Overview of the Forage Land-Use in Southern Chile in a Thirty-Year Period

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The use of agricultural surveys or censuses are important to understand changes that affect specific segments, either in the amenity area (Gelernter et al., 2017) or in animal production systems (Oenema et al., 2014), among others, over time. Dairy and beef farms in Chile mainly rely on grazing pasture as the main nutrient source, and therefore forages are key for maintaining the livestock industry. Important agricultural indicators of this well-known practice are described with little detail. Recently Oenema et al. (2014) provided an overview of the agricultural sector in terms of dairy production geographic zones, grazing area, and other related parameters, highlighting the role of grasslands in ruminant production systems. However, total area of different type of grazing lands is unknown. The objective of this brief is to characterize changes in types of forages used in grazing regions of southern Chile.

Data from the Agricultural and Forestry Censuses of 1976, 1997, and 2007 (INE, 1978; ODEPA, 2017) were used to analyze the predominant forages in the main grazing regions of Chile: Araucanía, Los Ríos, and Los Lagos (Fig. 1). The censused area was classified either as agricultural or forages. Additionally, forages was subclassified as cultivated or naturalized land. Cultivated land was categorized either as annuals or perennial and rotation, and naturalized land was categorized as with or without cultural treatment (terminology is shown in Tables 1 and 2).

When possible, the change in land-use area between years 1976, 1997, and 2007 was calculated by the relative growth rate (RGR) as follows:

\[ \text{RGR} (%) = \left( \frac{\text{current area} - \text{previous area}}{\text{previous area}} \right) \times 100 \]

Also, the participation (%) of different species involved in the cultivated area was calculated from the data sets.

Fig. 1. Map of Chile. Light gray, Araucanía region; dark gray, Los Ríos region; black, Los Lagos region. Source: https://mapchart.net.