

Using pastures profitably

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Farm profit the world over

- Price received for product sold
- Quantity of product sold
- Cost of producing that product
- Being able to repeat that profit

Profit from grazing pasture

- Pasture is the cheapest feed
- Leaves a small carbon foot print
- Can deliver high performance:
 - quantity
 - quality
 - allocation

To make profit from pasture

- Grow lots of pasture
- Utilise over 80% of pasture grown
- Allocate the minimum amount of pasture to achieve the production objectives

The big five

- Feed budget
- Control over allocation
- Knowing about today
- Flexible stock system
- Fertile soils

Feed budgeting

The objective:

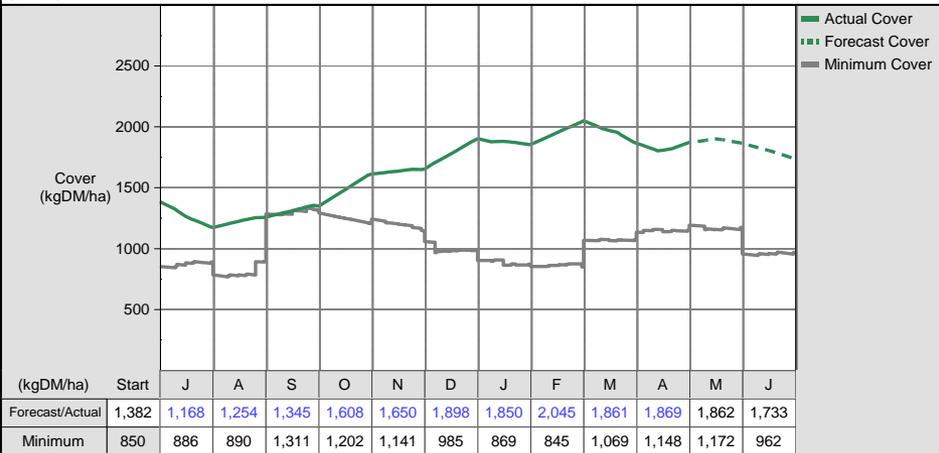
- To know that it will work
- To anticipate the need to change
- To accumulate data about your farm
- To be in control

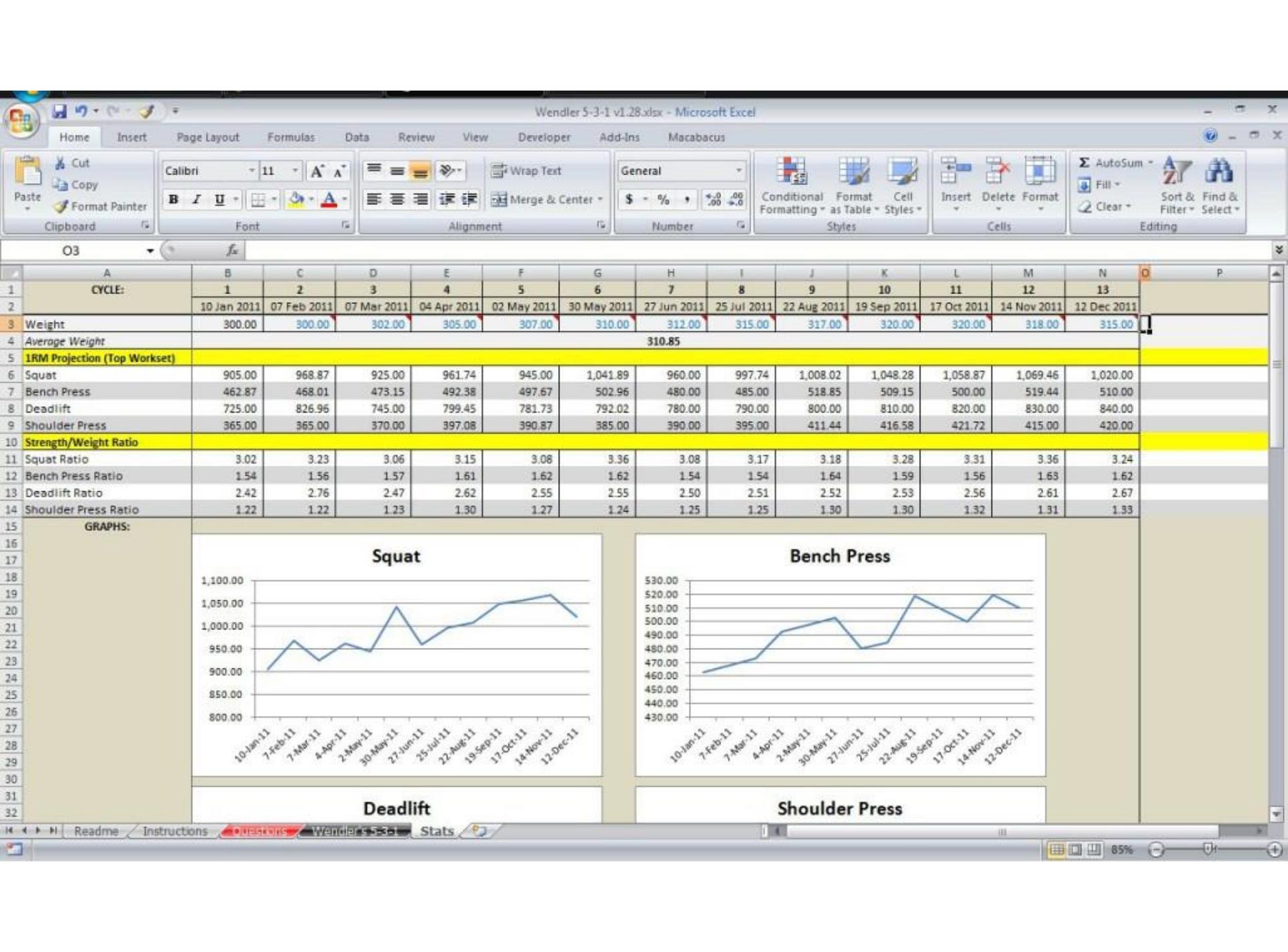
Feed budgeting

- Farmax
- Spread sheets
- Back of envelope

Pasture Cover for Bushlands

Jul 17 - Jun 18





My fast feed budget

1st August to 1st September for 25 R1 bulls.

Weight now 220 kg. Aim to be 230 kg 1st September. Therefore grow at 0.3kg/day

Average weight over that time is 225 kg.

To grow at 0.3 kg/day need to eat 2.5% of BW = 5.6kgDM/day.

For 30 days that is 168 kgDM and 4200 kgDM for the mob.

Have 1600kgDM/ha cover. Happy for it to be 1400kgDM/ha on 1st September. So 200kgDM/ha available.

Will grow at 10kgDM/day, so 300 kgDM/ha for the month.

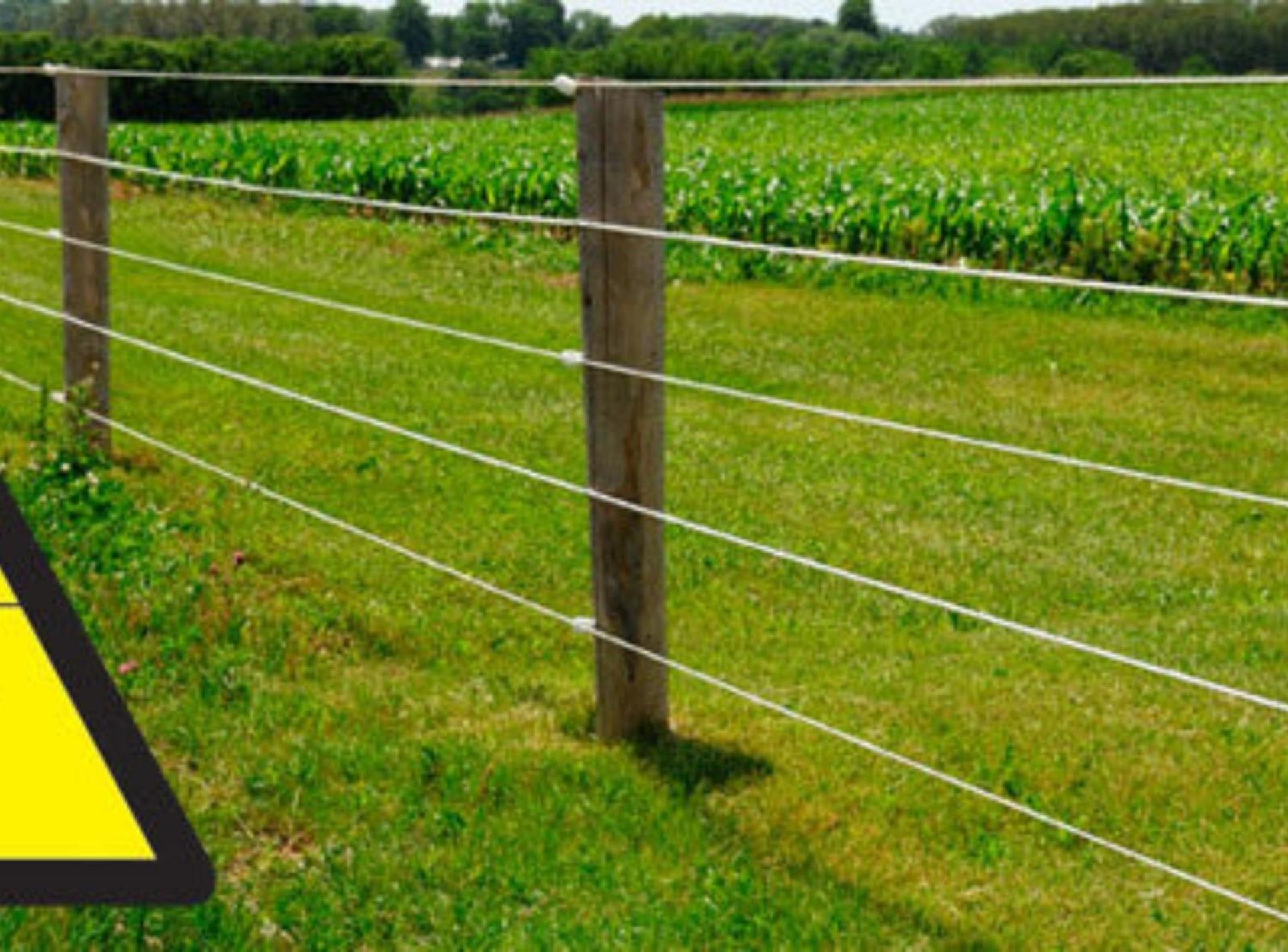
Total 500 kgDM/ha available.

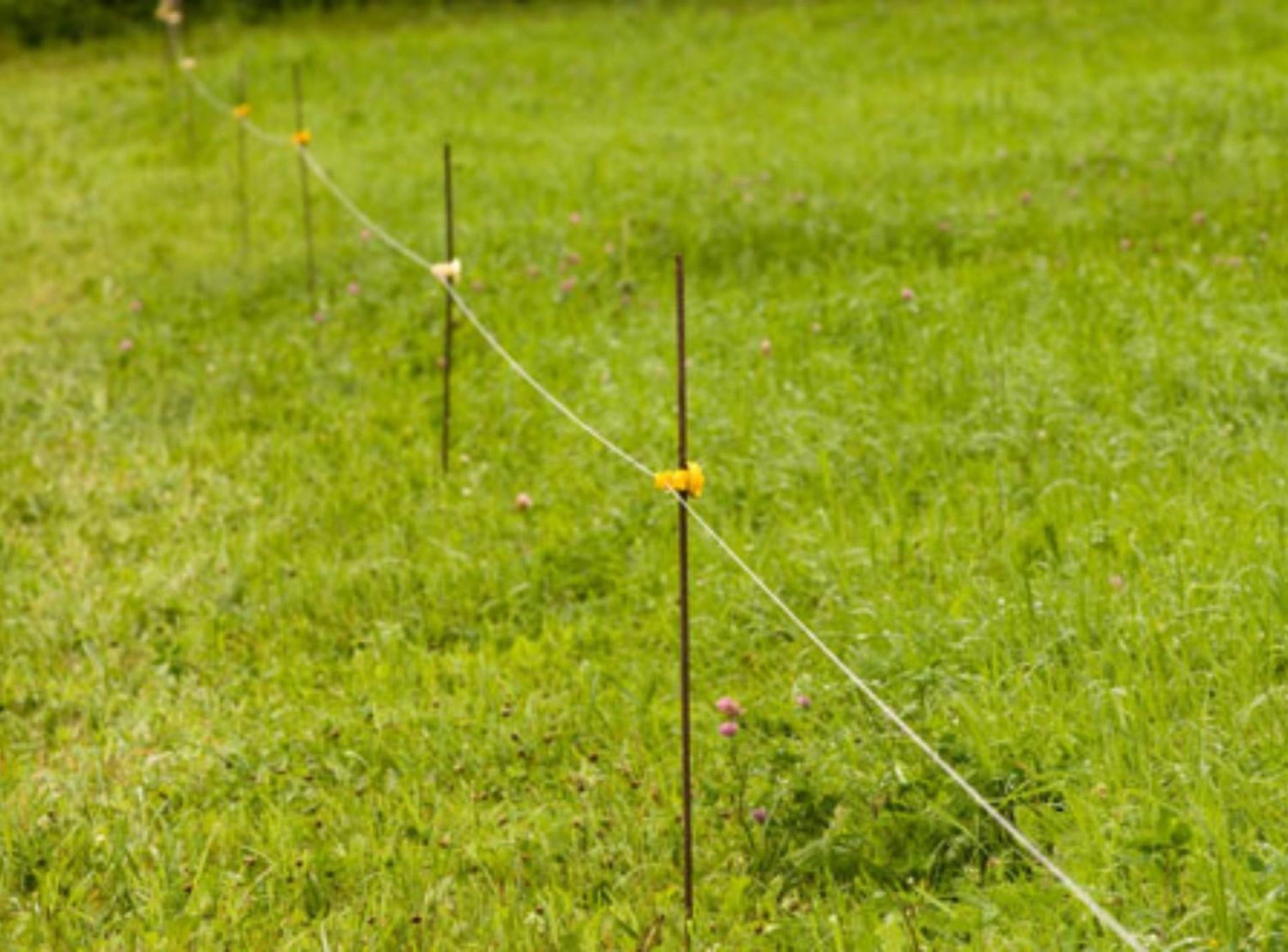
Total needed (4200 kgDM) divided by 500 =

Therefore need 8.4ha.

Control over allocation

- Subdivision, subdivision, subdivision
- Controlled grazing systems
- Rotational grazing, shuffle grazing, set stocking







Controlled grazing systems

- Being in control of the allocation of pasture
- Precise control of supply/demand
- Can adjust supply to meet variable demand
- Enables supply planning
- Encourages pasture to grow more
- Lifts pasture quality
- **Is the way to maximise pasture utilisation**

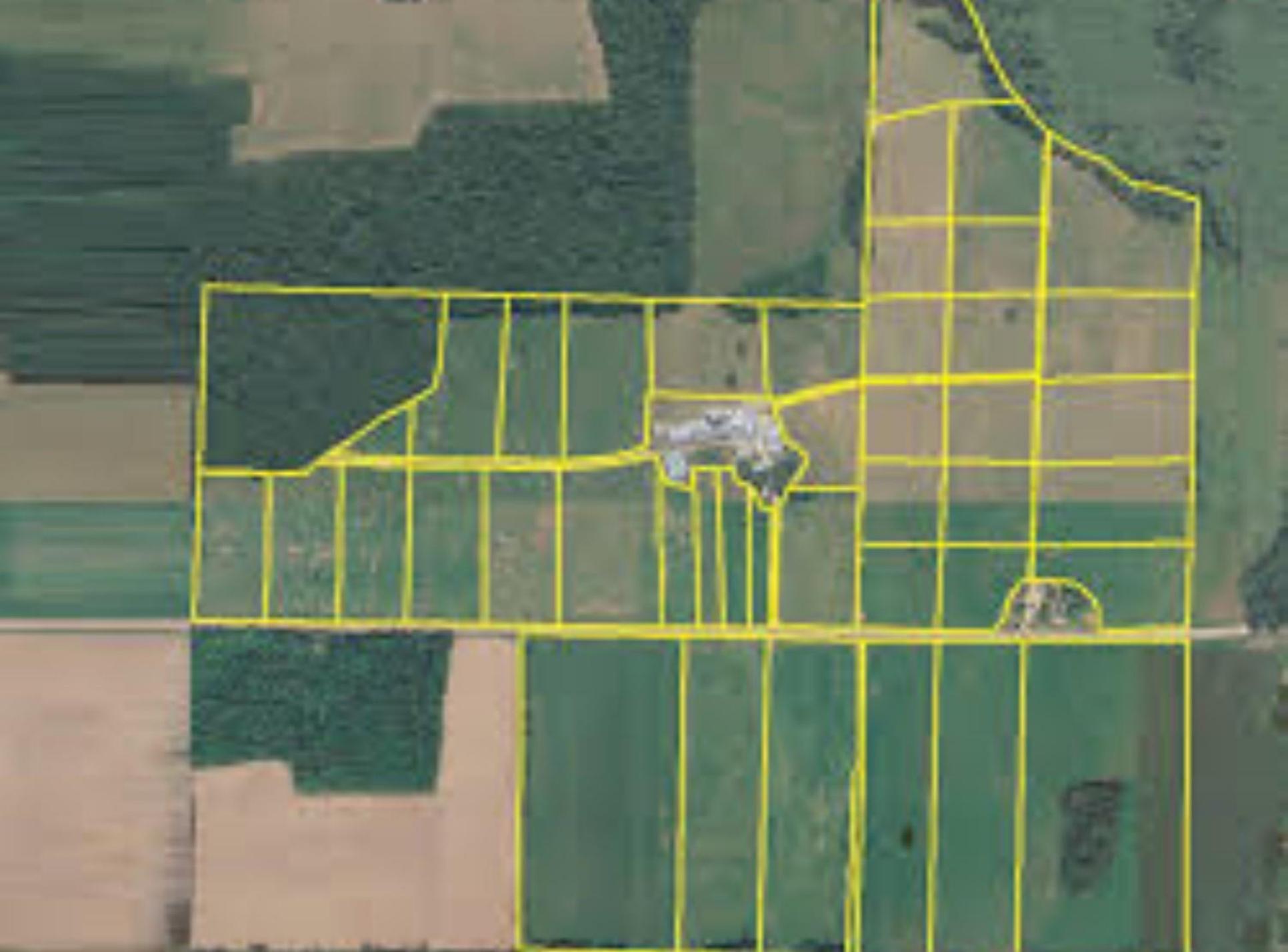
Rotational grazing

- The planned allocation of pasture that delivers the required amount of feed and allows the recovery of pasture cover









Knowing about today

- Pasture monitoring
- Daily feed demand verses the supply
- Animal performance data
- Apply the rules

Measuring pasture

- Sward stick
- Rising plate
- Pasture probe
- C-dax trailer
- Satellite monitoring

Supply/demand

- Animal demand is the only accurate bit of pasture management
- Monitor live weights

Simple intake calculation

Notes for estimating % live weight for daily feed requirements

Growth rates	<u>Maint.</u>	<u>Above maint.</u>	<u>Medium</u>	<u>High</u>	<u>V high</u>
Lambs (g/day)	0	50 g/day	150 g/day	250 g/day	300+g//day
Yearling cattle (kg/day)	0	0.3 kg/day	0.8 kg/day	1.5 kg/day	2.0+kg/day
Weaner Deer	0	50 g/day	150 g/day	300 g/day	400+ g/day
DM Intake as % of LWT	2%	2.5%	3%	3.5%	4%
Multiply by:	0.02	0.025	0.03	0.035	0.04
	(For ewes, cows, hinds in peak lactation & lambs on high quality feed, use 5% x 0.05)				

Supply

- PGR
- Pasture cover
- Supplements
- Nitrogen

Apply the rules

- Rotation lengths
- Frequency of shifts

Flexibility

- Know where the buffer is
- Animal performance, animal numbers, supplements

Fertile soils

- What is the most limiting element?
- Fertile soils support longer growing seasons
- Fertile soils grow more pasture

Rotational grazing

- The planned allocation of pasture that delivers the required amount of feed and allows the recovery of pasture cover









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The End

Stocking rate

- Amount of pasture grown
- % of pasture utilisation
- Subdivision
- Being able to control the allocation
- Feed budget
- Must have flexible stock class(es)



The challenge

- Stocking rate verses a drop in per head performance
- Top operators achieve both
- The bits to preserve:
 - condition score at lambing
 - pre lambing/calving feeding
 - condition score at mating

The challenge

- Stocking rate verses a drop in per head performance
- Top operators achieve both
- The bits to preserve:
 - condition score at lambing
 - pre lambing/calving feeding
 - condition score at mating
- Tools to help
 - feed budgeting
 - weaning date
 - nitrogen
 - knowing the flexible plan



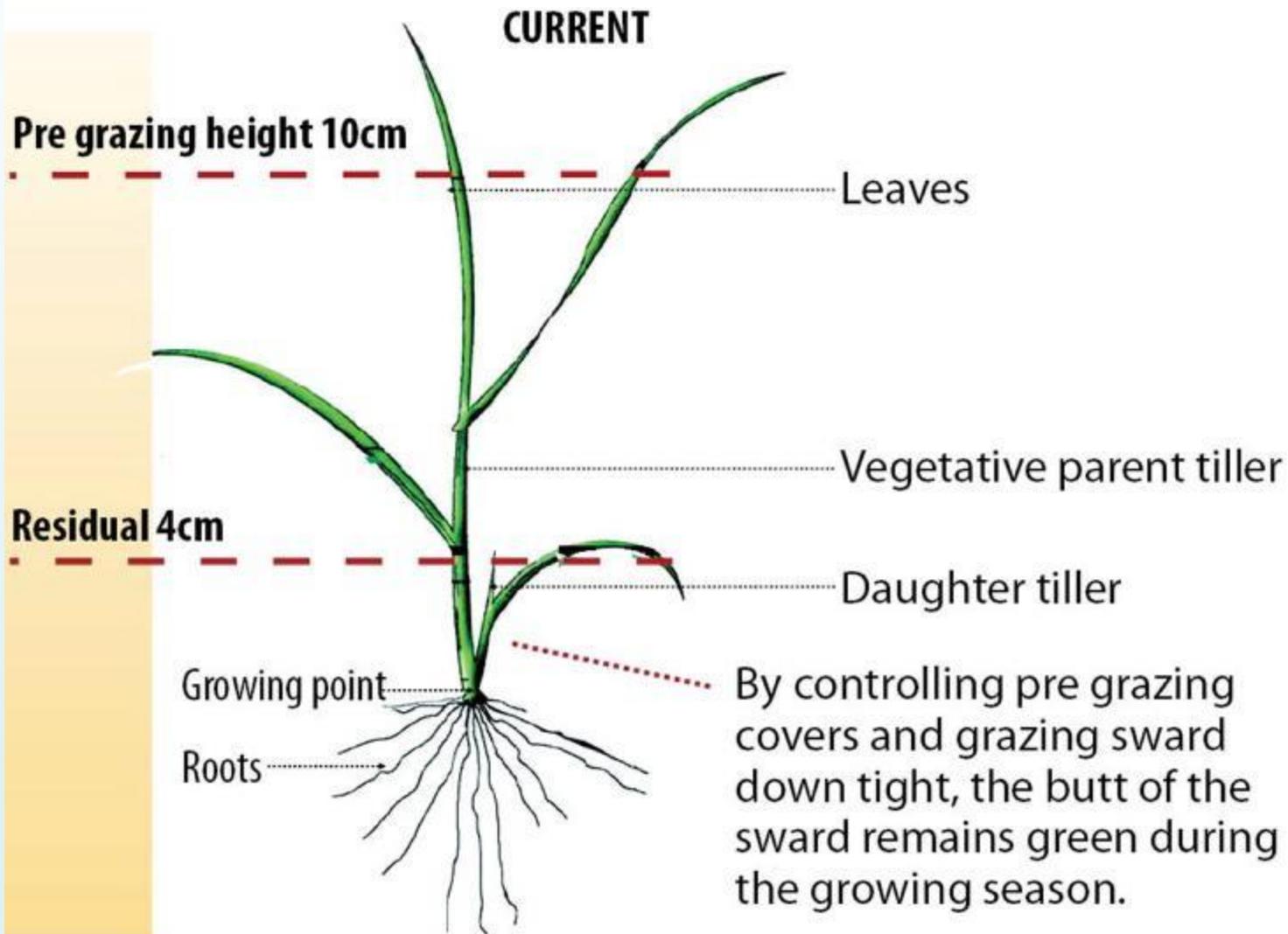
What is quality

- Dry matter
- Crude protein
- NDF
- Digestability
- ME

What is high quality pasture?

- Has high content of green leaf
- Has low stem and dead content
- Preferably has high clover content
- The herbage is “young”
- Has grown in cooler rather than hotter temperature conditions
- Animals have the opportunity to select a high quality diet

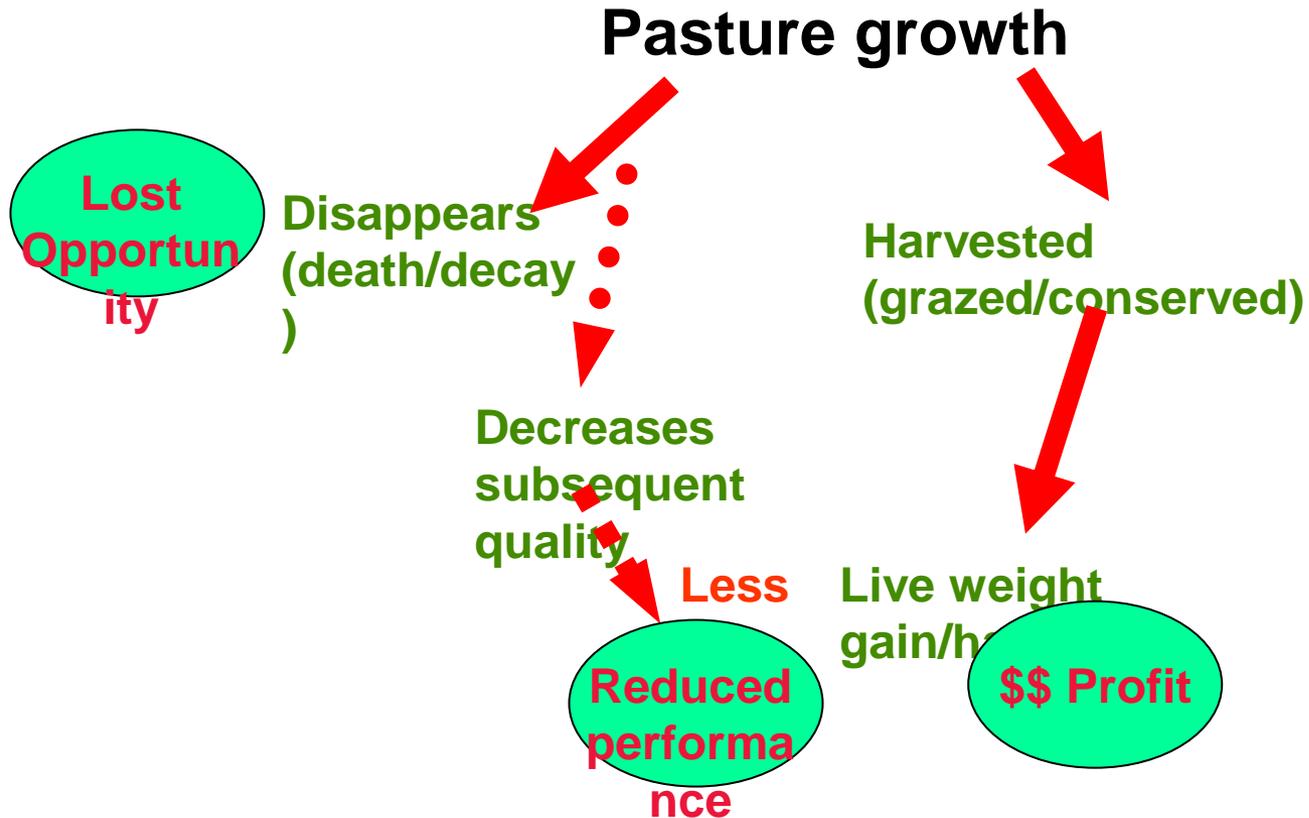
Components	Leaf	Pseudo stem	Hard stem	Dead material
DM Digestability	75-85%	75-80%	40-50%	40-50%
ME	11-12.5	11-12	6.5	6.5



Factors influencing quality

- Number of leaves
- Grazing management
 - residual dry matter
 - return to graze time
- Soil fertility
- Weather

Pasture utilisation



The reality of managing quality

- Animal demand verses pasture quality is a constant balance
- Being able to manipulate demand is the key
- The spring quality is set up in the autumn
- The summer quality is set up in the spring

The grazing tools

- Big mouths
 - ewes and cows in the winter
 - ewes in the summer
 - R2 pregnant heifers in the summer
- Fences – are the most powerful grazing tool
- Nitrogen
- Mechanical



Effect of pasture quality on feed use efficiency

Bull grown from 500 to 550 kg LW

CW gain 26 kg, \$4.00/kg CW, 2000 kg DM/ha cover

LWG (kg/d)	Days	ME (MJ/kgDM)	Total kg DM	% DM for prodn	Income (c/kg DM)
0.5	100	9.8	1140	23%	9c
1.3	38	10.7	527	42%	20c
2.1	24	11.6	348	51%	30c

The most profitable options are only possible with high quality pasture

Maintenance

- A 850kg cow eats 13kg DM/day to live
- A 650kg cow eats 10kg DM/day to live
- The 850kg cow consumes 4.745tDM/year
- The 650kg cow consumes 3.65tDM/year
- The 850kg cow consumes 1.095tDM extra
- If DM averages 15p/kgDM, the 850kg cow costs £164 more to keep

Setting up a grazing system

- The variables are:
 - grazable area
 - expected pasture growth rate
 - pasture cover at start
 - needed pasture cover at end
 - the animal demand – weight, reproductive status

The rules

- Rotation length is set by the required end pasture cover
- In the winter, grazing per break should be a maximum of 4 days
- Use residual dry matter (RDM) as guide to adequacy of feeding
 - $>1200\text{kgDM/ha}$ – full intake
 - $<950\text{kgDM/ha}$ – below maintenance

Supply

- Pasture cover at start
- Required pasture cover at end
- Expected pasture growth rate
- Know where/if nitrogen is required in advance

Demand

- Maintenance as % of live weight
- Pregnancy demand – does not step in until day 110
- Apply the time line
- Know where to compromise

Monitor

- Pasture covers
- Feed ahead
- Feed budget
- Animal condition