Choosing your herd's breeding direction

AE empowers individual dairyfarmers

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Dairyfarmers have a more accurate and useful tool in the Animal Evaluation system for identifying the most profitable and efficient animals for NZ farming systems.

In making this statement, one of the biggest traps for the dairy industry, with any system of ranking animals, is assuming that all the decisions have already been made. *Animal Evaluation* was never designed with the intention of replacing individual farmer objectives with a single figure or figures determining the worth of animals and herds. At the end of the day, the farmer makes the decisions on the type of animal to milk and farm.

The purpose of *Animal Evaluation*, like the previous system, is to provide information about animals. From June, this information became more accurate and abundant than ever.

For individual animals there are evaluations for milkfat, protein, volume, liveweight, survival, conformation and management traits (if available), as well as economic evaluations which combine this trait information into measures of relative profit and efficiency.

All this information is available to be used to a greater or lesser degree, depending on how well it fits a farmer's personal objectives.

If you know of and favour additional characteristics of a particular animal or animals not accounted for by the new system, you should use these to your advantage.

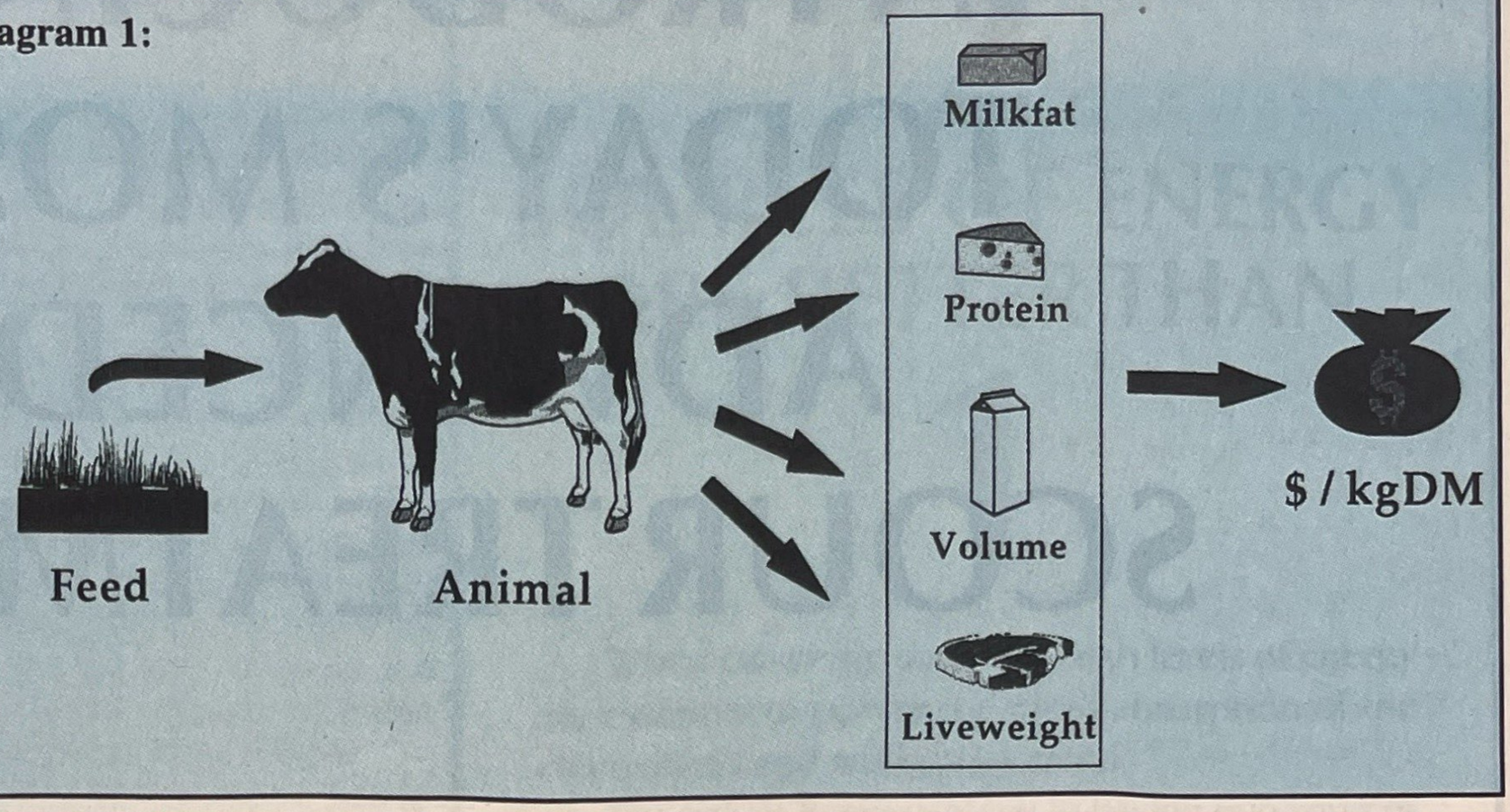
The importance you place on each piece of information will lead to a choice which best suits your requirements. No single piece of information by itself will suffice for all situations.

If farmer objectives are so different and varied, then why have an industry breeding objective in the first place?

This important question was raised frequently in developing a system to meet the many requirements of individuals and the industry as a whole.

Aside from personal objectives, *Animal Evaluation* is based on the premise that the majority of NZ dairyfarmers have a common objective of 'making more money' – whether to service debt or maintain a lifestyle.

Diagram 1:



	A	B	C
Fat (kg)	180	181	198
Prot (kg)	138	140	152
Milk (ltr)	3625	4350	3988
Lwt (kg)	450	500	495

Diagram 2: **Production and liveweight for season.**

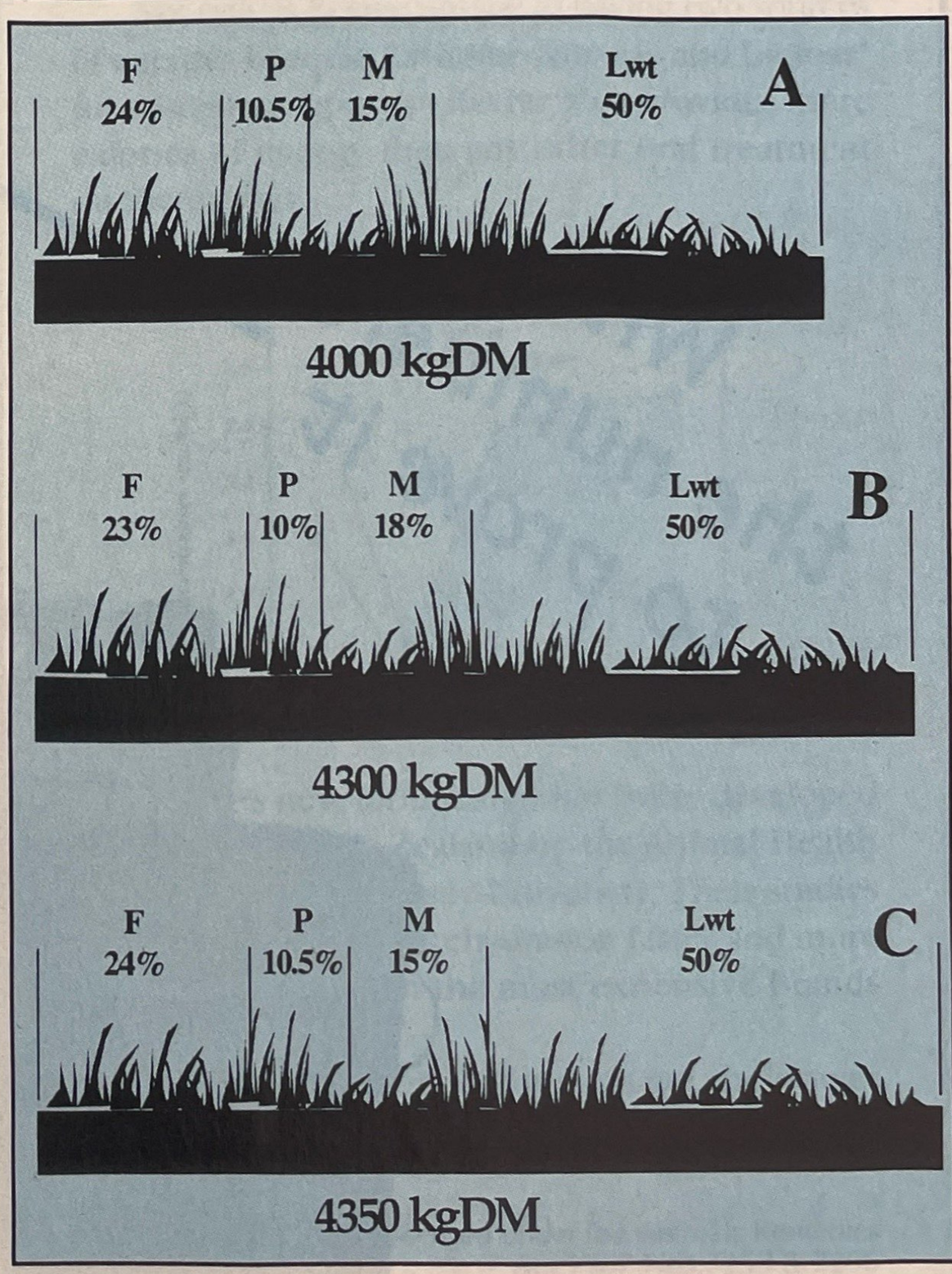


Diagram 3: **How Cows A, B & C make use of feed.**

Personal objectives arise through differing farmer opinion on how best to achieve this.

As in any business, the success or otherwise of these objectives is determined largely by the combined ability of the farmers and their animals to maximise return on investment. Without exception, it is the farmer who plays the most important role in achieving this goal.

How does Animal Evaluation help you achieve this objective?

The biggest investments in dairyfarming are undoubtedly land and animals – the former to grow feed, the latter to convert

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AE empowers dairyfarmers

(from Page 49)

this feed into saleable product. Product takes 4 forms: milkfat; protein; volume; liveweight.

Recognising that these components are all linked, maximising return on investment requires animals which generate the most profitable mix of product from a given amount of feed.

This is identified in ***Diagram 1*** (on page 49).

This objective is the same, regardless of whether all feed is grown on the farm or additional feed is bought in.

Profit potential

Animal Evaluation ranks individuals in terms of potential to convert feed into profit – e.g., which animals are maximising your return on investment.

The example in ***Diagram 2*** (on page 49) demonstrates this objective further: Cows *A*, *B* and *C* are of the same age, days in-milk, season of calving, and herd. Their production and liveweight records for the season are tabulated.

From the production records of the animals, it is clear that *Cow C* has earned more milk income than the other 2 in the current season – a fact the previous evaluation system would have favoured.

The new system recognises there is no such thing as a 'free lunch'; the extra production and liveweight of *Cow C* comes at the expense of additional feed required to generate these products.

Given the balance between income and feed, which of these cows is generating the greatest return on investment? ***Diagram 3*** (on pg 49) illustrates how each animal is making use of feed.

Using individual records and well-documented information on the feed requirements of dairy cattle, total feed eaten by Cows *A*, *B* and *C* can be predicted as 4000kg DM, 4300kg DM and 4350 kg DM per year respectively.

But it is not the total feed requirements which are important. More interesting is the way in which each of these animals converts feed into product.

Despite their differences in appetite, both *Cow A* and *Cow C* are apportioning 50%, 15%, 10.5% and 24% of the feed they eat into maintaining liveweight and producing volume, protein and milkfat respectively. *Cow B* is apportioning 50%, 18%, 10% and 23% respectively.

This raises several key points:–

1. Cows A & C are both converting the feed they eat with the same efficiency into each product, while Cow B is converting proportionally more into volume and less into milksolids.
2. Cows A & C are both apportioning 65%, while Cow B is apportioning 68% of feed eaten into milk and liveweight – products which either earn very little or cost money to produce.
3. The greater the proportion of an animal's feed which is used to produce products which earn money (milkfat and protein) versus products that earn little or are charged for (milk and liveweight), the more profitable and efficient they will be.

On the ***income*** side, it may be reasonable to expect that a herd of *Cow A* types would earn the same amount of money from the available feed as a herd of *Cow C* types, while a herd of *Cow B's* would earn less.

On the ***profit*** side, since more *Cow A's* will be required to eat the available feed, the per cow costs associated with this type of herd will be higher.

Under *Animal Evaluation*, taking these factors into account would result in *Cow C* having a higher ranking than *Cow A*, which in turn would have a higher ranking than *Cow B*.

This example demonstrates how *Animal Evaluation* provides an important starting point for farmers who share a common objective of maximising return on investment.

It is then up to the individual to identify those cows (or sires) which exceed, meet or fall short of any other criteria you may choose, such as conformation, temperament, calving date, fertility, ability to maintain condition, etc.

Rather than reducing your input, *Animal Evaluation* empowers you to make more informed, accurate and profitable decisions about the future breeding direction of your herd.

The information is there, so make the most of it! Ð

NZ Animal Evaluation Model incomplete, says US geneticist – Page 53

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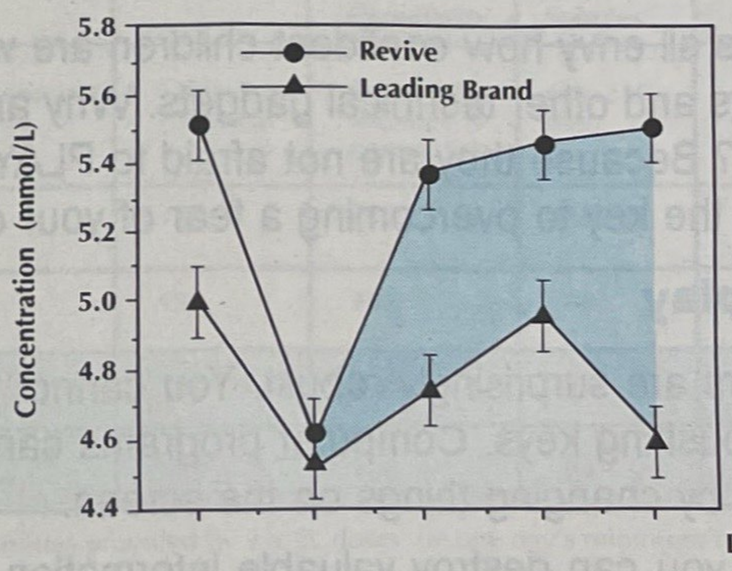

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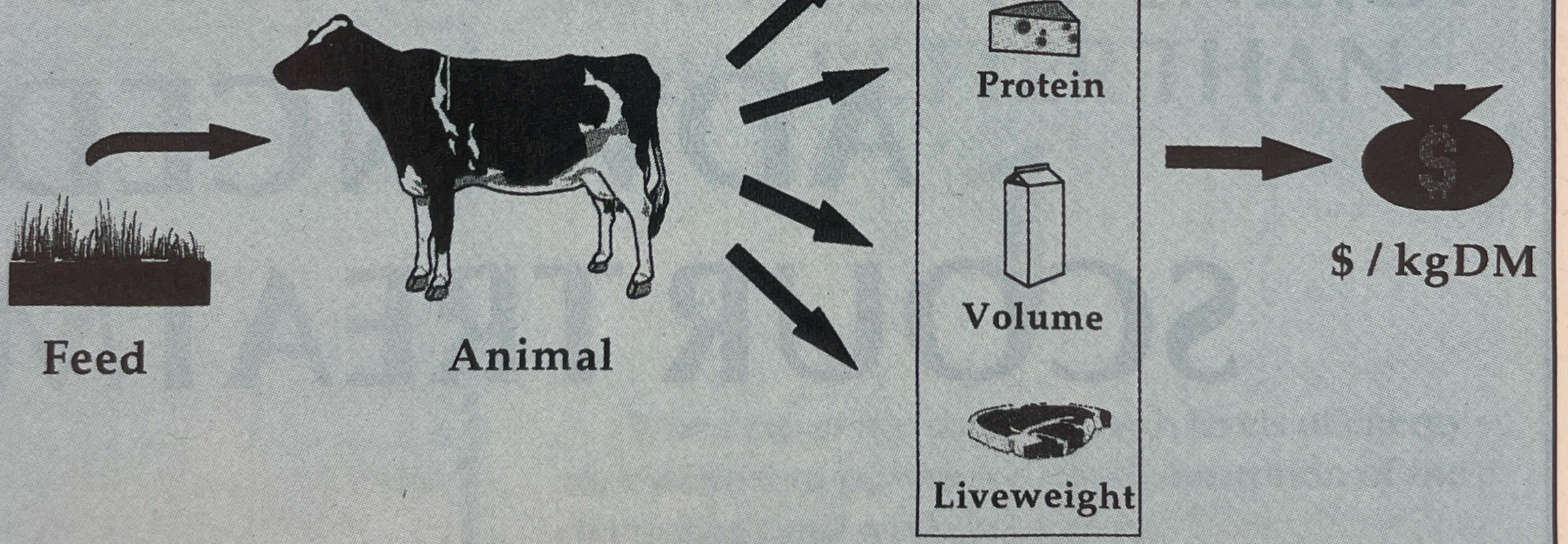
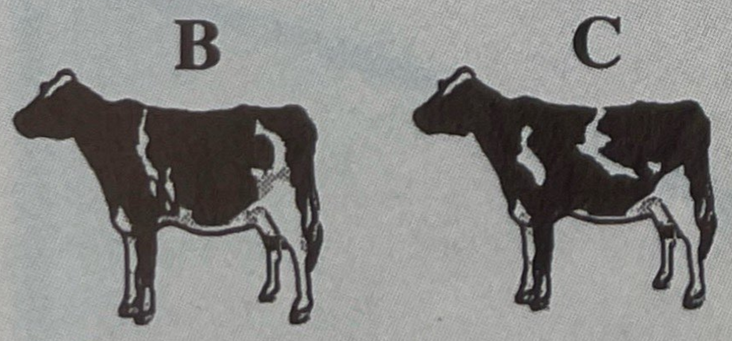
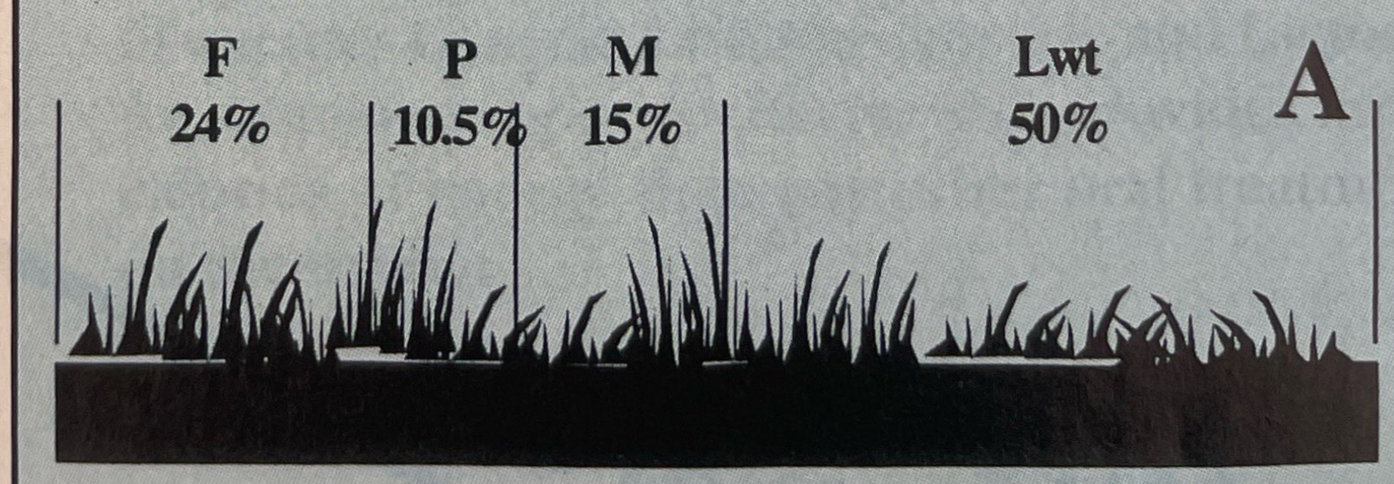
Diagram 1:

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