

Plantain and lamb finishing



OBJECTIVE

Establish most productive and efficient lamb finishing feed from start of October - May : per kg DM, per ha as well as weight gain and carcass yield.

GOAL

2000 lambs finishing unit from October to May by adding 15 kg live weight to weaning/buy in weight.

Target 40kg+ live weight 17kg+ Carcass weight

LAMB HEALTH

Plantain naturally brings important trace elements from soils to stock in concentrates higher than many forages. Plantain significantly enhances the availability of : **Colbalt, B12, Calcium, Sodium Copper, Selenium and tannins** which are all especially compatible with the needs of weaned/store lambs.

Hercules Plantain is a unique variety in several ways, one is that it has very high anthocyanin levels (160% greater levels than tonic) which allow the plant available nutrients to be absorbed by the rumen at greater levels, thus better stock health. It is believed that anthocyanin is why stock don't scour on plantain. In trials Hercules definite visual and physical indications from stock bloom and increased wool grease, these are obvious signs of stock health and performance to experience stockmen.

PLANTAIN DRY MATER FOR FINISHING

Pastoral Improvements Ltd research has shown :

Providing adequate soil moisture and assuming good fertility levels and the use of N and/or companion legume species, plantain stands have the ability to produce a massive year round 25,000kg DM (dry matter) per year.



Hercules production capabilities:
19,526kg DM

October to May finishing programme :

Tonic production capabilities:
15,843kg DM

September to May finishing programme :

Hercules production capabilities:
21,002kg DM

Tonic production capabilities:
17,484kg DM



LIVE WEIGHT GAIN

Lamb feed/weight gain conversion 3-4kg DM per head/per day used with utilisation averaging 70 %. Plantain can vary from 270-460gm LWG (live weight Gain) per/day. As with any forage the LWG differs greatly on stock genetics, age, forward condition, general thrift, clean water, weather conditions.

Working on averages from Pastoral Improvements Ltd trials and research, Massive 385 gms LWG per day are achievable with good store stock on well managed stands of Hercules and Tonic plantain.

350gm LWG per day x 43 days = 15kg LWG



4kg DM per day (including residuals and non-utilised)
x 43 days = 172 kg DM per head

2000 lambs x 172kg DM required to gain 15kg
finishing weight = 344,00kg DM (round figures 350,000kg DM)

HOW MANY HECTARES TO SOW

To achieve 350,000kg DM + 30% residuals/non-utilised= 435,000 kg DM finishing feed from the end of September through to May :

Hercules:
20.71 HA



Tonic:
24.89 HA



This represents 23% more area for the same DM results.

To achieve the same volume of feed and lamb volumes from October to December 435,000 kg DM :

Hercules:
45.3 HA



Tonic:
62.4 HA



This represents over 38% more area for the same DM results

WINTER GRAZING PLANTAIN

Hercules plantain is not a winter grazing variety, there is actually no commercialised varieties that have demonstrated adequate DM production in winter months.

Tonic does produce 1000kg more than Hercules in winter months but strictly higher grazing residues required with tonic don't allow this modest DM advantage to be capitalised into any income for farmers.

MANAGEMENT

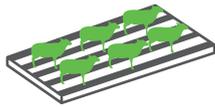
Hercules is very dense tillering, slightly more prostrate in its growth stature and very low aftermath heading compared with tonic. These traits give the same advantage of all leading ryegrasses in that they are not prone to over grazing, give superior persistence and offer higher DM as well as utilise-able DM at the crunch times of the year.

It is recommended by its marketers and Massey University that Tonic not be grazed under 2000kg DM/HA. This is because when grazed below 2000kg the risk of grazing the crown is very high causing very short persistence. This does not allow its already lower yielding DM to actually be utilized to grazing residues that dense tillering more prostrate growth allows.

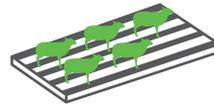
Tonic is a prolific flower and once flowering starts around October it continues to throw up seed heads. Quality of feed is affected and although stock still eat stalk and seed head the level of intake is reduced significantly. The fact that tonics leaf becomes very hairy when stressed and at flowering make it less palatable and less attractive to forage browsers. Flowering begins at least one month earlier than Hercules and tonics continual flowering last several months.

STOCKING RATE

There is a 20-23% variance in stocking rates between varieties. 21-28 day rotation grazing works best rather than set stocking. Carrying capacity is strongest in October, November and lowest in Sept April May.



Hercules **54-78** lambs



Tonic **48-66** lambs

per Ha 21-28 day rotationally grazed

CARCASS YIELD AVERAGES

Same lambs, same average Live weight over 4 lines showed Hercules fed lambs yielding 5.8-8% higher than Tonic fed lambs. This represents 1-1.5 kg additional meat on a 40kg Live weight lamb.



Hercules fed prime lambs
dressed out yield **47%**



Tonic fed prime lambs
dressed out yield **44.2%**

POTENTIAL RETURNS PER HECTARE

A Plantain finishing unit is very cost efficient with minimal agronomy and seed costs and gives high volumes of top performance feed.

If targeting finished stock by the end of December the Hercules proposition is significantly superior. Oct, Nov, Dec averages :

Hercules 9599kg DM/HA grown less residuals and non-utilised X 30% = 6719kg DM/HA or approximately 660kg LWG x **47% yield = 310.2 kg Meat x \$5kg = \$1551.00**

Tonic 6962kg DM/HA grown less residuals and non-utilised X 30% = 4873.4kg DM/HA or approximately 475 kg LWG x **44.2% yield = 209.95 kg Meat x \$5kg = \$1049.75**

Close to 50% more meat/ income per ha \$501.25 HA advantage for sowing Hercules in just 3 months.

An October to May finishing programme gives:

Hercules production capabilities 19,526kg DM/HA grown less residuals and non-utilised X 30% = 13,668kg DM/HA or approximately 1,310kg LWG x 47% yield = 615 kg Meat x \$5kg = \$3078.05

Tonic production capabilities 15,843kg DM/HA grown less residuals and non-utilised X 30% = 11,090kg DM/HA or approximately 1,050kg LWG x 44.2% yield = 464.1 kg Meat x \$5kg = \$2,320.50

Over 32% more meat/income per ha. \$757.55 HA advantage for sowing Hercules

The huge advantages in sowing Hercules plantain for lamb finishing come from higher DM production and higher yield carcasses. All establishment and agronomy costs are identical and initial seed costs similar to other plantain varieties.



Tonic tiller volume

Hercules tiller volume

Tonic reproductive

Hercules leaf production

