

## Summer Forage Planning & Irrigation Management

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Spring is almost here and selecting the most appropriate summer forage option/s is important to ensure the dairy herd's forage base is secure for the next six months and beyond. Where there is a solid tropical pasture base, ryegrass may still be present and continued prudent management of the sward as the weather warms is imperative to ensure a high volume of leaf is offered to the herd. Well managed tropical pastures are productive, profitable and resilient. A typical kikuyu sward will run at approximately 7c/kg DM, with well over 10t DM/ha commonly being utilised and 4ML/ha of irrigation on the Downs in an "average" year.

For those that have to plant crops there are many considerations. For any herd it is very useful to determine what the dry matter intake requirements are via a simple feed budget. This helps to determine what the forage mix may look like, lablab or maize or sorghum for example. Assessment of farm resources in water, soil, machinery and labour will greatly impact on the summer forage option and the seasonal outlook, although not a guarantee is worth factoring into risk management strategies for the season ahead. At this point in time the seasonal outlook appears to be neutral.

The C4 milk team have demonstrated the performance of a number of summer dominant crops and their application to a range of farming systems. Legumes such as Lucerne, Lablab and soybean have provided high quality feed, crude protein above 20% and ME over 10 MJ/kg DM, under irrigation and dryland conditions. With the exception of Lucerne, the summer legumes are usually lower in yield than cereals, approximately 6t DM/ha of lablab is commonly utilised. Alternatively, sorghum (grain and forage) and maize have yielded extremely well, over 20t DM/ha, and provided starch sources where silage was made. Each of these species has particular soil, nutrient and water requirements and has different applications which are important when making decisions on-farm.

Where irrigation is available some of the risk is taken out of growing certain crops such as maize, however, if the irrigation reserves are limited then some choices around crop selection and area planted become very important. The work from the Dairy Fodder Water for Profit team over the last 18 years has demonstrated that there is always merit in matching irrigation requirements to particular plant species to achieve the optimal yield potential. It is worthwhile assessing the irrigation water available at the start of the season and only planting enough area to satisfactorily water the crop to its potential. "Rolling" the dice on rainfall is best done in a total dryland situation, outside the designated irrigation area. Some irrigation requirements of crops are outlined below.

The cropping cost of particular species is another critical area of consideration. Ray Murphy and I put together a feed cost booklet which is available on Dairyinfo.biz, this tool is designed to enable producers to enter their own costs and determine their own c/kg DM values for various crops used in their operations. The cost and risk factor may ultimately be the deciding element in growing maize or grain sorghum for instance. If irrigation reserves are low going into summer it may be economically prudent to grow Liberty White sorghum, for example, as opposed to maize. There is less risk with growing sorghum in a marginal situation. Previous articles have highlighted the C4 Milk team feed test results of this crop, the opportunity of repeated cuts also make it worth considering.

The level of irrigation required depends on rainfall and its timing. A maize silage crop on the Downs may demand approximately 3 ML/ha of irrigation in an “average” rainfall year and yield around 20t DM/ha which would bring the feed cost in at 19c/kg DM. If however only 2ML/ha of irrigation was available and limited water was available at the key time of tassel it may only yield 13t DM/ha and bring the cost up to 27c/kg DM. Given only 2 ML/ha of irrigation, Liberty sorghum silage would yield approximately 13t DM/ha at a feed cost of 12c/kg DM, clearly making this a more economically viable decision.

Having a well defined summer forage plan helps ensure dry matter targets are achieved and reduces the risk of having to buy in spot market feeds. If irrigation is available, matching the supply to the plant demand will result in optimising potential yields and quality, if resources are limited look after a smaller area well to achieve a better result. Summer forages play an important role in the sub-tropical feed base and when managed well present profitable feed options.

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