

EXECUTIVE SUMMARY

Introduction

The abolishment of the marketing boards in the mid-1990's was associated with structural changes in the different agricultural industries of which the lucerne industry is no exception. Since then, information and data infrastructures went into a cul-de-sac for many industries. Certain information is still updated by the National Department of Agriculture (NDA) and released on an annual basis but it is not sufficient for strategic management or investment decisions. Information such as the total area planted with lucerne is a good example of strategic information not updated by the NDA or any other institution involved in the lucerne industry. Therefore, in order to be able to make correct decisions with regard to future investment in research, etc., more information has to be obtained. The informal nature of the lucerne industry makes it also difficult to estimate the extent and scope of the industry. The latest area estimate of lucerne was done in 1993 and was published in the Agricultural Census reports.

Trends with regard to the processing of lucerne are also largely unknown and no formal linkages exist between processors and producers in terms of the flow of market information. For the lucerne industry to survive, one needs to determine the factors that would enhance the profitability of lucerne production and processing.

Description of the survey areas

Most Agricultural Co-operatives were not in a position to provide the size of the areas under lucerne production in their respective service areas. Only the number of producers was provided. The number of producers was used to determine the sample sizes in each area. The different areas were grouped together according to their location for purposes of the survey. These areas are called the Orange River, Eastern Cape, GWK, Vaalharts, MGK and WPK areas.

The Orange River Area

The yield per hectare for lucerne is relatively high in this region and the average for all cultivars amounted to more or less 19t/ha per year. The average amount of hectares planted with lucerne per respondent is 17.3ha. The majority of respondents indicated that they do not want to expand their lucerne production but that vineyard expansion can be expected. The main reason for this is the much higher expected gross margin per hectare compared to lucerne. However, at this point in time it seems as though vineyard production is expanding to quickly (Van Schalkwyk, 2000). Total grape production in South Africa was the highest ever in the 1998/99 production season (NDA, 2000). This includes dried, processed and pressed grapes.

Another reason why respondents do not plan to expand their lucerne production is the fact that they experience problems with Wit Sykantkewer. The expected life span of lucerne in this area decreased significantly due to this. Marketers export lucerne from this area to countries in the SADC region, but the majority is marketed directly from the farms.

The Eastern Cape Area

The yield per hectare for lucerne is somewhat lower in this region and the average for all cultivars amounted to more or less 14.5t/ha per year. The average amount of hectares planted with lucerne per respondent is 114.7ha. One of the restrictions in this area is the availability of water, especially in the Ladismith/Calitzdorp area. The average life span of lucerne is much longer in this area. This can be ascribed to the fact that there are long intervals between irrigation. Irrigation only happens when water is available in the rivers. The high pH soils of this area require the cultivation of brackish resistant cultivars. In Oudtshoorn, lucerne is mainly used as feed for the ostriches. Cradock has a more stable supply of water especially from the Fish River. Transfers of water from the Orange River feeds the Fish River. Weed invasion is a problem in this area and the life span of the lucerne is much shorter. Lucerne is mainly exported to the coastal areas of the Eastern Cape where dairy farmers utilize it.

Pressure from the Department of Water Affairs to switch to higher valued crops is becoming an issue in Cradock. Lucerne producers experience a cost squeeze situation due to the increasing input costs as a result of the fact that the price of lucerne in this area is influenced by the state of the dairy industry. Lucerne is the most important crop in this area and wheat and maize benefits from the nitrogen accumulation in the soil due to the production of lucerne.

The GWK Area

The yield per hectare for lucerne in this area is relatively high and the average for all cultivars is more or less 17.6t/ha per year. The average number of hectares planted with lucerne per respondent is 43.4ha. The majority of the respondents indicated that they do not want to expand their lucerne production. The main reason for this is the low gross margin per hectare compared to that of other crops. Lucerne produced in this area is mainly exported to other areas such as Oudtshoorn, KwaZulu-Natal and Gauteng. The GWK co-operative plays an important role in the marketing of the lucerne. The producers utilize a very small percentage of the lucerne for own purposes. It is mainly applied in the feeding of weaner calves as a supplement to the normal grazing.

The Vaalharts Area

The yield per hectare for lucerne is relatively high in this area and the average for all cultivars amounted to more or less 19.6t/ha per year. The average amount of hectares planted with lucerne per respondent is 33.6ha. Half of the respondents indicated that they do not want to expand their lucerne production. Respondents indicated that lucerne provides a constant cash flow throughout the year and that this is the main reason why they want to expand their lucerne production. The other half of the respondents indicated that the unfavourable comparison of lucerne's gross margin compared to other crops is the reason why they do not want to expand their lucerne production.

Lucerne is mainly exported from this area. Animal feed manufacturers is one of the major buyers of lucerne in this area as in the case of the GWK Area. Producers utilize

a very small percentage of their lucerne. Where it is used locally it is mainly applied in feedlot activities and as a supplement to normal grazing.

The MGK Area

The yield per hectare for lucerne in this area is the highest of all the areas with an average for all cultivars amounting to more or less 20.4t/ha per year. The average amount of hectares planted with lucerne per respondent is 36ha. The majority of the respondents indicated that they do not want to expand their lucerne production. The main reason for this is the unfavourable gross margin compared to other crops as well as the cost of irrigation. The MGK Area has the highest water tax per hectare per year compared to the other areas. This is especially true for Brits. Producers are also responsible to maintain the water infrastructure from the Hartbeespoort Dam to their farms.

Lucerne is mainly exported to other regions such as Gauteng, the Northern Province as well as to SADC countries such as Botswana and Namibia. Animal feed manufacturers are the major buyers of lucerne in the Brits area. Game farmers in the surrounding areas as well as in the Bushveld also purchase a lot of lucerne from this area. The expansion of game farming as well as the increasing value of game due to the increase of international hunters has an increasing effect on the value of lucerne in this area. Game farmers put a heavy stock load on their farms and therefore need additional feed in drier months.

The WPK Area

The yield per hectare for lucerne in this area is the smallest of all the areas and the average for all cultivars was more or less 8.7t/ha per year. The average amount of hectares planted with lucerne by respondents is 186.3ha. The low yield is a result of the fact that lucerne is grazed in this area, especially in the Hantam. The majority of the respondents indicated that they want to expand their lucerne production. This is based on the fact that they experience production risks especially in the drier months (in this case in summer).

In the Breë River, producers use lucerne in rotation with vineyard. Water availability is much better in this area and the bulk of the lucerne is produced under sprinkle irrigation. The positive effects of lucerne on soils play an important role in the rotational cropping systems. Poor root development and grass invasion shortens the life span of lucerne in this area.

In the Hantam region, water availability is a major restriction. SA Standaard is mainly planted due to its grazing characteristics. The majority of the lucerne is grazed although milled and pilled lucerne is also manufactured. Lucerne is also exported from this region to Namibia. Brackish resistant cultivars are important for the Hantam, especially in the Calvinia region. A need for the development of cultivars with a resistance to brackish conditions has been identified and the Calvinia Agricultural Union formally requested such research.

Production patterns of lucerne producers in South Africa

More or less 90% of the lucerne hay produced in South Africa are under irrigation. The results in this report show that the estimated area planted with lucerne remained more or less constant over the past few years. The current area planted with lucerne for hay production is estimated between 208 000ha and 240 000ha. Producers, especially along the Orange River indicated that more profitable crops such as vineyard would substitute lucerne in years to come. On the other hand, in regions such as the Eastern Cape and WPK, lucerne will always form part of the farming activities due to the dependence of livestock on lucerne.

Rotational cropping and lucerne cultivars

In most of the production areas, lucerne forms an essential part of the crop rotation systems because of its nitrogen fixation and soil structure enhancement characteristics. In this study, it was concluded that SA Standaard is the most common cultivar planted in South Africa. The percentage of the total hectares planted with lucerne under SA Standaard amounted to 46.03%. Although other cultivars such as Topaz and CUF101 perform better under intensive irrigation systems in terms of yield per hectare, SA Standaard is the only cultivar preferred for grazing purposes. The majority of the respondents who plant SA Standaard mentioned that they will plant it again in future, which is not necessarily the case for the other cultivars planted.

Irrigation, water cost, pump systems and labour

Flood irrigation is the most common irrigation method used in South Africa. One of the concerning issues found in this study, is the fact that very few respondents knew the amount of water applied in a season. This could become a financial burden in future, especially with the increasing trend in water cost. New technologies, such as the use of laser techniques in flood irrigation in order to level the soil surface, enhance water use efficiency. Such technologies would become more essential in future and need to be transferred to producers. Labour costs to irrigate 1 hectare of lucerne vary between area to a large extend. Respondents who make use of centre pivot irrigation used less labour hours in a month to irrigate 1 hectare of lucerne compared to flood irrigation systems. This has a relatively large effect on the labour costs per hectare.

Sales, utilization and marketing

After the deregulation of the marketing boards, producers are responsible for the marketing of their own produce. Although various marketing channels exist, producers still prefer to sell their lucerne directly from the farm. More or less 25% of the lucerne is used for own purposes. Respondents also indicated that value adding can greatly enhance the profitability of lucerne production.

The 1998/99 production season and intentions to expand

Over all, the 1998/99-production season was favorable in terms of production and prices received for lucerne. The average price for grade 1 lucerne was R483.36/t. The percentage of the total lucerne crop in 1998/99 that was grade 1 lucerne amounted to

80.3%. Prices can be expected to decrease slightly in 2000. On the other hand, 65% of the respondents indicated that they would not expand their lucerne production in future. Increasing input and machinery costs as well as the lack of market information contributed largely to this.

Buyers of lucerne

In contrast with the producers, 71.4% of the buyers indicated that they want to expand their purchases. The main reason for this is that a relative strong demand exists for lucerne and more specifically processed lucerne. This emphasizes the importance of lucerne in the animal feed sector in South Africa. Buyers also indicated that exports could enhance the profitability of lucerne to a large degree.

Financial analysis

In many regions, other long-term crops such as vineyard realize a higher gross margin per hectare. This emphasize the fact that the majority of the lucerne producers would not expand lucerne production in future, especially in the intensive irrigation regions such as the MGK and GWK Areas. As indicated by the respondents, increasing input costs as well as the subjective grading systems play an important role in the sustainability of lucerne production. Given these somewhat negative sentiments, processors as well as buyers indicated that there is still a market for lucerne in South Africa.

Conclusion

Responses with regard to the expansion or not of lucerne varies a lot between the different areas and is a function of the use of the lucerne, the opportunity cost of lucerne production, yields and prices in the areas. Two aspects of utmost importance have been identified in the research. The first aspect is the fact that buyers and processors indicated that they want to expand their purchases due to a strong and healthy demand for lucerne. The other aspect is the intention of producers not to expand their lucerne production. Both role players in the industry concluded that the existence of timely and relevant market information would play an important role in the sustainability of the lucerne industry. This automatically includes the development of an objective grading system that could help establish a basis for the true reflection of value in prices. Lucerne could also play an important role in business plans for small-scale farmers in rural areas. But first of all, it is important that the current environment of the lucerne industry must be re-routed in terms of what the consumer wants and what the producer can supply. The first step in the whole process would be to establish a forum for the industry where producers and processors could meet to form a basis for closer collaboration.