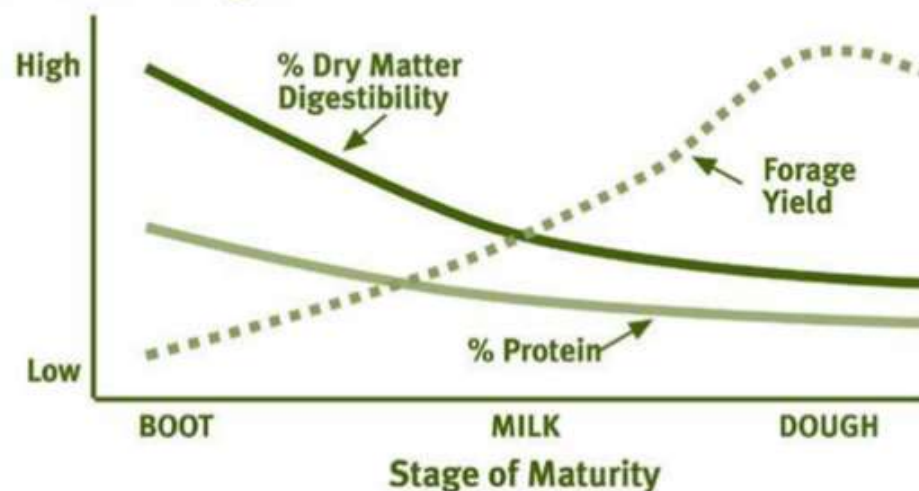


Figure 1: Maturity Stage Affecting Yield/Quality

Options:

Some common blends are as follows:

Urea

For grass dominant paddocks, straight urea is the most cost-effective option. An application of 30-60kg N/ha is typically sufficient. Expect pasture responses of 15-25kgDM/ha for each kilogram of N applied approximately 4 to 6 weeks after application in spring. Improved annual and perennial pastures can achieve even better responses, while low fertility paddocks will respond poorly.

Urea/MOP (N/K)

In clover-dominant pastures, potassium is a major limiting factor so a urea-potash blend can cover some fertility shortages. However, rates of potassium should not be too high in spring applications (<40K).

NPKS

An NPKS blend, such as Hayfast or Pasturefast, covers all bases and is especially useful if you have poor fertility levels or are unsure of your soil nutrient levels, while potentially countering nutrient removal rates.

We can custom blend a suitable fertiliser specific to your needs.

Contact your Vickery Bros Agronomist to find the best solution for your requirements.

