

Browser's Bulletin in the

Hunter



Browser's Bulletin 60:

Stocking Rates and Carrying Capacity

Throughout the Hunter Region, we have a rapid turnover of producers with more and more people going into goats, sheep and alpacas. I will sometimes be asked about how many goats can be run on a particular property and unfortunately, I see many properties that are overstocked.



You may have heard of DSE= Dry Sheep Equivalent
 This is a unit of measure of feed required for a 50kg 2-year-old merino wether to maintain its weight and walk 7km/day= 9.44 Megajoules of Metabolisable energy. (An explanation of 'Metabolisable energy' and other feed values will feature in the next newsletter).

Rough Guide:

- 1 *50kg dry goat= 1DSE
- 1* adult cow/horse= 10 DSE
- 1* lactating cow= 20-25DSE

Stocking Density= head/hectare

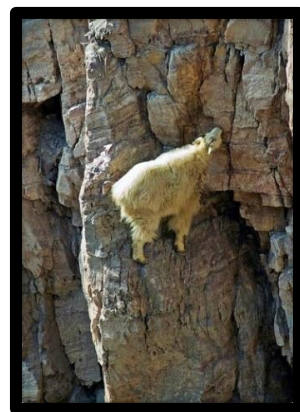
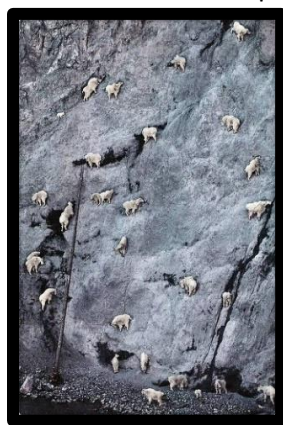
At various stages of the year, does will have different feeding requirements depending on their stage of production. For example, a dry doe in Autumn that weighs 30-40kg will have a DSE rating of 0.75DSE but in Spring when she is kidding and lactating her DSE rating will be 1.85DSE. Therefore, the stocking rate in Spring will be more than double the stocking rate in Autumn.

It is important to assign a DSE rating for different classes of stock.

- Dry doe 30-40Kg= 0.8DSE
- Breeding Doe (40-60kg) = 1.4DSE during pregnancy
- = 1.6DSE with single kid
- = 2.2 DSE with twins and during lactation
- Weaner (weaning to 1 year old growing 100g/day) = 1DSE
- Buck (60-80kg) = 1.5-2DSE

<https://www.mla.com.au/globalassets/mla-corporate/extensions-training-and-tools/documents/mla-goats-fs06-livestocknumbers-r3.pdf>

Carrying capacity of a parcel of land = the stocking rate that is considered sustainable over a 5–10-year period and relates to the number of livestock that can be maintained on an area of land on an ongoing basis, taking into account the mix of land types, the seasonal conditions, climate, animal production, wildlife grazing, water availability, palatability of plant species available, topography, flood zone, sandy, timbered, rocky and land condition. Producers require an understanding of the plant species available, their quality, palatability, potential toxicity and the amount of residual feed that needs to be retained for regeneration. Goats are browser's and do prefer to eat a variety of shrubs and trees and thus able to utilize part of the property that other livestock may not.



Around the Hunter, most of our properties are reasonably small in comparison to our Western neighbours, with high rainfall and improved pastures (not always improved). This normally accommodates a higher carrying capacity depending on available pasture, but regular monitoring of animal's body condition score and available vegetation is essential. Body condition score analysis of your stock comes with hands on practice and there will be more discussions on body condition score in one of the next Browser's Bulletins. Goats tend to have multiple births and the doe's nutritional requirements will increase exponentially.

Example:

Calculating the DSE of a herd of goats at different stages of the production cycle. The changing DSE value will affect the carrying capacity of the property.

Typical Hunter Scenario: Joining in Autumn

20 Boer does (dry) at 30-40kg body weight= $20 \times 0.8\text{DSE} = 16\text{DSE}$

2 Boer bucks at 60kg body weight= $2 \times 1.5\text{DSE} = 3\text{DSE}$

(120% previous year kidding) \Rightarrow 24 Weaner kids 20-40kg (growing at 100g/day) = $24 \times 1\text{DSE} = 24\text{DSE}$

Total DSE required= $16+3+24= 43$ DSE

Carrying Capacity in Spring with 120% kidding

10* lactating boer does at 40kg with single kid = $10 \times 1.6\text{DSE} = 16\text{DSE}$

10* lactating boer does with twins= $10 \times 2.2\text{DSE} = 22\text{DSE}$

2 boer bucks at 60kg= $2 \times 1.5\text{DSE} = 3$

If weaners are still on the property (30-40kg) = 24 DSE

Total= $16+22+3+24= 65\text{DSE}$

Every year on your rates notice from the Local Land Services it will tell you the area of your land and the stock units/hectare multiplied together it gives you the Notional Carrying Capacity of your land. This Notional Carrying Capacity is only a guide to the number of animals your property can handle in a **good season**.

Any property that is less than 10 hectares does not have a Notional Carrying Capacity on their rates notice. This means that you will have to try and estimate the carrying capacity or call the Local Land Services for assistance. There is useful information on the MLA website on determining carrying capacity and stocking rates. <https://mbfp-pastoral.mla.com.au/managing-your-feedbase/determine-carrying-capacity-and-stocking-rate/>

All properties will have a different carrying capacity. I have had a look at the carrying capacity of several properties in the Hunter Region to see how they vary. One property I looked at had a carrying capacity of 1DSE/hectare (1 dry 50kg doe/hectare) and others were up to 5DSE/hectare (5 dry 50kg does/hectare). **Please remember, this is a guide in good seasonal conditions.**

If we take an average Hunter property with good available feed (i.e. carrying capacity of 3 DSE/hectare) and we had 10 hectares: This means in a good season we could carry 30 head of 50kg dry goats (30DSE), but as soon as the stage of production changes the herd's DSE rating will change. If the does are kidding and have multiple births, then their DSE rating will basically double. Your 10 hectares has gone from having 30DSE to approximately 60DSE and is heavily overstocked. It is important to remember how quickly a property can become overstocked and how an animal's DSE rating will change with growth, pregnancy, increase in workload, change in weather, lactation and number of kids. Given that goats are seasonal breeders, it is predictable that your goat herd will have greater feed requirements in spring when they are kidding and lactating. Consequently, goat owners should plan to ensure that increased feed is available at this time of year, either by ensuring that overstocking does not occur, or by establishing improved pasture or buying in supplementary feed. Please also note that overstocking leads to increased worm burdens.

If you have other questions and concerns about carrying capacity and stock rates, please send me an email on kylie.greentree@lls.nsw.gov.au

References:

<https://mbfp-pastoral.mla.com.au/managing-your-feedbase/determine-carrying-capacity-and-stocking-rate/>

<https://www.mla.com.au/globalassets/mla-corporate/extensions-training-and-tools/documents/mla-goats-fs06-livestocknumbers-r3.pdf>

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