# Grass impressions of South America

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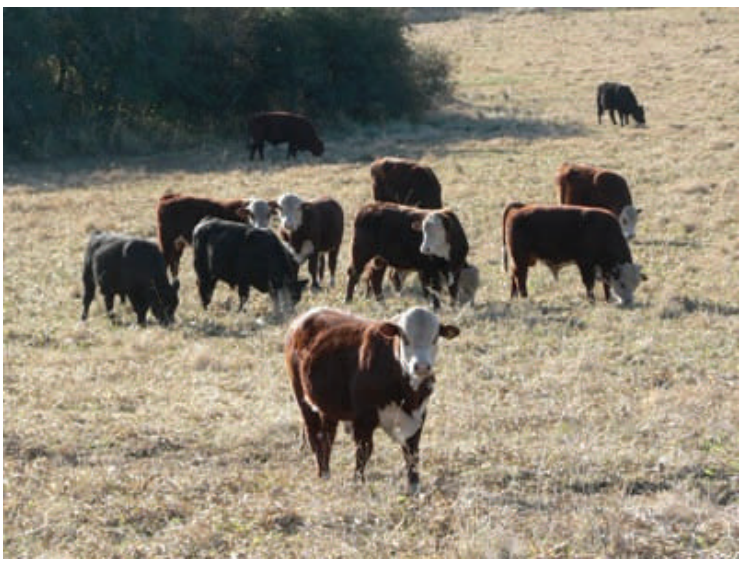
## Introduction

Senwes is a grain company that handles 25% of S.A. grain. The company employs a few agriculturists that vary from agricultural economists, agronomists to livestock scientists that service its client's technical requests and render internal support to management. Against this background Argentina and Brazil was visited during June 2008 by two agriculturists to gain technical information about integrated cash crop – livestock production systems. The remarks must be seen as pure observations regarding grassland science.

## Brazil

The country could be referred to as paradise as rainfall is very consistent with averages of 1500mm / annum and above. Soils are heavy "peat" type soils. Sub tropical grasses like *Panicum* species are common and were green (June) in the warmer parts. Large dairy operations (500 + cows in parlour) are common in the high cash crop areas. Fodder flow is extremely easy with corn silage during summer time and "cover crop" green chop during wintertime. All the cash crops are produced on a no-till system, when the last crop are harvested in autumn a so called "cover crop" is planted which main purpose is to prevent erosion during winter. The "cover crops" can be anything from Rye, Oats, Barley, or any winter small grain. These "cover crops" are



**Bulls on Cenchrus pasture**

green chopped on a daily basis and fed in total mixed ration (TMR) systems.

Sheep and beef production in this area are on *Pennisetum* during summer, oversown with *Lolium* species during autumn, very much the same way the KwaZulu-Natal dairy farmers operate. Clovers are used widely with white clovers dominating. According to Brazilians, the use of no-till planters is essential. *Cynodon* species were also seen and used in the same way. The carrying capacity and economics justify these systems for meat production in Brazil in contrast to South Africa. Under normal rainfall conditions 6 – 10 tonnes of useable dry matter is produced per annum; these were calculated from the long-term carrying capacities that were observed. The main advantage is that the quality is much more stable without the extreme quality decline South Africa experiences in winter.

Within the context, the visit Brazil to was most interesting regarding grassland science, but not adaptable to S.A. conditions.

**Argentina**

Rainfall in the area visited is summer rainfall, with 600 – 750 mm / annum. The soils are sandy and similar to those of the western Free State with the exception of high silt content. Sub-tropical grasses are used extensively and are established every 5-7 years. The majority of the grasses used originated from South Africa and enter into Argentine via Australia!

Rotation of these grasses and grazing rotation between seasons realizes good animal performance year round with high weaning percentages. Table 1 gives an indication of the rotations. These pastures are never fertilized and are grazed quite intensively. In drier seasons more *C. ciliarus* are used and wetter seasons more *P. coleratum*.

With soil pH of 6.5 – 6.8 and phosphorus levels of 80 p.p.m. the good animal performance is no surprise. With no fertilizer, this can pose problems in future. As the winters are cold and dry, a fall in quality does occur. The interactive use of grazing animals and growth patterns of the different grass species are utilized to enhance winter forage quality with great success.

*Medicago sativa* is widely used in animal production systems alone as well as in crop rotation with cash

**Table 1: Extensive pastures for animal production in Argentina**

| Period | Species |
|---|---|
| January - March | *Panicum maximum* |
| April - May | *Cenchrus ciliarus, Digitaria eriantha* |
| June - September | *Panicum coloratum* |
| October - November | *Cenchrus ciliarus, Digitaria eriantha* |
| December | *Panicum maximum, Cenchrus ciliarus* |

**Ryegrass oversown in permanent pastures**

crop production systems. Although used as hay and green chop, the vast majority of *Medicago sativa* is grazed in Argentina. Dairy cows (large frame Holsteins), beef cows and oxen are all on intensive lucerne grazing systems throughout the year. Dormancy classes of eight and above are used with extensive breeding programs for low dormancy, low bloat cultivars. Animals are 24 hours on the lucerne with different approaches regarding bloat management; all with success as mortalities are kept under 1%. The key is perhaps the lighter soils and the 24-hour grazing where enough high quality grazing is always available.

## Conclusion

Although Brazil is beautiful and interesting to see out of a perspective of central South Africa, there is very little common ground regarding agriculture. Perhaps our high rainfall coastal belt can benefit here. Argentina has much in common with the central grassland parts of South Africa with similar production systems. Valuable information can be gained from them to manipulate quality for over wintering with grazing animals.