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NLQI VERSUS RFV: CLARIFYING COMMON MISCONCEPTIONS

The National Lucerne Trust (NLT) maintains the exclusive and correct formula for the National Lucerne Quality Index (NLQI), distinct from international grading standards. This unique grading system ensures accurate and tailored quality assessment specifically for South African lucerne producers.

International buyers and local producers often mistake the NLQI for the Relative Feed Value (RFV) grading system, which is more commonly used in the United States and other major exporting countries. This article aims to clarify the differences between these systems, enabling producers and buyers to navigate both local and export markets with greater confidence.

The National Lucerne Quality Index

In 2008, the NLT Scheme, developed by the NLT and specifically designed for South African lucerne hay, was implemented. Since then, it has been successfully managed and maintained by the NLT. In South Africa, the NLT uses the NLQI to evaluate the quality of lucerne hay, setting a national standard specific to our climate, agricultural practices, and market demands.

The grading and marketing of lucerne hay in South Africa has historically been subjectively evaluated based on organoleptic properties such as colour, leafiness, smell, and the presence or absence of foreign material and mould. Traditionally, major emphasis has been placed on the production of high yields of lucerne hay. Over the past 30 years or so, greater emphasis has been placed on producing a higher quality product for the market.

Whether you are buying or selling, producing or feeding, the quality of lucerne hay should be a major consideration. The ultimate test of lucerne hay quality is animal performance. The quality is considered satisfactory when animals consuming it perform as desired.

Several indices of forage quality have been developed over the history of forage quality evaluation research, including Relative Feed Value, Total Forage Index, Adjusted Total Forage Index, Forage Quality Index, and Relative Forage Quality. A study conducted by Dr Gerrie Scholtz at the University of the Free State found large differences in the accuracy of different parameters used to assess lucerne hay quality in predicting milk production of dairy herds. The relatively poor performance of crude protein (CP) and other protein-related parameters in predicting milk production suggested that protein content of lucerne hay is an unreliable indicator of hay quality.

Dr Scholtz found that by including acid detergent fibre (ADF), ash, and lignin in a multiple linear regression equation, the accuracy in predicting milk production with the Cornell Net Carbohydrate and Protein System (CNCPS) improved remarkably. This then formed the basis of the empirical model, the NLQI, which was found to be the most practical, simple, economical, and accurate quality evaluation model for commercial application. Although the NLQI was developed on milk production potential, ranking of the index is based on digestible energy content or production potential. This will be universal among all species that use lucerne hay.

The Relative Feed Value (RFV) system

The RFV system, widely used internationally – especially in the United States – is based on the relationship between ADF and NDF values, with

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WL 458 HQ lusern staan bekend vir sy hoë kwaliteit, wat dit ideaal maak vir hooi-produksie onder besproeiing. Hierdie kultivar is egter geskik vir beide besproeiings- en droëlandstoestande, asook vir wei-stelsels.

Die kultivar is hoogs weerstandig teen die dodelikste swamme; Fusarium-verwelking, Phytophthora-wortelvrot, Verticillium-verwelking en Antraknose. Dis ook hoogs weerstandig teen Stam-aalwurm en bied weerstand teen Bakteriële-verwelking en die vernaaamste lusernluike.

Dit kan dien as 'n kultivar vir lang rotasies weens sy lang produksieleeue en hoë toleransie teen plaec soos stam-aalwurms en die belangrikste lusernluike.



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RFV calculated to estimate digestibility (ADF) and intake potential (NDF). This score allows lucerne to be classified into quality categories such as “Premium”, “Good”, or “Fair”, which often align with specific export grading standards.

While RFV is a convenient measure for comparing forage quality internationally, it does not correspond directly to the NLQI. Although both systems use ADF, RFV does not account for additional local factors such as lignin and ash content, which also affect feed quality.

Grading differences in export markets

When lucerne is prepared for export, international grading is generally applied, which often includes RFV as a primary metric to align with overseas buyer expectations. This export grade typically represents a specific RFV range, meeting global standards but not necessarily corresponding to the NLQI. As a result, hay that

might receive a high grade based on the NLQI in South Africa might not align identically with RFV-based grades abroad, and vice versa.

Summary

The NLQI remains the authoritative index for local lucerne quality in South Africa, reflecting local preferences and environmental factors. RFV and export grading, while relevant for international trade, serves a different purpose and is calibrated to match global standards, especially those of major importing countries. Understanding these distinctions can help producers, buyers, and exporters navigate the complexities of lucerne quality grading, ensuring that each market’s expectations are met accurately.

For more information on the NLQI or assistance with export grading, please contact the NLT team.



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A close-up photograph of a black and white cow's head as it eats from a large pile of dry hay. The cow's mouth is open, showing its teeth as it chews. In the background, another cow is visible, slightly out of focus, also eating. The setting appears to be a barn or a feedlot with wooden slats visible in the background.

GWK Lucerne

On the farm with our lucerne producers and in the market with our buyers and consumers: GWK Lucerne ensures that the correct and best quality lucerne is available at the right place, when it is needed most.

For more information about GWK Lucerne, our products and services, speak to our national management and marketing team:

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