

THE VALUE OF MAIZE STOVER

By

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The nutritional value of maize stover is widely known, and it is general practice for farmers in the summer-rainfall region to have their livestock go through the winter on stover when the natural grazing's nutritional value is low. Farmers are not in agreement about the financial value of stover, however. This specifically becomes an issue when maize is planted on rented land and a decision must be made of whether the stover has to be included or excluded. Whoever utilises the stover will argue that it is not worth much in financial terms, and whoever has to cede stover will undoubtedly argue that it's worth quite a bit.

There are two methods according to which the financial value of maize stover can be calculated. The first, which is probably the most accurate, determines the quantity of stover, the constitution thereof and the cost of every individual component.

Grazing experts estimate that maize stover comprises approximately 1.2 times the weight of the harvest. In the accompanying example, a maize harvest of 3 t will yield stover of 3.6 t. These experts further maintain that approximately 25% disintegration takes place, and 25% of the stubble is ploughed back into the soil. The quantity of grain (kernels) amounts to 5.5% of the stubble, so 94.5% can thus be seen as raw fodder. So useable stubble is 1.8 t/ha, and the financial value can be calculated as follows:

METHOD 1	
Composition of stubble:	
Grain yield (t/ha)	3.0
Stubble (t/ha)	3.6
Disintegration (%)	25.0
Plough back (%)	25.0
Grain as % of stubble	5.5
Raw fodder as % of stubble	94.5
Useable stubble (t/ha)	1.80
Grain (t/ha)	0.10
Raw fodder (t/ha)	1.70
Maize price (R/t)	R 750.00
Raw-fodder price (R/t)	R 300.00
Value of grain (R/ha)	R 74.25
Value of raw fodder (R/ha)	R 510.30
Value of stubble (R/ha)	R 584.55

The price of maize as the grain in this example was set at R750/t. The cost of raw fodder was set at R300/t (approximately R120 per 1.5m round bale of Eragrostis). The useable quantity of the maize stover amount to R584.55/ha.

The second method is calculated on the grazing capacity of the land surface. In terms of this capacity, it is accepted that the carrying capacity of maize stubble is one large-stock unit per hectare and that maize stover can be grazed for a period of 90 days. A large-stock unit that needs 15kg raw fodder per day will then be able to use 1 350kg stover in the 90-day period. This is 500kg less than in the first method.

METHOD 2	
Carrying capacity of stubble:	
LSU/ha	1
Useable time period in days	90
Fodder usage (Kg/LSU/day)	15
Fodder available (Kg/ha)	1350
Raw-fodder price (R/ton)	R 300.00
Value of stubble (R/ha)	R 405.00

Should the price of raw fodder be accepted as R300/t, the cost of the stover amounts to R405/ha according to this method. In this case, however, a higher cost is not attached to the grain component of maize stubble, and the useable weight is also less than in the first method.

Even if there is a difference between the financial values of the two methods, it should not just be accepted as the price of maize stubble, the reason being that stover is not a moveable product and can only be used on the land. This implies that the buyer must be moved to the product. In turn, this implies maize stubble of farmers in the Western Free State cannot be marketed to Eastern Free State farmers, even if there is a large demand in the Western Free State and a huge shortage of winter grazing in the Eastern Free State. There could also be further reasons why a farmer does not want to sell his or her stubble. These reasons could vary from preventing the August winds from wrecking lands to building up nutrients in the soil.

Maize stubble has an undoubtedly high nutritional value, and a financial value can most definitely be attached to it. Its marketability, however, does not meet that of a typical food commodity and for this reason it does not realise the calculated price in practice. It does, however, remain an income or loss of income, which should be taken into account when lands are rented or leased.

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