

Livestock management and hot weather

Extracts from Nibblers online discussion group

We have graziers here, two of which have bitten the grazing down to shorter than a lawn.

Despite this, the stock appear well, as they always do during dry hot weather.

Does anyone know why this occurs and is it an exploitable tool for managing cattle. (If you fed cattle hay inside in winter, would they benefit from restricted water for instance ?)

Sheep can and do go without any free water but need care and very restricted water when they come back to it.

Regards
Richard

Richard

I think the fact that cattle look so well in hot dry weather has something to do with the fact that what grass there is, once grass has been grazed down tightly, is fresh highly nutritious growth. The sugar content of leafy grass is also much higher at this time of the year, as there is more photosynthesis in sunny weather; and also young grass is higher in protein content and contains less lignin. Also the requirement of animals for food is probably less at this time of the year as they do not need to generate so much heat, and so they tend to put more 'condition' on their backs.

However, your reasoning about restricted water intake seems misguided. Cattle (and other livestock) need more water during the summer. The intake of dry food (such as dry grass or hay), and the ability to cud properly is very dependent upon the availability of sufficient additional water. Plenty of free access water is essential during the hot weather and indeed is a requirement of the animal welfare codes of recommendations. We have cattle grazing on common land in the summer months and one of the main complaints from the public is concerning the availability of water, if a water trough runs dry, and whether an owner is supplying sufficient water for an animal's needs during the heat of the day. When cattle have too little water they tend to salivate, and they lick their lips as if their mouths are sticky. Dung gets more solid and hard. When they are really short of water the skin loses its flexibility and tends to 'tent' when pulled. This would result in an immediate prosecution.

Similarly, your suggestion of restricted water during the winter months when on a hay diet will result in a lower intake of hay and other dry food (having the reverse of your desired effect), and again could result in animal welfare concerns. Sheep also suffer if they are short of water, although they can pick up a small amount of water from dew early in the morning. To plan to keep animals short of water is poor husbandry and some would say that you might run the risk of prosecution if detected.

Andrew

Dr Andrew Casebow
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Thanks for this, most interesting. Do cattle also use a lot of energy keeping warm, and so hot weather allows more to go to growth and or fat?

The thinking behind my suggestion of water rationing goes back to 1960's when I found myself managing a cattle ranch in Kenya in a severe drought, so I asked my Samburu headman what we should do. He immediately said that the problem was that Europeans would water their cattle every day, but that was unnecessary. So I asked how long would be okay and he said things were not too bad and once every three days would be okay for dry stock. I therefore built a boma, like a Mercedes Benz symbol and put 300+ head of cattle in each sector. This was located half a day's walk from the borehole, so one day in three the cattle got little to eat, as it was grazed out, but got water and the next two days they ranged out on the plains. This multiplied the area served by the borehole by eight.

Then the interesting bit occurred. It seems as if the reduction of urine seems to have allowed the urea in the urine to recycle and assisted the digestion of the dry grass, so the stock improved under this regime., but of course they got a lot more to eat. Those hump backed breeds such as Boran also drink each others' urine, but whether this is from thirst or to get some urea from the urine I have no idea. Obviously cattle here also drink each others urine as you will know, but we need to be a bit careful of equating an African savannah ranch with the UK.

The Masai also drink cattle urine which might kill us white men, so cattle management may be a different as well. A guide near Timbuctoo drank in the early morning and then would not drink again until the heat was out of the sun, while we were sweating a gallon a day. Why they wear black is a mystery to me! The Touregs are Vikings like me so they must be splendid fellows.

The Rhodesians used to have chicken pooing on straw which was fed to cattle to aid digestion.

When I was shooting distressed cattle each morning, the zebra we shot for the Turkana to eat, still had fat on them, and of course buck like dikdik, oryx and gerenuk survive for months without free water., but I think impala must have water. Elephants used to reach over the top of the corrugated iron water storage tank , which had me sweating , so it was safest to keep water in the troughs for the game, as ivory v corrugated iron was no contest, and telling a thirsty bull elephant to bugger off, is not conducive to continued survival. Misguided Europeans introduced European cattle which grazed in the heat of the day and suffered, game animals rest in the shade and graze and water at dawn and dusk for choice I think. We could not do that as either lions would eat the cattle, or the locals nicked them to buy a wife or two, so they took an extra year to get to slaughter weight. (five days trek to rail head and then two days without water in a cattle wagon).

The question is whether there is anything to be learnt or not. I have just had a weedwiper knock off weeds and the guy has been doing it in New Zealand and they are miles ahead of us, and just because jo public feels thirsty is no reason to give cattle water on demand

Regards
Richard

Author wrote:

> Thanks for this, most interesting. Do cattle also use a lot of energy keeping
> warm.

Yes, though adults use less than we might, as they are so much more massive and have "cold-blooded" extremities (counter-current circulation). However, the rumen and gut generates a great deal of heat, and this can cause overheating in really hot weather when we might still be fairly comfortable. I believe this is one of the restricting factors for large

herbivores in hot climates -- presumably especially in temperate-type animals with an insulating fat layer, small ears, no dewlap etc.

I also notice that cattle with even a little bit more fur get noticeably hotter. We had a cow who kept her rough calf-coat through the summer until she was about four years old. She was always yellower-looking than the smoother-coated ones, because whenever it was not actually cold she'd be sweating and would pick up dust on her white fur.

> Those hump-backed breeds such as Boran also drink each others' urine

Interesting -- likewise using chicken droppings. Neat urea is also used as an additive to cattle feed. Rumen bugs are able to use urea to produce protein, so urea for cattle is equivalent to protein.

I've never seen our cattle actually drinking urine -- though bulls will taste it enthusiastically (even, for some reason, that from other males).

Richard C

Today I saw a bullock drinking another urine within 30 yards of a full water trough so can we therefore deduce that they are after the urea, and thirst is not the motive.

Do you think the cow that kept its coat had an exceptional need for some trace element, as copper deficiency produces this tendency if I can remember correctly twenty years back.

Spinning off from your comment about these animals being massive, did you see that elephants do not like going uphill if they can avoid it, as hauling four tons up hill requires much grunt, or maybe squeal .

Some bright civil engineer/surveyor marked out a road to build the Kariba dam, but along comes some ex pat who suggested the route that elephants used resulting in much money being saved.

Richard Mick

Richard

Am I right that hump-backed cattle like Bora store water (or water-producing tissues) in their humps, like camels do? In any case, I suspect that breeds 'indigenous' to hot climates will be better equipped to go without water for longer than those of cooler (wetter) climates. One only has to listen to the bellowing of cattle when their water supply has been cut off on a hot day to recognise their need for it (or are all Herefords, Friesians, Charollais, Devons etc etc just wimps?).

I think Andrews comments about the quality of grass under drought conditions is probably right - they are effectively eating concentrated grass. Young cattle are able to graze grass a lot tighter than many people think. The business about cattle having to get their tongues round the grass is largely a myth, until their teeth are worn down. So the fact that the sward is grazed down to shorter than lawn length does not necessarily mean that the cattle have been suffering, but if they are subsequently kept there for any length of time in conditions that prevent grass growth, they will do.

Francis

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As far as I know humps store fat not water which as you say breaks down to water on demand, and that is true for camels as well.

As regards bellowing I think cattle get used to daily water like we do, and object to having their pints stopped as we do. What I do not know is if they are less well adapted biologically to go without water than Boran cattle, which is why I would be wary of watering cattle here, on a once every three days regime, although it worked well in Africa. Obviously you would introduce this progressively so they would not feel deprived and make a hell of a row. (by depriving them of their human rights)

I am still haunted by this incident in 1976 with the auctioneer at the Built Wells sheep sales announcing which sheep had had no water, with the implication that you needed to introduce water very carefully to water deprived sheep. That is confirmed by the ewe here which got stuck in a fence for about three or four days, and I allowed it free access to water after I cut it free- it died. Another particularly talented ewe fell down a lime kiln and that got water very slowly, in half a pint then a pint etc. That despite its talent for finding a new way to die, lived, no doubt to try again. Would I be correct in thinking that a lot of water changes the PH in the rumen, killing the bugs and so starving the animal?

Do you know anything about the Chillingham wild white cattle. They are, I read somewhere, the descendants of the Aurox, and are different from our beasties. Not only will they kill anyone at the first opportunity but apparently they graze in a different way. The saga goes that someone stroked a calf, so the adults then killed it on release as they smelt human scent. History would suggest they have good reason to dislike us ! The fighting bulls of Spain are of the same origin, which also have a good reason to dislike us.

I do not think our cattle are wimps but maybe we are the guilty party on that score for managing them as we do.

Maybe a hot dry wind, like the Harmatan (?) which dehydrates is another factor to increase water demand in the type of weather we have had. I think watering in the heat of the day is probably as mistake as game does not do so, nor my tame Arab near Timbuctoo.

If you get a bit dried out as I once did and your saliva get to stretch like chewing gum, salty water cures thirst, so maybe extra salt comes into the equation as well, as sweat is part salt.

When the White Highlands were settled in Kenya someone brought in some European cattle as they appeared more productive and grazed throughout the day getting sun burn on their black bits for their trouble. Native cattle and game try and avoid this and avoid the noon day sun, unlike mad dogs and Englishmen .

I think the Masai water cattle that are milked or bled, every day when convenient, but life is harsh for everyone in those conditions, so having nicked their milk and quite a bit of blood the cattle have good reason to look bloody miserable.

Richard

If the Chillingham wild white cattle do graze differently you cannot help wondering what they do differently ! I like the idea of humps allowing sweating as there is no layer of fat acting as insulation. With global warming we need to start a campaign to get seals to grow humps. Bushmen have bottoms that store fat I believe and a bushman can eat the leg of an eland at one sitting which goes on for a while and then has a big bum Presumably he then sits on it until it gets a bit bony, and then has to get off his arse and start hunting. The wonders of evolution !

Richard M