PROGRAZE™

Profitable, sustainable grazing

SEGMENT 3

INTRODUCTION TO GRAZFEED®/PRODUCTION TARGETING

In this segment you will learn:

- The role of GrazFeed® in predicting cattle and sheep performance on pasture and the type of pasture required to achieve specific livestock production targets.
- How GrazFeed® is used to predict supplementary feeding requirements of livestock.
- How to use production targeting as a means of achieving pasture and livestock objectives.

INTRODUCTION TO GRAZFEED®/ PRODUCTION TARGETING

Many factors influence the performance of livestock on pasture (see Figure 3.1). These divide broadly into those which relate to the:

- pasture
- livestock
- climate
- supplement
- health status

GRAZFEED®

The prediction of livestock production from pasture has, until recently, lacked precision unless one was prepared to undertake a complex time consuming set of calculations. The development by CSIRO of a computer program, GrazFeed®, enables these calculations to be undertaken rapidly. Being able to assess pasture in terms of quantity and quality is critical to making management decisions using GrazFeed®.

When making predictions GrazFeed® takes into account:

- The quantity, quality and height of pasture being grazed by the livestock (Segment 2).
- The topography of the paddock being grazed.
- Climatic conditions.
- Genetic capacity of livestock to grow and produce meat, wool or milk.
- Sex, age, weight, dry/pregnancy/lactation status of the animals (see Segments 4 and 5).
- The predictions from GrazFeed® assume animals are healthy.

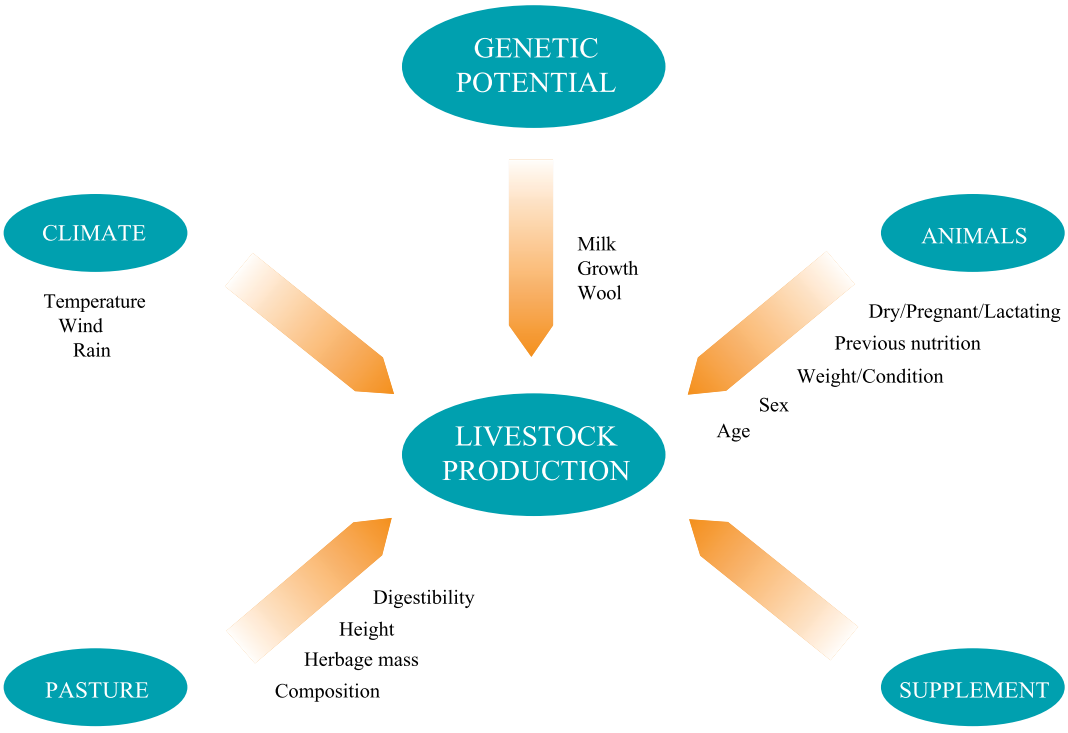
GrazFeed® also predicts the impact of feeding a supplement to stock. Remember, these predictions are only as good as the quality of the information provided to the program. As you work with the program you will see how sensitive GrazFeed® is to many inputs.

GrazFeed® takes into consideration the many factors associated with livestock grazing pasture in predicting animal production.

GrazFeed® allows greater precision in making decisions about:

- The quantity and quality of pasture that needs to be provided to stock for them to meet production or market targets.

Figure 3.1. GrazFeed® considers many variables in the determination of livestock production.



- Supplementary feeding – supplements are often significant cost items and their efficient use can significantly affect the bottom line of grazing enterprises.
- Predicting intake of livestock for use in fodder budgeting.
- The effects of cold stress on livestock production.
- Drought and lot feeding.

Applications of GrazFeed®

GrazFeed® may be applied to many different situations – not just for livestock before entering a critical feed period, but in all cases where animals graze pastures.

The following are examples where GrazFeed® has been used in practical applications:

- To determine the type of pasture necessary to achieve a growth rate in livestock that would achieve weight by a given age and then to stock that paddock to achieve optimum utilisation of the pasture.
- Decisions about the supplementation of weaners on dry summer feed.
- Supplementing pregnant stock on short, green winter feed.
- To investigate costs for each fodder type (matching kilograms needed with price per kilogram) to achieve the target result in animal production.
- To determine whether there would be a production response from bypass protein.
- Levels of supplementation in 'drought time'.
- As an educational tool. For example, to show the effects of winter shearing on intake, the effect of grazing particular paddocks and not others, in terms of animal growth.

PASTURE AND LIVESTOCK TARGETS

The process of targeting in grazing management is not just aimed at defining markets, although that is one component. Targeting is about setting short term goals or targets which may be pasture or animal based. For example, 'I am aiming to have my sheep in fat score 3 at lambing with the lambing paddocks having 1200 kg green DM/ha' or; 'I need my steers to grow at 1.3 kg/day to have them sold by October'. The pasture and animal assessment skills developed in PROGRAZE are the tools we use to assist in achieving our targets.

Tools we use to monitor the performance of our farm production are:

- Liveweight and/or fat score for meat marketing or reproductive targets.
- Species composition or herbage mass for pasture targets.
- Herbage mass and pasture quality to check that we are achieving the desired liveweight gains we need.

If this monitoring shows we are not going to achieve our target, it allows us to rethink and change our program. Do we supplement, how much and what is the cost? Do we sell early? Do we change paddock or stocking rate? Do we spell the paddock?

Our monitoring also allows us to react early to unplanned changes. Rather than waiting until the end to see if we made it, we have more control over ensuring we do make it.

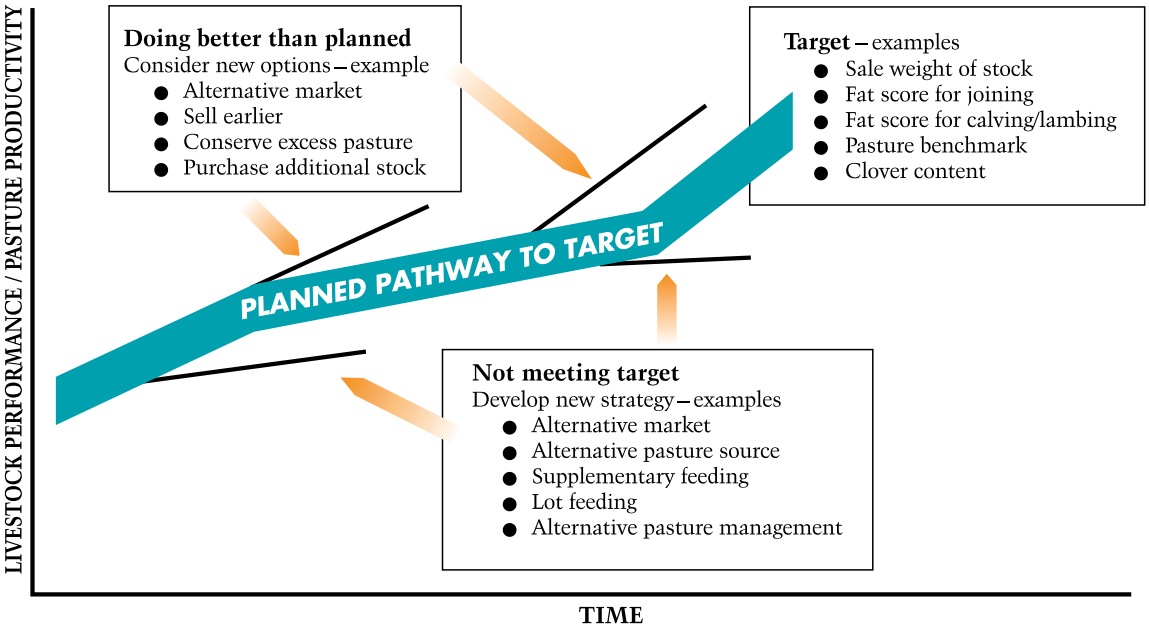
Setting targets

Targets can relate to any activity you undertake; markets, reproductive rates, pasture composition, growth in weaners etc. The key to setting targets is based around three factors:

- **Specification** – what you want to achieve.
- **Budget** – to achieve the target. Limit input cost e.g. supplements, herbicide etc.
- **Time frame** – over what period do you want to achieve the target.

All future decisions will be based on these three factors.

Figure 3.2. TARGETING – managing pastures and livestock to meet your goals.



Following is a general outline of the thought processes involved in targeting.

- **Step 1. Primary target**. Define and write down the target. What you want to achieve, how much financial input you will allow, and when do you want to achieve the target by.
- **Step 2. Sub-targets and strategies**. Establish sub-targets in terms of livestock and pasture needs required to reach the next sub-target.
- **Step 3. Review**. Reassess the original target using feedback information for future planning. Write down what was done right and wrong. If the target was not achieved, why?, what was it due to? – genetics, paddock feed, supplements used, cost of supplements, joining time, season, market issues, animal health or poor assessment of pasture. Write down changes to implement next year.

The following examples are for meat production:

Sheep

Step 1. Primary target – for male drop, 46 kg lambs at 8 months of age. That is, they must average 110 grams/day growth between weaning and 8 months. Pasture has been assessed and paddocks identified which have the feed available.

Step 2. Sub-targets and strategies – Establish sub-targets, key times, target weights and acceptable range and the pasture needed to get the liveweight at the next sub-target.

At 3 months, weigh. If the average is between 28 and 32 kg you are on target. If the average is below 28 kg, ask: 'Do I supplement?, do I move to better pastures?, maybe I look for another target?, do I sell early as trade lambs?, is the market suitable for these lambs?'.

Repeat the cycle at the next key time. Continue using pasture assessment and fat scoring to monitor growth rates.

As you approach the final key point consider market issues such as selling options, breaking even price, transport, using market intelligence and feedback.

Step 3. Review. – Assess strategies as you go along to assist you in an overall decision. After going through a cycle, identify limiting areas. This may be the period between 5 and 8 months for spring lambs. Growth was low, supplements costly. Should you consider putting in more lucerne? Use the process to identify problems in the cycle and then look at your options for the future.

Sub-target stage	Av. target weight (kg)	Acceptable range (kg)	Growth required (g/day)*	Example pasture to achieve the next sub-target
Birth	4		290	1400 kg green DM/ha; 73% digestibility
3 months	30	28–32	110	1300 kg green DM/ha; 65% digestibility
6 months	40	38–42	100	750 kg green DM/ha; 65% digestibility
8 months	46	44–48		

*Liveweight gain (g/head/day) required to meet the next target.

Beef

Step 1. Primary target – The primary target is feeder steers, with a liveweight of 450–500 kg, and fat score 2 in February/March.

Step 2–3. Sub-targets/strategies and review – Use the same steps as in the sheep example above. Establish sub-targets, key times to reach those sub targets, an acceptable range around the targets, and the options if you are above or below the sub target.

Sub-target stage	Av. target weight (kg)	Acceptable range (kg)	Growth required (g/day)*	Example pasture to achieve the next sub-target
May/June	250	230–270	0.3	700 kg green DM/ha; 73% digestibility
September	280	260–300	1.2	2500 kg green DM/ha; 70% digestibility
December	380	360–400	0.8	3000 kg green DM/ha; 65% digestibility
March	450	435–465		

* Liveweight gain (kg/head/day) required to meet the next sub-target stage.

Note: For steers that do not meet the target range, other markets or growing out (plus supplement) options must be considered. Feedlotters demand a tight line, as after 150 days feeding a 40 kg range at the start may blow out to 120 kg.

SUMMARY

- GrazFeed® is a computerised nutrition package that predicts the production of grazing cattle and sheep. In doing this GrazFeed® takes into account pasture and climatic conditions, the genetic potential of the animals and their age, sex, weight and physiological state (dry, pregnant or lactating).
- GrazFeed® also predicts the impact on production of feeding supplements to grazing livestock and when drought feeding.
- Production targeting is about setting livestock and pasture targets aimed at specific outcomes. The steps include:
  - » setting the primary target,
  - » developing a planned pathway towards achieving the primary target which may include a series of sub-targets,
  - » determine the critical inputs required to achieve the target and sub-targets,
  - » monitor progress through weighing or fat scoring livestock and by pasture assessment and
  - » continually reassess whether the target and sub-targets remain appropriate.

Further reading and information

- Primefacts – www.dpi.nsw.gov.au/primefacts